

NON-METALLIC MINING RECLAMATION PLAN NARRATIVE

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Owner: Loral A and Jeanne Kressin
(It should be noted that Haas Sons has an offer to purchase agreement with the landowner pending the granting of permits.)

Maintenance Contact: Jason Haas

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Summary

This reclamation plan has been developed to provide information about the existing site of the proposed mine, the proposed site operations, and how the mine will be reclaimed to the proposed post mining land use.

This reclamation plan is for a 149 acre farm and a 6 acre abandoned gravel pit located south of Cty Hwy AA, 1/2 mile east of Hwy 40 in the town of Bloomer. The land is currently farm land.

The operator will mine a sand and gravel deposit that is located on a glacial outwash deposit, which is characterized as the melt water stream sediment from the Chippewa Lobe. Most of the site will be mined below the water table and reclaimed as a wildlife pond. Shore land areas surrounding the pond that are mined above the water table will be seeded for a Grassland/Prairie post mining land use.

There are no wetlands on the property. All mining activities will occur on upland areas.

Initial site plan

This section is to be used with the initial site map

1. **Soil Information**
A horizon – 6” of topsoil

B horizon – 24”-30” clay subsoil

Source of information: We dug test holes with a backhoe to determine the soil horizons. We found that there is approximately 6" of topsoil and 30" on average, of subsoil at the site. See attached soils test hole map.

There are no known utilities at this site.

2. **Description of Materials to be extracted**

Sand and gravel will be extracted and processed at the site.

3. **Extraction and processing to be conducted at the Site**

Sand and gravel will be mined, crushed, washed and then removed from the site. Material below the water table will be extracted by way of dredging. A portable crushing and washing plant will be used to process the material and stockpile it on site. Materials within the mine will be excavated and transported using bulldozers, excavators, loaders and conveyers. There may be a portable asphalt plant at the site. Any asphalt produced will be removed from the site, except for asphalt on the final pit access road.

Sand and gravel will be excavated from the mine above the water table in one lift approx. 15-30 feet deep. An area in the floor of the mine will be excavated below the water table to create a pond from 0 to approximately 30 ft deep. No high capacity wells will be installed or used to support sand and gravel processing.

No flocculants or other chemicals will be used to support sand and gravel processing. No waste materials that are generated off-site will be hauled to the mine, stockpiled or used in site reclamation.

4. **Volumes of Materials**

Sequences of mine phases are planned to systematically mine and reclaim the site. The anticipated area of disturbance and estimated volume of raw materials to be removed during the life of the mine is as follows.

(Estimated Cubic Yards of Raw Material)

Phase	Area (acre), includes berms, roads, etc.	During 1 st two years	During Full Life of Operation
1	35 Acres	200,000 cubic yards	1,680,000 cubic yards
2	35.5 Acres	0	1,704,000 cubic yards
3	35.6 acres	0	1,708,800 cubic yards
4	29.7 Acres	0	1,425,600 cubic yards

When Hauling from the site to jobs, the estimated truckloads per day will average approximately 10 loads per day. This average is taking into consideration that some days there will be no loads hauled and some days there will be many. The average weight of each truck is around 73,000 lbs when fully loaded. This is the legal weight limit for a quad axle dump truck.

All equipment used for mining operations are constructed and will be operated to minimize dust, noise, lighting, vibration, and to be in compliance with MSHA. All trucks will follow an anti-idling plan.

5. **Storm water Permits/Management**

At a minimum storm water will be contained within the mine boundaries for all rainfall events according to the 25year 24hour frequency storm (4.86 inches).

Soil berms created during topsoil and subsoil stripping will be stabilized and used to contain and direct storm water runoff towards the excavated floor of the mine where it will infiltrate. Storm water will be managed this way over the entire life of the mine. A notice of intent will be sent to the DNR.

Site operations

This section should be used with the site operations map

6. **Erosion Control & Permits**

Silt fence will be installed around topsoil pile and berms during site operation. All topsoil and subsoil piles will be graded to a slope of 3:1 or flatter and seeded to further control erosion during site operation.

Berms will be stabilized using best management practices including seeding, mulching, erosion control mat, hydro-seeding, etc. Erosion and sediment control best management practices will be installed as determined by the Wisconsin Erosion Control Product Acceptability List (PAL) Channel and Slope Erosion Control Matrices.

