

# ENVIRONMENTAL ASSESSMENT WORKSHEET

## Knife River Prom Pit



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# ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:

<http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm>. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

**Cumulative potential effects** can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

**Note to reviewers:** Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

## 1. Project title: Knife River Prom Mining Expansion

<b>2. Proposer:</b>	Knife River	<b>3. RGU</b>	Sherburne County
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## 4. Reason for EAW Preparation: (check one)

Required:

- EIS Scoping  
 Mandatory EAW

Discretionary:

- Citizen petition  
 RGU discretion  
 Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

4410.4300, subpart 12 Nonmetallic Mineral Mining

## 5. Project Location:

County: Sherburne

City/Township: Haven

PLS Location (¼, ¼, Section, Township, Range): S ½, Sec 11, T35N, R30W

Watershed (81 major watershed scale): Mississippi River (St. Cloud) HUC 8:07010203

GPS Coordinates: 45.534688, -94.038983

Tax Parcel Number: 25-011-4400

**At a minimum attach each of the following to the EAW:**

- County map showing the general location of the project;
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.

See Attachment 1: Prom Pit Mining Operations Plan (four maps)

- Prom Pit Mining Operations Plan
- Prom Pit Map A Existing Conditions
- Prom Pit Map B Mining Conditions
- Prom Pit Map C Restored Conditions

**6. Project Description:**

- a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

Knife River is proposing expanding the existing Prom Pit from 38 acres to 59 acres. This nonmetallic mineral mine, producing sand and gravel, is located southeast of St. Cloud in Haven Township.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

This project would expand the existing Prom Pit by 21 acres, from 38 to 59 acres. This pit is contained within the 150.74 acre parcel. The pit was granted a Conditional Use Permit (CUP) from Sherburne County on November 8, 2005. To date, 29.89 acres of the originally permitted 38 acres have been mined. This mined area now consists of open pit area that is utilized for aggregate crushing, washing, and stockpiling. The entire mining area was or currently is tilled agricultural field. Mining will take this area out of agricultural production for the duration of the project. The depth of excavation ranges from approximately 10 feet in the northern portion of the pit to 25 feet in the proposed south and east portions of the pit. A 40 foot mining buffer along property lines is required by County Ordinance, and is observed along mine boundaries that approach property lines. Access to the pit is established.

The original permitted area includes 27.6 acres in Safety Zone A of the St. Cloud Airport. The proposed expansion area includes 14.5 acres in the Safety A Zone (see Attachment 2).

Continued mining will involve site preparation by stripping topsoil overburden to expose the sand and gravel material. Site preparation will occur only as needed for that mining season. Overburden will be placed in a berm surrounding the mining area. The material exposed will be mined utilizing the same mining techniques as previously used; front end loader extraction, screening, crushing, washing, and

stockpiling. All of the aggregate production equipment is portable and only remains on site while production is occurring.

The washing operation includes the use of dug ponds. These ponds are filled with water from an on-site irrigation well. Once filled, the water is used in the washing operation and recycled back to the ponds for gravity clarification and reuse. As needed, water is added to the ponds from the well to maintain a steady level. Upon cessation of washing, the water is allowed to infiltrate. Per condition of the CUP, no mining depression is allowed to collect water over concerns of creating a wildlife attractant detrimental to airport operations. There is no discharge of wash water or stormwater from the site. A wash plant water recycling diagram is included as Attachment 3.

Currently the only structure in the mining area is a center pivot irrigator. The well for the irrigator is located on the parcel but outside of the mining area. The center pivot is moved as mining progresses. One other well exists on the parcel that supplies water to the farm buildings in the southeast corner of the parcel.

Per the existing CUP, hours of operation at the site are from 6:30am to 9:00pm, Monday through Saturday. No maintenance or other activities can take place outside of this time. No operations are allowed on Sundays or legal holidays.

Final restoration of the site will return the land to agricultural production.

Mining into the expansion area will commence as soon as all necessary permitting has been completed. It is estimated that there is approximately two construction seasons of material in the expansion area. Activities at the site will probably continue for an additional two years to accommodate stockpile inventory depletion and restoration.

c. Project magnitude:

Total Project Acreage	59
Linear project length	0
Number and type of residential units	0
Commercial building area (in square feet)	0
Industrial building area (in square feet)	0
Institutional building area (in square feet)	0
Other uses – specify (in square feet)	N/A
Structure height(s)	N/A

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

This project is proposed in order to extend the life of this mine. Aggregate materials are produced for construction purposes. The aggregates produced at the site are used almost exclusively for ready mix concrete.

e. Are future stages of this development including development on any other property planned or likely to happen?  Yes  No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

- f. Is this project a subsequent stage of an earlier project?  Yes  No

If yes, briefly describe the past development, timeline and any past environmental review.

