**STATE OF MINNESOTA**
**DEPARTMENT OF NATURAL RESOURCES**

**RECORD OF DECISION**

In the Matter of the Determination of Need for an Environmental Impact Statement for the Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project, Lake County, Minnesota

**FINDINGS OF FACT, CONCLUSIONS, AND ORDER**

## FINDINGS OF FACT

1. Northshore Mining Company (Northshore or Proposer) proposes to relocate the West Ridge Railroad, extend Dams 1 and 2, construct a Dam 1 switchback, and develop a clay borrow site at the Mile Post 7 Tailings Basin. The project also includes approximately 20,665 linear feet of stream mitigation across six sites. Tailings placement would continue to the final permitted dam elevation of 1,315 feet above mean sea level (ft amsl).

2. The Proposer is an iron ore facility owned by Cleveland-Cliffs Inc. The Proposer owns and proposes to make modifications to the Mile Post 7 Tailings Basin (Mile Post 7 Tailings Basin or Tailings Basin) to allow the Tailings Basin to be used to its maximum capacity as permitted by the 1977 Master Permit.[1] In order to use the remaining portions of the Tailings Basin, the following activities would be undertaken: 1) relocating the West Ridge Railroad line and corridor approximately 4000 feet to the northwest of the existing rail line traversing the Tailings Basin; 2) extending Dam 1 and Dam 2 at their western ends respectively; 3) constructing a Dam 1 rail switchback; and 4) excavating clay from various borrow pits for dam construction. This activity would cover approximately 339.1 acres.

3. Because using the entirety of the permitted Tailings Basin would result in filling the remnant portions of Big Thirtynine Creek and Little Thirtynine Creek (located within the Tailings Basin), mitigation is required constituting approximately 20,665 linear feet of stream restoration dispersed over six distinct locations in the vicinity of the basin.

[1]The Tailings Basin was permitted by the Minnesota Department of Natural Resources (DNR) and Minnesota Pollution Control Agency (MPCA) in 1977 through the Master Permit after extensive environmental review and litigation. The 1977 Master Permit provided that the Tailings Basin, at the end of its life, would store 733,000,000 long tons of fine and coarse tailings, with the dams constructed to an ultimate crest elevation of 1,315 ft amsl. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 14 and 12*.

4. The total set of actions at the Mile Post 7 Tailings Basin and the six stream mitigation sites have been combined to constitute the "Proposed Project" for this environmental review pursuant to Minn. R. 4410.1000, subp. 4, that requires multiple projects that are connected actions to be considered in total when preparing an EAW. Minn. R. 4410.0200, subp. 9c. These two components are called the "Tailings Basin Features" and "Stream Mitigation Sites" respectively under the Proposed Project. Alternatively, these two components are part of a single project.

5. Pursuant to Minn. R. 4410.4300, subp. 1, an environmental assessment worksheet (EAW) must be prepared for projects that meet or exceed the threshold set forth in Minn. R. 4410.4300, subps. 2-37. The proposed Stream Mitigation Sites exceed the threshold for stream diversions set forth in Minn. R. 4410.4300, subp. 26, because the Proposed Project would result in the diversion and/or realignment of designated trout streams. Preparation of a mandatory EAW is required before the project can receive final governmental approvals and be constructed. Minn. R. 4410.3100, subp. 1.

6. Pursuant to Minn. R. 4410.4300, subp. 26, the Responsible Governmental Unit (RGU) is either the local governmental unit (LGU) or the Minnesota Department of Natural Resources (DNR). In this case, the LGU would be Lake County. Based on the mixed mining and stream mitigation nature of the Proposed Project, DNR took on the role of RGU.

7. Pursuant to Minn. R. 4410.1400, subp. B, the Proposer submitted the completed data portions of the EAW to DNR as RGU on September 2, 2022.

8. The DNR prepared an EAW for the Proposed Project pursuant to Minn. R. 4410.4300, subp. 26, according to the procedures set forth in Minn. R. 4410.1200 through 4410.1400.

**EAW and Content**

9. The EAW (EAW or 2023 EAW) and supporting information are incorporated by reference into this Record of Decision on the Determination of Need for an Environmental Impact Statement (EIS).

   The following supporting information is incorporated into this Record:

   a. RGU's Notification of the availability of the Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project – Environmental Assessment Worksheet. Cover Letter: DNR to Parties on the EQB EAW Distribution List/Other Interested Parties. April 19, 2023.
   b. Figure 1: Site Location Map.
   c. Figure 2-1: USGS Quadrangle Map
   d. Figure 2-2: USGS Quadrangle Map.

e. Figure 2-3: USGS Quadrangle Map.
f. Figure 3: Land Cover.
g. Figure 4-1: Zoning.
h. Figure 4-2: Zoning.
i. Figure 4-3: Zoning.
j. Figure 5-1: Soil Types.
k. Figure 5-2: Soil Types.
l. Figure 5-3: Soil Types.
m. Figure 6-1: Water Resources – Pre-Construction Surface Waters.
n. Figure 6-2: Water Resources – Post-Construction Surface Waters.
o. Figure 6-3: Water Resources – Post-Construction Watersheds.
p. Figure 6-4: Water Resources – Post Construction Watersheds.
q. Figure 6-5: Water Resources – Post-Construction Wells.
r. Figure 7-1: Wetland Resources.
s. Figure 7-2: Wetland Resources.
t. Figure 8-1: Hazardous Materials.
u. Figure 8-2: Hazardous Materials.
v. Figure 9: Foreseeable Future Projects.
w. Appendix A.1: Tailings Basin Features Site Plan.
x. Appendix A.2: Tailings Basin Features Select Cross-Sections.
y. Appendix B: East Branch Beaver River Restoration Site Plans.
z. Appendix C: East Branch Beaver River Tributary Restoration Site Plans.
aa. Appendix D: East Branch Beaver River Tributary Berm Restoration Site Plans.
bb. Appendix E: White Rock Creek Restoration Site Plans.
cc. Appendix F: Big and Little Thirtynine Creeks Restoration Site Plans.
dd. Appendix G: Climate Trend Analysis and Carbon Footprint Estimation Data Sources & Output.
ee. Appendix H: MCE Review and Correspondence.
ff. Appendix I: SHPO Correspondence.
gg. Appendix J: List of Supplemental Information Known to RGU.

10. The EAW was filed with the Environmental Quality Board (EQB) and a notice of its availability was published in the EQB *Monitor* on April 18, 2023. A copy of the EAW was sent to all persons on the EQB Distribution List, to those persons known by DNR to be interested in the proposed project, and to those persons requesting a copy of the EAW. A statewide press release announcing the availability of the EAW was sent to newspapers, radio, and television stations. Beyond the EQB Distribution List, a copy of the EAW was distributed to the Silver Bay Public Library. The EAW was also made available to the public via posting on DNR's website. Minn. R. 4410.1500.

**Public Comment Period**

11. The 30-day EAW public review and comment period began on April 18, 2023, and ended on May 18, 2023. Minn. R. 4410.1600. The opportunity was provided to submit written comments on the EAW to the DNR via U.S. Mail or private delivery services, or electronically via a dedicated email account.

12. During the 30-day public review and comment period, the DNR received comments from 1,332 individuals, and governmental and/or non-governmental organizations. *See ¶¶ 22 through 27*. Approximately 99% of these comments were based on four (4) form emails, each one similar in content and provided as part of an email campaign. Additionally, some commenters submitted more than one email from different campaigns. The written comment letters, and each representative form email, are included in Attachment A of this Record of Decision.

13. During the 30-day EAW public review and comment period, the DNR received written comment letters from the government representatives, other organizations, and/or individuals listed below.

    a. Dayton, Charles (May 18, 2023)

    b. Duluth City Council Members (May 12, 2023)
        i. Anderson, Gary; Duluth City Councilor, District 1
        ii. Mayou, Mike; Duluth City Councilor, District 2
        iii. Randorf, Roz; Duluth City Councilor, District 3

    c. Fond du Lac Band of Lake Superior Chippewa (May 17, 2023)
        i. Schuldt, Nancy

    d. Grand Portage Chippewa (May 18, 2023)
        i. Watkins, Margaret

    e. Izaak Walton League (May 18, 2023)
        i. Johnson, Tim; MN Division, Izaak Walton League of America
        ii. O'Leary, Julie; MN Division, Izaak Walton League of America

    f. McEwen, Jennifer A; State of Minnesota Senator (May 18, 2023)

    g. Minnesota Center for Environmental Advocacy, et al. (May 18, 2023)
        i. Anderson, Joy
        ii. Andresen, Lori; Save Lake Superior Association
        iii. Fink, Marc; Center for Biological Diversity
        iv. Knofp, Chris; Friends of the Boundary Waters Wilderness
        v. O'Leary, Julie; MN Division, Izaak Walton League of America

vi. Palcich, Elanne; Save Our Sky Blue Waters

h. Sierra Club North Star Chapter (May 18, 2023)
   i. Gardner, Annah
   ii. Graves, Bob
   iii. Pollnow, Bill

i. WaterLegacy, et al. (May 18, 2023)
   i. Maccabee, Paula Goodman
   ii. Norton, Matt; Northeastern Minnesotans for Wilderness

14. During the 30-day EAW public review and comment period, the DNR received written comments based on Form Email No. 1 from the 530 individuals listed below.

AB (May 8, 2023)
Abbey, Jen (May 17, 2023)
Adams, Craig (May 18, 2023)
Akre, Barbara (May 17, 2023)
Albers, Carla (May 8, 2023)
Alexander, Michael (May 15, 2023)
Allert, James (May 17, 2023)
Alt, John (May 13, 2023)
Amrod, David M (May 12, 2023)
Anderson, Angela (May 18, 2023)
Anderson, Carolyn (May 8, 2023)
Anderson, Cary (May 18, 2023)
Anderson, Chel (May 13, 2023)
Anderson, Karla (May 9, 2023)
Anderson, Lynn (May 12, 2023)
Anderson, Scott (May 8, 2023)
Anderson, Tom (May 15, 2023)
Androff, Mary (May 15, 2023)
Armstrong, Shauna (May 12, 2023)
Arnold, Pamela (May 9, 2023)
Arnosti, Don (May 8, 2023)
Asher, Louis (May 8, 2023)
Bachman, Sharon (May 8, 2023)
Baldwin, Chris (May 8, 2023)
Barkley, Joel (May 17, 2023)
Barth, Angela (May 15, 2023)
Bartholomew, Carolyn (May 12, 2023)

Bartlett, Beth (May 15, 2023)
Baxter, Martha (May 8, 2023)
Becchetti, Pat (May 8, 2023)
Becchetti, Pat (May 18, 2023)
Bechtel, Carol (May 15, 2023)
Beck, Jay (May 8, 2023)
Bent, Libby (May 17, 2023)
Bergerud, Lisa (May 8, 2023)
Best, Jan (May 8, 2023)
Birkhofer, Janet (May 18, 2023)
Bixley, Jean (May 12, 2023)
Bjorum, Richard (May 8, 2023)
Blume, Bersy (May 9, 2023)
Blyly-Strauss, Mina (May 8, 2023)
Bogolub, Larry (May 8, 2023)
Borden, Peter (May 15, 2023)
Borden, Susan (May 8, 2023)
Borgeson, Dean (May 8, 2023)
Borgman, Diane (May 17, 2023)
Borowsky, Iris (May 15, 2023)
Bramlette, Jenny (May 8, 2023)
Branby, Jeanne (May 15, 2023)
Brandt, Lyle (May 12, 2023)
Bratvold, Gretchen (May 8, 2023)
Brekke, Elizabeth (May 17, 2023)
Brittain, Clif (May 15, 2023)
Brockway, Barbara (May 15, 2023)
Browning, Mary (May 15, 2023)
Biblitz, Diane (May 18, 2023)
Buck, Patricia (May 10, 2023)
Bujold, Marita (May 12, 2023)
Bullis, Robert (May 8, 2023)
Burr, Elizabeth (May 8, 2023)
Byron, Patrick (May 18, 2023)
Cage, Ray (May 8, 2023)
Carlson, Dave (May 18, 2023)
Campbell, Frederick (May 18, 2023)
Carpenter, Beth (May 17, 2023)
Case, Meoukha (May 9, 2023)
Cerise, Gio (May 10, 2023)
Charrier, JL (May 18, 2023)

Chars, Jane (May 18, 2023)
Chase, Robert (May 8, 2023)
Childs, Andrea (May 12, 2023)
Childs, Thomas (May 8, 2023)
Chinofsky, Laura (May 8, 2023)
Christenson, Pat (May 12, 2023)
Christian, Terrie (May 15, 2023)
Clark, Timothy (May 17, 2023)
Colleran, Bridgit (May 15, 2023)
Conger, Nancy (May 10, 2023)
Coombs, Sharon (May 17, 2023)
Corliss, Nan (May 9, 2023)
Cramer, Rebeca (May 15, 2023)
Crane, Diane (May 8, 2023)
Crawford, Dave (May 9, 2023)
Crawford, Jacob (May 8, 2023)
Crowley, Kate (May 9, 2023)
Csorgo, Steven (May 8, 2023)
Culbert, Louis (May 15, 2023)
Cullen, Audrey (May 18, 2023)
Curiskis, Anja (May 17, 2023)
Dahn, Rick (May 12, 2023)
Damon, Jon (May 8, 2023)
Daniels, Michelle (May 8, 2023)
Delattre, Susan (May 8, 2023)
DeLuca, Patricia (May 8, 2023)
DeMaioribus, Hadrian (May 12, 2023)
Dietering, Ashley (May 18, 2023)
Doblar, Scott (May 8, 2023)
Dodge, Diane (May 13, 2023)
Dolphin, Nancy (May 17, 2023)
Dosch, Mary (May 8, 2023)
Douglas, Alexa (May 17, 2023)
Dow, Jane (May 8, 2023)
Downing, Sally (May 15, 2023)
Dougherty, Kate (May 18, 2023)
Dragsten, Susan (May 16, 2023)
Driessen, Franklin (May 9, 2023)
Driessen, Kristin (May 9, 2023)
Driessen, Olivia (May 9, 2023)
Dufficy, Judy (May 17, 2023)

Dunn, Kathleen (May 8, 2023)
Durrwachter, Wendy (May 12, 2023)
Dustin, William (May 8, 2023)
Eden, Jalene (May 9, 2023)
Ek, John (May 18, 2023)
Engel, Sam (May 8, 2023)
Enger, Erin (May 8, 2023)
Englund, Gloria (May 8, 2023)
Ericcsson, Dwight (May 12, 2023)
Erickson, Russell (May 12, 2023)
Eustice, Laura (May 15, 2023)
Evans, David (May 16, 2023)
Everling, Nicole (May 8, 2023)
Fahlnline, Madelyn (May 18, 2023)
Fahlstrom, Jeanne (May 12, 2023)
Farwell, Laura (May 8, 2023)
Felt, Kathleen (May 8, 2023)
Fernstrum, Mary (May 17, 2023)
Finazzo, John (May 8, 2023)
Fischer, Paula (May 13, 2023)
Fish, Richard (May 8, 2023)
Flaten, Betsy (May 17, 2023)
Flaten, Daniele (May 16, 2023)
Flaten, John (May 17, 2023)
Fleming, Jean (May 8, 2023)
Fleming, John (May 8, 2023)
Florin, Frank (May 8, 2023)
Forster, Dale (May 18, 2023)
Fortunak, Sharon (May 8, 2023)
Freeman, Amy (May 8, 2023)
Frethem, Gail (May 8, 2023)
Frink, Allan (May 17, 2023)
Fritzke, Johanna (May 8, 2023)
Frohn, Joyce (May 8, 2023)
Frost, Sheila (May 16, 2023)
Fuhrman, Maddie (May 17, 2023)
Gaard, Greta (May 12, 2023)
Garcia, Jessica (May 12, 2023)
Gardner, Annah (May 8, 2023)
Garrett, Katren (May 9, 2023)
Garrett, Marykay (May 9, 2023)

Gedicks, Al (May 8, 2023)
Giguere, Nancy (May 12, 2023)
Gilje, Kathryn (May 18, 2023)
Gillispie, Gail (May 16, 2023)
Gingold, Miriam (May 12, 2023)
Girtz, Andrea (May 12, 2023)
Glesne, Lynn (May 8, 2023)
Gobely, Michelle (May 10, 2023)
Gonia, Cheryl (May 8, 2023)
Goodlander, Lisa Haines (May 13, 2023)
Gordon, River (May 9, 2023)
Gornick, Jean (May 12, 2023)
Goudy, James (May 15, 2023)
Gough, Roseanne (May 8, 2023)
Grace, Amy (May 8, 2023)
Greene, David (May 9, 2023)
Grina, Lucy (May 15, 2023)
Grundhofer, Connie (May 15, 2023)
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Halverson, Verlaine (May 15, 2023)
Harrington, Brian (May 18, 2023)
Harrington, John (May 15, 2023)
Harris, Kenneth A (May 13, 2023)
Harrison, Catherine (May 17, 2023)
Haslett, Jean (May 8, 2023)
Hawkins, Jim (May 10, 2023)
Haydon, Noah (May 8, 2023)
Hayenga, Jon (May 8, 2023)
Hayes, Sarah (May 8, 2023)
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Howe, Joshua (May 17, 2023)
Howe, Warren (May 8, 2023)
Huberty, Patricia (May 12, 2023)
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Hughes, Joan (May 13, 2023)
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Jeffrey, Susu (May 8, 2023)
Jeide-Detweiler, Anna (May 9, 2023)
Jenkinson, Bruce (May 8, 2023)
Jensen, Jan (May 12, 2023)
Jewell-Cedar, Annette (May 12, 2023)
Johannsen, Mary (May 9, 2023)
Johnson, Julie (May 8, 2023)
Johnson, Karen (May 9, 2023)
Johnson, Matthew (May 15, 2023)
Johnson, Maureen (May 15, 2023)
Johnston, Sheila (May 8, 2023)
Jones, Chad (May 8, 2023)
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Jones, Nancy (May 12, 2023)
Jones-Williams, D (May 8, 2023)
Jorgenson, Steve (May 8, 2023)
Kaiser, Robert (May 13, 2023)

Karon, Jan (May 15, 2023)
Karsten, Ralph (May 12, 2023)
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Klug, Michael (May 16, 2023)
Knox, Elizabeth (May 12, 2023)
Kofsky, Lauren (May 8, 2023)
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Koppy, Michael (May 16, 2023)
Koritz, Raleigh (May 17, 2023)
Kosmo, Lisa (May 17, 2023)
Kosuth, Robert (May 8, 2023)
Kovach, JoAnne ((May 14, 2023)
Krause, Georganne (May 8, 2023)
Krick, Angela (May 12, 2023)
Kreis, Jeff (May 17, 2023)
Kroeger, Amelia (May 8, 2023)
Kube, Marie (May 16, 2023)
Kuhl, Colleen (May 9, 2023)
Kutter, Sharon (May 15, 2023)
Lahr, Melanie (May 16, 2023)
Lamb, Richard (May 8, 2023)
Lampman, Marilee (May 15, 2023)
Landherr, Lawrence (May 8, 2023)
Lanigan, Kevin (May 12, 2023)
LaPlante, Nadine (May 9, 2023)
Larson, Al (May 17, 2023)
Larson, Phedra (May 9, 2023)
Lassandrello, Noreen (May 8, 2023)

Lastovich, Theresa (May 15, 2023)
LeClaire, Daniel (May 9, 2023)
Lee, Julia (May 18, 2023)
Legenhausen, Karen (May 15, 2023)
Leschak, Peter (May 8, 2023)
Levier, June (May 18, 2023)
Lien, David (May 8, 2023)
Loch, Christopher (May 8, 2023)
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Maher, Jean (May 8, 2023)
Maleska, Michael (May 8, 2023)
Malven, Tania (May 8, 2023)
Mamdani, Tahera (May 12, 2023)
Mandel, Kristie (May 8, 2023)
Marble, Jon (May 8, 2023)
Margolis, Laurence (May 8, 2023)
Marquat, Abby (May 16, 2023)
Martin, Dianna L (May 14, 2023)
Martin, Pamela (May 8, 2023)
Margerum, John (May 8, 2023)
Mashuga, Dennis (May 8, 2023)
Mashuga, Dennis (May 17, 2023)
McBeath, Bruce (May 18, 2023)
McCleary, Harriet (May 8, 2023)
McGehee, Richard (May 18, 2023)
McNealy, Nick (May 12, 2023)
Mears, Bill (May 8, 2023)
Meier, Gary (May 13, 2023)
Meierotto, Richard (May 13, 2023)
Merrill, Karen (May 15, 2023)
Meyers, Linda (May 17, 2023)
Miles, Michael (May 18, 2023)
Miller, Ann Galbraith (May 9, 2023)
Miller, Mary (May 8, 2023)
Mills, Scott (May 17, 2023)

Moffatt, David (May 8, 2023)
Monroe, Nettie (May 16, 2023)
Monson, Margot (May 9, 2023)
Montie, Gerald (May 15, 2023)
Moody, Craig (May 17, 2023)
Morrison, Anne (May 12, 2023)
Morse, Sundae (May 12, 2023)
Mosher, Kathryn (May 8, 2023)
Moss, Paul (May 8, 2023)
Mueller, Rick (May 12, 2023)
Mullen, Timothy (May 8, 2023)
Mullen, Timothy (May 18, 2023)
Murray, Mary (May 18, 2023)
Narcisse, April (May 8, 2023)
Nash, Heyward (May 8, 2023)
Nash, Heyward (May 12, 2023)
Neihart, Janet (May 8, 2023)
Nelson, Dan (May 18, 2023)
Nelson, Judy (May 8, 2023)
Nemitz, Diane (May 8, 2023)
Nesheim, Bob (May 15, 2023)
Newman, Todd (May 17, 2023)
Nieman, Kimberly (May 10, 2023)
Nies, Randy (May 8, 2023)
Noormohamed, Zeb (May 9, 2023)
Nord, Alec (May 17, 2023)
Nordstrom, Christopher (May 15, 2023)
Norrgard, Lois (May 18, 2023)
Null, Kathryn (May 8, 2023)
Nyberg, Rachel (May 18, 2023)
Ogren, Lorrie (May 15, 2023)
Olander, Alan (May 12, 2023)
O'Leary, Debera (May 13, 2023)
Olsen, Kris (May 17, 2023)
Olson, Chris (May 13, 2023)
Olson, Don (May 17, 2023)
Olson, Jody (May 18, 2023)
Olson, Kristin (May 15, 2023)
Olson, Lawrence (May 9, 2023)
Olson, Linda (May 17, 2023)
Olson, Michele (May 15, 2023)

O'Neil, Catherine (May 8, 2023)
Onstad, Nenette (May 10, 2023)
Ostenso, Karen (May 15, 2023)
Packa, Sheila (May 8, 2023)
Palmer, Janey (May 8, 2023)
Patane, Sophia (May 18, 2023)
Pauling, Lynda (May 8, 2023)
Paymar, Michael (May 12, 2023)
Pegg, Lyn (May 8, 2023)
Pederson, Bjorn (May 17, 2023)
Pepin, Constance (May 17, 2023)
Peters, Karen (May 8, 2023)
Peterson, Jodi (May 12, 2023)
Pickett, Keri (May 9, 2023)
Pierce, Candice (May 8, 2023)
Pierce, Peter (May 8, 2023)
Plaster, Mary (May 12, 2023)
Poposki, Christine (May 8, 2023)
Porter, Betsey (May 8, 2023)
Pressler, Carolyn (May 8, 2023)
Proescholdt, Kevin (May 15, 2023)
Pundt, Sally (May 18, 2023)
Rampi, Philip (May 16, 2023)
Rampi, Philip (May 18, 2023)
Reed, Robert (May 8, 2023)
Reichensperger, Karen (May 8, 2023)
Reinhardt, Katherine J. (May 9, 2023)
Reisenweber, David (May 17, 2023)
Remus, Kate (May 18, 2023)
Rick, James (May 13, 2023)
Ricker, Mike (May 17, 2023)
Ringnalda, Jonelle (May 17, 2023)
Ristau, Eric (May 15, 2023)
Roberts, Les (May 8, 2023)
Roberts, Joel (May 18, 2023)
Rogers, Ann (May 13, 2023)
Rogers, Cynthia (May 18, 2023)
Rogne, Leah (May 9, 2023)
Rolf, Linda (May 16, 2023)
Rolnitzky, Aron (May 18, 2023)
Ross, Bethana (May 16, 2023)

Ross, Jean (May 12, 2023)
Rovig, Lorraine (May 17, 2023)
Rusterholz, Paula (May 18, 2023)
Ryals, Paul (May 8, 2023)
Ryan, Genevieve (May 16, 2023)
Ryan, Matthew (May 8, 2023)
Sainio, Dianna (May 17, 2023)
Salinas, Julius (May 9, 2023)
Salonek, George (May 12, 2023)
Sand, John (May 9, 2023)
Santiago, Gabriela (May 11, 2023)
Satori, John (May 8, 2023)
Schally, Jennifer (May 12, 2023)
Schally, Jennifer (May 18, 2023)
Schauland, Honor (May 17, 2023)
Scheffler, Nellie (May 9, 2023)
Scherer, Susan (May 13, 2023)
Schierman, Mollie (May 16, 2023)
Schierman, Mollie (May 17, 2023)
Schieman, Mollie (May 18, 2023)
Schleicher, Callie (May 15, 2023)
Schlichting, John (May 12, 2023)
Schlinger, Debbie (May 12, 2023)
Schmieder, Patricia (May 18, 2023)
Schmitz, Gladys (May 18, 2023)
Schrammen, Terrance (May 17, 2023)
Schroeder, Emily (May 9, 2023)
Schubert, Ken (May 15, 2023)
Schubert, Rick (May 14, 2023)
Schulenburg, Connie Sue (May 17, 2023)
Schultz, Nancy (May 17, 2023)
Schultz, Steve (May 12, 2023)
Schumacher, Andrew J (May 18, 2023)
Schuppert, Maggie (May 18, 2023)
Scull, Jennifer (May 8, 2023)
Scott, Mary (May 15, 2023)
Sculati, Barbara (May 15, 2023)
Severt, Marian (May 18, 2023)
Sevilla, Caroline (May 8, 2023)
Shea, Patricia (May 8, 2023)
Shireman, Mark (May 9, 2023)

Siddiqui, Stephanie (May 17, 2023)
Sielaff, Bruce (May 8, 2023)
Simon, Kent (May 17, 2023)
Simpson, John (May 17, 2023)
Simpson, Nancy (May 17, 2023)
Sisson, Wesley (May 10, 2023)
Smith, Debi (May 18, 2023)
Sneve, Jack S (May 8, 2023)
Snyder, Brad (May 15, 2023)
Sojka, Leonard (May 8, 2023)
Songalia, Elizabeth (May 15, 2023)
Sorge, Sven (May 12, 2023)
Speaker, Lynn (May 8, 2023)
Staffon, Richard (May 16, 2023)
Starkey, Kelly (May 17, 2023)
Steede, Garrett (May 18, 2023)
Steffes, Michael (May 12, 2023)
Steinhauer, Kathy (May 18, 2023)
Stencil, Nancy (May 8, 2023)
Stenlund, DeeAnn (May 8, 2023)
Stevenson, Nan (May 8, 2023)
Stewart, Dale (May 12, 2023)
Stoner, Rebeca (May 12, 2023)
Stonich, Sarah (May 8, 2023)
Storlie, Duncan (May 8, 2023)
Stowell, Scott (May 18, 2023)
Strauss, Kevin (May 18, 2023)
Stringer, Kari (May 8, 2023)
Suchy, Susan (May 8, 2023)
Sueflow, Melinda (May 17, 2023)
Sullivan, Thomas (May 18, 2023)
Sutter, Ross (May 12, 2023)
Swedberg, Holly (May 9, 2023)
Swedberg, Thomas (May 8, 2023)
Swiglo, Holly (May 18, 2023)
Swope, Maya (May 12, 2023)
Syrkin, Dara (May 8, 2023)
Tamminen, Beth (May 8, 2023)
Taylor, Carol (May 15, 2023)
Tessari, Diane (May 9, 2023)
Thibault, Kathy (May 17, 2023)

Thomas, Denise (May 8, 2023)
Thomas, William (May 9, 2023)
Thomasson, Tabitha (May 9, 2023)
Thomborson, Barbara (May 11, 2023)
Tilotta, Terri (May 18, 2023)
Tippens, R (May 8, 2023)
Torbert, Stephanie (May 15, 2023)
Traschsel, James (May 8, 2023)
Tyler, Bruce (May 8, 2023)
Ueland, Clara (May 8, 2023)
Valentas, Ken (May 12, 2023)
Veit, Barbara (May 15, 2023)
Veits, Peter (May 18, 2023)
Verill, Mary (May 13, 2023)
Voight, Mary (May 8, 2023)
Vrabel, Karrie (May 8, 2023)
Vukson, Linda (May 16, 2023)
Wade, Todd (May 18, 2023)
Walker, Robert (May 9, 2023)
Walker, Robert (May 17, 2023)
Wallace, Tim (May 8, 2023)
Waltz, Lee (May 8, 2023)
Wambach, Maddie (May 17, 2023)
Watson, Richard (May 12, 2023)
Wattier, Courtney (May 16, 2023)
Weber, Carol (May 8, 2023)
Weber, Regina (May 15, 2023)
Webster, Judith (May 12, 2023)
Wegmann, Nell (May 18, 2023)
Weisberg, Joel (May 17, 2023)
Wenzel, Joseph (May 16, 2023)
Wertham, Glenn (May 16, 2023)
Wilcox, Blanche (May 9, 2023)
Wilm, ML (May 8, 2023)
Wilm, Terrance (May 18, 2023)
Winegar, Karin (May 12, 2023)
Wittcoff, Ralph (May 16, 2023)
Wotzka, Paul (May 18, 2023)
Wunderlich, Erich (May 18, 2023)
Wyckoff, Vincent (May 15, 2023)
Youens, Rachel (May 8, 2023)

Youmans, Bill (May 8, 2023)
Young, Michael (May 17, 2023)
Yurich, David (May 15, 2023)
Zarling, Gary (May 8, 2023)
Zatroch, Don A. (May 9, 2023)
Zdarsky, Barbara (May 8, 2023)
Zimanski, Ronald (May 12, 2023)
Zimmer, Catherine (May 8, 2023)
Zimmerman, Jane (May 17, 2023)
Zimney, David (May 18, 2023)

15. During the 30-day EAW public review and comment period, the DNR received written comments based on Form Email No. 2 from the 590 individuals listed below.

Ackerman, Jan (May 11, 2023)
Adams, Brian (May 15, 2023)
Aide, Lee (May 16, 2023)
Alan, Rodney (May 16, 2023)
Amundson, Will (May 15, 2023)
Anderson, Angela (May 11, 2023)
Anderson, Jerry (May 15, 2023)
Anderson, Michael (May 15, 2023)
Anderson, Ryan (May 15, 2023)
Andresen, Lori (May 11, 2023)
Andrews, Christine (May 12, 2023)
Bacheller, Emily (May 16, 2023)
Bachman, Sharon (May 15, 2023)
Backlund, Lisa (May 18, 2023)
Baker, Nancy (May 15, 2023)
Bambenek, Jim (May 11, 2023)
Bardell, Timothy (May 15, 2023)
Bartzen, Jamie (May 15, 2023)
Bell, Frances (May 15, 2023)
Bellert, Christina (May 16, 2023)
Belville, Bonny (May 13, 2023)
Bensen, Patrick (May 15, 2023)
Benzie, Charles (May 16, 2023)
Bergerud, Lisa (May 15, 2023)
Berggen, Kristine (May 11, 2023)
Bergman, Ellen (May 16, 2023)
Besser, Steven (May 11, 2023)

Beyer Hovi, Tanya (May 15, 2023)
Bischoff, Rebecca (May 11, 2023)
Bjork, David (May 15, 2023)
Bjork, Heather (May 15, 2023)
Blickenderfer, Mary (May 15, 2023)
Blumenshine, Amy (May 11, 2023)
Bohnen, Julia (May 11, 2023)
Bohnen, Julia (May 15, 2023)
Bothwell, Natalie (May 17, 2023)
Bourdon, Janet (May 15, 2023)
Blyly-Strauss, Mina (May 12, 2023)
Bogolub, Larry (May 11, 2023)
Bogolub, Larry (May 15, 2023)
Borgeson, Dean (May 12, 2023)
Borgeson, Dean (May 15, 2023)
Bourgeois, Arthur (May 11, 2023)
Braley, Doris (May 15, 2023)
Brainard, Diana (May 11, 2023)
Brockway, Barbara (May 15, 2023)
Brockway, Cynthia (May 11, 2023)
Brockway, Cynthia (May 15, 2023)
Brooker, Charlotte (May 11, 2023)
Brown, Craig (May 11, 2023)
Brown, Daniel (May 11, 2023)
Brown, Dorothy (May 11, 2023)
Brown, Emily (May 16, 2023)
Buehl, Barbara (May 15, 2023)
Butler, John (May 15, 2023)
Butze, Meghan (May 16, 2023)
Byhoffer, Steve (May 15, 2023)
Byler, Christa (May 15, 2023)
Capan, Laverne (May 11, 2023)
Carlson, Dana (May 16, 2023)
Carlson, David (May 11, 2023)
Carlson, Gary (May 16, 2023)
Carvajal, Mauricio (May 16, 2023)
Casey, Sheryl (May 11, 2023)
Caspers, Mary Jane (May 16, 2023)
Champeau, Eugene (May 15, 2023)
Charrier, JL (May 12, 2023)
Chesney, Steven (May 13, 2023)

Chesney, Steven (May 18, 2023)
Cheyne, Roger (May 16, 2023)
Chinitz, Rachel (May 12, 2023)
Christenson, Jaci (May 13, 2023)
Cleveland, Anne (May 13, 2023)
Coon, Denise (May 15, 2023)
Cooper, Larry (May 15, 2023)
Cooper, Patricia (May 15, 2023)
Copps, Terri (May 16, 2023)
Crafton, Jill (May 15, 2023)
Creighton, Mary (May 12, 2023)
Crowley, Kate (May 12, 2023)
Crowley, Kate (May 16, 2023)
Cuchna, Dennis (May 11, 2023)
Cunningham, Pauline (May 15, 2023)
Curtis, Cathy (May 17, 2023)
Cyriacks, Todd (May 15, 2023)
Damberg, Sheldon (May 15, 2023)
Damon, Jon (May 15, 2023)
Danielson, Jim (May 15, 2023)
Dannenbring, Cheryl (May 15, 2023)
Deason, Gary (May 13, 2023)
Debow, Shelley (May 15, 2023)
Dehnbostel, Carolyn (May 15, 2023)
Demaske, Dawn (May 16, 2023)
Dhondup, Lobsang (May 11, 2023)
Dietl, Martin (May 16, 2023)
Digby, Stephanie (May 18, 2023)
Domingo, Irene (May 11, 2023)
Dougherty, Kate (May 11, 2023)
Dow, Jane (May 15, 2023)
Downes, Joe (May 15, 2023)
Driessen, Kris (May 16, 2023)
Duvall, Faye (May 12, 2023)
Eastland, Valerie (May 11, 2023)
Eckfeldt, John (May 15, 2023)
Eden, Jalene (May 16, 2023)
Engebretson, Amy (May 15, 2023)
Enblom, Jack (May 15, 2023)
Enblom, Lori (May 15, 2023)
Engelhart, Ken (May 15, 2023)

Erickson, Kelly (May 16, 2023)
Espeland, Shirley (May 15, 2023)
Fastner, Chris (May 17, 2023)
Faulkner, Mary (May 11, 2023)
Favorite, Charles (May 15, 2023)
Finlay-Kochanowski, Jeannie (May 11, 2023)
Finstad, Laura (May 15, 2023)
Fisher, Kelly (May 15, 2023)
Fleming, Jean (May 11, 2023)
Fleming, John (May 11, 2023)
Foley, Brian (May 15, 2023)
Fortney, Diane (May 17, 2023)
Foryziak, Jeff (May 15, 2023)
Foster, Cynthia (May 15, 2023)
Frank, Scott (May 15, 2023)
Frechette, Carol (May 11, 2023)
Freeman, Amy (May 11, 2023)
Freeman, Amy (May 15, 2023)
Freese, Barbara (May 16, 2023)
French, Catherine (May 15, 2023)
French, Keith (May 15, 2023)
Fritz-Smead, Kent (May 16, 2023)
G, Steven (May 11, 2023)
Galloway-Egge, Ann (May 15, 2023)
Ganister, Linda (May 15, 2023)
Garrett, Katren (May 16, 2023)
Garrett, Merikay (May 11, 2023)
Garrett, Merikay (May 15, 2023)
Gasperini, Jennifer (May 15, 2023)
Gedicks, Al (May 11, 2023)
Gerdes, D Lawson (May 16, 2023)
Gerdes, Lynden (May 17, 2023)
Gerrick, Tucker (May 16, 2023)
Giese, Mark (May 11, 2023)
Gleason, Ken (May 15, 2023)
Gleason, Mary (May 15, 2023)
Gonzalez, Yazmin (May 11, 2023)
Goodlander, Lisa Hanes (May 15, 2023)
Gore, Jesse (May 11, 2023)
Grace, Amy (May 16, 2023)
Graf, Jacob (May 15, 2023)

Grahek, Mary (May 15, 2023)
Gray, Mary (May 17, 2023)
Green, Taran (May 11, 2023)
Greene, Chase (May 15, 2023)
Greenough, Mollie (May 11, 2023)
Griffin, Thomas (May 11, 2023)
Groven, Gary (May 11, 2023)
Guimond, Brian (May 16, 2023)
Gunther, Peter (May 11, 2023)
Gustafson, Duane (May 15, 2023)
Haase, Ashley (May 13, 2023)
Haider, Marlene (May 13, 2023)
Hagberg, Diane (May 16, 2023)
Hall, Jayne (May 15, 2023)
Haluska, John (May 11, 2023)
Halligan, Sue (May 12, 2023)
Halligan, Sue (May 15, 2023)
Halvorsen, Verlaine (May 11, 2023)
Halvorsen, Verlaine (May 15, 2023)
Hamann, Mary (May 11, 2023)
Hammang, Eric (May 11, 2023)
Hansen, Julie (May 13, 2023)
Harris, Cecily (May 15, 2023)
Harris, Kenneth A (May 15, 2023)
Harrison, Cathy (May 16, 2023)
Harstad, Steve (May 16, 2023)
Hart, Nett (May 14, 2023)
Hartman, Sandra (May 15, 2023)
Head, Jim (May 12, 2023)
Hebberger, Jo Anna (May 16, 2023)
Hefner, Amanda (May 15, 2023)
Heinsch, Tom (May 11, 2023)
Heitzeg, Steve (May 15, 2023)
Helland, Gail (May 16, 2023)
Helling, Eric (May 15, 2023)
Helling, Ian (May 15, 2023)
Hensel, Lisa (May 15, 2023)
Herron, Norman (May 13, 2023)
Herther, James (May 15, 2023)
Hess, Daniel (May 15, 2023)
Hetrick, Nathan (May 12, 2023)

Hill, Anita (May 16, 2023)
Hill, Paul (May 15, 2023)
Hill, Vernon (May 12, 2023)
Hilleshei, Mary (May 15, 2023)
Hiniker, Diane (May 16, 2023)
Hlgnell, Julie (May 15, 2023)
Hoch, Barbara (May 11, 2023)
Hoffman, Robert (May 16, 2023)
Holcomb, Chandler (May 15, 2023)
Holger, Mason (May 15, 2023)
Hopper, Forrest (May 15, 2023)
Horton, Ashle (May 15, 2023)
Hrossowyc, Dorothea (May 15, 2023)
Hrossowyc, Dorothea (May 17, 2023)
Huang, Gary (May 15, 2023)
Huber, Virginia (May 11, 2023)
Hudson, Dianne (May 15, 2023)
Humphrey, Thomas (May 11, 2023)
Husby, Jason (May 15, 2023)
Hyde, Johnnie (May 15, 2023)
Imker, Susan (May 12, 2023)
Ito, Elaine (May 17, 2023)
Jackson, Dena (May 15, 2023)
Jacobson, Rolf (May 16, 2023)
Jakusz, Darlene (May 12, 2023)
Jalonen, Bob (May 15, 2023)
Jensen, Jan (May 15, 2023)
Janssen, Barbara (May 15, 2023)
Jerde, Judy (May 15, 2023)
Jerome, Wendy (May 11, 2023)
Jeswzewski, Jon (May 11, 2023)
Jeutter, Larry (May 15, 2023)
Jewett, Kelley (May 15, 2023)
Johnson, Eric (May 18, 2023)
Johnson, Sarah (May 15, 2023)
Johnson, Sharon (May 15, 2023)
Johnston, Sheila (May 15, 2023)
Jones, Karen (May 12, 2023)
Jorgenson, Steve (May 11, 2023)
Joseph, S (May 11, 2023)
Juske, Paul (May 17, 2023)

Jyring, Benjamin (May 15, 2023)
Karamafrooz, Javad (May 15, 2023)
Kane, Barbara (May 15, 2023)
Karst, Karl (May 11, 2023)
Katsouros, Tracey (May 11, 2023)
Katz, Ruth (May 16, 2023)
Keller, Sophia (May 11, 2023)
Kelly, Theresa (May 11, 2023)
Kemp, Loni (May 12, 2023)
Kerns, Carolyn (May 16, 2023)
Kerr, Phyllis (May 11, 2023)
Keskitalo, Candace (May 15, 2023)
Kiekhafer, Thomas (May 11, 2023)
Kirtley-Sternberg, Margaret (May 16, 2023)
Kistler, Andrew (May 11, 2023)
Kjonaas, Melissa (May 15, 2023)
Klausing, Connor (May 15, 2023)
Klein, Garrett (May 15, 2023)
Klein, Robert (May 11, 2023)
Kleitz, Kathleen (May 15, 2023)
Klimpton, Cindy (May 15, 2023)
Kluscar, Barbara (May 15, 2023)
Knittel, Janna (May 18, 2023)
Knutsen, Mary (May 15, 2023)
Kofsky, Lauren (May 11, 2023)
Kofsky, Lauren (May 15, 2023)
Kovanda, Christopher (May 15, 2023)
Knaeble, Alan (May 15, 2023)
Kohlstedt, BJ (May 11, 2023)
Krause, Geoganne (May 11, 2023)
Kreider Carlson, Greta (May 16, 2023)
Kreider Carlson, Madeline (May 16, 2023)
Kreiner, Dennis (May 11, 2023)
Krinke, Jennifer (May 13, 2023)
Krinke, Jennifer (May 15, 2023)
Krikava, Martha (May 16, 2023)
Krueger, Wendy (May 15, 2023)
Kubes, Mark (May 14, 2023)
Lambert, Laura (May 11, 2023)
Landro-Pike, Andrea (May 15, 2023)
Lang, Lynn C. (May 11, 2023)

Larson, Phedra (May 11, 2023)
Larson, Ron (May 15, 2023)
Larsson, Anna (May 12, 2023)
LeGros, Sue (May 15, 2023)
Lehnen, John (May 15, 2023)
LePlatt, Herb (May 15, 2023)
Lewis, Beth (May 12, 2023)
Lewis, Lee (May 11, 2023)
Liedman, Kristi (May 15, 2023)
Lies, Joshua (May 15, 2023)
Lindner, Kris (May 14, 2023)
Linnerson, Gail (May 15, 2023)
Loch, Christopher (May 11, 2023)
Loch, Christopher (May 16, 2023)
Lockman, Sonja (May 15, 2023)
Logsdon, Adrien (May 15, 2023)
London, Libby (May 15, 2023)
Lowe, Anne (May 15, 2023)
Lucas, Krista (May 17, 2023)
Luce, Don (May 15, 2023)
Lyon, Charles (May 16, 2023)
Magree, Jan (May 16, 2023)
Mahoney, Tom (May 11, 2023)
Maleska, Michael (May 11, 2023)
Maleska, Michael (May 15, 2023)
Magnuson, Kathy (May 15, 2023)
Malloy, Brian (May 11, 2023)
Maloney, Jim (May 16, 2023)
Margolis, Laurence (May 11, 2023)
Marlowe, Denise (May 15, 2023)
Martin, Al (May 17, 2023)
Martin, Brady (May 15, 2023)
Martin, Paul (May 15, 2023)
Marxhausen, Jake (May 15, 2023)
Massey, Carolyn (May 11, 2023)
Matushak, Kim (May 15, 2023)
Mayerle, Erika (May 15, 2023)
McCleary, Harriet (May 11, 2023)
McCullough, Maureen (May 16, 2023)
McDonald, Barbara J (May 16, 2023)
McEvoy, Michael (May 15, 2023)

McGaughey, Steven (May 15, 2023)
McGilligan, Mary (May 12, 2023)
McGown, Sandra (May 11, 2023)
McKeen, Cynthia (May 16, 2023)
McKibben, Andrew (May 15, 2023)
McKlveen, Robert (May 16, 2023)
McLaughlin, Lissa (May 13, 2023)
McNeely, Nick (May 11, 2023)
Mead, Julee (May 11, 2023)
Meador, Kate (May 15, 2023)
Meier, David (May 11, 2023)
Menti, Rob (May 15, 2023)
Mercier, Andrea (May 11, 2023)
Mertesdorf, Carol (May 12, 2023)
Mettee, Michael (May 15, 2023)
Mevissen, Thomas (May 15, 2023)
Meyer, Justin (May 12, 2023)
Miles, Michael (May 11, 2023)
Miley, Timothy (May 11, 2023)
Miller, Kari (May 15, 2023)
Miller, Kathleen (May 15, 2023)
Miller, Mary (May 11, 2023)
Millness, Matt (May 15, 2023)
Mitchell, Peter (May 11, 2023)
Mitchell, Timothy (May 13, 2023)
Mleczewski, Shari (May 13, 2023)
Monsor, Michael (May 15, 2023)
Moran, Andrew (May 15, 2023)
Morgan, Janine (May 15, 2023)
Moor, Barb (May 15, 2023)
Moritz, Andrew (May 15, 2023)
Morley, Steven (May 12, 2023)
Morrell, Svea (May 16, 2023)
Morrison, Colleen (May 15, 2023)
Morse, Sundae (May 11, 2023)
Morse, Sundae (May 15, 2023)
Moses, Patricia (May 17, 2023)
Mosher, Kathryn (May 11, 2023)
Moss, Paul (May 12, 2023)
Moss, Paul (May 15, 2023)
Muellner, George (May 16, 2023)

Mullen, Timothy (May 11, 2023)
Munger, Martha (May 12, 2023)
Musgrave, Frederica (May 15, 2023)
Musgrave, Frederica (May 18, 2023)
Myerly, Jim (May 15, 2023)
Myerly, Rebecca (May 15, 2023)
Narcisse, April (May 15, 2023)
Narigon, Amelia (May 15, 2023)
Narigon, Elizabeth (May 15, 2023)
Neihart, Janet (May 11, 2023)
Nelson, Debbie (May 15, 2023)
Nelson, Patricia (May 11, 2023)
Nelson, Tim (May 11, 2023)
Nelson, Timothy (May 11, 2023)
Nemanick, Toni Lee (May 15, 2023)
Neumarque, Richard (May 15, 2023)
Newman, Dan (May 15, 2023)
Nicklow, Carrie (May 15, 2023)
Nieman, Kimberly (May 12, 2023)
Nies, Randy (May 11, 2023)
Nies, Randy (May 15, 2023)
Noble, Jacqueline (May 15, 2023)
Norby, Jessica (May 15, 2023)
Noring, Carrie (May 11, 2023)
Norlien, Carmen (May 15, 2023)
Norquist, Ben (May 15, 2023)
Oesterreich, Rosa (May 15, 2023)
Off (May 15, 2023)
Okie, Jesse (May 12, 2023)
Olsen, Lon (May 15, 2023)
Olson, Ellen (May 18, 2023)
Onello, Emily (May 11, 2023)
Ososki, Elaine (May 16, 2023)
Ott, Tom (May 16, 2023)
Otterson, Peder (May 15, 2023)
Page, Colton (May 15, 2023)
Pagnucco, Ronald (May 11, 2023)
Pauling, Lynda (May 11, 2023)
Peddicord, Shelly (May 12, 2023)
Pegg, Lyn (May 11, 2023)
Pence, Bret (May 12, 2023)

Percy, Lisa (May 15, 2023)
Peters, Karen (May 15, 2023)
Peterson, Douglas (May 12, 2023)
Pickering, Nancy (May 15, 2023)
Pierce, Candice (May 11, 2023)
Pierce, Peter (May 11, 2023)
Pike, Jeff (May 15, 2023)
Pingel, Alva (May 11, 2023)
Plantenberg, Robert (May 15, 2023)
Polcher, Kelsey (May 15, 2023)
Pollet, Angela (May 15, 2023)
Pope, Matthew (May 12, 2023)
Popowski, Christine (May 11, 2023)
Popowski, Christine (May 15, 2023)
Popple, Patricia J. (May 11, 2023)
Porter, Betsey (May 12, 2023)
Porter, Betsey (May 16, 2023)
Pounds, Jim (May 15, 2023)
Price, Joan (May 15, 2023)
Ptak, Lori (May 15, 2023)
Pukenis, Liz (May 15, 2023)
Quetico, Sarah (May 16, 2023)
Radtke-Rosen, Ian (May 11, 2023)
Rampi, Philip (May 16, 2023)
Reichel-Halverson, Susan (May 15, 2023)
Reichensperger, Karen (May 16, 2023)
Reid, Wendy (May 15, 2023)
Reihle, Jeffrey (May 11, 2023)
Renaud, Karen (May 11, 2023)
Richtman, Paul (May 11, 2023)
Ristau, Eric (May 15, 2023)
Rodar, Jodi (May 12, 2023)
Roed, Clarence (May 16, 2023)
Roemer, Diane (May 15, 2023)
Rom, Becky (May 15, 2023)
Romano, Chris (May 15, 2023)
Rosenberg, Arthur (May 15, 2023)
Ross, Christina (May 17, 2023)
Ross, Jean (May 15, 2023)
Rule, Juliann (May 11, 2023)
Rutten, Erich (May 16, 2023)

Saign, Geoffrey (May 15, 2023)
Sandritter, Ann (May 11, 2023)
Schaff, Andy (May 18, 2023)
Schally, Jennifer (May 12, 2023)
Scheierl, Robert (May 11, 2023)
Schnell, Bill (May 15, 2023)
Schochet, Joy (May 11, 2023)
Schulke, Maribeth (May 11, 2023)
Schultz, Sol (May 12, 2023)
Schueth, Steve (May 12, 2023)
Schuppert, Maggie (May 18, 2023)
Schwanekamp, Susan (May 11, 2023)
Schwartz, Kristine (May 16, 2023)
Schwartz, Zachary (May 12, 2023)
Seabloom, Donna (May 15, 2023)
Selz, Kathleen (May 16, 2023)
Senechal, Mandy (May 16, 2023)
Setterquist, L (May 17, 2023)
Sevilla, Caroline (May 11, 2023)
Shankel, Georgia (May 11, 2023)
Shellabarger, Donna (May 11, 2023)
Shields, Jamie (May 11, 2023)
Shinkle, Adaline (May 11, 2023)
Shoemaker, Lynn (May 11, 2023)
Simer, Kurt (May 14, 2023)
Simonson, Teresa (May 15, 2023)
Skelly, Keri (May 15, 2023)
Skelton, Julie (May 11, 2023)
Slama, Kay (May 11, 2023)
Smith, Joan (May 15, 2023)
Smith, Sharon (May 15, 2023)
Snyder, Brad (May 13, 2023)
Solberg, Greg (May 11, 2023)
Soloman, Brenda (May 15, 2023)
Sorenson, David (May 15, 2023)
Sorteberg, John (May 15, 2023)
Sorvari, Arvid (May 12, 2023)
Sowers, Maia (May 15, 2023)
Spoor, Peter (May 15, 2023)
Stahelin, Sarah (May 15, 2023)
Stanaszek, Matthew (May 15, 2023)

Stattine, Dawn (May 15, 2023)
Steele, William (May 11, 2023)
Stefanich, Rosalie (May 14, 2023)
Steigauf, Thomas (May 16, 2023)
Steinert-Bresilge, Heidi (May 11, 2023)
Steinolfson, September (May 11, 2023)
Stencil, Nancy (May 11, 2023)
Stenson, Tennyson (May 17, 2023)
Sterle, Craig (May 11, 2023)
Sternal, Ron (May 11, 2023)
Stevenson, Nan (May 15, 2023)
Stevenson, Nancy J. (May 11, 2023)
Stewart, Alena (May 15, 2023)
Stillwell, Charmaine (May 14, 2023)
Stockman, Jill (May 15, 2023)
Stoner, Amber (May 16, 2023)
Stodola, Robert (May 11, 2023)
Stoner, Rebecca (May 16, 2023)
Strand, Stacy (May 15, 2023)
Strege, Philip (May 15, 2023)
Striegl, Robert (May 15, 2023)
Strohmeyer, Lauren (May 16, 2023)
Sunstrom, Stephanie (May 15, 2023)
Sutherland, Karen (May 15, 2023)
Swanson, Adam (May 11, 2023)
Swanson, Charles (May 18, 2023)
Swanson, Cindy (May 12, 2023)
Swanson, David (May 15, 2023)
Swedberg, Thomas (May 14, 2023)
Swenson Tellekson, Linnea (May 16, 2023)
Sy, Steven (May 13, 2023)
Syring, David (May 15, 2023)
Syverts, Rebecca (May 15, 2023)
Tavernier, Pam (May 17, 2023)
Taylor, Eric (May 17, 2023)
Tessari, Diane (May 16, 2023)
Therkilsen-Gebhard, Jennifer (May 11, 2023)
Thomas, Patricia (May 11, 2023)
Thomborson, Barbara (April 11, 2023)
Thompson, Anna (May 15, 2023)
Thompson, Mary (May 11, 2023)

Thornsbury, Jean (May 11, 2023)
Thrall, Grant (May 15, 2023)
Thrash, Brandon (May 15, 2023)
Tidwell, Marion (May 11, 2023)
Timinski, Emily (May 16, 2023)
Timmer, Steven J (May 17, 2023)
Trainor, Joseph (May 16, 2023)
Tran, Sheila (May 11, 2023)
Tran, Sheila (May 15, 2023)
Trom, Brad (May 11, 2023)
Tschann, Matt (May 16, 2023)
Tucker, Ann (May 12, 2023)
Tucker, Lauren (May 11, 2023)
Ueland, Clara (May 17, 2023)
Underdahl, Tanner (May 15, 2023)
Valdez, Nissa (May 15, 2023)
Vanderlinden, Lisa (May 16, 2023)
VandeVusse, MaryAnn (May 18, 2023)
Van Wert, Katie (May 15, 2023)
Vennes, Martha (May 12, 2023)
Vennes, Martha (May 15, 2023)
Viacrucis, John (May 11, 2023)
Viker, Maren (May 15, 2023)
Vlazny, Mary (May 13, 2023)
Vrabel, Mary (May 11, 2023)
W, Mike (May 16, 2023)
Wagenius, Dwight (May 13, 2023)
Wagner, Anna (May 11, 2023)
Wagner, Anna (May 15, 2023)
Wallin, Brynden (May 15, 2023)
Wambach, Gerald (May 11, 2023)
Wark, Travis (May 13, 2023)
Warner, David (May 15, 2023)
Waskosky, Donald (May 11, 2023)
Waskosky, Donald (May 12, 2023)
Webb, Haley (May 11, 2023)
Weber, Carol (May 11, 2023)
Weber, Carol (May 15, 2023)
Weener, Bill (May 15, 2023)
Wertheim, Glenn (May 16, 2023)
Wesman, Diane (May 12, 2023)

West, Alice (May 11, 2023)
Whitney, Barbara (May 15, 2023)
Wihriala, Mark (May 12, 2023)
Wiinanen, Rebecca (May 11, 2023)
Williams, John (May 15, 2023)
Williams, Ronald (May 15, 2023)
Willman, Andrew (May 15, 2023)
Wilm, ML (May 11, 2023)
Wilm, ML (May 15, 2023)
Wind, Megan (May 15, 2023)
Wire, Bernie (May 15, 2023)
Wiste, Susan (May 12, 2023)
Wolf, Laura (May 16, 2023)
Wright, Gordon (May 15, 2023)
Wohlberg, Robert (May 11, 2023)
Wood, Bruce (May 12, 2023)
Wyberg, Bryan (May 11, 2023)
Wyckoff, Julienne (May 15, 2023)
Yahn, Stephen (May 11, 2023)
Yoelin, Amy (May 15, 2023)
Zabelle Stodola, Kathryn (May 11, 2023)
Zamfirescu, Anca (May 15, 2023)
Zappala, Sam (May 11, 2023)
Zatroch, Don A (May 15, 2023)
Zeidel, Julie (May 11, 2023)
Zelasko, Sandy (May 11, 2023)
Zentner, Dave (May 11, 2023)
Zilverberg, Larry (May 15, 2023)
Zimanski, Ronald (May 11, 2023)
Zimmerman, Reid (May 15, 2023)

16. During the 30-day EAW public review and comment period, the DNR received written comments based on Form Email No. 3 from the 162 individuals listed below.

Allman, Laurie A (May 18, 2023)
Anderson, Angela (May 16, 2023)
Anderson, Carolyn (May 17, 2023)
Anderson, Dorothy (May 17, 2023)
Anderson, Susan (May 17, 2023)
Andresen, Lori (May 16, 2023)
Andrews, Donna (May 16, 2023)

Ahlstrand, Heidi (May 17, 2023)
Asher, Louis (May 17, 2023)
Astleford, Jason (May 17, 2023)
Backman, Bob (May 16, 2023)
Ballbach, Marc (May 16, 2023)
Barr, Ellen (May 17, 2023)
Bartlett, Elizabeth (May 17, 2023)
Baxter, Martha (May 16, 2023)
Beegle, Margaret (May 16, 2023)
Bellert, David (May 17, 2023)
Bergerud, Lisa (May 16, 2023)
Berrodi, Terra (May 16, 2023)
Berryhill, Janet (May 16, 2023)
Bohnen, Julia (May 16, 2023)
Borgeson, Dean (May 16, 2023)
Borgmann, Diane (May 16, 2023)
Brekke, Elizabeth (May 17, 2023)
Brown, Mark (May 17, 2023)
Burrows, Pamela (May 16, 2023)
Butler, Shelley (May 16, 2023)
Carlson, Christopher (May 16, 2023)
Cease, Brett (May 16, 2023)
Chadwick, Matthew (May 16, 2023)
Christenson, Jaci (May 16, 2023)
Colburn, Tim (May 16, 2023)
Crowley, Kate (May 17, 2023)
Cuchna, Dennis (May 16, 2023)
Dacey, Florence (May 16, 2023)
Davis, Matthew (May 16, 2023)
Dow, Jeff (May 16, 2023)
Dyce, Darwin (May 17, 2023)
Epp, Alan (May 17, 2023)
Falink, Norma Jean (May 17, 2023)
Fitzgerald, Jerry (May 17, 2023)
Franklin, Barbara (May 17, 2023)
Frei, Mary (May 17, 2023)
Gaertner, Rebecca W (May 17, 2023)
Gangeness, Nancy (May 16, 2023)
Gardner, Amy (May 17, 2023)
Gerdes, D Lawson (May 16, 2023)
Gilpin, Cynthia (May 17, 2023)

Gronet, Ammie (May 17, 2023)
Grossman, Michael (May 17, 2023)
Hagen, Thomas (May 16, 2023)
Halligan, Sue (May 16, 2023)
Halvorson, Ruth (May 16, 2023)
Hansen, Adele (May 16, 2023)
Hanson, Chris (May 16, 2023)
Hanson, Lee (May 18, 2023)
Harris, Paul (May 16, 2023)
Helgeson, Matt (May 16, 2023)
Hensel, Lisa (May 16, 2023)
Herther, James (May 16, 2023)
Holman, Julie (May 17, 2023)
Holt, Nora (May 16, 2023)
Janes, Donald (May 16, 2023)
Johnson, Margit (May 18, 2023)
Johnson, Wade (May 16, 2023)
Johnson, Zach (May 16, 2023)
Karlgaard, Matt (May 16, 2023)
Knuth, Sherri (May 18, 2023)
Koepp, Carol (May 16, 2023)
Koors, Tom (May 16, 2023)
Krauz, Tina (May 17, 2023)
Krikava, Martha (May 16, 2023)
Krljic, Marianne (May 17, 2023)
Krueger, Richard (May 16, 2023)
Kwakenat, Paula (May 16, 2023)
Kwong, Christine (May 17, 2023)
Lang, Lynn C (May 16, 2023)
Larson, Katie (May 17, 2023)
Larson, Phedra (May 16, 2023)
Lechner, M (May 17, 2023)
Linnerson, Gail (May 16, 2023)
Loch, Christopher (May 17, 2023)
Loveland, Jennifer (May 16, 2023)
Lundquist, Mary Ann (May 18, 2023)
Lynch, Jennifer (May 16, 2023)
Magne, Kathy (May 17, 2023)
Marlowe, Denise (May 16, 2023)
McCleary, Harriet (May 16, 2023)
McGilligan, Mary (May 16, 2023)

Miedtke, Doug (May 16, 2023)
Mensing, Douglas (May 16, 2023)
Mitchell, Timothy (May 17, 2023)
Moss, Paul (May 16, 2023)
Mullen, Timothy (May 16, 2023)
Murray, Helene (May 17, 2023)
Nash, Heyward (May 16, 2023)
Nies, Randy (May 16, 2023)
Noren, Gary (May 16, 2023)
Olson, Linda (May 16, 2023)
Paradise, Juliette (May 16, 2023)
Pawlak, Ben (May 17, 2023)
Peck, Linda (May 17, 2023)
Pegg, Lyn Clark (May 16, 2023)
Peggy (May 17, 2023)
Perna, Amy (May 17, 2023)
Percy, Lisa (May 16, 2023)
Phelan, Andrew (May 16, 2023)
Pingel, Alva (May 16, 2023)
Popowski, Christine (May 16, 2023)
Pratbernon, Annick (May 17, 2023)
Profant, Carmine (May 16, 2023)
Psilos, Char (May 16, 2023)
Radtke-Rosen, Ian (May 17, 2023)
Reese, Scott (May 17, 2023)
Renaud, Karen (May 16, 2023)
Robertson, Wendy (May 18, 2023)
Robinson, CJ (May 17, 2023)
Roiger, Pam (May 16, 2023)
Rolfe, Linda (May 17, 2023)
Rosenberg, Art (May 16, 2023)
Rova, Jonathan (May 18, 2023)
S, Anne (May 17, 2023)
Schally, Jennifer (May 16, 2023)
Schmidt, Susan (May 17, 2023)
Schoephoerster, George (May 16, 2023)
Schulz, Kurt (May 18, 2023)
Shepard, Lansing (May 16, 2023)
Shockley, Rebecca (May 17, 2023)
Smart, Murray (May 16, 2023)
Smith, Mary (May 17, 2023)

Sobczak, Patricia (May 16, 2023)
Sramek, Jo-Ann (May 16, 2023)
Stahelin, Sarah (May 16, 2023)
Steinolfson, September (May 17, 2023)
Stenlund, DeeAnn (May 16, 2023)
Stevesand, Pat (May 16, 2023)
Stewart, Kenneth (May 17, 2023)
Straw, Matt (May 16, 2023)
Streed, Stephen (May 16, 2023)
Sveine, Terry (May 16, 2023)
Tarasi, Megan (May 16, 2023)
Tessari, Diane (May 16, 2023)
Thonet, Ann (May 17, 2023)
Torkildson, Caroline (May 16, 2023)
Touray, Naina (May 16, 2023)
VanCura, David (May 16, 2023)
Vanderlinden, Lisa (May 16, 2023)
Vande Vusse, Mary Ann (May 17, 2023)
Ware, Clifton (May 16, 2023)
Weber, Nicki (May 17, 2023)
Weber, Sandra (May 17, 2023)
Wehrenberg, Sue (May 16, 2023)
West, Alice (May 16, 2023)
West, Margaret (May 18, 2023)
Wick, Sue (May 16, 2023)
Williams, Ronald (May 18, 2023)
Wilm, ML (May 16, 2023)
Wolford, Kate (May 16, 2023)
Wolston, Kim (May 16, 2023)
Wood, Diane (May 16, 2023)
Zeilter, Nicholas (May 16, 2023)
Zelinskas, Andy (May 16, 2023) (12)

17. During the 30-day EAW public review and comment period, the DNR received written comments based on Form Email No. 4 from the five (5) individuals listed below.

    Ballew, Marjorie (May 5, 2023)
    Gille, Anita (May 6, 2023)
    Kearns, Meg (May 5, 2023)
    Schulzetenberg, James (May 7, 2023)
    Hanson, Lee (May 18, 2023)

18. During the 30-day EAW public review and comment period, the DNR received written comments in the form of unique emails from the 27 individuals listed below.

    Berryhill, Janet (May 16, 2023)
    Brown, Richard P (May 18, 2023)
    Carson Johnson, Margit (May 18, 2023)
    Ciorlieri, Lisa (May 18, 2023)
    Dowell, Valoree (May 18, 2023)
    Duchscher, Marty (May 17, 2023)
    Hagen, Thomas (May 16, 2023)
    Heider, Marlene (May 13, 2023)
    Johnson, Eric (May 18, 2023)
    Junnila, Andrew (April 23, 2023)
    Koltz-Hale, Dylan (May 8, 2023)
    McGehee, Tamara (May 18, 2023)
    Munger, Sally (May 8, 2023)
    Myers, Gwen (May 18, 2023)
    Olstad, Ken (May 15, 2023)
    Overend, Michael (April 24, 2023)
    Peck, Linda (May 17, 2023)
    Reisenweber, Dorie (April 28, 2023)
    Riviera, Tissue (May 18, 2023)
    Robertson, Wendy (May 18, 2023)
    Smith, Christopher (April 18, 2023)
    Tietge, Roberta (May 17, 2023)
    Timmer, Steve (May 17, 2023)
    Trachsel, Gay (April 29, 2023)
    West, Margaret (May 18, 2023)
    Zeidel, Julie (May 11, 2023)
    Zelinskas, Andy (May 16, 2023)

**Responses to Comments**

19. Minnesota Rules 4410.1700, subp. 4, requires the Record of Decision (ROD) to include specific responses to all substantive and timely comments on the EAW. The term "substantive" is not defined by either Minn. Stat. ch. 116D or Minn. R. ch. 4410. Minnesota Rule 4410.1600, subp. B, addresses the type of comments that should be submitted during the EAW comment period and provides "comments shall address the accuracy and completeness of the material contained in the EAW, potential impacts that may warrant further investigation before the project is commenced, and the need for an EIS on the proposed project." Because these are the types of

comments that commenters are directed to make on the EAW, DNR has used the directive contained in Minn. R. 4410.1600, subp. B, as the definition of "substantive."

20. DNR received comments on the Tailings Basin Features, including: the applicability of Minn. R. 4410.4300, subp. 11b, which requires an EAW for certain tailings basin expansions as defined in Minn. R. 4410.0200, subp. 28; potential impacts of the Proposed Project; and on the need for an EIS. Minimal comments were received on the Stream Mitigation Sites. No comments were provided on the clay borrow site part of the Tailings Basin Features project component.

21. DNR also received comments on: 1) past development, timelines, and environmental review of previous stages of development of Mile Post 7 Tailings Basin outside the definition and purpose of the Proposed Project; previous DNR environmental review determinations; and previous DNR permitting decisions. As needed, DNR treated these as substantive comments for this Record of Decision.

22. As required by Minn. R. 4410.1700, subp. 4, DNR's responses to public comment letters listed in ¶ 13 on the EAW are provided in ¶ 22.A through ¶ 22.I of these Findings of Fact. DNR has responded to non-substantive comments when deemed necessary, especially if doing so clarifies previous decisions or informs the public, Proposer, and permitting authorities about the history of past development, previous environmental review, and timelines associated with the Proposed Project as well as the Mile Post 7 Tailings Basin generally. Comments are provided verbatim to the degree possible with allowances taken for spelling, grammar, or other minor consistency or formatting issues.

    A. Dayton, Charles

    1. *Comment 22.A.1*: During the permitting process for the original permit to dispose of taconite tailings at Milepost 7, I was a lawyer representing Save Lake Superior Association and the Sierra Club. I was present and participated actively in the hearing before former DNR Commissioner Wayne Olsen (which were quite lengthy) and each phase of the process that followed, including the Agency hearings, the three-judge District Court hearings, and the Minnesota Supreme court.

       *DNR Response*: The statement is factually correct. No response is needed.

    2. *Comment 22.A.2*: Before proceeding with the allowance of an expansion at Milepost 7, DNR should take this opportunity for further study as recommended by Water Legacy and others for these reasons:

       *DNR Response*: The response to this comment is outlined in further detail in Responses to Comments ¶¶ 22.A.3-10.

3. *Comment 22.A.3*: The denial of the permit for Milepost 7 was recommended by a former DNR commissioner and accepted by both the PCA and DNR on the basis of evidence produced over a six-month hearing.