7. **Reclamation Activities During Operations**

A process of contemporaneous reclamation will be used to systematically mine and reclaim the site. Under this process the site will be reclaimed as soon as possible after materials have been extracted and processed using the planned sequence.

At the beginning of the mining operations all of the topsoil (estimated 6 inches) will be stripped and stockpiled in berms. Following topsoil stripping operations, all of the subsoil (estimated 30 inches) will be stripped and mostly stockpiled in berms inside of the topsoil area. After subsoil is piled, and sloped, some topsoil will be applied and the area will be seeded.

All berms that are not to be disturbed within 2 years of construction, will be shaped to a 3:1 slope or flatter and seeded with DOT Seed Mix 20. Temporary berms (berms that will be moved within two years of construction) will be seeded with an annual

stability seed mix such as rye, or clover. Berms will be managed to prevent the growth of weeds and invasive species using best management practices, including selective herbicide application and annual mowing. Mining operations will then excavate, process, and remove sand and gravel from the site.

Material extraction and processing will begin in Phase 1 and move from the north to the south, in 5 to 10 acre sections. When mining is done through phase 1, north and east banks will be sloped and seeded. Next mining will move through phase 2 from north to south, above the water table. After the mining is done above the water table, mining will begin below the water table starting on the south end and mining north to the phase 2 boundary. When mining in phase 2 is complete, the east south banks will be sloped and seeded. Then mining will move on to Phase 3 and start on the north end and mine towards the south boundary, above the water table. Once the south boundary is reached, mining will resume below the water table from the south boundary to the north. Once mining concludes in phase 3, the south and west boundary will be sloped and seeded. After mining in Phase 3 is completed, we will mine in phase 4, above the water table, from east to west and then below the water table, from west to east. After mining is completed in phase 4, the north and west banks will be sloped and seeded.

Final grading of the bottom will occur after ponds in phases 2, 3, and 4 are finished.

When excavation of sand and gravel is completed, grading work will be performed to finish remaining slopes around the perimeter of the mine that are 3:1 or flatter and extend below the surface of the water. Subsoil will then be placed over the slopes (this includes a minimum of 2 feet vertically below the water line) and flat lying areas of mine to a uniform depth.

Topsoil will then be placed over the subsoil to a uniform depth

The site will then be seeded. Areas with slopes steeper than 3:1 will have straw mulch applied. Areas flatter than 3:1 will not receive mulch, unless it is determined that mulch is needed for stabilization. **Other areas of reclamation plan say that slopes will not be steeper than 3:1.**

Reclamation test plots will be established within the first two years of mining. Test plots will be established for each post mining land use. These test plots will be monitored and used to help determine success in future areas of mine reclamation.

We will seek to obtain a setback waiver with Mathy Construction on the west boundary of the mine. If a setback waiver is obtained, we will mine through the west boundary of the mine, below the groundwater table to connect the two ponds.

8. Timetable/Sequence of Operations

Location

Activity

- Phase 1 Start mining at the north end of the site operations map. We will mine South through the pit evenly, at an elevation above groundwater (approx. 1057) to the south boundary.
- Phase 2 Start mining at the north end of the site operations map. We will mine South through the pit evenly, at an elevation above groundwater (approx. 1057) to the south boundary.
After mining above water table is complete, we will dig a pond approx. 30ft deep starting at the south end and moving north, until we reach the north boundary of the phase
- Phase 3 Start mining at the north end of the site operations map. We will mine South through the pit evenly, at an elevation above groundwater (approx. 1057) to the south boundary.
After mining above water table is complete, we will dig a pond approx. 30ft deep starting at the south end and moving north, until we reach the north boundary of the phase
- Phase 4 Start mining at the West end of the site operations map. We will mine east Above the water table until we reach the west bank, then we will mine below the water table, from west to east until there is no more material left in the mine.
Then final restoration will begin.

Estimated period of operation/extraction:

pit	30 years
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(C) Site Reclamation

9. Disposition of Structures and Roads

A recycled crushed blacktop driveway will come west off of County Hwy AA. It will be located approximately 400 ft south of the corner where AA turns south. It will be approximately 100 ft long, and 35 ft wide. This driveway will provide access to the reclaimed site and to the wildlife pond.

Structures such as a scale house, and scale will be removed prior to final reclamation. The pond created will remain in place as shown on the Final Site Map (See Maps). There are no areas of concentrated flow entering, leaving, or within the reclaimed mine site.