A conditional use permit for nonmetallic mining was obtained from Sherburne County on November 8, 2005 and mining began in 2006. The mined acreage has steadily progressed since that time. Past associated development included a condition of the initial CUP to construct acceleration and bypass lanes at the intersection of County Roads 78 and 3.

7. **Cover types:** Estimate the acreage of the site with each of the following cover types before and after development:

	Before	After		Before	After
Wetlands			Lawn/landscaping		
Deep water/streams			Impervious surface		
Wooded/forest			Stormwater Pond		
Brush/Grassland			Other (describe)		
Cropland	59	59			
			<b>TOTAL</b>	<b>59</b>	<b>59</b>

8. **Permits and approvals required:** List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

<u>Unit of government</u>	<u>Type of application</u>	<u>Status</u>
Sherburne County (Attachment 4)	Requesting an Interim Use Permit for a 21 acre mining expansion	Existing
MPCA (Attachment 5)	Storm Water National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) Permit MNG490003	Existing
MPCA (Attachment 6)	Nonmetallic Mineral Processing Air Emission General Permit No. 0900035-001	Existing
DNR (Attachment 7)	Water Appropriations Permit 1977-3919-2	Existing

**Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19**

**9. Land use:**

a. Describe:

- i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

Land use at the site includes the existing aggregate mine, and agricultural crop production. The adjacent land uses are agricultural crop production, small wooded areas, and the St. Cloud Airport to the northwest. In 880 acres of land surrounding the site, 7.5 acres are prime farmland. This land is located approximately 0.8 mile northeast of the site. The Sand Prairie Wildlife Management Area is located approximately 1.8 miles west of the site. There are 39 residences within a one mile radius of the site, the nearest being 1,094 feet from the proposed boundary (Attachment 8). Approximately 1.7 acres of the subject parcel is within 300 feet of the Elk River, therefore it is within the Shoreland District. This 1.7 acres is outside of the mining area.

- ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

On September 7, 2011 Sherburne County Board of Commissioners adopted a comprehensive land use plan for Sherburne County. The location of the proposed expansion has a land use designation of Airport Impact Zone and Agricultural (see Attachment 9).

Haven Township's Comprehensive Plan designates this property as agricultural (see Attachment 10). According to the Draft Environmental Assessment for Airport Property Acquisition St. Cloud Regional Airport, St. Cloud, Minnesota, prepared by Short Elliott Hendrickson Inc. dated June 20, 2011; a portion of this site is in the airports property acquisition area (see Attachment 11). The city of St. Cloud has proposed to acquire additional airport property surrounding the airport to protect aviation resources from encroachment by residential and other incompatible land uses.

- iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

On the north side of this property there are 1.7 acres within the Elk River Shoreland Overlay District. None of the proposed mining area is in the Shoreland Overlay District.

- b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The project lies within the Sherburne County Agricultural District. Per Sherburne County Zoning Ordinance Section 7 Subdivision 4 part 11, mining is allowed with the issuance of an Interim Use Permit (IUP). The project must meet conditions in Section 16.2 Subdivision 5 part 14. The current mining use has operated for eight years with no environmental incompatibility issues in relation to applicable zoning

ordinances. Excessive dust creation and noise are typical incompatibility issues with nonmetallic mineral mining. These issues are similar to those typically encountered in an agricultural zoning district.

The St. Cloud Airport also regulates zoning in this area. Airport zoning primarily deals with infringement of air space and land uses that may potentially present safety hazards. These public safety issues are addressed in the CUP issuance process and are not related to the environment as defined in Minnesota Rule 4410.0200, Subpart 23. One environmental issue addressed through airport zoning is that of wildlife attractants. The project should not create a wildlife attractant, such as open water, that could pose a hazard to aviation activities.

- c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

Potential incompatibilities are addressed by conditions placed on the project by the Sherburne County Issued CUP and State issued permits.

#### **10. Geology, soils and topography/land forms:**

- a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

The project area consists of quaternary glacial till underlain with reformatory grandodiorite bedrock. Data from the Geologic Atlas of Sherburne County indicate the thickness of this glacial sediment in the project ranges from 100 to 200 feet. The site is not in a karst area.

Based on exploratory borings in the mining area, ground water is encountered at a depth of approximately 20 feet below ground surface. Information from Department of Health well logs for wells surrounding the site having water appropriations permits, the depth to water is approximately 17 feet below ground surface.