   *DNR Response*: This statement is factually correct. The 1975-76 Final EIS, which was issued after a six-month hearing before an administrative law judge (ALJ), analyzed a number of preferred alternatives, including both Mile Post 20/Midway and Mile Post 7. Mile Post 7 was not the preferred alternative; rather the ALJ found Mile Post 20/Midway to be an environmentally preferable site. *See ¶ 29.i: EAW Appendix J9.a - 1975-76 Final EIS (ROD) ¶ 18. See also ¶ 29.bb: EAW Appendix J26 – Reserve Mining Co. v. Herbst,* 256 N.W. 2d 808, 812 (Minn. 1997). Both the DNR and the Minnesota Pollution Control Agency (MPCA) preferred the Midway Site. *Id.*

4. *Comment 22.A.4*: The reversal of those permit denials by a three-judge district court of biased Northern Minnesota Judges and a disingenuous Minnesota Supreme Court was a product of concern for loss of jobs in northern Minnesota, as a result of Reserve Mining Company's threats of closure if the permits were denied. It was not based on the record. It is not entitled to weight in your decision, but the denial of the permits by MPCA and DNR is.

   *DNR Response*: The DNR acknowledges that the 1977 decision of the Minnesota Supreme Court ordering the DNR and the MPCA to issue a permit to Reserve Mining for Mile Post 7 was contrary to the position taken by the ALJ, the DNR, and the MPCA, all of which found the Mile Post 20/Midway site to be the environmentally preferrable site. The three-judge panel and the Minnesota Supreme Court issued their decisions over 40 years ago after hearing and weighing the evidence. DNR is not in a position to review the evidence presented to the three-judge panel and modify its permitting decision based on evidence presented over 40 years ago.

   The DNR notes that the Reserve Mining decision and the ALJ's report both analyze the financial impact on the local economy of selecting Mile Post 20/Midway in addition to the environmental impact of both sites. *See ¶ 29.bb: EAW Appendix J26 – Reserve Mining Co. v. Herbst 1977 at 816-819.* This was addressed in the 1975-76 Final EIS at: 1) Findings ¶¶ 32-79 (discussing water, air, dust/fiber, and natural resource impacts and concluding that the Mile Post 7 would cause pollution, impairment, and destruction of the air, water, land and other natural resources located within the state); 2) Findings ¶¶ 87-107 (discussing environmental impacts of the alternatives to Mile Post 7 and concluding that each has a lesser environmental impacts than Mile Post 7); and 3) Findings ¶¶ 110-140 (discussion of Reserve Mining's testimony regarding the economic impact of selecting a site other than Mile Post 7 and concluding that economics alone is not determinative of the question of whether there are

feasible and prudent alternatives). *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) at 13-24, 27-31, 32-37.*

The DNR acknowledges that the siting of Mile Post 7 was highly controversial and not one that DNR supported, however, because the decision issued by Minnesota Supreme Court is binding precedence, the DNR is not free to ignore or remake a decision regarding Mile Post 7 and its subsequent use as the site of a tailings basin.

5. *Comment 22.A.5*: Here is a quote from the Minnesota Supreme Court's opinion:

   The hearing officer appointed by PCA and DNR took testimony from 160 witnesses, *817 received 1,000 exhibits, and generated an 18,000-page transcript in the 9 months during which Reserve's permit was being considered by him. His findings, conclusions, and recommendations were adopted by the agencies without further evidence and incorporated into resolutions and orders denying permits at Mile Post 7 and encouraging an application for permits at Mile Post 20.

   In commenting on the dam to be erected at Mile Post 7, the hearing officer expressed the opinion that the possibility of errors and omissions in construction were increased by the passage of time, and that tailings dams are more difficult to build than conventional water storage dams and are more susceptible to faulty construction. He indicated a lack of confidence in the likelihood of "close cooperation and mutual faith between the designer and the mining operator." The bedrock, he found, would present no problems in dam stability, and the clay samples in the area provided suitable foundation. However, Mile Post 7 would be a major, complex engineering project, resulting in one of the largest dams in the United States, and would be located 3 miles from Lake Superior and 600 vertical feet above it. He found a major failure of the dam would be catastrophic. In that event, eight residences below the dam would be affected and the tailings would be deposited in Lake Superior with no opportunity for recapture. As between Mile Post 7 and a damsite where the consequences of failure would not be so severe, the hearing officer concluded that prudence would dictate the choice of a safer site, "even if the probability of dam failure is small."

   *DNR Response*: This is a factually correct summary of the ALJ's findings in the 1975-76 Final EIS Conclusions ¶¶ 15-25. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) at 9-12.*

6. *Comment 22.A.6*: Your Record of Decision relies heavily on the Supreme Court decision but does not provide a discussion of the Administrative Law Judge Wayne Olsen's analysis nor that of the agencies themselves. You do not provide adequate citations to those documents nor discuss their reasoning, even though they, rather than the judges, have the expertise that the judges did not. I was not able to find a citation to Olsen's recommendations or the

Agencies decisions, except at the Minnesota Historical Society. Why did you not cite them adequately?

*DNR Response*: The purpose of this EAW is not to remake the siting decision made over 40 years ago. The question before the DNR now is whether the Proposed Project (i.e., Tailings Basin Features; Stream Mitigation Sites) at the Mile Post 7 Tailings Basin has the potential for significant environmental effects. Minn. R. 4410.1700, subp. 1.

7. *Comment 22.A.7*: The administrative hearing had evidence of other dam failures, including the Teton Dam which collapsed during the hearing.

   *DNR Response*: Discussion of DNR's analysis of the documentation presented to it on dam failures can be found in the *Environmental Review Need Determination, Cleveland-Cliffs, Inc. and Northshore Mining Company Mile Post 7 Tailings Basin Progression and Clay Borrow Site (June 28, 2021),* at Section 4.3.2.2.2 - New Information or Circumstances Regarding Dam Safety Impacts Available Since the 1975-76 EIS, and Section 4.3.3.3.C – Feasible and Prudent Alternatives. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 31-33, 58-65*. DNR's analysis can also be seen *In the Matter of the Determination of Need for an Environmental Assessment Worksheet for Mile Post 7 Tailings Basin Progression, Lake County, Minnesota, Findings of Fact, Conclusions and Order (February 4, 2022),* at ¶¶ 187-203 and ¶¶ 223- 226. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD at 55-60, 65-66.* Both documents are part of the administrative record in this matter.

8. *Comment 22.A.8*: That history is important to your present consideration of the request to enlarge the tailings basin dam. I assume that you have reviewed the record of the hearings in the 70s on the safety of this dam and the tailings airborne particles contamination. As you know, the PCA board itself denied the permit, then the permit decision was reversed by a three-judge district court that was obviously biased. All three were judges from the northern part of the state and paid no attention to the expertise of the hearing examiner nor to the MPCA and DNR which had ruled against the permit and the dam. The Supreme court made a disingenuous decision with ridiculous reasoning. I am aware on good authority that Reserve Mining telephoned the Supreme Court just before the oral argument and said that if the Court ruled against them, they would close the Silver Bay plant and 3,000 workers would be out of work. And the Supreme Court even noted that threat in its opinion. The point is that the agency board, which should have been given deference because of expertise, was pushed aside because of concern for jobs in Silver Bay. There is no doubt in my mind about it.

   *DNR Response*: The DNR offers no response to the opinions of the commenter about the motivation of the judges in the Reserve Mining case. As noted above, the State of Minnesota decided where to site the tailings basin over 40 years ago, and reexamining that decision is not the purpose of the EAW.

9. *Comment 22.A.9*: The disingenuity of the Court in this case is most obvious in its discussion of Milepost 20 which the agencies found to be a "feasible and prudent alternative" under the Minnesota Environmental Rights. The opinion speaks of Milepost 20 (which is apparently "just woods" as is about 16 million acres in Minnesota) as "wilderness" as if it could be compared with the beautiful and unique valley in the North Shore ridge. And the opinion notes that the people who live near Milepost 7 (of which there was no evidence) are as entitled to protection from airborne particulates as the people of Silver Bay. Baloney!

   *DNR Response*: The DNR offers no response to the opinions of the commenter about the motivation of the judges in the Reserve Mining case. As noted above, the State of Minnesota decided where to site the tailings basin over 40 years ago, and reexamining that decision is not the purpose of the EAW.

10. *Comment 22.A.10*: I have to say that the decision of the Minnesota Supreme Court in this case was the most disappointing, disheartening, and disingenuous of my career as an environmental lawyer in Minnesota. It is not entitled to deference.

    *DNR Response*: The DNR offers no response to the opinions of the commenter about the motivation of the judges in the Reserve Mining case. As noted above, the State of Minnesota decided where to site the tailings basin over 40 years ago, and reexamining that decision is not the purpose of the EAW.

B. Duluth City Councilors

1. *Comment 22.B.1*: As local elected officials for the City of Duluth, we appreciate the opportunity to comment on the Environmental Assessment Worksheet (EAW) for the Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project (Mile Post 7 Expansion) proposed by Northshore Mining Company. The Mile Post 7 tailings basin and proposed expansion are of significant importance to Duluth's 1st, 2nd, and 3rd Districts and our constituents.

   *DNR Response*: The DNR acknowledges the importance of the Proposed Project to the Council's Duluth constituencies.

2. *Comment 22.B.2*: Our greatest concern is the lack of information in the EAW regarding dam safety for the proposed Mile Post 7 Expansion. We ask DNR to ensure that the environmental effects of the proposal – including the safety of the dams and the environmental effects that would result from a collapse of the tailings basin's dams – are fully vetted before a decision is made concerning Northshore Mining Company's proposal.

*DNR Response*: The comment characterizes the Proposed Project as an expansion; this is incorrect. The DNR has determined the Proposed Project does not constitute an expansion of an existing tailings facility as defined under Minn. R. 4410.0200, subp. 28.

In reaching this determination, DNR noted that under the Proposed Project: 1) there is no increase in the permitted final dam height of 1,315 ft amsl; 2) there is no change in the permitted area slated for tailings deposition of approximately 2,950 acres; and 3) there is sufficient remaining capacity to entrain the tailings expected to be generated over the remaining life of the Peter Mitchell Pit. Absent any change in dam height or tailings deposition area, or need for additional tailings storage capacity, the facility is not expanding from what was originally permitted in the Master Permit and Permit to Mine. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 10-18. See also Response to Comment ¶ 22.G.8.*

Regarding dam safety, EAW Item 6b discloses the Proposed Project must meet minimum Factors of Safety for Effective Strength Stability Analysis (ESSA) and Undrained Strength Stability Analysis (USSA), which is evaluated through DNR-approved Five Year Operation Plans. *See ¶ 9: 2023 EAW at .pdf 6.* Similarly, EAW Item 7 discloses information around climate resilience and adaptation for the Proposed Project, including projections around precipitation events and temperatures for the project area. *See Id. at .pdf 24-25.*

The administrative record for this matter contains extensive discussion and analysis regarding the safety of the Mile Post 7 Tailings Basin dams. Specifically, ¶ 27 of the 2022 DNR Record of Decision and supporting material discuss regulation of the Mile Post 7 Tailings Basin dams, which are regulated as Class 1 or High Hazard dams under the state's Dam Safety Program and Master Permit. All three dams at the Mile Post 7 Tailings Basin are classified as Class 1 or High Hazard Dams, which warrant the highest level of regulation requiring monitoring, maintenance, and reporting. A Class 1 dam is a dam in which "failure, misoperation, or other occurrences or conditions would probably result in…any loss of life or serious hazard, or damage to health, main highways, high-value industrial or commercial properties, major public utilities, or serious direct or indirect, economic loss to the public." Minn. R. 6115.0340, subp. A. The DNR's Dam Safety Unit requires monitoring and conducts annual inspections to assure the dams' integrity and performance. Findings of Fact Paragraph 28 of the 2022 DNR Record of Decision discusses the application of the factors of safety for the Mile Post 7 dams that are consistent with best dam construction practices. *See ¶ 29.g: EAW Appendix J7 - 2022 DNR ROD at 15-16.* The Mile Post 7 dams are also classified as High Hazard Dams by the National Inventory of Dams. *See ¶ 28.a: 2023 National Inventory of Dams at .pdf 4.*

The DNR also analyzed Dam Safety in the 2022 DNR Record of Decision at ¶¶ 166-173, discussing dam safety and the construction method used to construct the Mile Post 7 Tailings Basin dams. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD at 49-51.* DNR continues to conduct field inspection and monitoring as well as regular monitoring of the dams, and review

of the dams' geotechnical data. This analysis indicates that both dams are robust and exhibiting Factors of Safety well above recommended levels. *Id. at ¶¶ 175-76.*

Geotechnical assessments are included in each Five Year Operation Plan for the design condition at the end of that five year period. The geotechnical assessments rely on the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment, to determine the current Factors of Safety. The assessments show whether the dam configuration at the end of that five-year period meets or exceeds the relevant Factors of Safety. If the dam does not meet or exceed these requirements, then DNR and the Proposer identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factors of Safety. If DNR would determine that the design of the dams was unsafe, then it would not approve the Five Year Operation Plan.

Finally, DNR is requiring the Master Permit to be renewed for the project to proceed. *See ¶ 28.b: 2023 DNR Letter to Northshore*. *See also Responses to Comments ¶¶ 22.G.49-51.*

3. *Comment 22.B.3*: It seems clear to us that a collapse of the Mile Post 7 tailings basin dams would have devastating environmental effects. The basin, a 2,000+ acre lake of pollution, is a short three miles uphill of Lake Superior. The effects of a collapse of that basin on the towns below – Beaver Bay and Silver Bay – would be disastrous. The tailings and water would flood into downstream waters, affecting water quality, fish and other aquatic life, wildlife, and the health and safety of nearby residents. A surge of the tailings into Lake Superior would have serious effects for cities like Duluth that depend on the lake for drinking water, in addition to effects on ecosystems and tourism.

   *DNR Response*: DNR has required preparation of facility Emergency Action Plans (EAPs) in 2012 and 2022, both of which contained modern dam break analyses. *See generally ¶ 28.c: 2012 EAP. See also generally ¶ 28.d: 2022 EAP.* In particular, the 2022 EAP addresses catastrophic failure for Dams 1, 2, and 5 as if it occurred in 2023. *Id. at E-1.* The 2022 EAP will be used to inform the 2024-2028 Five Year Operation Plan. If the Proposed Project goes forward, DNR would require through the 2024-2028 Five Year Operation Plan, preparation of an updated EAP to provide a new dam break analysis; this updated EAP would be prepared in 2027 to project the expected conditions in 2028 and reflect the most up-to-date information for the dam construction authorized under the plan. The 2027 EAP would then be used to inform the preparation of the next Five Year Operation Plan.

4. *Comment 22.B.4*: In other words, the Mile Post 7 tailings basin exists because of the need to protect Lake Superior; decades of work would be undone in minutes by a dam collapse at the site. And yet, we cannot even say what the effects of a dam collapse might be – because we do not know. The subject has not been publicly studied since the environmental review in the

1970s, and even that study only looked briefly at the consequences of a partial dam collapse. We do not believe DNR should rely on a 40-year-old study, which was not done to modern standards, to assert that the tailings basin is safe. We need public, unredacted information about the potential environmental effects of a dam breach – exactly what environmental review is required to do.

*DNR Response*: The comment is incorrect. The review of any dam's safety is an ongoing process. For the dams at Mile Post 7, this analysis did not end upon completion of the EIS.

The Mile Post 7 dams are evaluated through the requirements of the Master Permit, which includes recurring geotechnical assessments that are included in the respective Five Year Operation Plans (5YOPs) and supporting geotechnical reports. While the most recent plan covers dam construction over the period 2019-2023, other plans of note include the plans for 1995-1998 and 2004-2008. *See generally ¶ 29.s: EAW Appendix J17 – 1995-1998 5YOP; ¶ 29.t: EAW Appendix J18 – 2004-2008 5YOP; and ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP.* EAW Item 9 indicates approval of the 2024-2028 Five Year Operation Plan would be required before the Proposed Project could proceed. *See ¶ 9: 2023 EAW at .pdf 32.* Since 2004 these plans have assessed construction of Dams 1 and 2 using the modified centerline or offset upstream construction method. The Proposer would continue to use the offset upstream or modified centerline method for all of the main dams but would employ the centerline method for the extensions of Dams 1 and 2 under the Proposed Project. All available evidence indicates the existing dams at Mile Post 7 are exceeding DNR's minimum Factors of Safety. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 194*. *See also ¶ 9: 2023 EAW at .pdf 6.*

DNR notes that maintaining dam stability is an iterative, continuous process that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life.

Because Dams 1, 2, and 5 have a Class 1 Dam Hazard Classification, this means that they are subjected to extensive ongoing monitoring. *See ¶ 28.a: 2023 National Inventory of Dams at 4.* The dams are monitored daily by the basin engineer and other employees working on the dams. A qualified engineering firm is required to perform a dam safety inspection in the spring of each year. Additionally, the qualified engineering firm is required to undertake a thorough detailed inspection conducted over several days in October of each year. The purpose of the annual inspection is to review the performance and condition of the dams. All these activities would continue under the Proposed Project if implemented. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 27*.

Finally, geotechnical assessments included in each Five Year Operation Plan are specified for the design condition at the end of that (same) five year period. The geotechnical assessments rely on the real-world properties of the material within the dam and foundation, as well as

the slopes and configuration of the embankment. The assessments show that the dam configuration at the end of that given five-year period either does or does not meet or exceed the relevant Factors of Safety. If the dam does not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety. If DNR would determine that the design of the dams was unsafe, then it would not approve the Five Year Operation Plan.

5. *Comment 22.B.5*: We are also concerned that DNR may already not be doing all it can to regulate the safety of the Mile Post 7 dams. The EAW indicates that DNR has not issued a dam safety permit for Mile Post 7 because the tailings basin predates the dam safety law. Requiring a dam safety permit would ensure a thorough review of the dam's safety and a public process that would fully disclose information about the dam to area residents who would be affected by a dam collapse.

   *DNR Response*: The Master Permit is the dam safety permit for the Mile Post 7 Tailings Basin. The Master Permit incorporates dam safety requirements and authorizes construction of dams. DNR has not issued a separate Dam Safety Permit for Mile Post 7 because the Master Permit contains the dam safety requirements. *See Response to Comment ¶ 22.G.6.*

   Unique to Mile Post 7 among all tailings facilities in Minnesota, the Master Permit also requires an operations plan that must be renewed every five years subject to DNR approval. The current operation plan addresses dam construction over the 2019-2023 period. *See generally ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP.* DNR requires the dams to meet current dam safety standards of a Class I dam under the Master Permit, Minn. Stat. ch. 103G, and Minn. R. ch. 6115. DNR dam safety engineers review the Five Year Operation Plan for both current conditions and conditions expected over the next five years in general areas including but not limited to: hydrology (including design flood characteristics, freeboard requirements, and the hypothetical dam breach flood); geotechnical information (including material strength and monitoring instrumentation data); seepage analyses; slope stability analyses under a variety of loading conditions; and operations. *Id. at 15-27.*

   The Five Year Operation Plans require several analyses of dam safety. First, the dams must be capable of storing the Probable Maximum Precipitation (PMP) event with adequate freeboard, which is the distance between to level of the tailings pond to the height of the tailings dam. Second, they must be designed using conservative estimates of material strength. Third, monitoring must be sufficient to collect data on the physical performance of the structure, including using piezometers to measure water pressure head and inclinometers to measure horizontal movement. In addition, seepage and slope stability analyses must show that the existing dams are stable and will continue to be stable over the next five years under hypothetical, extreme, and unlikely loading conditions including earthquakes. Finally,

operations must show that water levels will be maintained to allow for adequate freeboard should an extreme flood occur.

In summary for the Master Permit, DNR requires Northshore to submit plans, specifications, supporting data, and documentation as DNR deems necessary to allow independent evaluation of the surface and subsurface conditions along the length of the dam, including seepage and structural stability to assess geotechnical stability of the tailings dams at Mile Post 7. DNR may approve the plans or impose further conditions as needed to ensure dam safety. If it were to be determined that the design of the dams is unsafe, then DNR would not approve the Five Year Operation Plan.

As previously noted, the dams at Mile Post 7 are regulated as Class 1 or High Hazard dams. *See 2023 EAW at .pdf 19.* Minn. R. 6115.0360 requires DNR to conduct an annual dam safety inspection for Class I dams that typically takes place in or around October of each year at Mile Post 7. Items noted during the inspection can include: dam condition(s); status of maintenance; summary of activities; and miscellaneous status reports. *See ¶ 28.e: 2022 DSP Inspection Report*. Northshore conducts a more detailed evaluation annually as well; this is called the dam safety inspection report. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at Appendix B at .pdf 1-89. See also Response to Comment 22.B.2.*

Finally, it is noted there are measures informing dam safety beyond the requirements of the Master Permit being applied at Mile Post 7. The Permit to Mine requires an Annual Report and Operating Plan (AROP) that includes: summary of the past year's dam construction activities; a summary of tailings disposal activities; and dam reclamation-related activities. *See ¶ 28.f: 2022-2023 AROP at 3*. At the site level, the Permit to Mine requires Northshore to visually monitor the conditions of the dams daily; this is done by the basin engineer and other employees working on the dams. Both the annual site inspection and AROP provide information beyond that required for the Master Permit, which further support the ongoing assessment of dam safety for Dams 1, 2, and 5 at Mile Post 7.

6. *Comment 22.B.6*: Because of the potential for significant environmental effects from the Mile Post 7 facility and the Mile Post 7 Expansion, we ask that DNR perform additional environmental review on the subject of dam safety and environmental effects of a dam breach – either a supplement to the EAW or a full Environmental Impact Statement, and that DNR require a dam safety permit. This will help the public understand the safety of the dams and the effects from a potential collapse. Then, if needed, DNR can require more stringent safety measures at the site before reaching a decision on Northshore Mining's request to expand the tailings basin. Thank you for your consideration.

   *DNR Response*: Comment noted. The Master Permit is the dam safety permit for the Mile Post 7 Tailings Basin. The Master Permit incorporates dam safety requirements set forth in

Minn. Stat. ch. 103G and Minn. R. ch. 6115. DNR has not issued a separate Dam Safety Permit for Mile Post 7 because the Master Permit contains the dam safety requirements and is simply called by another name. *See Responses to Comments ¶¶ 22.B.5, 22.G.28.*

The Proposed Project is not an expansion pursuant to Minn. R. 4410.0200, subp. 28, as the closure-condition footprint has remained essentially unchanged for 50 years and continues to reflect the project evaluated in both the state and federal EISs and permitted in the original Master Permit and Permit to Mine. *See Response to Comment ¶ 22.G.8.*

C. Fond du Lac Band of Lake Superior Chippewa

1. *Comment 22.C.1*: The Fond du Lac Band of Lake Superior Chippewa is a federally recognized Indian tribe, as well as a member band of the Minnesota Chippewa Tribe (MCT). Along with other MCT Bands, the Band retains hunting, fishing, and other usufructuary rights that extend throughout the entire northeast portion of the state of Minnesota under the 1854 Treaty of LaPointe (the Ceded Territory), which encompasses in the area of the Project. In the Ceded Territory, the Band has a legal interest in protecting natural resources and all federal agencies share in the federal government's trust responsibility to the Bands to maintain those treaty resources. In order to fully exercise these guaranteed treaty rights, abundant unpolluted natural resources must be available. Accordingly, water that meets tribal and state water quality standards is required to ensure the full exercise of treaty rights.

   *DNR Response*: This statement is factually correct to the extent that it asserts that the Fond du Lac Band of Lake Superior Chippewa (FDL Band) retains off reservation hunting, fishing, and gathering rights in the 1854 Ceded Territory. The DNR further acknowledges that the FDL Band has a trust relationship with the federal government but declines to opine on the scope of that trust relationship. Regarding the scope of the FDL Band's authority to regulate water quality outside the boundaries of its reservation as an incidence of its off reservation usufructuary rights, DNR notes that no federal court in the Eighth Circuit has found that a tribe with off reservation hunting, fishing, and gathering rights also has the right to regulate water quality outside the boundaries of its reservation.

2. *Comment 22.C.2*: Because of their unique government-to-government relationship with the Minnesota tribes, state and federal agencies have a legal responsibility to maintain treaty-reserved natural resources. The Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Natural Resources (MDNR) are required to consider the input gathered from tribal consultation in their decision-making processes, with the goal of achieving mutually beneficial solutions.

   *DNR Response*: This statement is factually correct. Minnesota Statutes section 10.65 sets forth the state's obligations to the 11 federally recognized Indian Tribes with elected Tribal

government officials that reside in Minnesota. The state of Minnesota acknowledges and supports the unique status of the Minnesota Tribes including the FDL Band and their absolute right to existence, self-governance, and self-determination. In accordance with Minn. Stat. § 10.65, subd. 3, the DNR has ongoing consultation obligations owed to the FDL Band. The FDL Band has not requested formal consultation on Mile Post 7, however staff-level coordination meetings have included detailed discussion of DNR's regulation of the Mile Post 7 Tailings Basin.

3. *Comment 22.C.3*: The Fond du Lac Band has in recent years communicated concerns about environmental impacts to natural and cultural resources as a result of the expansion of the Mile Post 7 tailings basin and these proposed related actions. Tribal environmental concerns are amplified by the lack of adequate environmental review for this major undertaking. State and federal permitting agencies today are relying upon analyses of environmental impacts from Environmental Impact Statements that were conducted in 1976 (DNR) and 1977 (USACE), with far less rigor and much reduced scope than is typical best practices for today. These analyses neither contemplated nor studied impacts from any expansion of the Mile Post 7 tailings basin beyond the boundary of today's railroad track. Therefore, this substantial expansion of the tailings basin to the west by more than 800 acres, and rise in final elevation of the dams by fifty feet is a major new project requiring government action that was neither planned nor evaluated in any EIS. It is not a "phased action; it requires a new EIS.

   *DNR Response*: As set forth in detail in 2022 DNR Record of Decision ¶¶ 62-79 (documenting DNR's decision on the petitions requesting preparation of an EAW), which together with supporting documentation is part of the administrative record for this matter, the Proposed Project is not an "expansion of the tailings basin" within the meaning of Minn. R. ch. 4410. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD at 24-27. See also Response to Comment ¶ 22.G.8.*

   There is no proposal under the Proposed Project to raise final elevation of the dams by 50 feet; this was dropped by the Proposer in December 2020 with submittal of the current Permit to Mine Amendment that is subject to this EAW. As such there is no change from the 1977 Master Permit (subsequently renewed) that set the final height of the "Tailings Containment Dams" and specified "Dams 1 and 2-3…will be constructed to ultimate crest elevation 1,315 mean sea level, over a period of years, according to a predetermined construction schedule." *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit, Section V at 12.* Similarly, "Dams 4, 5, and 6 [were] proposed to be constructed to ultimate crest elevation 1,315 mean sea level, over a period of years." *Id*. The 1985 Permit to Mine approved the Tailings Basin with "an average level of ultimate tailing pond area will be about elevation 1,305 [ft amsl] while the dam crests will be elevation 1,315 [ft amsl]." *See ¶ 29.y: EAW Appendix J23 – 1981 Permit to Mine Application at 48.* The final dam heights for Dams 1,2, and 5 would not be modified by the Proposed Project. There is no meaningful difference in

the dam heights evaluated in the 1975-76 Final EIS and 1977 U.S. Army Corps of Engineers (USACE) Final EIS, and the dam heights specified in the 1977 Master Permit and the 1985 Permit to Mine.

Furthermore, the capacity of the Mile Post 7 Tailings Basin was originally set forth in the 1975-76 Final EIS and memorialized in the 1977 Master Permit and the 1985 Permit to Mine. The capacity of the Mile Post 7 Tailings Basin is controlled by the rise in dam elevations. If built, then the Proposed Project would be constructed to the final permitted dam elevations established at 1,315 ft amsl as set forth in the 1977 Master Permit and the 1985 Permit to Mine. *See Response to Comment ¶ 22.B.2.* Dams 1, 2, and 5 are currently partially constructed. The Proposed Project would complete Mile Post 7 as permitted in both the 1977 Master Permit and the 1985 Permit to Mine by authorizing completion of the dams to their final permitted elevations over several more decades of operation.

The DNR's evaluation of the Proposed Project has not relied exclusively on the 1975-76 Final EIS or the 1977 USACE Final EIS. As required by Minn. R. ch. 4410, DNR has prepared an EAW for the Proposed Project. To answer EAW Item 6f, the DNR as RGU must identify any previous environmental review conducted at the site. In this case, it is the two EISs cited in the comment. *See ¶ 9: 2023 EAW at .pdf 13-14.* The question of whether a new EIS is required is addressed in this Record of Decision.

4. *Comment 22.C.4*: In fact, while researching this facility's permitting history, tribes learned that the final EIS approved by DNR on June 2, 1976, found the Mile Post 7 tailings basin alternative would have disqualifying adverse environmental impacts, and did not support constructing the Mile Post 7 tailings basin at that location, let alone its expansion 44 years later. Additionally, the 1977 EIS performed by the USACE did not contemplate or analyze increasing the tailings height to 1,365 feet above mean sea level (MSL), or the expansion of the tailings basin west of the railroad track constructed at Mile Post 7.

   *DNR Response*: The December 2020 Permit to Mine Amendment request did not include a 50-foot increase in the final elevations of Dams 1, 2, and 5. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND Attachment 1 – Permit to Mine Amendment at .pdf 77-78*. The final elevations for the extensions of Dams 1 and 2 under the Proposed Project remain 1,315 ft amsl. *See ¶ 28.hh: 2021 Dam Elevation Adjustment Notice.* Accounting for 10 feet of freeboard, the elevation of tailings deposition was set at 1,305 ft amsl under the 1975-76 Final EIS. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 12*. This elevation was affirmed in the 1977 Master Permit, and 1985 Permit to Mine.

   For the Proposed Project, there has been no change in the final elevation of the dams or total area of tailings deposition since these dams were first permitted. Likewise, there is no change in the final permitted tailings pool elevation under the Proposed Project, which is set for 1,305

ft amsl reserving a 10-foot freeboard from the final dam heights. *See Responses to Comments ¶¶ 22.A.3-4, 22.A.6.*

Regarding tailings being deposited "west of the railroad track," it is necessary to recognize that the current elevation of the West Ridge Railroad is approximately 1,240 ft amsl. This is well below the 1,305 ft amsl contour already permitted for tailings deposition, which means the current alignment would be covered by tailings unless relocated. Thus, contrary to the comment, tailings deposition has always been planned for the remaining increment of tailings storage between the 1,240 ft amsl to 1,305 ft amsl elevations (located west of the current West Ridge Railroad alignment). *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 113-114.*

The Proposed Project is not an expansion. *See Response to Comment ¶ 22.B.2.*

5. *Comment 22.C.5*: In the mid-1970s, Cleveland Cliffs (Reserve Mining) was ordered to build a tailings basin in order to stop direct discharge of their tailings into Lake Superior. At that time, the primary water quality constituent of concern was asbestos-like or amphibole fibers in the tailings being discharged into the lake in proximity to public drinking water intakes. Despite the findings of the EIS, the Mile Post 7 tailings basin was constructed in the Beaver River watershed and is currently permitted under an MPCA industrial discharge (NPDES/State Disposal System or SDS) permit that expired in 2008 but has been extended administratively. The Beaver River, a designated trout stream, is listed on the MPCA's CWA § 303(d) list, with impairments including fish communities, mercury, temperature, and pH.

   *DNR Response*: EAW Item 9 notes that reissuance of NPDES/SDS Permit MN0055301 for the facility is pending. *See ¶ 9: 2023 EAW at .pdf 33*. This permit was first established in 1984. *See generally ¶ 29.o: EAW Appendix J13 – 1984 NPDES Permit MN0055301.* The permit was reissued in 2005. *See ¶ 29.q: EAW Appendix J15 – Furnace 5 Reactivation Record of Decision at 3.* EAW Table 13 provides a summary of special, impaired, and infested waters located within one mile of the Proposed Project, including the East Branch Beaver River. *See ¶ 9: 2023 EAW at .pdf 49.* DNR notes NPDES/SDS Permit MN0055301 established eight (8) surface discharge stations, seven of which are the sites where the Proposer is required to conduct water quality monitoring of effluent and stormwater coming from Mile Post 7. In addition to the surface discharge stations, the permit established 14 surface water stations, with 13 dedicated to monitoring water quality in streams and the Beaver River in the vicinity of the Tailings Basin. *See ¶ 29.p: EAW Appendix J14 – 2005 NPDES Permit MN0055301 at 9-11.*

   DNR conducted an Environmental Review Need Determination in 2021 (2021 DNR ERND) for the Proposed Project and specifically queried MPCA on the Tailings Basin's compliance status for turbidity, fibers, fluoride, specific conductance, sulfate, and total mercury, all of which are water quality parameters monitored at Station SD001. *See ¶ 29.b: EAW Appendix J2 - 2021 DNR ERND at 47-51.* Among these and the 19 other monitored parameters, MPCA reported

that at the time of the 2021 DNR ERND that sodium-% total cations was the one parameter of concern at the Mile Post 7 Tailings Basin. At the time values reported for the water treatment plant's effluent discharge at SD001 were typically more than the Class 4A water quality standard for sodium-% total cations. There are no effluent limits assigned for this parameter in the permit, but the issue will be addressed as part of the NPDES/SDS Permit reissuance process. *Id. at 52.* MPCA will reissue the NPDES/SDS permit and MPCA reports the facility is in compliance with current effluent limits in the permit.

6. *Comment 22.C.6*: The Minnesota Pollution Control Agency (MPCA) has extensively surveyed this watershed as part of its statewide Watershed Restoration and Protection Strategies (WRAPS) process, and confirmed healthy coldwater biological communities, both fish and macroinvertebrates, in upstream reaches of the Beaver River, including native brook trout. But more downstream reaches near the Mile Post 7 tailings basin have been assessed as impaired for aquatic life use and mercury. The loss of these sensitive species in the stream reaches near the tailings basin are indicative of degradation from previous mine processing disturbances.

   *DNR Response*: DNR notes the claim that sensitive species may have been impacted near the Tailings Basin but also notes that one of the purposes of the Stream Mitigation Sites is to address those historic impacts by creating instream and riparian habitat conditions more suitable for coldwater biological communities. *See ¶ 9: 2023 EAW at .pdf 12*.

   In responding to this comment, it is important to discuss the history of Big and Little Thirtynine Creeks, both of which were rerouted as a result of the construction of the Mile Post 7 Tailings Basin. Prior to construction of the Mile Post 7 Tailings Basin, Big Thirtynine Creek and Little Thirtynine Creek were two designated trout streams flowing within the area allocated for tailings deposition. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 141*. In the late 1970s, however, in accordance with provisions of the 1977 Master Permit, water was diverted from the natural stream channels of Big Thirtynine and Little Thirtynine Creeks to eliminate surface water flows into the future basin from their upper watersheds. The upper reaches of both creeks were diverted via a diversion channel to the Beaver River. This diversion disconnected the historic upper reaches of both creeks from their lower reaches leaving remnant segments of both creeks inside the future Tailings Basin, importantly below the final tailings pool elevation of 1,305 ft amsl contour. *Id. at 45, 249*. These diversions were studied in the 1975 Draft EIS. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 133-134.*

   The remnants of both Little Thirtynine and Big Thirtynine Creeks south of the diversion (within the future footprint of the Tailings Basin) had their trout stream designation removed. The new diversion channels (i.e., Diversion 1 and Diversion 2), though they lacked the sinuosity of a trout stream, were subsequently designated as trout streams. *Id. at ¶ 152*. These diversion channels were designed and constructed to route stream flows around the Tailings Basin, but

also served as mitigation for the project impacts associated with disconnecting the natural stream channels of Big Thirtynine and Little Thirtynine Creeks from their upper watershed in the early 1980s. Once the diversions and channelization occurred, only the remnant portions of Big Thirtynine and Little Thirtynine Creeks remained within the future confines of the Tailings Basin. *Id. at ¶ 139*.

These remnants below the 1,315 ft amsl contour will be filled under the Proposed Project with coarse tailings (i.e., Dam 1; the relocated West Ridge Railroad) or fine tailings (i.e., continued progression) until the full capacity of the Mile Post 7 Tailing's Basin is used. The USACE determined that filling these remnants required mitigation and Cliff's proposed that Diversion Channels 1 and 2, along with 4 other proposed restoration sites, be redesigned to function as more natural trout streams by established stream restoration methods. *See ¶ 29.dd: EAW Appendix J28 – USACE Environmental Assessment at 11-12.* The set of Stream Mitigation Sites are not a "diversion or channelization" of a trout stream, but rather a realignment of a designated trout stream to mimic the sinuosity of a natural, lesser-impacted trout stream. One benefit of re-establishment of these channels will be to improve aquatic and floodplain habitat. *See ¶ 29.w: EAW Appendix J21 – Final Stream Mitigation Plan at 9*.

MPCA reports that the Proposed Project would: 1) be required to address total suspended solids (TSS) and turbidity; update construction stormwater pollution prevention plans (SWPPPs); identify and implement best management practices (BMPs) mitigation measures to prevent water quality impairments; and implement a Stream Mitigation Plan. *See generally ¶ 29.r: EAW Appendix J16 – MPCA MP7 CWA Section 401 Certification*. In addition, construction stormwater subject to NPDES/SDS permitting must also meet applicable water quality standards.

7. *Comment 22.C.7*: Water quality monitoring data presented in the draft CWA 401 certification document for this project also demonstrates that currently there are clear exceedances of Minnesota water quality standards for fluoride and mercury, and highly elevated specific conductance. A Stressor Identification Report and a Total Maximum Daily Load (TMDL) study on the Beaver River have been completed by the MPCA. The Stressor Identification Report indicates that turbidity, altered hydrology and poor habitat are clearly affecting fish communities, and suggests elevated ionic strength (specific conductance), pH and loss of connectivity are likely contributors to this impairment. All of these stressors can be clearly tied to the physical disturbance of the existing tailings basin and the polluted seepage emerging through dam walls and connected groundwater. Expanding the Mile Post 7 tailings basin will exacerbate these impairments, even though the CWA requires the MPCA to restore impaired waters.

   *DNR Response*: Seepage-related impacts under the Proposed Project are predicted to be of similar type and extent as existing conditions. EAW Item 12b.i indicates that seepage

collection and management would be part of the Proposed Project, including directing seepage through new ditching along the toes of the dam extensions to route seepage to existing unlined seepage recovery ponds and pump stations. Water collected in the seepage recovery ponds is returned to the tailings ponds via pump stations. *See ¶ 9: 2023 EAW at .pdf 57.* Monitoring for seepage leaving the ponds into natural waters would continue at the Mile Post 7 site under the Proposed Project, with seepage rates and volumes expected to remain commensurate with existing conditions; no change in seepage quality is predicted because the Proposed Project does not change the chemical composition or behavior of the tailings being entrained in the Tailings Basin.

Regarding seepage monitoring and results generally at the existing Tailings Basin, Section 4.3.2.3.2 of the 2021 DNR ERND summarizes recently compiled water quality information from seepage monitoring for 26 constituents. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 36-37. See also ¶ 29.p: EAW Appendix J14 – 2005 NPDES Permit MN0055301 at 12-40*. MPCA reports that existing and future operations are predicted to comply with permit conditions, under the existing and any reissued NPDES/SDS permit.

Finally, the Proposed Project is not an expansion pursuant to Minn. R. 4410.0200, subp. 28, as the closure-condition footprint has remained essentially unchanged for 50 years and continues to reflect the project evaluated in both the state and federal EISs and permitted in the original Master Permit and Permit to Mine. *See Response to Comment ¶ 22.G.8.*

8. *Comment 22.C.8*: Our concerns for the proposed Mile Post 7 tailings basin expansion also include the serious and foreseeable risks of upstream dam failure, which would lead to discharge of highly polluted tailings and slurry water to Lake Superior, less than 3 miles downstream via the Beaver River. These human health and ecological risks have never been analyzed in an EIS. In fact, the Mile Post 7 tailings dam was originally designed to be built using the downstream construction method, but after permitting, the DNR approved upstream method construction for subsequent dam raises. This method of construction is inherently less safe; in fact, it has been banned in many countries around the world after high profile catastrophic tailings dam failures in Brazil and British Columbia.

   *DNR Response*: The Proposed Project is not an expansion pursuant to Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8.*

   The Proposed Project would rely on the centerline construction method. *See Responses to Comments ¶¶ 22.B.3, 22.G.25-46, 22.G.48-51.*

   The 1975-76 Final EIS did consider the potential consequences of dam failure. *See Response to Comment ¶ 22.D.7.*

9. *Comment 22.C.9*: The Mile Post 7 tailings dam was constructed using upstream methods called "modified centerline or offset-upstream" processes where the dam is constructed out of coarse tailings piled on top of the uncompacted fine tailings. Placing coarse tailings on top of uncompacted fine tailings causes a high level of vulnerability for catastrophic failure caused by seismic or static liquefaction. The 1976 Final EIS only considered the potential impacts of tailings dam failure from relatively safer downstream construction methods without an analysis of catastrophic failure resulting from less stable upstream construction methods. DNR considers Mile Post 7 dams to be High Hazard or Class I dams. MN Rules consider Class I dams as high hazards because "failure, mis-operation, or other occurrences or conditions would probably result in…any loss of life or serious hazard, or damage to health, main highways, high-value industrial or commercial properties, major public utilities, or serious direct or indirect, economic loss to the public." Yet there has not been a full evaluation of the vastly increased probability of dam failure due to Northshore's use of upstream and offset upstream raises to substantially increase dam height since MN DNR's approval of these methods in 1997.

   *DNR Response*: The coarse tailings placed on top of the unconsolidated fine tailings at Mile Post 7 have received significant compaction over time. This is due to significant natural static load compaction over the past 25+ years as the dams were constructed on top of the fine tailings. Mechanical compaction associated with the movement of heavy equipment during the unloading and smoothing of tailings deposited by rail cars, as well as the migration of the rail lines on top of the dams, has resulted in additional compaction. All sources of compaction reduce the air voids and results in increased density, and higher density gives higher strength, where soils with higher strength are more stable. This natural static loading is more technically called consolidation, where the pore water is reduced from the original deposition, resulting in a higher strength soil. Thus, there is a degree of compaction present in the tails lying under the dams that affords some degree of improved stability.

   The degree of compaction has been affirmed by the Proposer completing evaluations at both Dams 1 and 2 that assessed the measured properties of the dam construction materials themselves within the dam and foundation, as well as the slopes and configuration of the embankment. Materials that were assessed include foundation till, plant aggregate, filter material, select sand/gravel, lacustrine clay, and the fine tailings component (raised in the comment). Material properties are determined through testing, both in situ and in the lab. In situ data collection occurs through cone penetration test (CPT) soundings, which is a standard means of determining the geotechnical properties of soils and delineating soil stratigraphy. The material properties, their boundaries, and the configuration of the dam are then input into a computer model to analyze the least robust cross section of the dam. This was done in 2013 for Dam 1 and 2016 for Dam 2.

   Specifically:

Dam 1. The geotechnical engineering report for Dam 1 was completed in 2013. *See generally ¶ 28.q: 2013 Dam 1 Stability Report*. The loading conditions included ESSA and USSA, with the latter evaluating Undrained Conditions for both yield strength and liquefied strength. *Id. at 4-6*. Strength parameters for fine tailings evaluated were yield undrained shear strength, liquefied undrained shear strength, and drained shear strength. *Id. at 9-16*. Appendix D lists the triggering potential analysis for 12 locations on Dam 1 based on CPT data. *Id. at D-1 through D-12*. The report concluded as to assessing slope stability, "CPT data indicate the fine tailings are not susceptible to liquefaction as shown in Appendix D." *Id. at 19*.

Dam 2. The geotechnical engineering report for Dam 2 was completed in 2016. *See generally ¶ 28.r: 2016 Dam 2 Stability Report*. The loading conditions included ESSA and USSA, with the latter evaluating Undrained Conditions for yield strength, liquefied strength, and end of construction. *Id. at 5-7*. Strength parameters for fine tailings evaluated were undrained shear strength, liquefied undrained shear strength, and drained shear strength. *Id. at 12-19*. Appendix D lists the triggering potential analysis for 12 locations on Dam 2 based on CPT data. *Id. at D-1 through D-6*. The report also concluded as to assessing slope stability, "CPT data indicate the fine tailings are not susceptible to liquefaction as shown in Appendix D." *Id. at 23*.

The degree of consolidation over time is accounted for in each round of geotechnical assessment reported in the Five Year Operation Plans. The geotechnical assessments utilize the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment. Regardless of construction method, the assessments show whether the dam meets or exceeds the relevant Factors of Safety. If it doesn't, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factors of Safety. If DNR would determine that the design of the dams was unsafe, then the Five Year Operation Plan would not be approved. *See Response to Comment ¶ 22.G.30*.

The comment is incorrect regarding the evaluation of dam safety since the 1975-76 Final EIS, especially after 1997. Rather, the structural stability and safety of the Mile Post 7 dams has been assessed since project inception and is continually updated through development, and DNR review and approval, of the Five Year Operation Plans. The most recent plan approved by DNR evaluated proposed construction and operations over the period 2019-2023. *See Response to Comment ¶ 22.B.4.* Beyond the operating plans, activities related to dam safety include, but are not limited to: daily inspections by qualified engineers; ongoing monitoring; annual site inspections by DNR; and annual construction reporting under the Permit to Mine.

In addition, it should be recognized that each of the three principal methods of dam construction, which are downstream, upstream, and centerline, offers its own mix of pros

and cons across several engineering and design factors, including but not limited to safety, relative stability, and construction material requirements. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 166*. *See also generally ¶ 28.ii: Dam Construction Methods Researched from Internet.* Regardless, Northshore provided a new dam break analysis in 2022 to support an updated EAP. The updated 2022 EAP projects conditions between the years 2019 to 2023 to align with the current 2019-2023 Five Year Operation Plan. According to the EAP, it "includes an assessment of mobilized tailings in a hypothetical dam failure by in-depth analyses and evaluations of site-specific material parameters, key geotechnical variables, credible failure modes, and by investigating potential deposition of plant aggregate and fine tailings as breach flood waves run out of the basin." These assessments could inform each of the items listed in the comment. *See ¶ 28.d: 2022 EAP at E-1. See also Response to Comment ¶ 22.D.11.*

Finally, DNR notes the Proposed Project would rely on the centerline construction method. *See Responses to Comments ¶¶ 22.G.25-46, 22.G.48-51*.

10. *Comment 22.C.10*: The Minnesota DNR apparently determined that supplemental analyses were not required for this significant expansion to the Mile Post 7 tailings basin, because the decades-old EIS had already considered impacts to surface and groundwater and determined that "…Based upon MPCA's understanding of the seepage collection system, and that there is unused pumping capacity available, the agency does not expect seepage-related impacts to deviate significantly from that assessed in the 1977 EIS…any seepage impacts to the water quality of the Beaver River are projected to remain negligible, again within consideration of the issues in the 1977 EIS." The DNR simply assumed there would be no water quality impacts beyond what was evaluated in the earlier EIS, as "The facility remains subject to NPDES/SDS permit provisions, thus any impacts are subject to ongoing regulatory control." (DNR 2017 SEIS Memo). Considering the long-expired NPDES/SDS permit, which itself lacks water quality-based effluent limits necessary to protect downstream waters, and the clear evidence of existing water quality impairments in downstream waters, tribes do not share the DNR's confidence in "ongoing regulatory control."

    *DNR Response*: The DNR determined that it was not required to complete a supplemental environmental impact statement for reasons documented in its 2017 and 2021 environmental review need determination decisions. *See generally ¶ 28.m: 2017 DNR ERND. See also generally ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND.* These decisions speak for themselves. Regardless, DNR has now completed an EAW on the Proposed Project, which included consideration of potential seepage impacts. *See ¶ 9: 2023 EAW at .pdf 57*.

    The current NPDES/SDS permit contains effluent limits for some pollutants and monitoring requirements for others. DNR notes that when the NPDES/SDS permit for the facility is reissued, it will include regulation of the Tailings Basin Features under the Proposed Project. Regarding allegations that the existing permit lacks effluent limits necessary to protect

downstream waters, MPCA reports that when permits are reissued, the agency conducts a new review of available effluent data and determines if there is a reasonable potential for the discharge from a facility to "cause or contribute" to an exceedance of water quality standards. Impairments of downstream waters are considered in this review. If a pollutant is determined to have reasonable potential to exceed a water quality standard downstream, then a water quality based effluent limit is assigned to the discharge. If the analysis determines there is no reasonable potential to exceed a water quality standard in a downstream water, then the permit requires monitoring only. The existing permit does contain water quality based effluent limits for pH and turbidity. MPCA reports that no violations of these limits have occurred since August 2015.

EAW Item 9 identifies that the MPCA is currently working on a permit reissuance for this facility. *See ¶ 9: 2023 EAW at .pdf 32.* During the permit reissuance process, the MPCA will conduct a reasonable potential analysis when it conducts its effluent review. If the MPCA determines there is a reasonable potential for any pollutant exceed a water quality standard downstream of this facility, then an effluent limit will be assigned if the permit is reissued.

Though the existing permit only contains water quality based effluent limits for pH and turbidity, it does require monitoring for 26 total pollutants. As discussed above, only one pollutant has typically exceeded the applicable water quality standard. Finally, the impairments cited in the comment are from other sources. *See Response to Comment ¶ 22.D.15.*

11. *Comment 22.C.11*: The DNR memo also summarily dismissed any dam safety concerns, concluding "…the proposed adjustments to the final crests for Dams 1, 2, and 5 are not unusual for tailings basins, and as long as the design meets current dam safety standards, the progression should not result in impacts different from what was examined in the 1977 EIS. The Dam Safety Permit will likely have to be amended, but no new analyses beyond those normally required for the permit application are anticipated. The potentially significant adverse impacts associated with dam safety are not affected by the proposed action." (DNR 2017 SEIS memo).

    *DNR Response*: DNR determined that it was not required to complete a supplemental environmental impact statement for reasons documented in its 2017 and 2021 environmental review need determination decisions. *See generally ¶ 28.m: 2017 DNR ERND*. *See also generally ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND*. These decisions speak for themselves.

    EAW Item 6b identifies instrumentation including piezometers and inclinometers would be installed to allow assessment of dam stability for each dam raise. Both ESSA and USSA Factors of Safety are evaluated at the Mile Post 7 dams, which includes scenarios around block failure,

fine tailings yield strength, and liquefied strength reported in the Five Year Operation Plan. The current Factors of Safety for the Mile Post 7 dams exceed the DNR minimum values. *See ¶ 9: 2023 EAW at pdf. 6. See also Response to Comment ¶ 22.C.4*.

12. *Comment 22.C.12*: The potential environmental effects of the Mile Post 7 project cannot be determined without a modern dam-safety analysis that assesses the potential area that would be covered by a tailings flood resulting from catastrophic dam failure; the depth and velocity of a tailings flood; anticipated residential and non-residential human health and infrastructure impacts; impacts on terrestrial and aquatic wildlife and their habitats; downstream water quality impacts; and worst-case scenario impacts.

    *DNR Response*: Information contained in the 2022 EAP for the facility addresses several items in the comment. *See Responses to Comments ¶¶ 22.D.11, 22.G.53-55.* If the 2024-2028 Five Year Operation Plan is approved, then Northshore will be required to update the EAP to model the potential failure scenarios for 2027, which is the last year of construction that would be authorized under the 2024-2028 operation plan for the Proposed Project. *See Response to Comment ¶ 22.I.145*.

13. *Comment 22.C.13*: The habitat restoration plans for the stream portions that will be covered by new tailings (and have already been covered by tailings) is only one element of what is actually needed to mitigate the project impacts to aquatic resources. The tailings basin extension will change the head pressure and create seepage in new locations. Water quality impairments must also be addressed through completing and implementing Total Maximum Daily Loads (TMDLs) for existing impairments, identification and permitting of all new seepage or discharge points and ensuring that those permits include adequate waste load allocations, and wastewater treatment requirements to meet all MN water quality standards. Until these issues are addressed in permitting, this project must not move forward. The MPCA and MN DNR are well aware that only a portion of total seepage is captured through the use of barriers and ditching as documented at through aerial overflights and assessments of downstream waters at all taconite tailings basins in MN.

    *DNR Response*: The comment accurately notes that seepage is predicted to occur along the Dams 1 and 2 extensions. This was anticipated in the 1975-76 Final EIS for all future dam construction and considered in Section 4.3.2.3.2 of the 2021 DNR ERND. The Proposed Project would require seepage capture and necessary infrastructure that would be the same as has been required for facility development to date. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 35-37*. This would include seepage recovery ponds along the Dam 1 extension with pump stations to return seepage back into the Tailings Basin. *See ¶ 9: 2023 EAW at .pdf 57.* Regarding seepage characteristics, the EAW notes the Proposed Project would not alter these discharges in either quantity or quality in a way that results in new impacts. Facility-related seepage is regulated under NPDES/SDS Permit MN0055301, including regulating facility

discharges under the Proposed Project, and reissuance is pending. *Id. at .pdf 32. See also Responses to Comments ¶¶ 22.C.5, 22.C.7, 22.D.15*.

14. *Comment 22.C.14*: Liquefaction of tailings causing catastrophic dam failure is also of great concern for this project. Progressing from 1950s mine waste management technology to modern dry-stack technology would reduce the impacts to water quality, require a smaller on-land footprint, and provide a more stable tailings pile heap.

    *DNR Response*: Minnesota Rules 4410.1100 through 4410.1700 do not require an EAW to assess alternatives to the proposed action. DNR notes analyzing whether a supplemental EIS was required pursuant to Minn. R. 4410.3000 in the 2021 DNR ERND required DNR to consider any new information about alternatives, including transitioning into a dry stack facility. The feasibility of a dry stack facility was determined to be questionable for several reasons, including the presence of mineral fibers within the tailings being entrained at Mile Post 7. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 57-58.*

15. *Comment 22.C.15*: Finally, the additional losses to Treaty Reserved Resources within the footprint of this tailings basin expansion are cumulative and must be assessed from that perspective. The MN DNR and MPCA have an obligation to minimize the footprint of the tailings basin and ensure that the expansion does not cause or contribute to excursions from MN water quality standards resulting from seepage or dam failure. The state has that obligation to the tribes because of their unique government-to-government relationship with the Minnesota tribes. The Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Natural Resources (MDNR) are required to consider the input gathered from tribal consultation in their decision-making processes, with the goal of achieving mutually beneficial solutions.

    *DNR Response*: As outlined in DNR's Response to Comment ¶ 22.B.2, the Proposed Project does not meet the definition of an expansion and is not an expansion. The end footprint remains essentially unchanged under the Proposed Project from that originally envisioned. The work to be undertaken over the next few decades was essentially anticipated as part of the project permitted in 1977, albeit delayed but always anticipated. That work was set forth in the 1976-77 Final EIS, the 1977 Master Permit, and the 1985 Permit to Mine.

    More to the comment, the facility is only partially constructed at present because the rate of mining at the Peter Mitchell Pit was slower than anticipated. This issue received detailed consideration in 2022 Record of Decision on the EAW petitions ¶¶ 65-84, which compares the facility design capacity in the state EIS, the Master Permit, and present capacity going forward under the Permit to Mine Amendment. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD at 24-28. See also ¶ 9: 2023 EAW at .pdf 16.*

Regarding potential losses to Treaty Resources, DNR has confirmed that the work under the Tailings Basin Features will all occur on private lands, and therefore will not adversely affect the FDL Band's right to hunt, fish, and gather on those lands. For the Stream Mitigation Sites, four are wholly privately owned by Northshore, another is majority owned by Northshore, while the White Rock Creek Site has a combination of City of Silver Bay, Lake County, and private ownership. *See ¶ 29.dd: EAW Appendix J28 – USACE Environmental Assessment at 74*. To the extent public lands are involved with the Stream Mitigation Sites, the purpose of the project is to improve aquatic habitat, which should benefit the FDL Band's usufructuary rights.

DNR acknowledges that as the total facility matures to its final permitted specifications that impacts will occur, but these are of the type, extent, and reversibility that have been known, understood, and anticipated since project inception. Impacts attributable to the Proposed Project are assessed in the EAW and considered in this Record of Decision. Finally, EAW Item 21 assesses potential cumulative effects of the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 90-93*.

16. *Comment 22.C.16*: In summary, tribal concerns for adverse environmental impacts from these proposed projects to mitigate expansion of the Mile Post 7 tailings basin are based upon the lack of sufficient analysis of predictable impacts, and clear evidence of existing adverse water quality impacts from the tailings basin that are not being controlled through the regulatory framework of permitting. The proposed expansion would also incorporate a coal ash landfill within the dams; there has been no evaluation or analysis of water quality impacts associated with having additional highly toxic waste contained behind leaky coarse tailings dams, built higher than originally planned and by a demonstrably unsafe construction method.

    *DNR Response*: There are no plans to incorporate the existing construction debris and coal ash storage landfill into Dam 1. The dam extension would be on the eastern side of the landfill while the relocated West Ridge Railroad would be placed on the western side of the landfill. *See ¶ 9: 2023 EAW at .pdf 23-24*. In addition, there is no change in the final permitted elevation of the dams at 1,315 ft amsl under the Proposed Project. *Id. at .pdf 4.* EAW Item 12a.ii addresses the potential for adverse water quality impacts to groundwater resources from the Proposed Project; no new types of impacts are anticipated but the Proposer is required to monitor conditions and take appropriate corrective action if needed under the NPDES/SDS permit. *Id. at .pdf 57.*

17. *Comment 22.C.17*: Fond du Lac requests a compulsory Environmental Impact Statement (EIS) be prepared to assess the significant and cumulative impacts of the proposed project. Further, MDNR must require Cliffs to provide sufficient financial assurance to protect reserved Tribal resources, the surrounding community, the environment, and taxpayers from tailings dam failure and tailings basin pollution. We request that DNR require that the Mile

Post 7 tailings basin be subject to formal permitting in compliance with dam safety statutes and rules in Minnesota Statues Chapter 103G and Minnesota Rules Chapter 6115, and with permit to mine statutes and rules in Minnesota Statues Chapter 93 and Minnesota Rules 6115.

*DNR Response*: The comment correctly notes the purpose of the EAW is to provide the basis in determining whether the Proposed Project has the potential for significant environmental effects pursuant to Minn. R. 4410.1700, subp. 7A-D. The issue of sufficient financial assurance is beyond the scope of project-specific environmental review; the issue is however addressed in Response to Comment ¶ 22.G.66. Finally, ¶ 40 details the permits and approvals that must be secured by the Proposer prior to project construction, which includes the Permit to Mine Amendment and Master Permit renewal, among other approvals.

D. Grand Portage Band of Lake Superior Chippewa

1. *Comment 22.D.1*: Grand Portage is a federally recognized Tribe that has retained hunting, fishing, and other usufructuary rights in the lands and waters that were ceded to the United States. Usufructuary rights were retained to ensure hunting, fishing, and gathering for subsistence, economic, cultural, medicinal, and spiritual needs could continue into perpetuity. "Reserved property rights, explained by the Supreme Court in 1905 in United States v. Winans, 198 U.S. 371, are not 'a grant of rights to the Indians, but a grant of rights from them'. In Winters v. United States, 207 U.S. 564 (1908), the Supreme Court applied this principle in a water rights case. These two cases are the basis of the "reserved rights doctrine", that recognizes tribes retain those rights of a sovereign government not expressly extinguished by a federal treaty or statute." In order to fully exercise these guaranteed treaty rights, abundant unpolluted natural resources must be available. Consequently, water that meets tribal and state water quality standards is required to ensure the full exercise of treaty rights.

   *DNR Response*: The DNR understands that the Grand Portage Band retains off reservation hunting, fishing, and gathering rights in the 1854 Ceded Territory. The DNR disagrees with the assertion that *Winters v. United States*, 207 U.S. 564 (1908), applies in Minnesota, which is a riparian, rather than prior appropriation, state. The DNR further disagrees that this case gives the Band jurisdiction over the state's public waters.

   The Winters doctrine, which the U.S. Supreme Court established in *Winters v. United States,* was developed to address the inequities that resulted from the states' primacy over water in prior appropriation states. In states that adopted the prior appropriation system, the tribes had no access to water when the federal government established a reservation unless the federal government had the foresight to reserve water rights under the state's prior appropriation system at the time the reservation was created. The federal government did

not normally have this foresight and many tribes within prior appropriation states did not have the right to access water, even from water courses or water bodies within the boundaries of a reservation.

To redress this issue the U.S. Supreme Court held that in prior appropriation states, a formal reservation of water rights under the state water system would be implied as of the date of the creation of the reservation even though the federal government had not actually applied for the appropriation in the state system. *Winters v. United States,* 207 U.S. 564 (1908). The court further found that the amount of water reserved was equal to that necessary to fulfill the purpose for establishing the reservation. *Id. See also Cohen's Handbook of Federal Indian Law,* at § 19.02 [1]-[2] (2012). The Winters doctrine or doctrine of implied water rights was not necessary in riparian states because tribes had access to water (both surface and ground water) as abutting landowners (i.e., in most instances their reservations abutted either a water body or an aquifer and the band had the same rights to access water as any riparian landowner).

The DNR is unaware of any instance where the Winters doctrine has been applied in a purely riparian state, but even were it to apply, the Winters doctrine is limited as it grants the tribe only that amount of water necessary to fulfill the purpose for which the reservation was established. It would not grant the Grand Portage Band the rights of a sovereign over the waters of the state as it pertains to actions of non-band members or as it pertains to both band members or non-members outside the Grand Portage Reservation.

2. *Comment 22.D.2:* Because of their unique government-to-government relationship with the Minnesota tribes, state and federal agencies are legally responsible for maintaining treaty-reserved natural resources. The Minnesota Pollution Control Agency (MPCA) and the MDNR are required to consider the input gathered from tribal consultation in their decision-making processes, with the goal of achieving mutually beneficial solutions.

   *DNR Response*: Minnesota Statutes section 10.65 sets forth the state's obligations to the eleven federally recognized Indian Tribes within Minnesota. The State of Minnesota acknowledges and supports the unique status of the Minnesota Tribes including the Grand Portage Band and their absolute right to existence, self-governance, and self-determination. In accordance with Minn. Stat. § 10.65, subd. 3, the DNR has ongoing consultation obligations owed to the Grand Portage Band. At a staff level, the DNR and Grand Portage Band have participated in meetings that included discussion of DNR's regulation of the Mile Post 7 Tailings Basin. The Grand Portage Band has not requested formal consultation on Mile Post 7.

3. *Comment 22.D.3*: On July 28, 1993, a 27-acre coal ash heap containing approximately 770,000 cubic yards experienced a catastrophic failure and sent a massive amount of mercury-laden

waste across Highway 61, the only direct route connecting communities along the North Shore of Lake Superior, picking up a semi-truck on the way and depositing the contaminated slurry into the Beaver River and Lake Superior. Coal ash contains toxic chemicals, including mercury, that increase the risk of cancers, damage the lungs and heart, cause stomach ailments, and contribute to premature death. The land cleanup cost the company $11 million. Water resources have not been fully restored.

*DNR Response*: This facility is not at Mile Post 7 and is not managed as part of the Mile Post 7 site. The facility being referenced is located approximately 30 miles down-shore near Schroeder, MN, where the Taconite Harbor Landfill sits today. Mile Post 7 and its Industrial Solid Waste Disposal Facility is in Silver Bay, Minnesota. It is unclear why the Schroeder facility is being referenced and what bearing it has on the Mile Post 7 facility.

4. *Comment 22.D.4*: Prior to the collapse, in 1991, Cliffs predecessor LTV applied to the MPCA for a permit to resume depositing ash on the heap. After a site investigation, MPCA determined that the coal ash heap was polluting Lake Superior from stormwater run-off and seepage and issued a "no discharge" requirement, ordering LTV to stop the release of water from the ash pile. LTV had several options for compliance, including dry storage with a cover over the ash pile. LTV chose and received approval from MPCA to construct a containment and recirculation system, similar to a tailings basin, consisting of a large pond on the downhill side of the ash heap to collect surface runoff and leachate water. Water was pumped from the pond to the top tier of the ash heap, sprayed back onto the heap, and dispersed by evaporation of water through the vegetation covering the ash pile. Excess water from a coal stockpile was also dumped into the pond or directly onto the ash heap. After a moderately strong storm event, the ash heap became saturated and liquefied, causing the collapse.

   *DNR Response*: The Proposer confirmed that the facility at Schroeder, Minnesota, and the facility at Mile Post 7, are two separate landfills serving two separate power plants, regulated under different permits, with approximately six years of separation between the capping of the Taconite Harbor facility versus initial construction and operation of the Mile Post 7 demolition debris and industrial solid waste facility. *See Response to Comment ¶ 22.D.3.* The Taconite Harbor facility was indeed a coal ash disposal pond while the Mile Post 7 site is permitted and operated as an Industrial Solid Waste Disposal Facility; these are very different operations. Regarding the event, the landfill covered approximately 28 acres and stored an estimated 770,000 cubic yards of ash, where an estimated 310,000 cubic yards was displaced out of a containment dike on July 28, 1993. An industrial solid waste disposal facility was subsequently constructed at the same site in accordance with MPCA Solid Waste Rules for disposal of ash. Final cover construction was completed on July 1, 1994. *See generally ¶ 28.g: MPCA Permit MN0067962.*

5. *Comment 22.D.5*: After the collapse, the coal ash disposal pond was relocated inland next to the current Mile Post 7 tailings basin, where it remains today. The coal ash landfill and the existing West Ridge Railroad are not authorized in the 1977 Master Permit or the 1985 Permit to Mine.

   *DNR Response*: The comment is incorrect. *See Response to Comment ¶ 22.D.3.* EAW Item 6f indicates the Mile Post 7 Industrial Solid Waste Disposal Facility is regulated under MPCA Permit SW-409. *See generally ¶ 29.n: EAW Appendix J12 – MPCA Solid Waste Permit SW-409*. DNR notes the facility is however within the Permit to Mine's designated disturbance area. *See ¶ 28.aa: Mile Post 7 Mining Area at 1.*

6. *Comment 22.D.6*: The Mile Post 7 tailings dam was supposed to be constructed using downstream methods analyzed in the 1976 EIS. Upstream construction methods, called "modified centerline or offset-upstream," are processes where the dam is constructed out of coarse tailings piled on top of the uncompacted fine tailings. Placing course tailings on top of uncompacted fine tailings causes a high level of vulnerability for catastrophic failure caused by seismic or static liquefaction. Modified centerline or offset-upstream construction methods were proposed by LTV and approved by the MDNR in 1997.

   *DNR Response*: The DNR has previously compiled information that details the history of dam construction at Mile Post 7 tailings facility. Of note Northshore restarted tailings deposition into the basin in the mid-1990s after several years of dam closure activities (due to Reserve Mining's bankruptcy). Transitioning from closure back to tailings production was the predicate to the shift to current construction methods (in place since 2003) that occurred in the 1990s. It is not unusual for the construction methods to have varied from the initial starter dams to the main dams in the 1980s, closure activities in the early 1990s, post-closure restart activities in the late 1990s, then to current methods in the early 2000s to present. Regardless of construction method, geotechnical stability has been assessed continuously through the review of the Five Year Operation Plans, and ongoing monitoring, inspections, and reporting, all of which would continue under the Proposed Project. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 167, 170, 172-173*.

7. *Comment 22.D.7:* The analysis based on downstream construction methods and alternative sites were assessed along with the current Mile Post 7 location in 1976. The EIS provides "Dams of the same design and construction at each of the alternative sites would have a greater safety factor than at Mile Post 7." Even so, one of the EIS conclusions provides that a "1,000-foot breach in the 13,000-foot south dam at Mile Post 7 would produce a 28 foot high wall of water moving down the Beaver River valley at more than 20 miles per hour to Lake Superior" destroying, impairing and polluting significant waters resources," thereby thwarting "the entire purpose of on land disposal by emptying stored tailings into Lake Superior. The threat to Lake Superior would not end when operations cease but would persist

indefinitely." The 1976 EIS has no analysis of catastrophic failure resulting from less stable upstream construction methods.

