TO:

Washington Township Town Board and La Crosse County Planning, Resources, and Development Committee

IN REFERENCE TO:

NR 135 Reclamation Plan Modification, St. Joseph Construction Inc., Middle Ridge Quarry, Town of Washington, La Crosse County, Wisconsin (C/O Milestone Materials)

MILESTONE
MATERIALS
A Division of Mathy Construction Co.

SUBMITTED BY:

Milestone Materials,
Division of Mathy Construction Company
920 10th Avenue North
Onalaska, WI 54650

DATE:

May 31, 2024

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INTRODUCTION

1.1 Purpose

This application by Milestone Materials, a division of Mathy Construction Company (Milestone), to the La Crosse County Land Conservation Department is a request to modify the NR 135 Reclamation Plan for the existing Middle Ridge Quarry, located in Section 2 of Washington Township. The plan modification is intended to provide County Land Conservation with added reclamation plan details and consistency with the current operational plans for the facility. The quarry is currently owned and operated by St. Joseph Construction Co. Inc. (St. Joseph). Milestone is applying for the Reclamation Plan modification as an agent for St. Joseph pursuant to a purchase agreement for purchase of the application property.

Contact information for the current owner and operator are as follows:

Current Owner

St. Joseph Construction Co. Inc.
W2786 State Road 33
La Crosse, WI 54601
(608)-788-7712

Current Operator

St. Joseph Construction Co. Inc.
W2786 State Road 33
La Crosse, WI 54601
(608)-788-7712

Contact information for the planned future owner and operator are as follows:

Planned Future Owner

Mathy Construction Company
920 10th Avenue North
Onalaska, WI 54650
(608)-783-6411

Planned Future Operator

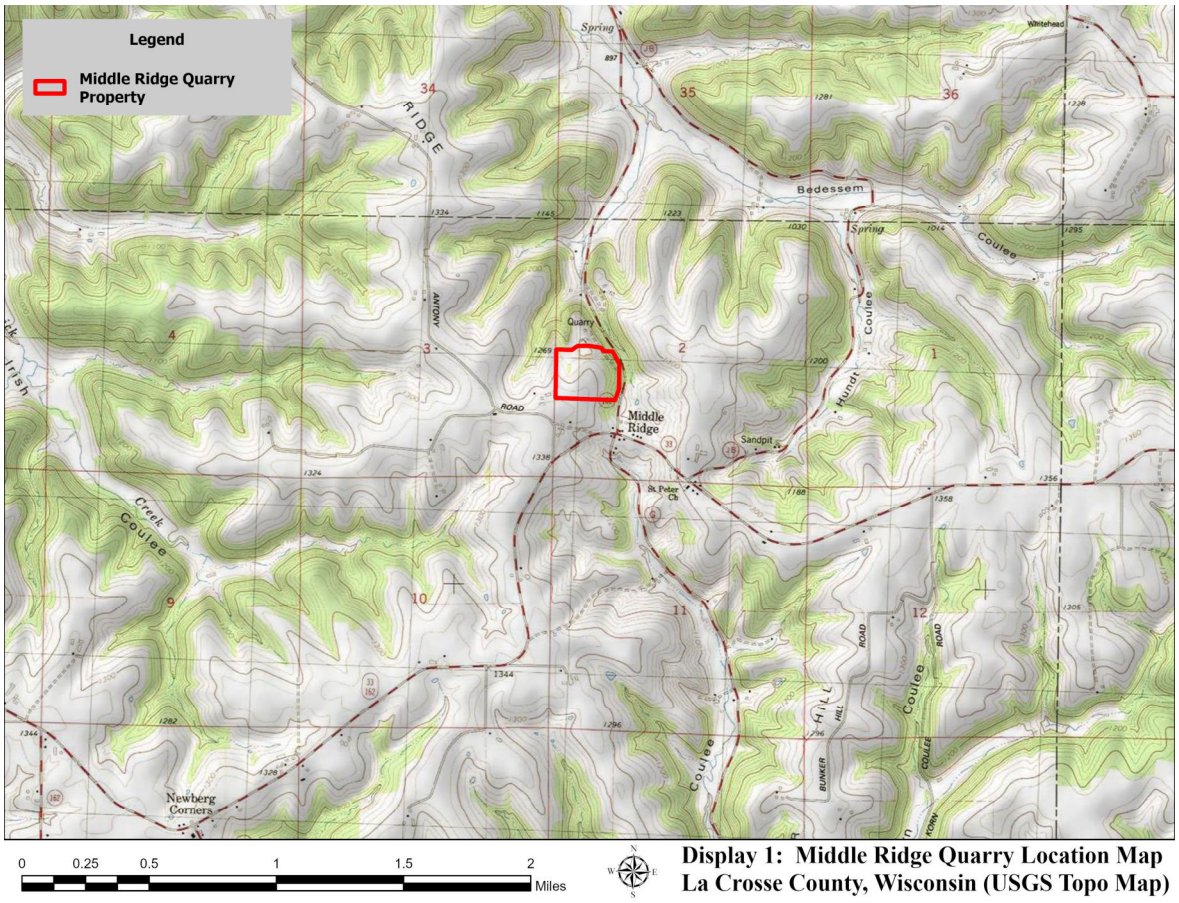
Milestone Materials
Division of Mathy Construction Company
920 10th Ave North
Onalaska, WI 54650
(608)-783-6411

A highly significant dolomite deposit exists on the application property. The requested

Reclamation Plan modification will address future dolomite extraction on the property as well as potential extraction of clay borrow material for potential use in landfill liner construction at the La Crosse County Landfill. The information provided in this application includes plans for the extraction of aggregate resources from the property and the subsequent reclamation of the mined areas to passive recreation or agricultural post mining uses such as pasture and forest area. In summary, the enclosed reclamation plan describes the progressive extraction of dolomite aggregate and contemporaneous reclamation of mined areas, returning the land to a final land use of forest and pastureland.

1.2 Location and Legal Description

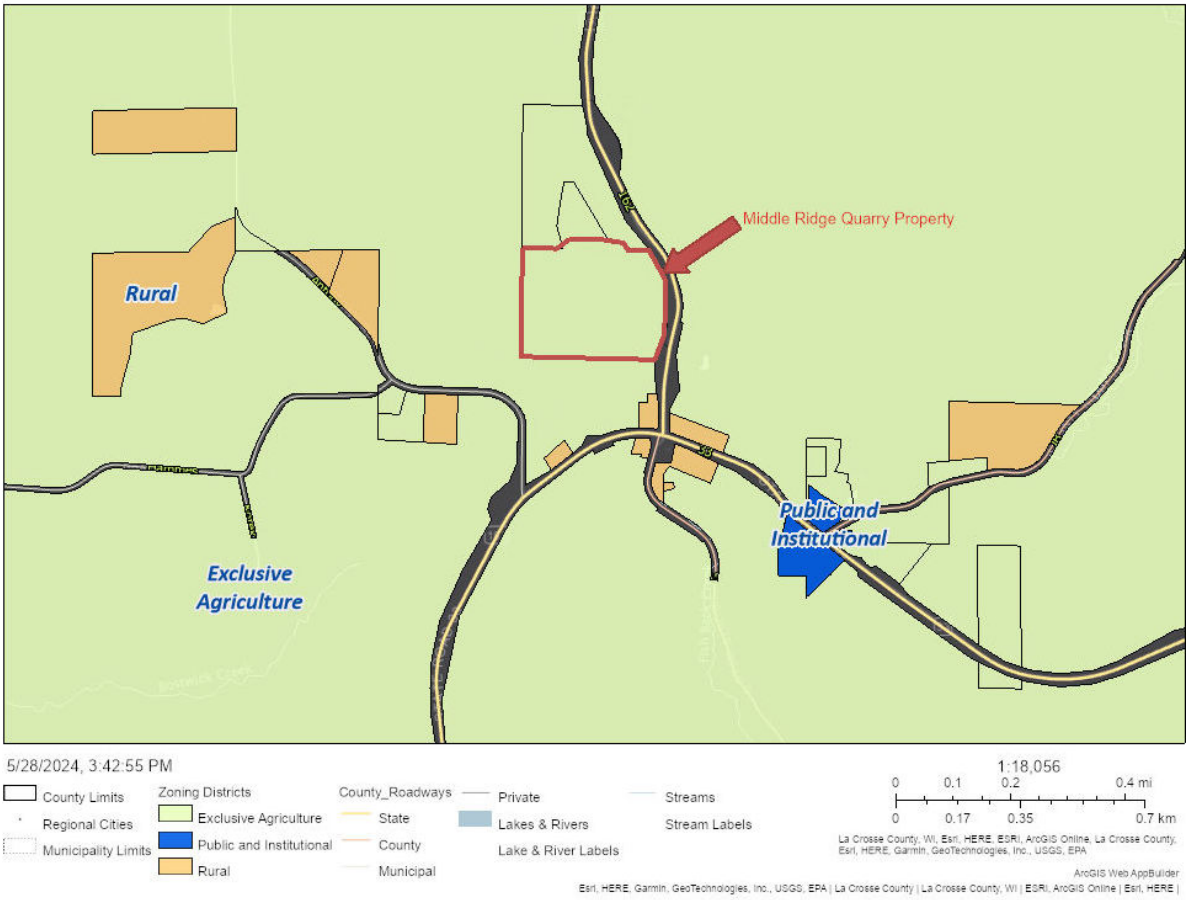
The Middle Ridge Quarry Property is located along and west of State Highway 162, approximately 350 feet north of the intersection of State Highway 162 and State Highway 33. The property is located in Section 2 in the Town of Washington, La Crosse County, Wisconsin. The location of the Middle Ridge Quarry property can be seen in the below **Display 1**.