The sand and gravel in the project area glacial till form a shallow unconfined aquifer that is highly susceptible to groundwater contamination. Mining will remove some of this sand and gravel material above the water table. On site mining activities utilize petroleum products that pose the highest potential for groundwater contamination in the event of a spill. No other chemicals of significance are used in the mining process. Petroleum is stored and handled in compliance with applicable regulatory standards, including secondary containment for tanks.

- b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to

Item 11.b.ii.

The following table lists the soil types found in the project area:

Map Symbol	Unit Name
158A	Zimmerman fine sand 0 to 3 percent slopes
158B	Zimmerman fine sand 3 to 6 percent slopes
341	Arvilla sandy loam 0 to 2 percent slopes
768	Mosford sandy loam 0 to 2 percent slopes
D67C	Hubbard loamy sand Mississippi River Valley 6 to 12 percent slopes

The map showing soil locations on the site and description is found in Attachment 12. Much of the project area will be excavated and sand and gravel material removed for ready-mix concrete production or other general construction needs. This area has been identified as an area of potential aggregate resources by the Department of Natural Resources (see Attachment 13).

#### 11. Water resources:

- a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.
  - i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

There are no surface waters within the project limits. The Elk River flows south along the western edge of the project area. This reach of the Elk River is impaired for mercury. Approximately eight miles south the Elk River is impaired for fecal coliform, turbidity, and/or excessive nutrients. North of the site an intermittent drainage ditch flows northeasterly and empties into the Elk River.

Two small wetlands (6,875 ft<sup>2</sup> and 4,618 ft<sup>2</sup>) are located along the south east corner of the proposed mining area. These are low areas that will be avoided. A map of surface water features is included as Attachment 14.

- ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Based on exploratory borings in the mining area, ground water is encountered at a depth of approximately 20 feet below ground surface. As shown below, information from Department of Health well logs for wells surrounding the site, the depth to water is approximately 18 feet below ground surface at an elevation of approximately 997 feet.

Unique Number	Elevation	Static Water level	GW Elevation	Use	Appropriations Permit	Permitted Volume MGY
141586	1016	unknown		Domestic		
225823	1011	15	996	Domestic		
537561	1016	21	995	Domestic		
582905	1011	30	981	Domestic		
660285	1013	18	995	Domestic		
696926	1022	18	1004	Domestic		
713907	1011	10	1001	Domestic		
126518	1013	16	997	Irrigation	1977-3919	33.3
143822	1009	8	1001	Irrigation	1977-3682	26.6
180108	1018	15	1003	Irrigation	1989-3047	45.8
191192	1005	20	985	Irrigation	1984-3012	42.3
225822	1008	15	993	Irrigation	19756-3191	26.0
226056	1015	25	990	Irrigation	1980-3128	52.0
453375	1025	26	999	Irrigation	1989-3406	57.0
504684	1010	19	991	Irrigation	1991-3015	51.0
143823	1020	22	998	Irrigation		
456934	1018	9	1009	Irrigation		
456960	1022	25	997	Irrigation		
465409	1008	5	1003	Irrigation		
	<b>Average</b>	<b>18</b>	<b>997</b>			

Locations and well logs for these wells are attached (see Attachment 15).

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

No wastewater is generated that will be discharged to a publically owned treatment facility.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

No subsurface treatment system exists or is planned for this project. Water generated as a result of aggregate washing is considered an industrial wastewater. This wastewater is regulated under the proposers existing NPDES/SDS General Permit for Nonmetallic Mining and Associated Activities MNG490003. This permit states that aggregate wash water must be “collected, contained or infiltrate to ground and Best Management Practices must be implemented to prevent contamination of ground water.”

The washing operation includes the use of dug ponds. These ponds are filled with water from an on-site irrigation well. Once filled, the water is used in the washing operation and recycled back to the ponds for gravity clarification and reuse. As needed, water is added to the ponds from the well to maintain a steady level. Upon cessation of washing, the water is allowed to infiltrate. The project area soils have a high capacity to transmit water (Ksat values 6-20 inches per hour). Per condition of the CUP, no mining depression is allowed to collect water over concerns of creating a wildlife attractant detrimental to airport operations. A wash plant water recycling diagram is included as Attachment 3.

- 3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.
- ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

Stormwater discharge is regulated by the MPCA through the NPDES/SDS General Permit for Nonmetallic Mining and Associated Activities MNG490003. This project is does not discharge stormwater to surface water. The mining activity creates a depression that allows stormwater to drain to the interior of the pit and infiltrate. A stormwater drainage map is included as Attachment 16.

Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Groundwater is appropriated for filling the aggregate wash ponds, and providing water to maintain a sufficient level. Initially, approximately one million gallons is used to fill the ponds.