*DNR Response*: DNR acknowledges the 1975 Draft EIS did not provide a detailed description of the potential consequences of a dam breach at Mile Post 7. This was the case even though the 1975-76 Final EIS relied on three geotechnical engineering consultants that commented on closure, dam breach impacts, and regulatory involvement. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 285*. The reports included the 1975 Casagrande Report, 1975 Baker Report, and 1975 Wahler Report. *Id. at 286. See also generally: ¶ 28.h: 1975 Casagrande Report; ¶ 28.i: 1975 Baker Report; ¶ 28.j: 1975 Wahler Report.*

The 1975 Wahler Report did specifically address the issue of potential dam failure, which means the information was submitted to the DNR and MPCA as lead responsible parties for the EIS and subsequent permitting. *See ¶ 28.j: 1975 Wahler Report at III-55 to III-71*. In its treatment of potential dam failure, the 1975 Wahler Report described likely impacts of a dam breach at a dam elevation of 1,280 ft amsl, which was the final dam elevation originally proposed for the project. The report identified likely: flowpaths; damage to roads and electrical infrastructure; impacts to streams and Lake Superior; and damage to buildings and structures. Because Dam 1 would be the tallest of the principal dams, it would have the greatest potential to release impounded material (inferred as fine tailings). *Id. at III: 66-68.* The report concluded "we see no reason why any doubts concerning dam safety should prevent construction of the four dams in the Mile Post 7 project." *Id. at III-71.*

Since then, the understanding of the consequences of a dam break at Mile Post 7 has improved significantly, especially through development of EAPs required for Class 1 Dams. This is because DNR required preparation of facility EAPs in 2012 and 2022, both of which contained modern dam break analyses. *See generally ¶ 28.c: 2012 EAP.* The most recent dam break analysis for Mile Post 7 is a component of the EAP prepared in 2022. The 2022 EAP addresses catastrophic failure for Dams 1, 2, and 5 as if it occurred in 2023. *See ¶ 28.d: 2022 EAP at E-1.* If the Proposed Project goes forward, DNR would require an updated EAP to provide a new dam break analysis to align with the 2024-2028 Five Year Operation Plan; this would be prepared in 2027 to reflect the most up-to-date information for the dam construction authorized under the plan. DNR notes the most recent round of geotechnical evaluations of Dams 1 and 2 indicate that both dams are robust and exhibiting Factors of Safety well above recommended levels. Renewal of the Master Permit is a pre-requisite of the Proposed Project. *See Response to Comment ¶ 22.B.2.*

At least for the purposes of the EAW, there has been no survey of potentially impacted businesses, homes, structures, or other facilities in the likely flowpaths but the EAP includes notification procedures in the event of an emergency. *See ¶ 28.d: 2022 EAP at 10-14.* Regardless, the monitoring and reporting provisions of the Master Permit, as operationalized

in the Five Year Operations Plans, must be implemented in the ongoing construction of each dam raise and are designed to ensure dam safety. *See Responses to Comments ¶¶ 22.G.25, 22.G.48-50*.

Finally, the 2024-2028 Five Year Operation Plan will update dam safety and geotechnical assessment information for the Proposed Project, and the plan must be approved by DNR before construction can commence according to EAW Item 9. *See ¶ 9: 2023 EAW at .pdf 32.* DNR has also determined that the Master Permit must be renewed before the Proposed Project can commence.

8. *Comment 22.D.8*: The MDNR considers Mile Post 7 dams to be High Hazard or Class I dams. MN rules describe Class I dams as high hazards because "failure, mis-operation, or other occurrences or conditions would probably result in…loss of life or serious hazard, or damage to health, main highways, high-value industrial or commercial properties, major public utilities, or serious direct or indirect, economic loss to the public." Yet, there has not been a full evaluation of the vastly increased probability of tailings dam failure due to Northshore's use of upstream and offset upstream raises to increase dam height since MDNR approved these methods in 1997. Grand Portage and Fond du Lac, along with GLFIWC and the 1854 Treaty Authority staff requested dam safety inspection documents from the MDNR almost two years ago to assess permitting needs for this project and other proposed mine and tailings basin expansions. After a year and a half, we received most of the documents, although they were heavily redacted. The redactions included all identified seepage locations and their discharge rates and any information regarding potential dam failure or identification of vulnerabilities that could cause a dam breach.

   *DNR Response*: EAW Item 6b identifies that Dams 1 and 2 under the Proposed Project would be regulated as Class 1 or High Hazard dams. *See ¶ 9: 2023 EAW at .pdf 6. See also ¶ 28.a: 2023 National Inventory of Dams at .pdf 4.* Regardless of the construction method, geotechnical risks are continuously assessed through the DNR's review of the Five Year Operation Plans, and ongoing monitoring, inspections, and reporting, all of which would continue under the Proposed Project. This is because maintaining dam stability is an iterative, continuous process that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life.

   Regarding document redactions, see Response to Comment ¶ 22.D.9.

9. *Comment 22.D.9*: The MDNR required Tribal governmental representatives to use Data Practices Act requests to receive these documents. Then when we asked about the massive redactions, the MDNR stated that "When this request was first made, DNR sought legal advice from our General Counsel. As a state agency, DNR is subject to the Data Practices Act (DPA). The data you requested is considered nonpublic under the DPA, which is the reason DNR must

redact certain data before we provide it to you." This appears to be circular logic to deny another governmental agency access to information that must be considered before issuing National Pollution Discharge and Elimination Permits (NPDES permits), dam safety permitting, financial assurance, and insurance. Tribes are governmental agencies that co-regulate activities that can impact reserved resources within the 1854 Ceded Territory, and we do not represent the public; therefore, these redactions should not have occurred.

*DNR Response*: The DNR regularly classifies certain data pertaining to dams as security information within the meaning of Minn. Stat. § 13.37, subd. 1 (a). Minnesota Statutes section 13.37, subd. 1(a), defines security information as "data the disclosure of which the responsible authority determines would be likely to substantially jeopardize the security of information, possessions, individuals or property against…physical injury..." Minnesota Statute § 13.37, subd. 2(a), classifies government data not on individuals that is security information as non public data. In the case of dams, the DNR regularly classifies portions of documents such as emergency action plans for dams as security information because these documents contain information that persons could use to determine how to sabotage the dam, interfere with evacuation efforts in the event of a breach, or make a false report of a dam breach, all of which would endanger public safety. In the case of the Mile Post 7 Dams, the DNR classified the following information in the 2022 EAP as security information: Sections: 1.3; 2.2.2; 2.4.2; 3.1-4, 3.6; 4.1, 4.4-5; 5.2-4, 5.4, 5.5.2; and 6.1-2. Figures: 1-1, 1.2. Tables: 1-1, 2-1. Appendices: A; B; C; E; G; H; and I. Exhibits: 1-6.[2]

The Grand Portage Band is an independent sovereign and is not a government entity within the meaning of the Minnesota Data Practices Act (DPA). The DPA governs all state government entities and defines a government entity as a "***state*** agency, ***statewide*** system, or ***political subdivision***." Minn. Stat. § 13.02, subd. 7a (emphasis added). Because the Grand Portage Band is not a "government entity" within the meaning of Minn. Stat. § 13.02, subd. 7a, and is an independent sovereign not subject to regulation by the state, the Grand Portage Band is not bound by the requirements of the DPA including the requirement to maintain security data as non public data. Though the DNR does not believe the Grand Portage Band would misuse the requested data, the Grand Portage Band is not bound by the requirements of state law including the requirements not to release non public data. Therefore, the DNR is required to redact non public data from documents sent to the Grand Portage Band.

10. *Comment 22.D.10*: The proposed expansion of the tailings basin will create new seepage discharges that could impact the stability of the current coal ash pond. Cliffs has the option to use updated technology to dry-stack the tailings. However, just as in 1991, a choice has been made to extend the pond size and store the waste as a slurry. Dry storage should be

[2] In each instance where data was classified as security information the data was redacted from the document. In no instance was the entire document redacted.

required to decrease the surface area needed for new tailings, reduce polluted water entering the surrounding streams and Lake Superior, and reduce the risk of catastrophic dam failure.

*DNR Response*: EAW Item 6f indicates the respective orientation of the Dam 1 extension and the West Ridge Railroad on either side of the solid waste landfill is designed to avoid impacts to the waste disposal facility. *See ¶ 9: 2023 EAW at .pdf 24.* Furthermore, previously conducted modeling indicates that completing tailings deposition to the permitted elevation of 1,305 ft amsl would not cause groundwater elevations at the waste landfill to rise. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 54.* The Proposer will be required to maintain an effective leak detection and groundwater monitoring system to detect any impacts if necessary. *See ¶ 9: 2023 EAW at .pdf 51.*

Regarding the choice of an updated tailings storage technology, Minn. R. 4410.1100-1700 does not require an EAW to assess alternatives to the proposed action. The DNR notes that in analyzing whether a supplemental EIS was required under Minn. R. 4410.3000 in the 2021 DNR ERND, the agency considered alternatives that included transitioning into a dry stack facility. The feasibility of a dry stack facility was determined questionable for several reasons, including the presence of mineral fibers within the tailings being entrained at Mile Post 7. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 57-58.*

11. *Comment 22.D.11*: Further, the potential environmental effects of the Mile Post 7 project cannot be determined without a modern dam-safety analysis that assesses the potential area that would be covered by a tailings flood resulting from catastrophic dam failure; the depth and velocity of a tailings flood; anticipated residential and non-residential human health and infrastructure impacts; impacts on terrestrial and aquatic wildlife and their habitats; downstream water quality impacts; and worst- case scenario impacts.

    *DNR Response*: Northshore provided a new dam break analysis in 2022 to support an updated EAP. *See generally ¶ 28.d: EAP Appendix E.* The updated 2022 EAP projects conditions between the years 2019 to 2023 to align with the current 2019-2023 Five Year Operation Plan. According to the plan, it "includes an assessment of mobilized tailings in a hypothetical dam failure by in-depth analyses and evaluations of site-specific material parameters, key geotechnical variables, credible failure modes, and by investigating potential deposition of plant aggregate and fine tailings as breach flood waves run out of the basin." These assessments could inform each of the items listed in the comment. *See ¶ 28.d: 2022 EAP at E-1.*

    The 2022 dam break analysis includes an estimate of mobilized tailings volume, which allows for an understanding of the volume of tailings that might leave the facility based on any given configuration of breach opening for the pre-Project condition. The potential for tailings

mobilization under the PMP Event Failure Scenario and Fair-Weather Failure Scenario is assessed and reported for Dams 1, 2, and 5 using the FLOW-3D modeling tool. *See ¶ 28.d: 2022 EAP at E21-E24.* Information available to risk managers includes but is not limited to: velocity fields at varying time stamps; viscosity values; dam breach hydrograph; inundation extent; maximum depths; tailings deposition estimates; and inundation maps. *Id. at E-30 to E-83.* The EAP indicates the Beaver River would receive flows and mobilized tailings for a breach of Dam 1, while a breach of Dam 2 would impact the Beaver River to Silver Lake, and then the final reach of the Beaver River. The analysis reports that not all impounded tailings would be liberated from the tailings basin itself under either failure scenario, and some fraction of the liberated tailings would be impounded by features such as embankments and bridge crossings. *Id. at E-29 to E-67.* If the 2024-2028 Five Year Operation Plan is approved, then Northshore will be required to update the EAP to model the potential failure scenarios for 2027, which is the last year of construction that would be authorized under that plan for the Proposed Project. *See Response to Comment ¶ 22.I.145*.

12. *Comment 22.D.12*: Minn. R. 6115.0410, subp. 2, requires a new dam safety permit for dam enlargement, Minn. R. 6115.0410, subp. 2, and transfer of dam ownership requires a permit. Minn. R. 6115.0370. Chapter 6115, a dam safety application and permit approval, must contain provisions that comply with Minn. R. 6115.0410, including the following:

    a) The application must describe the type, size, height, and storage capacity of the dam extending through the life of the impoundment. Id., subp. 2.
    b) The preliminary report for the permit must include all other elements related to the total dam project specifically including railroads. Id., subp 3.
    c) The final design report must include a dam-break analysis, information on waste materials and disposal practices, stability analysis and design details for dams, impoundments and other features. Id., subp. 6.
    d) The permit can only be approved on findings of dam stability "under all conditions…based on current, prudent engineering practice" and dam hazards and on "[c]ompliance with prudent, current environmental practice throughout its existence." Id., subp. 8(D), (F).

    *DNR Response*: The Master Permit is the dam safety permit for Mile Post 7. *See Response to Comment ¶ 22.B.5.*

    The Proposed Project is not an enlargement, which is defined as any change that would raise the maximum storage elevation of a dam. Minn. R. 6115.0320, subp. 6. This is not occurring under the Proposed Project because there is no request to add future dam raises above the 1,315 ft amsl contour. Construction to this elevation is already authorized under the Master Permit. *See ¶ 9: 2023 EAW at .pdf 4.*

There is no transfer of ownership under the Proposed Project. *See Responses to Comments ¶ 22.B.2*.

13. *Comment 22.D.13*: In spite of acknowledging that this project will diminish areas available to exercise usufructuary rights within the 1854 Ceded Territory, the EAW states that the State Agencies didn't consider cumulative environmental effects for project-related changes to cover-types and habitats that would contribute to reductions in areas available to Band members to exercise treaty rights. However, the only EIS conducted for the Mile Post 7 tailings basin (in 1976) did evaluate some of the project's cumulative impacts. "Existing timber resources at the Mile Post 7 site would be harvested. The potential for timber production within the disposal area, which is relatively high, would be eliminated. The site would not return to anything similar to its present vegetated condition for several hundred years." "Fishery resources within the disposal area will be destroyed, including 9.7 miles of trout streams. Streams downstream from the disposal area would be adversely affected by erosion at construction areas, including stream diversion dikes and channels, roadways, railroads and pipelines, causing turbidity and sedimentation which would adversely affect the fishery resource. Loss of a portion of the watershed could result in reduction in flow and rise in temperature to critical levels adversely affecting the fishery resource downstream from the site, including the anadromous fishery of the lower portion of the Beaver River. Windblown dust, nutrients related to revegetation efforts, seepage and accidental spillage could adversely affect the fishery resource in the vicinity of the site." "Construction· and operation of the tailings disposal system at Mile Post 7 would cause pollution, impairment, and destruction of the air, water, land and other natural resources located within the state.

    *DNR Response*: EAW Item 10b incorrectly indicates the Proposed Project's changes to cover types and habitats would contribute to reductions in areas potentially available to band members to exercise treaty rights within the 1854 Ceded Territory. *See ¶ 9: 2023 EAW at .pdf 38.* It is incorrect because DNR has confirmed the work for the Tailings Basin Features will all occur on private lands, which means the Proposed Project will not adversely affect the Grand Portage Band's right to hunt, fish and gather. Only if the Proposer previously granted permission for tribal members to access the property to hunt, fish, and gather, and then denied such requests in the future, could the assertion be correct. Probably more relevant, to the extent private lands are used for the Stream Mitigation Sites, their use, which should benefit the Grand Portage Band's usufructuary rights. *See Response to Comment ¶ 22.C.15.*

    EAW Item 21 characterizes the cover type conversion for the Proposed Project as negligible in terms of cumulative effects of the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 93.* The cover type in the Beaver River-Frontal Lake Superior watershed will remain substantially the same both before and after the Proposed Project (i.e., wetlands; streams; and forest). The EAW also indicates conversion of the remaining 650 acres of land designated for permitted tailings deposition is also considered negligible, especially considering the reclamation and

closure revegetation requirements. *Id.* Although not cited specifically, at least for impacts to stream and wetland resources, mitigation required by the USACE, MPCA, and DNR has been approved to compensate for these impacts, including restoration of instream functions and values for the Stream Mitigation Sites. In addition, the Stream Mitigation Sites are located within the Beaver River-Frontal Lake Superior watershed (in the immediate area of Mile Post 7) that will contribute to general improvement of the streams, fisheries, and water quality in the watershed to compensate for impacts within the Tailings Basin. Downstream waters will benefit under the Proposed Project, while any water quality effects regulated under NPDES/SDS Permit MN0055301 should begin to decline at reclamation and closure.

14. *Comment 22.D.14*: Instead of considering the project's cumulative effects, the term "idled forest lands" is used extensively within this document to obfuscate the loss to Tribes and the surrounding communities. Unless too polluted to do so, forest lands support plants, insects, birds, amphibians, and four-legged animals and are therefore never "idled." In fact, these forest lands that are planned to become part of the tailings pond and deposition areas are providing ecosystem services at no cost, including filtering pollutants coming from the tailings basin before the contamination can enter Lake Superior on the west and south sides, and the Superior National Forest on the north side. Thus, using the term "idled" is inaccurate when the forest lands are providing needed ecosystem services that mitigate some of the impacts to the local environment. Grand Portage requests the MDNR require an Environmental Impact Statement to assess cumulative project impacts on treaty-reserved natural resources.

    *DNR Response*: DNR agrees that using the term "idled forested lands" in the EAW does not accurately portray the full range of natural resource values associated with these resources, even with these stands occurring in the context of an active tailings storage facility. A better characterization of the forested parts of the site in the Tailings Basin is that those forested parts of the site are not being actively managed by the Proposer for recreation or for timber production or other consumptive purposes. Regardless, DNR has prepared the EAW to assess the Proposed Project's impacts. Thus, EAW Item 14c identifies potential impacts to fish, wildlife, and rare species and sensitive natural communities, located within the Tailings Basin Features footprint as well as the surrounding Stream Mitigation Sites. *See ¶ 9: 2023 EAW at .pdf 76-79.* EAW Item 14d identifies measures that will be taken to avoid, minimize, or mitigate the adverse effects to fish, wildlife, plant communities, ecosystems, and sensitive ecological resources. *Id. at .pdf 79-82.*

    Regarding the loss of forest-related ecosystem services identified in the comment for the remaining 650 acres already permitted for tailings deposition, this loss was generally acknowledged in the 1975-76 Final EIS in terms of common impacts to fauna. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 233*. This means these impacts have been anticipated from project inception to the present, however they may be partially reversed through site revegetation requirements in reclamation and closure under the Permit to Mine.

15. *Comment 22.D.15*: "The Tailings Basin Features area watershed draining to the Beaver River is comprised of 11.0 acres, which drains through an unnamed waterway approximately 1.1 mi. before reaching the Beaver River. The Tailings Basin Features area watershed draining to Little Thirty-nine Creek is comprised of 4.4 acres, which drains via sheet flow through a 25-acre wetland complex before reaching Little Thirty-nine Creek. The Tailings Basin Features area watershed draining to the East Branch Beaver River is comprised of 32.9 acres, which drains through a ditch system and unnamed creek before reaching the East Branch Beaver River approximately 1.2 mi. downstream." All discharges to streams originating within the acreage of the tailings basin must receive NPDES permits to comply with the Clean Water Act. The seepage information documented from the MDNR's own tailings dam inspections must be provided to and used by the MPCA to ensure all discharges are identified, have an NPDES permit, and that the water has been adequately treated to meet MN Water Quality Standards (WQS) to protect remaining segments of these streams and Lake Superior. Although the EAW notes the impaired streams, it does not mention the existing mercury and PCB impairments in Lake Superior waters, even though the Beaver River drains into Lake Superior. The EAW does not include information on how MPCA addresses the impairment issues through permitting, including Total Maximum Daily Loads (TMDL), Waste Load Allocations (WLA), and wastewater treatment requirements. Instead, the EAW only provides that: "Big and Little 39 Creeks are impaired based on fish bioassessments, water column mercury, pH and turbidity; White Rock Creek is impaired for both mercury and PCBs in fish tissue and is infested with White Perch, Viral Hemorrhagic Septicemia, and Round Goby." Water quality restoration must be required in addition to habitat mitigation.

    *DNR Response*: The comment first addresses protection of the remaining segments of "these streams and Lake Superior," second addresses existing mercury and PCB impairments in Lake Superior waters, and third addresses certain water quality impairments. These items will be addressed in turn.

    <u>Protection of the remaining streams and Lake Superior</u>. When the MPCA undertakes the process necessary for the reissuance of the applicable NPDES/SDS permit for the Mile Post 7 facility, the MPCA will review available effluent data and determine if there is a reasonable potential for the discharge from the facility to "cause or contribute" to an exceedance of water quality standards. The existing permit does however contain water quality based effluent limits for pH and turbidity. The Permittee did make a timely request of the MPCA to renew its NPDES/SDS Permit.

    <u>Lake Superior Mercury and PCB Impairments</u>. As noted above, when the MPCA undertakes the process necessary for the reissuance of the NPDES/SDS permit for the Mile Post 7 Tailings Basin, the MPCA will review available effluent data and determine if there is a reasonable potential for the discharge from the facility to "cause or contribute" to an exceedance of

water quality standards particularly as it relates to mercury or PCB. Impairments of downstream waters are also considered in this review. If a pollutant is determined to have reasonable potential to exceed a water quality standard downstream, then a water quality based effluent limit is assigned to the discharge. If the analysis determines there is no reasonable potential to exceed a water quality standard in a downstream water, then the permit requires monitoring only. Impairments of downstream water and Total Maximum Daily Load (TMDL) studies are considered in this review. Based on current water quality data, no exceedance of mercury or PCB water quality standards are anticipated from discharges leaving Mile Post 7. MPCA has confirmed that existing and future operations, the latter including the Proposed Project, are predicted to comply with permit conditions.

The Lake Superior South Watershed TMDL for total suspended solids (six streams) and *E. coli* (one stream) was approved by USEPA in 2019. *See ¶ 28.k: 2018 MPCA TMDL at xi.* The MPCA in its effluent limit review for the facility will determine whether there is a reasonable potential that discharges from the Mile Post 7 Tailings Basin will result in an exceedance of an existing water quality standard. If so, then a water quality based effluent limit will be assigned for that pollutant. The MPCA will consider the Lake Superior South Watershed TMDL and any waste load allocations assigned to the facility in its review. DNR notes that turbidity caused by particles suspended or dissolved in water is monitored at SD001, where the water treatment plant has consistently complied with the monthly average effluent limit since 2015. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 47.*

Permitting and Impairment Issues. The MPCA is currently working on the NPDES/SDS permit reissuance for Mile Post 7. During the permit reissuance process, the MPCA will also consider any impairments, TMDLs, and waste load allocations in downstream waters when it conducts its effluent review.

16. *Comment 22.D.16*: The losses to Treaty Reserved Resources are cumulative and have occurred since the Treaty signing and must be assessed from that perspective. The MDNR and MPCA have an obligation to minimize the footprint of the tailings basin and ensure that the expansion does not cause or contribute to the spread of invasive species or excursions from MN water quality standards resulting from seepage or dam failure. Due to the potential adverse environmental consequences of this project the MDNR is required to prepare an EIS under MN rules that evaluates all cumulative impacts of the proposed new construction of the railroad, extension, and an increase in the height of tailings dams using modified upstream construction methods, and the expansion and change to acreage and location of the wet slurry tailings basin, including the impacts on all water resources. The potential for and the impacts of a dam breach or catastrophic failure on treaty-reserved natural resources, the surrounding communities, nearby streams, and Lake Superior must also be assessed. The EIS must also evaluate and assess all of the Mile Post 7 tailings dam features, including the

coal ash pond and other structures and construction methods that have not previously undergone full environmental review.

*DNR Response*: The Tailings Basin Features of the Proposed Project would provide the infrastructure necessary for Northshore to utilize the remaining permitted storage capacity of the Mile Post 7 Tailings Basin. *See ¶ 9: 2023 EAW at .pdf 5.* Although not cited in the comment, the Stream Mitigation Sites of the Proposed Project provide mitigation for impacts to the remnant portions of Big and Little Thirtynine Creeks that would be impacted by construction of the relocated West Ridge Railroad, as well as the continued tailings progression to the permitted elevation of 1,305 ft amsl over the remaining life of the Peter Mitchell Mine. *See generally ¶ 29.w: EAW Appendix J21 – Final Stream Mitigation Plan.*

The issues raised in the comment are addressed in Responses to Comments ¶¶ 22.D.1-15. The Proposed Project is not an expansion pursuant to Minn. R. 4410.0200, subp. 28, as the closure-condition footprint has remained essentially unchanged for 50 years and continues to reflect the project evaluated in both the state and federal EISs and approved in the original Master Permit and Permit to Mine. *See Response to Comment ¶ 22.G.8.*

The EAW identifies measures under the Proposed Project to address potential spread of invasive species. *See ¶ 9: 2023 EAW at .pdf 69, 77, 79-82*.

MPCA reports that existing and future operations are predicted to comply with permit conditions. Contrary to the comment the proposed extensions of Dams 1 and 2 under the Proposed Project will be constructed under the centerline method, not the modified centerline or offset upstream method. EAW Item 21 addresses potential cumulative effects within the geographically relevant area for reasonably foreseeable projects. *Id. at .pdf 90-93*. Because the dams at Mile Post 7 are classified as Class 1 or High Hazard Dams and warrant the highest level of monitoring and regulation, DNR requires Northshore to prepare a dam break analysis as part of the EAP. *See ¶ 28.a: 2023 National Inventory of Dams at 4.* The most recent dam break analysis addresses dam construction through 2023, with DNR requiring an updated analysis under the upcoming 2024-2028 Five Year Operation Plan for construction in 2027. *See Response to Comment ¶ 22.B.3*.

Finally, EAW Item 6f identifies past development, any past environmental review, and timelines, which included the: Mile Post 7 Tailings Basin; diversions of Big Thirtynine Creek and Little Thirtynine Creek; West Ridge Railroad; Wastewater Treatment Plant; and Ash Disposal Facility. *See ¶ 9: 2023 EAW at .pdf 15-24*.

E. Izaak Walton League of Minnesota

1. Comment 22.E.1: One of the Izaak Walton League's storied members was the late Grant Merritt, the first commissioner of the Minnesota Pollution Control Agency, from 1971-1975. Merritt spearheaded the campaign against the Reserve Mining Company's disposal of asbestos laden tailings into pristine Lake Superior. Those same tailings still threaten the lake today as they sit a few miles upstream of Silver Bay. If he were still alive, we believe Grant would be, as we are, demanding that the Milepost 7 tailings basin not be permitted to expand without a full Environmental Impact Statement and a dam safety permit.

   *DNR Response*: As forth in the Response to Comment ¶ 22.C.3 and EAW Item 6f, the Proposed Project is not an expansion. Rather it is a request to construct the infrastructure necessary to use the full capacity of an already permitted tailings facility. *See ¶ 9: 2023 EAW at .pdf 15-18*. *Also see Response to Comment ¶ 22.B.5.*

2. *Comment 22.E.2*: The Environmental Assessment Worksheet for this project is unacceptable, leaving out as it does, the risk of dam failure and relying on the fifty-year old review conducted during the 1970s. An adequate review requires use of current science and engineering standards, the actual physical conditions on the site today, and consideration of the growing risk posed by climate change and the wetter conditions and increased rain and snow events it is already bringing to this region.

   *DNR Response*: The comment is incorrect as to its assertion that DNR relies on outdated information about dam safety. The review of a dam's safety is an ongoing process. For the dams at Mile Post 7, this analysis did not end upon completion of the 1975-76 Final EIS. The Mile Post 7 dams are regulated through the Master Permit, which requires recurring geotechnical assessments that are included in the respective Five Year Operation Plans and supporting geotechnical reports. DNR notes that maintaining dam stability is an iterative, continuous process that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life.

   Also important to the point of the comment, the DNR requires dam break analysis as a component of the facility EAP, the most recent of which was prepared in 2022. As for climate change, EAW Item 7a provides a summary of climate trends in the general location of Mile Post 7 that is available for use in the current and subsequent modern dam break analyses. So far there is no need to deviate from the 10-foot freeboard requirements for the Mile Post 7 Tailings Basin based on climate change. *See Responses to Comments ¶¶ 22.B.3-4, 22.G.28, 22.G.56*. *See also ¶ 9: 2023 EAW at .pdf 24-28.*

3. *Comment 22.E.3*: The proposed expansion would greatly increase the amount of tailings in the basin, from the 120 million long tons it contains today to a proposed 750 million long tons. The existing facility is operating without a dam safety permit, although this is required

under Minnesota law. Dam failure would have catastrophic effects on the Beaver River, humans and wildlife, aquatic life, and water quality in the Beaver River valley and in Lake Superior.

*DNR Response*: The Proposed Project is not an expansion. *See Responses to Comments ¶¶ 22.G.8, 22.G.24*.

The Master Permit is the dam safety permit for the Mile Post 7 Tailings Basin. The Master Permit incorporates dam safety requirements and authorizes construction of dams. DNR has not issued a separate Dam Safety Permit for Mile Post 7 because the Master Permit contains the dam safety requirements and is simply called by another name. Simply because dam safety is incorporated into another permit as then required by law, does not mean that the dams on site are not regulated by current law or permit standards. *See Response to Comment ¶ 22.B.5.* The 2022 dam break analysis includes an estimate of mobilized tailings volume, which allows for an understanding of the volume of tailings that might leave the facility based on any given configuration of breach opening for the pre-Project condition. *See Response to Comment ¶ 22.D.11.*

4. *Comment 22.E.4*: The existing basin demands rigorous monitoring and management for the foreseeable future to protect the 10% of the earth's fresh surface water found in Lake Superior (which was its original intent). Why would we add to this risk without requiring a current and full Environmental Impact Statement, requiring the use of the most stable dam construction methods available, and requiring a dam safety permit to operate?

   *DNR Response*: The dams are monitored daily by the basin engineer and other employees working on the dams. Beyond this, there is real-world monitoring data that forms the basis of the slope stability assessment to ensure geotechnical stability well above the minimum Factors of Safety; this assessment considers the seepage model. In addition, the monitoring program also includes replacing older technology (ie., pneumatic piezometers) with newer technology (i.e., vibrating wire piezometers), where the new technology includes near real-time monitoring. For example, new instruments were installed in 2015 to replace old instruments, while again in 2018 new instruments were installed in an area where no instruments previously existed. Data loggers were also installed in 2017 and 2018 to monitor porewater pressures more closely during construction.

   Finally, the instrumentation monitoring program to measure the performance of the dams and their foundations is ongoing, it is not a static program as damaged and inoperable instrumentation is replaced and new instruments are added as required by the Basin Engineer.

Regarding the comment about use of more stable construction methods, see Response to Comment ¶ 22.G.33.

The Master Permit is the dam safety permit for Mile Post 7. *See Response to Comment ¶ 22.B.5*

F. Jennifer A. McEwen, Minnesota State Senator

1. *Comment 22.F.1*: For the purposes of the Mile Post 7 West Ridge Railroad Relocation, Dam Extension, and Stream Mitigation Environmental Assessment Worksheet, this letter is to serve as public comment standing in opposition to the project, as currently proposed.

   *DNR Response*: No response needed.

   *Comment 22.F.2*: It is troubling that the Minnesota Department of Natural Resources is poised to proceed without a recent or in-depth Environmental Impact Statement performed. An environmental review from the 1970s does not serve as sufficient review for a project of this scale.

   *DNR Response*: The Proposer has proposed to extend the Tailings Basin dams and relocate the West Ridge Rail line to allow the Mile Post 7 Tailings Basin to be used to its full capacity (i.e., the capacity studied in the 1975-76 EIS, and permitted by the 1977 Master Permit and the 1985 Permit to Mine). The Proposed Project also includes undertaking stream mitigation at six sites geographically separate and distinct from the Mile Post 7 Tailings Basin. The purpose of this EAW is to determine whether the Proposed Project, which includes the associated mitigation for filling the remnant of Big Thirty-nine and Little Thirty-Nine Creeks, "ha[s] the potential for significant environmental effects" in accordance with the standards set forth in Minn. R. 4410.1700. This analysis is found in Conclusions ¶¶ 1-5 of this decision.

   In making this decision, and in accordance with Minn. R. 4410.1700, subp. 7D, DNR considers, among other criteria, the "extent to which the environmental effects [of the proposed project] can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs." In this instance it is true that the DNR considered the 1975-76 Final EIS and the 1977 USACE Final EIS of Findings, however ongoing studies of the Mile Post 7 Tailings Basin and its dams did not end in 1975-76. Other information considered by the DNR in this EAW and Record of Decision (and included as part of the administrative record of this matter) include but are not limited to: Lacking Information Collected by the RGU; EAW Appendix J – List of Supplemental Information Known to RGU; EAW Appendix J7 – 2022 DNR Record of Decision; and EAW Appendix J2 – 2021 DNR ERND References 1-33. *See ¶¶ 28-31.*

3. *Comment 22.F.3*: I share concerns with environmental and community advocates that Northshore Mining Company is owned and operated by multi-billion-dollar transnational mining conglomerate, Cleveland-Cliffs with a well-known history of poor environmental compliance and a recent record of dangerous mining and discharge practices.

   *DNR Response*: Comment noted.

4. *Comment 22.F.4*: In 2022, Cleveland-Cliffs settled violations of the Clean Water Act with the United States Department of Justice, approving a $3 million dollar payout, because of ammonia and cyanide- laden waste discharge into local waterways resulting in a river fish kill, in addition to beach closures across the Indiana Dunes National Park – which annually draws over 2 million visitors. This failure to be a responsible steward of treasured waterways is alarming.

   *DNR Response*: Comment noted.

5. *Comment 22.F.5*: If this project is to continue, I respectfully ask that the Minnesota Department of Natural Resources necessitate that Northshore Mining Company apply for a dam safety permit and ensure Northshore Mining Company utilize the least-risky and most stable dam construction methods available.

   *DNR Response*: The dams at the Mile Post 7 site are regulated in accordance with Minn. Stat. § 103G.501 *et seq.* and Minn. R. 6115.0300, *et seq. See Response to Comment ¶ 22.G.6* (discussing use of the term "dam safety" on the permit versus regulation by permit as required by rule and statute).

   The dams at Mile Post 7 must meet the Factors of Safety assigned by the DNR that are reviewed annually and through the Five Year Operation Plans, and for the Proposed Project through renewal of the Master Permit. *See ¶ 28.b: 2023 DNR Letter to Northshore. See also ¶ 9: 2023 EAW at .pdf 6, 32.* DNR notes that maintaining dam stability is an iterative, continuous process that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life.

6. *Comment 22.F.6*: Community members, neighbors to Lake Superior, and Minnesotans deserve to know the potential threats of this project to ensure the best interests of the environment and the affected communities are met. This is best accomplished by requiring Northshore Mining Company to perform a full Environmental Impact Statement that is made available to the greater public.

*DNR Response*: Comment noted. The legal requirements for determining whether to prepare an EIS for the Proposed Project are those set out in Minn. R. 4410.1700. The DNR has analyzed the requirements set forth in Minn. R. 4410.1700 in this Record of Decision.

G. Minnesota Center for Environmental Advocacy, et al.

1. *Comment 22.G.1*: The Mile Post 7 tailings basin was built for one reason: To keep taconite mining waste from being dumped directly into Lake Superior. Now the basin holds 40 years' worth of tailings and Northshore Mining Co. (Northshore) is seeking permission from the Department of Natural Resources (DNR) to make changes that would allow it to expand the already large tailings basin by another 650 acres. But the environmental review for the project has a major flaw – it makes no mention whatsoever of what would happen if the dams at the tailings basin are breached. If a breach occurs, decades of mining waste could rush downhill toward Lake Superior, resulting in severe environmental effects and negating the entire reason for the tailings basin's existence. Before DNR reaches any decisions regarding the proposed expansion of Mile Post 7, it must perform a thorough environmental review that examines the risks and effects of a dam breach. Accordingly, Minnesota Center for Environmental Advocacy (MCEA), Center for Biological Diversity, Save Lake Superior Association, Save Our Sky Blue Waters, Friends of the Boundary Waters Wilderness, and the W.J. McCabe Chapter of Izaak Walton League of America, ask DNR to order an Environmental Impact Statement (EIS) on the issue of dam safety or, in the alternative, to supplement the Environmental Assessment Worksheet (EAW) with this information.

   *DNR Response*: Mile Post 7 cannot be viewed in isolation but must be viewed in conjunction with the Peter Mitchell Mine. The purpose of Mile Post 7 was to store tailings from the Peter Mitchell Mine in an environmentally sound manner (i.e., not in Lake Superior). Because the Mile Post 7 Tailings Basin was designed to accept tailings from ore mined from the Peter Mitchell Pit and processed in Silver Bay, it cannot be viewed in isolation from the Peter Mitchell Mine. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 235.*

   Several factors and assumptions were made in calculating the life span of the Mile Post 7 Tailings Basin, the most important of which was the volume of tailings that the Mile Post 7 Tailings Basin was designed and intended to hold. This amount was estimated in the mid-1970s based on the remaining ore and rate of mining in the Peter Mitchell Mine. *Id.* The Mile Post 7 Tailings Basin design assumed a steady deposition rate of an estimated ~20 million long tons per year over 40 years (i.e., remaining estimated 40 years of mine life left at the Peter Mitchell Mine in the late 1970s). Depressed market conditions and Reserve Mining's subsequent bankruptcy between 1986 to 1990, plus two changes in ownership over the 1990s, meant that tailings were never deposited in the basin at the originally projected rate. *Id. at ¶¶ 82, 167.* Between 1985 and 2005, the tailings production rate ranged from ~4.0-5.3 million long tons per year, substantially less than original estimates. Similarly, once

operations stabilized in the mid-2000s, tailings production ranged from ~5.5-7.9 million long tons per year. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 14*. Going forward, the most recent operations plan anticipates a tailings production level of ~7 million long tons per year. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 6*. Because of this reduction in production relative to original projections, mining at the Peter Mitchell Pit is expected to extend several decades beyond that originally estimated. However, the estimated volume of remaining ore at the Peter Mitchell Mine and permitted capacity of the Tailings Basin has not changed.

There is no increase in nor need to increase the capacity of the Mile Post 7 Tailings Basin because Mile Post 7 was always intended to hold the tailings from ore mined from the Peter Mitchell Pit, and the tonnage of ore projected to be mined from the Peter Mitchell Pit has not materially changed. What this means is that the Tailings Basin is filling at a fraction of the rate assumed in the state and federal EISs, thus extending its operational lifespan accordingly, which is why the facility is only partially constructed at this time. Although it is taking longer to fill the Tailings Basin, this does not mean there are new and different unstudied and/or unregulated potential significant environmental effects.

It is also incorrect to say that the Mile Post 7 Tailings Basin holds 40 years of tailings (i.e., it is full and that an expansion is now sought). The Mile Post 7 Tailings Basin was not filled to its intended design capacity – it was filled to less than its designed capacity because, as noted above, the rate of mining at the Peter Mitchell Pit was slower than anticipated. *See Response to Comment ¶ 22.G.8.* This issue received detailed consideration in petitions 2022 Record of Decision ¶¶ 65-84, which compares the facility design capacity in the state EIS and the Master Permit, and present capacity going forward under the Permit to Mine Amendment. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD at 24-28. See also ¶ 9: 2023 EAW at .pdf 16.*

2. *Comment 22.G.2*: The Mile Post 7 tailings basin was originally constructed in the 1970s, when federal courts required Reserve Mining Co. (Reserve Mining) to stop disposing tailings directly into Lake Superior. The court explained that disposing the potentially carcinogenic mining waste into the lake endangered people's health and welfare in violation of the Federal Water Pollution Control Act. In response, Reserve Mining proposed creating a tailings basin to collect the waste at Mile Post 7, which is located 600 feet vertically above Lake Superior and three miles from the shore of the lake.

   *DNR Response*: EAW Item 6f summarizes the history of the Mile Post 7 Tailings Basin, including litigation. *See ¶ 9: 2023 EAW at .pdf 13-15. See also ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 33-46.*

3. *Comment 22.G.3*: State and federal environmental reviews were required for this proposal. In 1976, a state final environmental impact statement on Mile Post 7 and alternative disposal sites was published (1976 EIS). Based on the 1976 EIS, a hearing officer concluded, and both

DNR and MPCA agreed, that Mile Post 7 was an unsuitable location for a tailings basin. The hearing officer concluded that precautions taken in the construction of dams could reduce, but not eliminate, the risk of dam failure, and that a failure would "thwart the entire purpose of on land disposal by emptying stored tailings into Lake Superior."

*DNR Response*: EAW Item 6f summarizes the history of the Mile Post 7 Tailings Basin, including previous state and federal environmental review. *See ¶ 9: 2023 EAW at .pdf 13-15. See also Responses to Comments ¶¶ 22.A.1-4, 22.A.6.*

4. *Comment 22.G.4*: The following year, a federal EIS was completed by the U.S. Army Corps of Engineers (1977 EIS) for Mile Post 7.

   *DNR Response*: The comment is factually correct and documented in EAW Item 6f that discusses the preparation of a federal EIS by the USACE. *See ¶ 9: 2023 EAW at .pdf 14.*

5. *Comment 22.G.5*: Later that same year, despite the findings of the state EIS, the Minnesota Supreme Court ordered the agencies to issue permits that authorized construction of the tailings basin at the Mile Post 7 location, rather than at an alternative location. Accordingly, in July 1977, the DNR issued Reserve Mining an amended Master Permit allowing construction of the tailings basin, even though state agencies had determined the location unsuitable.

   *DNR Response*: EAW Item 6f summarizes the history of the Mile Post 7 Tailings Management Facility, including previous state and federal environmental review. *See ¶ 9: 2023 EAW at .pdf 13-15. See also Responses to Comments ¶¶ 22.A.1-4, 22.A.6.*

   The DNR notes that it is legally bound by the decision made by the Minnesota Supreme Court, particularly where it reviewed all the evidence cited by the MCEA in this and other comments. The purpose of this EAW is not to remake a siting decision made over 40 years ago. *See Response to Comment ¶ 22.A.4.* The question before the DNR is whether the Proposed Project (proposed modifications and mitigation) at the Mile Post 7 Tailings Basin has the potential for significant environmental effects. Minn. R. 4410.1700, subp. 1. EAW Item 6f discusses some aspects of the litigation history for Mile Post 7 and state agency issuance of a Master Permit to Reserve Mining in August 1977.[3] S*ee ¶ 9: 2023 EAW at .pdf 13-14.*

6. *Comment 22.G.6*: In 1979, Minnesota adopted laws governing dam safety and requiring dam safety permits for tailings basin dams. But no dam safety permit was issued for the Mile Post 7 tailings basin.

[3] Renewal of the Master Permit must be finalized prior to commencement of work on the Proposed Project.

*DNR Response*: DNR has not issued a separate Dam Safety Permit for Mile Post 7 because all dam safety requirements for the Mile Post 7 Tailings Basin were incorporated into the 1977 Master Permit when Minn. Stat. § 103G.531 or its predecessor statute became effective in 1979. This means the 1977 Master Permit as through subsequent renewals is the Dam Safety Permit for Mile Post 7. Accordingly, EAW Item 9 does not list a separate Dam Safety Permit requirement for the Proposed Project; rather EAW Item 6f identifies that the Master Permit regulates dam safety at Mile Post 7. *See ¶ 9: 2023 EAW at .pdf 19.*

DNR's regulation of dam safety continues to evolve and reflect the appropriate factors of safety to understand the various geotechnical risks applicable to the dams at Mile Post 7. The geotechnical assessments over time and into the future will continue to reflect the current state of knowledge, which through the Five Year Operation Plans are the means to ensure factors of safety are being met, state law is being met, and monitoring/data is adequate. *See Response to Comment ¶ 22.B.5.*

Finally, DNR has determined renewal of the Master Permit is a pre-requisite of the Proposed Project. *See ¶ 28.b: 2023 DNR Letter to Northshore*. This requirement is listed in ¶ 40.

7. *Comment 22.G.7*: After the Mineland Reclamation Rules requiring that all metallic mining facilities have a Permit to Mine were passed in 1981, however, Reserve Mining applied for a Permit to Mine that covered the Peter Mitchell mine and the Mile Post 7 tailings basin. Reserve Mining received this permit in 1985.

   *DNR Response*: The statement is factually correct. Because the Mile Post 7 Tailings Basin was constructed solely to receive tailings from the Peter Mitchell Mine, a single Permit to Mine was issued to Reserve Mining in 1985 for the Peter Mitchell Mine, the Silver Bay processing facility, and the Mile Post 7 Tailings Basin, in accordance with the requirements of Minn. R. ch. 6130. *See ¶ 29.e: EAW Appendix J5 – 1985 Permit to Mine. See also Response to Comment ¶ 22.G.1.*

8. *Comment 22.G.8*: Decades passed, and ownership of the tailings basin passed to Northshore. Near the end of the 2010s, Northshore quietly began working toward approval of a major expansion of the tailings basin. In a tailings basin, tailings are constrained by a combination of topography and constructed dams that are raised in vertical and horizontal sections over time. The 1977 EIS had studied, and the 1985 permit approved, a tailings basin with dams at a maximum height of 1,315 feet above mean sea level. This would ultimately lead to a tailings basin with an area of around 2,800 acres. By the late 2010s the tailings basin dam heights were around 1,240 feet.

   *DNR Response*: EAW Item 6f details changes in ownership after Reserve Mining declared bankruptcy in 1985. *See ¶ 9: 2023 EAW at .pdf 14-15.* This EAW item also provided

information on the permitted maximum height of Dams 1, 2, and 5 as well as their current heights. *Id.* The EAW also indicates that the Proposer updated the estimate of total area to be covered by tailings to be approximately 2,800 acres. *Id. at .pdf 18.*

Information related to this comment, and refuting the inferences associated with this comment suggesting that the Proposed Project is an "expansion," are found in the administrative record for this matter. The DNR specifically draws the commenter's attention to the 1975-76 Final EIS, the 1977 Master Permit, and the 1981 Permit to Mine Application, the latter of which specified the permitted acreage and final dam heights of the Mile Post 7 Tailings Basin. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 8; ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 12; ¶ 29.y: EAW Appendix J23 – 1981 Permit to Mine Application at 48.*

Many commenters, including the MCEA, have referred to the Proposed Project as an "expansion." Characterization of the Proposed Project as an "expansion" of the Tailings Basin is incorrect. The term "expansion" is defined in rule as an "extension" of the capability of a facility to produce or operate beyond its existing capacity[and] excludes repairs and renovations that do not increase the capacity of the facility. Minn. R. 4410.0200, subp. 28.

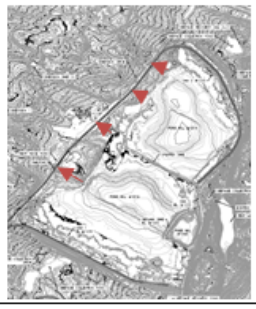
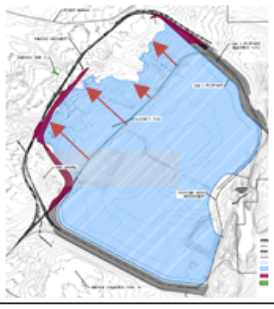
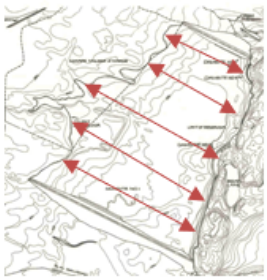
The term "extension" is not defined in Minn. R. 4410.0200 but is defined in Merriam Webster Dictionary as "an enlargement in scope of operation," and the Oxford English Dictionary defines the term extension as "a part that is added to something to enlarge or prolong it, a continuation." These are the definitions of "extension" relied upon to determine whether the Proposed Project constitutes an expansion of the permitted operational tailings storage capacity at Mile Post 7.

The DNR has analyzed Northshore's proposal to use the remaining capacity of the Mile Post 7 Tailings Basin, from both the perspective of acreage and volume of tailings proposed to be stored in the Mile Post 7 Tailings Basin, to determine whether the Proposed Project constitutes an "expansion" pursuant to Minn. R. 4410.0200, subp. 28.

Tailings basins are designed to accommodate tailings production over extended periods of time, often over decades. Consequently, the actual tailings footprint within the basin changes as tailings are delivered for storage in the basin. When DNR issues its Permit to Mine, it permits the total ultimate capacity of the tailings basin and geographic footprint of the tailings basin. Likewise, when DNR receives a request to establish a tailings basin, DNR conducts environmental review on the planned basin footprint recognizing that the actual placement of tailings within the basin (i.e., progression of tailings in the basin) will vary over time.

This was true for Mile Post 7, where the tailings deposited within the site are physically contained by a combination of site topography and three existing dams designated as Dams 1, 2, and 5. These dams were expected to be incrementally constructed or raised over time as tailings were deposited in the basin. Therefore, the ultimate or final dam height coupled with site topography dictates the Tailings Basin's depth and shape over its operating life to full capacity (i.e., maximum volume capacity and area in which tailings may be deposited and where tailings will flow and settle within the basin). This issue was considered in Section 3.4.1.2 of the 2021 DNR ER Need Determination. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 10-14*.

At Mile Post 7, the combination of existing "high" site topography to the west, Dam 5 on the eastern side of the basin, and the continued construction of Dams 1, 2, and 5 to the south, north, and east respectively, has caused tailings deposition area to "spread" or progress upgradient and westward over time. This is expected to continue under the Proposed Project. The westward tailings progression of the total area covered with tailings in the basin is shown on the images below. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 17. See also Response to Comment ¶ 22.G.1.*

| Westward Tailings Progression Over Operational Period | | | |
|---|---|---|---|
| **Circa 1985 to 2005** | **2005 to Present** | **Present Going Forward** | **1975-76 Final EIS** |
| **Approx. Initial Basin Area = 1,680 ac** | **Approx. Current Basin Area = 2,150 ac** | **Approx. Final Basin Area = 2,800 ac** | **Approx. Final Basin Area = 2,950 ac** |
|  |  |  |  |

The total proposed facility area evaluated in the 1975 Draft EIS was 7.6 square miles for both fine and coarse tailings. *See ¶ 29.k: EAW Appendix 10.a – 1975 Draft EIS at 12.* Because of the relationship between the final dam height and the area to be covered by fine tailings, the estimated area to be covered by fine tailings in the 1975 Draft EIS was 4.6 square miles, or ~2,950 acres. Thus, the balance of 3.0 square miles was to be used as a coarse tailings storage and disposal area. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 15-17.* Although the reason was not specified, the total area assigned to the Tailings Basin in the 1975-76 Final EIS was adjusted downward to approximately 6 square miles, or 3,850 acres, from the 7.6 square

miles assessed in the 1975 Draft EIS. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 11*. In addition, the 1975-76 Final EIS did not break out the area assigned for fine tailings disposal, which meant the maximum elevation of tailings deposition of 1,305 ft amsl did not change thus leaving ~2,950 acres allocated for disposal of fine tailings.

The changes made in the 1975-76 Final EIS were incorporated into the 1977 Master Permit. The Tailings Basin permitted by the 1977 Master Permit encompass "approximately six square miles," or ~3,850 acres total. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 2*. Because there was no change in the final dam heights from the 1975-76 Final EIS, this equated to ~2,950 acres allocated for actual disposal of fine tailings under the 1977 Master Permit. There were no modifications to the Tailings Basin acreage made under the 1985 Permit to Mine. *See ¶ 29.y: EAW Appendix J23 – 1981 Permit to Mine Application at 48.*

Section V of the 1977 Master Permit specified "Dams 1 and 2-3…will be constructed to ultimate crest elevation 1,315 mean sea level, over a period of years, according to a predetermined construction schedule." *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 12.* Similarly, Dams 4, 5, and 6 were proposed to be constructed to an ultimate crest elevation of 1,315 mean sea level. *Id.* The 1985 Permit to Mine approved the Tailings Basin with "an average level in the ultimate tailing pond area . . . [at] about elevation 1,305 while the dam crests will be elevation 1,315." *See ¶ 29.y: EAW Appendix J23 – 1981 Permit to Mine Application at 48.* The final dam heights for Dams 1, 2, and 5 would not be modified by the Proposed Project. The height of all three dams remains at 1,315 ft amsl as shown on Figure 1 of the proposed amendment. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND Attachment 1 – Permit to Mine Amendment at 4*. There is no meaningful difference in the dam heights under the Proposed Project and those evaluated in the 1975-76 Final EIS, the 1977 USACE Final EIS, and the 1977 Master Permit and the 1985 Permit to Mine (incorporated by reference through the 1981 Permit to Mine Application).

The Proposer used Lidar-based imagery to provide an updated estimate of the total unused acreage available in the basin up to the 1,305 ft amsl permitted elevation for actual tailings disposal, which allows for a ten-foot freeboard from the final dam height of 1,315 ft amsl. The calculation indicates the Tailings Basin at permitted capacity[4] will cover ~2,800 acres, which is slightly less than the estimates from the 1975-76 Final EIS and 1977 Master Permit. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 15-16*.

Based on this Lidar data, the Mile Post 7 Tailings Basin currently covers ~2,150 acres of the 2,800 acres evaluated in the 1975-76 Final EIS and permitted in both the 1977 Master Permit

[4] The term "permitted capacity" means the capacity permitted by the 1977 Master Permit and the 1985 Permit to Mine and as studied in the 1975-76 Final EIS and the 1975 Draft EIS. This volume is a function of the permitted acreage of the Mile Post 7 Tailings Basin, the permitted height of the Tailings Basin dams, and site topography within the Tailings Basin.

and 1985 Permit to Mine. The Proposed Project, if implemented, would allow Northshore to use the remaining 650 acres of the permitted Tailings Basin for placement of fine tailings. At that point the Mile Post 7 Tailings Basin would reach 2,800 acres out of its originally permitted 2,950 acres of capacity. *Id. at 5.* Approximately 550 acres of surface within the basin under the Proposed Project between the 1,305 ft amsl contour and the base of the relocated West Ridge Railroad would not be covered by tailings. There is no plan to deposit tailings on this remaining 550 acres above the 1,305 ft amsl contour but within the relocated West Ridge Railroad and Dams 1 and 2 extensions. *Id. at 6. See also ¶ 9: 2023 EAW at .pdf 18.* The entire set of operations, including the Tailings Basin, would then undergo reclamation and closure procedures required under the Master Permit and Permit to Mine when the total permitted capacity of the Tailings Basin is reached.

Because Northshore is merely proposing in the Proposed Project to undertake the work necessary to use the 650 acres of previously studied and permitted Tailings Basin, and because this area is within the originally allocated 2,950 total acres to be covered by tailings that were studied in the 1975-76 Final EIS and authorized in the 1977 Master Permit, there is no expansion of the Tailings Basin within the meaning of Minn. R. 4410.4300, subp. 11B.

Although the acres associated with progressing the tailings do not constitute an expansion, it is relevant to consider whether the volume of material proposed to be stored under the Proposed Project constitutes an increase in capacity from that considered in the EIS and subsequent permitting. This issue was considered in Section 3.4.1.3 of the 2021 DNR ER Need Determination. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 14-15.*

The 1975 Draft EIS assumed 20,417,000 long tons of fine tailings would be pumped annually into the Mile Post 7 Tailings Basin over the 40-year operational life of the Mile Post 7 Tailings Basin. This amounts to a total deposition of 816,680,000 long tons of fine tailings over the life of the project. S*ee ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 17.* Although not directly comparable to the 1975-76 Final EIS estimate, the 1977 Master Permit provided the Tailings Basin would eventually store 733,000,000 long tons of "fine and coarse tailings." *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 14*.

The Proposer reports that actual tailings production has not met the original projections of ~20 million long tons per year over the estimated 40-year life of the Tailings Basin. The tailings production rate from 1985 to 2005 ranged from ~4.0-5.3 million long tons per year, resulting in the deposition of an estimated 88,736,000 long tons of fine tailings in the at Mile Post 7 Tailings Basin. Much of this deviation from the original estimate can be attributed to the vagrancies of the steel market over time, including four years of no tailings production while Reserve Mining was in bankruptcy. Since 2005 to the present, fine tailings production has ranged from ~5.5-7.9 million long tons per year, resulting in the placement of an additional ~102,383,000 long tons of fine tailings within the Tailings Basin. In aggregate, the Proposer

estimates that the total volume of tailings deposited at the Mile Post 7 Tailings Basin between 1985 and 2019 is 191,118,000 long tons. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 14-15.*

The Proposer used Lidar-based modeling and disposal data to calculate the remaining volume in the Tailings Basin from a baseline date of May 2019 and assuming a permitted final dam height of 1,315 ft amsl. Based on this analysis, the remaining volume in the Tailings Basin is estimated to be 561,905,000 long tons of tailings. When the volume of existing tailings (119,118,000 long tons) is added to the remaining capacity (561,905,000 long tons), the total volume of tails in the Mile Post 7 Tailings Basin is projected to be 753,023,000 long tons of tailings. *Id. at 15*.

Comparing the values, the original 1975-76 Final EIS estimate of ~820 million long tons of capacity in the basin is greater than the current estimated total volume of ~750 million long tons of tailings capable of being stored in the basin. Therefore, from a volume perspective absent any proposed change in the maximum dam height, there is no expansion in the capacity of the Tailings Basin within the meaning of Minn. R. 4410.4300, subp. 11B. The Proposer states that no change in final dam heights is anticipated. Once the remaining capacity of the basin is filled at a final dam height of 1,315 ft amsl, the Tailings Basin will be reclaimed and closed.

Because Northshore is merely proposing in the Proposed Project to undertake the work necessary to use the 650 acres of previously studied and permitted Tailings Basin, and because this area is within the originally allocated 2,950 total acres to be covered by tailings that were studied in the 1975-76 Final EIS and authorized in the 1977 Master Permit, there is no expansion of the Tailings Basin.[5]

9. *Comment 22.G.9*: In 2017, Northshore requested permission from DNR to raise the tailings basin dams up to an elevation of 1,365 feet, 50 feet higher than the current maximum permitted level. This would have expanded the tailings basin by approximately 850 acres more than contemplated by the initial environmental review and permitting. DNR, without public notice, directed a memorandum to the file in which it noted its decision not to require environmental review of this major expansion project, despite the Minnesota Rules requiring an EAW for expansions of tailings basins of more than 320 acres.

   *DNR Response*: Northshore submitted a Permit to Mine Amendment request in August 2016. *See generally ¶ 28.l: 2016 Northshore ER and Permitting Summary*. DNR as RGU for mining projects conducted the procedures of Minn. R. 4410.3000 and determined preparation of a

[5] For a more detailed discussion of the scope of the 1985 Permit to Mine and 1977 Master Permit. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 86-98.*

supplemental EIS was not warranted in March 2017. *See ¶ 28.m: 2017 DNR ERND*. The 2016 project modification was withdrawn on December 15, 2020. *See generally ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment A – Permit to Mine Amendment.*

The DNR's review of the August 2016 proposal concluded that all but a small amount of newly impacted acreage would occur within the total 7.6 square miles of footprint slated for future tailings deposition, in the form of both coarse and fine tails, assessed in the 1975-76 EIS. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 18.*This was the case even with the requested increase in the final dam height from 1,315 ft amsl to 1,365 ft amsl. *See ¶ 28.m: 2017 DNR ERND at Figure 1 (showing the EIS study boundary)*. Northshore would require a minor alteration to the Permit to Mine disturbance boundary to accommodate proposed new curvature for the West Ridge Railroad at Dams 1 and 2, but this was well below the 320-acre mandatory EAW threshold in Minn. R. 4410.4300, subp.11B. *See ¶ 28.l: 2016 Northshore ER and Permitting Summary at 9*. Absent any substantial departure from the total acreage assessed in the 1975-76 Final EIS, no potential expansion pursuant to the 320-acre threshold was identified.

DNR notes that with the determination that Tailings Basin Features and Stream Mitigation Sites constitute a connected action, the request for environmental review of the Mile Post 7 project elements is addressed through this EAW and this Record of Decision. This means the extensions of Dams 1 and 2, the relocation of the West Ridge Railroad, and some ancillary project infrastructure, have undergone environmental review as provided in the comment.

10. *Comment 22.G.10*: This cleared the way for Northshore to apply for a wetland permit and water quality certification, from the U.S. Army Corps of Engineers and Minnesota Pollution Control Agency respectively, for a project that would expand the tailings basin by approximately 850 acres, up to a dam height of 1,365 feet. Northshore moved forward with permit applications despite repeated objections from environmental organizations that environmental review must be performed before decisions could be made regarding the expansion.

    *DNR Response*: Northshore applied for relevant wetland approvals pursuant to the Minnesota Wetlands Conservation Act (WCA) and US Clean Water Act (CWA) Section 404. DNR is responsible for the former while the USACE is responsible for the latter. *See ¶ 9: 2023 EAW at .pdf 32.* Both requested permits underwent their respective public notice requirements. DNR's Wetland Decision was issued on May 9, 2019, and was based on potential wetland impacts resulting from: 1) relocating the West Ridge Railroad; 2) extending Dams 1 and 2; and 3) continued progression of tailings in the remaining capacity in the Tailings Basin. *See generally ¶ 29.h: EAW Appendix J8 – DNR WCA Notice of Decision.*

The Proposed Project is not an expansion. *See Response to Comment ¶ 22.G.8.* Regardless, with the determination that Tailings Basin Features and Stream Mitigations Sites constitute a connected action, the concern for environmental review of the Tailings Basin Features project elements is addressed through this EAW and this Record of Decision.

11. *Comment 22.G.11*: In June 2021, DNR responded to the environmental organizations' concerns by providing an internal memo in which DNR again declined to order environmental review for an expansion of the Mile Post 7 tailings basin. But according to the memo, the project Northshore was proposing had changed – now, Northshore was proposing to extend Dams 1 and 2, relocate a rail line, and develop a new clay borrow site, but not to raise the dam heights above 1,315 feet or to extend the tailings basin beyond the 2,800 acres contemplated by the permits. On this basis, DNR asserted that no environmental review was needed for the project because it had been covered by the 1970s environmental review. No explanation was made for why DNR was discussing only a smaller project, or whether Northshore still intended to seek approval of the larger project, separately or in the future.

    *DNR Response*: Northshore withdrew its proposal to raise the final dam heights by 50 additional feet when it submitted a revised Permit to Mine Amendment in December 2020. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment A – Permit to Mine Amendment.* At that time DNR reopened consideration of potential environmental review requirements, and in doing so the RGU is obligated to consider the project before it, which in this case was the subject of a Northshore request to amend the Permit to Mine for Mile Post 7. As RGU for mining projects, DNR conducted the analysis required by MEPA and Minn. R. ch. 4410 to determine whether a mandatory EAW or a supplemental EIS was required for the proposed project. *See generally ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND*. *See also Response to Comment ¶ 22.G.9*.

12. *Comment 22.G.12*: Concerned by the lack of environmental review of the expansion and the unclear scope of the project, in November 2021, MCEA and WaterLegacy filed petitions requesting an Environmental Assessment Worksheet for the Mile Post 7 Expansion (EAW Petitions).

    *DNR Response*: The stated reasons for filing the 2021 petitions are not relevant to adequacy of the current EAW. For purposes of clarity, the DNR notes that the EQB assigned the two petitions to DNR as RGU for mining-type projects in November and December 2021 respectively. Accordingly, DNR analyzed the petitions in accordance with the requirements of Minn. R. 4410.1100, which outlines the petition process. *See generally ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD.*

13. *Comment 22.G.13*: The EAW Petitions argued that the expansion triggered a mandatory EAW because it was an expansion of a tailings basin of more than 320 acres, pursuant to Minn. R.

4410.4300, subp. 11(B), or because the stream diversion of Big 39 Creek and Little 39 Creek, pursuant to Minn. R. 4410.4300, subp. 26.

*DNR Response*: As set forth in further detail in Response to Comment ¶ 22.G.8, the Proposed Project is not an "expansion" within the meaning of Minn. R. 4410.0200, subp. 28. As set forth in further detail in Response to Comment ¶ 22.G.16, the remnant reaches of Big Thirtynine and Little Thirtynine Creeks identified in the petitions were: 1) neither designated trout streams; nor 2) had contributing watersheds greater than 10 square miles.

14. *Comment 22.G.14*: The EAW Petitions also argued the Mile Post 7 Expansion had the potential for significant environmental effects because of potential dam safety issues, and that the existence of nearly 50-year-old EISs did not allow Northshore to avoid environmental review for the currently planned expansion.

    *DNR Response*: As set forth in further detail in Response to Comment ¶ 22.G.8, the Proposed Project is not an "expansion" within the meaning of Minn. R. 4410.0200, subp. 28.

    DNR's Record of Decision on the EAW petitions speaks for itself. *See generally ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD.*

15. *Comment 22.G.15*: In February 2022, DNR denied the EAW Petitions in an 82-page order. DNR stated that increases in dam height were no longer being sought by Northshore, and accordingly the 1970s environmental reviews covered the proposed expansion. DNR also stated that its ongoing regulatory authority over the tailings basin would mitigate any potentially significant environmental effects. Ultimately, DNR concluded there was no potential for significant environmental effects from the expansion of the tailings basin.

    *DNR Response*: DNR's Record of Decision on the EAW petitions speaks for itself. *See generally ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD.*

16. *Comment 22.G.16*: In March 2022, however, DNR published an EAW for Big 39 and Little 39 Creek Mitigation, based on the mandatory category for stream diversion, even though DNR had asserted in the February 2022 order denying the EAW Petitions that the stream mitigation did not trigger a mandatory EAW.

    *DNR Response:* The comment is incorrect. Neither petition raised the issue of potential environmental review requirements that may be applied to the six stream mitigation sites required by the USACE and MPCA for impacts to the remnant stream reaches in the Tailings Basin. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 15c, 58e*. Rather, the petitions and associated material evidence questioned whether potential impacts to the remnant portions of Big and Little Thirtynine Creeks triggered mandatory environmental review. *Id*.

Petitioners first alleged that stream impacts from the relocation of the West Ridge Railroad and planned progression of tailings alone would require preparation of a mandatory EAW because these stream reaches were designated trout streams. This is because the diversion, realignment, or channelization of any designated trout stream requires preparation of a mandatory EAW under Minn. R. 4410.4300, subp. 26. *Id. at ¶ 151*. DNR found that the trout stream designation for the remnant stream reaches identified in the petitions had been rescinded and reapplied to the previously constructed diversions to the Beaver River, thus preparation of a mandatory EAW was not required under the cited rule. *Id. at ¶¶ 152-153.*

Petitioners second alleged the Proposed Project would affect greater than 500 feet of natural watercourse with a total drainage area of ten or more square miles. *Id. at ¶¶ 154-155*. DNR found that the remnant reaches do not have a total drainage area of ten or more square miles. This was because the construction of Dikes 1 and 2 in the late 1970s isolated these remnant streams from their upper watersheds at the time. *Id.*

Although not raised in the petitions, DNR identified that impacts to the remnant portions of Big Thirtynine Creek and Little Thirtynine Creek were subject to USACE CWA Section 404 jurisdiction, which also required an MPCA CWA Section 401 Water Quality Certification. Mitigation for impacts was to be accomplished by completing six functional stream restorations, two actions every other year over six years, at locations specified by the agencies. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 271.* DNR's petitions Record of Decision considered whether the six functional stream restoration projects would be considered phased actions to the Tailings Basin project pursuant to Minn. R. 4410.1000, subp. 4. Because the timing of the Tailings Basin project relative to the schedule, location, and likely activities to be conducted for the stream mitigation projects limited the potential for environmental effects on the same geographic area, the stream mitigation projects were not identified as phased actions as defined under Minn. R. 4410.0200, subp. 60. *Id. at ¶ 54*. Similarly, DNR considered the potential for cumulative environmental effects between the Tailings Basin Features and the Stream Mitigation Sites and determined that given the measures designed to minimize adverse impacts required by MPCA's CWA Section 401 Certification, there was little or no potential for measurable cumulative effects, especially given the relatively small scale of actions associated with the stream restoration projects. *Id. at ¶¶ 271-275.*

17. *Comment 22.G.17*: MCEA commented that the Mile Post 7 Expansion was a "connected action" to the stream mitigation project, and that DNR was required to include information about the Mile Post 7 Expansion in the EAW.

    *DNR Response*: As set forth in further detail in Response to Comment ¶ 22.G.8, the Proposed Project is not an "expansion" within the meaning of Minn. R. 4410.0200, subp. 28.

When Northshore submitted the completed data portions of the EAW for two of the six identified stream mitigation sites, DNR initiated the procedures under Minn. R. 4410.1400, subp. B, and subsequently published the mandatory EAW for public review and comment. *See generally ¶ 28.n: 2022 Stream Mitigation EAW.* That EAW (at Item 21b) identified that the Mile Post 7 Railroad Relocation and Dam Construction Project was a reasonably foreseeable future project. *Id. at 33*. That EAW, however, did not identify any phased or connected actions for the two stream restoration projects when it was published. *Id. at 34*.

After the release of the 2022 Stream Mitigation EAW for public review and comment, the DNR in response to MCEA's comment reconsidered the relationship of all six stream mitigation projects along with the proposed dam extensions, relocation of the West Ridge Railroad, and development of a new clay borrow site at the Mile Post 7 Tailings Basin. Although there is likely some question as to whether the stream restoration projects (single or in total) are a connected action to themselves or the project at the tailing basin facility, DNR ultimately determined that the entire set of stream restoration projects, along with the proposed Mile Post 7 actions, were connected actions and environmental effects of all these actions needed to be assessed in a single EAW. In assessing the new information on the mitigation projects and the Tailings Basin, DNR therefore looked to analyze the Proposed Project as a whole in accordance with the criteria set forth in Minn. R. 4410.1700, subp. 7, and the substantial evidence contained in the administrative record for this matter.

Once DNR identified the potential connected actions, Northshore withdrew the 2022 Stream Mitigation EAW to allow for newly available information to be considered in a more completely defined project and thus more robust EAW. This was done to ensure the mandatory EAW described a complete project pursuant to Minn. R. 4410.1000, subp. 4. This was possible because the preliminary engineering designs for the remaining four stream mitigation sites had been formulated, plus additional design detail had been developed for the proposed Tailings Basin activities, that allowed for environmental review of a more complete project in one EAW to be conducted rather than multiple EAWs. *See ¶ 28.o: 2022 Stream Mitigation EAW Termination Letter.* The Proposed Project evaluated in the current EAW and subject to this Record of Decision satisfies any connected action requirement under the cited rule.