Display 1: Middle Ridge Quarry Location Map
La Crosse County, Wisconsin (USGS Topo Map)

The entire, approximate, 30.53 acres of the Middle Ridge Quarry property is zoned Exclusive Agriculture. Most of the surrounding neighboring properties are also zoned Exclusive Agriculture with a few of the neighboring parcels zoned Rural or Public and Institutional. The zoning status of application property and the neighboring lands can be seen in the La Crosse County zoning map in the below **Display 2**.

Display 2: La Crosse County Zoning



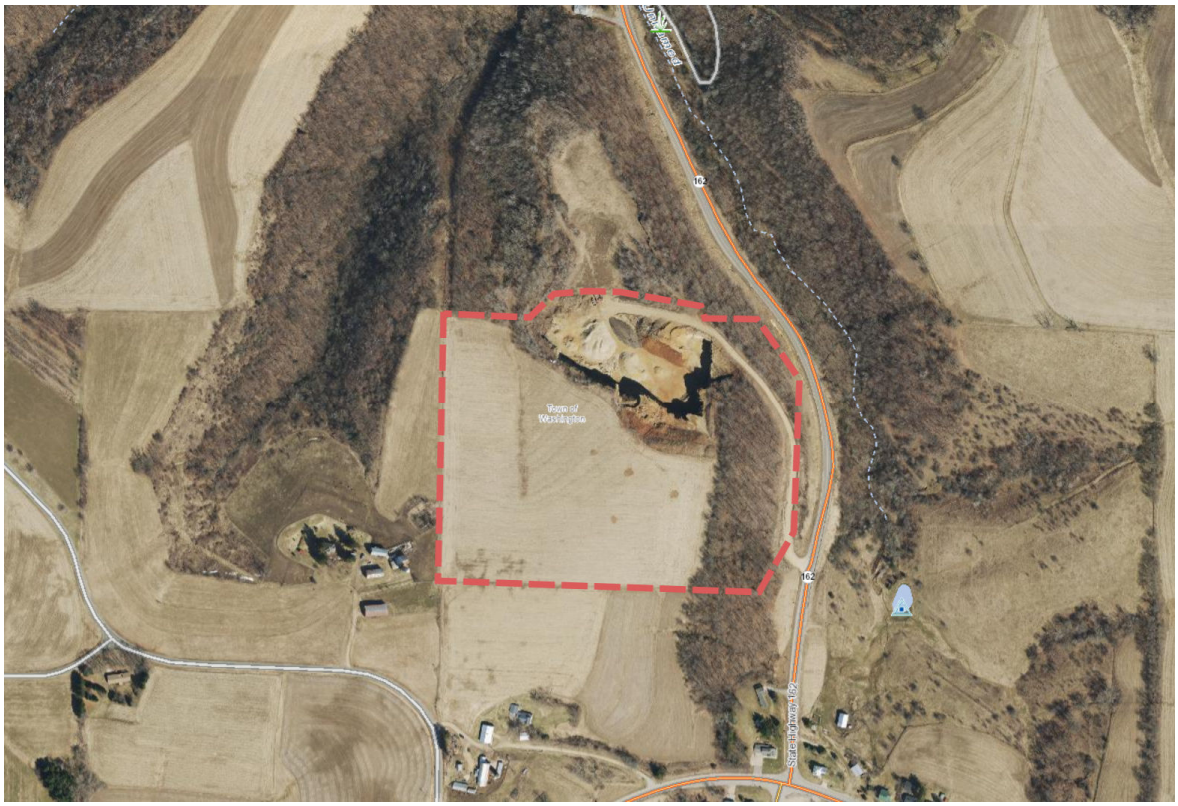
The legal description of the land within this request is as follows:

Tax ID# 12-41-0 consisting of the North 30 acres of the NW ¼ of the SW ¼ of Section 2, T15N, R5W, Town of Washington, La Crosse County, Wisconsin, TOGETHER WITH that part of the SW ¼ of the NW ¼ of Section 2, T15N, R5W, Town of Washington, La Crosse County, Wisconsin, described as follows: Commencing at the West ¼ corner of said Section 2, thence S88°48'33" E along the East-West ¼ line 322.78 feet to the point of beginning. Thence N54°16'49" E, 143.90 feet; thence N88°50'02" E, 248.42 feet; thence S81°45'57" E, 251.77 feet; thence S32°52'49" E, 79.40 feet to the East-West ¼ line; thence N88°48'33" W along said East-West ¼ line 657.62 feet to the point of beginning.

1.3 Site Characteristics and Present Land Use

The site characteristics and present land use of the Middle Ridge Quarry property and surrounding areas are shown on **Drawing 1, Existing Conditions Map**. The map shows the boundary of the Middle ridge quarry property as well as adjacent parcels, property owners, land cover, roads, and topography. Also shown are the existing quarry floor area, other active quarry areas, existing highwalls, and the quarry haul road. Also shown are the planned 50-foot excavation setback and a planned 100-foot-minimum rock excavation setback from adjacent property lines.

The property is near the upper ridgetop of a dissected upland and has a local relief of approximately 160 feet. No perennial streams traverse the site. Storm water runoff primarily drains to the north at the site with the east slope of the property shedding to the east. Storm water runoff from the site ultimately drains to an unnamed tributary of Dutch Creek to the north. Dutch Creek then drains to the northwest, out of Bedessem Coulee, and towards the La Crosse River near Bangor. There are no WDNR wetlands on the property. A display from the WDNR Surface Water Data Viewer (accessed 05/28/2024) for the area of the application property can be seen in the below **Display 3**.



Display 3: WDNR Surface Water Data Viewer Output

The land use surrounding the quarry is primarily forestland on slopes and row crop agriculture on ridge tops. The closest neighboring residences are located to the southwest, south, and southeast of the quarry along Antony Road, State Highway 33, and State Highway 162, respectively. No permanent buildings exist on the quarry property.

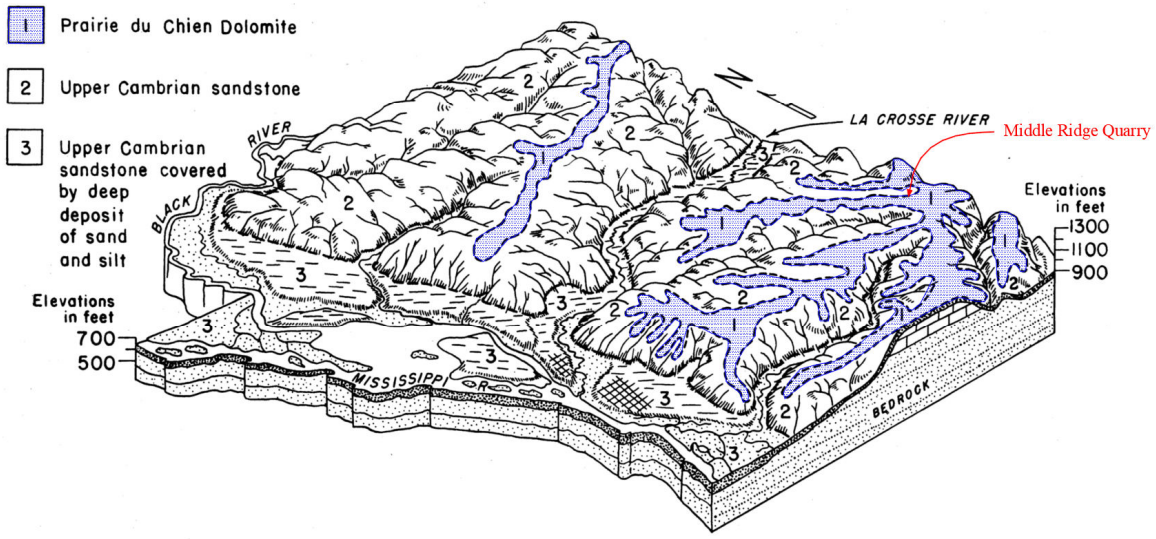
1.4 Land Ownership

The ownership of the immediately adjacent properties to the application property is shown on **Drawing 1, Existing Conditions Map**.