After this, water is only added to replace that lost to moisture in the finished aggregate product, typically 5%. At 5% moisture in the finished product, this equates to a water usage rate of 12 gallons per ton of aggregate produced. During the washing process, water infiltrates through the pond floors and stockpile bases. If annual production of washed aggregate is 100,000 tons, than approximately 1.2 million gallons would be removed as moisture in the aggregate. Water is appropriated from an existing well (unique#126518) with existing appropriation permit 1977-3919. This permit allows for appropriations of 33 million gallons per year. A map showing the locations of wells in the area of the project, their use, appropriated volumes, and Department of Health well logs, is included as Attachment 15.

iii. Surface Waters

- a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

No wetlands will be altered as a result of this project. There are two small wetlands in the southeast corner of the proposed mining area. These are seasonally flooded and have historically had crops planted around them or been pasture area. Mining will decrease a small portion of cropped area draining to these wetlands. The portion of the drainage area consisting of a wooded area and the cropped area to the south will not be disturbed.

- b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

No alterations of other surface waters will result due to this project.

**12. Contamination/Hazardous Materials/Wastes:**

- a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

A search of the MPCA's "What's in My Neighborhood" mapping tool shows no contaminated sites or potential environmental hazards near the site. The Minnesota National Guards Army Aviation Support Facility is on St. Cloud Airport property and is listed as having several activities. Other locations identified include animal feedlots. These locations are all MPCA permitted activities. The search result is included as Attachment 17.

- b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

No solid waste is generated as part of the mining process. Municipal waste generated by employees on site is collected in receptacles inside semi van work spaces and transported back to Company headquarters for disposal.

- c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

Petroleum will be stored on site during periods of mining. All petroleum is stored with secondary containment. Small amounts of liquid lubricants may be stored inside a semi-trailer. Diesel fuel is stored in a 1,000 gallon tank inside of a steel containment area, both located inside of a semi-trailer. Depending on the length of time mining operations are scheduled to occur, an 8,000 gallon double-walled, flatbed trailer mounted diesel tank may be utilized. All activities are conducted in conformance with Company Spill Prevention Plan and Spill Prevention Control and Countermeasure Plan. An accidental release of petroleum could impact both soil and groundwater. Any spill on site can have immediate response utilizing equipment on site including, front end loaders and dump trucks.

- d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

Wastes may be generated from the maintenance of mining equipment on site. These wastes, all petroleum based, are not hazardous or toxic, but are classified by MPCA as special wastes. These wastes are removed from the site by Knife River mobile maintenance vehicles and returned to Company Headquarters in Sauk Rapids to be disposed of in accordance with State and Federal rules.

**13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):**

- a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

The project area is in the Anoka Sand Plain ecological subsection. The habitat designation for the entire project area is cropland. Cropland is not listed as a key habitat in the Anoka Sand Plain.

County mapping shows 2.25 acres in the northern part of the parcel, outside of the proposed mining area, is a Native Plant area designated Oak Woodland Brushland (Central). The Minnesota Biological Survey has listed this area as a site of moderate biodiversity. None of this area has been or will be disturbed by mining activities.

- b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-\_\_\_\_) and/or correspondence number (ERDB 20140286) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

The following rare species and significant natural features were determined to be within one mile radius of the proposed project:

<u>Feature</u>	<u>Minnesota Status</u>
Blanding's Turtle	Threatened
Creek Heelsplitter (mussel)	Species of Concern
Black Sandshell (mussel)	Species of Concern
Oak/Aspen/Red Maple Forest	Moderate Biodiversity Significance

See Attachment 18.

- c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

There should be no impact on fish, wildlife, plant communities, rare features and ecosystems as a result of this project.

- d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Employees of Knife River will be trained on the potential presence of the Blanding's Turtle utilizing the Minnesota Department of Natural Resources recommendations for avoiding and minimizing impacts. There will be no discharge to the Elk River from the proposed activity; therefore, there will be no impact on the rare mussels. As stated in part a of this question, the wooded area will not be disturbed as part of the project.

**14. Historic properties:**

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A review by the State Historic Preservation Office did not identify any archeological or historic structures in the project area. Correspondence with the SHPO is included as Attachment 19.

**15. Visual:**

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The site is situated in a location that is not visible to the traveling public or neighboring landowners. No plumes will be generated and no outward lighting is used.

**16. Air:**

- a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

All stationary emission sources for this project are covered by existing MPCA Air Emission General Permit 00900035-003 for nonmetallic mineral processing. The sources of air emissions at the site include exhaust from diesel generator engines and fugitive dust emissions from mining and processing activities. Fugitive dust can have an impact on surrounding residences ranging from annoyance to dust allergies.

