

NON-METALLIC MINING RECLAMATION PLAN

Operator: Haas Sons, Inc.

Owner: Haas Sons Properties

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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 an existing gravel pit and farm field located on the corner of Highway 178 and 170th street in the town of Eagle Point. There is an existing sand, and gravel mine at this site. The expansion area consists of farm field. There is unnamed tributary of the Chippewa river and a drainage way to the west of the property. Visual observation of the property revealed the current farm field is clover and native grasses. The drainage way to the west of the property consists of native grasses and is farmed. The unnamed tributary to the west of the property is surrounded by native trees. The property serves as a natural animal habit. Signs of grouse, rabbit, deer, birds, squirrels, and other small native animals. This proposal will expand the boundary of the existing mine to the north.

The operator will mine sand and gravel that is located on glacial outwash that is characterized as meltwater stream sediment from the Chippewa Lobe. 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: Haas Properties
Address: 203 E Birch St.
City, State, ZIP: Thorp, WI 54773

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

2. Legal Description

Tax Parcel Number(s): 22908-0341-74982002, 22908-0341-74982003,
22908-0314-05000000A

Detailed as:

N 1/2 SE LOT 2 OF CERT SUR MAP #4982 IN V23 P529 DOC #885739.

N 1/2 SE LOT 3 OF CERT SUR MAP #4982 IN V23 P529 DOC #885739.

SE NE LYING S OF HWY 178 & PT SW NE COM @ E 1/4 COR SEC 3, TH N 89 D W ALG S LN
: 1314.46' TO POB, TH N 89 D W 585.75', TH N 0 D W 66.48', TH N 37 D E 361.80', TH N 3 D E
277.06', TH N 83 D E 135.45';

3. Property Owners Within 660 Feet of Project Site

David & Kim Bernier	Gordon Slattery	Thomas & Debra Rada
Jake & Melissa Morris	Daniel & Denise Kurtz	Edward Melberg
Cory & Melinda Pecha	Levi & Brianna Eckwright	Mitchel Williams
Daniel Back	John Kuechenmeister	Bryan & Cindy Naves Trust
Mallard Resort Properties	Karen Schick Trust	Bernier Farms LLC
Triple T Farms LLC	Donald & Karen Lemke	Richard & Cheryl Lemke
Bradley & Jennifer Tumm		

4. Soil Information

Soil Survey of Chippewa County Shows the soils at the mine site are mapped as Antigo silt loam (AnB), Chetek Sandy Loam (CkC2), pits gravel (Pc), and Seaton Silt Loam (SeB, SeC2) Antigo silt loam soils have approximately 5 inches of topsoil and 23 inches of subsoil. Approximately 20 acres of the mine site are mapped as Antigo Silt Loam soils. Chetek Sandy loam soils have approximately 7 inches of topsoil and 12 inches of subsoil. Approximately 12.6 acres of the mine site are mapped as Chetek sandy loam soils. Pits Gravel soils are stratified sand and gravel. Approximately 6 acres of the mine site are mapped as pits gravel. Seaton Silt Loam soils have approximately 8 inches of topsoil and 33 inches of subsoil. Approximately 39.9 acres of the mine site are mapped as Seaton Silt Loam.

During site investigations the operator documented the following soils horizon thicknesses in the test holes.

A horizon – 5-8 inches of topsoil

B horizon – 6 to 36 inches of clay subsoil

Using the soil survey estimates the maximum volume of topsoil for the entire mine site is 60,000 cubic yards of topsoil and 264,000 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.

2. Extraction and Processing to be Conducted at the Site

The existing driveway off of 170th Street 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.

An area of the floor will be mined below the water table to create ponds. 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 is 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 1 st two years (cubic yards)	During Full Life of Operation (cubic yards)
1	45.9	200,000	1,600,000
2	35.8	0	1,432,000
Total	81.7	200,000	3,032,000

Site Dewatering and Effluent Discharge

Dewatering will not be anticipated on site. Dewatering will only take place if stormwater cover mine floor and it needs to be exposed for mining. This is not anticipated because the soil is sandy, and water will drain into the mine floor. 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.

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.

Cell 2 will be reclaimed first. Cell 1 will 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.

When excavation of sand and gravel 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).

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.

7. Timetable/Sequence of Operations

<u>Location</u>	<u>Activity</u>
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Cell 1	This cell contains the existing mine area. Mining will continue from south to north and east to west. The layer above water elevation will be mined across all the cell. Material below the water elevation will be mined along the west boundary to create ponds. Once the layer above water elevation and the layer below water elevation is mined in cell 2 the layer below water elevation will take place in cell 1 and site will be completed (see final site map). The plant and material stockpiles will be in this cell. This will take approximately 15 years.
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Cell 2	Mining sand & gravel with standard mining equipment will continue from south to north for material above water elevation. Once north boundary is reached material will be mined from north to south below water elevation. This will take approximately 15 years. Cell 2 will be reclaimed while mining is conducted below the water elevation in Cell 1.
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Timetable

Estimated period of operation/extraction for each cell:

Cell 1	15 years
Cell 2	15 years
Total	30 years

C. Final Site

1. Disposition of Structures and Roads

A gravel paved driveway approximately 300 feet long will remain in place at the location of the mine access road connection to 170th street. 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.

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.

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 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.

6. Criteria for Successful Reclamation.

The site will be successful reclaimed when the site achieves stability, and all mining operation are complete. To measure stability vegetation must cover the site and be associated with DNR seed mix 2. An average 70% vegetative cover of the site and will have very little to no erosion with no major gullies and topsoil depth will be an average of 4 inches or more. Site monitoring will be conducted to assess the success of vegetation establishment and monitor the site for invasive or noxious plant 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.