10. Soil Reapplication

Overburden piles will be leveled off or used on slopes and pit floor. This work will be done with scrapers or bulldozers. Slopes will be stabilized using best

management practices including seeding, mulching, erosion control mat, hydro-seeding, etc. Erosion and sediment control best management practices will be installed as determined by the Wisconsin Erosion Control Product Acceptability List (PAL) Channel and Slope Erosion Control Matrices (attached).

Subsoil material will then be removed from the berms with excavators or loaders and transported in dump trucks to the area in the mine to be reclaimed. Trucks will be routed to limit traffic over areas where subsoil has already been applied. Trucks will dump subsoil and bulldozers will spread the material to be 24 inches thick on the slopes and floor of the mine. The use of tracked equipment while spreading subsoil will limit soil compaction.

Topsoil material will then be removed from the berms with excavators or loaders and transported in dump trucks to the area in the mine to be reclaimed. Trucks will be routed to limit traffic over areas where subsoil or topsoil has already been applied. Trucks will dump topsoil and bulldozers will spread the material to be a uniform thickness on all surfaces above the water table, and two feet vertically below the water table. The use of tracked equipment while spreading topsoil will limit soil compaction.

In the event that rubber tire equipment cannot be routed to prevent subsoil and topsoil compaction deep tillage equipment will be used to alleviate compaction in the upper 12 to 14 inches of the soil profile.

Soils testing will be performed following procedures established in the Wisconsin Nutrient Management Standard 590 to determine the organic matter, phosphorus, potassium and PH. Soil amendments (including lime and fertilizer) will be applied based on the soil test results to meet the fertility requirements needed to achieve the intended post mining land use.

11. Safety Assurances

Given the slopes on the reclaimed mine site and the post mining land uses there are very limited safety concerns. The pond will have a 3:1 slope that extends 6 feet below the water line. Areas reclaimed as Wildlife habitat will have 3:1 slopes.

12. Seeding Plan

Seeding will be selected to achieve the post mining land use that is planned for each designated area. Areas that will be reclaimed to wildlife habitat will be seeded to native grasses. Seed will be broadcast seeded and rolled to improve seed – soil contact. DNR Seed Mix 2 will be used in these areas and applied at the rates listed (see attached). The wildlife pond area will be allowed to vegetate below the water line using natural seed distribution without seeding by the operator.

The areas above the water table will be seeded as grassland prairie, using seeders designed for handling native prairie seeds and planting them evenly and

efficiently. Prairie seeding shall take place between February 15 and June 15 or between September 15 and December 15.

Once seeded, all areas will be monitored and sprayed with selective herbicide at a minimum 2 times in the first 2 years to help with weed prevention. The site may also be mowed, if needed, to further prevent invasive species.

13. Future Use

The mine site will be reclaimed to establish a post mining land use as wildlife pond habitat below the water table, and grassland/prairie above the water table, as shown on the Final Site Map. The operator may consider the placement of conservation easements on the property or negotiating transfer of the property to a public entity for public access and recreational use once the mine is fully reclaimed and approved by Chippewa County LCFM.

Wildlife Pond Habitat Post Mining Land Use

Areas of the mine that are below the water table will be reclaimed as a Wildlife Pond.

The proposed performance measures used to determine reclamation success are:

- a. The establishment of a mine soil profile with a minimum of 6 inches of topsoil and 24 inches of subsoil.
- b. The establishment of full plant rooting depth.
- c. The establishment of target soil chemistry and fertility to achieve and sustain the post mining land use.
- d. The establishment of the shore land seeding so that:
 - i. All species in the seeding are present.
 - ii. No more than 50% of the total vegetation is one species from the seed mix.
 - iii. Biomass shall be a minimum of one ton per acre per year.
- e. The establishment of irregular shorelines that vary in shape and slope.
- f. The establishment of shoreline slopes that vary from 3:1 to 10:1 and extend a minimum of 6 feet vertically below the water line.
- g. The establishment of a minimum of 6 inches of topsoil placed along the shoreline and on the slope a minimum of two feet vertically below the water line to encourage vegetative growth.

Site monitoring will be conducted to assess the success of vegetation establishment and monitor the site for invasive or noxious plant species. Areas of poor vegetation establishment shall be examined to determine the cause. Invasive or noxious species will be spot treated with herbicide according to the product label or hand removal and disposed of properly.