State rules require that 'fugitive' dust, i.e. dust generated by truck traffic on a site, be minimized to the extent practicable and that all efforts be made to insure that dust does not leave the site. Dust from traffic within the operational area, and the driveway leading to County Road 78 will be controlled with water or applications of calcium chloride. Dust from the crushing and conveying process is controlled by ensuring sufficient moisture is present in the material being processed. If visible dust can be observed leaving the crushing/conveying process, water is added to the aggregate material as it is fed into the process. The nearest receptor is the pit owner's residence located 1,150 feet from the mining boundary. Three other residences are within 1,200 feet of the site. These residences are screened from the site by wooded areas.

- b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

Air quality impacts from truck traffic are not quantified for this project because the use of the County Highway is consistent with its design to handle personal, commercial and industrial traffic. No increase of vehicle-related air emissions are expected with this project.

- c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

No odors result from this project.

No asphalt or ready mix concrete production is part of this project. See item 16a for a discussion of fugitive dust.

### 17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Sources of noise include the crusher, diesel generator, and associated mobile equipment (loaders, trucks, dozers). The duration is limited by the existing CUP which limits operations to 6:30am to 9:00pm Monday through Saturday. Due to its rural agricultural location, existing sources of noise include farm machinery. Additionally, the proximity to the St. Cloud Airport adds occasional air traffic noise to the area.

The nearest receptors are residences east and north of the site along County Road 78.

Based on noise studies conducted at other Knife River mining sites, operations associated with this project will meet all MPCA noise standards. Noise standards are set by the MPCA and vary with land use and time of day. The standard applies at the receptor. In other words, noise from operations must meet the residential noise standard on nearby residential property. Daytime is defined as 6:00am to 10:00pm. Noise Levels at a residential property line may not exceed the following:

	Daytime dB(a)	Nighttime dB(a)
L10	65	50
L50	60	55

The standards listed are the noise levels allowed at households measured in decibels. The L10 standard is the level which is exceeded 10% of the time for a one hour survey. The L50 standard is the level which is exceeded 50% of the time for a one hour survey. Due to the limitations placed on hours of operation, the Daytime standard is applicable to this project. An example of a noise study at a similar site is included as Attachment 20.

Stockpiles will be placed to aid in the reduction of noise (i.e. placed to act as a noise barrier and to minimize the amount of movement required on site). Equipment will be placed as far away from residences as possible.

## 18. Transportation

- a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

This project will not involve the creation of parking spaces.

This project will not increase the volume of traffic generated in that it is only an expansion of the mining area, not an increase in production rate or volume. Based on average material generation at the Prom pit, an annual total of approximately 4,400 truck trips are generated annually. The material from this site is used primarily for ready mix concrete at various Knife River locations, which means traffic is spread throughout the year with an increase during the typical construction season. Assuming an even distribution of truck trips over an entire year, the average daily trip rate would be 14.

- b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance,

The Sherburne County Long-Range Transportation Plan shows County Road 78 has an average daily trip count of less than 500 and is considered uncongested. County Road 3, which carries the majority of truck traffic from the site to State Highway 10, has an average daily trip count of 500-1,999 which is also considered uncongested.

- c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

There are no measures that are planned to mitigate any transportation effects. Previous mitigation included a condition of the initial CUP to construct acceleration and bypass lanes at the intersection of County Roads 78 and 3.

## 19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

- a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

There are similar projects in the area that may affect similar environmental resources. The following is a list of aggregate mining sites near the proposed project and their status:

Site	Distance and Direction from Proposed Project	Status
Knife River-Mark	2.35 miles W	Active
Knife River-St. Cloud	3.3 miles W	Active
Knife River-Stark	0.85 mile N	Active
City of St. Cloud-Busse	1.2 miles N	Restored
Amcon Block Pit	1.15 miles SW	Restored

Given the geographic distance of these sites from the proposed project, environmental footprints of each do not overlap. The proposed project has a short duration, as there is a finite amount of aggregate available to be mined. At the cessation of mining, the site will be restored to its original agricultural use. The nature of mining typically returns the land to its pre-mining land use as illustrated by the Busse and Amcon pits.

- b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

There are no past or reasonably foreseeable future projects whose footprints could overlap and have environmental effects.

- c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

There are no significant environmental effects resulting from this proposed project or cumulatively with other projects.

**20. Other potential environmental effects:** If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

There are no other environmental effects to consider not already addressed in this document.

**RGU CERTIFICATION.** *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

**I hereby certify that:**

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature Maa Schmele

Date 5/30/2014

Title Zoning Specialist