1.5 Soils and Geology

Surficial soils at the site consist mainly of Valton Silt Loam or Lamoille Silt Loam series soils. These soils are classified as moderately eroded and well drained. These soils typically have 8-inch "A" horizons consisting of silt loam and generally occur on slopes of less than 20 percent. The site soils on slopes less than 6 percent are classified as prime farmland soils. Valton Silt Loam series soils have a typical soil profile consisting of silt loam over a silty clay or clay subsoil and were formed in loess over clayey pedisediment derived from dolomite. Lamoille Silt Loam series soils have a typical soil profile consisting of silt loam over a clay, very cobbly clay loam, and/or very cobbly loam subsoil and were formed in loess over clayey pedisediment over skeletal loamy colluvium. A locally cobbly red clay subsoil overburden has been detected in test borings extending to depths ranging from 11 to 46 feet beneath the unmined portions of the site. This red clay overburden has been described by Knox and others (1990) as the Rountree formation, which is generally considered to be a regolith formed from weathering of early Ordovician rock formations. Clay material of the Rountree formation may be extracted from this site for use as landfill liner material at the La Crosse County Landfill pending further quality evaluations. A USDA NRCS soils report for soil units mapped at the site is included as **Attachment A**.

Beneath the unconsolidated soil layers on the property is dolomite of the Prairie Du Chien Group. The Prairie Du Chien Dolomite is over 100 feet thick and overlies several hundred feet of Cambrian sandstone, siltstone, and shale at this location. A Bedrock Geology Perspective Diagram, showing the Prairie Du Chien Dolomite at the Middle Ridge Quarry property in relation to the other geologic units present in La Crosse County, can be seen in the below **Display 4**. In general, the Prairie Du Chien Dolomite caps the tops of ridges in most of the southern half of La Crosse County. Beneath the Cambrian sedimentary rock units is Precambrian, crystalline, igneous or metamorphic, basement rock with an expected surface elevation of around 250 feet above mean sea level (MSL) at the site.



Display 4: Bedrock Geology Perspective Diagram

The crushed stone products from the Prairie Du Chien Dolomite at the site are of suitable quality for use in all types of concrete, asphalt and base products. Exploration of the dolomite reserves on the Middle Ridge Quarry property revealed suitable dolomite bedrock for crushed stone use extending to an elevation of approximately 1180 feet MSL. There are approximately 20.34 acres of land with dolomite reserves that will be affected by mining under this request.

1.6 Hydrogeology

Water well records on file at the Wisconsin Department of Natural Resources (WDNR) indicate that nearby water wells are drilled into the Cambrian sandstone aquifer units. Most of the reviewed wells in the vicinity of the site were drilled for household and low capacity uses. The reviewed area wells ranged from 112 to 520 feet in depth and averaged 392.8 feet in depth. The reviewed area wells had depths to static water ranging from 77 to 410 feet with an average static water depth of 296.8 feet. Static water elevations in the reviewed wells ranged from 859 to 1143 feet MSL and averaged 967.1 feet MSL. The reviewed area wells were all six inches in diameter and typically produced 7 to 20 gallons per minute during pump tests with one well producing 199 gallons per minute. The below **Table 1** provides a summary of the well construction report information for the reviewed area wells.

Well ID	*Surface Elevation (Ft, MSL)*	*Total Depth (Ft)*	*Static Water Level (Ft)*	*Pumping Water Level (Ft)*	*Pumping Rate (GPM)*	*Pumping Time (Hrs)*	*Groundwater Elevation (Ft, MSL)*	*Well Open Interval (Ft)*	*Well Radius (in)*	*Aquifer Thickness (Ft)*	*Well Use*
HD759	1326	500	410	411	7	3	916	90	3	90	Home
QY215	972	112	77	97	10	2	895	35	3	35	Home
UB354	1185	385	326	377	12	1	859	59	3	59	Private
RO148	1318	445	310	425	199	1	1008	135	3	135	Private
KZ527	1336	430	330	410	8	2	1006	77	3	77	Private
IN216	1332	520	398	490	10	24	934	122	3	122	Home
DW193	1326	320	183	266	7	2	1143	137	3	137	Private
GU491	1316	430	340	365	20	3	976	90	3	90	Church
Average	1263.9	392.8	296.8	355.1	34.1	4.8	967.1	93.1	3	93.1	NA
Maximum	1336	520	410	490	199	24	1143	137	3	137	NA
Minimum	972	112	77	97	7	1	859	35	3	35	NA

Well ID	*T15N, R5W Location*	*Aquifer Formation*	*Log 1*	*Log 2*	*Log 3*
HD759	SW, SW, Sec. 2	Sandstone	0-20 Clay, 20-170 Lime Rock	170-250 Sand Rock, 250-430 Shale Rock	430-500 Sand Rock
QY215	NW, NW, Sec. 2	Sandstone	0-17 Clay	17-112 Sandstone	
UB354	SE, SE, Sec. 2	Sandstone	0-31 Clay, 31-63 Shale	63-85 Sandstone, 85-95 Limestone	95-124 Shale, 124-385 Sandstone
RO148	NE,SE, Sec. 3	Shale	0-4 Clay, 4-185 Limestone	185-215 Sandstone	215-445 Brown, Gray, Blue, and Green Shale
KZ527	NE, NW , Sec. 3	Shale	0-23 Clay, 23-175 Limestone	175-250 Brown Sandstone	250-430 Blue Shale
IN216	SE, NE, Sec. 10	Sandstone	0-17 Clay, 17-198 Limerock	198-276 Sandrock, 276-289 Shale	289-451 Hard Shale, 451-520 Hard Sandrock
DW193	NE, NE, Sec. 11	Shale	0-26 Clay & Loose Rock	26-183 Limerock & Crevice	183-251 Sandrock, 251-320 Shale
GU491	NW, NE, Sec. 11	Sandstone	0-25 Clay, 25-180 Limerock	180-205 Sandstone, 205-420 Shale	420-430 Sandstone

Table 1: Reviewed Area Well Information

Based on the water levels reported in well construction reports for the nearby wells, and the elevation of nearby surface water features, the groundwater elevation beneath the

Middle Ridge Quarry property is expected to range from approximately 1160 feet MSL in the south to 1100 feet MSL in the north at the site. These water table elevations range from 20 to 80 feet beneath the lowest proposed quarry floor level of 1180 feet MSL. Groundwater is expected to flow from south to north beneath the site within the Cambrian sandstone aquifer at an estimated velocity of 0.91 feet per day.

1.7 Biologic Information

The original native tree vegetation of the Middle Ridge Quarry area included hardwood timber consisting chiefly of oak, elm, maple, hickory and butternut. Oak, hickory, elm, ash, basswood and maple are the predominant tree types today with some aspen.

A variety of wildlife is found near the quarry. Some of the species present include white-tailed deer, coyote, red fox, raccoon, opossum, woodchuck, skunk, fox squirrel, gray squirrel, and cottontail rabbit. Resident birds found locally include wild turkey, ruffed grouse, crow, pheasant, great horned owl, red-tailed hawk, blue jay, cardinal, nuthatch, chickadee, several woodpeckers and starling. Migratory birds in the area include American robin, red-winged blackbird, and killdeer. Garter snakes are also present in the area.

SECTION 2.0
OPERATION PLAN

2.1 Site Layout

The layout of the planned dolomite extraction operation is depicted on **Drawing 2, Operations Plan Map.** The **Operations Plan Map** shows the approximate limits of the quarry excavation. The total land area to be excavated over the course of the mine life includes approximately 25.58 acres. Arrows on **Drawing 2** show the planned direction of excavation. The depth of the excavation will be up to approximately 150 feet, to an approximate mining floor elevation of 1180 feet MSL.

Earth berms will be constructed along the perimeter of mining operation as needed to reduce the view and sound of the operation, to contain and direct storm water runoff, and to store overburden and/or topsoil. Berms will be constructed of topsoil and subsoil removed from future areas to be mined and will be seeded with an approved seeding mixture shortly after construction.

When possible, the topsoil and subsoil stripped and removed from the new mining areas 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. As excavation operations proceed, reclamation of depleted areas will continue and be completed when all mining is complete.

2.2 Operation Activity

The primary operation activity will be the extraction of dolomite and the processing of aggregate products for construction use. The typical excavation sequence begins with the

removal of the topsoil and subsoil. The topsoil and subsoil will either be stored in berms or used immediately in the reclamation of mined and reclaimed areas. After the topsoil and subsoil have been removed, dolomite will be drilled and shot with explosives. The resulting shot rock is then loaded into a rock crushing and screening plant for further crushing and sizing into different aggregate products. A crushing plant typically includes one or more crushing units, screens and conveyors. The crushed stone is then stockpiled by conveyors, haul trucks and/or loaders. A diagram of a typical contemporaneous extraction and reclamation operation can be seen in the below **Display 5**. If subsoil clay is found to be suitable for use as clay liner material at the La Crosse County Landfill, this material may be loaded directly into trucks and hauled directly to the landfill facility.

