Non-Metallic Mining Reclamation Plan
Don White Pit – 2022 Revision

Operator: Laird Enterprizes, LLC

Owner: Cari Hakes

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Summary

This plan is an update to an original nonmetallic mining reclamation plan for the White Nonmetallic Mine dated June 13, 2003. This update describes existing conditions, site operations, and erosion and reclamation procedures to be employed during the reclamation of the mine. Future mining will occur as a progressive expansion that will limit disturbed area and incorporate contemporaneous reclamation of mined areas. This will result in an efficient mining operation with reduced environmental impact to neighboring properties.

A. Site Information

1. Landowner

Landowner: Cari Hakes
4477 State Highway 64
Cornell, WI 54732

Applicant: Laird Enterprizes, LLC
20165 County Highway Z
Cornell, WI 54732

Mine Location: SW NE Sec. 24 T31N R07W, Town of Cleveland, Chippewa County, Wisconsin

The White Pit is located on State Highway 64 approximately two miles southwest of the city of Cornell. The property and the pit entrance are on the north side of State Highway 64.

Original topography of the White Pit and neighboring buildings and residences are shown in Drawing 1 of the original nonmetallic mine reclamation permit for the site dated June 19, 2003. There were no man-made structures within the permit request area. The Initial Site Map included in this document shows the current site conditions as of July 2021.

The area of proposed sand and gravel excavation is relatively flat with local relieve of approximately twenty-five (25) feet. No major streams or rivers traverse the mining site. Drainage in the unmined areas is predominately to the east. Other than drainage off the outer slopes of seeded overburden berms, surface drainage of the active excavation area is and will continue to be contained within the excavation areas and allowed to flow into the ground.

The land use of neighboring properties is primarily woodland, aggregate mining, residential, and passive recreation. The present land use of the permitted mining area is gravel mining.

2. Lease

A lease dated January 1, 2022 is attached and outlines the terms of the agreement between Laird Enterprizes and landowner Cari Hakes.

3. **Legal Description:** The southwest one-quarter of the northeast one-quarter, Section 24, T31N R07W, Town of Cleveland, Chippewa County, Wisconsin. Tax Parcel ID number 23107-2413-00020000.

4. **Property Owners within 660 Feet of the Project Site**

Land ownership of surrounding properties within 660 ft of the min is shown in the table on the following page. Appendix B contains a map of adjacent parcels.

CITY OF CORNELL
PO BOX 796
CORNELL, WI 54732

BRIAN C & ASHLEY K MARVIN
24988 STATE HWY 64
CORNELL, WI 54732

MICHAEL WHITE
24594 STATE HWY 64
CORNELL, WI 54732

LAVON PRZYBYLSKI
24498 STATE HWY 64
CORNELL, WI 54732

5. **Soil Information**

The primary soils within and in proximity to the mine site are Antigo, Santiago, and Newot, as shown in the table below. A soils map can be found in Appendix C. The NRCS Soil Survey of Chippewa County shows the soils at the mine site are mapped as follows:

Soil Type	Soil Description	Approximate Percent of Area	Depth of A & B Horizons
AnC2	Antigo silt loam, 6 to 15 percent slopes	47.1%	A - 0 to 3 inches: silt loam E - 3 to 6 inches: silt loam B/E - 6 to 19 inches: silt loam
CkD2	Chetek-Mahtomedi complex, 12 to 25 percent slopes, eroded	2.0%	Ap - 0 to 8 inches: sandy loam E - 8 to 13 inches: sandy loam Bt1 - 13 to 17 inches: gravelly loamy sand
NoD	Newot sandy loam, 15 to 45 percent slopes, very stony	10.0%	A - 0 to 2 inches: sandy loam E - 2 to 5 inches: sandy loam Bs - 5 to 16 inches: sandy loam
Pc	Pits, gravel	10.3%	H1 - 0 to 10 inches: stratified extremely gravelly coarse sand to very gravelly sand
SaD2	Santiago silt loam, 12 to 20 percent slopes, eroded	30.1%	Ap - 0 to 7 inches: silt loam E,E/B - 7 to 13 inches: silt loam
SsB	Spencer silt loam, gravelly substratum, 2 to 6 percent slopes	0.5%	Ap - 0 to 8 inches: silt loam E,E/B,B/E,Bt - 8 to 50 inches: silt loam

Beneath the soil is glacial sand and gravel outwash. The outwash was deposited during the Johnstown phase of the Wisconsin Glaciation and occurred between 13,000-30,000 years algo. The outwash is approximately 20 feet thick, though some local deposits may be up to 100 feet thick, and overlays the Mt. Simon formation of Cambrian age (approximately 500-600 million years old). The Mt. Simon

formation is zero to several hundred feet thick and directly overlies the 1,100-1,900-million-year-old Precambrian aged Proterozoic granite and gneiss bedrock.