18. *Comment 22.G.18*: A month later, MCEA and WaterLegacy sent a letter to DNR Commissioner Sarah Strommen stating that (1) DNR must require Northshore to apply for dam safety permits for Mile Post 7's dams; (2) DNR must set a term for the Northshore Permit to Mine and the Mile Post 7 dam safety permits; (3) DNR must review Northshore's financial assurance for the Mile Post 7 closure; and (4) DNR must disclose and update the dam break analysis for Mile Post 7. DNR did not respond to the letter.

*DNR Response*: The correspondence was submitted outside any public comment period for the Proposed Project, however the issues raised in the letter are addressed in this Record of Decision and supporting record. *See ¶ 28.p: 2022 MCEA-WL Letter to DNR*.[6]

19. *Comment 22.G.19*: DNR did, however, withdraw the March 2022 Big 39 and Little 39 Creek mitigation EAW at Northshore's request in order to add new data, "including actions proposed at the Mile Post 7 tailings disposal facility."

    *DNR Response*: See Response to Comment ¶ 22.G.17.

20. *Comment 22.G.20*: In April 2023, DNR issued the present EAW, which covers not only stream mitigation projects, but also changes proposed for the tailings basin "in order to use the remaining portions of the Tailings Basin." The EAW explains that the activities that collectively constitute "the Project" include two components: (1) the changes required to allow the tailings basin to be used to its maximum permitted capacity, including the relocation of a railroad line, the extension of two dams, construction of a rail switchback, and the excavation of clay from borrow pits for dam construction; and (2) stream mitigation projects required by the filling of the entirety of the permitted tailings basin.

    *DNR Response*: This comment briefly summarizes the information contained in EAW Item 6b, which breaks out the Proposed Project into the "Tailings Basin Features" and "Stream Mitigation Sites." *See ¶ 9: 2023 EAW at .pdf 12*. DNR takes the opportunity to further clarify information in the EAW by noting that the stream mitigation projects were also required for remnant stream impacts due to the proposed relocation of the West Ridge Railroad and the extension of Dam 1. *Id. at .pdf 66.*

21. *Comment 22.G.21*: DNR must order an EIS if the Mile Post 7 Expansion has the "potential for significant environmental effects." In making this determination, DNR must consider the

    A. type, extent, and reversibility of environmental effects;
    B. cumulative potential effects…
    C. the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. … and

[6]The issues identified in the letter are addressed as follows in this Record of Decision:

1) DNR must require NSM to apply for dam safety permits for Mile Post 7's dams; see Response to Comment ¶ 22.B.5.
2) DNR must set a term for the NSM permit to mine and Mile Post 7 dam safety permit; see Responses to Comments ¶ 22.G.65; 22.E.2.
3) DNR must review NSM's financial assurance for Mile Post 7 closure; see Response to Comment ¶ 22.G.66.
4) DNR must disclose and update the dam break analysis for Mile Post 7; see Response to Comment ¶ 22.B.3.

D. the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority … including other EISs.

If DNR decides that "information necessary to a reasoned decision about the potential for, or significance of, one or more possible environmental impacts is lacking, but could be reasonably obtained," DNR must order an EIS or postpone the decision on the need for an EIS in order to obtain the lacking information.

*DNR Response*: In determining whether to order an EIS, the DNR agrees that it must determine whether the "project has the potential for significant environmental effects." This requires DNR as RGU to consider the factors set forth in Minn. R. 4410.1700, subp.7.

22. *Comment 22.G.22*: In this case, because of the significant – in fact, potentially catastrophic – environmental effects that would result from a breach of the Mile Post 7 tailings basin's dams, DNR must order an EIS or, at a minimum, supplement the EAW to add information on the safety of the Mile Post 7 dams and the consequences of their failure.

*DNR Response*: The Mile Post 7 Tailings Basin dams do not have the potential for significant environmental effects because any risks of dam breach are anticipated and controlled by the dam safety requirements in the Master Permit and documented in the Five Year Operation Plan(s). EAW Item 6b includes current dam safety information as reported in the 2019-2023 Five Year Operation Plan approved by DNR, where the EAW specifically notes that "[t]he current Factors of Safety for the Mile Post 7 dams exceed the DNR minimum values." *See ¶ 9: 2023 EAW at .pdf 6.* EAW Item 6b also notes that instrumentation, such as piezometers and inclinometers, would be installed at selected locations to monitor the integrity of the dam extensions for dam safety purposes. *Id.* Furthermore, EAW Appendix A.2 provides select cross-sections of the proposed extensions of Dams 1 and 2. Although not designed to provide detail to assess dam stability, these cross-sections do provide insight in how the extensions would be constructed. *See ¶ 9.x: 2023 EAW Appendix A.2 at 1-4*. Dam safety information for the Proposed Project must be provided in the 2024-2028 Five Year Operation Plan for DNR to review and approve before the Proposed Project can proceed. *See ¶ 9: 2023 EAW at .pdf 32.* Finally, DNR is requiring the Master Permit to be renewed for the project to proceed. *See ¶ 28.b: 2023 DNR Correspondence to Northshore*.

DNR required a dam break analysis as a component of the facility EAP prepared in 2022. The 2022 EAP addresses catastrophic failure for Dams 1, 2, and 5 as if it occurred in 2023. S*ee generally ¶ 28.d: 2022 EAP*. If the Proposed Project goes forward, then DNR would require an updated EAP to provide a new dam break analysis as part of the 2024-2028 Five Year Operation Plan; this would be prepared in 2027 to project conditions in 2028 and reflect the most up-to-date information for the dam construction authorized under the plan. The updated 2022 EAP projects conditions between the years 2019 to 2023 to align with the

current 2019-2023 Five Year Operation Plan. According to the plan, it "includes an assessment of mobilized tailings in a hypothetical dam failure by in-depth analyses and evaluations of site-specific material parameters, key geotechnical variables, credible failure modes, and by investigating potential deposition of plant aggregate and fine tailings as breach flood waves run out of the basin." *Id. at E-1. See also Responses to Comments ¶¶ 22.D.11, 22.G.23, 22.G.28, 22.G.48.*

23. *Comment 22.G.23*: A collapse of the tailings basin undoubtedly would have significant environmental effects. As the 1976 EIS hearing findings explain, a failure of a 1,000-foot section of the south dam "would produce a wall of water twenty-eight feet high traveling at over 20 miles per hour down the Beaver River valley to Lake Superior" and "would frustrate the sole objective of its construction, the termination of tailings disposal in Lake Superior."

    *DNR Response*: The comment accurately states one of the findings of the Hearing Officer for the 1975-76 Final EIS. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 29*. Although not specifically cited, the 1975 Wahler Report did address the issue, which was available to the DNR and MPCA as lead responsible parties for the EIS and subsequent permitting. In its treatment of potential dam failure, the 1975 Wahler Report described likely impacts of a dam breach at a dam elevation of 1,280 ft amsl, which was the final dam elevation originally proposed for the project. The report identified likely: flowpaths; damage to roads and electrical infrastructure; impacts to streams and Lake Superior; and damage to buildings and structures. Because Dam 1 would be the absolute tallest of the principal dams, it would have the greatest potential to release impounded material (inferred as fine tailings). *See ¶ 28.j: 1975 Wahler Report at III: 66-68. See also Responses to Comments ¶ 22.D.7, 22.G.53.*

    Since then, the understanding of the consequences of a dam break at Mile Post 7 have improved significantly, especially through development of the 2012 and 2022 EAPs, both of which include modern dam break analyses. *See ¶ 28.d: 2022 EAP at E-1 to E-85, Exhibits 1-6*. There has been no survey of potentially impacted businesses, homes, structures, or other facilities that occur in the likely flowpaths for the EAW; this is beyond the scope of an EAW. However, the 2022 EAP's dam break analysis has done this by identifying structures and assessing potential inundation or other impacts for both habitable and non-habitable structures. The most recent building footprint data was from 2018, which was compared with visual imagery data from 2019 and Lake County parcel data from 2020. *Id. at E-7*. *See Responses to Comments ¶¶ 22.G.25, 22.G.48-50.*

24. *Comment 22.G.24*: The devastating effects would be intensified by the Mile Post 7 Expansion, which would add nearly 562 million tons or tailings to the basin.

*DNR Response*: The Proposed Project is not an expansion within the meaning of Minn. R. 4410.0200, subp. 28. *See Responses to Comments ¶¶ 22.B.2, 22.G.8. See also ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 61-91*.

DNR notes because the dams are partially constructed from their original specifications, constructing the remaining part does not constitute an expansion but rather represents bringing the facility to completion. Of further note is that it will take many years for the Dam 1 extension to occur as it will be incrementally constructed with each dam raise; this is also the case for the proposed Dam 2 extension. Regarding the remaining amount of tailings entrainment capacity, this is a function of the completing construction of the remaining balance of permitted dam raises to allow for the originally planned amount of tailings storage permitted in the Master Permit and Permit to Mine.

25. *Comment 22.G.25*: The first question, therefore, is whether the potential exists for these environmental effects to occur. This means the EAW must evaluate how safe the dams would be after the Mile Post 7 Expansion to determine whether the potential exists for the significant environmental effects that would arise from a dam breach.

    *DNR Response*: All available evidence indicates the existing dams at Mile Post 7 are exceeding DNR's minimum Factors of Safety and would continue to do so under the Proposed Project. The most recent analysis approved by DNR is found in Tables 3, 4, and 5 of the 2019-2023 Five Year Operation Plan. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment 8 at 91-93*. These tables provide the computed factors of safety for various scenarios for Dam 1, 2, and 5 respectively. The Slope Location and Material Configuration for various pond scenarios is provided for the following parameters: ESSA; ESSA Block Failure; USSA, Fine Tailings Yield Strength; USSA, Fine Tailings Yield Strength, Block Failure; USSA, Fine Tailings Liquefied Strength; and USSA, Fine Tailings Liquefied Strength, Block Failure. DNR's minimum Factors of Safety are exceeded for all parameters. *Id.*

    For the Proposed Project, EAW Item 6b indicates that instrumentation, such as piezometers and inclinometers, would be installed to collect information to assess geotechnical stability with each dam raise. *See ¶ 9: 2023 EAW at .pdf 6.* DNR also requires dam break analysis as a component of the facility EAP. The 2022 EAP addresses catastrophic failure for Dams 1, 2, and 5 as if it occurred in 2023. If the Proposed Project goes forward, DNR would require an updated EAP in 2027 to provide a new dam break analysis to align with the 2024-2028 Five Year Operation Plan. *See Response to Comment ¶ 22.B.3.*

    Finally, geotechnical assessments are included in each Five Year Operation Plan for the design condition at the end of that five year period. The geotechnical assessments utilize the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment. The assessments show whether the dam configuration at

the end of that five-year period meets or exceeds the relevant Factors of Safety. If it does not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety. If DNR determined that the design of the dams was unsafe, then it would not approve the Five Year Operation Plan.

26. *Comment 22.G.26*: The EAW, however, contains absolutely no information whatsoever regarding dam safety or the risk of collapse.

    *DNR Response*: The comment is incorrect. *See Response to Comment ¶ 22.G.22.*

27. *Comment 22.G.27*: Although the EAW form does not have a specific question with regard to dam safety, question number 22 asks whether there are any other potential environmental effects from the project, and the EAW simply states, "No other potential environmental effects have been identified."

    *DNR Response*: The comment incorrectly implies that dam safety was not identified in the EAW. In fact, contrary to the comment, the EAW does address dam safety in EAW Item 6b regarding: instrumentation; Factors of Safety; Master Permit; Five Year Operation Plan; daily facility monitoring; and High Risk dam classification. *See ¶ 9: 2023 EAW at .pdf 6, 19, 32*. Furthermore, DNR's review of the most recent round of geotechnical evaluations of Dams 1 and 2, subject to extension under the Proposed Project, indicate that both dams are robust and exhibiting Factors of Safety well above recommended levels. *Id. at .pdf 6*.

28. *Comment 22.G.28*: This is surprising, as the earlier EAW Petitions both identified the risk of a dam breach as a potentially significant environmental effect and submitted an expert report explaining some of those risks. DNR asserted in its order denying the EAW Petitions that the effects of a dam breach had been studied in the 1970s-era environmental reviews, and that any such effects would be mitigated by DNR's ongoing regulatory authority under Mile Post 7's Permit to Mine, Master Permit, and oversight under DNR's Dam Safety Program. But the risk of dam breach remains an identified potentially significant environmental effect that should have been publicly studied in the EAW so that the public could see, and comment on, the information.

    *DNR Response*: An RGU is not required to undertake environmental review on the basis of speculative information. *Reserve Mining Co. v. Herbst,* 256 N.W. 2d 808, 829-30 (1977) (holding that consideration of alternatives is unnecessary where potential impacts are remote). DNR has required Cliffs to complete a recent dam breach analysis for the Mile Post 7 Tailings Basin dams. DNR is not required, however, to order an environmental impact statement to address the possible impacts of a speculative dam failure. "Potential" effects of a proposed project must be more than remote possibilities. Minn. R. 4410.1700, subp. 7. In

determining the need for an EIS, an agency need only address impacts that are "reasonably expected" to occur. Minn. R. 4410.1700, subp. 6. The Proposer, with oversight by the state, has regularly taken steps to assure the safety of the Mile Post 7 dams. The risk of dam failure at the Mile Post 7 Tailings Basin dams is demonstrably addressed through ongoing application of design and safety requirements, coupled with ongoing monitoring and continuous reassessment.

Regarding the treatment of a potential dam breach in the 1970s-era environmental reviews, see Responses to Comments ¶¶ 22.D.7, 22.G.23.

DNR notes that maintaining dam stability is an iterative, continuous process that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life. This allows the design engineers and regulators to tailor the next round of future construction to the geotechnical conditions of the present, to anticipate any future concerns, to incorporate best science, and to address these factors no matter the dam construction method. In addition, this incremental approach allows for a good understanding of geotechnical results of past construction/design actions, especially their effectiveness for similar potential application in the future. Such an approach is applicable to any Class 1 dam, not just Dams 1, 2, and 5 at Mile Post 7. The most recent example of this iterative approach is the 2019-2023 Five Year Operation Plan, with the next opportunity to evaluate the performance of the dam raises constructed to date, and the next proposed raise(s) in the 2024-2028 Five Year Operation Plan.

29. *Comment 22.G.29*: In fact, there are significant risks related to dam safety that DNR has either not acknowledged or not fully evaluated, including four risks identified in the expert report submitted with this comment: (1) the risk that the dams will fail because they are in part constructed on top of the very tailings they are meant to confine; (2) the risk of toe lift or slope instability, (3) the risk of the reclaim dam collapsing, and (4) the risk of continuing malfunctioning or absent instrumentation. Before DNR can determine whether the Mile Post 7 Expansion has the potential for significant environmental effects, it must evaluate how safe the dams at the tailings basin will be after the expansion, including looking at these four risks.

    *DNR Response*: The Proposed Project is not an expansion. *See Response to Comment ¶ 22.G.8.*

    Geotechnical assessments are included in each Five Year Operation Plan for the design condition at the end of that five year period. The geotechnical assessments utilize the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment. The assessments show whether the dam configuration at the end of that five-year period meets or exceeds the relevant Factors of Safety. Repeated assessments are necessary because maintaining dam stability is an iterative, continuous

process that is assessed with each dam raise on a prescribed schedule (through the Five Year Operation Plans), not at the end of a facility's operational life.

30. *Comment 22.G.30*: First, DNR must study the risks of a dam breach that arise from the fact that portions of the dams at Mile Post 7 were built on top of the fine tailings they were intended to confine. This makes them more unstable. No environmental review has ever studied the risk of these dams – the 1970s-era environmental review evaluated the risks of more stable downstream dams, not the riskier types of dams constructed at Mile Post 7.

    *DNR Response*: The Proposer completed geotechnical assessments that affirmed the degree of tailings compaction over time at both Dams 1 and 2 that assessed the measured properties of the dam construction materials themselves within the dam and foundation, as well as the slopes and configuration of the embankment. Materials that were assessed include foundation till, plant aggregate, filter material, select sand/gravel, lacustrine clay, and the fine tailings component (raised in the comment). Material properties are determined through testing, both in situ and in the lab. In situ data collection occurs through cone penetration test or CPT soundings, which is a standard means of determining the geotechnical properties of soils and delineating soil stratigraphy. The material properties, their boundaries, and the configuration of the dam are then input into a computer model to analyze the least robust cross section of the dam. Specifically:

    Dam 1. The geotechnical engineering report for Dam 1 was completed in 2013. *See generally ¶ 28.q: 2013 Dam 1 Stability Report*. The loading conditions included ESSA and USSA, with the latter evaluating Undrained Conditions for both yield strength and liquefied strength. *Id. at 4-6*. Strength parameters for fine tailings evaluated were yield undrained shear strength, liquefied undrained shear strength, and drained shear strength. *Id. at 9-16*. Appendix D lists the triggering potential analysis for 12 locations on Dam 1 based on CPT data. *Id. at D-1 through D-12*. The report concluded as to assessing slope stability, "CPT data indicate the fine tailings are not susceptible to liquefaction as shown in Appendix D." *Id. at 19*.

    Dam 2. The geotechnical engineering report for Dam 2 was completed in 2016. *See generally ¶ 28.r: 2016 Dam 2 Stability Report*. The loading conditions included ESSA and USSA, with the latter evaluating Undrained Conditions for yield strength, liquefied strength, and end of construction. *Id. at 5-7*. Strength parameters for fine tailings evaluated were undrained shear strength, liquefied undrained shear strength, and drained shear strength. *Id. at 12-19*. Appendix D lists the triggering potential analysis for 12 locations on Dam 2 based on CPT data. *Id. at D-1 through D-6*. The report also concluded as to assessing slope stability, "CPT data indicate the fine tailings are not susceptible to liquefaction as shown in Appendix D." *Id. at 23*.

The 2019-2023 Five Year Operation Plan presented the stability results using the liquefied strength of fine tailings materials, with the assumption that all the fine tailings are potentially liquefiable. Both Dams 1 and 2 had factors of safety well above the minimum acceptable factors of safety using these conservative assumptions and without the assumption of additional compaction or consolidation of the material with time. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 20-22*.

31. *Comment 22.G.31*: Tailings basin dams can be constructed in several ways, which have different costs and risks. In the downstream method of construction, each subsequent raise of a dam wall is sloped in a downstream direction, away from the contents of the dam. This is the safest method of construction, as there are no uncompacted tailings below the dam that are at risk of liquefaction, but it is also the most expensive because of the amount of material required to build the dam walls. In upstream dam construction, by contrast, the tailings dam is constructed out of coarse tailings placed on top of the uncompacted fine tailings that the dam is confining. This construction method is cheaper, because only moderate compaction of a smaller amount of material is required. It is also the least secure method for dam construction because it "relies on the stability of the tailings themselves as a foundation for dam construction." Finally, in centerline construction, subsequent raises of the dams are built directly on top of each other, resting both on uncompacted tailings and the downstream slope of the previously built dam wall. This method is less stable than a downstream dam, but more stable than an upstream dam.

    *DNR Response*: DNR acknowledges this narrative is generally correct. However other factors, such as the potential for seismic activity or topography, also influence the risk profile for any given structure at a specific site along with construction materials, costs, and construction method (i.e., upstream; downstream; centerline; offset upstream/modified centerline). Managing this risk (regardless of construction method) is accomplished through ongoing, iterative geotechnical assessment that models the material properties within the dam and foundation as well as the slopes and embankment configuration. For Mile Post 7 this is documented through the DNR review and approval of the Five Year Operation Plan(s) along with the daily, monthly, and annual monitoring requirements and reporting. *See Response to Comment ¶ 22.B.4.*

    Regardless of construction method, the assessments show whether the Mile Post 7 dams meet or exceed the relevant Factors of Safety. If they do not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety as documented in the Five Year Operation Plan.

Finally, the Proposed Project would employ the centerline method of dam construction for the extensions of Dams 1 and 2, which presents a different risk profile than the construction method used at the main dams.

32. *Comment 22.G.32*: Originally, the Milepost 7 tailings basin dams were designed to be raised using the downstream method of construction, and it is this construction method that was studied in the 1976 and 1977 EISs. In fact, both EISs specifically contrasted the safer downstream method that was planned for the facility with the less safe upstream method. But this plan changed. In 1997, Northshore changed its construction for Dams 1 and 2 to the upstream method. Then in 2003, DNR has asserted, the construction method shifted again to "modified centerline or offset upstream." This means, according to DNR, that the dams were constructed "on a lift of fine tailings that are upstream of the starter dam." A study of the construction of Dams 1 and 2 demonstrates these changes, indicating that the dams were first constructed as starter dikes, then raised in an upstream direction, and finally topped with centerline raises on the upstream dams, which are on top of the fine tailings.

    *DNR Response*: The 2022 DNR Record of Decision provides detail and information on the history of dam construction at Mile Post 7 tailings facility. Of note Northshore restarted tailings deposition into the basin in the mid-1990s after several years of dam closure activities due to Reserve Mining's bankruptcy. Transitioning from closure back to tailings production was the predicate to the shift to current construction methods (in place since 2003). It is not unusual for the construction methods to vary over the life of a facility. With the dams at Mile Post 7, construction methods varied from: 1) the initial starter dams to the main dams in the 1980s; 2) closure activity in the early 1990s; 3) restart activities in the late 1990s; and 4) and then to current methods from the early 2000s to present. The construction method is proposed to shift (partially) again with the Proposed Project relying exclusively on the centerline construction method for the dam extensions (while the main dams would continue to be constructed using the modified centerline or offset upstream method). Regardless of construction method, geotechnical stability is assessed continuously through the review of the Five Year Operation Plans, and ongoing monitoring, inspections, and reporting, all of which would continue under the Proposed Project that requires DNR review and approval of the 2024-2028 plan before the Proposed Project can commence with subsequent new dam raises. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 167, 170, 172-173.*

33. *Comment 22.G.33*: In the order denying the EAW Petitions, DNR strenuously objected to the tailings basin dams at Mile Post 7 being referred to as "upstream dams." There is no question as to why Northshore would not want the dams so characterized. Upstream construction has been criticized by a number of mining and dam construction organizations, including the Society for Mining, Metallurgy and Exploration and the International Commission on Large Dams, and banned in Brazil, Chile, Peru, and Ecuador. Because the design places dam walls on top of uncompacted fine tailings, upstream dams are especially vulnerable to failure by

liquefaction, in which the tailings that constitute the dam wall lose their strength and behave like a liquid. If the underlying tailings liquefy, "the dam could fail by either falling into or sliding over the liquefied tailings." And liquefaction becomes a greater concern for upstream dams as dam height increases. For these reasons, the Surface Mining Handbook by the Society for Mining, Metallurgy, and Exploration from February 2023 denounces upstream construction, explaining that it "has been utilized in many of the most serious [tailings basin] failures [even though] the dangers of failure inherent with the upstream method have been recognized for many decades." And the Safety First: Guidelines for Responsible Mine Tailings Management from Earthworks and Mining Watch concludes unequivocally: "Because of the demonstrated risk associated with upstream dam construction, upstream dams must not be built at any new facilities … Expansion of existing upstream tailings facilities must cease, and these facilities must be safely closed as soon as possible."

*DNR Response*: Regarding calls for upstream dam construction to cease for new facilities, with such existing facilities to be closed, no such mandate has become law in the United States or Minnesota. *See Response to Comment ¶ 22.G.31.* The Proposed Project would not utilize the upstream construction method.

Regardless of construction method, the assessments show whether the Mile Post 7 dams meet or exceed the relevant Factors of Safety. If they do not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety as documented in the Five Year Operation Plan. DNR will not approve a Five Year Operation Plan that does not meet the appropriate Factors of Safety.

34. *Comment 22.G.34*: To distance Mile Post 7 from these concerns, DNR insists that the Mile Post 7 dams do not meet the "classical definition of an upstream dam." But because modified centerline construction still includes construction of the dam on top of uncompacted tailings, the design must still be considered a type of upstream dam. Even a centerline raise constructed on top of an existing upstream dam constitutes an upstream dam. But the issue here is not the exact definition of "upstream" or "modified centerline" or "offset upstream" construction methods. Regardless of what the dams are called, the fact is that "Dams 1 and 2 share the feature that causes the greater vulnerability to failure of upstream dams, which is the construction of dikes on top of uncompacted tailings." This makes them more likely to fail. Accordingly, the safety of these dams merits further study before they are extended – particularly because only downstream, not upstream, modified centerline, or offset upstream, dams were considered in the 1970s EISs.

*DNR Response*: See Response to Comment ¶ 22.G.25.

35. *Comment 22.G.35*: DNR also has asserted that the Mile Post 7 dams are stable, despite being built on top of fine tailings like an upstream dam, because the underlying tailings have compacted over time. However, DNR presents no evidence for this assertion. In fact, in many cases tailings have failed to significantly compact even half a century after they were deposited in a basin, and there is no reason to believe the tailings at Mile Post 7 have done so. Because of the safety concerns associated with dams built on top of the fine tailings they are intended to confine – as Dams 1 and 2 at Mile Post 7 undisputedly are – environmental review must consider the potential for a dam breach related to the Mile Post 7 Expansion.

    *DNR Response*: See Responses to Comments ¶¶ 22.C.9, 22.G.30.

36. *Comment 22.G.36*: Second, DNR must examine the potential of a dam breach at Mile Post 7 through the mechanisms of toe uplift or slope instability under undrained loading. The EAW mentions neither of these possibilities.

    *DNR Response*: The entire structure, including the dam extensions under the Proposed Project, would be continuously assessed for potential slope instability due to liquefaction and associated variables, including toe uplift. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 27*. The information collected around toe uplift is subsequently factored into the modeling that assesses the Factors of Safety under various scenarios using both an Effective Stress Stability Analysis or ESSA, and an Undrained Strength Stability Analysis or USSA. These test scenarios include various iterations around block failure, fine tailings yield strength, and liquefied strength. Thus, analysis for seepage and stability is based on the actual field conditions independent of dam construction type. DNR accepts the following values for minimum Factors of Safety: ESSA = 1.50; USSA = 1.30; and liquefied = 1.10. Tables 3, 4, and 5 of the 2019-2023 Five Year Operation Plan provide the Computed Factors of Safety for Various Scenarios for all three dams at Mile Post 7. *Id. at 19-26*. The current Factors of Safety for the Mile Post 7 dams exceed the DNR minimum values. *See ¶ 9: 2023 EAW at .pdf 6*.

37. *Comment 22.G.37*: "Toe uplift" occurs when "seepage forces from groundwater emerging downstream of the dam are strong enough to lift the toe of the dam," i.e., the point where the downstream face of the dam meets the ground. This is a danger at dams with clay foundations – like the dams at Mile Post 7 – and it can lead to dam failure when the bottom of the dam is pushed upward. The widely recognized acceptable factor of safety against toe lift for a dam is 1.5, as recognized by Barr Engineering, the consultant that calculated factors of safety for the dams at Mile Post 7. But the factors of safety against toe lift calculated by Barr Engineering for Dams 1, 2, and 5 from a seepage model all were below this acceptable number. At an elevation of 1,215 feet above sea level, Barr calculated the factors of safety at 1.04 for Dam 1, 1.48 for Dam 2, and 1.20 for Dam 5. At the dams' planned ultimate elevation, Barr calculated factors of safety of .97 for Dam 1, 1.43 for Dam 2, and in a later analysis, 1.04 for Dam 5. Barr recognized that that the 1.04 factor of safety was "unacceptable." Using

standard language for dam safety analyses, the dams would be considered "unstable against toe uplift."

*DNR Response*: The comment inappropriately isolates toe uplift from the full set of factors reviewed in the Five Year Operation Plans and values reported around slope stability. Toe uplift is not equivalent to slope instability. Rather, toe uplift is part of the seepage analysis used in the slope stability analysis, the latter which has been studied and analyzed. The comment also does not account for real-world monitoring data that forms the basis of the slope stability assessment, which ends up with slope stability well above the minimums considering the seepage model.

Furthermore, toe uplift results from water within the till being pressurized from tailings pond head and adjacent groundwater flow and contained by the relatively impervious lacustrine clay above it. This creates potential uplift pressure downstream of the dams along the toe. The potential for toe uplift is managed using relief wells and drains along the downstream toe of the dam, where water pressure in the glacial till is being measured with piezometers. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 27*. The computed Factors of Safety for the Mile Post 7 dams are above DNR's established minimums for slope stability and liquefaction, which are listed in Tables 3-5 of the 2019-2023 Five Year Plan. *Id. at 21-23.* For example, the minimum Factor of Safey for Dam 1 is 1.41 for USSA – Fine Tailings Liquefied Strength, Block Failure, with the DNR Minimum Factor of Safety established as 1.05. *Id. at 21.* If DNR would determine that the design of the dams was unsafe, then the Five Year Operation Plan would not be approved.

38. *Comment 22.G.38*: But the EAW does not mention toe uplift or these factors at all.

*DNR Response*: As noted in Response to Comment ¶ 22.G.37, it is inappropriate to isolate toe uplift from the overall slope stability analysis, the latter of which is reported in the EAW for the most recent Five Year Operation Plan. *See ¶ 9: 2023 EAW at .pdf 6.* Furthermore, EAW Item 6b describes the Factors of Safety assessed as part of the slope stability analysis at the Mile Post 7 dams, including various scenarios for ESSA and USSA. These scenarios include various iterations around block failure, fine tailings yield strength, and liquefied strength that would continue to be assessed under the Proposed Project. EAW Item 6b also indicates that the Proposer would install the necessary instrumentation (e.g., piezometers; inclinometers) to supply real-time data for the ongoing slope stability analyses. *Id.* In addition, because of the geomorphology of the impoundment itself, there is a great distance from the exterior of the dams proper to the pool that would have to be eroded to cause a concern due to toe uplift.

39. *Comment 22.G.39*: "Undrained loading" occurs when water cannot move freely through a dam during a disturbance, such as an earthquake or machinery vibrations, causing a pressure

build up that can lead to liquefaction. The most commonly used factor of safety for undrained slope instability is 1.5, but Barr Engineering used a recommended factor of safety of 1.3. But Barr Engineering still calculated a factor of safety of 1.27, below even the lowered recommended value, for Dam 1 at its ultimate elevation of 1,315 feet. Barr dismissed any issue with this instability, however, by saying that "[m]any changes may take place in the seepage conditions of the dam [by the time it reaches 1,315 feet], including possible stockpiling of plant aggregate along the toe of the dam for storage and strength-gain in foundation and dam materials.

*DNR Response*: The comment lists the incorrect minimum slope Factor of Safety for the undrained loading condition. Dam engineers in Minnesota most commonly use the industry standard minimum Factor of Safety of 1.3 for the undrained loading condition. DNR notes for the drained loading condition, the commonly used minimum slope stability Factor of Safety is 1.5.

Regarding the Proposer's identification of potential future actions to address a concern, because the assessment is for the end condition dam height of 1,315 ft amsl, DNR believes it is appropriate for the Proposer's consultant to identify circumstances that might address the concern if and when dam construction proceeds to the final permitted elevation. This reflects the iterative nature of ensuring dam stability, where in this instance a potential future mitigation action is identified in the present to address the potential future stated concern.

Geotechnical assessments are included in each Five Year Operation Plan for the design condition at the end of that five year period. The geotechnical assessments utilize the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment. The assessments show whether the dam configuration at the end of that five-year period meets or exceeds the relevant Factors of Safety. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 20-22.* If it does not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety.

Finally, this is not considered a concern with the proposed extensions as their end heights are modest compared to the total dam profile at Mile Post 7; the highest section of new dam construction under the Proposed Project is approximately 60 feet along the Dam 1 extension. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 32-33.*

40. *Comment 22.G.40*: But mere speculation about Northshore's future actions cannot substitute for an actual analysis of this issue - and none exists in the EAW.

*DNR Response*: The comment mischaracterizes the issue. Undrained Strength Stability Analysis or USSA is assessed continuously through the Five Year Operation Plans, where the

Factor of Safety for current and near future dam raises are now above 1.30. This would be expected to continue if the Proposed Project is implemented. *See ¶ 29.u: EAW Appendix J19 – 2019 – 2023 5YOP at 19-26.* As Dams 1, 2, and 5 are built to their final permitted elevations at 1,315 ft amsl, the calculated Factors of Safety would reflect conditions as known then and not be speculative. The condition in closure would be required to satisfy the required Factors of Safety by whatever means determined necessary at the time.

Furthermore, the dam extensions would be more robust than the cross sections being analyzed. This is not considered a concern with the proposed extensions as their end heights are modest compared to the total dam profile at Mile Post 7; the highest section of new dam construction under the Proposed Project is approximately 60 feet along the Dam 1 extension. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 32-33*. It is common engineering practice to analyze the critical cross section(s) of an embankment as it is not feasible or prudent to analyze every possible cross section.

Geotechnical assessments are included in each Five Year Operation Plan for the design condition at the end of that five year period. The geotechnical assessments utilize the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment. The assessments show whether the dam configuration at the end of that five-year period meets or exceeds the relevant Factors of Safety. If it does not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety.

Finally, the purpose of an EAW is to evaluate the proposed project to determine if it has the potential to result in significant environmental effects. If the answer is determined by the RGU to be yes, then preparation of an EIS is ordered to evaluate the potentially significant issues identified in the EAW process. Contrary to the comment, the EAW appropriately identified the current and anticipated safety conditions of the dams at Mile Post 7, including under the Proposed Project. EAWs are not intended to be a means of conducting specific geotechnical evaluations of a tailings dam or similar structure. Rather, an EAW is a brief document that provides the basic facts necessary for the RGU to consider the criteria under Minn. R. 4410.1700, subp. 7. Minn. R. 4410.0200, subp. 24. The EAW has satisfied that requirement for the Proposed Project.

See Response to Comment ¶ 22.G.36.

41. *Comment 22.G.41*: These two issues demonstrate the potential for significant environmental effects with the Mile Post 7 Expansion. Analyses by Northshore's own engineering consultant show that the tailings basin dams already are unstable against toe uplift and that one, at a higher elevation, will become unstable against undrained loading. DNR should make no decision regarding a project that would involve extending these unstable dams and ultimately

raising and loading hundreds of millions of tons of tailings behind them until DNR has thoroughly studied these issues in environmental review.

*DNR Response*: These concerns around toe uplift and undrained condition are not directly related. These are issues best understood in term of the total facility under various scenarios for ESSA and USSA. Both have been continually assessed over the past 40+ years as detailed in EAW Item 6f, including the 2019-2023 Five Year Operation Plan identified in EAW Item 6b. *See ¶ 9: 2023 EAW at .pdf 6.* EAW Item 9 indicates that the 2024-2028 Five Year Operation Plan would have to be reviewed and approved before the Proposed Project could begin; this too would include assessment of various scenarios for ESSA and USSA. *Id. at .pdf 32.* The presence of toe uplift is not in itself evidence of potential dam failure but is a component of the seepage analysis used in the slope stability assessment. As for stability predictions around undrained loading, this would continue to be addressed over the remaining life of the tailings storage facility to closure. *See Responses to Comments ¶¶ 22.G.36–40*.

The Proposed Project is not an expansion under Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8.*

42. *Comment 22.G.42*: Third, DNR must study the stability of the reclaim dam within the tailings basin, which has the potential to collapse and cause other dam breaches. The reclaim dam "is an interior dam that creates a ring dike around a historical low area within the basin which allows water to be ponded where floating pump stations return water to the plant or the water treatment plant." When an updated stability analysis of the reclaim dam was prepared in 2015 to address planned dam raises, the results showed that the reclaim dam was unstable. Currently, the factors of safety calculated for the reclaim dam at two particular stations are .90 and 1.00. A factor of safety of 1.00 indicates a dam on the cusp of failure. If the reclaim dam collapses, energy released from its failure could be transferred to the water in the reclaim pond, which could potentially flow over the top of the outer dams and cause a breach. Alternatively, energy from the collapse could be transferred to one of the outer dams, making them less stable, which could in turn lead to a breach.

*DNR Response*: The Proposed Project does not involve any change in the reclaim pond, its management, or any reclamation and closure requirements. Further, because the reclaim pond is lower than Dams 1, 2, and 5, any comparisons are unreasonable. The reclaim pond will be filled in, making water levels nearly equal in the near future.

Furthermore, seepage and stability analysis for the reclaim cell, but not the perimeter dam, are found in Section 4.7.2.4 of the 2019-2023 Five Year Operation Plan. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 23-26.* The Factors of Safety for the reclaim pond are for a shallow, upstream failure in the undrained condition. The Proposer's consultant analysis, who is a qualified structural engineer, is based on available observational data and is included

in the 2019-2023 Five Year Operation Plan along with the calculated Factors of Safety. The plan includes measures to improve the Factors of Safety. *Id.* DNR concurs with the Proposer consultant's conclusion that this issue does not pose a global stability concern. Maintenance measures are also regularly undertaken, such as filling the remaining deep portions of the reclaim pond cell, to ensure safety factors are achieved.

The issue of whether a potential release from the reclaim pond would cause Dams 1, 2, and 5 to overtop was addressed in the 2022 DNR Record of Decision. First and foremost, overtopping as provided in the comment is speculative and in fact is not a possibility because the reclaim pond is lower than the rest of the Tailings Basin, and while localized liquefaction of the tailings is possible, liquefaction of Dams 1 and 2 (and 5) is highly unlikely. The Factor of Safety values of 1.35 and 1.75 for liquefaction respectively for Dams 1 and 2 are substantially higher than the minimum value of 1.10 for both dams. This means that even if there should be a liquefaction-associated event at the reclaim pond, a breach of the main dams would be unlikely. The proposed extensions of Dams 1 and 2 under the Proposed Project do not alter this analysis because demonstration of appropriate Factors of Safety is an ongoing process over the life of the dam(s), taking into consideration several factors such as regular stability analysis, data from inspections, and ongoing Factors of Safety modeling and updates. It is not a one-time analysis. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 183.*

Regarding any non-earthquake sources of vibration that could trigger liquefaction, the dam crest has been constructed at a reduced width to limit traffic across the top as options are evaluated. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 26*. Regardless, like the others this dam is assessed for earthquakes, which ensures the possibility is addressed with each dam raise.

Finally, Northshore indicates the configuration and future use of the Reclaim Dam is being evaluated and options developed for future dam raises; DNR will consider what may be offered and must approve any changes before implementation. *Id*. *at 23-26.*

43. *Comment 22.G.43*: While these are possibilities, not certainties, they are risks that should be studied in the EAW. Instead, the EAW does not even mention the reclaim dam.

    *DNR Response*: The Proposed Project does not involve any change in the reclaim pond, its management, or any reclamation and closure requirements. *See Response to Comment ¶ 22.G.42.*

44. *Comment 22.G.44*: Finally, DNR must consider the long history of missing or malfunctioning piezometers at Mile Post 7. Without proper monitoring of the dams at Mile Post 7 – which as explained above are built on fine tailings and should be considered unstable against toe uplift- the risk of dam breach is increased.

*DNR Response*: Monitoring is an important element of assessing dam safety. At Mile Post 7, the dams are monitored daily by the basin engineer and other employees working on the dams. Beyond this, there is real-world monitoring data that forms the basis of the slope stability assessment to ensure geotechnical stability well above the minimum Factors of Safety; this assessment considers the seepage model. In addition, the monitoring program also includes replacing older technology (ie., pneumatic piezometers) with newer technology (i.e., vibrating wire piezometers), where the new technology includes near real-time monitoring. For example, new instruments were installed in 2015 to replace old instruments, while again in 2018 new instruments were installed in an area where no instruments previously existed. Data loggers were also installed in 2017 and 2018 to monitor porewater pressures more closely during construction. *See Responses to Comments ¶¶ 22.B.5, 22.E.4.*

Finally, the instrumentation monitoring program to measure the performance of the dams and their foundations is ongoing, it is not a static program as damaged and inoperable instrumentation is replaced and new instruments are added as required by the Basin Engineer. For example, from the 2022 DNR Record of Decision ¶ 185: "During the 2021 DNR Dam Safety Inspection, several piezometers, mostly at Dam 1, were being replaced while staff were onsite. The Proposer provided an updated status of the instrumentation." *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD at 55.* The updated status for the piezometers shows 14 piezometers as "abandoned or replaced," and 4 piezometers "in process," out of 18 total items cited in the report. For the other items that involve actions around maintenance, instrumentation, or repairs, 13 are identified as "complete or ongoing," 3 are identified as "in progress," with 2 having a mixed status, out of a total of 18 items cited in the report. *Id.* Thus, all malfunctioning piezometers have been or were being addressed." DNR expects the cited activities to be continuing as part of the ongoing monitoring program. The Proposer estimates approximately 10 piezometers and one inclinometer would be added to the monitoring network under the Proposed Project, where the final number would be based on the geotechnical conditions encountered during detailed engineering for the dam extensions. *See generally ¶ 28.s: 2021 Northshore Equipment Status*.

45. *Comment 22.G.45*: But the EAW does not mention any monitoring of the stability of the dams at all.

*DNR Response*: The comment is incorrect. EAW Item 6b indicates that instrumentation such as piezometers and inclinometers would be installed to monitor the integrity of the dam extensions for dam safety purposes. *See ¶ 9: 2023 EAW at .pdf 6*. The Proposer indicates approximately 10 piezometers, and 1 inclinometer, would be installed over the operating life of the two dam extensions under the Proposed Project. As for facility monitoring, this is addressed in Section 4.7.3 of the most recent operation plan. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 27-28*.

46. *Comment 22.G.46*: Piezometers are instruments used to measure the pressure of groundwater in dams or other conduits, allowing the pressure to be monitored and controlled if necessary. But a lack of functional piezometers at the Mile Post 7 dams has been a recurrent theme throughout nearly all of Northshore's five-year operating plans. In 2019, Barr Engineering reported that 23 piezometers at Mile Post 7 were malfunctioning or non-functional. Although DNR later reported that 18 of the piezometers were abandoned, replaced, or "in process" (which, notably, is not the same as ensuring all of them were properly functioning), this was not the only time monitoring equipment has been faulty at the site. In 1995, a consultant reported that it had not been considered necessary to replace damaged or malfunctioning equipment over the 19 years since installation. In 2003, there were no working monitoring instruments at Dam 5. In 2013, Barr Engineering reported a number of piezometers and other pieces of equipment were malfunctioning. As expert Dr. Steven Emerman explained upon reviewing the operating plans: There has been a persistent lack of care in the maintenance of the instrumentation that appears to have lasted for about four decades. It is not at all obvious as to why it is necessary for external consultants to inform the dam operators that instruments are malfunctional or non-functional. It is even more disturbing when the dam operators do not take action on the recommendations of the external consultants. This is yet another critical issue of dam safety that must be considered before decisions are made regarding the Mile Post 7 Expansion.

    *DNR Response*: DNR notes that piezometers do not last forever while others become irrelevant over the course of the dam raises. This means the monitoring program must include measures to replacing older technology (ie., pneumatic piezometers) with newer technology (i.e., vibrating wire piezometers) as needed. Often the new replacement technology includes near real-time monitoring. New instruments were installed in 2015 and 2018 to replace old instruments, with the latter installations in an area where no instruments previously existed. Data loggers were also installed in 2017 and 2018 to monitor porewater pressures more closely during construction. This has resulted in extensive monitoring program-related activity over the last eight years.

    Finally, the instrumentation monitoring program to measure the performance of the dams and their foundations is ongoing; it is not a static program as damaged and inoperable instrumentation is replaced and new instruments are added as required by the Basin Engineer. In addition, if DNR believed data in a particular area was needed, then the agency could require monitoring data (and the equipment needed to collect it) under the Master Permit. *See Responses to Comments ¶¶ 22.G.44-45.*

47. *Comment 22.G.47*: While DNR, in its order on the EAW Petitions, dismissed the possibility of a dam failure at Mile Post 7, in fact the tailings basin has already failed. In 2000, a tailings pipeline at the facility broke, resulting in the release of 10 million gallons of tailings slurry into

the Beaver River watershed, causing significant impacts to fish and other aquatic life. Northshore eventually paid a penalty of $200,000, funded a supplemental environmental project that cost $240,000, and paid an additional $47,000 for late completion of corrective actions relating to the tailings pipeline break. DNR cannot merely assume that Mile Post 7 is invulnerable to failure, or that it is fundamentally different from other tailings basins that have failed. The tailings basin is at risk of breach—this creates the potential for significant environmental effects that the EAW has not even mentioned. Accordingly, DNR should order an EIS or supplement the EAW.

*DNR Response*: DNR notes that while the cited pipeline failure led to environmental consequences that were addressed and enforcement actions taken, this incident does not represent a tailings basin dam failure.

The comment incorrectly states DNR assumes the facility is invulnerable to failure. On the contrary, the dams at Mile Post 7 are engineered, regulated, and inspected under applicable statutes and rules rigorously. The DNR has continually reviewed and inspected the Tailings Basin dams and this would in turn continue under the Proposed Project. *See Response to Comment ¶ 22.B.2.*

48. *Comment 22.G.48*: If the Mile Post 7 dams were breached, the environmental results could be not only significant, but catastrophic. The tailings basin currently holds nearly 120 million long tons of tailings in a 2,150-acre lake. After the Mile Post 7 Expansion, ultimately Northshore expects the basin to hold more than 750 million long tons of tailings in a 2,800 acre lake. And all of this mining waste and water would be held in a lake 600 feet vertically above and three miles away from Lake Superior. Undoubtedly the release of this water and waste in a dam breach would be devastating. But the EAW does not mention, let alone analyze, the effects that would occur.

    *DNR Response*: Regarding the amount of tailings planned for storage, as noted in EAW Item 6f there is no proposed change in the permitted volume of tailings storage to achieve the Proposed Project's objectives. *See ¶ 9: 2023 EAW at .pdf 17*. Regardless, the consequences of some form of dam failure at Mile Post 7 have been understood since 1975. *See Response to Comment ¶ 22.D.7.*

    Because the EIS consultants reported construction of a tailings dam could be done safely at Mile Post 7, it is reasonable to assume the dam breach impacts identified in the 1975-76 Final EIS reflected their input. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 194*. Since then, the Proposer has submitted two rounds of modern dam break analyses in 2012 and 2022 as part of an EAP. *See generally ¶ 28.d: 2022 EAP*. Finally, DNR classifies all three dams at Mile Post 7 as Class I High Hazard Dams, which warrant the highest level of regulation requiring

monitoring, maintenance, and reporting, including preparation of the EAPs. Minn. R. 6115.0490.

The 2022 dam break analysis includes an estimate of mobilized tailings volume, which allows for an understanding of the volume of tailings that might leave the facility based on any given configuration of breach opening for the pre-Project condition. The potential for tailings mobilization under the PMP Event Failure Scenario and Fair-Weather Failure Scenario is assessed and reported for Dams 1, 2, and 5 using the FLOW-3D modeling tool. *See ¶ 28.d: 2022 EAP at E21-E24.* Information available to risk managers includes but is not limited to: velocity fields at varying time stamps; viscosity values; dam breach hydrograph; inundation extent; maximum depths; tailings deposition estimates; and inundation maps. *Id. at 30-83.* The EAP indicates the Beaver River would receive flows and mobilized tailings for a breach of Dam 1, while a breach of Dam 2 would impact the Beaver River to Silver Lake, and then the final reach of the Beaver River. The analysis reports that not all impounded tailings would be liberated from the Tailings Basin itself under either failure scenario, and some fraction of the liberated tailings is impounded by features such as embankments and bridge crossings. *Id. at E-29 to E-67.* If the 2024-2028 Five Year Operation Plan is approved, then Northshore will be required to update the EAP to model the potential failure scenarios for 2027, which is the last year of construction that would be authorized under the Plan. *See Response to Comment ¶ 22.I.145.*

The Proposed Project is not an expansion under Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8.*

49. *Comment 22.G.49*: First, the cost in human life could be considerable. The deaths of thousands of people have been caused by tailings dam failures, through drowning and suffocation. In one well-known and horrific example, the Brumadinho upstream tailings dam in Brazil liquefied and collapsed in 2019, killing at least 259 people and spreading a 10-meter-high wave of mud that spread several miles downhill. And aside from these directly caused deaths, leakage of contaminants from the tailings—which can include toxic elements like arsenic or lead – "almost certainly results in increased rates of pathology and, by extension, mortality."

*DNR Response*: The dams at Mile Post 7 are classified and have always been classified as Class 1 High Hazard dams. A Class 1 dam is a dam in which "failure, mis-operation, or other occurrences or conditions would probably result in…any loss of life or serious hazard, or damage to health, main highways, high-value industrial or commercial properties, major public utilities, or serious direct or indirect, economic loss to the public." Minn. R. 6115.0340, subp. A. *See ¶ 28.a: 2023 National Inventory of Dams at 4.* This classification would not change if the Proposed Project were implemented, nor would the types of natural resource

and environmental impacts from a breach of either Dam 1 or Dam 2, or their extensions, change under the Proposed Project.

DNR requires dam break analysis as a component of the facility Emergency Action Plan or EAP, which is required under Minn. R 6115.0490. These EAPs address a hypothetical catastrophic failure for Dams 1, 2, and 5 if it occurred, most recently assessed as if it happened in 2023. *See ¶ 28.d: 2022 EAP at E-1*. If the Proposed Project goes forward, DNR would require an updated EAP to provide a new dam break analysis in 2027 to align with the 2024-2028 Five Year Operation Plan.

Northshore submitted an EAP in 2022 that updated the earlier EAP submitted to DNR in 2012. *See generally ¶ 28.d: 2022 EAP.* The updated 2022 EAP projects conditions between the years 2019 to 2023 to align with the current 2019-2023 Five Year Operation Plan. According to the plan, it "includes an assessment of mobilized tailings in a hypothetical dam failure by in-depth analyses and evaluations of site-specific material parameters, key geotechnical variables, credible failure modes, and by investigating potential deposition of plant aggregate and fine tailings as breach flood waves run out of the basin." *Id.*

Geotechnical assessments are included in each Five Year Operation Plan for the design condition at the end of that five year period. The geotechnical assessments utilize the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment. The assessments show whether the dam configuration at the end of that five-year period meets or exceeds the relevant Factors of Safety. If it does not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety.

Finally, the dams are monitored daily by the basin engineer and other employees working on the dam. A qualified engineering firm is required to perform a dam safety inspection in the spring of each year. Additionally, the qualified engineering firm is required to undertake a thorough detailed inspection conducted over several days in October of each year. The purpose of the annual inspection is to review the performance and condition of the dams. The information is compiled in a dam safety inspection report. This inspection includes a thorough analysis of the monitoring data system. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at Appendix B at .pdf 1-89.*

If DNR would determine that the design of the dams was unsafe, then the Five Year Operation Plan would not be approved.

50. *Comment 22.G.50*: In addition, the discharge of waste material into river systems would affect water and sediment quality and aquatic life for many miles downstream. The contaminants might kill wildlife and aquatic life directly, or over time through contamination

and habitat destruction. After a tailings basin breach in Spain, for example, all the fish and shellfish in the nearby watercourses were killed, leading to the collection of 37 tons of dead fish in the month following the breach. And even after cleanup, contamination might linger in some areas for years after a tailings spill incident.

*DNR Response*: The 2022 dam break analysis includes an estimate of mobilized tailings volume, which allows for an understanding of the volume of tailings that might leave the facility based on any given configuration of breach opening. *See ¶ 28.d: 2022 EAP at E21-E24. See also Response to Comment ¶ 22.G.51.*

51. *Comment 22.G.51*: Here, in the event of a major breach, contaminated water and tailings could reach Lake Superior in a matter of minutes, causing decades' worth of tailings to contaminate its waters, harming water quality, fish and other aquatic life, wildlife, and habitats. The pollution could contaminate drinking water relied on by many people along the lakeshore, including those in Duluth, and harm recreation and tourism in the area. As stated by the 1976 EIS, this would "thwart the entire purpose" of requiring land disposal rather than continued dumping of tailings into Lake Superior. Ultimately, however, although we can predict the environmental effects could be catastrophic, we do not know exactly what the effects of a dam breach would be. This is for a simple reason: The EAW does not include any analysis of those effects. DNR must order an EIS or supplement the EAW in order to study these incredibly significant potential environmental effects.

    *DNR Response*: There is a very good understanding of the consequences of a potential dam break since the 1975-76 Final EIS. The types of impacts would not change if the Proposed Project were implemented, nor would the natural resource and environmental impacts from a breach of either Dam 1 or Dam 2 change substantially from original projections with the dam extensions if constructed under the Proposed Project. *See Response to Comment ¶ 22.G.48.*

    The updated 2022 EAP projects conditions between the years 2019 to 2023 to align with the current 2019-2023 Five Year Operation Plan. According to the EAP, it "includes an assessment of mobilized tailings in a hypothetical dam failure by in-depth analyses and evaluations of site-specific material parameters, key geotechnical variables, credible failure modes, and by investigating potential deposition of plant aggregate and fine tailings as breach flood waves run out of the basin." These assessments could inform each of the items listed in the comment. *See ¶ 28.d: 2022 EAP at E-1.*

    The 2022 dam break analysis includes an estimate of mobilized tailings volume, which allows for an understanding of the volume of tailings that might leave the facility based on any given configuration of breach opening for the pre-Project condition. The potential for tailings mobilization under the PMP Event Failure Scenario and Fair-Weather Failure Scenario is

assessed and reported for Dams 1, 2, and 5 using the FLOW-3D modeling tool. *Id. at E-21 to E-24.* Information available to risk managers includes but is not limited to: velocity fields at varying time stamps; viscosity values; dam breach hydrograph; inundation extent; maximum depths; tailings deposition estimates; and inundation maps. *Id. at E-30 to E-83.* The EAP indicates the Beaver River would receive flows and mobilized tailings for a breach of Dam 1, while a breach of Dam 2 would impact the Beaver River to Silver Lake, and then the final reach of the Beaver River. The analysis reports that not all impounded tailings would be liberated from the Tailings Basin itself under either failure scenario, and some fraction of the liberated tailings is impounded by features such as embankments and bridge crossings. *Id. at E-29 to E-67.* If the 2024-2028 Five Year Operation Plan is approved, then Northshore will be required to update the EAP to model the potential failure scenarios for 2027, which is the last year of construction that would be authorized under the Proposed Project. *See Response to Comment ¶ 22.I.145.*

52. *Comment 22.G.52*: In its order denying the EAW Petitions, DNR relied heavily on two factors in determining the Mile Post 7 Expansion did not have the potential for significant environmental effects. First, DNR asserted that a new environmental review would be unnecessary because previous environmental review in the 1970s covered the effects of the Mile Post 7 Expansion. Second, DNR asserted that any potentially significant environmental effects would be mitigated by DNR's ongoing regulatory authority over the tailings basin. But neither of these factors excuses DNR from performing environmental review now on dam safety at the Mile Post 7 Expansion.

    *DNR Response*: The Proposed Project is not an expansion. *See Response to Comment ¶ 22.G.8*.

    The Proposer is requesting to use the unused portions of the Tailings Basin that was studied in the 1975-76 EIS and was subsequently permitted and constructed pursuant to the Master Permit and the Permit to Mine, as amended and/or renewed over time. These two major permits, together with the other permits and regulatory controls cited in the EAW and included and/or discussed and analyzed in the administrative record, demonstrate the rigorous regulatory oversight that has been applied to the Mile Post 7 Tailings Basin throughout its life. Examples generally include: Wetland Replacement Plan; Work in Public Waters Permit; SWPPP; CWA Section 404 Permit/Section 401 Certification; and NPDES Permit. *See ¶ 9: 2023 EAW Table 9 at .pdf 32-34*. Regarding dam safety specifically for the Proposed Project, examples of regulatory authority being applied include: 2024-2028 Five Year Plan; daily inspections by qualified engineers; ongoing monitoring, including piezometers and inclinometers; annual site inspections by DNR; and annual construction reporting. DNR will also require an updated dam break analysis in the 2027 EAP. *See Response to Comment ¶ 22.B.2.* Nonetheless, DNR considered the material evidence supplied by the petitioners together with all other material evidence contained in the administrative record

when it analyzed the criteria in Minn. R. 4410.1100, subp. 6. *See generally ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD.*

53. *Comment 22.G.53*: One of the factors DNR must consider in determining whether to order an EIS is "the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies…including other EISs." But environmental effects from a dam breach cannot be "anticipated and controlled" based on the 1970s-era environmental review, because the 1976 and 1977 EISs do not provide sufficient information about the potential for significant environmental effects from a dam breach *now*.

    *DNR Response*: The comment ignores additional information that has become available to the agency since the state and federal Final EISs. Specifically, the petitions 2022 Record of Decision identifies the availability of a dam break analysis conducted in 2012 for hypothetical break scenarios for Dams 1, 2, and 5. That analysis included breach models with the dams at elevation 1,315 ft amsl, which included: downstream flow paths; dam break analysis and inundation maps; effects of dam failure; arrival times and time to peak at select locations along the flow path; and emergency notification procedures. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 223 at 65.* Further the petitions Record of Decision noted a new two-dimensional dam breach analysis would be available in 2022. Importantly, the analysis would identify the behavior of mobilized tailings using the dam geometry that would be in place in 2023, which is the last year of the current 2019-2023 Five Year Operation Plan. *Id. at ¶ 224.* Finally on this point, the petitions Record of Decision identified that worst-case dam failures are required to be analyzed for Class 1 dam, which includes the dams at Mile Post 7. For the purposes of modeling, a worst-case dam failure scenario for Class 1 dams typically analyzes breach widths up to 5x the dam height. For Dam 1, this is a break approximately 1000-feet wide. *Id. at ¶ 225*. So contrary to the comment, not only does DNR have information available now beyond the previous EISs, but another EAP update is scheduled for 2027, whose dam break analysis would address the dam geometry that would be in place very early under the Proposed Project.

    In addition, the comment also fails to recognize the role played by the Five Year Operation Plans in regulating dam safety at Mile Post 7. These plans provide ongoing, up-to-date information on the actual geotechnical stability of Dams 1, 2, and 5 based on real-world data. This certainly allows DNR to anticipate potential dam stability concerns and control them through the conditions imposed with each round of plan approval. More to the point, if DNR would determine that the design of the dams was unsafe, then it would not approve the Five Year Operation Plan. Regardless, the types of impacts would not change if the Proposed Project were implemented, with the magnitude of potential impacts slowly increasing with each dam raise over the remaining operational life of the facility as originally considered in the 1975 engineering reviews for the dams at completion.

54. *Comment 22.G.54*: First, the studies are close to 50 years old, and they are, accordingly, out of date. The EISs were not intended to cover all environmental effects that might arise from the tailings basin forever; both the 1976 and 1977 EISs contemplate a 40-year timespan for the tailings basin and evaluate the potential effects of the project within that assumed lifetime. Now, more than 40 years have passed, meaning the EISs do not accurately foretell the environmental effects of a current dam breach.

    *DNR Response*: DNR is not exclusively relying on the state and federal EISs to understand the potential impacts of a dam breach at Mile Post 7. After the EISs, DNR has required two modern dam break analyses in 2012 and 2022, with a third required in 2027. While the 1975 engineering studies consider the consequences at dam completion (at 1,280 ft amsl), the 2022 EAP analyses are for the height of the dams at the end of the current Five Year Operation Plan, which is much more detailed information than as available in 1975. *See ¶ 28.d: 2022 EAP at E-1.* In addition, given the 1975 studies' qualitative comparison across the dams at Mile Post 7, this methodology does stand the test of time at the high-level scale of reporting. Coupled with the much more robust assessment in the 2022 dam break analysis, there is a very good understanding of the consequences of a dam break for Mile Post 7 beyond that understood at the time of the 1975-76 Final EIS and the 1977 USACE Final EIS. Further, DNR will require the dam break analysis to be updated again if the Proposed Project proceeds. *See Response to Comment ¶ 22.G.53.*

    As for the time that has gone by since the EISs, the fact that it is taking longer to fill the tailings facility to full capacity does not eliminate the value of the EIS analysis of the end condition.

    As noted in Response to Comment ¶ 22.G.1, the remaining life span of Mile Post 7 being another 40 years has less to do with Mile Post 7 and more to do with the remaining mine life of the Peter Mitchell Pit.

55. *Comment 22.G.55*: Second, unsurprisingly, methods of environmental analysis have changed significantly over the years. By modern standards, the dam breach study included in the 1976 EIS is "entirely inadequate." The 1976 EIS noted little more than the facts that eight residences were in the area the water would occupy and that dam failure would frustrate the objective of ending the disposal of tailings into Lake Superior.

    *DNR Response*: The suggestion that DNR has only done one dam break analysis during the history of Mile Post 7 is incorrect. Modern dam break analyses were conducted in 2012 and 2022, with the next one to be scheduled for 2027. DNR notes the 2022 dam break analysis is more robust than the 1975 geotechnical studies, the latter which provided information for the 1975-76 Final EIS. *See Response to Comment ¶ 22.G.54*. In the 2022 EAP, two failure scenarios were considered for Dams 1, 2, and 5: a fair-weather failure scenario and a storm-induced failure scenario, the latter under an assumed 6-hour probable maximum

precipitation or PMP event. *See ¶ 28.d: 2022 EAP at E-10*. For structures, the dam break analysis identifies and assesses potential inundation or other impacts for both habitable and non-habitable structures. The most recent building footprint data was from 2018, which was compared with visual imagery data from 2019 and Lake County parcel data from 2020. *Id. at E-7*. Potential impacts to Lake Superior are also modeled. *Id. at E-41, E-50, E-59, E-68, E-75*. This provides significantly improved information from that available from the 1975 geotechnical reports as subsequently summarized for the 1975-76 Final EIS.

56. *Comment 22.G.56*: By contrast, contemporary industry guidance documents on dam failure require detailed analyses of consequences of a dam breach. A modern dam breach study would include information about the depths, velocities, and paths of the expected tailings flood; discussions of impacts on homes, buildings, businesses, and infrastructure; analyses of harm to wildlife and aquatic life; and the expected effects on long-term air and water quality. None of this information is in the 1970s-era EISs. In addition, a modern dam breach study would consider climate change-related information. Specifically, the study would consider that Minnesota is getting wetter, with more precipitation each year and a higher likelihood of heavier, damaging rainstorms. This added precipitation could lead to higher-than-expected water levels in the Tailings Basin, which could put pressure on the dams. But again, the 1970s-era EISs do not consider climate change effects on dam safety (and nor does the EAW, despite the inclusion of a section on climate change).

    *DNR Response*: The 2022 dam break analysis addresses several of the factors listed, however DNR acknowledges the principal focus is to identify impacts to human life and secondarily potentially impacted infrastructure. Both the historic and more recent reporting indicate there would be tailings transport in a break, but the volume and distance traveled would vary according to which dam is compromised, whether it is a fair-weather or storm-induced failure scenario, and the dam elevation at the time of any break among other factors. It should also be noted that physical barriers along the flowpaths also affect tailings transport and deposition along the inundation pathway. *See Response to Comment ¶ 22.G.55.*

    More specific, the 2022 EAP assessed two failure scenarios for Dams 1, 2, and 5: a fair-weather failure scenario and a storm-induced failure scenario, the latter under an assumed 6-hour probable maximum precipitation or PMP event. *See ¶ 28.d: 2022 EAP at E-10*. For structures, the dam break analysis identifies and assesses potential inundation or other impacts for both habitable and non-habitable structures. The most recent building footprint data was from 2018, which was compared with visual imagery data from 2019 and Lake County parcel data from 2020. *Id. at E-7*. Potential impacts to Lake Superior are also modeled. *Id. at E-41, E-50, E-59, E-68, E-75*. This provides significantly improved information from that available from the 1975 geotechnical reports as subsequently summarized for the 1975-76 Final EIS.

As for climate change, EAW Item 7a provides a summary of climate trends in the general location of Mile Post 7. *See ¶ 9: 2023 EAW at .pdf 24-28.* So far there is no need to deviate from the 10-foot freeboard requirements for tailings basins based on climate change, including Mile Post 7. Freeboard requirements are assessed during review of the Five Year Operation Plans, including the one produced for 2019-2023, and appear to be conservative. The most recent report noted that an updated analysis indicated that only eight (8) feet of freeboard is really needed, but Northshore will meet the 10-foot requirement. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 16.* In addition, if a federal agency updates the PMP values, DNR would review the current Five Year Operation Plan to ensure adequate freeboard would still exist.

57. *Comment 22.G.57*: Third, circumstances at the tailings basin and in the surrounding area have changed significantly in the past five decades. The 1976 and 1977 EISs both studied the effects of a downstream dam – but in 1997 the dam design was changed, and this change has never been subjected to environmental review. In addition, the area likely has developed considerably since the 1970s. Based on a visual examination of the nearby terrain as shown on Google maps, the Silver Beaver Rifle and Pistol Club, Silver Bay Golf Course, and Beaver River South Campsite appear to potentially be within the path of the tailings flood, along with the town of Beaver Bay. The 1970s-era environmental reviews provide no information about the expected path of the flood, or about what current development – houses, businesses, or infrastructure – might be in its way. In addition, the natural resources – wetlands, water quality, wildlife, and aquatic life, to name a few – in the area likely have changed considerably since the 1970s. No information about the current environment or surroundings is, of course, analyzed in the 50-year-old EISs.

    *DNR Response*: The 2022 dam break analysis includes updated information on potentially impacted downgradient development, some of which was constructed since the 1970s. The dam break analysis identifies structures and assesses potential inundation or other impacts for both habitable and non-habitable structures. The most recent building footprint data was from 2018, which was compared with visual imagery data from 2019 and Lake County parcel data from 2020. *See ¶ 28.d: 2022 EAP at E-7*. DNR has a better understanding of the consequences of a dam break for Mile Post 7 that it did at the time of the 1975-76 Final EIS and the 1977 USACE Final EIS or even the assessment in the 2012 EAP. *See generally ¶ 28.d: 2022 EAP*. DNR will require the dam break analysis to be updated again for the 2024-2028 Five Year Operation Plan if the Proposed Project proceeds.

58. *Comment 22.G.58*: In sum, the 1970s-era EISs do not even purport to provide information about what would happen in a current dam breach. They explain nothing about what volume of flood would result, where the flood would go, what development and resources would be affected, or what the long-term effects would be – all critical information with respect to a dam breach. Without this information, DNR cannot actually "anticipate and control"

environmental effects of a current dam breach based on the EISs. DNR does not have sufficient detail about what those effects would be. Accordingly, the 1976 and 1977 EISs do not allow DNR to avoid ordering an EIS now.

*DNR Response*: The impacts of a dam breach are assessed in the 2022 dam break analysis report that is part of and included in the administrative record for this EAW. *See generally ¶ 28.d: 2022 EAP*. Both the historic and more recent reporting indicate there would be tailings transport in a break, but the volume and distance traveled would vary according to which dam is compromised, whether it is a fair-weather or storm-induced failure scenario, and the dam elevation at the time of any break among other factors. It should also be noted that physical barriers along the flowpaths also affect tailings transport and deposition along the inundation pathway. Any suggestion that DNR is relying solely on the 1975-76 final EIS is incorrect as demonstrated by the scope of dam safety-related information contained in the administrative record. *See Responses to Comments ¶¶ 22.G.48, 22.G.53-56.*

59. *Comment 22.G.59*: Additionally, in denying the EAW Petitions, DNR pointed to a 2012 dam breach study by Northshore as part of an Emergency Action Plan. DNR said this study addressed many of the effects of dam failure missing from the EISs. However, the study as released to the public was heavily redacted: "nearly all of the potentially useful information has been blacked out, including maps, tables, model details and assumptions, conclusions, and recommendations." It is impossible, under these circumstances, to determine whether this study actually provides information that would allow DNR to "anticipate and control effects." Regardless, this document is entirely useless for fulfilling one of the main purposes of environmental review – providing useable information to the public about the environmental effects of a proposed project. DNR cannot rely upon a nonpublic document to avoid doing the public environmental analysis required by the Minnesota Environmental Policy Act.

    *DNR Response*: The content of the three geotechnical studies from 1975, plus the 2012 and 2022 EAPs and the associated modern dam break analyses, are available to DNR to understand and address any impacts of a dam break under the Proposed Project. DNR also can rely on the series of Five Year Operation Plans submitted and approved by the agency since the 1990s, plus the Proposed Project requires DNR review and approval of the 2024-2028 Five Year Operation Plan before it can proceed. Finally, an updated EAP will be required in 2027 that too will include a dam break analysis that assesses the dam geometry under the Proposed Project. *See Response to Comment ¶ 22.G.55.*

    The fact that the DNR redacts portions of the emergency action plan for all dams as security data is for public safety reasons. Minnesota Statutes section 13.37, subdivision 1 (a), defines security information as "data the disclosure of which the responsible authority determines would be likely to substantially jeopardize the security of information, possessions,

individuals or property against…physical injury…" Minnesota Statute section 13.37, subd. 2(a), classifies government data not on individuals that is security information as non public data. These documents contain information that persons could use to determine how to sabotage the dam, interfere with evacuation efforts in the event of a breach, or make a false report of a dam breach, all of which would endanger public safety. Thus, DNR redacted information from the EAP that DNR believed could be used by persons to attempt to sabotage the dam and cause injury to persons and property down gradient of the dam. Because those documents were redacted, however, does not mean that DNR could not rely on them in making its decision.