Typical Contemporaneous Extraction and Reclamation

Display 5, Typical Contemporaneous Extraction and Reclamation

All processing plants are portable and are easily moved in and out of the site as needed

to replenish product stockpiles. Wheeled loaders are used to load the aggregate products into trucks from the stockpiles. The trucks are then weighed on a scale before leaving the site.

Occasionally, a portable concrete mixing plant or hot-mix asphalt plant may be moved to the site on a temporary basis to produce mix aggregate for local road projects. No permanent concrete mix or asphalt hot-mix plant operations are planned and all temporary setups will be properly permitted.

2.3 Operation Equipment List

Equipment involved in the dolomite operation is listed below.

Overburden Removal:	1 backhoe
	1-2 bulldozers
	2-3 scrapers (optional)
	1-4 haul trucks
Processing Operations:	1 crushing/screening plant (occasionally)
	1 portable trailer-mounted power generator
	1-3 wheeled loaders
	1 hydraulic top-hammer drill
	1 bulldozer
	1 tool van
	1 fuel truck (occasionally)
	1-8 conveyors/stackers
	1 portable chemical toilet
	1 water truck

2.4 Material Use

Milestone plans to produce and use the dolomite products primarily for the aggregate needs of La Crosse County. Most of the dolomite aggregate products produced by this operation will be used as road base, aglime, asphalt mix aggregate and concrete mix aggregate. Subsoil clay overburden may be used as landfill liner material at La Crosse County Landfill pending the results of future quality investigations.

SECTION 3.0
ENVIRONMENTAL CONSIDERATIONS

3.1 Air Quality

The WDNR Bureau of Air Management regulates crushing and screening operations at the site. The processing equipment is in compliance with the opacity requirements of the New Source Performance Standards and is permitted under the Aggregate Processing General Permit. The general permit provides flexibility for using different processing configurations and various pieces of equipment, depending on the type of product being produced. The permit outlines production requirements, including record keeping, employee training, malfunction prevention and abatement, and fugitive dust control measures that must be maintained for compliance with the permit. The plant foreman documents the compliance activities associated with these requirements on the daily environmental tracking form. Records of daily, monthly, and year-to-date production information will be available for inspection at the plant site. Wet suppression will be used to supplement insitu moisture for control of fugitive dust emissions.

3.2 Surface Water

The WDNR Storm Water program regulates the proposed mining operation. Milestone Materials will implement its existing Storm Water Pollution Prevention Plan (SWPPP) for aggregate operations at this facility. The SWPPP specifies Best Management Practices (BMPs) for pollution prevention. The plan will be implemented pursuant to a NR 216 Storm Water General Permit which will be obtained from the WDNR prior to purchase of the Middle Ridge Quarry from St. Joseph Construction. The management practices listed in the plan address both petroleum product handling and erosion control, including the on-property containment of storm water runoff for suspended solids control. A copy of the WDNR NR

216 Storm Water General Permit which will cover the quarry operation is provided as **Attachment B**. The permit coverage will be established for the Middle Ridge Quarry property upon approval of this CUP and prior to Milestone closing on the property.

Precipitation that falls in the quarry area will either be contained or allowed to seep naturally into the underlying ground via onsite containment areas or will be collected on site, treated, and released via control structures as permitted by the storm water permit. When and where necessary to prevent surface runoff from entering the quarry excavation, temporary small, earthen berms will be constructed to direct surface water flow from the site. Quarterly and annual inspections of storm water control structures will be completed to ensure maintenance and functionality of these structures.

3.3 Ground Water

The mining operation will employ a variety of screening, crushing, and conveying equipment, including loaders and trucks. The lubrication, fueling, and repair practices used to maintain the equipment will be designed to eliminate petroleum products from ground contact. The SWPPP and a Spill Prevention Plan will address practices for proper storage, handling, and use of petroleum products, as well as inspection and response procedures. Any fuel or petroleum products that may be stored on-site will be stored in an aboveground tank with secondary containment as required by law.

The pollution prevention practices addressed in site management planning will minimize the opportunity for infiltrating water to carry contaminants to groundwater. Plant foremen will perform site inspections throughout the operating period, and observations and conditions will be reported daily for all applicable environmental programs. When and where necessary to prevent surface runoff from entering the quarry excavation, temporary small, earthen berms will be constructed to direct surface water flow from the site.

3.4 Waste Disposal and Recycling

Solid wastes generated in the course of production will be disposed of in dumpsters provided by licensed haulers. Regular disposal intervals will be maintained to provide adequate availability. There will be no hazardous wastes produced in conjunction with the excavation or processing operations. Used oil and lubricants from equipment maintenance will be collected for recycling by a licensed used-oil contractor. The waste receptacles will be located away from active operation areas. Sanitary facilities at the site will include a portable chemical toilet.

3.5 Safety and Health

The United States Department of Labor, Mine Safety and Health Administration (MSHA) regulates the safety and health considerations of the dolomite excavation and processing operation. The site is subject to annual inspection by MSHA and must meet the noise and dust exposure limits established for personnel employed in the operation activity.

Noise will be mitigated on the site by maintaining functional mufflers and exhaust systems on all internal combustion engines and by shielding mechanical processes with noise barriers. The below grade excavation and crushing of aggregate products will provide a natural acoustic buffer for reducing noise levels. Noise to neighboring residences will also be mitigated by berms built around the operation areas.

Respirable dust exposure will be minimized at the site by use of wet suppression for processing aggregate materials and by controlling fugitive emissions from peripheral activities, including trucking. Shrouds, tarps, and shields will be used to supplement wet suppression and control of fugitive dust. The company is committed to maintaining respirable dust limits within MSHA standards and to providing a healthy, dust-free environment for

employees and neighboring property owners.

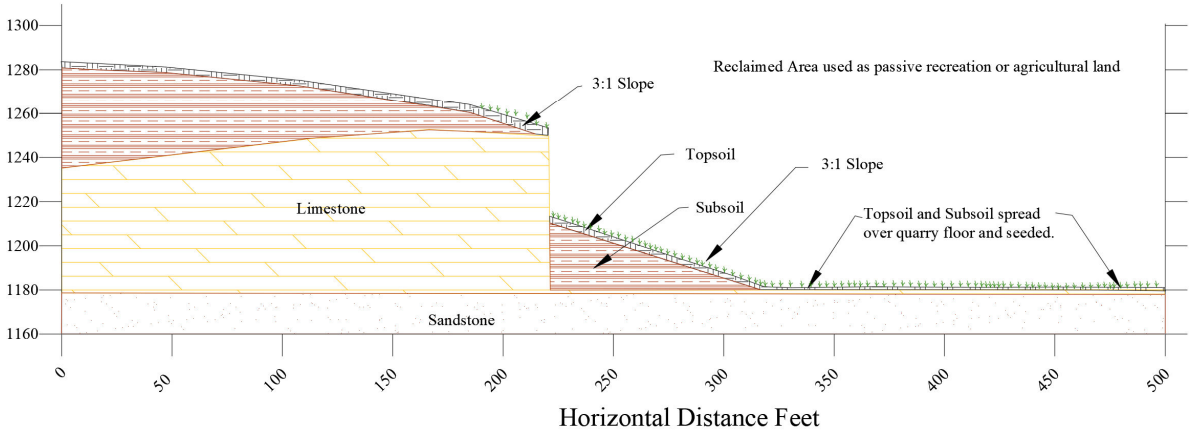
A safe and reasonable speed limit will be enforced at the facility for loaders and trucks to provide safe working conditions and reduce fugitive emissions. Hard hats are mandatory for all personnel within the excavation and processing areas. Visitors must have permission to enter the site and must observe all safety regulations while visiting the site.

SECTION 4.0
RECLAMATION PLAN

4.1 Post-Mining Land Use

Areas disturbed by the mining operation will be reclaimed to woodland, greenspace, or pasture for passive recreation or agricultural uses. The areas to be reclaimed are shown in **Drawing 3**, **Reclamation Plan Map**. Reclamation cross sections taken along the transect lines shown in **Drawing 3** can be seen in **Drawing 4, Reclamation Cross Sections**. The Reclamation Cross-Section in the below **Display 6** is a typical cross section of the proposed final site reclamation and post-mining land use.