No mapped wetlands are located on site. A “wet spot” too small to delineate is noted by the DNR’s wetland inventory to be located in the north end of the operational boundary. Appendix D is a map of the DNR mapped wetlands at the site.

6. Hydrogeology

The regional groundwater flow direction is to the southeast towards the Chippewa River. Most of the water wells of residences and farms surrounding the White Mine are drilled into glacial outwash. The glacial sand, Mt. Simon sandstone aquifers, and Proterozoic granite aquifer are all good sources for potable water. Most of the wells drilled for household uses in the vicinity are six-inch diameter and yield approximately 12-15 gallons per minute. Wells in the vicinity terminating in the outwash are 74 to 120 feet below ground surface) with a static water level of approximately 39 to 110 feet below ground surface.

This operation should have no effect on groundwater table elevation. Static water level elevations range from 970 to 991 feet, with an average groundwater elevation of 980 feet above mean sea level. Groundwater elevation in the vicinity of the White Mine as determined by the average of area wells is approximately 980 feet. The bottom elevation of the previously mined extent is 989 feet, and therefore ground water level is about nine feet below the mine floor. It is not expected that future mining will extend below the currently mined elevation. Other similar operations in the area have likewise had no effect on the regional groundwater table. Nearby wells are detailed in Appendix E.

B. Site Operations

1. Description of Materials to be Extracted

The material to be extracted is sand and gravel of up to six inches in diameter. Material from this mine is not supplied to WI DOT or used for projects that require testing or particle size analysis. Much of the material will be crushed into road base or hauled as common fill.

2. Extraction and Processing to be Conducted at the Site

The material will be extracted from the open pit mine using excavators. Dug material may be stockpiled within the mine floor for intermittent crushing or loaded directly into trucks as common fill. Screening may be used to collect rock that is three (3) inches and larger and may be graded and stockpiled for use. Stockpiled construction material will commonly be loaded into trucks using a payloader. There is no aggregate washing planned for this site.

3. Volumes of Materials

It is estimated that approximately 5,000 cubic yards, in total, will be extracted from this site.

4. Methods of Site Dewatering and Effluent Discharge

Not applicable. There is no aggregate washing planned for this site.

5. Stormwater Permits/Management

The site is internally drained and has no external drainage or outfalls. Rain that falls in the pit area will be contained and allowed to seep naturally into the underlaying sand or be directed to on-site containment areas. When and where necessary to prevent surface runoff from entering the sand and gravel excavation, temporary small earthen berms will be constructed to direct surface water flow from the site.

6. Erosion Control

Existing stands of trees are primarily in buffer areas near property boundaries. Buffer area trees will be left in place to provide an established vegetative cover to prevent erosion.

Temporary earthen berms will be constructed to contain and direct stormwater runoff and store overburden and/or topsoil. Berm height may vary somewhat in different areas of the property depending on the need to effectively contain and divert stormwater but are planned to be approximately four to eight feet in height. The berms will be comprised of topsoil and subsoil removed from areas to be mined and will be constructed at slope no greater than 3:1, stabilized, and seeded. A site screening berm between five and fifteen feet in height has been constructed around the mining area.

All topsoil removed will be stockpiled along the perimeter of the mine, in relatively flat areas that drain into the mine. If necessary, excess topsoil and other overburden will be stored within previously mined, non-reclaimed portions of the permitted mined boundary. When possible, the topsoil and subsoil stripped and removed will be placed directly into areas undergoing active reclamation. This procedure will reduce soil handling and help to preserve the soil viability for final reclamation and vegetation. Reclamation of depleted areas will continue to be completed when all mining excavation is complete.

Section 628 of the Wisconsin DOT Standard Specifications will serve as the standard for erosion control of soils. Erosion control mats, fences, screens, blankets, bale checks, dikes, and other erosion control devices will be used as needed to minimize soil loss during soil disturbance activities. These erosion control devices will meet the minimum requirements as described in Section 628.2. Materials and be installed according to the methods and procedures described in Section 628.3 Construction Methods of the Wisconsin DOT Standard Specifications.