60. *Comment 22.G.60*: Another factor for DNR to consider in determining the potential for significant environmental effects is "the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority." DNR may only rely on mitigation measures that are "specific, targeted, and are certain to be able to mitigate" the identified effects to avoid ordering an EIS. In denying the EAW Petitions, DNR relied on DNR's ongoing regulatory authority under Mile Post 7's Permit to Mine, Master Permit, and oversight under DNR's Dam Safety Program to mitigate the environmental effects of the Mile Post 7 Expansion. But DNR does not appear to be exercising its regulatory authority in a way that is specific, targeted, and certain to mitigate the environmental effects of a dam breach, because DNR is failing to exercise all of its regulatory powers over Mile Post 7.

    *DNR Response*: The comment presumes that an environmental impact of the Proposed Project is a catastrophic dam failure and that the project proponent is required to mitigate for a catastrophic dam failure. MEPA does not require evaluation of such speculative events.

    MEPA does require identification of mitigation for the environmental impact associated with the construction and operation of a project. MEPA does not, however, require the RGU to assume, at the time it undertakes environmental review, that a catastrophic event will occur related to a project and in turn cause an environmental impact that requires mitigation.

    Thus, while MEPA does require that DNR identify mitigation for the Proposed Project, in particular mitigation subject to public regulatory authority, MEPA does not require that the DNR speculate that the mile Post 7 Dams will fail and then evaluate environmental mitigation for such a speculative event. An RGU is not required to undertake environmental review on the basis of speculative information. *Reserve Mining Co. v. Herbst,* 256 N.W. 2d 808, 829-30 (1977) (holding that consideration of alternatives is unnecessary where potential impacts are remote). "Potential" effects of a proposed project must be more than remote possibilities. Minn. R. 4410.1700, subp. 7. In determining the need for an EIS, an agency need only address impacts that are "reasonably expected" to occur. Minn. R. 4410.1700, subp. 6.

This does not mean that DNR has not and will not continue to analyze the impact of a dam break on the environment and communities below the Mile Post 7 Tailings Basin. These ongoing analyses are incorporated into: the requirements of the Master Permit as it has been renewed and amended over time; the series of Five Year Operation Plans; and the modern dam break analyses from 2012 and 2022, with another scheduled for 2027, in the EAPs. The Master Permit is the dam safety permit for the facility while the operation plans report the predicted dam stability with the series of raises proposed for the next five years (among other things). The EAP identifies the procedures to be undertaken by the Proposer in the event of an emergency, which includes information impacts under a dam break scenario. *See Responses to Comments ¶¶ 22.B.4, 22.G.53.*

DNR will require renewal of the Master Permit, which together with the Five Year Operation Plan serves as the dam safety permit regulating the tailings containment dams at Mile Post 7. *See ¶ 28.b: 2023 DNR Letter to Northshore*. The dam safety compliance requirements are most recently documented in the 2019-2023 Five Year Operation Plan and 2022 EAP. Together these regulatory controls meet and exceed the dam safety requirements of Minn. Stat. § 103G.501 *et seq.* and Minn. R. 6115.0300 *et seq.*

Specific and targeted provisions of the Master Permit designed to address potential dam safety concerns include, but are not limited, to:

- III.A Term of Permit
- III.B Construction Period
- III.E Inspections
- III.F Compliance with Other Law
- III.G Other Permits and Approvals
- III.L Descriptions
- IV.A Required Data
- IV.B Detailed Approvals
- IV.C Construction of Facilities
- IV.D Unforeseen Conditions
- IV.F Construction Observation and Control
- IV.G Construction Bench Marks
- V.A.1 Description: Dams 1 and 2-3
- V.A.2 Description: Dams 4, 5, and 6
- V.B Requirements
- VI Main Tailings Containment Facility

The Five Year Operation Plans document compliance with the provisions of the Master Permit. The most recent of these plans is the one prepared for 2019-2023, which addresses

current operations through 2023. Elements of this plan that are specific, targeted, and certain to address the effects of a dam breach (through avoidance) include, but are not limited to:

- Section 2 Recent Accomplishments
- Section 3.2 Current Status
- Section 3.3 Anticipated Production Levels
- Section 3.4 Anticipated Pond Levels and Dam Raising Schedule
- Section 4.2 Handling and Storage of Plant Aggregate
- Section 4.3 Handling and Storage of Fine Tailings
- Section 4.6.1 Flood Storage and Freeboard Requirements
- Section 4.6.2 Contingencies
- Section 4.7.1 Dam Performance
- Section 4.7.2 Dam Raises
- Section 4.7.3 Instrumentation and Monitoring
- Tables 1 – 7
- Appendix A Recent Construction Plans
- Appendix B 2018 Dam Inspection Report

*See generally ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP.*

Elements of the 2022 Emergency Action Plan or EAP, which is the most recent one completed and addresses current operations through 2023, that are specific, targeted, and certain to address the effects of a dam breach include, but are not limited to:

- Section 1 Emergency Action Plan Summary
- Section 2.3.1 Pond Water-Level Monitoring
- Section 2.3.2 Dam Instrumentation Monitoring
- Section 2.4.1 Hydrologic Surveillance
- Section 2.4.2 Informal Daily Inspections
- Section 2.4.3 Formal Inspections
- Section 3.4 Responsibilities
- Section 4.2 Dam Breach Downstream Flow Paths
- Section 4.3 Dam Break Analysis and Inundation Maps
- Section 4.4 Effect of Dam Failure
- Section 4.5 Special Consideration
- Section 5.5.1 Advance Weather Runoff and Flow Forecasts
- Section 5.5.2 Flow Regulation at the Milepost 7 Tailings Basin
- Section 5.5.3 Flow Regulation Upstream or Downstream
- Appendix E Dam Break Analyses Methodology and Results Summary

- Appendix I Comprehensive Inundation Maps

*See generally ¶ 28.d: 2022 EAP.*

Separate and apart from environmental review, the maintenance of safe dams that meet or exceed accepted dam safety requirements is a fundamental purpose of DNR's Dam Safety Program. Maintaining dam stability is an iterative, continuous process that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life. This allows the design engineers and regulators to tailor the next round of future construction to the geotechnical conditions of the present, to anticipate any future concerns, to incorporate best science, and to address these factors no matter the dam construction method. In addition, this incremental approach allows for a good understanding of geotechnical results of past construction/design actions, especially their effectiveness for similar potential application in the future.

Finally, DNR notes that tailings facility management broadly is regulated under the Permit to Mine, specifically by Minn. R. 6130.4400 and 6130.4500, which address requirements for the Mine Operating Plan and Annual Mining Report. Both documents are prepared by the Proposer and submitted to DNR to document past and proposed operations at any tailings management facility, including Mile Post 7.

61. *Comment 22.G.61*: Most importantly, DNR has failed to require a dam safety permit for the Mile Post 7 dams. DNR has asserted that Mile Post 7 did not require a dam safety permit because the tailings basin predated the laws governing dam safety. But in fact, Minnesota's dam safety laws require that the dams at Mile Post 7. Under Minn. Stat. § 103G.531, subd. 1, the only exemption for dam permits is for dams in existence before 1937 – which the Mile Post 7 dams undisputedly were not. In addition, permits under chapter 103G are subject to "applicable law existing before or after the issuance of the permit." Accordingly, once laws governing dam safety were in place, DNR had a duty to require Reserve Mining to apply for a dam safety permit.

*DNR Response*: The statement is incorrect. Dam Safety requirements are provided in the Master Permit as renewed and amended over time. This permit incorporated the requirements of Minn. Stat. § 103G.501 *et seq.* Thus, the Master Permit includes the dam safety requirements and authorizes construction of dams at Mile Post 7 and serves, together with the Five Year Operation Plan, as the Dam Safety Permit.

Minnesota Statute section 103G.531 is inapplicable. This provision indicates that the DNR commissioner lacks the authority to issue a permit for the original construction of a dam constructed prior to 1937. Here, DNR has issued a permit, the Master Permit, that governs dam safety at Mile Post 7.

The Master Permit describes requirements during construction, which in this case includes construction reports and construction schedules. For example, the Master Permit describes requirements for approval of the initial construction design, which is similar to the requirements of Minn. R. 6115.0410, subp. 6. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 9, 13*. In addition, the permit requires the permittee to verify the design, construction, and operation assumptions, including development of data. *Id. at 11*. The requirements also apply to plans needed for operation, quality control, and reporting, all of which is similar to the requirements of Minn. R. 6115.0410, subp. 9. *Id*. Finally, the rules require the owner to safely operate the dam and describe operational aspects, but the specific requirements are up to the Commissioner, which in this case as described in the Master Permit. *Id. at 11, 21-23.*

62. *Comment 22.G.62*: Then, when Northshore acquired the Mile Post 7 Tailings Basin after Reserve Mining's bankruptcy, the rules again mandated DNR require a dam safety permit. As the rules state, no one can transfer ownership of a Class I or II dam without a permit from the Commissioner.

    *DNR Response*: DNR has transferred the Master Permit, which together with the Five Year Operation Plan, serves as the Dam Safety Permit with each ownership change for Mile Post 7 in accordance with the dam safety regulatory requirements. Furthermore, the Proposed Project cannot proceed without renewal of the Master Permit coincident with review and approval of the 2024-2028 Five Year Operation Plan. *See ¶ 28.b: 2023 DNR Letter to Northshore*.

63. *Comment 22.G.63*: Finally, DNR's dam safety rules now require a dam safety permit before the Mile Post 7 Expansion may proceed. The rules require a permit for the "alteration, repair, or removal of a dam," and "alteration" is defined as any activity that will affect the safety of a dam or alter public waters. Extending and raising the Mile Post 7 dams and adding hundreds of millions of tons of tailings to the tailings basin would affect the safety of the dam, and accordingly, DNR must require a permit. DNR certainly is not acting in a "specific and targeted" way that is "certain" to mitigate concerns about dam safety if DNR does not even require a legally mandated dam safety permit for Mile Post 7.

    *DNR Response*: Commenters repeatedly suggest that the Mile Post 7 dams are unregulated because they do not have a "dam safety permit." In many respects this is but a question of semantics, because as set forth in Response to Comment ¶ 22.B.5, the dams at Mile Post 7 are heavily regulated by the Master Permit and meet all applicable standards set forth in state law. It is relevant to further note the term "dam safety permit" appears nowhere in state statute, rather Minn. Stat. § 103G.531 references the fact that the commissioner may require permits for dam construction but does not actually name the permit. Likewise, Minn. R.

6115.0410 requires one seeking to construct or enlarge a dam to obtain a permit regulating the construction and operation of the dam from the commissioner but again the rule does not refer to a single permit mechanism. The fundamental issue is, has there been a permit issued that regulates that dams at Mile Post 7 in accordance with the requirements set forth in Minn. Stat. § 103G.501 *et seq*., and Minn. R. 6115.0300 *et seq*.? The answer to that question is unequivocally yes, where that permit is the Master Permit in conjunction with the Five-Year Operating Plan.

Additionally, it should be noted that the comment incorrectly states the Mile Post 7 dams would be raised. No change to the currently permitted final dam elevation of 1,315 ft amsl is being requested nor will it occur under the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 5.*

64. *Comment 22.G.64*: In addition, as explained above, DNR has failed to require a modern dam breach study that would fully analyze the expected effects of a dam failure at Mile Post 7 and has failed to publicly release the most up-to-date information it has regarding the effects of a tailings basin failure. Nor has DNR sufficiently exercised oversight over Northshore's operations so as to ensure that Northshore is properly monitoring the stability of the dams. This is shown by the repeated issues with missing or malfunctioning equipment, as explained above. These actions also show that DNR is not acting in a way that is certain to mitigate concerns about dam safety. It is failing in its obligations to inform the public about a potential environmental and safety hazard and to ensure that Northshore is properly monitoring the safety of the dams.

    *DNR Response*: The DNR disputes MCEA's opinion about DNR's regulation of the Mile Post 7 dams. As cited in ¶¶ 22.B.4, 22.B.5, 22.D.7, 22.G.60, the DNR exercises extensive regulatory oversight over Mile Post 7. As for public notifications, the DNR published the EAW for public review and comment, including identifying necessary permits and approvals for the Proposed Project, and has provided all requested data to interested parties to the extent allowed by the Minnesota Data Practices Act. The Proposed Project does not represent an expansion of risk related to Mile Post 7.

    Finally, the 2022 EAP includes a dam break analysis that provides a robust understanding of the consequences of a dam break at the Mile Post 7 Tailings Basin. This analysis evaluates the conditions of the dams as of 2023. *See Responses to Comments ¶¶ 22.G.44-46, 22.G.53-64*.

65. *Comment 22.G.65*: Other issues, too, show that DNR is failing to exert its full regulatory authority over the Mile Post 7 tailings basin. DNR has failed to set a definite term for the 1985 Permit to Mine that Northshore is requesting be amended for the Mile Post 7 Expansion, even though Minnesota Statutes require DNR to determine the term necessary for "the proposed mining operation, including reclamation or restoration.

*DNR Response*: Minnesota Statutes section 93.481, subd. 3a, requires the commissioner to set a term in any permit to mine that the commissioner issues. From 1981 (when the Mineland Reclamation Act was passed) until 2021, the DNR had interpreted this provision to allow a non-numeric time frame (i.e., the time the commissioner determined necessary to complete mining operations, closure, and post closure activities). *In re NorthMet Permit to Mine Application,* 959 N.W. 2d 731, 757-59 (Minn. 2021). It was the DNR's desire to prevent a mining company from walking away from restoration and leaving expensive restoration activities in the hands of taxpayers that drove this interpretation of the statutory language. *Id.* In 2021 the Minnesota Supreme Court ruled that DNR's interpretation the term "term" in Minn. Stat. § 93.48, subd. 3a, was incorrect and term meant a numeric term. *Id.*

The Permit to Mine that covers both Mile Post 7 and the Peter Mitchell Pit does not yet contain a numeric term because the Permit to Mine and all renewals and amendments thereto were issued prior to the Minnesota Supreme Court's decision in *In re NorthMet Permit to Mine Application.* On September 13, 2020, the permit term was amended in the Permit to Mine for the Peter Mitchell Pit/Mile Post 7. The current term continues until all lands are released from the Permit to Mine, following operations and reclamation. The Permit to Mine estimates that under normal conditions mining and reclamation will be completed by 2078. A substantial amendment to the Permit to Mine is pending as cited in EAW Item 9 and will include a numeric term. S*ee ¶ 9: 2023 EAW at .pdf 32*.

66. *Comment 22.G.66*: And DNR has failed to require sufficient financial assurance for the Mile Post 7 closure, despite a statutory requirement that DNR review the amount of financial assurance annually. In 2020, Northshore stated in a letter to DNR that its financial assurance for Mile Post 7's closure costs is only $4 million in the form of an irrevocable letter of credit. This is clearly an inadequate amount—even in 1988, closure costs were estimated at $18 million, and they surely have risen due to inflation, new development, and the enlargement of the Mile Post 7 Tailings Basin over thirty years.

    *DNR Response*: Increasing the financial assurance is planned for and is under review as part of the Permit to Mine Amendment Application for the Proposed Project. All project development identified in EAW Item 6b would be factored into financial assurance requirements (that are reviewed annually) over the remaining operating life to reclamation and final closure of the Tailings Basin. *See ¶ 9: 2023 EAW at .pdf 4-10.*

67. *Comment 22.G.67*: These deficiencies reveal a pattern, under which DNR has repeatedly failed to exert all of its ongoing regulatory authority over the Mile Post 7 tailings basin.

    *DNR Response*: See Response to Comment ¶ 22.G.64. The DNR exercises extensive regulatory authority at Mile Post 7.

68. *Comment 22.G.68*: When DNR has failed to require a dam safety permit, a dam breach study, or the upkeep of dam stability monitoring equipment, and has failed to exercise its regulatory authority over the Mile Post 7 tailings basin in other ways, DNR cannot assert that its ongoing regulatory authority is certain to prevent a dam breach. Accordingly, DNR cannot rely on its regulatory authority to avoid an EIS.

    *DNR Response*: DNR disagrees with the comment. *See Responses to Comments ¶¶ 22.B.3, 22.B.6, 22.G.6, 22.G.60-61, 22.G.64-65.*

69. *Comment 22.G.69*: The Mile Post 7 tailings basin already holds a massive amount of contaminated water and mining waste within its dams, and if DNR approves the Mile Post 7 Expansion, the tailings basin would hold hundreds of millions of tons more. Before DNR makes a decision about the proposal to expand the tailings basin, it must fully study the potential for significant environmental effects that would arise from a dam breach. As explained by Dr. Emerman, a full environmental review analyzing the effects of a dam breach enables all stakeholders, including state regulatory agencies, local governments, tribal governments, and the general public, either as individuals or as members of organizations, to determine whether the construction or expansion of a tailings dam is a wise decision. … There is no way for all stakeholders to decide whether [the Mile Post 7 Expansion] is a wise decision without knowing the full consequences (including all potential environmental, socioeconomic and cultural impacts) in the event of dam failure. Because of the potential for significant—and in fact devastating—environmental effects from a dam breach at the Mile Post 7 tailings basin, DNR must order an EIS or, at a minimum, supplement the EAW with this information before making any decisions regarding the Mile Post 7 Expansion.

    *DNR Response*: See Response to Comment 22.G.60 (discussing the differing roles of environmental review and dam break analysis).

H. Sierra Club

1. *Comment 22.H.1*: The EAW that the DNR prepared is totally insufficient and lacks crucial information. The EAW fails to analyze dam failure risks, let alone to avoid them or require that they be studied and disclosed to the public. The EAW contains no modern dam breach analysis, closure, reclamation plan, or financial assurance to protect Minnesota taxpayers. If there are to be any additions to this site a full Environmental Impact Statement (EIS) must be prepared along with proper permits.

    *DNR Response*: These comments are addressed in greater detail below.

2. *Comment 22.H.2*: The current EAW provides no environmental analysis of the potential and cumulative environmental effects of the location, structure, and height of the tailings basin

expansion. The EAW provides no analysis of the health and safety risks to the surrounding communities. The only EIS conducted by the state of Minnesota for the Mile Post 7 tailings basin was done in 1976, almost half a century ago. Nothing related to this project can proceed until an EIS is conducted and proper permitting takes place.

*DNR Response*: As discussed in detail in Response to Comment ¶ 22.B.2, the commenter is incorrect in characterizing the Proposed Project as an expansion of the Mile Post 7 Tailings Basin. The Proposed Project simply proposes to extend the dams, move the West Ridge Rail line, construct a new rail switchback, and develop a new clay borrow site. The Proposed Project allows the use of the remaining capacity of the Mile Post 7 Tailings Basin. The complete potential facility footprint, including remaining capacity at Mile Post 7, was studied in the 1975-76 EIS, and considered again in 1977 when the Master Permit was issued, and considered again in 1981-85 when the Permit to Mine was issued. To suggest that Mile Post 7 has not been subject to ongoing regulatory scrutiny is in error. *See Responses to Comments ¶¶ 22.G.6, 22.G.60-61, 22.G.65.*

The issue now before the DNR is whether the Proposed Project has the potential for "significant environmental effect" in accordance with the standards set forth in Minn. R. 4410.1700, subp. 7. Supporting documentation that evaluates the potential direct, indirect, and cumulative effects of the proposed dam extensions, new railroad switchback, and relocated railroad includes but is not limited to the EAW, the 2019-2023 Five Year Operation Plan, and the 2022 EAP. This analysis is found in Conclusions ¶¶ 1-5 of this decision. Regarding the request that the DNR prepare an EIS because of potential health and safety risks, the DNR directs the commenter to Response to Comment ¶ 22.G.60 (discussing purpose of environmental review versus purpose of dam regulation).

Regarding potential cumulative effects, this is addressed in EAW Item 21. *See ¶ 9: 2023 EAW at .pdf 90-93.*

3. *Comment 22.H.3*: The DNR has irresponsibly allowed the Mile Post 7 tailings basin to operate for more than 40 years without legally required permits. The 1977 "Master Permit" for the tailings basin said the permit would expire in 1982 and could only be renewed for five-year intervals by following applicable statutes. However, the last permit to mine for the Mile Post 7 tailings basin was issued in 1985 and expired long ago. The Mile Post 7 tailings basin has never had a dam safety permit required by Minnesota statutes and rules. The railroad built on the tailings basin site is not described on any permit. These violations are outrageous, irresponsible, and need to be remedied immediately.

   *DNR Response*: Comment noted. See Response to Comment 22.B.5 (discussing DNR's extensive regulation of the Mile Post 7 Tailings Basin).

Regarding the West Ridge Railroad, this type of infrastructure has been a feature of the facility since project inception. *See ¶ 29.g: EAW Appendix J7 - 2022 DNR ROD ¶¶ 111-114.* Contrary to the comment, the need for the original alignment to be relocated further west was identified in 1995, when the elevation of the embankment was at approximately elevation 1,220 ft amsl. *See ¶ 29.s: EAW Appendix J17 – 1995-1998 Five Year Operation Plan at 7-8, 36-37*. Finally, the requested Permit to Mine Amendment specifically requests approval to relocate the West Ridge Railroad from its current location to the new, proposed alignment. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment 1 – Permit to Mine Amendment at 1.*

Regarding the Permit to Mine, the Permit to Mine for Mile Post 7 is currently in effect. Further, an amended Permit to Mine is required prior to construction of the Proposed Project.

Finally, EAW Item 9 indicates the Proposed Project cannot proceed without DNR review and approval of the 2024-2028 Five Year Operation Plan. *See ¶ 9: 2023 EAW at .pdf 32.* Renewal of the Master Permit is a pre-requisite of the Proposed Project coincident with review and approval of the 2024-2028 Five Year Operation Plan. *See ¶ 28.b: 2023 DNR Letter to Northshore. See also ¶ 9: 2023 EAW at .pdf 32.* See ¶ 40 for the listing of permits and approvals required for the Proposed Project.

4. *Comment 22.H.4*: This project will result in damage to nearby wetlands and streams. It proposes to expand the height of the tailings by 50-80 feet. Also, expanding the basin so it is adjacent to a coal ash landfill and expanding tailings dams by 12,200 feet (more than two miles). The Sierra Club is concerned with the safety posed by a taller tailings dam and tailings pile, the location of tailings piles near a coal ash facility, and the instability of these changes given the unsafe "upstream" dam raises added by DNR without public notice in 1997. A failure at Mile Post 7 tailings dams would be catastrophic for downstream communities, Lake Superior, and the surrounding environment.

   *DNR Response*: The commenter is mistaken. The Proposed Project is not an expansion within the meaning of Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8*. *See also ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 61-91*.

   The dam extensions will not be raised above 1,315 ft amsl, so there is no proposed increase in the final dam height that now is currently permitted. This issue is addressed in more detail in Response to Comment ¶ 22.G.8, discussing the Proposed Project's dam height, tailing storage area, and capacity. *Id*. The Proposed Project simply allows the use of the totality of the Mile Post 7 Tailings Basin studied in the 1975-76 EIS, permitted in the Master Permit and permitted in the 1985 Permit to Mine.

Regarding upstream construction, the plan for the Proposed Project is centerline construction. *See Response to Comment ¶ 22.B.4.* In addition, the Proposer has prepared two modern dam break analyses, the most recent in 2022 that includes modeling of potential impacts to Lake Superior. *See Response to Comment ¶ 22.G.55.*

Regarding the potential for the Proposed Project to impact the industrial solid waste disposal facility, see Response to Comment ¶ 22.D.10.

Regarding potential effects to downstream communities from a dam break, see Responses to Comments ¶¶ 22.D.7, 22.G.23.

5. *Comment 22.H.5*: The Sierra Club is concerned with how this proposal would affect water resources both within the tailing basin area, and nearby. Losing more portions of Big Thirtynine Creek and Little Thirtynine Creek is unacceptable. Reshaping and redirecting stream channels is risky with unforeseen environmental consequences.

   *DNR Response*: In the late 1970s and in accordance with the 1977 Master Permit, water was diverted from the natural stream channels of Big Thirtynine and Little Thirtynine Creeks to reduce surface water flows into the future Tailings Basin originating from their upper watersheds. The upper reaches of both creeks were then diverted by constructing diversion channels to the Beaver River. These diversion channels disconnected the historic upper reaches of both creeks from their lower reaches leaving remnant segments of both creeks within and below the Tailings Basin. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 46, 141*. *See also ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 18*. These diversions were studied in the 1975 Draft EIS as noted in the 2022 DNR Record of Decision ¶¶ 133-134. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 45, 47, 220, 229, 231*. See *¶ 29.g: EAW Appendix J.7: 2022 DNR ROD at 43.*

   What remains in the Tailings Basin are remnants of both of Little Thirtynine and Big Thirtynine Creeks mainly below the 1,315 ft amsl contour. The diversion channels (i.e., Diversion 1 and Diversion 2) were designed and constructed as an original project feature that also mitigated for the project impacts associated with disconnecting the natural stream channels of Big Thirtynine and Little Thirtynine Creeks from their upper watershed. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 45.* Diversion 1 diverted Little Thirtynine Creek to Big Thirtynine Creek, while Diversion 2 diverted Big Thirtynine Creek to the Beaver River. *Id.* Once disconnected from their upper watershed, these remnant streams lost their trout stream designation. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 152*. The extension of Dam 1 and the relocation of the West Ridge Railroad would result in fill to the remnant portions of Big and Little Thirtynine Creeks. *See ¶ 9: 2023 EAW at .pdf 66.* No new reshaping or redirecting of the remnant stream channels is being proposed for the Tailings Basin Features. Because the remnant portions of the creeks are effectively isolated within the Tailings Basin, which

was the plan for the site all along, there are no portions of Big and Little Thirtynine Creeks being "lost" in the practical sense due to the Proposed Project.

On the other hand, the Stream Mitigation Projects for Big Thirtynine Creek and Little Thirtynine Creek propose to modify the Diversion Channels constructed in the 1970s to improve instream and riparian features, including improved trout habitat, from the existing condition (in place since the late 1970s due to the original stream diversions). The Little Thirtynine Creek mitigation project improves Diversion 1 while the Big Thirtynine Creek mitigation project improves Diversion 2. *See ¶ 9: 2023 EAW at .pdf 9*. These Stream Mitigation Projects have minimal risk of unforeseen environmental consequences. The stream restoration projects in total are designed to add instream and ecological functionality to the diversions, berms, and other measures installed 40 plus years ago to redirect flow around the Tailings Basin, which were located north of the planned active tailings management area. As for the Stream Mitigation Projects in total, these have been reviewed and found to represent application of state-of-the-art methods to improve both instream and riparian functions and values in a set of degraded stream systems. *Id. at .pdf 12.*

6. *Comment 22.H.6*: The Sierra Club is concerned with the loss of wetland areas resulting from this proposal. Constant loss of wetlands makes it impossible for sensitive species, who need this habitat, to ever make a recovery. "Direct wetland impacts would occur from construction of the relocated materials supply railroad and the proposed extensions of Dams 1 and 2. Approximately 43.8 acres of wetlands would be impacted by excavation and fill due to construction activities" (EAW, 63). "Indirect wetland impacts would also occur due to the Tailings Basin Features from impoundment resulting from construction of the new railroad embankment; these impacts would be permanent. Four (4) wetlands encompassing approximately 40.2 acres would be affected" (EAW, 63).

   *DNR Response*: The comment correctly notes that construction under the Proposed Project would result in both direct and indirect wetland impacts. These impacts have been subjected to the sequencing requirements for both WCA and CWA Section 404 and been determined to satisfy those requirements. Documents verifying this can be found in the administrative record supporting this Record of Decision. *See generally ¶ 29.dd: EAW Appendix J28 – USACE Environmental Assessment.* Furthermore, specific mitigation has been assessed for both wetland and stream impacts, the former being satisfied through purchase of wetland banking credits and the latter with implementation of the Stream Mitigation Sites (evaluated in this EAW). *See generally ¶ 29.a: EAW Appendix J1 – Debiting of WCA Credits. See also generally 29.dd: EAW Appendix J.28 – USACE Environmental Assessment.*

7. *Comment 22.H.7*: Mining activities often results in unforeseen and unplanned damage to the environment. Mining activities results in environmental damage to our land and water resources. Water is one of our most precious commodities, what's best for Minnesota's water

is also what's best for Minnesota's economy, health and wellbeing of Minnesota's citizens and future generations.

*DNR Response:* Mining activities, like all human activities on the landscape, have the potential for environmental effects. The purpose of this EAW is to review the evidence in the administrative record pertaining to the potential environmental effects of the Proposed Project on the environment, which is presented in EAW Items 6 through 21. *See ¶ 9: 2023 EAW at .pdf 4-93*. Given the multi-decade history of tailings management at Mile Post 7, a great deal of information is available regarding potential impacts to water resources, some of which has been previously compiled by DNR. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 26-30, 34-39, 44-52. See also generally ¶ 29.dd: EAW Appendix J28 – USACE Environmental Assessment. See also generally ¶ 28.k: 2018 MPCA TMDL.*

8. *Comment 22.H.8*: Climate change is already happening and with it will come extreme weather, droughts, loss of food sources and new diseases. It is our responsibility to ensure wildlife has the food, water, and range they need to breed and survive. Protecting wildlife habitat not only ensures that we will be able to enjoy our outdoor traditions for years to come – it also helps combat global warming. By keeping our wetlands and forests intact, we help clean up carbon pollution from the air and stop the worst impacts of global warming. If we want America's wildlife to survive, we must help them adapt by protecting critical habitat and creating wildlife corridors that will allow for migration as temperatures rise.

   *DNR Response*: EAW Item 7 addresses climate adaptation and resilience for the Proposed Project, including describing climate trends at the general location and how climate change is expected to affect that location during the life of the project. Table 4 addresses both the Tailings Basin Features and Stream Mitigation Sites with respect to climate adaptation. *See ¶ 9: 2023 EAW at .pdf 26-28*. For example, the site revegetation requirements of the reclamation procedures under Minn. R. ch. 6130 include soil stabilization and revegetation, which would partially offset potential climate change impacts as well as restore habitat values at the site in closure. *Id. at .pdf 7-8.*

9. *Comment 22.H.9*: It is the responsibility of the DNR to protect sensitive species so that their populations can once again flourish. The DNR is not fulfilling their duty and is losing this battle. Constant and relentless management projects chip away at what is left of sensitive species habitat. The EAW acknowledges the fact that the project area is likely habitat to many sensitive species and federally listed species:

   "The Tailings Basin Features and Stream Mitigation Sites are in a larger complex of scrub-shrub wetlands, forested wetlands, and forested uplands adjacent to the existing Tailings Basin. The area is likely used by commonly occurring species such as: migratory songbirds; small mammals such as voles, mice, shrews; and medium to large mammals such as snowshoe

hare, bobcat, Canada lynx, red fox, gray fox, American marten, fisher, moose, white-tailed deer, bear, and gray wolf among others" (EAW, 72).

"The Proposer reports a review of USFWS Information for Planning and Consultation (IpaC) tool was used to identify federally listed species that may occur within the Project area. The review identified three threatened mammals including the Canada lynx (*Lynx canadensis*), northern long-eared bat (*Myotis septentrionalis*), gray wolf (*Canis lupus*); one endangered bird, the piping plover (*Charadrius melodus*); and one candidate species for the monarch butterfly (*Danaus plexippus*)" (EAW, 76).

The EAW goes on to erroneously conclude that: "The Project would also result in minor adverse impacts to common wildlife species due to the loss of approximately 339.1 acres of wildlife habitat because of the conversion of land use for the construction of Dam 1, Dam 2, rail switch back, railroad embankment, and clay borrow pit. For common wildlife species, this loss is considered minor because their populations are stable" (EAW, 77).

After just listing many sensitive species and federally listed species, to then label them as "common" is misleading and false. Their populations are not stable, otherwise they would not have state and federal designations as sensitive, threatened, and protected.

*DNR Response*: The comment is incorrect. EAW Item 14c addresses anticipated impacts to common species as well as specific potential impacts to state and federally listed species. The language in EAW Item 14c is not meant to suggest that any federally or state listed species are deemed "common." Rather EAW Item 14c addresses both common as well as state and federally listed species. For the latter, EAW Item 14c addresses these listed species: rock fir moss; alpine woodsia; smoky shrew; twig rush; neat spike rush; black hawthorn; Torrey's mannagrass; moose; mountain lion; piping plover; Canada lynx; gray wolf; and northern long-eared bat. The EAW does not equate listed species with common species as stated in the comment. *See ¶ 9: 2023 EAW at .pdf 76-79.*

10. *Comment 22.H.10*: Next the EAW admits that this project will negatively impact moose and that mountain lions have been documented in the area:

"Habitat for moose is likely available within the Project area. The key habitat types considered moose habitat include mature forest, grassland/brushland, and aquatic environments. As such, the project would likely affect individuals in the vicinity through habitat loss and fragmentation for the Tailings Basin Features, though not likely at the population level" (EAW, 78).

"There is no evidence that the mountain lion has a self-sustaining, breeding population in Minnesota, although some sightings are confirmed in the state including on camera near the

Project site. The species is highly mobile and seems to be nomadic in their presence in the state" (EAW, 78).

Sensitive species such as moose and mountain lions need to be protected along with their habitat. Moose populations have been declining in northern Minnesota in recent years. As the climate steadily warms, it is important for the DNR to assure the continued survival of moose by protecting their habitat. Moose need wetlands, muskeg, and marsh areas, and this project will result in negative effects to wetland areas and other water resources, disturbing or displacing this species from critically needed refugia.

*DNR Response*: EAW Item 14c documents that habitat for both moose and mountain lion occur in the Proposed Project area, which in turn introduces the possibility of some measure of human disturbance impact on these species. Based on the minimal area of the Proposed Project impact versus the range of both species, no impacts to either species are anticipated at the population level. *See ¶ 9: 2023 EAW at .pdf 78.* DNR notes revegetation requirements during reclamation and closure could serve to mitigate any long-term effects from habitat conversion but that would not happen until operations cease in an estimated 40 years.

11. *Comment 22.H.11*: Allowing for a massive 650-acre expansion without proper permits and environmental review endangers our precious natural resources, Lake Superior, and the people of the communities in Northern Minnesota. This project cannot proceed in its current form. An EIS must be prepared, and proper permitting completed.

    *DNR Response*: As set forth in Response to Comment ¶ 22.G.8, the Proposed Project is not an expansion and does not require preparation of an EIS. The Proposer has proposed to extend the Tailings Basin dams and relocate the West Ridge Rail line to allow the Mile Post 7 Tailings Basin to be used to its full capacity (i.e., the capacity studied in the 1975-76 EIS, permitted by the 1977 Master Permit and the 1985 Permit to Mine). The Proposed Project also includes undertaking stream mitigation at six sites geographically separate and distinct from the Mile Post 7 Tailings Basin.

    The purpose of this EAW is to determine whether the Proposed Project, which includes the associated mitigation for filling the remnant of Big Thirty-nine and Little Thirty-Nine Creeks, "ha[s] the potential for significant environmental effects" in accordance with the standards set forth in Minn. R. 4410.1700. This analysis is found in Conclusions ¶¶ 1-5 of this decision and EAW Items 3 through 21.

I. WaterLegacy

1. *Comment 22.I.1*: The attached comments on the Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project – Environmental Assessment Worksheet

(EAW) are submitted by WaterLegacy and joined by Northeastern Minnesotans for Wilderness (NMW). We request that the Minnesota Department of Natural Resources (DNR) take the following actions:

A. Prepare an environmental impact statement (EIS) for all proposed new, extended and expanded Mile Post 7 tailings basin features, including cumulative impacts of project developments since the 1977 EIS because the proposed project, including cumulative impacts, has the potential for significant environmental effects not subject to effective mitigation by ongoing public authority. Minn. Stat. § 116D.04; Minn. R. 4410.1700, subp. 7(A)-(D); Minn. R. 4410.2000, subp. 3(A).

*DNR Response*: See Response to Comment ¶ 22.H.11.

B. Analyze in that EIS: 1) the potential environmental and safety impacts of dam breach and failure for upstream and "offset upstream" dam raises constructed on top of uncompacted tailings near Lake Superior; 2) all project features with the potential for significant impacts to wetlands and water resources; and 3) potential alternatives to avoid, minimize, or mitigate such effects.

*DNR Response*: An RGU is not required to assume that a dam breach would occur or to undertake environmental review of the consequences of speculative events such as a dam breach. *Reserve Mining Co. v. Herbst*, 256 N.W. 2d 808, 829-30 (1977). *See Responses to Comments ¶¶ 22.G.60, 22.B.3, 22.G.28.*

As for impacts to wetlands and water resources, the EAW explains that mitigation for both impacts to remnant streams in the Tailings Basin and for wetlands in the tailings basin will occur under the CWA section 404 permit and the WCA wetland replacement plan. Impacts to wetlands are mitigated by ongoing public regulatory authority and therefore an EIS is not required. *See Response to Comment ¶ 22.H.6.*

C. Require the applicant, Northshore Mining Company (Northshore), a wholly owned subsidiary of Cleveland-Cliffs, Inc. (Cliffs) to apply for a Dam Safety Permit for the Mile Post 7 tailings basin and evaluate issuance of that permit in a formal, open process that allows for public notice and comment. Minn. Stat. ch. 103G, Minn. R. ch. 6115.

*DNR Response*: The Master Permit is the dam safety permit for the Mile Post 7 Tailings Basin. The Master Permit incorporates dam safety requirements and authorizes construction of dams, with the Five Year Operation Plan as a requirement under the permit. DNR has not issued a separate Dam Safety Permit for Mile Post 7 because the Master Permit contains the dam safety requirements and is simply called by another name. *See Response to Comment ¶ 22.B.5.*

D. Require Northshore to apply for renewal of its permit to mine and an amendment pertaining to the Mile Post 7 tailings dam and evaluate approval of that renewal and amendment as a substantial.

Many of the facts supporting the requested actions are not disputed. The factual background and the authorities and arguments upon which we rely are stated in the following pages.

*DNR Response*: Northshore has requested an amendment to its Permit to Mine. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment 1 – Permit to Mine Amendment*. DNR intends to consider this as a substantial amendment to the Permit to Mine. Northshore has also requested renewal of the Master Permit, which is a necessary approval of the Proposed Project. *See ¶ 28.y: 2023 Northshore Letter to DNR*.

2. *Comment 22.I.2*: Details of the Mile Post 7 Proposed Project are provided in the DNR EAW for Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project, December 2022 version (EAW) and in the DNR's Record of Decision Findings of Fact, Conclusions and Order Denying an EAW for the Mile Post 7 Tailings Basin Progression, February 4, 2022, EAW Appendix J7 (DNR 2022 ROD).

   *DNR Response*: Comment noted.

3. *Comment 22.I.3*: Elements of the Proposed Project, DNR 2022 ROD ¶ 48, are shown below: [a figure taken from the DNR 2022 ROD is provided].

   *DNR Response*: The comment references a figure contained in the 2022 DNR ROD that was updated in the EAW. Appendix A.1 of the project EAW depicts the Tailings Basin Features of the Proposed Project evaluated under this Record of Decision, including the: Dams 1 and 2 extensions; relocated West Ridge Railroad; new Dam 1 rail switchback; and new clay borrow area. *See ¶ 9.w: 2023 EAW at Appendix A.1: Tailings Basin Features Site Plan.*

4. *Comment 22.I.4*: Based on these DNR documents, the Proposed Project would include: a) Extension of existing Dams 1 and 2 at their western ends by 8,100 feet and 4,100 feet respectively, for a total increase of 12,200 feet of tailing dams. DNR 2022 ROD at 78.

   *DNR Response*: The comment incorrectly references Proposed Project specifications that have been updated in the EAW since the 2022 DNR ROD. EAW Item 6b indicates Dams 1 and 2 would be extended approximately 6,600 feet and 2,350 feet respectively. *See ¶ 9: 2023 EAW at .pdf 5*. This amounts to a total increase of 8,950 feet of new tailing dam construction under the Proposed Project.

5. *Comment 22.I.5*: Based on these DNR documents, the Proposed Project would include: b) Relocation of the West Ridge Railroad approximately 4000 feet to the northwest. DNR 2022 ROD ¶ 47c. The proposed rail embankment would allow relocation of the railroad currently on the west side of the tailings basin; it be approximately 3,700 feet long and would cover 8.40 acres. EAW at pdf 7.

   *DNR Response*: The comment is incorrect. The Proposed Project has been updated since the 2022 DNR ROD to include a new rail switchback. EAW Item 6b indicates the embankment for the new Dam 1 rail switchback "would be approximately 3,700 feet long and would cover 8.40 acres." *See ¶ 9: 2023 EAW at .pdf 7*. EAW Item 6b also states that the proposed relocated West Ridge Railroad corridor would cover approximately 51.5 acres and be 21,950 feet long. *Id.*

6. *Comment 22.I.6*: Based on these DNR documents, the Proposed Project would include: c) A 650-acre extension of the tailings basin, increasing the current area covered with tailings from approximately 2,150 acres to an anticipated 2,800 acres of tailings DNR 2022 ROD ¶ 47b, page 78.

   *DNR Response*: The Proposed Project does not include continued progression of the Tailings Basin by an additional 650 acres to a final elevation of 1,305 ft amsl. The use of this acreage for tailings deposition was evaluated in the 1975-76 EIS and subsequently approved in the 1977 Master Permit and 1985 Permit to Mine. The current Proposed Project is to extend the dams at the Tailings Basin and relocate the railroad to allow Northshore to use the full capacity of the Tailings Basin previously approved. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 5.* EAW Item 6f correctly discusses past development and how it relates to the Proposed Project, recognizing that "[t]he proposed Project, if implemented, would allow Northshore to use the remaining 650 acres of the Tailings Basin already permitted for placement of fine tailings." *See ¶ 9: 2023 EAW at .pdf 18*.

   See Response to Comment ¶ 22.G.8 for a figure depicting the westward progression of tailings placement over the operating life of the Mile Post 7 Tailings Basin.

7. *Comment 22.I.7*: Based on these DNR documents, the Proposed Project would include: e) Loss of 66.73 acres of wetlands and shallow lakes and 249.54 acres of wooded/forest. EAW at 30. Approximately 264 acres of direct wetland impacts and 45 acres of indirect wetland impacts. DNR 2022 ROD at 78.

   *DNR Response*: Because the Proposed Project does not include continued progression of the Tailings Basin to the west-northwest to the final permitted elevation, the comment includes impacts not attributable to the project. EAW Table 16 indicates the Proposed Project would directly impact 43.8 acres of wetlands, along with 45.5 acres of indirect impacts due to

fragmentation and impoundment, all associated with construction of the Tailings Basin Features. *See ¶ 9: 2023 EAW at .pdf 63-64*. Northshore is mitigating wetland impacts associated with the continued progression of the tailings basin. *See ¶ 9: 2023 EAW at .pdf 64*.

8. *Comment 22.I.8*: Based on these DNR documents, the Proposed Project would include: f) Filling the remaining portions of Big Thirtynine Creek and Little Thirtynine Creek, located within the Tailings Basin, EAW at 5, resulting in direct impacts to 5,150 feet of Big Thirtynine Creek and 3,420 feet of Little Thirtynine Creek. Minnesota Pollution Control Agency (MPCA) Section 401 Certification, June 29, 2021, EAW Appendix J16 (MPCA 401) at 1.

   *DNR Response*: The comment only partially applies to the Proposed Project and thus is incorrect. This is because the Proposed Project does not include the continued progression of the Tailings Basin to the final pool elevation of 1,305 ft amsl. Rather, EAW Item 12b.iv identifies the Tailings Basin Features component of the Proposed Project would directly impact 1,710 linear feet of the remnant portions of Big and Little Thirtynine Creeks. *Id. at .pdf 66*. This equates to 0.54 acres of direct impacts from construction of the Dam 1 extension and relocating the West Ridge Railroad under the Proposed Project. Rather, the values cited in the comment are not due to the Proposed Project but would result from the previously permitted upslope progression of tailings planned to be deposited in the facility to the 1,305 ft amsl contour over the remaining operating life of the Peter Mitchell Mine.

9. *Comment 22.I.9*: Based on these DNR documents, the Proposed Project would include: g) Effects on 8,570 linear feet of stream resources due to: construction of the Dam 1 extension and rail switchback (1,675 feet), tailings basin progression (3,368 feet), and impoundment or the seepage pond and pumphouse (3,527 feet). DNR Internal Memo Mile Post 7 Environmental Review Need Determination, June 28, 2021, EAW Appendix J2 (DNR 2021 ER Memo) at 37.

   *DNR Response*: The comment is incorrect because the Proposed Project assessed in the EAW has been defined to exclude the continued placement of tailings within the basin, which has already been evaluated and approved. *See ¶ 9: 2023 EAW at .pdf 20. See also Responses to Comments ¶ 22.I.8, ¶ 22.I.1.*

10. *Comment 22.I.10*: Based on these DNR documents, the Proposed Project would include: h) Excavation of a clay borrow site of approximately 100 acres outside the EIS study area for ongoing construction of Dam 5. DNR 2022 ROD ¶ 47d.

    *DNR Response*: As set forth in EAW Item 6b, the Proposed Project includes excavation of a clay borrow site on approximately 108 acres of company-owned land. *See ¶ 9: 2023 EAW at .pdf 7-8.* Although not assessed in the 1975-76 Final EIS, state environmental review of this site is being conducted with this EAW as a part of the Tailings Basin Features.

11. *Comment 22.I.11*: Based on these DNR documents, the Proposed Project would include: i) Approximately 30.08 acres of new Dam 2 and railroad construction occurring outside the EIS study areas of both the 1975-76 DNR Final EIS and the 1977 USACE Final EIS for the Mile Post 7 tailings basin. DNR 2022 ROD ¶ 96.

    *DNR Response*: The Proposer has confirmed that the acreage cited in the comment is incorporated into the Proposed Project at Dam 2. Although not assessed in the 1975-76 Final EIS, state environmental review of this part of the greater Proposed Project site is being conducted with this EAW.

12. *Comment 22.I.12*: In 1974, the United States District Court found that the discharge of tailings into Lake Superior by Reserve Mining Company was a violation of the Federal Water Pollution Control Act, enjoined further disposal in the Lake, and ordered Reserve Mining to find an on-land disposal site for its tailings. *See* EAW Appendix J31.

    *DNR Response*: EAW Item 6f includes a high-level summary of Reserve Mining's history and the litigation that led to the construction of the Mile Post 7 Tailings Basin. *See ¶ 9: 2023 EAW at .pdf 13.* A detailed summary of these events can also be found in the administrative record for this Record of Decision, the petitions 2022 DNR Record of Decision, and the 2021 DNR ER Need Determination*. See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 31-33. See also ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 19-20.*

13. *Comment 22.I.13*: In 1975 and 1976, DNR and MPCA jointly prepared an EIS for the proposed Reserve Mining Company On Land Tailings Disposal Plan. The 1975 Draft EIS is provided in EAW Appendix J9.a.

    *DNR Response*: EAW Item 6f includes a high-level summary of the environmental review that occurred prior to the construction of the Mile Post 7 Tailings Basin. *See ¶ 9: 2023 EAW at .pdf at 18-19.* Previous environmental review included preparation of a state Environmental Impact Statement, including a Draft EIS. *See generally ¶ 29.k: EAW Appendix 10.a – 1975 Draft EIS.* A detailed summary of these events can also be found in the administrative record for this Record of Decision, the petitions 2022 Record of Decision, and the 2021 DNR ER Need Determination*. See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 34-38. See also ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 20.*

14. *Comment 22.I 14*: Public hearings were held from June 23, 1975, through March 18, 1976; 17,884 pages of transcript were taken from 160 witnesses; the State's Final EIS was deemed complete on June 2, 1976; and Findings and Conclusions, and Recommendations for the Final EIS were issued. DNR and MPCA, Final EIS for Northshore MP7 Tailings Basin, June 2, 1976,

EAW Appendix found in J9.a starting at pdf page 356 (1976 FEIS) at 3, 46 (numbered FEIS pages).

*DNR Response*: Comment noted.

15. *Comment 22.I.15*: The 1976 Final EIS recommended the Midway alternative tailings basin site concluding, "The record in this proceeding clearly establishes that Mile Post 7 is not a suitable location for disposal of Reserve's tailings and would be contrary to law." 1976 Final EIS at 3, 46.

    *DNR Response*: This statement is factually correct. The 1975-76 Final EIS, which was issued after a six-month hearing before an ALJ, analyzed a number of preferred alternatives, which included Mile Post 20/Midway and Mile Post 7. Mile Post 7 was not the preferred alternative where the ALJ found Mile Post 20/Midway to be an environmentally preferable site. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 18. See also ¶ 29.bb: EAW Appendix J26 – Reserve Mining Co. v. Herbst,* 256 N.W. 2d 808, 812 (Minn. 1997). Both the DNR and the MPCA preferred the Midway Site. *Id.*

    The purpose of this EAW is not to remake the siting decision made over 40 years ago. The question before the DNR now is whether the Proposed Project (i.e., Tailings Basin Features; Stream Mitigation Sites) at the Mile Post 7 Tailings Basin has the potential for significant environmental effects. Minn. R. 4410.1700, subp. 1.

16. *Comment 22.I.16*: DNR and MPCA denied permits for use of the Mile Post 7 site, and Reserve Mining appealed to state district court, which ordered the state agencies to grant Reserve Mining permits for the Mile Post 7 site. U.S. Army Corps of Engineers (USACE) Final EIS, Mar. 1977, WL Ex.1 (1977 USACE FEIS) at 5.

    *DNR Response*: The DNR agrees that the decision of the three-judge district court panel and the Minnesota Supreme Court ordering the DNR and the MPCA to issue a permit to Reserve Mining for Mile Post 7 was contrary to the position taken by the ALJ, the DNR, and the MPCA, all of which found the Mile Post 20/Midway site to be the environmentally preferrable site. The three-judge panel and the Minnesota Supreme Court issued their decisions ordering the agencies to issue a permit for the Mile Post 7 site over 40 years ago after hearing and weighing the evidence. DNR is not in a position to review the evidence presented to the three-judge panel and modify its permitting decision based on evidence presented over 40 years ago.

    EAW Item 6f states this "[t]his site was selected, and permits were issued, for the Mile Post 7 Tailings Basin only after completion of environmental review of the entire footprint of the Mile Post 7 Tailings Basin as well as alternatives sites, extensive public input, *and extensive litigation* culminating in an order from the Minnesota Supreme Court directing the state to

issue permits necessary to construct and operate the Mile Post 7 Tailings Basin in 1977." [emphasis added]. *See ¶ 9: 2023 EAW at .pdf 13.*

17. *Comment 22.I.17*: On appeal, the Minnesota Supreme Court ordered DNR and MPCA to issue a permit for its preferred site at Mile Post 7. Reserve Mining Co. v. Herbst, 256 N.W. 2d 808 (Minn. 1977).

    *DNR Response*: See Response to Comment ¶ 22.I.16.

18. *Comment 22.I.18*: On August 23, 1977, DNR issued a Master Permit for the Mile Post 7 tailings basin and dams pursuant to Minnesota Statutes Chapters 105 and 116D. EAW Appendix J3 (1977 Master Permit) at 4.

    *DNR Response*: The cited document is a letter from the Commissioner of the Department of Natural Resources detailing the conditions of the Master Permit. *See generally ¶ 29.c: EAW Appendix J3 – 1977 Master Permit*. EAW Item 6f requires the RGU to detail past development, previous environmental review, and timelines. *See ¶ 9: 2023 EAW at .pdf 14.*

19. *Comment 22.I.19*: On March 1, 1985, DNR issued a permit to mine for the Peter Mitchell mine, stockpiles, railroad, plant, and tailings basin. EAW Appendix J5 (1985 PTM) at 1. The 1985 permit to mine incorporated the 1977 Master Permit plans and schedules by reference. Id. at 3.

    *DNR Response*: The cited document is the Permit to Mine granting Reserve Mining Company the permission to conduct a mining operation in St. Louis and Lake Counties for the production of taconite pellets. *See ¶ 29.e: EAW Appendix J5 – 1985 Permit to Mine. See also ¶ 29.y: EAW Appendix J23 – 1981 Permit to Mine Application.*

20. *Comment 22.I.20*: DNR has not identified other formal permits or amended permits pertaining to the Mile Post 7 tailings basin and dams. See e.g., EAW, DNR 2022 ROD, DNR 2021 ER Memo.

    *DNR Response*: The comment is incorrect. EAW Item 9 identifies several separate approvals, including the Permit to Mine amendment, that must be rendered by the respective governmental authorities before construction may commence on the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 32.* Renewal of the Master Permit is a pre-requisite of the Proposed Project. *See ¶ 28.b: 2023 DNR Letter to Northshore.*

21. *Comment 22.I.21*: The EAW's chronology states, "August 1995 1977 Master Permit renewed." The document cited by DNR is a letter renewing the "master permit" that was issued on

August 17, 1989, and citing several later unspecified modifications. DNR Letter, August 30, 1995, EAW Appendix J4. (DNR 1995 Letter).

*DNR Response*: The cited document is notification by the DNR Director for the Division of Lands and Minerals to Northshore Mining Company, Cleveland-Cliffs Inc., and Cyprus Minerals Company of the Mile Post 7 Master Permit renewal as of August 30, 1995. *See ¶ 29.d: EAW Appendix J4 – 1995 Master Permit Renewal*. The letter cites several previous modifications to the Master Permit. DNR acknowledges a more precise listing would read: August 1995 Master Permit renewed."

22. *Comment 22.I.22*: The August 17, 1989, document cited by DNR is a stipulation reflecting the Cyprus Northshore Mining Corporation (Cyprus) purchase of Reserve Mining assets from the bankruptcy trustee and providing for shutdown, closure, and reclamation of Mile Post 7. Stipulation Agreement in re Reserve Mining Co., August 17, 1989, EAW Appendix J27 (1989 Stipulation).

    *DNR Response*: The cited document is a Stipulation Agreement between the state of Minnesota (through the DNR and MPCA), Reserve Mining Company, and Cyprus Minerals addressing the latter's purchase of certain assets of Reserve Mining Company. *See ¶ 29.cc: EAW Appendix J27 – 1989 Stipulation Agreement.* It is relevant to EAW Item 6f that requires the RGU to detail past development, previous environmental review, and timelines.

23. *Comment 22.I.23*: According to a 2005 document, Cliffs, through a wholly owned subsidiary mining company, purchased the stock from Cyprus in 1994 and renamed the mining company Northshore Mining Company. See Mile Post 7 Master Permit Amendment and Assignment of the Permit to Mine, March 7, 2005, EAW Appendix J6 (2005 PTM Assignment).

    *DNR Response*: The cited document is a cover letter, which is from the Corporate Attorney for Cleveland-Cliffs, Inc. to the DNR Division of Lands and Minerals Director, conveying the acknowledged DNR Record of Decision officially: 1) amending the Master Permit to replace Northshore Mining Company with Cleveland Cliffs, Inc. as permittee; and 2) assigning the Permit to Mine entitled "Permit to Mine Reserve Mining Company #1" to Cleveland Cliffs, Inc. *See ¶ 29.f: EAW Appendix J6 – 2005 Permit to Mine Assignment.*

24. *Comment 22.I.24*: Eleven years later, in March 2005, DNR and Cliffs signed a document assigning the permit to mine to Northshore and stating that the Mile Post 7 tailings basin permit, the "1977 Master Permit" in these proceedings, was "amended and transferred" to Cyprus in 1989 and "further modified," "renewed," and "extended" numerous times through 2004. 2005 PTM Assignment.

*DNR Response*: The statement is factually correct. *See ¶ 29.f: EAW Appendix J6 – 2005 Permit to Mine Assignment.*

25. *Comment 22.I.25*: On August 18, 2016, Northshore notified DNR that it proposed to relocate the Mile Post 7 railroad, extend the existing tailings basin to the west, and increase the height of the tailings basin to 1,365 feet amsl. DNR Memo, Mile Post 7 Railroad Realignment & Tailings Basin Progression, March 16. 2017, WL Ex. 2 (DNR 2017 ER Memo) at 1-2. DNR denied the need for a supplementary EIS for the Mile Post 7 Project on March 16, 2017. Id. at 6.

    *DNR Response*: On August 18, 2016, Northshore submitted a request to amend its Permit to Mine regarding operations at its Mile Post 7 Tailings Basin. The amendment involved continued progression of tailings within the Tailings Basin, relocating the West Ridge Railroad, and raising the final dam heights of Dams 1 and 2 by an additional 50 feet to 1,365 ft amsl. *See generally ¶ 28.l: Northshore ER and Permitting Summary.* DNR analyzed the proposed changes against the criteria under Minn. R. 4410.3000, subp. 3B, and determined preparation of a supplemental EIS was not required. *See generally ¶ 28.m: 2017 DNR ERND.*

    Northshore subsequently withdrew the amendment, revised it, and submitted the revised amendment to DNR on December 15, 2020. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment 1 – Permit to Mine Amendment.* The revised Permit to Mine Amendment request did not change the final dam height from the previously permitted elevation of approximately 1,315 ft amsl, which allows for a 10-foot freeboard from the top of the dams to the final pond elevation. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Figure 1.* This represents no change from the final dam heights permitted in the 1977 Master Permit and 1985 Permit to Mine. *See Response to Comment ¶ 22.C.3.*

26. *Comment 22.I.26*: On September 21, 2020, in response to a Clean Water Act Section 404 Notice for the Mile Post 7 tailings basin expansion, WaterLegacy sent both DNR and USACE comments requesting environmental review before approving the project. WaterLegacy Comments on Milepost 7 Tailings Basin Expansion, September 21, 2020, WL Ex. 3.

    *DNR Response*: The correspondence was outside any Minn. R. ch. 4410 public comment period but as outlined in Response to Comment ¶ 22.I.27, DNR nonetheless has considered the substantive content of the correspondence in the context of the 2020 permit amendment request.

27. *Comment 22.I.27*: In response to WaterLegacy's September 2020 comments, DNR denied the need for environmental review. DNR 2021 ER Memo at 65.

    *DNR Response*: DNR received a revised request to amend the Permit to Mine on December 15, 2020, and again evaluated the Proposed Project in accordance with the requirements of

Minn. R. ch. 4410. DNR determined on June 28, 2021, that the Proposed Project: 1) was not exempt under Minn. R. 4410.4600; 2) did not require mandatory preparation of an EAW under Minn. R. 4410.4300; and 3) did not require preparation of a supplemental EIS under Minn. R. 4410.3000. *See generally ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND.*

28. *Comment 22.I.28*: WaterLegacy, along with 365 Minnesota residents, petitioned DNR on November 9, 2021, to prepare an EAW for the Mile Post 7 Project. WaterLegacy Petition for EAW, November 9, 2021, WL Ex. 4 (WL Petition). The Petition asserted that stream impacts, among other factors, made preparation of an EAW mandatory. Id. at [CITE].

    *DNR Response*: The EQB transferred two citizen petitions to DNR on November 15, 2021, and December 21, 2021, respectively. DNR evaluated the petitions in accordance with the requirements under Minn. R. 4410.1100, including the material evidence contained therein.

    The petitions and associated material evidence posited potential impacts to the remnant portions of Big and Little Thirtynine Creeks triggered mandatory environmental review. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 15c, 58e*. More specifically, petitioners alleged that stream impacts from the relocation of the West Ridge Railroad and planned progression of tailings alone would require preparation of a mandatory EAW because these stream reaches were designated trout streams. This is because the diversion, realignment, or channelization of any designated trout stream requires preparation of a mandatory EAW under Minn. R. 4410.4300, subp. 26. *Id. at ¶ 151*. DNR found that the trout stream designation for the remnant stream reaches identified in the petitions had been rescinded and reapplied to the previously constructed diversions to the Beaver River, thus preparation of a mandatory EAW was not required under the cited rule. *Id. at ¶¶ 152-153.*

29. *Comment 22.I.29*: In response to WaterLegacy and MCEA petitions for an EAW, on February 4, 2022, DNR's formal Record of Decision concluded that an EAW would not be prepared for the Mile Post 7 Project. DNR 2022 ROD at 82.

    *DNR Response*: DNR's Record of Decision on the EAW petitions speaks for itself. *See generally ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD.*

30. *Comment 22.I.30*: On March 15, 2022, DNR published an EAW for the Big Thirtynine and Little Thirtynine Creek Mitigation Project. Northshore notified DNR that the mitigation project would be withdrawn to provide new data and requested that DNR stop work on the EAW.

    *DNR Response*: DNR released for public comment and review a mandatory EAW for the proposed Big Thirtynine and Little Thirtynine Creek Mitigation, Beaver Bay Township, Lake County, Minnesota project. At the request of the Proposer, DNR withdrew and terminated the EAW so the project data submittal could be revised and expanded to include the balance

of new mitigation projects, plus the first stream mitigation projects proposed and pending before the agency, as well as certain proposed changes at the Mile Post 7 Tailings Basin. *See ¶ 28.o: 2022 Stream Mitigation EAW Termination Letter*.

31. *Comment 22.I.31*: DNR subsequently resumed the process of preparing an EAW for the Mile Post 7 West Ridge Railroad Relocation, Dam Extension, and Stream Mitigation Project, which was provided to the public on April 18, 2023.

    *DNR Response*: Northshore as Proposer submitted a filled-out EAW form on August 31, 2022, for the proposed Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project EAW. *See ¶ 7.* Once determined complete, pursuant to Minn. R. 4410.1500, the EAW was noticed in the EQB *Monitor* and distributed to the entities on the EQB EAW Distribution List and other interested parties on April 18, 2023. *See ¶ 10.*

32. *Comment 22.I.32*: Minnesota Statutes 116D.04, subd. 2a, requires: "(a) Where there is potential for significant environmental effects resulting from any major governmental action, the action must be preceded by a detailed environmental impact statement prepared by the responsible governmental unit." In addition, subd. 2a (d) states that the "responsible governmental unit's decision on the need for an environmental impact statement must be based on the environmental assessment worksheet and the comments received during the comment period."

    *DNR Response*: The Minnesota Statute speaks for itself and is read and analyzed in full by the RGU together with other applicable statutes, rules, and law the RGU determines may apply.

33. *Comment 22.I.33*: Minnesota Rules part 4410.2000, subp. 3A, directs a responsible governmental unit (RGU) to prepare a discretionary EIS: when the RGU determines that, based on the EAW and any comments or additional information received during the EAW comment period, the proposed project has the potential for significant environmental effects; or B. when the RGU and the proposer of the project agree that an EIS should be prepared.

    *DNR Response*: The Minnesota Rule speaks for itself and is read and analyzed in full by the RGU together with other applicable statutes, rules, and law the RGU determines may apply.

34. *Comment 22.I.34*: Criteria that must be used to decide whether a project has the potential for significant environmental effects include these factors: A. "type, extent, and reversibility of environmental effects"; B. "cumulative potential effects"; and C. "the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority." Minn. R. 4410.1700, subp. 7.

*DNR Response*: The Minnesota Rule speaks for itself and is read and analyzed in full by the RGU together with other applicable statutes, rules, and law the RGU determines may apply. Here, the comment's listing of applicable criteria under Minn. R. 4410.1700, subp. 7, is incomplete. The full citation reads:

A. type, extent, and reversibility of environmental effects;

B. cumulative potential effects. The RGU shall consider the following factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the project;

C. the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. The RGU may rely only on mitigation measures that are specific and that can be reasonably expected to effectively mitigate the identified environmental impacts of the project; and

D. the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs.

35. *Comment 22.I.35*: "Cumulative potential effects" includes incremental effects of a project on the environment in addition to other past and future projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources. Minn. R. 4410.0200, subp. 11a.

    *DNR Response*: This Minnesota Rule speaks for itself and is read and analyzed in full by the RGU.

36. *Comment 22.I.36*: DNR has concluded that the Mile Post 7 Proposed Project does not fall within any of the exemptions from environmental review contained in Minn. R. 4410.4600. DNR 2022 ROD ¶ 56.

    *DNR Response*: EAW Item 4 indicates the Proposed Project requires a mandatory EAW under Minn. R. 4410.4300, subp. 26, where DNR as RGU has defined the Proposed Project to include the Tailings Basin Features and Stream Mitigation Sites as detailed in EAW Item 6b. *See ¶ 9: 2023 EAW at .pdf 1, 5.*

Regarding potentially exempt features, EAW Item 6f identifies the originally proposed Tailings Basin with final dam elevations set at 1,315 ft amsl, plus the diversions of Big Thirtynine and Little Thirtynine Creeks that bifurcated the upper watershed from the remnant stream reaches within the interior of the Tailings Basin, underwent previous environmental review in the 1975-76 Final EIS. *See ¶ 9: 2023 EAW at .pdf 18. See also ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at viii.* This past development is exempt from environmental review under Minn. R. 4410.4600, subp. 2E, which exempts "projects for which environmental review has already been completed or for which environmental review is being conducted pursuant to part 4410.3600 or 4410.3700." Minn. R. 4410.4600, subp. 2E. In addition, EAW Item 6f identifies previous development for the water treatment plant and ash disposal facility was completed in 1985 and 2000 respectively; because these project features are substantially complete and an EIS would not influence remaining construction, this past development is exempt from environmental review. Minn. R. 4410.4600, subp. 2D.

37. *Comment 22.I.37*: The State's 1976 Final EIS required that tailings dams for the Mile Post 7 be constructed using the downstream method and found that other construction methods were unsuitable as follows:

    The proposed design utilizes the "downstream" method of dam construction, which is desirable from an engineering standpoint. As the height of the dam increases, the dam is constructed in the direction away from (or downstream from) the basin. Thus, in contrast with the upstream method of dam construction which had been used in prior years, the downstream method avoids the placement of dam construction materials on previously deposited fine materials, which would be unsuitable as a base for the dam.

    1976 FEIS ¶ 16.

    *DNR Response*: The 2022 DNR Record of Decision provides detail and information on the history of dam construction at Mile Post 7 Tailings Basin. Of note Northshore restarted tailings deposition into the basin in the mid-1990s after several years of dam closure activities (due to Reserve Mining's bankruptcy). Transitioning from closure back to tailings production was the predicate to the shift to current construction methods (in place since 2003) that occurred in the 1990s. It is not unusual for the construction methods to have varied from the initial starter dams to the main dams in the 1980s, closure activities in the early 1990s, post-closure restart activities in the late 1990s, then to current methods in the early 2000s to present. No matter the method of construction being used, geotechnical stability has been assessed continuously through the review of the Five Year Operation Plans, and ongoing monitoring, inspections, and reporting, all of which would continue under the Proposed Project. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 167, 170, 172-173*.

DNR notes although there may be differences in the relative level of risk across the three principal types of dam construction methods with all other things being equal, this is accounted for in each round of geotechnical assessment reported in the Five Year Operation Plans. Maintaining dam stability is an iterative, continuous process that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life.

In addition, this incremental approach allows for a good understanding of geotechnical results of past construction/design actions, especially their effectiveness for similar potential application in the future. The geotechnical assessments utilize the properties of the material within the dam and foundation, as well as the slopes and configuration of the embankment. Regardless of construction method, the assessments show whether the dam meets or exceeds the relevant Factors of Safety or not. If it does not meet the standard, then DNR and the Proposer would identify what measures should be applied to remediate the issue and bring the facility to the appropriate Factor of Safety. If DNR would determine that the design of the dams was unsafe, then the Five Year Operation Plan would not be approved.

Finally, the 1975-76 Final EIS evaluated construction of a tailings management facility at Mile Post 7, with downstream as the proposed construction method. DNR notes that once the starter dams were in place for Dams 1 and 2, from 1980-1986 Dam 1 was constructed using the downstream method while Dam 2 was constructed using the centerline method. There was no dam construction between 1986-1990 due to Reserve Mining's bankruptcy, but that changed under the 1988 Closure Consensus Plan with dam construction restarting in 1991. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 167*.

38. *Comment 22.I.38*: The 1976 Final EIS determined that, even with the downstream method of tailings dam construction, an alternative location should be selected due to the potential for significant environmental effects of a dam breach at Mile Post 7, as follows:

    - A 1,000 foot breach in the south dam at Mile Post 7 "would produce a 28 foot high wall of water moving down the Beaver River valley at more than 20 miles per hour to Lake Superior." 1976 FEIS at 41, Conclusion ¶ 4.

    - "Significant water resources would be destroyed, impaired and polluted." Id. at 42, ¶ 6.

    - Major failure at Mile Post 7 would "thwart the entire purpose of on land disposal by emptying stored tailings into Lake Superior." Id. at 41, ¶ 5

    - "The threat to Lake Superior would not end when operations cease, but would

persist indefinitely." Id.

DNR has acknowledged that the "risk of dam failure was a significant part of the EIS analysis in selecting a site for Reserve Mining's tailings basin." DNR 2022 ROD ¶ 194

*DNR Response*: DNR agrees the risk of dam failure was considered as part of the evaluation of alternatives in the 1975-76 Final EIS. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 86*.

39. *Comment 22.I.39*: DNR considers Mile Post 7 dams to be High Hazard or Class I dams. DNR 2022 ROD ¶ 197. A Class I dam is a dam in which "failure, mis-operation, or other occurrences or conditions would probably result in…any loss of life or serious hazard, or damage to health, main highways, high-value industrial or commercial properties, major public utilities, or serious direct or indirect, economic loss to the public." Minn. R. 6115.0340, subp. A.