(All dimensions are approximations, final dimensions may vary)



Display 6: Typical Reclamation Cross Section for Middle Ridge Quarry

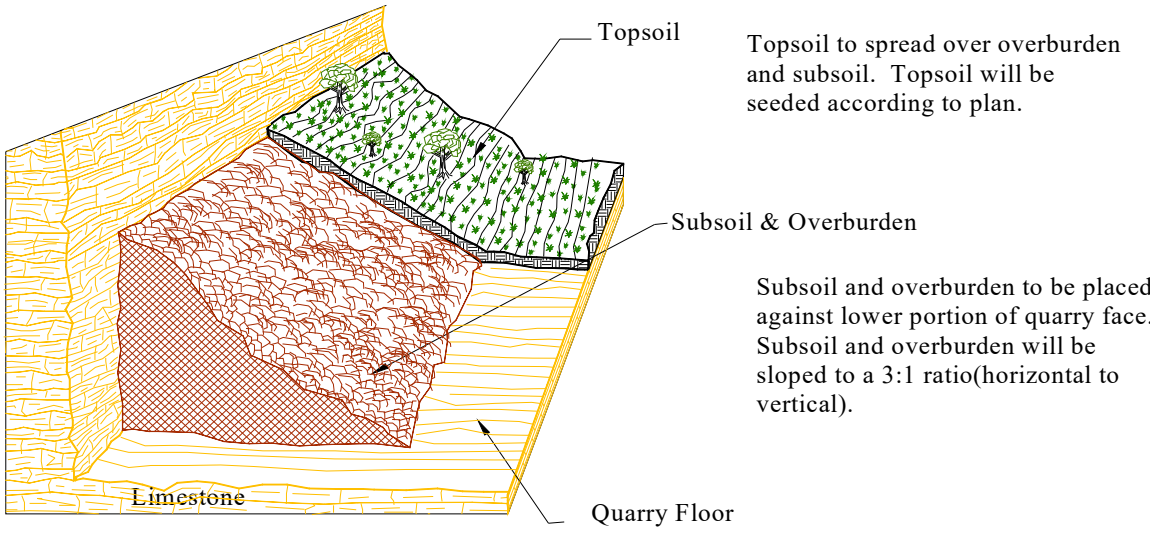
4.2 Reclamation Plan Area

Reclamation of excavation and operational areas will progress from northwest to southwest and then back to the east as the dolomite excavation progresses across the site.

Reclamation of areas will occur as dolomite reserve areas are depleted and are no longer needed for stockpiling, equipment setup, or other facilities. Reclamation will be completed contemporaneously as the limestone reserves are removed. Initial reclamation efforts will be directed toward stabilizing internal slopes through grading and landscaping before a more formalized appearance will be achieved through additional grading and landscaping.

4.3 Reclamation Sequence and Final Site Reclamation

Reclamation will begin as limestone reserves are depleted and formerly excavated areas are no longer necessary for stockpiling or equipment setup. The reclamation process will involve the backfilling of the quarry floor with subsoil and backfilling against the exposed quarry highwall with overburden and subsoil materials with a maximum slope of 3:1, horizontal to vertical. A diagram and photo of a typical reclaimed quarry face can be seen in the below **Displays 7 and 8**.



Display 7: Typical Reclaimed Quarry Face

Display 8: Typical Reclaimed Quarry Face

Part of the soil fill will come from the temporary berms that were constructed during the mining process. The rest will come from direct stripping of overburden as new areas of the mine are developed. Slopes will be blended into surrounding topography and all areas will be graded to properly drain. Upon final placement and grading of subsoil, topsoil will be evenly placed on the backfilled areas, graded to properly drain, and seeded according to the seeding plan prescribed in **Section 4.4**. This procedure will be followed until the reclamation is completed.

All topsoil removed from the mined areas will be used for final cover, grading, and seeding. As overburden is removed from new areas of the operation, the topsoil will be separated and immediately placed on areas recently sloped and graded. If the topsoil is not immediately used, topsoil stockpiles will be created, sloped, and seeded according to the seeding plan prescribed in **Section 4.4**. Subsoil materials, removed from newly excavated areas, that are not immediately used for reclamation will be stockpiled separately from topsoil,

sloped and seeded until needed for reclamation.

Stable vertical rock walls will be allowed to remain as part of the final reclamation. If quarry highwalls are determined to be unstable, they will be benched and terraced to make them stable and safe. Some of the quarry walls that are not excessively high will be completely backfilled with subsoil and topsoil and seeded, as determined in the field.

No structures associated with the quarry operation will remain on the site after the excavation is completed. The site topography will be graded so that all slopes will be less than or equal to 3:1 (horizontal to vertical) except for the stable vertical rock faces. All stockpiles of aggregate products will be removed from the site and all roads, other than access roads to the site, will be removed. All back filled soil slopes will be blended into the surrounding topography and all areas will be graded to properly drain. Storm water will be allowed to collect in the northeast portion of the reclaimed quarry floor as shown in **Drawing 3**.

4.4 Seeding Plan

Disturbed areas subject to erosion and reclaimed areas will be seeded with Seed Mixture No. 20 as specified in Section 630 of the Wisconsin DOT Standard Specifications (see **Attachment C**). Oats may be used as a cover crop if seeding occurs in the spring or early summer. Native volunteer trees will be encouraged to grow within reclaimed areas to create forested land.

Mulching will be applied as necessary according to the standards in Section 627 of the DOT Standard Specifications (see **Attachment C**). Areas will be checked for nutrients and the "Standard" fertilizer will be applied to seeded areas according to the methods and rates prescribed in Section 629 of the Wisconsin DOT Standard Specifications (see **Attachment C**).

4.5 Erosion Control

Erosion control practices for the quarry operation will be addressed in the Storm Water Pollution Prevention Plan prepared by Milestone Materials and implemented as part of Wisconsin Department of Natural Resources (WDNR) NR 216 Storm Water General Permit (see **Attachment B**). Wisconsin DOT Standard Specifications (see **Appendix C**) will also serve as a 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 berm construction and other soil disturbance activities. These erosion control devices will meet the minimum requirements 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.

All erosion control devices will be checked after each significant run-off producing rainfall. All required repairs will be made immediately to maintain all practices as designed. Upon proper notice of company management, periodic on-site inspections by La Crosse County and Washington Township officials and staff personnel will be permitted. Erosion control measures recommended by the La Crosse County Land Conservation Department will be implemented as appropriate to prevent soil erosion from the site excavation.

4.6 Reclamation Cost and Financial Assurance

The estimated reclamation cost per disturbed acre for this site development plan is calculated in the below **Table 2**. Financial assurance for reclamation will be in the form of a performance bond issued by an independent surety in an amount to cover acres disturbed annually.

Table 2 – Reclamation Cost Estimates

Middle Ridge Quarry	**26.48 Acres**			
Item	**Units**	**Quantity**	**Cost/Unit**	**Total Cost**
Erosion Control	Lump Sum/Acre	26.48	$200.00	$5,296.00
Redistribution of Overburden/ 3:1 Sloping/ Highwall Reduction	CY	64,082	$1.78	$114,065.96
Redistribution of Topsoil	CY	21,361	$1.78	$38,022.58
Seedbed Prep., Fertilize, Seed, Mulch	Lump Sum/Acre	26.48	$1,200.00	$31,776.00
Total Reclamation Cost for 26.48 Acres	--	**--**	**--**	**$189,160.54**
Reclamation Cost Per Acre	--	**26.48**	**$ 7,143.52**	**--**

4.7 Criteria for Successful Reclamation

La Crosse County will determine the criteria for successful reclamation in the field during annual inspections with input from Milestone and their consultants. During these inspections, if the County recommends either grading, seeding, remedial repair measures or erosion control, they will be implemented as appropriate to achieve successful reclamation. The reclamation measures implemented will later be re-evaluated to accomplish successful reclamation and a release of bond.

4.8 Reclamation Certification

Owner and Operator Certification

I hereby certify, as a duly authorized representative of the owner and operator of the referenced property, that this reclamation plan meets the requirements of Chapter NR 135, Wis. Adm. Code and that St. Joseph Construction will follow this plan as submitted unless a revision is submitted and approved in writing by the regulatory authority.

Owner/Operator:

Paul Schams

Paul Schams, Officer – St. Joseph Construction Co. Inc.

6-5-24
Date Signed

Planned Future Owner and Operator Certification

I hereby certify, as a duly authorized representative of the planned future owner and operator of the referenced property, that this reclamation plan meets the requirements of Chapter NR 135, Wis. Adm. Code and that Milestone Materials, a division of Mathy Construction Company, will follow this plan as submitted upon purchase of the property, unless a revision is submitted and approved in writing by the regulatory authority.

Planned Future Owner/Operator:

Will Mathy, Vice President - Milestone Materials

6-6-24
Date Signed

CONSENT TO CONDITIONAL USE AND NR 135 RECLAMATION PERMIT APPLICATIONS

To The La Crosse County Zoning, Planning, and Land Information Department.

