NON-METALLIC MINING RECLAMATION PLAN

Operator: Haas Sons, Inc.

Owner: Dorothy Wozniak

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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 4 ponds and a wildlife area located on the corner off of County Highway H and in close proximity to the Wolf River. There is an existing sand & gravel mine at this site. This proposal will expand the mine to un-mined areas. The land proposed for this expansion is currently managed for agricultural row crop production. This reclamation plan does not include mining in Cell 2 (identified on the Final Site Map as Pond 5).

The operator will mine sand & gravel that is located on glacial outwash that is characterized as meltwater stream sediment from the Chippewa Lobe. Part of the site contains blue granite bedrock that will also be mined. The majority of the site will be mined below the water table and reclaimed as a wildlife pond. Some small areas of the site will be mined above the water table and reclaimed to shoreland wildlife habitat.

A. Site Information

1. Landowner

Landowner: Dorothy Wozniak
Address: 658841 County Highway H
City, State, ZIP: Stanley, WI 54768

Applicant: Haas Sons, Inc.
Address: 203 E Birch St.
City, State, ZIP: Thorp, WI 54771

2. Lease:

The operator has signed a lease with the landowner for the purpose of mining sand & gravel on their property for 3 years.
See attached lease (Appendix C).

3. Legal Description

Tax Parcel Number(s): 22805-0142-00020000, 22805-0113-00020000, 22805-0134-74855001, 22805-0131-01000000, 22805-0131-74855OL1, 22805-0131-7479OL01, 22805-0131-74854002, 22805-0124-01250000

Described as follows: SE ¼ and SW ¼ Sec. 1, T28N, R05W

4. Property Owners Within 660 Feet of Project Site

Doc Szatalowicz	James & Eleanor Erickson	Gerald Witt
Harvey & Mary Zimmerman	Thomas & Donna Haas	Robert Wozniak
Jeremy Mlnarik		

5. Soil Information

Soil Survey of Chippewa County Shows the soils at the mine site are mapped as Antigo silt loam (AnB, AnC2, Kert silt loam (KeB), pits gravel (Pc), Poskin silt loam (Px) and Arland Sandy Loam (Rb). Antigo silt loam soils have approximately 5 inches of topsoil and 23 inches of subsoil. Approximately 32 acres of the mine site are mapped as Antigo Silt Loam soils. Kert silt loam soils have approximately 8 inches of topsoil and 32 inches of subsoil. Approximately 2 acres of the mine site are mapped as Kert Silt Loam soils. Pits Gravel soils are stratified sand and gravel. Approximately 8 acres of the mine site are mapped as pits gravel. Poskin silt loam soils have approximately 10 inches of topsoil and 9 inches of subsoil. Approximately 3 acres of the mine site are mapped as Poskin silt loam. Arland Sandy Loam soils have approximately 7 inches of topsoil and 22 inches of subsoil. Approximately 5 acres of the mine site are mapped as Arland sandy loam soils.

During site investigations the operator documented the following soils horizon thicknesses in the test holes.
A horizon – 4-6 inches of topsoil

B horizon – 6 to 48 inches of clay subsoil

Using the soil survey estimates the maximum volume of topsoil for the entire mine site is 20,000 cubic yards of topsoil and 120,000 cubic yards of subsoil.

B. Site Operations

1. Description of Materials to be Extracted

Sand & gravel products will be extracted and processed at the site. Bedrock will also be mined at the site.

2. Extraction and Processing to be Conducted at the Site

The existing driveway off of County Highway MM will be used to access the site. In general sand & gravel in a cell will be mined above the water table first, and then below the water table.

Sand & gravel will be mined, crushed, washed, and removed from the site. A portable crushing & washing plant will be used to process the material and stockpile it on site. Sand & gravel will be excavated and transported using standard mining equipment such as bulldozers, excavators, draglines, scrapers, loaders, haul trucks, and conveyors.

When encountered, bedrock will be mined above and below the water table. Drilling and the use of explosives will be required to remove this material. Bedrock will be processed separately but in the same manner as sand & gravel.

The existing pond created from previous mining will be used as a wash pond. Water for sand & gravel washing process will be pumped from these ponds. No high capacity wells will be installed or used to support sand & gravel processing.

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

3. Volumes of Materials

A sequence of mine Cells 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.

Cell	Area (acre)	During 1st two years (cubic yards)	During Full Life of Operation (cubic yards)
1	8	0	0
3	10	50,000	560,000
4	10	0	256,000
Total	33	50,000	976,000

Site Dewatering and Effluent Discharge

Dewatering will be performed at this site to allow drilling, blasting, and processing of the bedrock material. Water will be pumped from the bedrock area to be excavated and discharged into a pond created during mining of the sand and gravel deposits on site. This pond will act as a settling basin to remove suspended solids from the pumped water. Pumped water will move through the settling pond and discharge to the Wolf River. Sampling and testing of discharge water will be conducted in compliance with section 5 of the WPDES permit for Nonmetallic Mining Operations (WI-A046515-6) and includes monitoring and testing for the constituents listed in Table 2.