    *DNR Response*: EAW Item 6f discusses the dam classification of the dams at Mile Post 7 and indicates that they are classified as Class 1 dams. *See ¶ 9: 2023 EAW at .pdf 19*. The definition of a Class 1 dam is set out in full in Minn. R. 6115.0340. Class 1 Dams, such as those at Mile Post 7, are subject to daily monitoring among other requirements, including future dam extensions under the Proposed Project. *Id. See also ¶ 28.a: 2023 National Inventory of Dams at .pdf 4.*

    In addition, Minn. R. 6115.0360, subp. 3(B), requires DNR to conduct an annual dam safety inspection for Class I dams that typically takes place in or around October of each year at Mile Post 7. Items noted during the inspection can include: dam condition(s); status of maintenance; summary of activities; and miscellaneous status reports. *See ¶ 28.e: 2022 DSP Inspection Report*. Northshore conducts a more detailed evaluation annually as well; this is called the dam safety inspection report. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at Appendix B at .pdf 1-89.*

40. *Comment 22.I.40*: The 1977 USACE Final EIS also evaluated the Mile Post 7 tailings basin only with the planned downstream construction method, explaining that the "downstream construction method planned for the dams is generally considered to be preferable to the more commonly employed upstream construction method, since it does not place coarse dam material on previously deposited slimes." 1977 USACE FEIS at pdf 173.

    *DNR Response*: DNR notes that each method of dam construction provides a mix of risks and benefits. These factors must be balanced to produce a structure the meets the appropriate Factors of Safety for site conditions, construction materials, tailings properties, and total amount of material to be stored. *See Responses to Comments ¶¶ 22.B.4.*

41. *Comment 22.I.41*: Early construction of all three Mile Post 7 dams was consistent with the State's 1976 Final EIS and the 1977 USACE Final EIS. DNR 2022 ROD ¶ 211. However, by 1995 Northshore requested that DNR allow future dam raises by the "upstream" method. Northshore Five Year Operating Plan for Milepost 7 Tailings Basin, November 28, 1995, EAW Appendix J17 (1995-1998 FYOP) at 19.

    *DNR Response*: The Proposer documented in the 1995-1998 Five Year Operation Plan that a change was needed in the original dam construction method for Dams 1 and 2 to accommodate the need to create exposed beaches of fine tailings under the 1988 Consensus Closure Plan. *See generally ¶ 28.dd: 1988 Consensus Closure Plan.* Creation of these beaches, which were then to be covered with coarse tailings to facilitate growth of vegetation in reclamation, represented a departure from the originally permitted concepts. This closure goal also had to be balanced with the need to maintain sufficient freeboard to contain the probable maximum flood to prevent overtopping of the tailings dams. *See ¶ 29.s: EAW Appendix J17 – 1995-1998 5YOP at 18-21*. The Proposer believed balancing these objectives could be accomplished by switching from the downstream to the upstream method, which was approved by DNR and MPCA in 1997. Dam stability was being continually assessed at that time just as at present. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 21.e. See also Response to Comment ¶ 22.I.37.*

42. *Comment 22.I.42*: In 1997, DNR approved Northshore's plans to "continue operations utilizing upstream construction methods instead of the Reserve-proposed downstream construction." The new operating plan included "progressive raising of dams by upstream construction methods." DNR 2017 ER Memo at pdf 14.

    *DNR Response*: The method of dam construction has varied over the operating life of the Mile Post 7 Tailings Basin. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 173. See also Response to Comment ¶ 22.G.32.*

43. *Comment 22.I.43*: In 2004, the upstream construction method was modified, and Northshore adopted an "offset upstream" or "modified centerline" construction method with tailings and aggregate both upstream and downstream of the centerline core. Northshore Five-Year Operating Plan Years 2019-2023 for Milepost 7 Tailings Basin, January 2019, EAW Appendix J19 (2019-2023 FYOP) at 2; DNR 2022 ROD ¶ 173.

    *DNR Response*: The availability of sufficient dam construction materials came into play in 2003 when the Proposer determined there was potential lack of sufficient plant aggregate (i.e., coarse tailings) necessary to complete the required dam construction in that year and potentially years beyond. To address the issue, the dam construction method was switched away from the upstream method to the offset upstream or modified centerline dam construction method, which has been used for Dams 1 and 2 since 2003. *See ¶ 28.t: 2009*

*Dam Stability Evaluation at 1.* The current method optimizes the use of the centerline and upstream methods to reduce the volume of construction material placed in the downstream slope of the embankment. *See ¶ 29.t: EAW Appendix J18 – 2004-2008 5YOP at Figure 3 at 39.* Under this method, a filter berm is constructed approximately 800 feet upstream of the starter dam and tailings are discharged upstream, thus creating a beach. The area downstream from the filter berm is constructed with plant aggregate placed directly overlying the fine tailings pursuant to the 1988 Consensus Closure Plan. There are fine tailings extending from near the old dam crest into the basin that were placed prior to 2003. *See ¶ 29.u: EAW Appendix J19 - 2019-2023 5YOP at 40*. Finally, the Proposed Project does not change dam construction at the existing portions of Dams 1 and 2. DNR has reconfirmed that the dam extensions under the Proposed Project would be accomplished by the centerline dam construction method.

44. *Comment 22.I.44*: Since 2004, Mile Post 7 Dams 1 and 2 "have been raised using the offset upstream construction method to minimum elevations of 1,241 feet and 1,243.9 feet, respectively." 2019-2023 FYOP at 2.

    *DNR Response*: The current dam heights have increased since approval of the current Five Year Operation Plan. EAW Item 6f updates the current heights of Dams 1 and 2 to 1,242 ft amsl and 1,244 ft amsl respectively. *See ¶ 9: 2023 EAW at .pdf 15*.

45. *Comment 22.I.45*: Although downstream construction methods were originally used for dam construction, since the late 1990s upstream and offset upstream construction methods were used for the Mile Post 7 dams. DNR 2021 ER Memo at 3; DNR 2022 ROD ¶ 173.

    *DNR Response*: The Proposed Project would use the centerline construction method if implemented. *See Response to Comment ¶ 22.I.43*.

46. *Comment 22.I.46*: The proposed new horizontal extensions of Dams 1 and 2 in the Mile Post 7 proposed project would be undertaken using a centerline construction method. 2022 DNR ROD ¶ 194. This construction method is neither an "upstream" method nor the "downstream" construction method studied and adopted for the Mile Post 7 tailings dam in both the 1976 Final EIS and the 1977 USACE Final EIS.

    *DNR Response*: The dam extensions under the Proposed Project would be accomplished using the centerline dam construction method. DNR notes that construction at Dam 5 has used the centerline method since 2004. *See ¶ 29.t: EAW Appendix J18 – 2004-2008 5YOP at 9. See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 176.*

47. *Comment 22.I.47*: It is not disputed that proposed Mile Post 7 Project would continue to use what DNR describes as the "offset upstream" or "modified centerline" method to increase

the heights of all of the main Dams 1, 2, and 5. DNR 2022 ROD ¶¶ 194, 211, including the dams facing toward Lake Superior.

*DNR Response*: See Response to Comment ¶ 22.I.43.

48. *Comment 22.I.48*: Dr. Steven Emerman has an M.A. in Geophysics from Princeton University, a Ph.D. in Geophysics from Cornell University, 31 years of experience teaching hydrology and geophysics, 70 peer-reviewed publications, and national and international expertise in the evaluation of proposed and existing tailings dams. Steven Emerman, Evaluation of the Proposed Tailings Dam Extensions at the Cleveland-Cliffs Mile Post 7 Tailings Storage Facility, Northeastern Minnesota, September. 30, 2021, WL Ex. 5 (Emerman 2021) at 63.

    *DNR Response*: Comment noted.

49. *Comment 22.I.49*: The following figures from Dr. Emerman's report, Emerman 2021 at 12-14, 23, illustrate the (A) downstream, (B) centerline, (C) upstream and (D) modified centerline/offset upstream construction methods: [four figures taken from the cited report are provided]

    *DNR Response*: DNR agrees that depiction (B) is the construction method that would be applied to the Proposed Project (e.g., centerline method). None of the figures however represent the offset upstream or modified centerline configuration used at Mile Post 7 since the early 2000s.

50. *Comment 22.I.50*: Dr. Emerman's report, summarized recent data on dam failure risks: "Empirical databases that have become available since the late 1970s have reinforced the high risk of failure of upstream dams, which made up only 19% of new facilities by the decade 2010-2019."

    - "Considering only upstream, centerline and downstream dams, on a global basis, upstream dams make up 54% of existing dams, but 71% of dam failures, while downstream dams make up 38% of existing dams, but 20% of dam failures."

    - "A recent analysis of the Global Tailings Portal has shown that upstream facilities have a higher incidence of stability issues (18%) than other facility types (even after controlling for age), being twice that of downstream facilities."

    Emerman 2021 at 62.

    *DNR Response*: The Factors of Safety applied and assessed at the Mile Post 7 dams are industry standards that are used by engineers (including dam engineers), dam owners, and

regulators as one means to quantify dam safety. Factor of Safety is a means in engineering to capture how much greater the resisting capacity of a structure or component is relative to an assumed load. A Factor of Safety greater than 1.0 indicates the available shear strength to resist failure is greater than the driving force that could initiate failure. Minimum Factors of Safety are the minimum required/acceptable ratio of the strength to the applied load. *See ¶ 9: 2023 EAW at .pdf 6.*

Analysis for seepage and stability is based on the actual field conditions and is independent of dam construction type. DNR accepts the following values for minimum Factors of Safety: ESSA = 1.50; USSA = 1.30; and liquefied = 1.10. Tables 3, 4, and 5 of the 2019-2023 Five Year Operation Plan provide the Computed Factors of Safety for Various Scenarios for all three dams at Mile Post 7. *See ¶ 9: 2023 EAW at .pdf 6*. *See also ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 19-26*.

The current Factors of Safety for the Mile Post 7 dams exceed the DNR minimum values. *See ¶ 9: 2023 EAW at .pdf 6*. Monitoring is proposed to conduct similar assessments (e.g., piezometers; inclinometers) under the Proposed Project, which would inform future Five Year Operation Plans if the project is built. *Id.*

Further, the continued construction of Dams 1 and 2 using an offset upstream construction method is not part of the Proposed Project. The Proposed Project would utilize a centerline method of construction.

51. *Comment 22.I.51*: Dr. Emerman's conclusion that upstream dams have a higher likelihood of failure than downstream dams has not been disputed by DNR.

*DNR Response*: DNR notes although there may be differences in the relative level of risk across the three principal types of dam construction methods with all other things being equal, this can be accounted for in each round of geotechnical assessment reported in the Five Year Operation Plans. *See Responses to Comments ¶¶ 22.G.33, 22.I.50.*

It should also be noted that classic upstream construction at Mile Post 7 ended approximately 20 years ago in 2003. Prior to that starting in 1997, use of the upstream construction method was approved by the need to: 1) satisfy the conditions of the 1988 Consensus Closure Plan coming out of Reserve Mining's bankruptcy; 2) create fine tailings beaches above water; 3) provide sufficient tailings storage while ensuring sufficient freeboard to prevent overtopping of the dams; and 4) manage the production of the dam building materials. See *¶ 29.s: EAW Appendix J17 – 1995-1998 5YOP at 18-21.* Upstream construction was implemented for Dams 1 and 2 until it became clear that there would be a shortage of plant aggregate (i.e., coarse tailings) for dam construction materials. This was due to changing (relocating) railroad alignments and the upgrading of West Ridge Road, activities which competed with dam

construction for available plant aggregate. See *¶ 28.t: 2009 Dam Stability Evaluation at 5.* The new design consisted of an offset upstream (or modified centerline) dam in which the seepage cutoff was relocated approximately 800 feet upstream of the previous seepage cutoff. *Id. See Response to Comment ¶ 22.I.43.*

Finally, the Proposed Project will rely on the centerline method of dam construction.

52. *Comment 22.I.52*: Peer-reviewed literature published in 2021, Franks et al. (2021) cited in Emerman 2021 at 37, graphed tailings dam stability issues by type of facility, as reproduced on the next page: [figures taken from the cited report are provided]

    *DNR Response*: Any time a dam is constructed and no matter the location, there is a risk of dam failure. Addressing this risk requires an iterative, continuous process over the construction of the dam that is assessed with each dam raise on a prescribed schedule through the Five Year Operation Plans, not at the end of a facility's operational life. This allows the design engineers and regulators to tailor the next round of future construction to the geotechnical conditions of the present, to anticipate any future concerns, to incorporate best science, and to address these factors no matter the dam construction method. In addition, this incremental approach allows for a good understanding of geotechnical results of past construction/design actions, especially their effectiveness for similar potential application in the future.

    Importantly, DNR has extensive protocols around dam inspection, maintenance, design safety, and operations. Minn. R. 6115.0300 *et seq*. These protocols would continue to be applied at Mile Post 7 under the Proposed Project. Renewal of the Master Permit is a pre-requisite of the Proposed Project. *See ¶ 28.b: 2023 DNR Letter to Northshore. See also Response to Comment ¶ 22.B.5.*

53. *Comment 22.I.53*: Dr. Emerman's report explained that tailings dams "constructed using the upstream method are especially vulnerable to failure by either seismic liquefaction or static liquefaction because the dam is built on top of the uncompacted tailings." Emerman 2021 at 17. As a result, "even if the dam temporarily maintains its structural integrity while the underlying tailings liquefy, the dam could fail by either falling into or sliding over the liquefied tailings. Id.

    *DNR Response*: Specific to the comment, the geometry of the existing dams at Mile Post 7 makes the cited outcome unlikely. Regardless, the structural stability and safety of the Mile Post 7 dams have been assessed since project inception and are continually updated through development of the Five Year Operation Plans subject to DNR approval. The most recent plan approved by DNR evaluated proposed construction and operations over the period 2019-2023. *See Response to Comment ¶ 22.B.4.* Beyond the operating plans, activities related to

dam safety include, but are not limited to: daily inspections by qualified engineers; ongoing monitoring; annual site inspections by DNR; and annual construction reporting under the Permit to Mine. This is the case regardless of the dam construction method utilized at Dams 1, 2, and 5 over the life of the facility to date. *Id.* In addition, it should be recognized that each of the three principal methods of dam construction, which are downstream, upstream, and centerline, offers its own mix of pros and cons across several engineering and design factors, including but not limited to safety, relative stability, and construction material requirements. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 166*.

See Response to Comment ¶ 22.G.30.

54. *Comment 22.I.54*: Dr. Emerman explained that "modified centerline or offset-upstream dams" are "simply upstream dams, in which the dam is constructed out of coarse tailings on top of the uncompacted fine tailings that they are confining." Emerman 2021 at 61. This method of dam construction "retains the essential feature that makes the upstream method vulnerable to failure by seismic or static liquefaction (placement of dam construction material on top of uncompacted tailings)." Emerman 2021 at 22.

    *DNR Response*: DNR notes the comparison does not quite apply to Mile Post 7 because there is no series of staggered dam raises, with each raise added to the interior side of the storage facility. Mile Post 7 differs because each dam raise is unstaggered, and thus placed directly on top of the previous raise.

    The most recent dam safety analysis approved by DNR is found in Tables 3, 4, and 5 of the 2019-2023 Five Year Operation Plan. These tables provide the computed factors of safety for various scenarios for Dam 1, 2, and 5 respectively. The Slope Location and Material Configuration for various pond scenarios is provided for the following parameters: ESSA; ESSA Block Failure; USSA, Fine Tailings Yield Strength; USSA, Fine Tailings Yield Strength, Block Failure; USSA, Fine Tailings Liquefied Strength; and USSA, Fine Tailings Liquefied Strength, Block Failure. DNR's minimum Factors of Safety are exceeded for all parameters. *See 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment 8 at 91-93*. The liquefied strength analyses address potential seismic disturbances, including earthquakes.

55. *Comment 22.I.55*: DNR stated that for the Mile Post 7 offset upstream dams placed on tailings "there is a degree of compaction present in the tails lying under the dams that affords some degree of improved stability." DNR 2022 ROD ¶ 219.

    *DNR Response*: DNR believes that it is reasonable to expect consolidation and potential strength gain for the tailings over time under the conditions at Mile Post 7.

Placement on tailings will not be a potential concern for the Proposed Project as the planned construction is centerline construction on top of native materials, not tailings. *See Response to Comment ¶ 22.G.30.*

56. *Comment 22.I.56*: However, DNR has not disputed the premise that, other things being equal, "offset" upstream dams or "modified" centerline dams built on tailings have less stability than dams using the downstream construction method evaluated and required by the 1976 Final EIS.

    *DNR Response*: DNR notes although there may be differences in the relative level of risk across the three principal types of dam construction methods with all other things being equal, this is accounted for in each round of geotechnical assessment reported in the Five Year Operation Plans. *See Response to Comment ¶ 22.G.33.*

    The Proposer completed geotechnical assessments for both Dams 1 and 2 that affirmed the degree of tailings compaction over time and utilized the measured properties of the dam construction materials themselves within the dam and foundation, as well as the slopes and configuration of the embankment. Materials that were assessed include foundation till, plant aggregate, filter material, select sand/gravel, lacustrine clay, and the fine tailings component. Material properties are determined through testing, both in situ and in the lab. In situ data collection occurs through cone penetration test or CPT soundings, which is a standard means of determining the geotechnical properties of soils and delineating soil stratigraphy. The material properties, their boundaries, and the configuration of the dam are then input into a computer model to analyze the least robust cross section of the dam. *See Response to Comment ¶ 22.G.30*.

57. *Comment 22.I.57*: It is undisputed that no EIS has studied the potential environmental impacts of Mile Post 7 tailings dam raises constructed on top of uncompacted, previously deposited tailings. DNR 2022 ROD ¶¶ 217, 219.

    *DNR Response*: Both the state and federal EISs evaluated the potentially significant environmental effects of constructing a tailings disposal facility at Mile Post 7. In addition, the 1975-76 Final EIS relied on three geotechnical assessments whose examination included the consequences of a potential dam break and subsequent failure. Information about the impacts of constructing the facility, and the consequences of dam failure, is applicable regardless of the construction method. *See Response to Comment ¶ 22.D.7*. In addition, all geotechnical assessments since 2003 have evaluated the stability of Dams 1 and 2 under the conditions cited in the comment. These assessments, including the most recent conducted for dam construction through 2023, have found the dams to be robust with Factors of Safety meeting or exceeding DNR minimums. *See Response to Comment ¶ 22.B.3.* Finally, the current EAW addresses proposed dam construction and safety for the Proposed Project,

where the 2024-2028 Five Year Operation Plan will assess the geotechnical stability of the dams for the next five years of dam construction.

58. *Comment 22.I.58*: DNR has stated that the "type of impacts due to dam construction and operation are generally the same regardless of the method of construction." DNR 2022 ROD ¶ 211.

    *DNR Response*: As previously noted in this Record of Decision, the method of dam construction has been modified over time for Dams 1, 2, and 5. Early construction of all three dams was consistent with the methods identified in the 1975-76 Final EIS and 1977 USACE Final EIS. Construction essentially stopped in the late 1980s under Reserve Mining's bankruptcy, and then construction methods shifted in the early 1990s and late 1990s and changed again circa 2003. *See Responses to Comments ¶¶ 22.G.32, 22.I.43.* The Proposer would construct the extensions of Dams 1 and 2 under the Proposed Project using the centerline construction method, but the Proposer would construct the main sections of Dams 1 and 2 using the modified centerline or offset upstream method in place since 2003. *See Response to Comment ¶ 22.I.51.*

    In terms of the impacts associated with dam construction, all dams regardless of construction method involve similar steps that in turn cause certain types of impacts. First, there is site preparation that typically involves removal of existing vegetation and underlying soils unsuited for dam support. This is followed by preparation of the foundation soils followed by construction of starter dams. Once the starter dams are in place, then construction of the main dam raises commences and continues over the operational life of the facility. Dam construction ends when the final dam height is reached, which for the dams at Mile Post 7 is 1,315 ft amsl. *See ¶ 9: 2023 EAW at .pdf 5-7*. This construction activity, which can take place over many years and even decades, can impact wetlands, habitat, surface and groundwater resources, and air quality as well as generate light and noise. The actual extent and timing of impacts will be unique to each facility, but the types of impacts are somewhat constant across the three construction methods.

    Both the state and federal EISs, plus the EAW on the Proposed Project, provide examples of the types of impacts associated with dam construction at tailings facilities. Probable impact areas addressed in the 1975 Draft EIS included: mineral potential; soils; landforms; hydrology; water quality; aquatic and terrestrial habitat and biota; socioeconomics; land use; recreation; transportation; aesthetics; air quality; noise; and energy. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 217-275*. The impacts assessed in the EAW expands these impact areas from the 1975 Draft EIS to also include climate change, archaeological and historic resources, greenhouse gases, and potential cumulative effects. *See generally ¶ 9: 2023 EAW at .pdf 24-28, 34-93.*

59. *Comment 22.I.59*: However, no EIS has considered the potential scope, extent, and severity of dam breach or dam failure impacts of the Mile Post 7 tailings dam with methods of construction that deviate from the planned downstream method.

    *DNR Response*: The comment fails to distinguish between assessing a structure's geotechnical stability versus predicting the consequences of an actual structural failure. The former provides an assessment of the structure's existing and/or predicted ratio of strength to the applied load to determine whether it meets minimum Factors of Safety regardless of construction method. This is based on real world data collected through the geotechnical and other monitoring programs. The latter assumes the structure *has* failed under hypothetical conditions, and then predicts the behavior of the water and suspended solids (e.g., tailings) that escape through the break.

    The 1975 Wahler Report, which supported the 1975-76 Final EIS, did specifically address the latter issue of potential dam failure for a dam at 1,280 ft amsl constructed using the downstream method. However, as previously noted, the construction method is somewhat irrelevant to the dam break analysis itself that simply assumes the dam (no matter the method) has failed. The 1975 Wahler Report identified likely: flowpaths; damage to roads and electrical infrastructure; impacts to streams and Lake Superior; and damage to buildings and structures. Because Dam 1 would be the absolute tallest of the principal dams, it would have the greatest potential to release impounded material (e.g., fine tailings). *See ¶ 28.j: 1975 Wahler Report at III:66-68. See also Response to Comment ¶ 22.D.7.* A modern analysis would evaluate the same or similar factors.

    Since the EIS, DNR has required dam break consequences to be evaluated in 2012 and 2022; a new dam break analysis would be required for the Proposed Project addressing construction through 2028. Because the 2022 analysis identifies four different failure modes (i.e., overtopping failure; liquefaction of fine tailings; foundation failure; internal erosion) under two failure scenarios (i.e., fair-weather; storm induced) and models them for Dams 1, 2, and 5, the available information to DNR is far more robust than what was conducted in the EIS. *See ¶ 28.d: 2022 EAP at E-9 and E-10. See also Responses to Comments ¶¶ 22.I.57, 22.F.5.* Again, this analysis is required to be updated in 2027 to include the Proposed Project.

60. *Comment 22.I.60*: No EIS has evaluated the differential probability of dam breach or dam failure of the Mile Post 7 tailings dam due to the fact that Northshore has used upstream and offset upstream raises to increase dam height since the late 1990s, rather than the downstream raises prescribed and studied in 1975-1977 environmental review.

    *DNR Response*: An EIS is not necessary to assess the geotechnical stability of the Mile Post 7 dams. This is done through the series of Five Year Operation Plans (and other assessments), which have modeled and reported the stability of Dams 1, 2, and 5 at Mile Post 7 since project

inception. This means there is a continuous record of dam safety evaluations for each type of construction method that has been employed, including the offset upstream or modified centerline that has been used since 2003. The most recent assessment covers proposed construction activities over the period 2019-2023, with the next assessment covering activities planned for the period 2024-2028, including the Proposed Project. *See Response to Comment ¶ 22.B.4*.

DNR continues to conduct field inspection and monitoring of the dams and review of the Dams' geotechnical data. This analysis indicates that both dams are robust and exhibiting Factors of Safety well above recommended levels. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 175-76.* Regardless, even though the dams meet DNR minimum Factors of Safety, the Proposer is still required to conduct a dam break analysis in the EAPs that assume a catastrophic failure has occurred. *See generally ¶ 28.d: 2022 EAP Appendix E*. An EIS is not needed to do this.

It is possible to construct safe dams using the upstream and offset upstream construction methods cited in the comment. At Mile Post 7, the key safety measure impacts is to ensure the monitoring and reporting provisions of the Master Permit, as operationalized in the Five Year Operations Plans, are diligently reviewed and implemented in the ongoing construction of each dam raise. *See Response to Comment ¶ 22.G.60.* Finally, the dam extensions under the Proposed Project will use the centerline method of dam construction.

61. *Comment 22.I.61*: No EIS has evaluated the cumulative potential effects on the environment of the increased heights of the Mile Post 7 Proposed Project dam raises to 1,315 amsl, given the use of upstream and offset upstream tailings dam construction since the late 1990s.

    *DNR Response*: The 1977 USACE Final EIS considered the cumulative effects to streams from the proposed construction of the future Tailings Basin (to its final permitted dam elevation of 1,315 ft amsl), in particular for stream crossings and the proposed stream diversions. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 61*. The EAW assessed potential cumulative effects for the Proposed Project at EAW Item 21 for the Tailings Basin Features, Stream Mitigation Sites, and reasonably foreseeable projects over the remaining likely operations at Mile Post 7. *See ¶ 9: 2023 EAW at .pdf 91-93*. The EAW attributed cumulative effects to the Tailings Basin Features was primarily due to covertype conversion, which could be somewhat ameliorated through the site stabilization and revegetation requirements in reclamation and closure. *Id. at .pdf 93.*

62. *Comment 22.I.62*: Dr. Emerman concluded that the use of upstream dam raises at Mile Post 7 "must be reconsidered in light of the new knowledge regarding the unsafe nature of upstream dams" based on data made available since 2020. Emerman 2021 at 3, 61-62. He recommended that "no action should be taken regarding the proposed tailings dam extension

at the Mile Post 7 tailings storage facility without a new Environmental Impact Statement at a minimum." Id. at 63.

*DNR Response*: See Response to Comment ¶ 22.I.60. Dams 1 and 2 would continue to be constructed using the offset upstream or modified centerline construction method.

63. *Comment 22.I.63*: It is undisputed that the Mile Post 7 proposed project would extend the tailings basin and add 650 acres to the current tailings basin area, as shown in the images below from the DNR 2021 ER Memo at 17.

*DNR Response*: The comment is incorrect. The Proposed Project facilitates use of the final permitted area for tailings deposition up to the 1,305 ft amsl contour for the tailings pond. Utilization of the ~650 acres cited in the comment for tailings placement has been a feature of the Tailings Basin since project inception. This is facilitated by the West Ridge Railroad being relocated along with the extensions of Dams 1 and 2. *See Response to Comment ¶ 22.G.8.* Due to some facility modifications under the Proposed Project, DNR is requiring an amendment to the Permit to Mine to allow Northshore to use the full capacity of the Mile Post 7 Tailings Basin studied in the 1975-76 EIS and permitted in the Master Permit and the 1985 Permit to Mine. *Id.* For example, the mining area boundary will require a change to accommodate the far eastern curve along the relocated West Ridge Railroad connecting to the proposed Dam 2 extension. *See ¶ 28.aa: Mile Post 7 Mining Area at 1.*

As such, EAW Item 6b correctly indicates that if implemented, the proposed extensions of Dams 1 and 2, relocation of the West Ridge Railroad, and new Dam 1 rail switchback would facilitate continued placement of tailings in the Tailings Basin to the permitted final elevation of 1,305 ft amsl. *See ¶ 9: 2023 EAW at .pdf 18.*

64. *Comment 22.I.64*: It is also true, as DNR has emphasized, that the crude outline of the Mile Post 7 tailings site during 1975-1977 environmental review included most of the area into which the proposed project plans to expand. See e.g., DNR 2022 ROD ¶ 74.

*DNR Response*: Roughly defining the entire Tailings Basin footprint in the 1975 Draft EIS reflected common practice then and as well as today. A tailings basin is part of the mining operation and is to be included in the mining and reclamation plans. Minn. R. 6130.0100, subp. 8. It was therefore appropriate for the crude outline to include areas that may not yet be developed in a partially constructed facility.

It is relevant to note that the Statement of Need and Reasonableness (SONAR) for the Minn. R. ch. 6130 rules states that in planning for a disposal site (e.g., tailings facility), the operator should make full use of the selected site because if not, unanticipated expansions of the selected site may become necessary. Such a situation may then result in unwarranted land

use conflicts and the encumbrances of additional natural resources. Minn. R. ch. 6130 SONAR at 24-25. This guidance too validates the EIS's inclusion of the entire area potentially used for tailings management as part of the EIS.

DNR also notes that a partially constructed project advancing to its final permitted footprint (for tailings placement) is not an expansion. DNR has also found the Proposed Project is not an expansion pursuant to Minn. R. 4410.0200, subp. 28. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 62-84*. *See also Response to Comment ¶ 22.G.8.*

Finally, the current mining area is roughly contained within the original EIS study area identified in the 1975-76 Final EIS. *See ¶ 28.aa: Mile Post 7 Mining Area at 1.*

65. *Comment 22.I.65*: DNR admits that the 1975 Draft EIS proposed that, of the 7.6 square miles for tailings, 4.6 square miles would contain fine tailings and 3.0 would store coarse tailings. DNR 2022 ROD ¶ 74.

*DNR Response*: Although the placement of coarse tailings in the remaining balance of 3.0 square miles inside the EIS study area was evaluated in the 1975 Draft EIS, this was eliminated as a project feature by the 1975-76 Final EIS. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 52*. It was also eliminated from the project evaluated in the 1977 USACE Final EIS. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 174.* The Proposer also reports coarse tailings placement has not occurred as originally conceived. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 104*.

66. *Comment 22.I.66*: However, DNR has asserted that, since the 1976 Final EIS did not break down the areas assigned for fine tailings and coarse tailings, the record could be interpreted to allow ~2,950 acres allocated for a tailings basin containing 753,023,000 tons of wet slurry tailings. DNR 2022 ROD ¶¶ 75, 83.

*DNR Response*: The Tailings Basin feature dictating the area that would ultimately be covered by tailings at Mile Post 7 is the final elevation of the dams, which was permitted at 1,315 ft amsl. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 14*. This equated to approximately 4.6 square miles, or ~2,950 acres, as detailed in the 1975 Draft EIS. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 18*. Also, when originally conceived, the project allocated approximately 3.0 square miles, or ~1,920 acres, for coarse tailings storage. *Id*. Regarding the volume of fine tailings that could be stored on that acreage, the state's Draft EIS estimated 816,680,000 long tons could be stored over the 40-year operational life of the Peter Mitchell Mine. *Id. at 17*. Recognizing that tailings deposition has been underway since the early 1980s, the Proposer used Lidar-based modeling to estimate the remaining capacity of the Tailings Basin as 753,023,000 long tons of available storage to the 1,305 ft amsl contour. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 83*.

67. *Comment 22.I.67*: DNR's interpretation is not supported by federal and state environmental review documents. Plans for Mile Post 7 storage of dry coarse tailings are not equivalent to plans for containment of wet slurry fine tailings in a tailings basin.

    *DNR Response*: The comment is incorrect. DNR has not maintained that coarse tailings storage is equivalent to fine tailings storage. As provided in Response to Comment ¶ 22.I.66, DNR does not equate the storage of dry coarse tailings with the deposition of fine tailings. Rather, the total area of the Tailings Basin would be roughly divided into ~4.6 square miles for fine tailings deposition and ~3.0 square miles for coarse tailings storage. No fine tailings deposition was ever planned above the 1,315 ft amsl contour, with the area above this elevation being entirely reserved for coarse tailings storage (that did not transpire). Importantly, no fine tailings storage is proposed above the 1,315 ft amsl contour under the Proposed Project.

    Furthermore, the new development that is proposed at or above the 1,315 ft amsl contour under the Proposed Project, specifically the Dams 1 and 2 extensions, relocated West Ridge Railroad, and new railroad switchback, would occur in the areas originally studied in the EISs for coarse tailings storage (until eliminated from the proposal in 1976). *See generally ¶ 9: 2023 EAW Items 6-21.*

68. *Comment 22.I.68*: The 1975 Draft EIS clearly stated that the "proposed Mile Post 7 plan includes a separate storage/disposal area" for coarse dry tailings which "is to be located to the northwest of the proposed fine tailings disposal basin." 1975 Draft EIS at 45.

    *DNR Response*: The comment is accurate.

69. *Comment 22.I.69*: The 1977 USACE Final EIS explained that coarse tailings (also described to include dry cobbs and filtered tailings) would be transported by rail to the Mile Post 7 site, but "fine tailings" would be sent to clarifiers and dewatered to a slurry and then piped to the proposed tailings basin. 1977 USACE FEIS at 11, ¶¶ 1.042-43.

    *DNR Response*: The comment is accurate.

70. *Comment 22.I.70*: The ultimate height of the Mile Post 7 tailings basin was designed not to contain the total tonnage of tailings, but rather to be sufficient to store all of the fine tailings and some coarse tailings, although coarse tailings to the maximum extent would be used for dam construction. 1977 USACE FEIS at 13-14, ¶¶ 1.055, 1.061.

    DNR Response: The 1975-76 Final EIS identified that exposed coarse tailings could be a source of fugitive dust that could be remediated by eliminating the coarse tailings storage area and

depositing coarse tailings (in part) into the basin along with fine tailings. This would effectively place coarse tailings under water and thus reduce fugitive dust emissions. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 52*. DNR notes the final dam elevations were increased approximately 30 feet from the 1975 Draft EIS to the 1975-76 Final EIS; this increase in elevation could have been an adjustment to accommodate coarse tailings deposition into the Tailings Basin. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 70*.

71. *Comment 22.I.71*: The state's 1975 Draft EIS and the federal 1977 USACE Final EIS both clearly distinguished between the tailings basin area and dry storage of coarse tailings as shown in the illustrations on the next page: [a figure taken from the DNR 2021 ERND is provided].

    *DNR Response*: The fact that the management of fine tailings differed from the management of coarse tailings at Mile Post 7 is not disputed. Far more relevant to the present is that the dry coarse tailings storage area was dropped from the project. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 52*.

72. *Comment 22.I.72*: In addition, in response to critical comments from the U.S. Department of Interior, the USACE clearly stated that the coarse tailings storage area was completely "removed from the project design." 1977 USACE FEIS, at pdf 189 (unpaginated comments).

    *DNR Response*: See Response to Comment ¶ 22.I.65.

73. *Comment 22.I.73*: DNR has acknowledged, "The Proposer reports coarse tailings storage as envisioned in the 1975-76 Final EIS and 1977 USACE Final EIS never occurred at the tailings basin site and is not expected to occur." DNR 2022 ROD ¶ 104.

    *DNR Response*: The comment is correct as dry coarse tailings storage area was dropped from the project to address potential mineral fiber impacts. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 52*.

74. *Comment 22.I.74*: The use of the site area west of the existing railroad line for dry storage of coarse tailings was explicitly evaluated in the 1975 Draft EIS and in the 1977 USACE Final EIS, but that proposed use was rejected by the USACE in response to comments by another federal agency and is neither proposed nor expected in the future. Findings 63-66.

    *DNR Response*: The comment incorrectly implies the proposed coarse tailings storage area is adjacent to the existing West Ridge Railroad line. This is not so because the current railroad alignment is at ~1,240 ft amsl, well below the 1,315 ft amsl contour that above which any coarse tailings storage would occur. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 113.* Regardless of federal concerns, the state of Minnesota's reason for dropping the coarse

tailings storage area from the design was to ameliorate potential airborne dust impacts involving mineral fibers. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 52*.

75. *Comment 22.I.75*: Expansion of the wet slurry tailings basin 650 acres west of the existing railroad line was never evaluated in 1975-1976 state environmental review or 1977 federal environmental review. Findings 57-67.

    *DNR Response*: The comment is incorrect. The ~650 acres referenced in the comment is below the 1,315 contour, and thus was by definition assessed in the state and federal EISs as an area to undergo fine tailings deposition. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 69-71.* Accounting for a 10-foot freeboard, this means progression of tailings to the 1,305 ft amsl contour on this acreage has been a project feature since issuance of the 1977 Master Permit. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 14.* Because the current pool elevation in the partially constructed Tailings Basin is at approximately 1,240 ft amsl, if the tailings pond rise the final 75 feet, it would end up covering the remaining 650 acres of permitted capacity. *See Response to Comment ¶ 22.I.44.* Finally, the estimated 650 acres of remaining capacity is part of the original 2,950 acres allocated in the 1975 Draft EIS, now revised to 2,800 total acres, for fine tailings storage at Mile Post 7. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶¶ 47b, 74, 78.*

76. *Comment 22.I.76*: The Mile Post 7 site contains a 30-acre coal ash landfill with a total capacity of 566,000 cubic yards and is intended to be used for the disposal of coal ash and other approved wastes up to its design capacity. EAW at pdf 23-24. Construction of the coal landfill began in 2000, and its location is at the southwest corner of the proposed expansion of the Mile Post 7 tailings basin, DNR 2021 ER Memo at 53, Figure 4, shown on the next page with a larger label added.

    *DNR Response*: The Proposed Project is not an expansion. *See Response to Comment ¶ 22.G.8.*

    EAW Item 6f provides a summary of the past development, environmental review, and timeline of the existing industrial solid waste disposal facility at Mile Post 7. *See ¶ 9: 2023 EAW at .pdf 23*. The EAW provides an updated figure from the 2021 DNR ER Need Determination that shows the location of the disposal facility relative to the Tailings Basin Features part of the Proposed Project. *See ¶ 9.w: 2023 EAW Appendix A.1: Tailings Basin Features Site Plan.*

77. *Comment 22.I.77*: Northshore anticipates that at some point when the tailings pond elevation is higher, the pond on the west side of the western extension of Dam 1 would become a seepage pond and that seepage would occur along the portion of the dam extension (red in above figure) “in the vicinity of the ash landfill.” DNR 2021 ER Memo at 54.

*DNR Response*: The comment correctly notes that seepage is expected along the perimeter of the Mile Post 7 dams. Accordingly, EAW Item 12b.i addresses seepage management under the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 57.* Both runoff and seepage would be routed to an existing diversion dam, which would transition to be a seepage collection pond as the elevation of the Tailings Basin pool increases over time. A pump station would be constructed to manage water in the pond by pumping the water back into the Tailings Basin; this is a closed loop system for both runoff and seepage. *Id.*

EAW Item 12b.ii also addresses seepage management, including potential impacts to the industrial solid waste landfill on the northwest corner of the Tailings Basin site. SEEP/W modeling was conducted that showed that raising the tailings pond to its final permitted elevation of 1,305 ft amsl would not cause the groundwater elevations at the landfill to rise. *See ¶ 9: 2023 EAW at .pdf 51*. Although no impacts are anticipated, according to the landfill permit, Northshore must take corrective action to maintain an effective leak detection and groundwater monitoring system in case the tailings pond does in fact influence groundwater elevations at the landfill. *Id.* The EAW shows the Proposer's monitoring wells on Figure 6-5 and lists them in Table 14. *Id. at .pdf 52-56, Figure 6-5.*

78. *Comment 22.I.78*: DNR acknowledges that the "need for this disposal and eventual development of a landfill was neither anticipated nor analyzed in the 1975-76 Final EIS, nor in the 1977 USACE Final EIS. Neither mandatory nor discretionary Environmental Review has occurred for the facility." EAW at pdf 24. No permit refers to this disposal facility. *See* 1977 Master Permit; 1985 Permit to Mine.

    *DNR Response*: The comment is partially correct. EAW Item 6f indicates that the state and federal EISs did not evaluate an industrial solid waste landfill at the future Tailings Basin. The EAW further states construction of the facility did not trigger mandatory environmental review, nor did discretionary environmental review take place. *See ¶ 9: 2023 EAW at .pdf 24.* The comment is incorrect in that EAW Item 6f indicates the facility is regulated under MPCA Solid Waste Permit SW-409. *Id. at .pdf 23. See also generally ¶ 29.n: EAW Appendix J12 – MPCA Solid Waste Permit*. Because no changes are proposed to the demolition debris and industrial solid waste landfill under the Proposed Project, there is no reference to MPCA Solid Waste Permit SW-409 in EAW Item 9. *See ¶ 9: 2023 EAW at .pdf 32-33.* DNR notes the facility is within the Permit to Mine regulated mining area. *See ¶ 28.aa: Mile Post 7 Mining Area at 1*.

79. *Comment 22.I.79*: DNR acknowledges that an estimated 8,100 feet of new Dam 1 construction is needed for the Mile Post 7 proposed project in order to avoid the coal ash landfill. This new Dam 1 construction to avoid the coal ash landfill results in a net increase of 5.500 feet of dam construction beyond what was considered in the 1976 Final EIS. DNR 2022 ROD ¶ 214.

*DNR Response*: EAW Item 6b indicates construction of the Dam 1 extension would provide for complete isolation of the Tailings Basin and ponded water from the existing demolition debris and coal ash landfill. *See ¶ 9: 2023 EAW at .pdf 5.* The EAW also provides updated information from the 2022 DNR ROD's estimate of new construction. Dam 1 would be extended by 6,600 feet under the Proposed Project, which results in a net increase of 2,600 feet of new dam construction beyond that considered in the 1975-76 Final EIS, which planned for a length of 14,000 feet for Dam 1. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 12.*

80. *Comment 22.I.80*: DNR similarly acknowledges that Mile Post 7 Dam 2 is already 800 feet longer than the length studied in the state's 1976 Final EIS and will require an additional 4,100 feet of new construction to accommodate the relocation of the railroad. This results in a net increase of 4,900 feet of new construction for Dam 2 beyond that estimated in the 1976 Final EIS. DNR 2022 ROD ¶ 214.

    *DNR Response*: EAW Item 6b indicates that Dam 2 would be extended by 2,350 feet of new construction. *See ¶ 9: 2023 EAW at .pdf 5.* The comment correctly notes Dam 2 is currently 800 feet longer than envisioned in the EIS at 6000 feet in length. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 12.* In total the Proposed Project would result in 3,150 feet more dam construction at Dam 2 than originally envisioned in the state EIS.

    This makes for a total of 8,050 feet of new construction beyond that originally envisioned in the state EIS.

81. *Comment 22.I.81*: It is undisputed that for the Mile Post 7 proposed project, taken together, "the total length of new dam construction beyond that anticipated in the 1975-76 Final EIS is 10,400 feet." DNR 2022 ROD ¶ 214.

    *DNR Response*: The comment is incorrect because the estimate of total dam construction has been updated since the 2022 DNR Record of Decision. EAW Item 6b provides the total length of dam construction as 8,950 feet. *See ¶ 9: 2023 EAW at .pdf 5*.

82. *Comment 22.I.82*: The EAW states that the 1977 USACE Final EIS describes a Construction Railroad General Alignment at the tailings, while the 1975 Draft EIS only refers generally to a "possible railroad spur" off the Reserve Railroad basin to convey coarse tailings for Mile Post 7 dam construction. EAW at pdf 22.

    *DNR Response*: EAW Item 6f provides a description of the past environmental review of a materials supply railroad at Mile Post 7. *Id. at .pdf 22.* It is noted that the 1977 Master Permit

anticipated railroad construction at Mile Post 7. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 5, 30.*

83. *Comment 22.I.83*: In fact, Exhibit A-31 of the 1977 USACE Final EIS depicts both the initial location of rail spurs and an "ultimate" railroad alignment similar to the existing West Ridge Railroad alignment at the Mile Post 7 tailings basin. 1977 USACE FEIS, pdf 252, Ex. A-31.

    *DNR Response*: The federal EIS recognizes that the location of the railroad spurs along future Dam 1 would shift over time. Specifically, Section 1.057 reads: "An initial construction railway would be built as shown in exhibit 31. As the tailings pond rises, the dams and splitter dikes would be raised also, and the railway location would be moved in stages to cross dam 1 at increasingly higher elevations." *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 14.* That multiple decades later the current alignment of the West Ridge Railroad accessing Dam 1 would be like what was projected in 1977 is not surprising. In addition, the need to provide construction materials (i.e., coarse tailings) for not only the construction of Dam 1 but also Dams 2 and 5 requires traversing the future area of tailings deposition above the tailings pond but below the eventual 1,305 ft amsl final pool elevation (for many years). This was accomplished along the original railroad alignment from 1984 to 2005, then along the existing West Ridge Railroad to the present, and then above the 1,315 ft amsl contour under the Proposed Project as depicted in the figure: Shifting Position of West Ridge Railroad Over Operational Period. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 18.*

84. *Comment 22.I.84*: No text or exhibit in the 1977 Final EIS describes or depicts any railroad alignment approximating the railroad alignment proposed in the Mile Post 7 expansion project.

    *DNR Response*: The comment is partially correct. The federal EIS assessed in detail the construction of the railway from the existing line to starter dam No. 1 where it is reasonable to infer the consequences would eventually apply to the ultimate railroad corridor. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 13-14, A-31*. DNR notes this reach of railroad would still be used under the Proposed Project, while the rest of the relocated rail corridor under the Proposed Project above the 1,315 ft amsl contour was not described or depicted in the federal EIS. Finally, while the alignment under the Proposed Project may not have been specifically considered in the 1970s environmental reviews, the EAW subject to this Record of Decision evaluates the specific corridor and alignment proposed for the relocated West Ridge Railroad. *See Response to Comment ¶ 22.I.83.*

    The Proposed Project is not an expansion pursuant to Minn. R. 4410.0200, subp. 28, as the closure-condition footprint has remained essentially unchanged for 50 years and continues to reflect the project evaluated in both the state and federal EISs and permitted in the original Master Permit and Permit to Mine. *See Response to Comment ¶ 22.G.8.*

85. *Comment 22.I.85*: State 1975-1976 environmental review did not even evaluate construction of the existing West Ridge Railroad. There are no EIS exhibits depicting any proposed railroad alignment and no text references to construction of any railroad alignment. Text mentioning hauling tailings by rail appear to refer to existing railroad lines. See e.g., 1975 Draft EIS at 17, 269, 289; 1976 FEIS at 6.

    *DNR Response*: The comment is incorrect. Figure 16, Proposed Mile Post 7 Plan, Tailings Basin, and Ancillary Facilities, of the 1975 Draft EIS depicts a "possible construction R-R spur" connecting the existing Reserve Mining Company Railroad to the future Tailings Basin at Dam 1. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 42*. *See also ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment 5 at .pdf 85.* In addition, the 1977 federal EIS indicates in Section 1.058 that "[t]he north-south railway line through the center of the reservoir would act as a splitter dike and would likely be used as a dike from to deposit fine tailings," which indicates that dikes and future dams would also be used as railway corridors for moving construction materials across the Tailings Basin. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 14*. EAW Item 6f provides a description of the past environmental review of a materials supply railroad at Mile Post 7, which only noted that coarse tails used in dam construction would be conveyed by rail to the Tailings Basin. *See ¶ 9: 2023 EAW at .pdf 22.* It is noted that the 1977 Master Permit anticipated railroad construction at Mile Post 7. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 5, 30*.

    The EAW evaluates the proposed relocation of the West Ridge Railroad. *See Response to Comment ¶ 22.I.83*.

86. *Comment 22.I.86*: In summary, no state or federal EIS has studied the environmental impacts of the relocation of the railroad proposed for the Mile Post 7 project. Findings ¶¶ 74-77.

    *DNR Response*: DNR notes that the federal EIS anticipated shifts in railroad alignment over the life of the Tailings Basin. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 14.* The environmental effects of the Proposed Project have been reviewed in the EAW subject to this Record of Decision.

87. *Comment 22.I.87*: DNR acknowledges that the 1977 Master Permit for the Mile Post 7 tailings basin "did not expressly identify the tailings storage facility as including a materials supply railroad." EAW at pdf 22.

    *DNR Response*: See Response to Comment ¶ 22.I.82.

88. *Comment 22.I.88*: In fact, the 1977 Master Permit did not mention "railroads" as a feature "proposed by the Permittee and hereby permitted as to overall project concept," but rather

in the unrelated context of permitting stream crossings of roads and railroads. 1977 Master Permit at 3, 28.

*DNR Response*: The 1977 Master Permit was designed to consolidate both existing and requested permits for construction of Mile Post 7. *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 1-2.* The permit further indicates that "[d]etailed designs, plans and construction specifications for some project features, along with appropriate documentation, have been submitted. For other project features, designs with necessary documentation have yet to be completed and submitted in sufficient detail to permit detailed review and final approval of construction." *Id. at 4*. DNR notes that although not cited in the Master Permit, the updated 1994-1998 Five Year Operation Plan (November 28, 1995), which was required by the Master Permit, indicated that when the "railroad embankment along the west side of the basin…is at…elevation 1,220 [ft amsl], it will be about 25 feet high with water on both sides…at about this stage the railroad will be reconstructed further west, upslope from the current alignment," which would be to the current location in place since 2005. *See ¶ 29.s: EAW Appendix J17 - 1995-1998 5YOP at 7*. Finally, EAW Item 9 indicates the proposed relocation of the West Ridge Railroad requires approval of the Permit to Mine Amendment and the 2024-2028 Five Year Operation Plan. *See ¶ 9: 2023 EAW at .pdf 32.*

89. *Comment 22.I.89*: The 1985 permit to mine that included the Mile Post 7 tailings basin only referred to an existing railroad; it did not authorize railroad construction. 1985 PTM.

    *DNR Response*: The Permit to Mine Application from 1981 includes the company-owned rail lines. *See ¶ 29.y: EAW Appendix J23 – 1981 Permit to Mine Application at 43-44, 63, 67.* The 1985 Permit to Mine Approval (dated March 1, 1985) includes the rail lines (i.e., list of parcels with rail facilities). *See ¶ 29.e: EAW Appendix J5 – 1985 Permit to Mine at 1.* DNR also notes the NPDES permit for the facility, which addresses industrial stormwater, is inclusive of all rail lines including the Proposed Project. *See ¶ 29.p: EAW Appendix J14 – 2005 NPDES Permit MN0055301 at 52-53*.

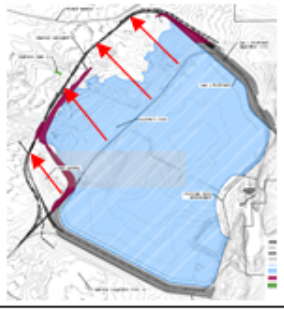
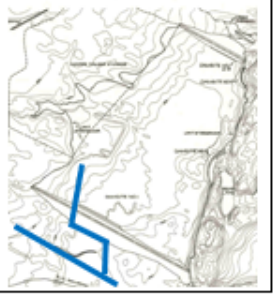
90. *Comment 22.I.90*: No state environmental review document or permit evaluated or permitted the construction of the existing Mile Post 7 railroad alignment, let alone the new alignment proposed in the Mile Post 7 expansion project. Findings ¶¶ 74-81.

    *DNR Response*: The comment is incorrect. This is demonstrated in the Figure B-12, Environmental Setting Map, which was included as an appendix to the 1981 Permit to Mine Application. This figure identifies the Disturbed Area Outline that was approved for the Permit to Mine in 1985. *See ¶ 28.z: 1981 Mile Post 7 Mining Area.* Both the original and current railroad alignments, and most of the relocated West Ridge Railroad alignment under the Proposed Project, occur within the original disturbed area outline. The current Permit to Mine Amendment will consider a change to the disturbed area outline to accommodate the

proposed curve in the railway to connect to the Dam 2 extension under the Proposed Project. *See ¶ 28.aa: Mile Post 7 Mining Area.*

In addition, the 2004-2008 Five Year Operation Plan, which was subject to DNR approval, identified the need to have the original alignment of the West Ridge Railroad (across the basin to Dam 2) to be "raised or moved to avoid flooding as the pond rises." Options under consideration were: "(1) raising the track and ballast near its current location, (2) moving the track further west to approximate Elevation 1240, or (3) rerouting the track across Dam 1 and extending it along the east side of the Basin to dams 2 and 5." *See ¶ 29.t: EAW Appendix J18 – 2004-2008 5YOP at 15*. DNR approved this plan with the cited options for addressing the need to avoid flooding of the West Ridge Railroad on March 7, 2005. *See ¶ 29.f: EAW Appendix J6 – 2005 Permit to Mine Assignment at .pdf 4*. *See also ¶ 29.t: EAW Appendix J18 – 2004-2008 5YOP at 15*. *See also Responses to Comments ¶¶ 22.I.85, 22.I.89*.

The shifting position of the West Ridge Railroad over time is shown on the images below. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 113.*

| Shifting Position of West Ridge Railroad Over Operational Period | | | |
|---|---|---|---|
| **Original RR Line** | **RR Line Relocation #1** | **RR Line Relocation #2** | **Potential RR Spur** |
| **Circa 1985 to 2005** | **2005 to Present** | **Present Going Forward** | **1975-76 EIS w/Spur** |
|  |  |  |  |

Regardless of any previous treatment, the EAW (subject to this Record of Decision) has evaluated the proposed relocated railroad pursuant to Minn. R. 4410.1200 to 4410.1600. In addition, the new alignment requires an amendment of the Permit to Mine and approval of the next Five Year Operation Plan (e.g., 2024-2028) before the Proposed Project can advance.

The Proposed Project is not an expansion pursuant to Minn. R. 4410.0200, subp. 28, as the closure-condition footprint has remained essentially unchanged for 50 years and continues

to reflect the project evaluated in both the state and federal EISs and permitted in the original Master Permit and Permit to Mine. *See Response to Comment ¶ 22.G.8.*

91. *Comment 22.I.91*: DNR acknowledges that the proposed new railroad would abut the full length of the Dam 2 extension and would also be constructed on a small section of the Dam 1 extension. DNR 2022 ROD ¶ 47c.

    *DNR Response*: EAW Item 6b reaffirms that the railroad relocation would be constructed along the entirety of Dam 2 and small portion of Dam 1. *See ¶ 9: 2023 EAW at 7.* This is analogous to the original concept of the rail lines supplying construction materials through various corridors across the basin. The relocated line will join the existing rail network accessing the site and all three dams. *See ¶ 9.w: 2023 EAW Appendix A.1: Tailings Basin Features Site Plan.*

92. *Comment 22.I.92*: None of the 1975-1977 state or federal environmental review documents evaluate a proposal to locate a railroad embankment on a portion of the Mile Post 7 tailings basin dams.

    *DNR Response*: The comment is incorrect. Figure 16, Proposed Mile Post 7 Plan, Tailings Basin, and Ancillary Facilities, of the 1975 Draft EIS depicts a "possible construction R-R spur" connecting the existing Reserve Mining Company Railroad to the future Tailings Basin at Dam 1. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 42*. *See also ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Attachment 5 at .pdf 85.* In addition, the 1977 federal EIS indicates at Section 1.058 that "[t]he north-south railway line through the center of the reservoir would act as a splitter dike and would likely be used as a dike from to deposit fine tailings," which indicates that dikes and future dams would also be used as railway corridors for moving construction materials across the Tailings Basin. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 14*.

    The comment correctly notes the relocated West Ridge Railroad would abut a short length of the Dam 1 extension and the entire length of the Dam 2 extension. This is analogous to the original concept of the rail lines supplying construction materials through various corridors across the basin. The relocated line will join the existing rail network accessing the site and all three dams. *See ¶ 9.w: 2023 EAW Appendix A.1: Tailings Basin Features Site Plan.*

    DNR notes that future Five Year Operation Plans would be required to assess the geotechnical stability of those portions of Dams 1 and 2 that abut the relocated West Ridge Railroad under the Proposed Project.

93. *Comment 22.I.93*: No permit pertaining to the Mile Post 7 tailings basin authorizes construction of a railroad on any part of Mile Post 7 dams.

*DNR Response*: The comment is incorrect insofar as starting with Reserve Mining to Northshore now, activities around rail construction have been a reporting requirement of state permits from project inception.

In particular, railroad construction has been previously approved not only for the West Ridge Railroad but also along the crests of Dams 1 and 2 with a near approach to the northwest side of Dam 5. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 37*. Earlier railroad construction was authorized by DNR that included not only relocating the rail line to its current position, but constructing a spur at Dam 2, with the Dam 2 line itself extended to provide building materials for Dam 5. *See ¶ 29.s: 2023 EAW Appendix J17 – 1995-1998 5YOP at 7-8.* Railroad construction was also a feature of the facility closure plan and involved: extending the rail lines into cells 1 and 4; raising tracks about three feet to allow for dumping of coarse tailings; and measures to limit instability of embankments and the railroad. *See ¶ 28.dd: 1988 Consensus Closure Plan at 4, 9-10.*

In addition, examples are also available where railroad construction was reported to DNR and MPCA in the first decade of facility operation. First, Reserve Mining provided a Monthly Operational Report to MPCA in late 1980 indicating that Splitter Dike 1 was "raised along its centerline to elevate the railroad track," plus at Splitter Dike 3 "construction of the railroad spur embankment was started." *See ¶ 28.u: 1980 Monthly Operational Report at 1.* Second, another example is a summary of reclamation activities for 1984 that reported the need to plant and fertilize vegetation to stabilize the "hill side and ditch north of the main railroad tracks adjacent to the road crossing into the basin." *See ¶ 28.v: 1984 Reclamation Activities Report at .pdf 2, 19.* A third example is the 1991 Operation Plan for handling and transport of tailings to the Mile Post 7 Tailings Basin. The introduction states: "This Operational Plan, in the form of an "Operators Manual," describes the work that needs to be done during the course of normal daily handling and disposal activities…in order to assure continued compliance with Minnesota Pollution Control Agency, Department of Natural Resources and U.S. Corps of Engineers conditions." This report addresses transport of coarse tailings to the Tailings Basin from the Silver Bay plant, and relevant to ongoing rail operations specifically notes: "[a]ll coarse tailings not used in the construction of dams or dikes or auxillary structures, such as railroads will be used to cover fine tailings within the beaches." *See ¶ 28.w: 1991 Operational Plan at 1, 9.*

Finally, completion of the Proposed Project under the renewed Master Permit and approved 2024-2028 Five Year Operation Plan would permit continued rail access to the crests of Dams 1 and 2 as well as generally supply coarse tailings for construction of Dams 2 and 5.

94. *Comment 22.I.94*: DNR acknowledges that the relocation of the West Ridge Railroad in the proposed Project would require an amendment to the Permit to Mine. EAW at pdf 22.

*DNR Response*: EAW Item 9 indicates the Proposed Project requires approval of a Permit to Mine Amendment. *See ¶ 9: 2023 EAW at .pdf 32.* Review of the December 15, 2020, Permit to Mine Amendment Application is underway, including the proposed relocation of the West Ridge Railroad. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at Appendix A1 – Permit to Mine Amendment*.

95. *Comment 22.I.95*: The EAW proposes mitigation measures for impacts to surface waters and wetlands resulting from the construction of 12,200 feet of extensions of Dams 1 and 2 and the relocation of the west railroad.

    *DNR Response*: EAW Item 12b.iv.a requires the RGU to identify whether compensatory wetland mitigation for unavoidable wetland impacts would be required. For the Tailings Basin Features, the EAW reports approximately 43.8 acres of wetlands would be subject to impacts by excavation and fill, while approximately 5.3 acres would be subject to fragmentation effects. *See ¶ 9: 2023 EAW at .pdf 63*. The EAW further identifies that mitigation was required by the DNR and USACE for both direct and indirect impacts of the Proposed Project. Wetland mitigation was accomplished by purchasing existing wetland bank credits at a 1:1 ratio from within the same Bank Area Service. The debiting of wetland bank credits was completed on November 21, 2021. *See ¶ 29.a: EAW Appendix J1 – Debiting of Wetland Credits.* No wetland impacts warranting mitigation have been identified to date for the Stream Mitigation Sites. *See ¶ 9: 2023 EAW at .pdf 65.*

    Similarly, EAW Item 12b.iv.b requires the RGU to identify measures to avoid, minimize, or mitigate environmental effects to surface water features. For the Tailings Basin Features, the EAW states that stream-related impacts to the remnant reaches of Big and Little Thirtynine Creeks would not occur along the full length of the 8,950 feet of proposed new dam construction. Rather approximately 1,710 linear feet of the remnant creeks within the Tailing Basin would intersect with the realigned materials supply railroad under the Proposed Project. Permanent impoundment effects would also affect 3,535 linear feet of the remnant stream reaches due to construction of the relocated West Ridge Railroad. *Id. at .pdf 66.* The EAW identified mitigation for these stream impacts and explained the MPCA and USACE consolidated mitigation requirements for both the Proposed Project and historic tailings management activities at Mile Post 7 into one regulatory action. *See generally ¶ 29.x: EAW Appendix J22 – Joint Permit Application/WRP.* Mitigation was identified for both direct and indirect impacts to stream resources as detailed in the Final Stream Mitigation Plan. *Id.* The Stream Mitigation Sites subject to this EAW constitutes the mitigation required under the Final Stream Mitigation Plan for impacts to the remnant reaches of Big and Little Thirtynine Creeks at Mile Post 7. *Id. at .pdf 67.*

96. *Comment 22.I.96*: EAW Figure 7-2 shows the location of wetland impacts and of surface waters that would be affected by the Mile Post 7 tailings basin proposed project.

    *DNR Response*: The comment correctly states that EAW Figure 7-2 identifies pre-construction wetland resources. *See ¶ 9.s: 2023 EAW Figure 7-2.* EAW Figure 6-1 shows pre-construction surface waters. *See ¶ 9.m: 2023 EAW Figure 6-1*. To the degree that the remnant reaches of Big and Little Thirtynine Creeks may exhibit characteristics warranting classification as wetlands, this would also be depicted on EAW Figure 7-2. *See ¶ 9.s: 2023 EAW Figure 7-2.*

97. *Comment 22.I.97*: DNR concluded that, when compared to the existing landcover in the Beaver River-Frontal Lake Superior Watershed, the Mile Post 7 project impacts are considered negligible. EAW at 93. DNR also stated that even with development of the remaining 650 acres of "permitted tailings deposition capacity along with the proposed Project" cumulative impacts are considered negligible "as approximately 98-98% (sic.) of the total resource base remains unaffected." EAW at pdf 93.

    *DNR Response*: The RGU is required to identify the environmentally relevant area at the appropriate geographic scale to assess potential cumulative effects of the Proposed Project with present and reasonably foreseeable future projects. 2010 EQB Guide to the Rules at 17. DNR identified the Beaver River-Frontal Lake Superior watershed as the geographic scale for which to assess potential cumulative effects from the Proposed Project for both the Tailings Basin Features and Stream Mitigation Sites. *See ¶ 9: 2023 EAW at .pdf 91*. Because the White Rock Creek stream mitigation project falls outside the Beaver River-Frontal Lake Superior watershed, DNR also included lands within a 0.5-mile radius of the that individual stream mitigation project as part of the geographically relevant area. *Id*. For the impacts for present and reasonably foreseeable future projects identified in EAW Item 21b, no impacts were identified that would result in potentially significant cumulative effects. *Id. at .pdf 93*.

    Although tailings deposition up to the 1,305 ft amsl contour has been a facility feature since originally permitted in the late 1970s and early 1980s, which would involve tailings deposition to occur in the remaining ~650 acres of available tailings capacity, DNR considered it along with the Proposed Project for possible impacts within the identified geographic scale and found potential cumulative effects to be negligible, especially considering revegetation requirements in reclamation and closure. *Id*. Although not described in EAW Item 21, compensatory wetland mitigation required by DNR and the USACE was not limited to the Proposed Project but also mitigated for impacts to 163.43 acres of wetland and 29.57 aces of deepwater habitat, relating to tailings deposition in the 650-acre area cited in the comment. *See ¶ 29.ff: EAW Appendix J30 – USACE MP7 Section 404 Permit at 1*.

98. *Comment 22.I.98*: However, the 2023 EAW did not consider "wetland impacts" or impacts on other resources within the 650 acres that DNR viewed as already permitted for tailings storage. See e.g. EAW Figure 7-2, Finding ¶ 88.

*DNR Response*: DNR's consideration of the potential cumulative effects due to the Tailings Basin Features identified covertype conversion, including to wetlands, remnant streams, forest, and habitat, as the primary long-term impacts to be considered. *See ¶ 9: 2023 EAW at .pdf 93*. This is the context for which DNR expanded consideration of potential cumulative effects to include the 650 acres previously approved for tailings deposition. *Id*. Tailings deposition has been underway for approximately 40 years to cover ~2,150 acres at present; the balance of ~650 acres is the remaining increment out of the entire estimated ~2,800 acres of available storage capacity approved since 1977. DNR has concluded that the associated covertype conversion in conjunction with the Proposed Project, continuing tailings deposition, and other reasonably foreseeable actions is still considered negligible in the geographically relevant area. *Id.*

The USACE also assessed potential cumulative effects to the aquatic ecosystem for the Proposed Project and included the ~650 acres cited in the comment. *See ¶ 29.dd: EAW Appendix J28 – USACE Environmental Assessment at 56-58*. The USACE Environmental Assessment was informed by the following report: Cumulative Effect Analysis – Aquatic and Forest Resources, Tailings Basin Progression, Barr Engineering, prepared for Northshore Mining Company; October 2019. *See generally ¶ 29.v: EAW Appendix J20 – Northshore Cumulative Effects Analysis.*

DNR further notes that final reclamation and closure under the Permit to Mine could afford a future opportunity to restore some wetland resources at site. Similarly, both the DNR and USACE required compensatory mitigation under WCA and CWA Section 404 for wetland and stream impacts within the entire 650-acre area of continued tailings deposition as well as the area impacted by the Proposed Project.

99. *Comment 22.I.99*: The only environmental assessment of the effects on wetlands, surface waters, forests, or wildlife Mile Post 7 tailings basin extension to these 650 acres would have been made at least 46 years ago and under different circumstances in the 1975-1977 state and federal EIS processes.

*DNR Response*: The comment is incorrect. The USACE conducted a full Environmental Assessment (EA) to support that agency's CWA Section 404 permit decision. *See generally ¶ 22.dd: EAW Appendix J28 – USACE Environmental Assessment*. Potential impacts to wetlands, streams, forests, and wildlife were considered in the EA. *Id.* This EA in turn informed development of mitigation for both the wetland and stream impacts for parts of the Proposed Project subject to the EAW and for the 650-acre area of continued tailings progression.

Therefore, the USACE Environmental Assessment provides updated assessment of potential impacts in the ~650 acres permitted to receive tailings, which supplements the assessment of these impacts 40+ years ago in the state and federal EISs.

100. *Comment 22.I.100*: The 1975-1977 state and federal EIS documents described the Mile Post 7 tailings basin project that was assessed as a project with a 40-year life. See e.g., 1975 Draft EIS at 17, 98, 242, 289, 290, 293; 1976 FEIS ¶¶ 8-9; 1977 USACE FEIS at 13, 25, 59, 72.

*DNR Response*: DNR acknowledges it is taking longer than the 40 years originally estimated to fill the tailings facility to full capacity. As noted in Response to Comment ¶ 22.G.1, the remaining life span of Mile Post 7 being another 40 years has less to do with Mile Post 7 and more to do with the remaining mine life of the Peter Mitchell Pit. For the Proposed Project, EAW Item 6b identifies an approximate 40-year schedule for the Tailings Basin Features while the Stream Mitigation Sites would be completed by 2027. *See ¶ 9: 2023 EAW at .pdf 8, 10.* DNR notes that for the Tailings Basin Features, dam construction along the proposed extensions would likely occur over the full course of 40 years, with construction of the West Ridge Railroad and Dam 1 switchback happening relatively early in the period. This allows for continuous transport of dam building materials for the Dams 1 and 2 extensions plus ongoing construction for Dams 2 and 5. *Id. at .pdf 8.* Although not specified in the EAW, material would be taken from the clay borrow site as needed over the remaining projected 40-year operating period.

101. *Comment 22.I.101*: DNR has acknowledged that for the original EIS the "planned operational life of the tailings management facility was 40 years." DNR 2022 ROD ¶ 25.

*DNR Response*: Several factors are included in estimating the operating life of a mine and its processing and tailings management facilities. *See ¶ 29.g: EAW Appendix J7 – 2022 DNR ROD ¶ 235*. *See also Responses to Comments ¶¶ 22.G.8, 22.G.1.*

102. *Comment 22.I.102*: DNR has suggested that the only significance of the 40-year Mile Post 7 tailings basin operational life is to project the total quantity of tailings for which storage was planned. See e.g. 2021 DNR ER Memo at 56.

*DNR Response*: The comment is incorrect. EAW Item 6b appropriately identified that construction-related impacts attributable to the Tailings Basin Features under the Proposed Project would exhibit a varying temporal profile for impacts. *See ¶ 9: 2023 EAW at .pdf 8.* For example, construction-related impacts associated with the relocation of the West Ridge Railroad would occur "early" in the projected 40-year period while dam construction would occur over the entire period. *Id.* DNR notes that once operations cease, the entire facility (including the Tailings Basin Features) would be subject to reclamation and closure procedures under Minn. R. 6130. *Id.* DNR acknowledges the 2021 DNR ER Need

Determination identified that the 1975-76 Final EIS assumed the entire capacity of the basin would be used and the fact that it is taking longer than originally projected does not significantly alter the environmental effects of the project studied in the EIS. *See ¶ 29.b: EAW Appendix J2 – 2021 DNR ERND at 56.*

103. *Comment 22.I.103*: The time Northshore has taken to produce a volume of tailings is not the only issue salient in environmental review.