I, Paul Schams, am an officer of St. Joseph Construction Co. Inc. which owns approximately 30.53 acres of land located in the Town of Washington, La Crosse County, Wisconsin, described as follows:

Tax ID# 12-41-0 consisting of the North 30 acres of the NW ¼ of the SW ¼ of Section 2, T15N, R5W, TOGETHER WITH that part of the SW ¼ of the NW ¼ of Section 2, T15N, R5W, described as follows: Commencing at the West ¼ corner of said Section 2, thence S88°48'33" E along the East-West ¼ line 322.78 feet to the point of beginning. Thence N54°16'49" E, 143.90 feet; thence N88°50'02" E, 248.42 feet; thence S81°45'57" E, 251.77 feet; thence S32°52'49" E, 79.40 feet to the East-West ¼ line; thence N88°48'33" W along said East-West ¼ line 657.62 feet to the point of beginning.

(the Property)

The Property is the subject of a conditional use permit request for commercial mineral extraction and a NR 135 reclamation permit request, both of which are to be submitted to La Crosse County by Milestone Materials, a Division of Mathy Construction Co. (Milestone) in 2024.

I give my consent as owner of the Property for Milestone to act as my agent for the purposes of seeking the above-referenced permits. I fully support Milestone's efforts to obtain the above-referenced permits and encourage the Town and County Boards to grant Milestone's applications.

6/5/24
Date

Paul Schams
Paul Schams, Officer

Witness

References

Evans, T.J., 2003, Geology of La Crosse County, Wisconsin: Wisconsin Geological and Natural History Survey Bulletin 101.

Knox, J.C., Leigh, D.S., and Frolking, T.A., 1990, Appendix: Rountree Formation (New) in Clayton, Lee, and Attig, J.W., 1990, Geology of Sauk County, Wisconsin: Wisconsin Geological and Natural History Survey Information Circular 67, p. 64-67.

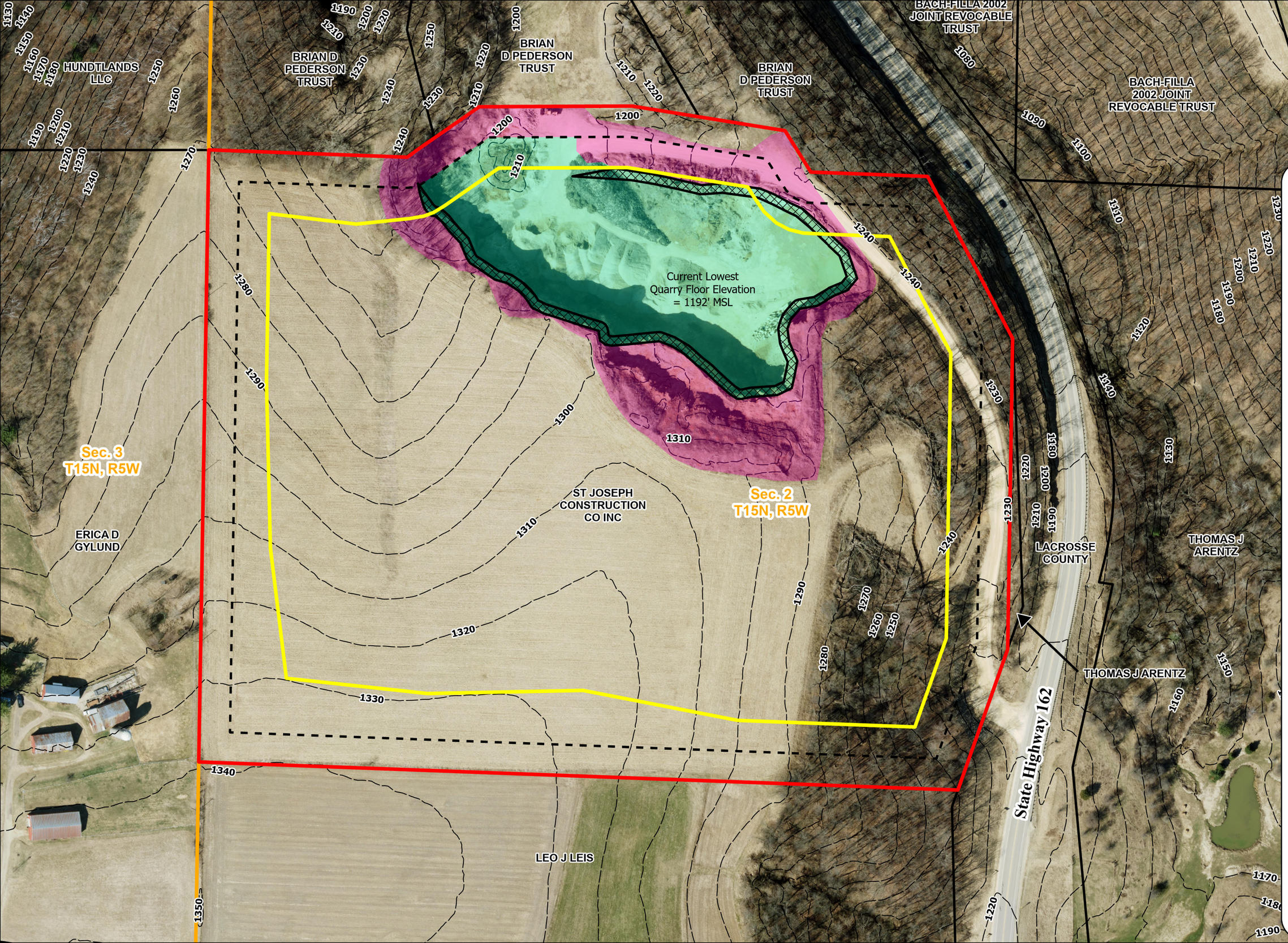
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available Online at http://websoilsurvey.nrcs.usda.gov/. Accessed [05/28/2024].

WDNR Staff, Wisconsin Department of Natural Resources. Surface Water Data Viewer. Available Online at https://dnrmaps.wi.gov/H5/?Viewer=SWDV. Accessed [05/28/2024].

Young, H.L., and Borman, R.G.., Water Resources of Wisconsin, Trempealeau-Black River Basin, Hydrologic Investigation Atlas HA-474: Department of Interior, United States Geological Survey, and University of Wisconsin-Extension Geological Survey, 1973.

DRAWINGS

Drawing 1	Existing Conditions Map
Drawing 2	Operations Plan Map
Drawing 3	Reclamation Plan Map
Drawing 4	Reclamation Cross Sections



Drawing No. 1

Middle Ridge Quarry Existing Conditions Map

MILESTONE MATERIALS
A Division of Mathy Construction Co.

Notes

Drawing Date: 05-24-2024

Part of the NW 1/4, SW 1/4 and part of the SW 1/4, NW 1/4, Sec. 2, T15N, R5W, Town of Washington, La Crosse County, Wisconsin.

This is not a survey. Parcel lines shown are approximate.

10 foot contours are from 2017 La Crosse County LiDAR. Contours are not shown for the quarry floor area.

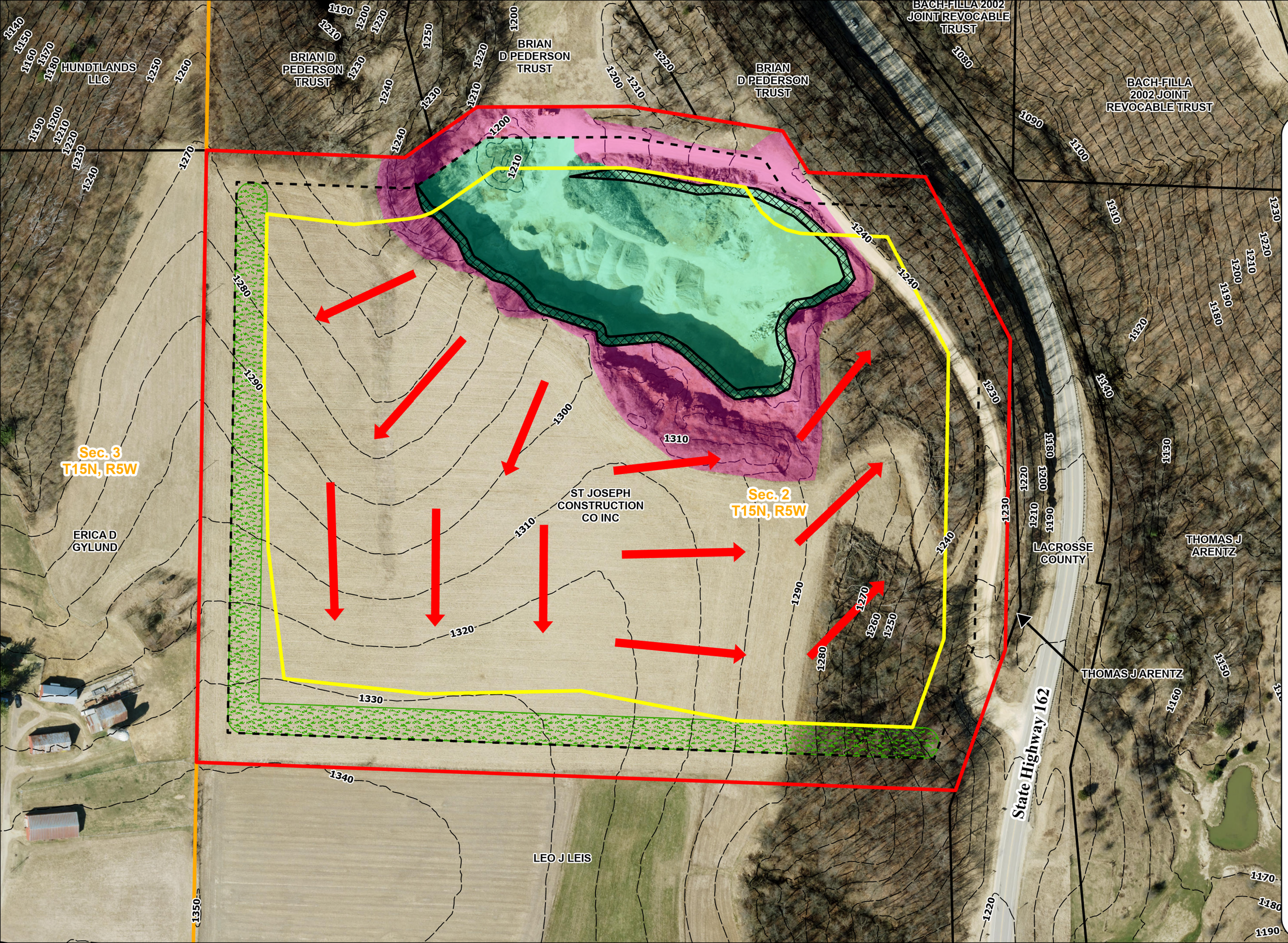
2023 aerial photograph used.