4. **Stormwater Permits/Management**

   The operator will obtain a Wisconsin DNR Nonmetallic Mining stormwater permit and manage stormwater in accordance with the standards established in the permit. At a minimum stormwater will be contained within the mine boundaries for all rainfall events up the 25 year, 24 hour frequency storm (4.87 inches).

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

   The operator will also obtain a Wisconsin DNR Waterways &Wetlands Permit (Ch. 30 permit) for the work to be completed in close proximity to the Wolf River. This will be attached. See Appendix H

5. **Erosion Control & Permits**

   All topsoil and subsoil stockpiles will be graded to a slope of 3:1 or flatter and stabilized as soon as conditions allow to conserve soil and limit erosion. Silt fence will be installed along all soil stockpiles to control erosion. 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 (Appendix F).

6. **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 Cell sequence.

   Cells 3 & 4 will be the first to be reclaimed. Cell 1will be reclaimed at the end of mining operations.

   At the beginning of the mining operations for each cell all of the topsoil (estimated 4 inches) will be stripped and stockpiled in berms. Following topsoil stripping operations all of the subsoil (estimated 20 inches) will be stripped and stockpiled in berms that are

separate from the topsoil berms. All berms will be shaped to a 3:1 slope or flatter and seeded with DOT Seed Mix 20.

Mining operations will then excavate, process, and remove sand & gravel from the site. Bedrock, where encountered, will then be excavated using explosives.

When excavation of sand & gravel and bedrock in a Cell is complete, rough grading work will be performed to create slopes around the perimeter of the mine that are 3:1 or flatter. Slopes will extend into the water a minimum of 18 feet (6 feet vertical). If a slope stability analysis is completed and the bedrock is found to have an acceptable slope stability factor a highwall may be left in place. The highwall will be approximately 10 feet.

Subsoil will then be placed over the slopes and flat lying areas of mine to a depth of 12 inches or more. Topsoil will then be placed over the subsoil to a depth of 4 inches or more.

Upon completion of subsoil and topsoil re-application, 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.

The site will then be seeded. Areas with slopes steeper than 10:1 will have straw mulch applied. Areas flatter than 10:1 will not receive mulch.

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.

7. Timetable/Sequence of Operations

Location	Activity
Cell 1	This cell contains the existing mine area. The plant and material stockpiles will be located in this cell. This will take approximately 10 years. Cell 1 will be reclaimed when mining operations are complete.
Cell 3	Mining sand & gravel with standard mining equipment will start on the east boundary of this cell and proceed west. Any bedrock encountered will be excavated using explosives. At the west cell boundary sand & gravel will be mined below the water table from west to east. This will take approximately 5 years. Cell 3 will be reclaimed while mining is conducted in Cell 2.
Cell 4	Mining sand & gravel with standard mining equipment will start on the east boundary of this cell and proceed west. Any bedrock encountered will be excavated using explosives. At the west cell boundary sand & gravel will be mined below the water table from west to east. This will take approximately 4

years. Cell 3 will be reclaimed while mining is conducted in Cell 2.

Timetable

Estimated period of operation/extraction for each cell:

Cell 1	10 years
Cell 3	5 years
Cell 4	4 years
Total	**10 years**

C. Final Site

1. Disposition of Structures and Roads

A gravel paved driveway approximately 1000 feet long will remain in place at the location of the mine access road connection to County Highway MM. The driveway will provide access to the ponds and wildlife habitat areas.

Structures such as the scale house and scale will be removed prior to final reclamation. The ponds that were created during mining will remain in place as shown on the Final Site Map (See Appendix C – Cross Sections). There are no areas of concentrated flow entering, leaving, or within the reclaimed mine site.

2. Soil Reapplication & Reconditioning

Overburden piles will be leveled off or used on slopes. 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 (Appendix F).

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 12-24 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 4-6 inches thick on the slopes and floor of the mine. 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.

3. 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 into the water a minimum of 18 feet (6 feet vertical) below the water line, except in areas where a high wall may be present. A possible area where a high wall may be present would be the west wall of cell 3 as shown of the final site map.

4. 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 Appendix B). The wildlife pond area will be allowed to vegetate below the water line using natural seed distribution without seeding by the operator.

5. Future Use

The mine site will be reclaimed to establish a post mining land use as wildlife pond habitat as shown on the Final Site Map.

<u>Wildlife Pond Habitat Post Mining Land Use</u>

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 that 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 plan species. Areas 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.