*DNR Response*: DNR agrees with the comment and the record supports the assertion that other issues are relevant to environmental review. For example, the 1975-76 Final EIS's assessment of potential project-related impacts for developing Mile Post 7 was extensive, which included 15 topic areas that could result in "probable impacts" of the proposed action and alternatives. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 219-270.* Similarly, the EAW addressed all types of environmental effects identified by EQB as relevant in determining whether a proposed project has the potential for significant environmental effects. *See ¶ 9: 2023 EAW at .pdf 24-31, 34-93.*

104. *Comment 22.I.104*: The 1977 USACE Final EIS – the only environmental review document actually supporting implementation of a tailings basin at Mile Post 7 – considered the 40-year loss of biological productivity and the time needed for reclamation in its assessment. 1977 USACE FEIS at 59.

*DNR Response*: The comment is incorrect. The 1975 Draft EIS considered irreversible and irretrievable commitments of resources regarding proposed use of non-renewable resources, irreversible commitments of resources to a particular use, and irreversible and irretrievable damage that result from the Mile Post 7 plan. This was done based on the assumed 40-year life of the project proposal. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 289-290*. Impacted areas included: soils; landforms; aquatic habitat and biota; terrestrial habitat and biota; socioeconomics; land use; recreation; and energy. *Id*. The EIS notes impact to terrestrial habitat and biota could be ameliorated by slow revegetation to replace habitat lost in operations. *Id*. For the present actions, the EAW identifies several measures, including revegetation as required by the reclamation provisions of Minn. R. ch. 6130, that could address this concern under the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 7, 10, 79-82, 93*.

105. *Comment 22.I.105*: The 1977 Final EIS also explicitly weighed the benefits of the proposed tailings basin and the duration of use of the disposal site:

> [T]he proposed on-land tailings disposal site [has] a projected use period of 40 years…The above described long-term adverse effects on the environment would be imposed for the following benefits to society and environment. There would be the cessation of the disposal of taconite tailings into Lake Superior.

1977 USACE FEIS at 145-146.

*DNR Response:* The 1975 Draft EIS provided similar perspective by identifying "[t]he need for a reasonable and rapid solution to a potential health hazard that has been recognized by courts of law to require abatement" as a factor to be considered in considering the short term uses of the environment versus long term productivity. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 293*. In recognizing that the decision to build Mile Post 7 would foreclose certain options and opportunities for other types of development of the site, the EIS noted "[t]hese values should be weighted against the needs of a rapid solution to a potential health problem, and to secure the economic future of Reserve and its 3,000 employees." *Id at 294*. *See also Response to Comment ¶ 22.I.104*.

Minnesota Rules Chapter 4410 does not require an EAW to assess economic or societal benefits.

106. *Comment 22.I.106*: DNR's 2015 Record of Decision denying the need to prepare an EIS for the Northshore progression of the Peter Mitchell Mine pit responded to comments (presumably in 2013) stating that, at the current rate of rise for the Mile Post 7 tailings basin it would take approximately 44 years to reach the ultimate permitted height of 1,312 feet amsl so tailings storage capacity would be "exhausted in 2057." DNR 2015 Peter Mitchell Mine Progression Record of Decision, April 22, 2015, WL Ex. 6 (DNR 2015 Mine ROD) at 5.

*DNR Response*: Estimates around when the Peter Mitchell Mine will exhaust economically recoverable reserves has varied over the life of the operation principally as a function of mining rates. It is noted however that the amount of economically available reserves is reassessed on an ongoing basis, which too could affect the estimated life of mine for the facility. The current Permit to Mine estimates mining, reclamation, and closure will be completed 2078. *See Response to Comment ¶ 22.G.65*.

107. *Comment 22.I.107*: Based on the DNR 2015 Peter Mitchell progression Record of Decision, id., the proposed Mile Post 7 expansion project would not be needed until 2057, which is 80 years after the 1977 Final EIS was completed and 40 years after the 1977 EIS predicted the operational mine life of the tailings basin would be done.

*DNR Response*: The comment is incorrect. The Proposed Project provides the infrastructure necessary for Northshore to utilize the remaining increment of depositional elevation within the basin from the current ~1,240 ft amsl elevation to the final permitted elevation for the tailings pond at ~1,305 ft amsl. As the remaining operational life of mining at the Peter Mitchell Pit is approximately 40 years, no tailings deposition would be necessary beyond that time under current projections. It is however necessary for the dam extensions to begin soon,

as well as the West Ridge Railroad be relocated, to avoid overtopping of the existing West Ridge Railroad corridor and maintain appropriate separation from the industrial solid waste disposal facility, as tailings continue to rise in the basin.

In addition, updated information is available since the 2015 Record of Decision's estimate that is cited in the comment. The most recent estimates on the rise and progression of the tailings in the basin, which is a function of both tailings production and deposition and the surrounding topography of the basin, is an increase of approximately 2.3 feet per year over the most recent Five Year Operation Plan. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 7*. Considering the existing dam heights at ~1,242 ft amsl and extrapolating this rate to the remaining dam height available (~73 ft) in isolation from other potential controlling factors, this results in approximately 32 years of storage available in the basin. Thus, the estimated 40-year remaining operational life of the Tailings Basin is conservative compared to a crude calculation based simply on the remaining available dam height at the current average rate of tailings progression.

108. *Comment 22.I.108*: DNR has stated that the construction of the Dam 1 and 2 extensions for the Mile Post 7 proposed expansion project would take place over the course of an estimated 40 years, EAW at pdf 8, thus completing construction in the mid-2060s.

    *DNR Response*: The Proposer's schedule for project implementation is an estimated 40 years. *See ¶ 9: 2023 EAW at .pdf 12.* Under this projection, the Proposed Project would be completed within the current Permit to Mine estimate of mining, reclamation, and closure being completed by 2078.

109. *Comment 22.I.109*: DNR has not projected for how long after construction the Mile Post 7 proposed tailings basin expansion would extend the operational life of the tailings basin, other than to cite the operating life of the Peter Mitchell Mine. EAW at pdf 5. The 2015 Peter Mitchell progression Record of Decision stated that mine closure was "more that 60 years into the future." DNR 2015 Mine ROD at 10. This timeline could extend the operational life of the tailings basin to 2075.

    *DNR Response*: The Proposed Project does not constitute an expansion pursuant to Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8.*

    The comment misses how the Mile Post 7 Tailings Basin operates, especially for dam construction and relocation of the West Ridge Railroad, both generally and with the Proposed Project.

    The rate and duration of dam construction is a direct function of tailings being deposited into Mile Post 7. As noted in Response to Comment ¶ 22.I.107, the tailings pool is rising on average

2-3 feet per year as new tailings are deposited. Dam construction in turn proceeds at a similar rate to maintain the necessary freeboard requirements above the tailings pool elevation, which for Mile Post 7 is a freeboard of 10 feet. *See ¶ 9: 2023 EAW at .pdf 16*. EAW Item 6b indicates dam construction will be continuous over the remaining operational life the Tailings Basin, which is an estimated 40 years depending on the amount of tailings being generated from mining taking place at the Peter Mitchell Pit. *Id. at .pdf 8*. This includes the extensions of Dams 1 and 2 under the Proposed Project that will essentially undergo construction until tailings deposition ends in an estimated 40 years.

While construction of the relocated West Ridge Railroad is similarly dependent on the rate of tailings pool rise, this is the case for different reasons than for dam construction. The main difference is while the dams are required to remain 10-feet above the tailings pool elevation (eventually up to 1,315 ft amsl), the current elevation of the West Ridge Railroad is well below the final permitted elevation of the tailings pool. This means that at current deposition rates, the existing rail corridor will be overtopped and covered by tailings in a few years. Thus, the schedule for relocating the railroad is much more accelerated than what would happen for the dam raises and extensions under the Proposed Project. *Id.* This means construction of the relocated rail line would occur relatively early in the remaining life of the Tailings Basin while dam construction would go on for decades.

Subsequent to the 2015 DNR Record of Decision, the agency approved a Permit to Mine Amendment stating that "under normal iron ore sale conditions, the Peter Mitchell Mine is expected to continue to operate for approximately 60 years, at which time closure and final reclamation would follow." *See ¶ 28.x: 2016 Permit to Mine Amendment at 2*. Similarly, the Permit to Mine Amendment that was approved for a proposed modification to the Type II Viriginia Formation stockpile cover identified an estimated completion of mining, reclamation, and closure in 2078, when "the planned mining and reclamation procedures will be completed." *See ¶ 28.bb: 2020 Approved Permit to Mine Amendment at 2*.

DNR notes the pending amendment will require a term to be applied that will be calculated based on mining progress to date and reclamation and closure. It is therefore not known at this time what the exact term will be as the Application remains in draft form and the decision is not complete.

Finally, once operations are complete at the mine, processing plant, and Tailings Basin, then the sites are to be reclaimed according to the provisions of Minn. R. ch. 6130. The scope and time needed to undergo site reclamation will be different for each of these main project elements. The Permit to Mine term reflects the time needed to reclaim the site to take the entire facility into closure.

110. *Comment 22.I.110*: No EIS considered the potential environmental effects of the Mile Post 7 tailings basin if the operational life were extended beyond 40 years.

*DNR Response*: Both the 1975-76 Final EIS and the 1977 USACE Final EIS evaluated how a tailings facility could be constructed and operated until the final dam height of 1,315 ft amsl was accomplished. At the time of the EISs, this was estimated to take 40 years. Because mining and processing rates to date have generally operated below those rates estimated for the EISs, Tailings Basin development has been slower such that Dams 1, 2, and 5 are only partially constructed compared to the final permitted project specifications. This reduced rate of facility development (relative to the rate estimated in the EISs) is projected to continue over the remaining operating life of Mile Post 7.

Assuming that the rate of facility development is contingent on the rate of tailings deposition, certain environmental effects, such as potential fugitive dust generation, are therefore commensurately less at present than estimated under the EISs. Others, such as covertype conversion due to footprint expansion from the dams, would be the similar in extent but occurring over longer timeframe until the final permitted height of 1,315 ft amsl is achieved. Though this timeframe differs from what was anticipated in the 1970s, the environmental impacts of Tailings Basin operation are adequately addressed in the EISs, the current EAW, and permits, with impacts mitigated through ongoing regulatory authority such as reclamation requirements under the Permit to Mine or the dust control measures in the air permit.

111. *Comment 22.I.111*: No EIS considered the balance of benefits and harm to society if the Mile Post 7 tailings basin's operational life were extended beyond 40 years.

*DNR Response*: DNR disagrees with the comment.

First, the state's 1975 Draft EIS's consideration of irreversible and irretrievable commitments of resources can be reasonably applied beyond the 40-year time horizon. This included: 1) proposed use of non-renewable resources; 2) irreversible commitments of resources to a particular use; and 3) irreversible and irretrievable damage that may result from the Mile Post 7 plan. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 289-290*. Impacted areas included: soils; landforms; aquatic habitat and biota; terrestrial habitat and biota; socioeconomics; land use; recreation; and energy. *Id*. The EIS notes impact to terrestrial habitat and biota could be ameliorated by slow revegetation to replace habitat lost in operations. *Id*. These impacts would be weighed against the economic benefits of utilizing Reserve Mining's Mile Post 7 plan evaluated in the EIS, which can also be applied beyond 40 years. *Id. at 96-99.*

Second, the 1977 USACE Final EIS also considered irreversible and irretrievable commitments of resources in Section 8. Several of the factors identified could be reasonably extrapolated

beyond the original 40-year estimated life of Mile Post 7. These included: permanent destruction of biological resources; loss of cold-water streams; loss of recreational opportunities; and permanent alteration of the streamflow regimes of Big and Little Thirtynine Creeks and the Beaver River. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 147*. Benefits beyond the 40-year planning horizon were also identified, which included: cessation of fibers deposition into Lake Superior; maintaining employment; and continued mining at the Peter Mitchell Pit. *Id. at 146.*

Finally, Minn. R. ch. 4410 does not require an EAW to assess economic and societal benefits no matter the estimated project life.

112. *Comment 22.I.112*: Based on DNR's decision documents, if the proposed project is approved, the Mile Post 7 tailings basin would remain operational a century after the 1975-1977 state and federal environmental review process. Findings ¶¶ 98-101.

*DNR Response*: Comment noted. The estimated life of the Proposed Project is approximately 40 years, most of which is necessary for the construction of the dam extensions for the Tailings Basin Features. *See ¶ 9: 2023 EAW at .pdf 8.*

113. *Comment 22.I.113*: There has been progress in scientific knowledge and availability of information on environmental factors since the state and federal Final EIS documents were approved in 1976 and 1977. For example, any EIS today would consider the effects of climate change in evaluating both tailings dam risks and impacts on water resources and wildlife.

*DNR Response*: DNR is relying on substantial information beyond the state and federal EISs. For example, EAW Item 7a addresses climate change and provides a summary of climate trends in the general location of Mile Post 7. *Id. at .pdf 24-28*. As for considering climate change in terms of the Proposed Project for the Tailings Basin Features, this is reasonably considered in the ongoing assessment of freeboard requirements to ensure sufficient storage in case of extreme precipitation (i.e., rain) events. So far there is no need to deviate from the 10-foot freeboard requirements for tailings basins based on climate change. Freeboard requirements are assessed during review of the Five Year Operation Plans, including the one produced for 2019-2023, and the assessment is conservative.

The most recent report noted that an updated analysis indicated that only eight (8) feet of freeboard is really needed, but Northshore will meet the 10-foot requirement. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 16.* In addition, if a federal agency updates the PMP precipitation values (for whatever reason, including climate change), DNR would review the current Five Year Operation Plan to ensure adequate freeboard would still exist. As for climate change impacts to fish and wildlife species, for the Tailings Basin Features the main impacts are due to covertype conversion and subsequent loss of habitat. *See ¶ 9: 2023 EAW at .pdf*

*77*. These impacts are independent of any consequences of climate change but may be partially remediated as a function of the reclamation and closure requirements under Minn. R. ch. 6130 as well as the measures identified in EAW Item 14d. *Id. at .pdf 79-82*.

114. *Comment 22.I.114*: DNR stated that climate-related variables were addressed in the 1975 Draft EIS. DNR 2022 ROD ¶ 242. However, the only climate data used in the 1975 Draft EIS was the "little climatic data" available on prior actual precipitation at specified area weather stations. 1975 Draft EIS at 109-111.

*DNR Response*: Although not extensive, the 1975 Draft EIS did include climate-related information. This included: annual wind roses; monthly wind data; monthly temperature data; annual precipitation; and measure of atmospheric stability and mixing. *See ¶ 29.k: EAW Appendix J10.a – 1975 Draft EIS at 109-112*. For the present day and projecting climate change into the future under the Proposed Project, EAW Item 7 addresses climate adaptation and resilience for the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 24-28*. Climate variables identified include projected: average temperature change; annual precipitation values; and anticipated increase in 100 Year storm intensity. *Id. at .pdf 24.*

Further, DNR's regulation of the dams at Mile Post 7 relies on the most up-to-date understanding of both general and microclimatic conditions. DNR requires a 10-foot freeboard (i.e., distance) between the top of the dams and the elevation of the tailings pond, which is designed to address potentially large precipitation events including substantial wave action. *Id at .pdf 16.* Freeboard requirements are assessed during review of the Five Year Operation Plans, including the one produced for 2019-2023, and are conservative. The most recent report noted that an updated analysis indicated that only eight (8) feet of freeboard is really needed, but Northshore will meet the 10-foot requirement. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 16.* In addition, if a federal agency updates the PMP precipitation values (for whatever reason, including climate change), DNR would review the current Five Year Operation Plan to ensure adequate freeboard would still exist.

115. *Comment 22.I.115*: The 1976 Final EIS used the same actual precipitation information to conclude that the "risk of overtopping the dams as a result of unusually heavy rainfall is greater at Mile Post 7 than at the alternative sites." 1976 FEIS ¶ 86.

*DNR Response*: The comment correctly quotes the 1975-76 Final EIS, however no basis for this conclusion is provided in comparing the potential for overtopping to occur at Mile Post 7 relative to the alternative sites considered in the EIS. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 86*. Some insight here is provided in the 1975 Wahler Report that listed embankment overtopping as a potential source of dam failure. *See ¶ 28.j: 1975 Wahler Report at III-58*. This could occur due to three potential scenarios, two of which would only apply to the starter dam phase of construction. *Id. at III-59*. The source of failure that would

apply over the complete life of the Mile Post 7 Tailings Basin would be failure during a period of heavy runoff of one or both of the diversion facilities (e.g., Diversion 1; Diversion 2) designed to convey runoff around the reservoir. *Id*. The report concludes: "Overtopping of the dam in the final state of the impoundment life then becomes the final critical stage for this type of failure. Freeboard must be provided to store water away from any possible flood without spillway operation (to preclude environmental damage) and breaching to preclude public hazard." *Id. at III-60*. Thus, the potential concern is addressed by maintaining adequate freeboard, which is reassessed with each Five Year Operation Plan. *See Responses to Comments ¶¶ 22.I.114, 22.D.7.*

116. *Comment 22.I.116*: The 1977 USACE Final EIS provided a more thorough discussion of seepage and probable maximum precipitation, but even the USACE analysis relied on "precipitation records from 1906 to the present." 1977 USACE FEIS at 31. Unsurprisingly for the time, the Final EIS did not mention climate change or global warming.

    *DNR Response*: Similar to the state EIS, the 1977 USACE Final EIS addressed climate in Section 2.000, Environmental Setting. Climate-related factors included: average annual precipitation; prevailing winds; and mean monthly temperatures. *See ¶ 29.ee: EAW Appendix J29 – 1977 USACE Final EIS at 31*. To calculate potential freeboard requirements, the federal EIS addressed: average annual rainfall (28 inches); average annual rainfall during a five-year wet period with a 10,000-year return period (44 inches); and the 96-hour probable maximum storm (30 inches). *Id. at 25*. Although climate change or global warming were not addressed in the federal EIS, potential concerns around dam safety are managed through maintaining appropriate freeboard, which is 10-feet at the Mile Post 7 Tailings Basin. *See Response to Comment ¶ 22.I.114.*

117. *Comment 22.I.117*: No 1975-1977 EIS considered extreme drought and extreme precipitation, warming trends, hydrological changes to waters and wetlands, ecological stresses to plants, fish, and wildlife, or any other factors resulting from climate change known to modern scientists conducting environmental review.

    *DNR Response*: EAW Item 7 addresses climate adaptation and resilience for the Proposed Project, including describing climate trends at the general location and how climate change is expected to affect that location during the life of the project. Table 4 addresses both the Tailings Basin Features and Stream Mitigation Sites with respect to climate change.

    As for the other factors listed in the comment, extreme precipitation is addressed operationally in the freeboard requirements over the remaining life of the Tailings Basin. *See Response to Comment ¶ 22.I.114.* Hydrological changes to waters and wetlands are addressed in EAW Item 12 for the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 48-69*. Impacts under the Proposed Project to plants, fish, and wildlife are addressed EAW Item 14. *Id. at .pdf*

*71-82*. DNR also notes that climate change was addressed in the USACE Environmental Assessment. *See ¶ 29.dd: EAW Appendix J28 – USACE Environmental Assessment at 63-64*.

118. *Comment 22.I.118*: Reliance on an EIS long past any reasonable expiration date is also significant in terms of evaluation of potential alternatives to the proposed Mile Post 7 project.

*DNR Response*: DNR has completed an EAW for the Proposed Project, rather than merely relying on the prior EIS. That said, the analysis of alternatives in the 1977 EIS is still helpful in terms of understanding the Proposed Project's potential for significant environmental effects. Minn. R. 4410.1100-1700 does not require an EAW to assess alternatives to the proposed action.

119. *Comment 22.I.119*: The 1975-1976 state environmental review process for Reserve Mining tailings storage evaluated tailings basin sites at alternative locations. The Final EIS explained that in-pit tailings disposal was not examined in detail due to evidence "sufficient to require its rejection at least for the present." 1976 FEIS ¶ 81.

*DNR Response*: See Response to Comment ¶ 22.I.118.

120. *Comment 22.I.120*: However, the state's 1976 Final EIS proposed future evaluation of in-pit disposal, as follows:

> ¶82. No detailed review of Reserve's mining plan was made by the state to determine whether adjustments could be made to accommodate in pit disposal of tailings…
>
> ¶82. In view of the future need for tailings disposal sites, it would be desirable to ascertain the feasibility and desirability of using both depleted and operating pits for that purpose, and to evaluate the relative costs of covering potentially merchantable ores versus the use of additional land areas for tailings disposal.

*DNR Response*: Because Minn. R. 4410.1200 to 4410.1700 does not require the RGU to evaluate alternatives to the Proposed Project, this has not been done for the EAW.

121. *Comment 22.I.121*: Consideration of in-pit disposal alternatives for Peter Mitchell Mine tailings would be very different today. Factors such as the closure of other taconite operations, the ownership of depleted pits, and availability of information on tailings dam failure and seepage control would influence potential alternatives to extension of the Mile Post 7 tailings basin.

*DNR Response*: See Response to Comment ¶ 22.I.118.

122. *Comment 22.I.122*: Cliffs shuttered the Northshore mine from May 2022 through April 2023 and recently informed the public that its owner "does not expect to run the ore operation at full capacity in 2023." M. Hughlett, Northshore Mining on Iron Range open again after a year of idling, Star Tribune, April 25, 2023, WL Ex. 7.

    *DNR Response*: Comment noted.

123. *Comment 22.I.123*: Cliffs' CEO, Lourenco Goncalves, explained, "Northshore has been totally idle since the spring of last year. We will continue to treat that facility as our swing operation, and at this time, we still do not expect to operate Northshore in full anytime this year." J. Lovrien, Northshore Mining partially restarts, Duluth News Tribune, April 25, 2023, WL Ex.

    *DNR Response*: Comment noted.

124. *Comment 22.I.124*: There is no evidence of urgency preventing a current and rigorous consideration of the potential significant environmental effects of the proposed Mile Post 7 tailings basin extension by 650 acres as well as features identified by DNR as the proposed project.

    *DNR Response*: DNR is conducting the EAW process consistent with the time periods prescribed in Minn. R. 4410.1400 through 4410.1700. The Proposed Project in not an expansion. *See Response to Comment ¶ 22.I.118.*

125. *Comment 22.I.125*: There is no evidence of urgency preventing a current and rigorous consideration of alternatives to the proposed Mile Post 7 tailings basin extension by 650 acres as well as features identified by DNR as the proposed project.

    *DNR Response*: See Responses to Comments ¶¶ 22.I.118, 22.I.124.

126. *Comment 22.I.126*: DNR has claimed that the 1977 Master Permit and operation plans provided by Northshore take the place of a dam safety permit for the Mile Post 7 tailings basin, stating:

    a) The 1977 Master Permit for the Mile Post 7 tailings basin, by its terms, "was to be updated every five years," which "update was accomplished through Mile Post 7 Operations Plans" prepared by Northshore. EAW at pdf 19; see also 2022 DNR ROD, ¶ 42.

    b) "Because the laws governing dam safety were in in place until 1979, the 1977 Master Permit regulates dam safety at Mile Post 7." EAW at pdf 19; see also 2022 DNR ROD, ¶ 27.

c) "DNR has extensive protocols around dam inspection, maintenance, design safety, operations" and that "are incorporated in the 1977 Master Permit requirements at Mile Post 7. DNR 2022 ROD ¶ 193.

d) Any Mile Post 7 tailings basin environmental effects "are subject to mitigation by ongoing regulatory authority…under the DNR Permit to Mine and Master Permit, including oversight under the DNR Dam Safety Program." 2022 DNR ROD at ¶ 80.

*DNR Response*: The Master Permit is the dam safety permit for the Mile Post 7 Tailings Basin. The Master Permit incorporates dam safety requirements and authorizes construction of dams. DNR has not issued a separate Dam Safety Permit for Mile Post 7 because the Master Permit contains the dam safety requirements and is simply called by another name. *See Response to Comment ¶ 22.G.6.*

Tailings dams in Minnesota, including Mile Post 7, are subject to DNR's Dam Safety Program pursuant to Minn. Stat. § 103G.501 through § 103G.561 and Minn. R. 6115.0300 through 6115.0520. Because the laws governing dam safety were not in place until 1979, the Master Permit regulates dam safety at Mile Post 7.

Unique to Mile Post 7 among all tailings facilities in Minnesota, the Master Permit also requires an operation plan that must be renewed every five years subject to DNR approval. The current operations plan addresses dam construction over the 2019-2023 period. *See generally ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP*. Under the Master Permit and the authorities of Minn. Stat. ch. 103G and Minn. R. ch. 6115, DNR requires the dams to meet current dam safety standards of a Class I dam. *See ¶ 9: 2023 EAW at .pdf 19.* DNR dam safety engineers review the Five Year Operation Plan for both current conditions and conditions expected over the next five years in areas including but not limited to Sections: 4.6.1: Flood Storage and Freeboard Requirements; 4.6.2: Contingencies; 4.7.1: Dam Performance; 4.7.2: Dam Raises and Stability Analyses; and 4.7.3: Instrumentation Monitoring. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at 15-27*.

Applying the information being collected for the series of Five Year Operation Plans takes several forms. First, the dams must be capable of storing the Probable Maximum Precipitation or PMP event with adequate freeboard. Second, they must be designed using conservative estimates of material strength. Third, monitoring must be sufficient to collect data on the physical performance of the structure, including piezometers to measure water pressure head and inclinometers to measure horizontal movement. In addition, seepage and slope stability analyses must show that the existing dams are stable and will continue to be stable over the next five years under hypothetical, extreme, and unlikely loading conditions including earthquakes. Finally, operations must show that water levels will be maintained to allow for adequate freeboard should an extreme flood occur.

In summary for the Master Permit, DNR requires Northshore to submit plans, specifications, supporting data, and documentation as DNR deems necessary to allow independent evaluation of the surface and subsurface conditions along the length of the dam, including seepage and structural stability to assess geotechnical stability of the tailings dams at Mile Post 7. DNR may approve the plans or impose further conditions as needed to ensure dam safety. If it would determine the design of the dams is unsafe, DNR would not approve the Five Year Operation Plan.

The dams at Mile Post 7 are regulated as Class 1 or High Hazard dams. *See ¶ 28.a: 2023 National Inventory of Dams at 4.* A Class 1 dam is a dam in which "failure, mis-operation, or other occurrences or conditions would probably result in…any loss of life or serious hazard, or damage to health, main highways, high-value industrial or commercial properties, major public utilities, or serious direct or indirect, economic loss to the public." Minn. R. 6115.0340, subp. A. This classification would not change if the Proposed Project were implemented.

Because these are Class I dams at Mile Post 7, Minn. R. 6115.0360 requires DNR to conduct an annual dam safety inspection that typically takes place in or around October of each year at Mile Post 7. Minn. R. 6115.0360, subp. 3(B). Items noted during the inspection can include: dam condition(s); status of maintenance; summary of activities; and miscellaneous status reports. *See ¶ 28.e: 2022 DSP Inspection Report*. Northshore conducts a more detailed evaluation annually as well; this is called the dam safety inspection report. *See ¶ 29.u: EAW Appendix J19 – 2019-2023 5YOP at Appendix B at .pdf 1-89.*

Finally, it is noted there are measures informing dam safety beyond the requirements of the Master Permit being applied at Mile Post 7. The Permit to Mine requires an Annual Report and Operating Plan (AROP) that includes: summary of the past year's dam construction activities; a summary of tailings disposal activities; and dam reclamation-related activities. *See ¶ 28.f: 2022-2023 AROP at 3*. At the site level, the Permit to Mine requires Northshore to visually monitor the conditions of the dams daily; this is done by the basin engineer and other employees working on the dams. Both the annual site inspection and AROP provide information beyond that required for the Master Permit, which further support the ongoing assessment of dam safety for Dams 1, 2, and 5 at Mile Post 7.

127. *Comment 22.I.127*: None of these assertions by DNR accurately reflect the terms of the permits, their history, or applicable law.

*DNR Response*: DNR has notified the Proposer that the Master Permit must be renewed along with review and approval of the 2024-2028 Five Year Operation Plan. *See ¶ 28.b: 2023 DNR Letter to Northshore*. This is in response to Northshore application for renewal of the Master Permit on September 15, 2023. *See ¶ 28.y: 2023 Northshore Letter to DNR*. Regarding the

permitting history of Mile Post 7 broadly, EAW Item 6f provides a summary of key regulatory events including dam safety. *See ¶ 9: 2023 EAW at .pdf 13-15*. EAW Item 9 identifies the permits and approvals that must be secured by the Proposer for the Proposed Project. *Id. at .pdf 32-33*.

128. *Comment 22.I.128*: The 1977 Master Permit for the Mile Post 7 tailings dam stated that DNR's approvals of project features, terms, and conditions "shall be based on and comply with the provisions of Minnesota Statutes Chapters 105 and 116D." 1977 Master Permit at 4.

    *DNR Response*: Comment noted.

129. *Comment 22.I.129*: The 1977 Master Permit gave an expiration date for the permit and the mechanism by which the permit could be renewed:

    > This permit shall become effective on the date of issuance by the Commissioner. This permit shall expire August 2, 1982. The permit may be renewed by the Commissioner for five-year intervals upon written request by the Permittee made not later than 180 days prior to the date of expiration. Renewal shall be pursuant to the provisions of Minnesota Statutes Chapter 105.

    1977 Master Permit at 4-5.

    *DNR Response*: The various facility operators initiated the Master Permit renewal procedures, with subsequent DNR approvals, through 2004 (for expiration in 2009). Although administratively the Master Permit has not been renewed since 2009, DNR has enforced all of the terms of the Master Permit such as: review and approval of the Five Year Operation Plans; subjecting the facility to DNR inspection and regulation; and addressing any non-compliance issues. The DNR has notified Northshore that the Master Permit must be renewed for the Proposed Project to proceed. *See ¶ 28.b: 2023 DNR Letter to Northshore. See also ¶ 28.jj: 1997-2019 DNR 5YOP Approvals.*

    See ¶ 40 for a listing of necessary permits and approvals for the Proposed Project, which includes the Master Permit renewal.

130. *Comment 22.I.130*: The 1977 Master Permit specified that renewal "shall be pursuant to the provisions of Minnesota Statutes Chapter 105." At the time, the provisions of Minn. Stat. §105.37 to 105.64 (Repealed 1990, c. 391 art.10 s.4) applied to work in public waters and dam permits.

    *DNR Response*: DNR has determined the Master Permit must be renewed for the Proposed Project to proceed. *See Response to Comment ¶ 22.I.129*.

131. *Comment 22.I.131*: By March 24, 1980, DNR had enacted dam safety rules implementing Chapter 105, which were codified by the Revisor of Statutes in 1982. Archived DNR Rules, 6 MCAR 1.5030-1.5050, 1980, WL Ex. 9.

*DNR Response*: Comment noted.

132. *Comment 22.I.132*: Among other provisions, DNR rules applicable by 1980 required the classification of existing dams according to their hazard level, 6 MCAR § 1.5032(B)(2) and prohibited the transfer of ownership of any Class I hazard dam without an application and a permit from the Commissioner based on the conditions and financial capabilities of the transferee. 6 MCAR § 1.5032(C), WL Ex. 9.

*DNR Response*: DNR has classified Dams 1, 2, and 5 as high hazard or Class 1 dams and regulated them as such. *See ¶ 28.a: 2023 National Inventory of Dams at 4.* The conditions under the Master Permit are more restrictive than this rule, which does not require a Five Year Operation Plan to continually assess dam safety subject to DNR review and approval. Finally, there is no transfer of ownership associated with the Proposed Project.

133. *Comment 22.I.133*: The 1977 Master Permit was issued to Reserve Mining, and a 1989 Stipulation states that Reserve Mining's assets were acquired by Cyprus from the bankruptcy trustee. Findings 10-11.

*DNR Response*: EAW Item 6f includes a high-level summary of permitting-related actions, including assignment of the Master Permit first to Reserve Mining and subsequently to Cyprus Mineral Company and Cyprus Northshore Mining. *See ¶ 9: 2023 EAW at .pdf 14.* A detailed summary of these events can also be found in the administrative record for this Record of Decision, the petitions 2022 DNR Record of Decision, and the 2021 DNR ER Need Determination.

134. *Comment 22.I.134*: DNR has provided no permit application, evaluation of Cyprus or formal permit documents reflecting transfer of ownership to Cyprus consistent with the rules then applicable to transfer of a Class I hazard dam. Findings 10-12.

*DNR Response*: Comment noted. DNR could not provide further analysis on this point without a thorough review of the bankruptcy court file and a search for documents relating to the transfer, some of which may no longer exist.

135. *Comment 22.I.135*: Minnesota Statutes Chapter 105 was repealed in 1990 and replaced with Chapters 103A through 103G. Ch. 391, Laws of Minn. 1990.9.

*DNR Response*: Comment noted.

136. *Comment 22.I.136*: Chapter 103G statutes have governed the Mile Post 7 tailings dams since their adoption. A new Mile Post 7 application and permit is required under Chapter 103G:

    e) Only dams in existence on and before July 1, 1937, are exempt from compliance with Chapter 103G requirements. Minn. Stat. § 103G.531.

    f) Dams are subject to "applicable law existing before or after the issuance of the permit," Minn. Stat. § 103G.315, subd. 11(a)(3).

    g) A permit application and permit are required for the transfer of ownership of a dam. Minn. Stat. § 103G.245, subd. 1, subd.3.

    h) The commissioner may extend the time limit in a permit related to mining only for cause shown and upon application by the permittee. Minn. Stat. § 103G.315, subd. 14(c).

    *DNR Response*: DNR has the authority under the cited statutes to permit the dams and has done so through the Master Permit. Though these dams are covered by the Master Permit, DNR also applies standards that are set forth in § 103G and regulations promulgated thereunder to the Mile Post 7 dams. Finally, DNR does not take the position that the Mile Post 7 dams are exempt from permitting as described in Minn. Stat. § 103G.531, subd. 1, because it regulates the dams under the Master Permit.

137. *Comment 22.I.137*: Cliffs through its wholly owned subsidiary (renamed Northshore Mining Company) purchased the assets of Cyprus in 1994. The only documentation DNR has provided of this transfer is an assignment document prepared eleven years later. Findings 10-12, 15-16.

    *DNR Response*: Comment noted. Minnesota Rules Chapter 4410 does not require an EAW to document the ownership history of an existing facility, but rather to provide an overview of past development. *See ¶ 9: 2023 EAW at .pdf 13-15.*

138. *Comment 22.I.138*: Minnesota Rules Chapter 6115 have applied to the Mile Post 7 tailings dams since these rules were adopted in 2008. A new dam safety permit is required for dam enlargement, Minn. R. 6115.0410, subp. 2, and transfer of dam ownership requires a permit. Minn. R. 6115.0370.

    *DNR Response*: Because the Master Permit already authorized the construction of the Mile Post 7 Tailings Basin dams to the height of 1,315 ft amsl, the Proposed Project is not an enlargement of the dams. This is because dam enlargement is defined as any change that

would raise the maximum storage elevation of the dam; this is not occurring under the Proposed Project. Minn. R. 6115.0320, subp. 6. Regarding transfer of dam ownership, DNR amended the Master Permit to replace Northshore Mining Company with Cleveland Cliffs, Inc. as the permittee in 2005. *See ¶ 29.f: EAW Appendix J6 – 2005 Permit to Mine Assignment et. al. at .pdf 4.*

139. *Comment 22.I.139*: Under Chapter 6115, a dam safety application and permit approval must contain provisions that comply with Minn. R. 6115.0410, including the following:

    i) The application must describe the type, size, height, and storage capacity of the dam extending through the life of the impoundment. Id., subp. 2.

    j) The preliminary report for the permit must include all other elements related to the total dam project specifically including railroads. Id., subp. 3.

    k) The final design report must include a dam-break analysis, information on waste materials and disposal practices, stability analysis and design details for dams, impoundments and other features. Id., subp. 6.

    l) The permit can only be approved on findings of dam stability "under all conditions…based on current, prudent engineering practice" and dam hazards and on "[c]ompliance with prudent, current environmental practice throughout its existence." Id., subp. 8(D), (F).

    *DNR Response*: The Minnesota Rule speaks for itself and is read and analyzed in full by the RGU together with other applicable statute, rule, and law the RGU determines may apply.

140. *Comment 22.I.140*: DNR has provided no record demonstrating that an application for a new dam permit, for extension or renewal of the 1977 Master Permit, or for transfer of ownership of the Mile Post 7 tailings dam has been made by any permittee since 1977.

    *DNR Response*: There is no requirement for a project EAW to document the entire permitting history of an existing facility, in this case a set of tailings basin dams. EAW Item 6f includes a summary of past development and timelines that is supported by various documentation (provided as appendices), which does include significant permitting actions where appropriate. *See ¶ 9: 2023 EAW at .pdf 15-24.* Finally, there is no transfer of ownership associated with the Proposed Project.

141. *Comment 22.I.141*: In fact, the appendices to the Mile Post 7 proposed project EAW reflect that DNR has relied on various informal, incomplete, and in some cases retroactive documents to renew, modify, extend, or transfer the tailings dam 1977 Master Permit. Findings 10-16, 118.

*DNR Response:* Comment noted. *See Response to Comment ¶ 22.I.140.*

142. *Comment 22.I.142*: DNR has provided no record demonstrating that the requirements of statutes and rules applicable to dam safety permits have been followed in connection with the Mile Post 7 dam.

*DNR Response*: There is no requirement for an EAW to document the entire regulatory compliance history of an existing facility, in this case a set of tailings basin dams. Regardless, for example as this Record of Decision indicates, the Master Permit requires DNR approval of the Five Year Operation Plans. *See generally ¶ 28.jj: 1997-2019 DNR 5YOP Approvals.*

143. *Comment 22.I.143*: No Mile Post 7 dam safety permit – including the 1977 Master Permit – classifies the hazard level of the Mile Post 7 tailings dam, describes all related features, demonstrates that the dam provides stability under all conditions, represents current prudent engineering practice for Class I dams, or reflects compliance with prudent current environmental practice throughout its projected existence.

*DNR Response*: The Mile Post 7 dams are classified as High Hazard Dams by the National Inventory of Dams. *See ¶ 28.a: 2023 National Inventory of Dams at 4*. DNR notes that information about dam safety requirements is found in the Five Year Operation Plans, the EAPs, and the Master Permit. *See Response to Comment ¶ 22.G.60.*

144. *Comment 22.I.144*: In 2021, Petitioners for an EAW specifically requested that DNR require a dam break study and disclose its results to the public in environmental review and prior to approval of the proposed Mile Post 7 project. WL Petition at 15-16.

*DNR Response*: As previously noted, dam break analyses have been conducted in 2012 and 2022, and this information is available to DNR in meeting its responsibilities for dam safety at Mile Post 7. *See Response to Comment ¶ 22.D.7.* This information is available to the public, though some parts of the documents are not public and therefore redacted. Although an EAW is not required to provide a detailed dam breach analysis, the EAW addressed dam safety regulation under the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 6.*

The dam break analysis in the 2022 EAP analyzed four different failure modes (i.e., overtopping failure; liquefaction of fine tailings; foundation failure; internal erosion) under two failure scenarios (i.e., fair-weather; storm induced) and modeled them for Dams 1, 2, and 5. *See ¶ 28.d: 2022 EAP at E-9 and E-10. See also Responses to Comments ¶¶ 22.I.57, 22.F.5.* This analysis is proposed to be updated in 2027 to include the Proposed Project.

145. *Comment 22.I.145*: Dr. Emerman detailed some of the requirements for a dam breach study and emphasized that potential environmental effects of the Mile Post 7 project cannot be determined without a modern dam-breach study including analysis of at least the following: the area covered by the tailings flood; depths and velocities of the tailings flood; impacts on residents, roads, bridges, and infrastructure; impacts on short-term and long-term human health; impacts on fish and wildlife, including impacts on habitat; impacts on air and water quality; impacts on aquatic life and ecology on Lake Superior and other downstream waters; and a worst-case dam failure scenario. Emerman 2021 at 60.

*DNR Response*: Northshore submitted an Emergency Action Plan or EAP in 2022 that updated the earlier EAP submitted to DNR in 2012. The updated 2022 EAP projects conditions between the years 2019 to 2023 to align with the current 2019-2023 Five Year Operation Plan now being implemented. According to the plan, it "includes an assessment of mobilized tailings in a hypothetical dam failure by in-depth analyses and evaluations of site-specific material parameters, key geotechnical variables, credible failure modes, and by investigating potential deposition of plant aggregate and fine tailings as breach flood waves run out of the basin." *See ¶ 28.d: 2022 EAP at E-1*. The updated 2022 EAP addresses the factors identified by Dr. Emerman pertinent to understanding potential harm to result in "any loss of life or serious hazard, or damage to health, main highways, high-value industrial or commercial properties, major public utilities, or serious direct or indirect, economic loss to the public." Minn. R. 6115.0340, subp. A. *See Response to Comment ¶ 22.D.11.*

146. *Comment 22.I.146*: In response, DNR cited the NMC 2012 Emergency Action Plan (EAP) and stated that a new dam breach analysis is expected to be available in early 2022. DNR 2022 ROD ¶¶ 223-224.

*DNR Response*: See Responses to Comments ¶¶ 22.I.145, 22.B.3, 22.D.11.

147. *Comment 22.I.147*: The 2012 EAP was provided among DNR's attachments to its 2022 Record of Decision denying an EAW for the Mile Post 7 project. However, the methods and results of the dam break analysis were redacted almost in their entirety. See Mile Post 7 EAP, Dec. 26, 2012, WL Ex. 10 at pdf 9, 12-16, 46-81. This redacted EAP provides none of the information necessary to review potential significant environmental effects or to address public concerns.

*DNR Response*: The DNR regularly classifies certain data pertaining to dams as security information within the meaning of Minn. Stat. § 13.37, subd. 1 (a). Minnesota Statute § 13.37, subd. 1(a), defines security information as "data the disclosure of which the responsible authority determines would be likely to substantially jeopardize the security of information, possessions, individuals or property against…physical injury..." Minnesota Statute section 13.37, subd. 2(a), classifies government data not on individuals that is security information as non public data. In the case of dams, the DNR regularly classifies portions of documents such

as "emergency action plans for dams as security information because these documents contain information that persons could use to determine how to sabotage the dam, interfere with evacuation efforts in the event of a breach, or make a false report of a dam breach, all of which would endanger public safety. In the case of the Mile Post 7 Dams, the DNR classified the following information in the 2022 EAP as security information: Sections: 1.3; 2.2.2; 2.4.2; 3.1-4, 3.6; 4.1, 4.4-5; 5.2-4, 5.4, 5.5.2; and 6.1-2. Figures: 1-1, 1.2. Tables: 1-1, 2-1. Appendices: A; B; C; E; G; H; and I. Exhibits: 1-6.[7] Although certain information is classified as security information subject to redaction, all the information contained in the 2022 EAP is available to DNR for regulating dam safety at Mile Post 7.

148. *Comment 22.I.148*: DNR has acknowledged that the railroad relocation in the proposed Project will require an amendment to the Mile Post 7 permit to mine. The status of this process is pending Northshore's response to DNR's comments related to tailings basin features. EAW at pdf 32.

    *DNR Response*: EAW Item 9 identifies the Proposed Project cannot proceed without a Permit to Mine Amendment. *See ¶ 9: 2023 EAW at .pdf 32.* Review of the amendment application (December 15, 2020) is underway. *See Responses to Comments ¶¶ 22.I.94, 22.G.65.*

149. *Comment 22.I.149*: Since the 1985 Permit to Mine was issued, the permit to mine record for the Mile Post 7 tailings basin has lacked regulatory formality, consistency, and transparency. Findings 11- 16, 118.

    *DNR Response:* Comment noted.

150. *Comment 22.I.150*: Significant tailings basin features, including the coal ash landfill and the existing West Ridge Railroad are not authorized in either the 1977 Master Permit, the 1985 Permit to Mine, or any other permit to mine document. Findings 68-70, 81-86.

    *DNR Response*: EAW Item 6f provides an overview of the history of the lined industrial solid waste disposal facility or ash landfill. *See ¶ 9: 2023 EAW at .pdf 23-24*. It is regulated primarily under MPCA Solid Waste Facility Program under Permit SW-409, including conditions for closure. *See generally ¶ 29.n: EAW Appendix J12 – MPCA Solid Waste Permit SW-409*. However, because the ash disposal facility lies within the Mining Area Boundary for the Permit to Mine, facility-related closure measures should conform to the provisions of Minn. R. ch. 6130. *See ¶ 28.aa: Mile Post 7 Mining Area at 1*.

[7] In each instance where data was classified as security information the data was redacted from the document. In no instance was the entire document redacted.

The need for a dam building materials supply railroad has been a feature of the Tailings Basin since its inception. *See Responses to Comments ¶¶ 22.I.85, 22.I.89, 22.I.90, 22.I.92.*

151. *Comment 22.I.151*: Whether or not the proposed Mile Post 7 project proceeds, the permit to mine should be formally renewed and amended to comply with applicable statutes and rules and identify all features of the tailings basin.

    *DNR Response*: Permit to Mine approvals do not follow a renewal process. They are in effect for a specified term, (i.e., known or projected life of the operation). A Permit to Mine Amendment is pending. *See ¶ 9: 2023 EAW at .pdf 32.*

152. *Comment 22.I.152*: DNR is required to set a definite term for a permit to mine. Minn. Stat. § 93.481, WL.152 subd. 3(a); In re NorthMet Project Permit to Mine Application, 959 N.W.2d 731, 758 (Minn. 2021).

    *DNR Response*: See Response to Comment ¶ 22.G.65.

153. *Comment 22.I.153*: The term for the permit to mine pertaining to the Mile Post 7 tailings basin is five years, incorporating the terms of the 1977 Master Permit by reference. 1977 Master Permit at 4-5, 1985 PTM at.

    *DNR Response*: The Permit to Mine has a different term than the Master Permit. The current term continues until reclamation and closure is complete.

154. *Comment 22.I.154*: A permit to mine must include a plan for reclamation and restoration that complies with lawful requirements and is practical and workable under available technology. Minn. Stat. § 93.481, subd. 1, subd. 2.

    *DNR Response*: Comment noted.

155. *Comment 22.I.155*: DNR must require a bond, security or other financial assurance from the operator of a mine and annually review the extent of each operator's financial assurance. Minn. Stat. § 93.49.

    *DNR Response*: The statute also states that said financial assurance must be "...acceptable to the Commissioner." The financial assurance for the facility has been reviewed annually. A revision of the cost estimate for reclamation and closure of the basin has been requested from the company in connection with the Permit to Mine Amendment. Once approved, funds equal to that cost estimate will be provided in a form and manner acceptable to the Commissioner.

156. *Comment 22.I.156*: Neither the 1977 Master Permit, the 1985 Permit to Mine, nor any amendment of these permits contain a reclamation plan or provision for financial assurance. 1977 Master Permit, 1985 PTM at 2.

*DNR Response*: The comment is incorrect. Section X, Special Conditions, of the 1977 Master Permit at Subsection B.2, Perpetual Maintenance, states: "The Commissioner may impose such requirements as may be necessary, prior to the ultimate termination of the Permittee's operations, to insure that the Permittee will remain financially responsible for carrying out the activities required for perpetual maintenance, and that adequate funding will exist therefore." *See ¶ 29.c: EAW Appendix J3 – 1977 Master Permit at 25.* Similarly, the comment does not account for subsequent permit renewals and activities. For example, the August 6, 1982, Master Permit Renewal and Amendment required the submittal of a preliminary closure and perpetual maintenance plan, which was also required by the 1977 Master Permit. *See ¶ 28.cc: 1982 Master Permit Renewal and Amendment at 5*. The final plan was completed on August 16, 1988, and contains the reclamation and closure plans including a cost estimate. *See ¶ 28.dd: 1988 Consensus Closure Plan at Figure 2.* An estimated cost for financial assurance was updated in 1996. *See ¶ 28.ee: 1996 Financial Assurance at 1*. Regarding the 1985 Permit to Mine, it includes by reference information on the methods, sequence, and schedules of reclamation at mine deactivation as understood at the time. *See ¶ 29.y: EAW Appendix J23 – 1981 Permit to Mine Application at 48-51*.

Finally, the purpose of EAW does not include disclosure or evaluation of financial assurance requirements for a project. Rather, this is evaluated and assessed as part of the Permit to Mine process, including the requested amendment for the Proposed Project. In other words, the issue of sufficient financial assurance is beyond the scope of project-specific environmental review. *See Response to Comment ¶ 22.G.66*. Regardless, increasing the financial assurance is planned for and is under review as part of the Permit to Mine Amendment Application for the Proposed Project.

157. *Comment 22.I.157*: The only provision for financial assurance in this record was prepared for potential imminent mine closure in 1989 and required only $19 million dollars for closure and reclamation. 1989 Stipulation at 11-12.

*DNR Response*: After the Permit to Mine Assignment from Reserve Mining Company to Cyprus Northshore, cost estimates for financial assurance were developed in the mid-1990s. Financial assurance between the state of Minnesota and Cleveland Cliffs, Inc., Cliffs Minnesota Minerals Company, and Northshore Mining Company, was finalized in October 1996 with a signed corporate guaranty and the $4 million letter of credit. *See ¶ 28.ee: 1996 Financial Assurance at 1.*

Increasing the financial assurance is planned for and is under review as part of the Permit to Mine Amendment Application for the Proposed Project. All project development identified in EAW Item 6b would be factored into financial assurance requirements over the remaining operating life to reclamation and final closure of the Tailings Basin. *See ¶ 9: 2023 EAW at .pdf 4-10.*

158. *Comment 22.I.158*: When the DNR commissioner finds that a proposed amendment constitutes a "substantial change" to the permit to mine, public notice and comment is required, and a hearing shall be held if written objections are received. Minn. Stat. § 93.481, subd. 3(b); Minn. R. 6130.4800, subp. 1-2; Minn. R. 6130.5000, subp. 1.

*DNR Response*: Comment noted. DNR is processing the Permit to Mine Amendment as a substantial amendment.

159. *Comment 22.I.159*: As compared to the 1985 Permit to Mine, an amendment to provide a current and accurate description of all tailings basin features, a reclamation plan, and financial assurance would be a substantial change, whether or not the amendment also includes the Mile Post 7 tailings basin proposed project.

*DNR Response*: See Response to Comment ¶ 22.I.158.

160. *Comment 22.I.160*: Based on the preceding information and the files and records in these proceedings, including the DNR's appendices and WaterLegacy's attached exhibits, WaterLegacy and NMW respectfully request the DNR to take the actions detailed on the first page of this comment.

A. Prepare an environmental impact statement (EIS) for all proposed new, extended and expanded Mile Post 7 tailings basin features, including cumulative impacts of project developments since the 1977 EIS because the proposed project, including cumulative impacts, has the potential for significant environmental effects not subject to effective mitigation by ongoing public authority. Minn. Stat. § 116D.04; Minn. R. 4410.1700, subp. 7(A)-(D); Minn. R. 4410.2000, subp. 3(A).

B. Analyze in that EIS: 1) the potential environmental and safety impacts of dam breach and failure for upstream and "offset upstream" dam raises constructed on top of uncompacted tailings near Lake Superior; 2) all project features with the potential for significant impacts to wetlands and water resources; and 3) potential alternatives to avoid, minimize, or mitigate such effects.

C. Require the applicant, Northshore Mining Company (Northshore), a wholly owned subsidiary of Cleveland-Cliffs, Inc. (Cliffs) to apply for a Dam Safety Permit for the Mile

Post 7 tailings basin and evaluate issuance of that permit in a formal, open process that allows for public notice and comment. Minn. Stat. ch. 103G, Minn. R. ch. 6115.

D. Require Northshore to apply for renewal of its permit to mine and an amendment pertaining to the Mile Post 7 tailings dam and evaluate approval of that renewal and amendment as a substantial as a substantial change requiring an open public process. Minn. Stat. Ch. 93, Minn. R. ch. 6130.

Many of the facts supporting the requested actions are not disputed. The factual background and the authorities and arguments upon which we rely are stated in the following pages.

*DNR Response*: Comment noted.

161. *Comment 22.I.161*: Specifically, we ask DNR to prepare an EIS that evaluates all potential cumulative environmental impacts of the proposed new construction of a railroad, substantial extension and increase in height of tailings dams, and substantial expansion and change to acreage and location of the wet slurry tailing basin itself, including the impacts on all affected water resources and the impacts of dam breach or catastrophic failure on local communities, proximate streams, and on Lake Superior itself. In this EIS, we request that DNR take a hard look at the Mile Post 7 features that have never been subject to environmental review, the features that are inconsistent with the plans and recommendations that emerged from 1975-1977 federal and state environmental review, and the features that may have seemed appropriate or unavoidable half a century ago in order to stop Reserve Mining from dumping tailings into Lake Superior, but are no longer consistent with current, prudent engineering and environmental practice. Specifically, we would request that the DNR evaluate whether there is a feasible and prudent alternative to expansion of the Mile Post 7 tailings basin, including but not limited to in-pit tailings disposal and a conscientious and financially assured closure plan for the existing tailings basin.

*DNR Response*: Comment noted.

The Proposed Project in not an expansion. *See Response to Comment ¶ 22.G.8.*

162. *Comment 22.I.162*: Next, we request that DNR require that the Mile Post 7 tailings basin be subject to formal permitting in compliance with dam safety statutes and rules in Minnesota Statues Chapter 103G and Minnesota Rules Chapter 6115 and with permit to mine statutes and rules in Minnesota Statues Chapter 93 and Minnesota Rules 6115. For the past 40 years, Mile Post 7 has lacked a permit that complies with current statutes and rules. DNR has allowed its series of owners to operate outside regulatory guardrails, based on discretion behind closed doors, rather than a formal process that allows public review and analysis by external and independent experts. WaterLegacy and NMW request that the DNR advise

Northshore that the company must apply for a dam safety permit for Mile Post 7 and for a renewed and substantially amended permit to mine in compliance with all applicable laws, including requirements for a permit term, a dam breach analysis, detailed specifications of all dam design and site features, a plan for closure and reclamation, and financial assurance that will protect the community, the environment, and taxpayers from tailings dam failure and tailings basin pollution during unplanned stoppage as well as during closure and post-closure. Thank you for your consideration.

*DNR Response*: Comment noted.

23. DNR's responses to public comments on the EAW from Form Email No. 1 are provided in Findings of Fact ¶ 23.

    A. *Comment 23.A*: I write to express my concern about effects of the proposed expansion of the Northshore Mile Post 7 tailings basin on the water quality of Lake Superior and on human health and safety.

    *DNR Response*: The Proposed Project does not constitute an expansion pursuant to Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8*.

    B. *Comment 23.B*: The only environmental impact statement (EIS) performed by the State of Minnesota for the Mile Post 7 tailings basin was done in 1976, almost half a century ago. That final EIS required a tailings dam at the Mile Post 7 location must use "downstream" construction methods for stability. Even with that less risky construction method, the EIS recommended against locating a tailings basin so close to Lake Superior.

    *DNR Response*: Because EISs are not a project approval document, the 1975-76 Final EIS did not "require" the dams at Mile Post 7 to use the downstream construction method as alleged. Minn. R. 4410.0300, subp. 3. Rather, the 1975-76 Final EIS considered and assessed a project proposing to use the downstream method for dam construction. *See ¶ 29.i: EAW Appendix J9.a – 1975-76 Final EIS (ROD) ¶ 16*. Each of the three principal methods of dam construction, which are downstream, upstream, and centerline, offers its own mix of pros and cons across several engineering and design factors, including but not limited to safety, relative stability, and construction material requirements. *See Responses to Comments ¶¶ 22.G.31, 22.G.33, 22.G.37*.

    C. *Comment 23.C*: In 1977, the courts forced Minnesota agencies to accept the Mile Post 7 site preferred by Reserve Mining. But no courts have prevented the Minnesota Department of Natural Resources (DNR) from conducting a rigorous EIS review since then. That is on you.

*DNR Response*: Comment noted. The DNR agrees that the decision of the Minnesota Supreme Court ordering the DNR and the MPCA to issue a permit to Reserve Mining for Mile Post 7 was contrary to the position taken by the ALJ, the DNR, and the MPCA, all of which found the Mile Post 20/Midway site to be the environmentally preferrable site. *See ¶ 29.bb: EAW Appendix J26 – Reserve Mining Co. v. Herbst,* 256 N.W. 2d 808, 812 (Minn. 1997). EAW Item 6f discusses the role played by the Minnesota Supreme Court regarding state agency issuance of permits for constructing and operating a tailings storage facility at Mile Post 7. *See ¶ 9: 2023 EAW at .pdf 13-15.*

D. *Comment 23.D*: There has never been any environmental review of the "upstream" dam raises the DNR approved for the Mile Post 7 dams since 1997 of the coal ash waste facility or tailings basin expansion near that facility, or of the impacts of climate change on potential Mile Post 7 tailings dam failure.

   *DNR Response*: Regarding environmental review of use of the upstream method, see Responses to Comments ¶¶ 22.G.26-46.

   Regarding the coal ash landfill, EAW Item 6f indicates the demolition debris and coal ash landfill is previous development at the Mile Post 7 tailings management facility. It is already constructed and thus triggered no mandatory environmental review. The Proposed Project does not involve it directly. *See ¶ 9: 2023 EAW at .pdf 23-24. See also Response to Comment ¶ 22.I.150.*

   The Proposed Project also does not constitute an expansion pursuant to Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8.*

   Finally, potential climate change implications for the Proposed Project are addressed at EAW Item 7. *See ¶ 9: 2023 EAW at .pdf 24-28. See also Responses to Comments ¶¶ 22.H.8, 22.I.113, 22.I.116.*

E. *Comment 23.E*: REQUEST: To protect Lake Superior and community safety, I request that DNR perform an EIS for the Mile Post 7 tailings basin expansion focused on the cumulative effects of its structure, location, size, and height, and alternatives that would avoid and minimize risks of a dam breach and contamination of water resources, as well as impacts to wetlands and streams.

   *DNR Response*: Comment noted.

F. *Comment 23.F*: In addition, even though the 1977 Mile Post 7 "Master Permit" said that the permit would expire in 1982 and could only be renewed for 5-year periods consistent with Minnesota statutes, this requirement has not been followed. The last permit to mine for the

tailings basin was in 1985 and expired long ago. There has never been a dam safety permit for the tailings basin.

*DNR Response*: See Response to Comment ¶ 22.I.129 regarding the Master Permit being the dam safety permit for Mile Post 7.

Regarding the Permit to Mine, it does not follow a "renewal" process; the Permit to Mine is in effect for a specified term (i.e., known or projected life of the operation). See ¶ 40 for a listing of necessary permits and approvals for the Proposed Project.

G. *Comment 23.G*: REQUEST: To protect Lake Superior and community safety, I request that DNR use an open public permitting process and require both a current permit to mine and a dam safety permit for the Mile Post 7 tailings basin that satisfies all Minnesota statutes and rules and provides a rigorous dam breach study and closure/reclamation plan with sufficient financial assurance to protect Minnesota taxpayers.

*DNR Response*: Comment noted. See Responses to Comments ¶¶ 22.B.5, 22.D.11, 22.G.66.

H. *Comment 23.H*: It is not too late to protect Lake Superior waters and community health and safety by requiring an EIS and appropriate permits for the Mile Post 7 tailings basin expansion.

*DNR Response*: The DNR notes that an EIS is an evaluation of the significant impacts of a project, identification of available mitigation, and consideration of alternatives to the proposed action that may have the same or less environmental, social, and economic effects. Actual protection comes from the permits that have been and will be in place to protect Lake Superior, health, and safety under the Proposed Project. See ¶ 40 for the permits and approvals required for the Proposed Project.

24. DNR's responses to public comments on the EAW from Form Email No. 2 are provided in Findings of Fact ¶ 24.

A. *Comment 24.A*: The proposal by Northshore to expand the Mile Post 7 tailings storage facility upstream of Lake Superior is of significant concern for Minnesotans.

*DNR Response*: The Proposed Project does not constitute an expansion pursuant to Minn. R. 4410.0200, subp. 28. *See Response to Comment ¶ 22.G.8*.

B. *Comment 24.B*: If the dams at this facility were to collapse, the environmental results could be devastating – to nearby residents, to aquatic habitats and wildlife, to Lake Superior, and to those who rely on it for drinking water. A 40-year-old study conducted according to 1970s environmental review standards is not sufficient to show the dams are safe. Nor are company

studies that aren't disclosed to the public. DNR should fully study dam safety and the significant environmental effects that would occur if the dams failed, before it makes a decision regarding this proposal, especially considering that dam design has changed since the earlier review.

*DNR Response*: See Responses to Comments ¶¶ 22.G.25, 22.B.4, 22.I.145, 22.D.8.

C. *Comment 24.C*: The lack of a dam safety permit is further evidence of the need for full environmental review of the current proposal. It is not enough for DNR to point to its own regulation of the facility to conclude no significant environmental effects will occur. We need the additional safeguards and public review that a dam safety would involve.

*DNR Response*: The Master Permit is the dam safety permit for the Mile Post 7 Tailings Basin. The Master Permit incorporates dam safety requirements and authorizes construction of dams. DNR has not issued a separate Dam Safety Permit for Mile Post 7 because the Master Permit contains the dam safety requirements and is simply called by another name. Simply because dam safety is incorporated into another permit as then required by law, does not mean that the dams on site are not safe and not regulated by current law and that the dams are not controlled by current permits or permit standards. *See Response to Comment ¶ 22.B.5.*

D. *Comment 24.D*: Because the EAW does not have information about dam safety or the environmental effects of a collapse, DNR should order an Environmental Impact Statement for the Mile Post 7 Expansion proposal and require a dam safety permit with a full public notice and comment process.

*DNR Response*: Comment noted. *See Responses to Comments ¶¶ 22.G.25, 22.D.11*.

25. DNR's responses to public comments on the EAW from Form Email No. 3 are provided in Findings of Fact ¶ 25.

A. *Comment 25.A*: It is my view that the draft Environmental Assessment Worksheet is unacceptable. It leaves out significant environmental risks, including dam failure and catastrophic damage of the Beaver River valley. People have the right to know what the potential threats are.

*DNR Response*: Comment noted. The EAW addresses dam safety for the Proposed Project. *See ¶ 9: 2023 EAW at .pdf 6, 32*. *See also Response to Comment ¶ 22.G.25*.

B. *Comment 25.B*: Instead of using only this EAW, the DNR should require a full Environmental Impact Statement and not rely on the outdated environmental review of the 1970s.

*DNR Response*: Comment noted. The purpose of the EAW is to rapidly assess the environmental effects of the Proposed Project to aid in the determination of whether an EIS is needed for a project. Minn. R. 4410.1000, subp. 1A. As demonstrated by this Record of Decision, DNR as RGU is not solely relying on the 1970s state and federal EISs to consider the potential for the Proposed Project to result in significant environmental effects.

C. *Comment 25.C*: In addition, the DNR should require Northshore Mining to apply for a dam safety permit and utilize the least-risky, most stable dam construction methods for the new dam walls.

*DNR Response*: The Master Permit is the dam safety permit for the Mile Post 7 Tailings Basin. The Master Permit incorporates dam safety requirements and authorizes construction of dams. DNR has not issued a separate Dam Safety Permit for Mile Post 7 because the Master Permit contains the dam safety requirements and is simply called by another name. Simply because dam safety is incorporated into another permit as then required by law, does not mean that the dams on site are safe and not regulated by current law and that the dams are not controlled by current permits or permit standards. *See Responses to Comments ¶¶ 22.B.5, 22.G.60*

The Proposer has confirmed that the Dams 1 and 2 extensions would rely on the centerline construction method. *See Response to Comment ¶ 22.B.4.*

26. DNR's responses to public comments on the EAW Form Email No. 4 are provided in Findings of Fact ¶ 26.

A. *Comment 26.A*: In order to ensure responsible stewardship of natural resources, and transparency in government, I would like to go on record to ask the following be done in regards to the Mile Post 7 stream EAW: 1) provide an up-to-date Environmental Impact Statement.

*DNR Response:* Comment noted.

B. *Comment 26.B*: In order to ensure responsible stewardship of natural resources, and transparency in government, I would like to go on record to ask the following be done in regards to the Mile Post 7 stream EAW: 2) require a dam safety permit.

*DNR Response*: The Proposed Project already has a dam safety permit through the Master Permit, which DNR has determined must be renewed before the Proposed Project can proceed. *See Response to Comment ¶ 22.B.5.* DNR will also require 2024-2028 Five Year

Operation Plan to be approved before the Proposed Project can be constructed. *See ¶ 9: 2023 EAW at .pdf 32.*

C. *Comment 26.C*: In order to ensure responsible stewardship of natural resources, and transparency in government, I would like to go on record to ask the following be done in regards to the Mile Post 7 stream EAW: 3) require an emergency plan for dam failures.

*DNR Response*: See Responses to Comments ¶¶ 22.D.7, 22.D.11.

D. *Comment 26.D*: We are neighbors to 10% of the nation's freshwater and cannot afford to get this wrong.

*DNR Response*: Comment noted.

27. DNR's responses to public comments on the EAW from 27 unique emails are provided in Findings of Fact ¶ 27. As the majority of unique emails are near-duplicates to the comments from Findings of Fact ¶¶ 23-26, DNR has only listed comments that are specific and substantive from the unique emails.

A. *Comment 27.A*: The EAW relies on outdated information as it references the northern long-eared bat (NLEB) 4(d) rule which was revoked on March 31, 2023, when the NLEB was reclassified as endangered under the federal Endangered Species Act. (Author: Smith, Christopher; April 18, 2023).

*DNR Response*: The comment is correct. The EAW was issued for public review and comment after the federal listing status of the northern long-eared bat was reclassified to endangered under the federal Endangered Species Act. EAW Item 14c addressed the potential for the Proposed Project to impact this species and reported "no prohibited take of the northern long-eared bat would occur as part of this project." *See ¶ 9: 2023 EAW at .pdf 79.* This was reconfirmed by the US Fish & Wildlife Service (USFWS) on July 18, 2023, which reported to the Proposer that the "project is not reasonably certain to cause incidental take" of this species, which would verify "that the action is not likely to result in unauthorized take of the northern long-eared bat." The USFWS further indicates that the project cannot proceed until consultation between that agency and the USACE is completed. *See ¶ 28.ff: USFWS Letter 1 at 1. See also ¶ 28.gg: USFWS Letter 2 at 1.*

B. *Comment 27.B*: In addition, the project proponent and RGU should use the Minnesota-Wisconsin Determination Key in IPaC to assist in the effect determinations for the gray wolf, Canada lynx, and other federally listed species and critical habitats.

*DNR Response*: EAW Item 14b indicates the impact assessment relied on the USFWS Information for Planning and Consultation (IPaC) tool to identify federally listed species that may occur in the area. *See ¶ 9: 2023 EAW at .pdf 76.* The list of species in the EAW matches the list generated by the USACE in that agency's Environmental Assessment and Statement of Findings (September 16, 2021) for compliance with Section 7 of the US Endangered Species Act. *See ¶ 29.dd: EAW Appendix J28 – USACE Environmental Assessment at 48.* Both the EAW and EA acknowledge potential impacts, but these would not rise to population-level concerns.

**Lacking Information Compiled by the RGU**

28. The DNR collected the following lacking information determined necessary to make a reasoned decision about the potential for, or significance of, possible environmental effects of the Proposed Project. Minn. R. 4410.1700, subp. 2a.B.