Legend

- Middle Ridge Quarry Property (30.53 Acres)
- 50 Ft Excavation Setback (25.58 Acres)
- Planned Rock Excavation Limits (20.34 Acres)
- Existing Highwall
- Current Pit Floor Area (3.90 Acres)
- Other Active Areas (2.88 Acres)
- WI Sections
- 2023 WI Parcels
- Existing Contours

N

0 85 170 Feet



Drawing No. 2

Middle Ridge Quarry Operations Plan Map

MILESTONE MATERIALS
A Division of Mathy Construction Co.

Notes

Drawing Date: 05-24-2024

Part of the NW 1/4, SW 1/4 and part of the SW 1/4, NW 1/4, Sec. 2, T15N, R5W, Town of Washington, La Crosse County, Wisconsin.

This is not a survey. Parcel lines shown are approximate.

This plan is approximate and subject to change based on mining conditions encountered at the site.

10 foot contours are from 2017 La Crosse County LiDAR. Contours are not shown for the quarry floor area.

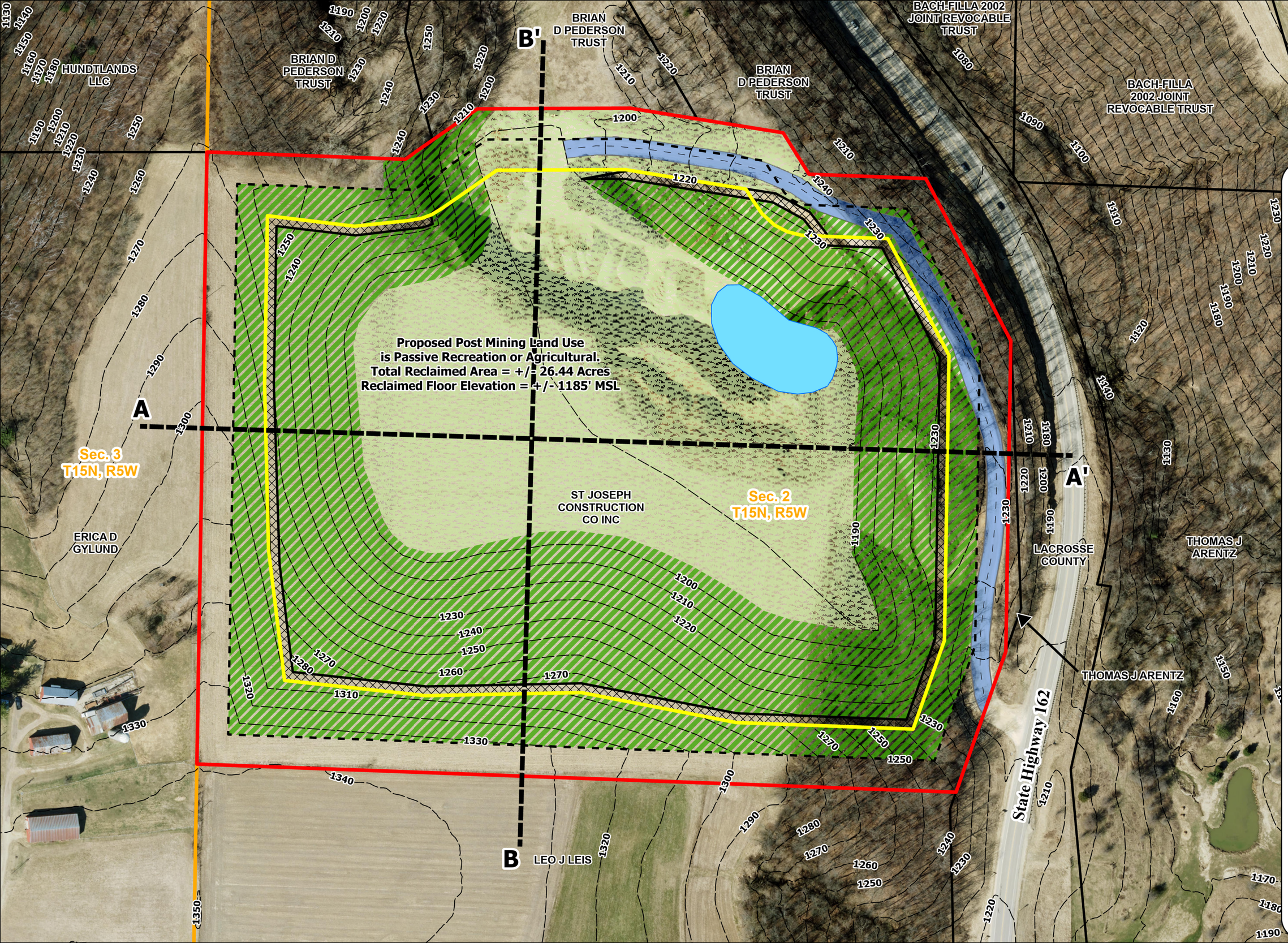
2023 aerial photograph used.

Legend

- Direction of Mining
- Middle Ridge Quarry Property (30.53 Acres)
- 50 Ft Excavation Setback (25.58 Acres)
- Planned Rock Excavation Limits (20.34 Acres)
- Existing Highwall
- Current Pit Floor Area (3.90 Acres)
- Other Active Areas (2.88 Acres)
- WI Sections
- 2023 WI Parcels
- Existing Contours
- Berm

N

0 85 170 Feet



Drawing No. 3

Middle Ridge Quarry
Reclamation Plan Map

MILESTONE MATERIALS
A Division of Mathy Construction Co.

Notes

Drawing Date: 05-24-2024

Part of the NW 1/4, SW 1/4 and part of the SW 1/4, NW 1/4, Sec. 2, T15N, R5W, Town of Washington, La Crosse County, Wisconsin.

This is not a survey. Parcel lines shown are approximate.

This plan is approximate and subject to change based on mining conditions encountered at the site.

2023 aerial photograph used.