7. Reclamation Activities During Operations

Reclamation will be completed progressively as the sand and gravel reserves are depleted. Reclamation will start in areas no longer required for processing or stockpiling and continue progressively in conjunction with mining operations. The area to be reclaimed is shown in the Final Site Map. Initial efforts will be directed towards stabilizing internals slopes through grading and landscaping. Reclamation will continue to occur progressively and concurrently until all permitted areas have ben reclaimed. The operator intends to enlarge the existing pond by 20 percent and will dredge fines that have settled in the pond. This material will be incorporated into the topsoil as part of reclamation activities.

8. Sequence of Operations

Reclamation of the excavation and operation areas will occur on a regular basis throughout all mining areas. Reclamation will begin as sand and gravel is depleted and the land is no longer needed for product sales, stockpiling, equipment setup, or other facilities.

9. Timetable

This mine operation is expected to last for 20 years (2041), or until sand and gravel resources are exhausted.

C. Final Site Plan

1. Disposition of Structures and Roads

All roads and structures used during active mining will be removed prior to or during reclamation. The pond created during mining will remaining in place as shown on the final site map. The size of the pond will be approximately 0.5 acres with a depth of up to five feet. There will be no areas of concentrated flow within or flowing to or from the site.

2. Soil Reapplication & Reconditioning

The reclamation process will primarily involve the grading and sloping of the pit face. Only native soil materials will be used to backfill excavated areas if required for land restoration. The subsoil will be reapplied first and the topsoil will then be applied uniformly over the area and seeded with appropriate seed mixtures as recommended in the seeding plan prescribed in Section C. All disturbed land areas will be graded to a slope less than or equal to 3:1 horizontal to vertical.

As overburden is removed in each new area of operation, the topsoil removed will be separated and immediately placed on areas recently sloped and graded. If the topsoil is not immediately used, then

the topsoil will be stockpiled, sloped, and seeded according to the seeding plan prescribed in Section C. Otherwise, topsoil will be reapplied to recently reclaimed areas in the manner as described above.

3. Safety Assurances

Slopes on the reclaimed mine site will not exceed 3:1. This will include the slopes of the pond perimeter as well as grassland and prairie habitat areas.

4. Seeding Plan

Disturbed and reclaimed areas will be seeded with Seed Mixture No. 20, as specified in Section 630 of the Wisconsin DOT Standard Specification (Appendix D) or a native seed mixture at an appropriate rate for the selected native seed mixture. Oats or rye may be used as a cover crop if seeding occurs in the spring or early summer. The seed mixture is detailed in Appendix F. The area below the ordinary high-water mark of the shallow pond will be allowed to revegetate naturally.

Mulching, if required, will be applied according to the standards in Section 627 of the DOT Standard Specifications. Areas will be checked for nutrients and the recommended fertilizer will be applied to seeded areas according to the methods and rates prescribed in section 629 of the DOT Standard Specifications.

5. Future Use

Areas disturbed by the mining operation will be reclaimed back to passive recreation. The areas to be reclaimed are showing the Final Site Map. A final cross section shows the proposed final grading.

6. Successful Reclamation

Successful reclamation will be evaluated using the County's "Successful Reclamation Criteria" tables for surface water ponds and grassland/prairie cover:

- Sheet, rill, channel, or gully erosion will not be present along the shoreline of the pond. The seasonal water depth and duration will function as intended. Water chemistry shall comply with DNR permits.
- For grassland/prairie cover areas, percent cover of vegetation will determine successful reclamation. Randomly selected sample sites (square meter quadrants, two per acre) will be employed. Sampling will be conducted during peak growing periods. A minimum of 80 percent vegetation will qualify as successful reclamation. Additionally, the volume and weight of planted and volunteer species will be comparable to soil survey mapping unit capabilities. The percent presence of planted species will be >50%, as compared to volunteer species. Noxious weed and invasive plants will not be present.

- Soil will be tested and amended to required standards: a) pH greater than 5.6; b) fertilizer concentrations of 12ppm of nitrogen, 10 ppm phosphorus, and 60 ppm potassium; and c) greater than 0.5% organic matter. Depth of the A and B horizons shall be within 70% of the original surface layer thickness. The soil will maintain 70% or greater of the stated permeability of the soil map unit. The minimum depth of unrestricted root growth shall be 12 inches.

Annual site inspections will be performed to ensure standards for revegetation and reclamation are followed. If the county during these inspections recommends grading, seeding, remedial repair measures, and/or erosion control, it will be implemented and later reevaluated to accomplish successful reclamation and a release of bond.