    These documents are not exhibits to the EAW and are incorporated into this Record:

    a. 2023 National Inventory of Dams. Database. National Inventory of Dams - Northshore Mining MN 01477.Summary; Description; Structure; Inspection and Evaluation; Response Preparedness. Last Updated: November 2, 2023.
    b. 2023 DNR Letter to Northshore. DNR. Extension to the Milepost 7 Tailings Basin 2019-2023 Five Year Operations Plan and the Milepost 7 Master Permit for Northshore Mining Company. Correspondence: Letter from DNR to Northshore. December 6, 2023.
    c. 2012 EAP. Barr Engineering. Emergency Action Plan; Milepost 7 Tailings Basin; Dams 1, 2, and 5; Beaver River and East Branch Beaver River; Beaver Bay, Minnesota. December 26, 2012. With redactions.
    d. 2022 EAP. Barr Engineering. Emergency Action Plan – Milepost 7 Tailings Basin; Dams 1, 2, and 5 – Proposed 2023 Conditions. April 2022. With redactions.
    e. 2022 DSP Inspection Report. DNR. Northshore Tailings Basin Dams, NID MN01477, Lake County. Correspondence: Letter from DNR Dam Safety Program to Northshore. January 19, 2023.
    f. 2022/2023 AROP. Northshore Mining Co. 2022 Annual Report and 2023 Operating Plan. January 2023.
    g. MPCA Permit MN0067962. MPCA. NPDES/SDS Permit MN0067962 – Cliffs Erie: Taconite Harbor Dock. April 2023.
    h. 1975 Casagrande Report. Casagrande Consultants. Final Report on Evaluation of Proposed Design Mile Post 7 Project. August 1975.
    i. 1975 Baker Report. Michael Baker, Jr. Geotechnical Evaluation on Land Tailings Disposal Plan Reserve Mining Company, Mile Post No. 7 Site. August 1975.
    j. 1975 Wahler Report.W.A. Wahler & Associates. Review of Reserve Mining Company's Preliminary Mile Post 7 Tailings Disposal Plan. August 1975.

k. 2018 MPCA TMDL. MPCA. Lake Superior South Watershed Total Maximum Daily Load Report: Protecting and Restoring Minnesota's North Shore Resources; wq-iw10-10e. December 2018.
l. 2016 Northshore ER and Permitting Summary. Northshore Mining Company Northshore Mining Company: Railroad Realignment and Tailings Basin Progression – Environmental Review and Permitting Summary. August 18, 2016.
m. 2017 DNR ERND. DNR. Agency Memorandum: Northshore Mine – Mile Post 7 Railroad Realignment & Tailings Basin Progression – Assessment of EIS Supplement Requirement. March 16, 2017.
n. 2022 Stream Mitigation EAW. DNR. Big Thirtynine and Little Thirtynine Creek Mitigation, Beaver Bay Township, Lake County, Minnesota – Environmental Assessment Worksheet. March 15, 2022.
o. 2022 Stream Mitigation EAW Termination Letter. DNR. Decision to Terminate Big Thirtynine and Little Thirtynine Creek Mitigation Project Environmental Assessment Worksheet. Correspondence: DNR to EQB Distribution List and Interested Parties. June 24, 2022.
p. 2022 MCEA-WL Letter to DNR. Minnesota Center for Environmental Advocacy and WaterLegacy. Northshore Mining Company. Milepost 7 Tailings Basin and Need for Dam Safety Permit, Closure Cost Review, and Permit Term. Correspondence: Letter from MCEA and WaterLegacy to DNR Commissioner Strommen. May 10, 2022.
q. 2013 Dam 1 Stability Report. Barr Engineering. Dam 1 Stability Evaluation; Dam Crest Elevation 1,245 feet. September 2013.
r. 2016 Dam 2 Stability Report. Barr Engineering. Dam 2 Stability Evaluation; Dam Crest Elevation 1,248 feet. June 2016.
s. 2021 Northshore Equipment Status. Northshore Mining Company. Reporting from Northshore to DNR on Status of Monitoring Equipment at Mile Post 7. Tables. November 30, 2021.
t. 2009 Dam Stability Evaluation. Stability Evaluation of Dams 1, 2, and 5. 2009. Milepost 7 Tailings Basin, Silver Bay, Minnesota. Barr Engineering. July 2009.
u. 1980 Monthly Operational Report. Reserve Mining Company. Monthly Operational Report – Permit No. MNC 040509. Correspondence: Letter from Reserve Mining Company to MPCA. December 23, 1980.
v. 1984 Reclamation Activities Report. Reserve Mining Company. 1984 Reclamation Activities – Silver Bay. Memo. January 30, 1985.
w. 1991 Operational Plan. Cyprus Northshore Mining. 1991 Operational Plan. Correspondence: Letter from Cyprus Northshore Mining to MPCA. April 2, 1991.
x. 2016 Permit to Mine Amendment. DNR. Cliffs Natural Resources Inc. – Northshore Mining Company. Mine Progression into Type II Virginia Formation. March 10, 2016.
y. 2023 Northshore Letter to DNR. Northshore Mining Company. Request for Extension to the Milepost 7 Tailings Basin 2019-2023 Five Year Operations Plan and the Milepost 7 Master Permit for Northshore Mining Company. Northshore Mining Company. Correspondence: Letter from Northshore to DNR. September 15, 2023.

z. 1981 Mile Post 7 Mining Area. Reserve Mining. Figure B-12: Mineral Ownership – Reserve Mining Company Mining Area. February 1981.
aa. Mile Post 7 Mining Area. DNR. Figure: Cliffs Northshore Amendment Proposal – Mile Post 7 Progression. February 1, 2024.
bb. 2020 Approved Permit to Mine Amendment. DNR. Cleveland-Cliffs Inc. – Northshore Mining Company. Modification of the Type II Virginia Formation Stockpile Cover. October 13, 2020.
cc. 1982 Master Permit Renewal and Amendment. DNR. Permit Renewal and Amendment for Reserve Mining Company Mile Post 7 On-Land Tailings Disposal Plan at Silver Bay, Minnesota Cover Letter and Document. August 2, 1982.
dd. 1988 Consensus Closure Plan. Reserve Mining Company. Tailings Basin Closure Consensus Plan for Reserve Mining Company, Silver Bay, Minnesota. August 16, 1998.
ee. 1996 Financial Assurance. Office of Attorney General. Northshore Mining Company/Financial Assurance Agreement/Guaranty Correspondence: Letter from Minnesota Office of the Attorney General to Cleveland Cliffs, Inc. October 30, 1996.
ff. USFWS Letter 1. U.S. Fish and Wildlife Service. Technical Assistance for "Stream Mitigation Sites." Correspondence: Letter from U.S. Fish and Wildlife Service to Barr Engineering. July 28, 2023.
gg. USFWS Letter 2. U.S. Fish and Wildlife Service. Technical Assistance for "Tailings Basin Features." Correspondence: Letter from U.S. Fish and Wildlife Service to Barr Engineering. July 28, 2023.
hh. 2021 Dam Elevation Adjustment Notice. Letter. Cleveland-Cliffs Inc. Correspondence: Letter from Cleveland-Cliffs Inc. to US Army Corps of Engineers. MVP-2015-02528-MMW-West Ridge Railroad Relocation and Tailings Basin Progression Elevation Adjustment. March 12, 2021.
ii. Tailings Dam Definitions Derived from Internet Research. DNR Dam Safety Program. January 21, 2022.
jj. 1997-2019 DNR 5YOP Approvals. Compilation of correspondence: Letters documenting approval of Five Year Operations Plans. August 12, 1997; July 2, 2003; March 7, 2005; June 22, 2010; March 24, 2015; and August 28, 2019.

**Supplemental Information Previously Compiled by the RGU**

29. The DNR relied on previously compiled information to inform EAW Item 6f describing past development, timeline(s), and past environmental review of subsequent stages of the Tailings Basin Features of the Proposed Project. The DNR also relied on other previously compiled information to inform other items in the EAW and this Record of Decision. This additional information constitutes EAW Appendix J, List of Supplemental Information Known to RGU. The list of information below is included in the Record as appendices for this EAW.

    a. J1-Debiting of WCA Credits. BWSR. Email notification of wetland bank credit withdrawal from BWSR to DNR, Northshore Mining, MPCA, and USACE. November 4, 2021.

b. J2-2021 DNR ERND. DNR. Cleveland-Cliffs, Inc. and Northshore Mining Company Mile Post 7 Tailings Basin Progression and Clay Borrow Site Environmental Review Need Determination, complete with references (33), figures (8), and attachments (8). June 28, 2021.
c. J3-1977 Master Permit. DNR. Master Permit. August 23, 1977.
d. J4-1995 Master Permit Renewal. DNR. Master Permit Renewal. August 30, 1995.
e. J5-1985 Permit to Mine. DNR. Permit to Mine. Reserve Mining Company #1. Peter Mitchell Mine and Stockpiles, Reserve Railroad, E.W. Davis Works, and Milepost 7 Tailings Basin Site. May 28, 1985.
f. J6-2005 Permit to Mine Assignment, et. al. DNR. Record of Decision. Permit to Mine Assignment, Milepost 7 Five-Year Operating Plan Approval, and Milepost 7 Master Permit Renewal. March 7, 2005.
g. J7-2022 DNR Record of Decision. DNR. Record of Decision on the Need for an Environmental Assessment Worksheet for the Mile Post 7 Tailings Basin Progression, Lake County, Minnesota. Findings of Fact 17, 18, 19, 20, 21 lists the petition's material evidence, information provided by the Proposer, and additional information known to DNR. February 4, 2022.
h. J8-DNR WCA Notice of Decision. DNR. Wetlands Conservation Act - Notice of Decision – Permit to Mine. May 9, 2019.
i. J9.a-1975-76 Final EIS (ROD). DNR. Reserve Mining Company's Proposed On Land Tailings Disposal Plan Final Environmental Impact Statement. Complete document. June 2, 1976.
j. J9.b-1975-76 Final EIS – Selected Pages for Cites.
k. J10.a-1975 Draft EIS. DNR & MPCA. Reserve Mining Company's Proposed On Land Tailings Disposal Plan Draft Environmental Impact Statement. October 1975.
l. J10.b-1975 Draft EIS – Selected Pages for Cites.
m. J11-MPCA Air Permit 07500003-101. MPCA. Air Individual Permit – Major Amendment – 07500003-101. Northshore Mining – Silver Bay. January 6, 2020.
n. J12-MPCA Solid Waste Permit SW-409. MPCA. Northshore Mining Company Industrial Solid Waste Disposal Facility – Solid Waste Facility Permit SW-409. May 18, 2017.
o. J13-1984 NPDES Permit MN0055301. MPCA. NPDES Permit MN0055301. Discussion document. May 22, 1984.
p. J14-2005 NPDES Permit MN0055301. MPCA. NPDES Permit MN0055301. Northshore Mining Company; Silver Bay Power Company; Cleveland-Cliffs Inc. E.W. Davis Works and Mile Post 7 Tailings Basin Area. Circa December 2, 2005.
q. J15-Furnace 5 Reactivation Record of Decision. MPCA. Record of Decision on the Need for an Environmental Impact Statement. Northshore Mining Company Furnace 5 Reactivation Project. Circa November 1995.
r. J16-MPCA MP7 Section 401 Certification. MPCA. 2015-02528-RMM 401 Northshore Mining Company. Lake County, MN. CWA Section 401 Water Quality Certification. June 29, 2021.
s. J17-1995-1998 5YOP. Northshore Mining Company. Operations Plan For Milepost 7 Tailings Basin. 1995-1998. November 28, 1995.

t. J18-2004-2008 5YOP. Northshore Mining Company. Milepost 7 Tailings Basin. Five-Year Operations Plan. Years 2004-2008. December 2003.
u. J19-2019-2023 5YOP. Northshore Mining Company. Five-Year Operations Plan. Years 2019-2023. Milepost 7 Tailings Basin. January 2019.
v. J20-Northshore Cumulative Effects Analysis. Northshore Mining Company. Cumulative Effects Analysis – Aquatic and Forest Resources – Tailings Basin Progression. October 2019.
w. J21-Final Stream Mitigation Plan. Northshore Mining Company. Final Northshore Mining Company – Stream Mitigation Plan – Tailings Progression Project. June 30, 2020.
x. J22-Joint Permit Application/WRP. Northshore Mining Company. Joint Permit Application and Wetland Replacement Plan. West Ridge Railroad Relocation and Tailings Basin Progression. April 2019.
y. J23-1981 Permit to Mine Application. Reserve Mining Company. Application for a Permit to Mine as Required by 6MCAR SEC.1.0403. February 23, 1981.
z. J24-1984 Water Discharge Study. Reserve Mining Company. Preliminary Engineering Report, Milepost 7 Tailings Disposal System, Excess Water Discharge. March 2, 1984.
aa. J25-Reserve Mining Co. v. EPA 1975. Reserve Mining Co. v. Environmental Protection Agency et. al., 514 F.2d 492 (8th Cir. 1975). March 14, 1975.
bb. J26-Reserve Mining Co. v. Herbst 1977. Reserve Mining Co. v. Herbst et. al, 256 N.W. 2d 808, 845-846 (Minn. 1977). May 27, 1977.
cc. J27-1989 Stipulation Agreement. State of Minnesota, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency. Reserve Mining Stipulation Agreement. August 17, 1989.
dd. J28-USACE Environmental Assessment. U.S. Army Corps of Engineers. Northshore Mine Mile Post 7 Tailings Basin Project, Department of Army Environmental Assessment and Statement of Findings. September 16, 2021.
ee. J29-1977 USACE Final EIS. U.S. Army Corps of Engineers. Final Environmental Impact Statement for Power Plant Discharge Structure, Delta Stabilization Dike, and On-Land Taconite Tailings Disposal for Reserve Mining Company. March 1977.
ff. J30-USACE MP7 Section 404 Permit. US Army Corps of Engineers. USACE Regulatory File No. MVP-2015—2528-RMM, Department of the Army Permit. September 23, 2021.
gg. J31-United States v. Reserve Mining Co. 1974. United States v. Reserve Mining Co., 380 F. Supp. 11 (D. Minn. 1974). August 3, 1974.

30. The DNR relied on previously compiled information to inform EAW Item 6f describing past development, timeline(s), and past environmental review of subsequent stages of the Tailings Basin Features of the Proposed Project. The DNR also relied on other previously compiled information to inform other items in the EAW and this Record of Decision. This additional information included DNR's 2021 Environmental Review Need Determination, cited in this Record of Decision as "EAW Appendix J2 – 2021 DNR ERND." Specifically:

"Cleveland-Cliffs, Inc. and Northshore Mining Company Mile Post 7 Tailings Basin Progression and Clay Borrow Site Environmental Review Need Determination," with references, figures, and attachments, dated June 28, 2021. DNR Internal Memorandum.

The following information collected and reviewed by DNR regarding the 2021 DNR ERND, which are not already identified as an Appendix to this EAW, is incorporated into this Record:

a. Barr Engineering. Wetland Replacement Plan 2005. Tailings Basin Railroad Relocation, Diversion Ditch Relocation, and Road Raise. May 2005. 2021 DNR ERND Ref. 1.
b. Barr Engineering. Northshore Landfill – Groundwater Elevation Effects from Planned Dam 1 Extension and Realignment/Pond Raise. Technical Memorandum. December 6, 2016. 2021 DNR ERND Ref. 2.
c. Barr Engineering. 2019-2023 Water Balance Report – Milepost 7 Tailings Basin, Silver Bay, Minnesota. December 2018. 2021 DNR ERND Ref. 3.
d. Barr Engineering. South Borrow Area Threatened and Endangered Species Review. March 2021. 2021 DNR ERND Ref. 5.
e. Barr Engineering. Revised Tailings Basin Threatened and Endangered Species Review. April 2021. 2021 DNR ERND Ref. 6.
f. Minnesota Department of Natural Resources. Environmental Assessment Worksheet. Northshore Mining Company Progression of the Ultimate Pit Limit. October 15, 2014. 2021 DNR ERND Ref. 12.
g. Minnesota Department of Natural Resources. Record of Decision on the Need for an EIS. Northshore Mining Company Progression of the Ultimate Pit Limit. April 22, 2015. 2021 DNR ERND Ref. 13.
h. Minnesota Department of Natural Resources. Inspection Report/Site Visit – MN01477; Milepost 7 – Northshore Mining Company. April 2021. 2021 DNR ERND Ref. 14.
i. Minnesota Pollution Control Agency. Permitting – Effluent Limits Review. NPDES Historical Highlights. North Shore Mining Silver Bay. May 1984. 2021 DNR ERND Ref. 15.
j. Minnesota Pollution Control Agency. Northshore Mining Company – Furnace 5 Reactivation Project. Record of Decision on the Need for an Environmental Impact Statement. November 2005. 2021 DNR ERND Ref. 16.
k. Minnesota Pollution Control Agency. Air Emission Permit No. 07500003-010. May 2013. 2021 DNR ERND Ref. 18.
l. Minnesota Pollution Control Agency. Air Emission Permit No. 07500003-101. June 2013. 2021 DNR ERND Ref. 19.
m. Minnesota Pollution Control Agency. Draft 2015-02528-DWW 401 Northshore Mining Company. Lake County. CWA Section 401 Water Quality Certification. December 2020. 2021 DNR ERND Ref. 21.
n. Northshore Mining Company. Five-Year Operations Plan; Years 2009-2013. Milepost 7 Tailings Basin. Revised September 2010. 2021 DNR ERND Ref. 24.

o. Northshore Mining Company. Five-Year Operation Plan; Years 2014-2018. Milepost 7 Tailings Basin. December 2013. 2021 DNR ERND Ref. 25.
p. Reserve Mining Company. Preliminary Engineering Report. Milepost 7 Tailings Disposal System Excess Water Discharge. March 1985. 2021 DNR ERND Ref. 28.
q. United States Army Corps of Engineers. Section 404 – Clean Water Act Public Notice. MVP-2015-02528-MWW. October 2018. 2021 DNR ERND Ref. 29.
r. United States Army Corps of Engineers. Section 404 – Clean Water Act Public Notice. MVP-2015-02528-RMM. July 2020. 2021 DNR ERND Ref. 30.
s. United States Army Corps of Engineers. Section 404 – Clean Water Act Public Notice. MVP-2015-02528-RMM. August 2020. 2021 DNR ERND Ref. 31.
t. United States Environmental Protection Agency. Correspondence. USEPA Preliminary Comments on Pre-Public Notice Draft NPDES Permit for Northshore Mining Company, Silver Bay, Minnesota, Permit No. MN0055301. Exhibit 16 – WaterLegacy Milepost 7 Comments (September 21, 2020). July 2016. 2021 DNR ERND Ref. 32.
u. WaterLegacy. Clean Water Act Section 404 Permit MVP-2015-02528-RMM and Pending or Proposed Minnesota Permits and Permit Amendments for Northshore Milepost 7 Tailings Basin Expansion and Dam Enlargement. Correspondence with 30 Exhibits. September 21, 2020. 2021 DNR ERND Ref. 33.

31. The DNR relied on previously compiled information to inform EAW Item 6f describing past development, timeline(s), and past environmental review of subsequent stages of the Tailings Basin Features of the Proposed Project. The DNR also relied on other previously compiled information to inform other items in the EAW and Record of Decision. This additional information included DNR's 2022 Record of Decision, cited in this Record of Decision as "EAW Appendix J7 – 2022 DNR ROD." This is the following document:

"Record of Decision on the Need for an Environmental Assessment Worksheet for the Mile Post 7 Tailings Basin Progression, Lake County, Minnesota," with citations of material evidence, proposer information, and additional information known to DNR, dated February 4, 2022.

The following information collected and reviewed by DNR regarding the citizen petitions subject to the 2022 DNR ROD, which is not already listed as an Appendix to this EAW, is incorporated into this Record:

a. United States Army Corps of Engineers Final EIS. Exhibit 31 – Construction Railway General Alignment. August 24, 1976. 2022 DNR ROD ¶ 21.a.
b. Milepost 7 Tailings Basin Five Year Operations Plan. Northshore Mining Company. March 21, 1997. 2022 DNR ROD ¶ 21.d.
c. Milepost 7 Tailings Basin Five Year Operations Plan Approval and MilePost 7 Master Permit Renewal. Minnesota DNR. August 12, 1997. 2022 DNR ROD ¶ 21.e
d. 2005 Wetland Replacement Plan Approval. DNR. August 31, 2005. 2022 DNR ROD ¶ 21.f.

e. USACE Correspondence Clarifying Permit 2005-2628-TWP. USACE. June 6, 2006. 2022 DNR ROD ¶ 21.g.
f. Water Balance Report Years 2009-2013 – Milepost 7 Tailings Basin. Barr Engineering. November 2008. 2022 DNR ROD ¶ 21.h.
g. Reclaim Dam Slope Stability Analysis. Barr Engineering. October 9, 2015. 2022 DNR ROD ¶ 21.k.
h. West Ridge Railroad Relocation; Final Wetland Delineation Report. Barr Engineering. October 2015. 2022 DNR ROD ¶ 21.l.
i. Figure 1 – Northshore Mining and Construction Extents West Ridge Railroad Realignment. Northshore Mining Company. August 15, 2016. 2022 DNR ROD ¶ 21.m.
j. 2015-02528-MMW 401 Application from Northshore Mining Company, Lake County, Minnesota; Section 401 Water Quality Certification Denial Without Prejudice. MPCA. August 2, 2019. 2022 DNR ROD ¶ 21.o.
k. Report of the Expert Panel on the Technical Causes of the Failure of Feijao Dam I; Expert Panel: Robertson, Peter K. (Chair); de Melo, Lucas; Williams, David J.; and Wilson, G. Ward. December 12, 2019. 2022 DNR ROD ¶ 21.p.
l. Attachment A – MPCA Antidegradation Assessment for Section 401- Northshore Mining Company. MPCA. June 30, 2020. 2022 DNR ROD ¶ 21.r.

**Record of Decision Preparation**

32. DNR accepted public comments on the EAW from April 18, through May 18, 2023.

33. On April 26, 2023, prior to the end of the public comment period, DNR requested a 15-day extension for making a decision on the need for an EIS for the Proposed Project. On April 26, 2023, EQB granted the extension. Minn. R. 4410.1700, subp. 2B.

34. On June 29, 2023, with the agreement of the Proposer, DNR postponed the period for making a decision on the need for an EIS for the Proposed Project to September 1, 2023, in order to add lacking information to the EAW Record. Minn. R. 4410.1700, subp. 2a.B.

35. On September 1, 2023, with the agreement of the Proposer, DNR postponed the period for making a decision on the need for an EIS for the Proposed Project to November 30, 2023, in order to add lacking information to the EAW Record. Minn. R. 4410.1700, subp. 2a.B.

36. On November 30, 2023, with the agreement of the Proposer, DNR postponed the period for making a decision on the need for an EIS for the Proposed Project to January 31, 2024, in order to add lacking information to the EAW Record. Minn. R. 4410.1700, subp. 2a.B.

37. On January 31, 2024, with the agreement of the Proposer, DNR postponed the period for making a decision on the need for an EIS for the Proposed Project until March 1, 2024, in order to add lacking information to the EAW Record. Minn. R. 4410.1700, subp. 2a.B.

**Environmental Effects**

38. Based upon the information contained in the EAW and received as public comments, the DNR has identified the following EAW Items reviewed for potential environmental effects to have very little or no potential for environmental effects:

    a) Land Use
    b) Geology, Soils, and Topography/Land Forms
    c) Contamination, Hazardous Materials, Wastes
    d) Federal Listed Species
    e) Rare Features
    f) Historic Properties
    g) Visual
    h) Air
    i) Noise
    j) Transportation

    Each of these EAW Items is discussed in more detail below.

    a. Land Use

    This topic was addressed in EAW Item 10 and Comments 22.C.15 and 22.D.14.

    Implementation of the Proposed Project would not substantially change land use. The Proposed Project is compatible with nearby land uses, zoning, and plans. No variances, plan amendments, or other mitigation would be required to ensure compatibility with future land use. The Proposed Project will not adversely affect the Treaty-reserved rights to hunt, fish, and gather in the 1854 Ceded Territory.

    b. Geology, Soils, and Topography/Land Forms

    This topic was addressed in EAW Item 11. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

    No impacts to site geology are anticipated for the Proposed Project. Any construction and operational impacts to soils, and topography and landforms, for the Tailings Basin Features would be subject to applicable best management practices or BMPs identified in the Storm Water

Pollution Prevention Plan or SWPPP, whose measures are designed to minimize runoff and erosion during these activities. Similarly for the Stream Mitigation Sites, BMPs to control soil erosion, stabilize disturbed slopes, minimize access roads and routes, and control invasive species would be applied in the SWPPP.

c. Contamination, Hazardous Materials, Wastes

This topic was addressed in EAW Item 13. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

There are no known hazardous contamination conditions with the Proposed Project area. There is an existing industrial solid waste landfill at Mile Post 7, but the proposed corridors of disturbance for the Dam 1 extension and relocated West Ridge Railroad are designed to avoid impacts to the landfill. In addition, the Proposed Project would not generate or require storage of hazardous wastes during construction or operation.

There is the potential for previous contamination to be exposed during construction for the White Rock Creek stream mitigation project component. If unknown materials are encountered, the Proposer would evaluate the risk in consultation with local or MPCA hazardous materials authorities.

The Proposed Project would not generate wastes during operation. Any hazardous materials would be handled in accordance with Northshore's Spill Prevention Control and Countermeasures Plan (SPCC), with any reporting subject to Northshore's specific Spill Reporting Environmental Standard Operating Procedure (ESOP). Emergencies would be handled via Northshore's Emergency Response Plan/Disaster Management Plan that covers the entire facility. For any spills, Northshore or their contractors are required to contact the State Duty Officer.

d. Federal Listed Species

This topic was addressed in EAW Item 14 and Comments 27A and 27B.

This Record of Decision identifies two federally listed threatened species, which are the Canada lynx and gray wolf. Two endangered status federal species were also identified; these were the piping plover and northern long-eared bat. In terms of impacts, none were identified for the piping plover because it inhabits sandy coastal area that do not occur at the Proposed Project area. The Proposed Project was also unlikely to adversely impact the Canada lynx, gray wolf, or northern long-eared bat.

e. Rare Features

This topic was addressed in EAW Item 14. No comments were received regarding the Tailings Basin Features and Stream Mitigation Sites on this topic.

There is one site of biodiversity significance within the East Branch Beaver River stream mitigation project, which is the Silver Bay SW – Mile Post 7 Ridges site that is ranked as high. Although there is construction-related disturbance that would occur within the site, the measures to stabilize riparian vegetation and control potential invasive species would improve the ecological functions and values of this portion of this site of biodiversity significance. The Minnesota Conservation Explorer (MCE) identified a series of practices designed to limit impacts to resources from project-related activities.

None of the proposed Tailings Basin Features are located within the sites of biodiversity significance.

f. Historic Properties

This topic was addressed in EAW Item 15. No comments were received regarding the Tailings Basin Features or the Stream Mitigation Sites on this topic.

The State Historic Preservation Office (SHPO) identified the Proposed Project would have no adverse effect, as defined under Section 106 of the National Historic Preservation Act (NHPA), to the Reserve Mining Company Milepost 7 Tailings Basin, nor have adverse effect on the Big Thirtynine and Little Thirtynine Creeks, as potentially historic properties. Furthermore, no listed National Register of Historic Places or State Register of Historic Places properties are in the project area. Regarding archaeological resources, SHPO recommended a Phase I archaeological reconnaissance to be completed for the East Branch Beaver River (river, tributary, and berm) and White Rock Creek stream mitigation projects; Northshore reports these are planned in 2024.

g. Visual

This topic was addressed in EAW Item 16. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

There are no designated scenic views or vistas within the Proposed Project sites. For the Tailings Basin Features, the greatest area for potential visibility would be from County State Aid Highway 15 to the north and northwest of the construction area. However, given the terrain, slow vertical rise, and dense vegetation, the potential for indirect visual effects during construction and operation of the Tailings Basin Features is likely limited. Similarly for the Stream Mitigation Projects, some aspects of the six individual actions would likely be visible, but any impacts would be minimal.

h. Air

This topic was addressed in EAW Item 17. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

The Proposed Project would not generate stationary source emissions while vehicle emissions would be negligible.

Construction of the Tailings Basin Features would generate dust from the use of haul roads and placement of fill material, activities which are subject to Northshore's Fugitive Dust Control Plan required by MPCA Air Permit #07500003-010. Any odors would result from diesel exhaust and blasting, which would not increase beyond current rates.

The individual stream mitigation projects may create some temporary dust and noise during construction activities. Fugitive dust generation would be minimal. Contractor(s) for the Stream Mitigation Projects would be required to follow dust-reduction BMPs.

i. Noise

This topic was addressed in EAW Item 19. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

Additional heavy equipment would operate during construction of the Proposed Project. Project work for the individual stream mitigation projects would typically occur during daylight hours Monday through Friday. Project work for the Tailings Basin Features would typically occur during daylight hours. The Northshore and stream mitigation construction crews would be required to follow local noise ordinances and restrictions. Post construction, the operation of the Stream Mitigation Sites would produce no noise.

In general, noise for the Stream Mitigation Projects would be limited to the construction period only; no exceedances of State Noise Standards are anticipated. For the Tailings Basin Features, noise from construction would be consistent with ongoing operations and would have minimal effects on existing noise levels in the area.

j. Transportation

This topic was addressed in EAW Item 20. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

The proposed Tailings Basin Features would be constructed using existing facility roads. Most of the materials and equipment would be obtained from existing onsite sources. Therefore, additional traffic on public roads would be minimal and no additional parking spaces would be needed. For the Stream Mitigation Sites, any parking or staging areas would be small with predicted daily traffic generation at less than 10 vehicles per day. Due to the remote nature of the work, no alternative transportation modes would be applicable. However, the individual stream mitigation projects may see an increase in traffic during rainfall events when there is an increase in inspections or potential maintenance.

No increase in peak hour generation more than 250 vehicles or more than 2,500 daily trips would be generated from construction activities under the Proposed Project.

39. Based upon the information contained in the EAW and received as public comments, the DNR has identified the following potential environmental effects associated with the Proposed Project:

    a) Project Construction
    b) Climate Adaptation
    c) Cover Types
    d) Wastewaters/Quantities
    e) Groundwater
    f) Construction/Industrial Stormwater
    g) Wetlands
    h) Streams
    i) Wildlife Resources and Habitat
    j) State Listed Species
    k) Greenhouse Gas (GHG) Emissions/Carbon Footprint
    l) Cumulative Potential Effects

    Each of these environmental effects is discussed in more detail below. As described below, the project does not have the potential for significant environmental effects, particularly in light of the mitigation provided by ongoing public regulatory authority and Proposer commitments to implement specific measures to avoid and/or minimize adverse impacts.

    a. Project Construction

    This topic was addressed in EAW Items 6, 11, 13, 14, 16, 17, 18, 19, 20, and 21. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

    1. <u>Tailings Basin Features</u>. To construct the Tailings Basin Features, it would be necessary to prepare the infrastructure for conveying dam construction materials, allowing for trains to

change direction, and supplying clay for Dam 5 development. Approximately 339.1 acres would be disturbed. Activities include site preparation to remove surface vegetation, while excavation equipment would be used to remove underlying soils for development of the Dams 1 and 2 extensions, seepage collection ponds, the future West Ridge Railroad embankment, and the Dam 1 switchback. At the borrow site, once the site is cleared, clay would be removed using excavators and conveyed to Dam 5 using haul trucks. Other infrastructure requiring initial construction includes culverts, ditches, and any temporary water conveyance measures. Equipment used in dam construction proper, plus the railroad infrastructure, includes haul trucks, bulldozers, and loaders.

The proposed extension of Dam 1 would add approximately 6,600 feet of dam while the extension of Dam 2 would add 2,350 feet of new dam, both of which would involve plant aggregate (i.e., coarse tailings) placed over prepared foundation soils. Filter material, which is the sand-sized component of the plant aggregate, would be placed on the upstream slope between the tailings pond and coarse aggregate. Dam crests would be raised in increments in conjunction with raises for the main portions of the dams to match crest elevation. Dam stability would be assessed at each dam raise to meet the required minimum factors of safety, including various scenarios for Effective Stress Stability Analysis and Undrained Strength Stability Analysis. The scenarios include various iterations around block failure, fine tailings yield strength, and liquefied strength, which is reported through the Five Year Operation Plan. Runoff water management and erosion prevention would be applied throughout the construction period, which is estimated to occur for approximately 40 years over the remaining life of the Peter Mitchell Pit.

The proposed relocated West Ridge Railway would be 21,950 feet long, with the western end connecting to Dam 1 and the eastern end connecting to Dam 2. Construction-related impacts associated with the relocation of the West Ridge Railroad would occur “early” in the projected 40-year life of the project. Ditches for water management would be constructed along the entire length of this project feature. Similarly, the Dam 1 rail switchback would be approximately 3,700 feet long and would employ similar construction methods as the materials supply railroad.

Project-related construction activities would occur relatively early and be considered temporary and limited to the project site for relocating the West Ridge Railroad, development of the rail switchback, and site preparation for the Dam 1 and 2 extensions and opening the clay borrow site. Construction of the Dam 1 and 2 extensions plus the clay borrow site would occur over most of the life of the project until the dams reach the final permitted elevation of 1,315 ft amsl. When mining at the Peter Mitchell Mine ceases, some construction-related impacts for the Tailings Basin Features could be reversed through the reclamation and revegetation requirements of Minn. R. ch. 6130.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. Ongoing construction of the Dams 1 and 2 extensions would be subject to the monitoring and annual reporting requirements of the Permit to Mine Amendment and Master Permit renewal. Throughout construction, runoff water management and erosion prevention would be subject to the respective facility SWPPPs and/or MPCA NPDES/SDS Permit No. MN0055301 (e.g., industrial stormwater). The Proposer would implement appropriate actions/BMPs to prevent the spread of invasive species over the remaining projected life of the tailings management facility.

2. Stream Mitigation Sites. Construction of the Stream Mitigation Sites would involve site preparation and both instream and riparian development activities to accomplish project goals at the six designated sites. Approximately 135.2 acres would be disturbed for a length of approximately 20,665 linear feet. Construction would typically include use of an excavator and other associated heavy equipment to construct a new channel; this means that existing channel vegetation would have to be temporarily moved. Temporary stream diversion or pump-out would be necessary using an engineer-approved diversion plan. Grading would be required for the new stream alignments and floodplain to ensure an accessible floodplain to allow greater-than-bankfull flows to reach the stream floodplain. Work would occur under low-flow conditions to reduce potential erosion and sedimentation effects. Development of temporary access trails and material staging areas would be necessary. Additional instream activities include installation of toe-wood, boulders, logs, and rocks among other features. Construction for each individual site is expected to require one field season to accomplish.

   Project-related construction activities for the Stream Mitigation Sites are considered temporary and would be limited to the project site. The six projects would be conducted two at a time, with a year in between sets, over a five-year period.

   The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. Construction-related impacts would be mitigated by a series of measures, all of which serve the purpose of restoring more natural instream and riparian functions and values along each reach of mitigation. Each of the six individual stream mitigation projects would be constructed during low flow conditions with BMPs used to minimize soil erosion and stabilize channels. All construction and post-construction activities would follow the prescriptions of each SWPPP. The MPCA CWA Section 401 Certification requires annual reporting of compliance with the restoration plan goals, invasive species control, and USACE CWA Section 404 requirements. The Proposer commits to employ a range of measures to reduce potential adverse impacts to fish, wildlife, and associated habitat for the actions, including invasive species control.

b. Climate Adaptation

This topic was addressed in EAW Items 7 and 12 and Comments 22.E.2, 22.G.56, 22.H.8, 22.I.113, 22.I.114, 22.I.116-117, and 23.D.

1. Tailings Basin Features. The project design for the Tailings Basin Features includes measures to address potentially more frequent and intense rain events. The project design includes shedding of precipitation to the exterior of the basin while accommodating precipitation interior to the basin. For estimating stormwater generation under the changing climate, runoff estimates were developed using a monthly time step based on current precipitation data and four future climate scenarios. The runoff assessment for the Tailings Basin Features resulted in a negligible change in runoff due to climate change.

   Loss of forest cover could increase stormwater run-off and decrease carbon sequestration under future climate projections. Fish and wildlife habitat impacts from more frequent and intense rain events would be influenced by losses of wetland and upland habitat. Loss of wetland habitat would be mitigated by purchasing wetland banking credits while habitat losses would be partially offset under site reclamation and revegetation requirements under Minn. R. ch. 6130.

   Project-related climate adaptation impacts for the Tailings Basin Features would be minor, with some types of change being permanent and with others being (partially) reversible. Potentially adverse impacts from more frequent and intense rain events would be addressed in the project design and mitigation requirements, especially through maintaining appropriate freeboard over the life of the facility. The Five Year Operation Plans provide the opportunity to continually update climate-related information for consideration in ongoing dam construction activities and general facility management.

   The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. The principal permitting control to mitigate potential climate change-related impacts as a function of changes to precipitation would be the SWPPP provisions of Construction Stormwater – General Permit MNR100001 and industrial stormwater provisions of NPDES/SDS Permit MN0055301. Best Management Practices as identified in the Storm Water Pollution Prevention Plan would be followed to minimize risks. The Five Year Operation Plans required by the Master Permit provide the opportunity to continually update climate-related information for consideration in ongoing dam construction activities, general facility management, and maintenance of adequate freeboard to address an Probable Maximum Precipitation or PMP event(s). Once the project reaches its end stages, the reclamation and closure requirements of the Permit to Mine Amendment (and the permit generally), including revegetation requirements, would also mitigate potential concerns.

2. Stream Mitigation Sites. The project design for the Stream Mitigation Sites addresses potentially more frequent and intense rain events and warmer temperatures by reducing flood-flow shear stresses, while erosion and channel resilience would improve with more floodplain capacity. Land use changes would be negligible due to riparian plantings, with carbon sequestration losses at the Tailings Basin partially offset by mitigation-related tree planting. Similarly, improving floodplain access and cross-sectional area, along with tree species planting, results in benefits to land use in terms of flood risk and providing cooler air and water temperatures. For water resources relative to predicted changes in local climate trends, the individual stream mitigation projects collectively would increase floodplain capacity (e.g., flood storage), thus improving the resiliency of instream and riparian habitat. For habitat, the Stream Mitigation Sites offers several benefits in the face of predicted changes to precipitation and temperature. These include: increased floodplain access and wetland habitat; prolonged spring-melt that keeps baseflow higher and captures sediment; and increased wood debris and bedform diversity, which provides improved habitat diversity, thermal refuge, and spawning area.

   Project-related climate adaptation impacts for the Stream Mitigation Sites would be minor, with the types of change being permanent. Climate Adaption impacts for the Stream Mitigation Sites are positive, rather than adverse, because the streams will be better positioned to withstand climate-related impacts in the future.

   The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. Monitoring requirements, especially in the early years after the construction, improve the potential for long-term benefits to address potentially adverse impacts due to climate change. The principal permitting control to mitigate potential climate change-related impacts would be the SWPPP provisions of Construction Stormwater – General Permit MNR100001 along with measures incorporated into the design of instream and floodplain construction measures. Revegetation and monitoring measures under the MPCA CWA Section 401 Certification also mitigate potential impacts due to climate change.

c. Cover Types

The topic was addressed in EAW Items 9, 12, 14, and 21 and Comments 22.D.13, 22.I.61, and 22.I.98.

1. Tailings Basin Features. Cover type reflects the vegetation and land uses within and surrounding the project site, which for the Tailings Basin Features includes wetlands (~67 acres), wooded/forest (~250 acres), brush/grassland (~9 acres), and developed or barren land (~13 acres), all situated adjacent and due north-northwest of the operating Tailings Basin. Project-related covertype conversion mainly impacts the existing wetlands, wooded/forest, and developed or barren land resulting in creation of ~323 acres of fully

converted land attributable to Dams 1 and 2, the new rail switchback and embankment (for the relocated West Ridge Railroad), and the clay borrow site. It is noteworthy that dam extensions and rail-related components are linear site features, which tend to make direct impacts confined to disturbance corridors. Wetland avoidance has been demonstrated, plus compensatory mitigation required, thus limiting impacts to this cover type. In addition, the Stream Mitigation Sites themselves constitute mitigation for elimination of the remnant portions of Big and Little Thirtynine Creeks below the 1,315 ft amsl contour within the Tailings Basin.

Cover type conversion due to the Tailings Basin Features is long-term but not permanent considering the estimated 40 remaining years of Tailings Basin operations until mining at the Peter Mitchell Pit comes to an end. After operations cease, the impacts are partially reversible because site reclamation requirements would include measures to remove infrastructure and revegetate the site, both which should result in some degree of vegetative restoration and thus partially reverse the earlier effects, especially for habitat.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. The Permit to Mine Amendment will ensure site preparation, construction activities, and subsequent reclamation and closure procedures result in the restoration of natural cover once mining ceases at the Peter Mitchell Mine and operations at Mile Post 7 end pursuant to Minn. R. ch. 6130. Wetland-related mitigation required by DNR and the USACE ensure no net loss of wetland cover through the purchase of wetland banking credits. All proposed revegetation measures are subject to DNR review and approval.

2. Stream Mitigation Sites. Cover types in terms of vegetation and land uses for the Stream Mitigation Sites include ~8 acres of wetlands, ~124 acres of wooded/forest, and marginal amounts of grassland, pastureland, and developed/barren land (~3 acres). The Proposed Project would have minimal cover type changes *per se*, however there would be an increase in woody species over grassland species over time. Since these projects are stream based, they are linear features on the local landscape. Measures to monitor and control invasive plant species would also prove beneficial in terms of cover type change for the Stream Mitigation Sites.

   No appreciable cover type conversion is attributed to this component of the Proposed Project. Given this is a series of six restoration projects, beneficial results would be considered permanent.

   The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40, principally the provisions of the individual SWPPPs required under MPCA Construction Stormwater – General Permit MNR1000001 and the requirements of the individual MPCA CWA Section 401 Certifications.

d. Water Resources – Wastewaters/Quantities

The topic was addressed in EAW Item 12 and Comments 22.C.13, 22.D.10, 22.I.77 for the Tailings Basin Features. No comments were received regarding the Stream Mitigation Sites on this topic.

Tailings Basin Features. Seepage of impounded waters would occur along both dam extensions as the impounded tailings progress upgradient over time to the final permitted pool elevation of 1,305 ft amsl. Seepage management would consist of ditching along the toes of the dam extensions to route seepage to existing seepage recovery ponds and pump stations, the latter which would pump water from the pond back into the Tailings Basin. Although the materials at the base of the seepage recovery ponds are low permeability, some losses to groundwater would occur. In general, the relative amount of seepage and how its managed is not expected to appreciably differ from the existing operating conditions at the Tailings Basin.

Seepage-related impacts would be long-term but not permanent considering the estimated 40 remaining years of Tailings Basin operations until mining at the Peter Mitchell Pit comes to an end. Once tailings deposition ends, seepage would be predicted to decrease over time as the basin dries out going into reclamation and closure, possibly as a function of final geometry (e.g, sloped surface) but very likely due to evaporation losses exceeding precipitation inputs. Continuous monitoring is required of both surface and groundwater losses from the seepage collection system.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. Seepage management is subject to the seepage management controls, and monitoring and reporting requirements, of MPCA NPDES/SDS Permit MN0055301. MPCA has reported to DNR its commitment to conduct the necessary permit reissuance procedures in the near future.

e. Water Resources – Groundwater

The topic was addressed in EAW Items 6f and 12 and Comments 22.C.6 and 22.D.10 for the Tailings Basin Features. No comments were received on the Stream Mitigation Sites on this topic.

Tailings Basin Features. Some losses to groundwater would occur from the seepage collection system. Because the seepage originates from the Tailings Basin, it contains constituents such as dissolved solids and chloride. According to the 2021 DNR ERND, monitoring of surface waters downstream of the Tailings Basin shows relatively small increases in some

constituents relative to upstream conditions that may be a result of the water treatment plant discharges, seepage into groundwater, or both. No change to seepage-related groundwater quality is predicted under the Proposed Project.

Seepage-related impacts would be long-term but not necessarily permanent considering the estimated 40 remaining years of Tailings Basin operations until mining at the Peter Mitchell Pit comes to an end. Once tailings deposition ends, seepage would be predicted to decrease over time as the basin dries out going into reclamation and closure, possibly as a function of final geometry (e.g, sloped surface) but very likely due to evaporation losses eventually exceeding precipitation inputs. Continuous monitoring is required by MPCA of both groundwater and surface water losses from the seepage collection system.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. Seepage to groundwater is subject to MPCA NPDES/SDS Permit MN0055301; MPCA has reported to DNR its commitment to conduct the necessary permit reissuance procedures in the near future. Seepage to groundwater is also subject to the Permit to Mine Amendment, which regulates the seepage collection system.

f. Water Resources – Construction/Industrial Stormwater

The topic was addressed in EAW Item 6b and 12.

Tailings Basin Features. Precipitation falling on the outer embankment slopes of the West Ridge Railroad under the Proposed Project would generate construction stormwater runoff, part of which would ultimately report to the interior Tailings Basin and part of which would report to the three surrounding watersheds. Runoff (and infiltration) on approximately nine acres of the new rail embankment would drain to an impounded watershed, not discharge downstream, and be transferred to the interior Tailings Basin to become part of the operating water supply. The approximately 47.3-acre balance of runoff generated on the outside West Ridge Railroad embankment would direct water to the Beaver River, Little Thirtynine Creek, and East Branch Beaver River watersheds. Quantitative estimates under three scenarios indicate any increase in runoff to these watersheds would be negligible.

Precipitation falling on the embankment slopes of the Dams 1 and 2 extensions would generate industrial stormwater runoff. This water would report to the interior of the tailings basin, or the ditches constructed as part of the seepage capture system, the latter which is captured and returned to the interior of the Tailings Basin.

Construction stormwater runoff and infiltration impacts would be long-term but not permanent subject to the provisions of the SWPPP. This plan details specific runoff and erosion control measures and BMPs designed to minimize erosion and sedimentation

potential. The measures include, but are not limited to, use of: silt fence; biorolls; mulch; erosion control blankets; check dams; and/or temporary sedimentation basins as applicable. Any potential impacts would be further reduced due to reclamation and closure activities where revegetation measures would be tailored to maximize surface stabilization and infiltration while minimizing runoff potentials.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. The proposed extensions of Dams 1 and 2 are subject to the stormwater management requirements of MPCA NPDES/SDS Permit MN 0055301, while all other activities generating construction stormwater are subject to the provisions of MPCA Construction Stormwater – General Permit MNR1000001.

g. Water Resources – Wetlands

This topic was addressed in EAW Item 12 and Comments 22.H.4, 22.H.6, 22.I.7, 22.I.95, 22.I.96, 22.I.98, and 22.I.99 for the Tailings Basin Features. No comments were received on the Stream Mitigation Sites on this topic.

Tailings Basin Features. Construction of the Tailings Basin Features would result in direct and indirect impacts to wetlands. Direct wetland impacts would occur from construction of the relocated materials supply railroad and the proposed extensions of Dams 1 and 2. Approximately 43.8 acres of wetlands would be impacted by excavation and fill due to construction activities. Fragmentation effects, which are also considered to be a direct impact, would result in portions of seven wetlands encompassing approximately 5.3 acres. Indirect wetland impacts would also occur due to the Tailings Basin Features from impoundment resulting from construction of the new railroad embankment. Four (4) wetlands encompassing approximately 40.2 acres would be affected. These impounded wetlands are currently composed of hardwood swamps and would not be permanently lost but would undergo a wetland type conversion to other wetland types or deep-water habitat. These impacts would be expected to occur over time after the natural discharge routes are blocked and excess water builds within the wetlands. No impacts to wetland resources are projected for the clay borrow site.

Project-related direct and indirect wetland impacts are considered permanent. The DNR, MPCA, and USACE identified compensatory mitigation. Because it was determined there were no opportunities for conducting wetland mitigation within the minor and major watershed, mitigation was accomplished by requiring purchase of existing wetland bank credits at a 1:1 ratio from within the same Bank Service Area as the Proposed Project. The debiting of wetland bank credits that complied with state and federal permit requirements was completed on November 4, 2021.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. Wetland impacts are regulated by the DNR Wetlands Replacement Plan, USACE CWA Section 404 Permit, MPCA CWA Section 401 Water Quality Certification, and Lake County Wetlands Conservation Act approval (if required). It is possible some wetland functions could be restored in closure depending on the reclamation requirements under the DNR Permit to Mine Amendment (and the permit generally).

h. Water Resources – Streams

This topic was addressed in EAW Item 12 and Comments 22.C.6, 22.D.13, 22.G.13, 22.G.16, 22.G.20, 22.H.5, 22.I.1, 22.I.8-9, 22.I.28, 22.I.95-96, and 22.I.98 for the Tailings Basin Features. No comments were received on the Stream Mitigation Sites on this topic.

1. Tailings Basin Features. The proposed construction of the realigned railroad and dam extensions under the Proposed Project would impact the remnant reaches of Big and Little Thirtynine Creeks. Approximately 1,710 linear feet of these remnant creeks within the Tailings Basin would intersect the realigned materials supply railroad and the extended dams, thus resulting in their elimination from the site. Permanent indirect impoundment impacts, which would result from impoundment from railroad embankment construction, would affect 3,535 linear feet of the Big and Little Thirtynine Creeks' remnants. No changes would occur within the remaining Little Thirtynine Creek or Big Thirtynine Creek post-project watersheds.

   Project-related impacts to the remnant reaches of Big Thirtynine Creek and Little Thirtynine Creek would be considered permanent. The MPCA and USACE consolidated mitigation for both the Proposed Project and continued progression of tailings within the basin in one regulatory action to satisfy state and federal requirements. Mitigation would be accomplished according to the Final Stream Mitigation Plan that requires 20,665 linear feet of stream mitigation across six sites (i.e., Stream Mitigation Sites).

   The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. Stream impacts due to the Tailings Basin Features would be regulated by the USACE CWA Section 404 Permit and MPCA CWA Section 401 Water Quality Certification.

2. Stream Mitigation Sites. The proposed individual stream mitigation projects require physical alteration to the existing bed, floodplain, and adjacent riparian zones to achieve the objective of increased long-term functionality in terms of improved stream hydrology, hydraulics, and geomorphology compared to the existing condition. This is accomplished by providing uplift to the current environmental conditions via the Minnesota SQT standards.

Each individual stream mitigation project itself would require vegetation clearing in the riparian zone for construction access, with the width of disturbance varying from 10 to 30 feet. The projects would establish a stream pattern like previous, historic channels through the excavation of a new channel. The channels are designed to the appropriate bankfull width and cross-sectional areas. Riffle and pool morphology would be created along with habitat features such as toe wood and riffle rock and gravel structures. Construction would be phased in 500-foot segments and may require temporary pumping and/or diversion of stream flow within the main channel.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40. All construction and post-construction activities would follow the prescriptions of each SWPPP. Site restorations would include re-establishment of trees and vegetation with vegetation monitoring and reporting required annually. Permits would likely include performance standards for revegetation. The MPCA CWA Section 401 Water Quality Certification includes specific requirements as does the USACE CWA Section 404 Permit. The Proposed Project requires a DNR Work in Public Waters Permit.

i. Wildlife Resources and Habitat

The topic was addressed in EAW Item 14 and Comments 22.H.8, 22.H.9, and 22.I.113 for the Tailings Basin Features. No comments were received on the Stream Mitigation Sites on this topic.

Tailings Basin Features. Construction of the relocated West Ridge Railroad and rail switchback would have relatively short-term, minor impacts on the local wildlife and ecological communities. Noise, dust, and construction activity would temporarily dislocate species sensitive to those activities. Ongoing construction of the dam extensions and activity at the clay borrow site would occur over the remaining estimated 40-year life of the Tailings Basin, which would extend dislocation effects over the life of the project. Adverse impacts to common wildlife species due to the loss of approximately 339.1 acres of wildlife habitat is considered minor. Common wildlife species, as habitat generalists, typically exhibit a relatively high tolerance of disturbance and human presence that would somewhat mitigate adverse impacts due to displacement and intra-species competition.

Impacts to wildlife resources and habitat would be considered semi-permanent over the estimated remaining 40-year life of the Tailings Basin Features and would be partially reversed for some species through implementation of reclamation and closure measures under the Permit to Mine. The Proposer has committed to an extensive set of actions/BMPs, including requirements of the MPCA's SWPPPs and CWA Section 401 Certification, that serve multiple purposes, including mitigating impacts to wildlife and associated habitat. Invasive species monitoring and control is a feature of Tailings Basin management under both the

MPCA CWA Section 401 Certification and USACE CWA Section 404 Permit, which also limits impacts to native habitat. After operations cease, the impacts are partially reversible because site reclamation requirements under the Permit to Mine would include measures to remove infrastructure and revegetate the site, both of which should result in some degree of vegetative restoration and partially reverse the earlier effects to habitat. The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40.

j. State Listed Species

The topic is addressed in EAW Item 14 and Comments 22.H.9 and 22.H.10 for the Tailings Basin Features. No comments were received on the Stream Mitigation Sites on this topic.

The Minnesota Conservation Explorer (MCE) identified two state-threatened species known to occur within one-mile of the Proposed Project that could potentially be affected by the Proposed Project; these were rock fir moss (*Huperzia appalachiana*) and alpine woodsia (*Woodsia alpina*). The MCE also identified species listed as special concern, of which detailed information was provided for smoky shrew (*Sorex fumeus*), twig rush (*Cladium mariscoides*), neat spikerush (*Eleocharis nitida*), black hawthorn (*Crataegus douglasii*), and Torrey's mannagrass (*Torreyochloa pallida*). A botanical survey in 2015 conducted at the Tailings Basin Features identified neat spikerush and twig rush, both state-listed special concern species. Other state-listed species of special concern whose range overlaps the project area includes moose (*Alces alces*), Canada lynx (*Lynx canadensis*), and mountain lion (*Puma concolor*).

1. Tailings Basin Features. No habitat is present for rock fir moss or alpine woodsia, so no impacts are projected. Project-related construction activity could impact black hawthorn and Torrey's mannagrass if present at the site. In addition, twig rush and neat spikerush have been found at the site and could also be impacted by construction. For moose, mountain lion, and Canada lynx, disturbance resulting in displacement-type impacts are possible at the local level, but population level impacts are not anticipated.

   Impacts to twig rush, neat spike rush, black hawthorn, and Torrey's mannagrass could be limited by conducting work, if possible, under frozen ground conditions. More broadly, application of invasive species control BMPs such as restoration of native vegetation, treating infestations, and cleaning equipment of debris could minimize introduction of invasive species.

2. Stream Mitigation Sites. The smoky shrew (*Sorex fumeus*) prefers habitat that could occur along the riparian areas and wooded wetlands within the individual stream mitigation projects. Any impacts would be to the species' preferred habitat from post-project revegetation measures absent implementation of impact avoidance measures. As a state listed special concern species, project proposers are encouraged to employ known best

practices to minimize impacts to habitat. The EAW indicated that specific measures are available to reduce potential impacts from revegetation efforts.

Impacts to smoky shrew habitat are considered temporary if the measures identified to avoid and/or lessen impacts are implemented. The Proposer has committed to use natural netting type erosion control blankets and avoid use of products containing plastics on the Proposed Project. Minimal effect would be expected to local populations during construction and post-project site stabilization, while long-term benefits in the form of improved smoky shrew habitat may occur from restored riparian functions and values.

The Proposed Project is subject to the regulatory authority of the permits identified in ¶ 40.

k. Greenhouse Gas (GHG) Emissions/Carbon Footprint

This topic was addressed in EAW Item 18. No comments were received regarding the Tailings Basin Features or Stream Mitigation Sites on this topic.

Identified greenhouse gas emissions consist of direct emissions generated from mobile equipment during the construction of the Proposed Project and those related to land use change. The EAW summarized greenhouse gas emissions for the Proposed Project. It is estimated that the greenhouse gas emissions from the equipment usage would result in approximately 41,131 tons during construction. An additional 13,390 tons is estimated from land use changes for a total of 54,520 tons during construction. No operational emissions are anticipated for the Proposed Project. Finally, the anticipated net lifetime GHG emissions from the Proposed Project is 1,360 tons per year, which is 0.001% of the total carbon dioxide equivalent emissions that were emitted in Minnesota in 2018.

**Cumulative Effects**

l. Cumulative Potential Effects

This topic was addressed in EAW Item 21 and Comments 22.C.15, 22.C.17, 22.D.13, 22.D.14, 22.H.2, 22.I.61, and 22.I.97-98 for the Tailings Basin Features. No comments were received regarding the Stream Mitigation Sites on this topic.

The geographic scale relevant to assessing cumulative potential effects for the Proposed Project was identified as the Beaver River-Frontal Lake Superior watershed. Because the White Rock Creek stream mitigation project is not within this watershed, the relevant geographic area was identified to be the area within 0.5 miles of the individual project site.

The timeframe for the Tailings Basin Features is approximately 40 years into the future over the projected remaining mine life of the Peter Mitchell Pit. For the Stream Mitigation Sites, the period is from 2023-2027[8] as the time predicted to construct all six individual projects.

DNR identified 17 different present and reasonably foreseeable future projects that are all relatively small-scale, utility/street repair and residential/resort development projects, primarily located in the Silver Bay and Beaver Bay area. General short-term construction related impacts associated with these projects may include increased noise, dust generation, traffic, and associated equipment and vehicular emissions. Longer term impacts would primarily be associated with the residential/resort development projects, whose potential impacts may include minor loss of wetlands, trees/forested areas, and associated wildlife habitat.

For the Stream Mitigation Sites, any potential negative effects would be temporary, lasting primarily during construction. Because these effects would be temporary and localized in nature, there is likely is no interaction with the effects of the 17 identified present and reasonably foreseeable future projects. This is especially the case for the White Rock Creek stream mitigation project, which is not scheduled to be constructed until the 2027[9] construction season, which is after the identified actions in Silver Bay are expected to be complete.

For the Tailings Basin Features, because none of the 17 present or reasonably foreseeable future projects in Silver Bay or Beaver Bay identified in the EAW occur within the vicinity of this project component, any construction-related impacts, such as noise, dust generation, traffic, and associated emissions, would not interact to result in cumulative impacts.

As the Tailings Basin Features occur within the greater Beaver River-Frontal Lake Superior Watershed, covertype conversion in particular would result in some loss of wetlands, forest, and associated habitat within this watershed. When compared to the existing landcover within this watershed, these impacts are negligible in terms of cumulative effects due to wetlands, streams, and forest covertype conversion. This is especially the case considering the final reclamation and closure measures that would be required under the Permit to Mine. DNR considered the cumulative effects of development of the remaining 650 acres of permitted tailings deposition capacity (which is not part of the Proposed Project because it is already permitted by the Permit to Mine and Master Permit) along with the Proposed Project. Considering the development of this area along with the Proposed Project still would result

[8]DNR acknowledges the timeframe for conducting the three sets of stream mitigation projects would extend beyond 2023-2027 timeframe; this does not alter DNR's consideration of potential cumulative effects under the Proposed Project.
[9]See Footnote 8.

in negligible cumulative effects as approximately 98-99% of the total resource base in the watershed remains unaffected.

Wetland impacts will occur both within the Proposed Project area and within the 650-acre area of additional tailings deposition. Total wetland impacts, including those located within the 650 acres of tailings deposition, will be about 264 acres subject to the USACE's and DNR's mitigation requirements under the CWA Section 404 permit and WCA wetland replacement plan respectively. This mitigation is specifically designed to address these cumulative potential effects on wetlands.

**Ongoing Regulatory Authority**

40. The following permits and approvals are, or may be needed, for the project:

| Unit of Government | Type of Application/Approval |
|---|---|
| USACE | Clean Water Act Section 404<br>Section 106 consultation<br>Section 7 consultation<br>• Tailings Basin Features<br>• Stream Mitigation Sites |
| DNR | Master Permit Renewal<br>• Tailings Basin Features |
| DNR | Permit to Mine Amendment<br>• Tailings Basin Features |
| DNR | Wetland Conservation Act (WCA) Replacement Plan<br>• Tailings Basin Features |
| DNR | Work in Public Waters<br>• Stream Mitigation Sites (x6) |

| Unit of Government | Type of Application/Approval |
|---|---|
| DNR/MPCA | 2024-2028 Mile Post 7 Five Year Operations Plan<br>• Tailings Basin Features |
| MPCA | Construction Stormwater – General Permit MNR100001<br>• Tailings Basin Features<br>• Stream Mitigation Sites |
| MPCA | Section 401 Water Quality Certification<br>• Tailings Basin Features<br>• Stream Mitigation Sites |
| MPCA | NPDES Permit MN0055301 Reissuance<br>• Tailings Basin Features |
| Lake County | Conditional Use Permit<br>• Tailings Basin Features<br>• Stream Mitigation Sites |
| Lake County | Land Use Application Grade/Fill<br>• Tailings Basin Features |
| Lake County | WCA<br>• Stream Mitigation Sites |

41. The permits described in paragraph 40 provide substantial mitigation for the environmental effects described above. For example, the Master Permit is in effect the dam safety permit for the Mile Post 7 Tailings Basin dams. The Master Permit, along with the Five Year Operation Plans

for the dams, provide for detailed inspections and oversight of these dams. The Master Permit will be renewed prior to construction.

Wetland impacts will be mitigated through the purchase of wetland banking credits pursuant to the WCA wetland replacement plan and CWA Section 404 Permit for the Project. Impacts to remnant streams within the Tailings Basin will be mitigated through the stream restoration projects described in the EAW, as required by the CWA Section 404 Permit issued by the US Army Corps of Engineers along with the MPCA CWA Section 401 Water Quality Certification.

Erosion and other construction-related impacts for the Tailings Basin Features are addressed by the MPCA's Construction Stormwater General Permit and by the NPDES/SDS Permit for the Tailings Basin. Similar impacts from the Stream Mitigation Projects are addressed by MPCA's Construction Stormwater General Permit.

Impacts to groundwater and surface water quality are mitigated by the NPDES/SDS permit for the Mile Post 7 Tailings Basin. DNR does not expect impacts to groundwater or surface water to vary significantly from current impacts following construction of the Proposed Project. The NPDES/SDS permit protects water resources both through effluent limits on two pollutants and through monitoring of 26 additional pollutants. Reissuance of the permit is pending. When it reissues this permit, MPCA will have to evaluate whether the project has the potential to cause or contribute to any exceedances of water quality standards and whether any additional effluent limits should be included in the permit. MPCA has stated that the Mile Post 7 Tailings Basin complies with effluent limits in the current permit and would be expected to comply with limits in the reissued permit.

42. Some commenters argue that DNR must prepare an EIS to address the potential impacts of dam failure. To the contrary, an RGU is not required to undertake environmental review on the basis of speculative information. *Reserve Mining Co. v. Herbst,* 256 N.W. 2d 808, 829-30 (1977) (holding that consideration of alternatives is unnecessary where potential impacts are remote). DNR has required Northshore to complete a recent dam breach analysis for the Mile Post 7 Tailings Basin dams. DNR is not required, however, to order an environmental impact statement to address the possible impacts of a speculative dam failure. "Potential" effects of a proposed project must be more than remote possibilities. Minn. R. 4410.1700, subp. 7. In determining the need for an EIS, an agency need only address impacts that are "reasonably expected" to occur. Minn. R. 4410.1700, subp. 6.

## CONCLUSIONS

1. The Minnesota Environmental Review Program Rules, Minnesota Rules part 4410.1700, subparts 6 and 7, set forth the following standards and criteria to compare with the impacts that may be reasonably expected to occur from the project in order to determine whether the project has the potential for significant environmental effects.

   In deciding whether a project has the potential for significant environmental effects, the following factors shall be considered:

   *i. type, extent, and reversibility of environmental effects;*

   *ii. cumulative potential effects. The RGU shall consider the following factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the project;*

   *iii. extent to which the environmental effects are subject to mitigation by on-going regulatory authority. The RGU may rely only on mitigation measures that are specific and that can be reasonably expected to effectively mitigate the identified environmental impacts of the project; and*

   *iv. the extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by agencies or the project proposer, including other EISs.*

2. *Type, extent, and reversibility of environmental effects.*

   As set forth in Findings of Fact ¶¶ 39.a – k, the DNR concludes the following types of potential environmental effects, as described in the Findings of Fact, will be limited in extent, temporary, or reversible:

   Project Construction
   Climate Adaptation
   Cover Types
   Wastewaters/Quantities
   Groundwater
   Construction/Industrial Stormwater
   Wetlands
   Streams
   Wildlife Resources and Habitat

State Listed Species
Greenhouse Gas (GHG) Emissions/Carbon Footprint

3. *Cumulative potential effects. The RGU shall consider the factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the Proposer to minimize the contributions from the project.*

   As set forth in Finding of Fact ¶ 39.l, the DNR concludes that the cumulative potential effects of this project are not significant.

4. *Extent to which environmental effects are subject to mitigation by on-going public regulatory authority.*

   Based on the Findings of Fact set forth in ¶¶ 39.a – l above, information contained in the EAW, and the responses to comments as provided in ¶¶ 22 – 27, DNR concludes that there is sufficient ongoing public regulatory authority as provided in ¶ 40, and specific measures that have been identified through permits and approvals, that can be expected to effectively mitigate the following environmental impacts:

   Environmental effects from project construction, including dams, are subject to mitigation by ongoing public regulatory authority from the: DNR Permit to Mine Amendment; DNR Master Permit; DNR-MPCA Five Year Operation Plan; MPCA Construction Stormwater Permit; Lake County Conditional Use Permit and Land Use Application Grade/Fill.

   Environmental effects from climate adaptation are subject to mitigation by ongoing public regulatory authority from the: USACE CWA Section 404 Permit; DNR Master Permit, DNR Permit to Mine Amendment, DNR WCA Replacement Plan, and DNR Work in Public Waters Permit; MPCA CWA Section 401 Water Quality Certification; and Lake County Conditional Use Permit and WCA Permit.

   Environmental effects from cover type conversion are subject to mitigation by ongoing public regulatory authority from the: Lake County Conditional Use Permit; DNR Permit to Mine Amendment, Master Permit Renewal, and Wetlands Conservation Act Replacement Plan; USACE CWA Section 404 Permit; and MPCA CWA Section 401 Water Quality Certification.

   Environmental effects from wastewaters/quantities are subject to mitigation by ongoing public regulatory authority from the MPCA NPDES/SDS Permit MN0055301.

Environmental effects to groundwater are subject to ongoing public regulatory authority from MPCA NPDES/SDS Permit MN0055301 and the Permit to Mine Amendment.

Environmental effects from construction and industrial stormwater are subject to mitigation by ongoing public regulatory authority from MPCA Construction Stormwater – General Permit MNR1000001 and MPCA NPDES/SDS Permit MN0055301.

Environmental effects to wetlands are subject to mitigation by ongoing public regulatory authority from the: DNR's Wetland Conservation Act Replacement Plan; USACE's CWA Section 404 Permit; MPCA CWA Section 401 Water Quality Certification; and Lake County Wetlands Conservation Act approval.

Environmental effects to stream resources are subject to mitigation by ongoing public regulatory authority from the: DNR Permit to Mine Amendment and DNR Work in Public Waters Permit; USACE CWA Section 404 Permit; MPCA CWA Section 401 Water Quality Certification; Construction Stormwater – General Permit MNR100001; MPCA NPDES/SDS Permit MN0055301; and Lake County Conditional Use Permit.

Environmental effects to wildlife resources and habitat are subject to mitigation by ongoing public regulatory authority under the DNR Permit to Mine Amendment and Wetlands Conservation Act Replacement Plan. Proposer commitments listed in EAW Item 11d to employ specific measures to minimize potential impacts to fish, wildlife, native plant communities, ecosystems, and sensitive ecological resources, plus invasive species control measures generally, also provide mitigation.

Environmental effects to state listed species are subject to mitigation by ongoing public regulatory authority from the invasive species monitoring and protection requirements of the USACE Section 404 Permit and MPCA CWA Water Quality Certification for each stream mitigation project. In addition, Proposer commitments listed in EAW Item 11d to minimize potential impacts to smoky shrew, invasive species control measures generally, and revegetation measures provides mitigation for potential effects to state listed species. No taking of state-listed endangered or threatened species is anticipated.

Cumulative environmental effects are subject to mitigation by ongoing regulatory authority as described above, with respect to the particular resource in question.

5. *Extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by public agencies or the project proposer, or other EISs.*

The following documents, and other studies noted in this Record of Decision, provide information that can be used to anticipate and control environmental effects of the Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project:

Minnesota Department of Natural Resources. 1975. Reserve Mining Company's Proposed On Land Tailings Disposal Plan. Draft Environmental Impact Statement. October 1975. 320 pgs.

Minnesota Department of Natural Resources. 1976. Reserve Mining Company's Proposed On Land Tailings Disposal Plan. Final Environmental Impact Statement. June 1976. 131 pgs.

United States Army Corps of Engineers. 1977. Power Plant Discharge Structure, Delta Stabilization Dike, and On-Land Taconite Tailings Disposal, Reserve Mining Company, Silver Bay, MN. March 1977. 200 pgs. plus Technical Appendix.

United States Army Corps of Engineers. 2021. Northshore Mine Mile Post 7 Tailings Basin Project. Department of the Army Environmental Assessment and Statement of Findings. September 16, 2021. 98 pgs.

6. As set forth in Findings of Fact ¶¶ 1-44, DNR has fulfilled the procedural requirements set forth in statutes and rules, including Minn. Stat. ch. 116D and Minn. R. ch. 4410, applicable to determining the need for an EIS on the proposed Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project in Silver Bay, Lake County, Minnesota.

7. Based on the criteria specified in the Minnesota Environmental Review Rules (Minnesota Rules part 4410.1700, subparts 6 and 7) to determine whether a project has the potential for significant environmental effects, and on the Findings and Record in this matter, the DNR determines the proposed Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project **does not** have the potential for significant environmental effects.

8. Any Findings that might be properly termed Conclusions and any Conclusions that might properly be termed Findings are hereby adopted as such.

**ORDER**

Based on the above Findings of Fact and Conclusions:

The Minnesota Department of Natural Resources determines that an Environmental Impact Statement **is not** required for the proposed Mile Post 7 West Ridge Railroad Relocation, Dam Extensions, and Stream Mitigation Project in the city of Silver Bay, Lake County, Minnesota.

Dated this 1st day of March 2024.

**STATE OF MINNESOTA**
**DEPARTMENT OF NATURAL RESOURCES**

JESS RICHARDS
Assistant Commissioner