Legend

- Cross Section Line
- Middle Ridge Quarry Property (30.53 Acres)
- 50 Ft Excavation Setback (25.58 Acres)
- Planned Rock Excavation Limits (20.34 Acres)
- Planned Storm Water Collection Basin
- Reclamation Contours
- Reclamation Highwall
- Reclaimed 3:1 Slopes
- Reclaimed Floor Areas
- Planned Access Road
- WI Sections
- 2023 WI Parcels
- World Imagery

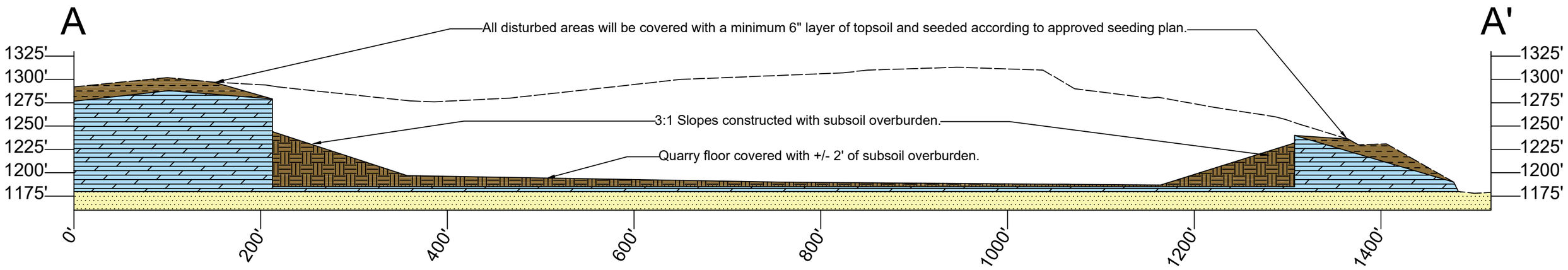
N

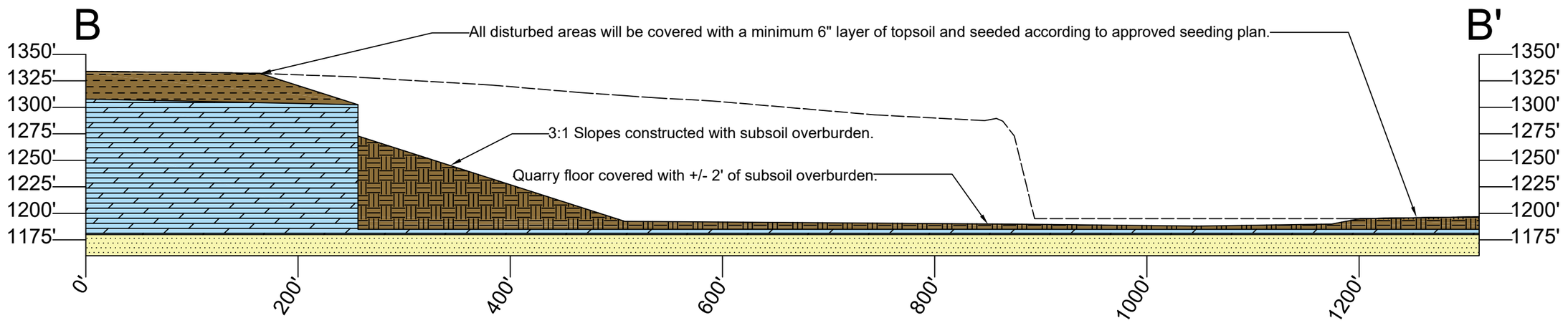
0 85 170 Feet

Middle Ridge Quarry
Reclamation Cross Sections

Date: 05/28/2024 Drawing: #4

MILESTONE MATERIALS
A Division of Mathy Construction Co.

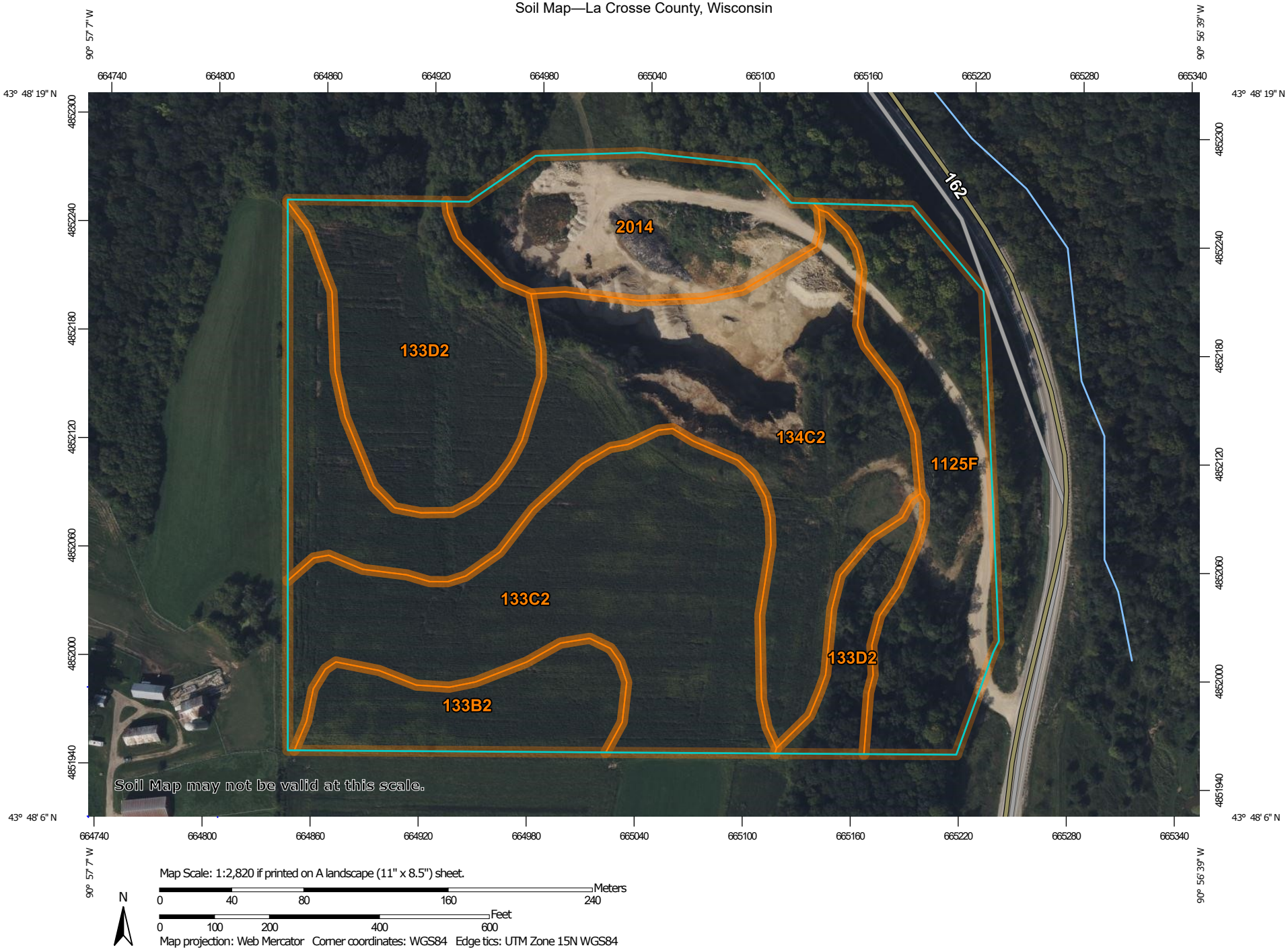




ATTACHMENTS

Attachment A	NRCS Site Soils Report
Attachment B	WDNR Storm Water Group Permit
Attachment C	WisDOT Standard Specifications for Erosion Control

ATTACHMENT A – NRCS Site Soils Report



Map Scale: 1:2,820 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: La Crosse County, Wisconsin
Survey Area Data: Version 22, Sep 8, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 2, 2022—Sep 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
133B2	Valton silt loam, 2 to 6 percent slopes, moderately eroded	2.0	6.7%
133C2	Valton silt loam, 6 to 12 percent slopes, moderately eroded	6.7	22.3%
133D2	Valton silt loam, 12 to 20 percent slopes, moderately eroded	5.0	16.7%
134C2	Lamoille silt loam, 6 to 12 percent slopes, moderately eroded	9.0	29.8%
1125F	Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes	4.1	13.6%
2014	Pits, quarry, hard bedrock	3.2	10.8%
Totals for Area of Interest		**30.0**	**100.0%**

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

La Crosse County, Wisconsin

133B2—Valton silt loam, 2 to 6 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2v3fz

Elevation: 800 to 1,300 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Valton and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valton

Setting

Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over clayey pedisediment derived from dolomite

Typical profile

Ap - 0 to 8 inches: silt loam
Bt1 - 8 to 14 inches: silt loam
Bt2 - 14 to 30 inches: silt loam
2Bt3 - 30 to 38 inches: silty clay
2Bt4 - 38 to 48 inches: silty clay
2Bt5 - 48 to 55 inches: clay
2Bt6 - 55 to 79 inches: clay

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F105XY013WI - Loamy-Silty Upland
Forage suitability group: Mod AWC, adequately drained (G105XY005WI)

Other vegetative classification: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

Minor Components

Brinkman
Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland
Other vegetative classification: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

Wildale
Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F105XY016WI - Clayey Upland
Other vegetative classification: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

Reedsburg
Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F105XY008WI - Moist Loamy-Clayey Lowland
Other vegetative classification: Mod AWC, high water table (G105XY004WI)
Hydric soil rating: No

133C2—Valton silt loam, 6 to 12 percent slopes, moderately eroded

Map Unit Setting
National map unit symbol: 2v3g2
Elevation: 800 to 1,300 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Valton and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valton

Setting

Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over clayey pedisediment derived from dolomite

Typical profile

Ap - 0 to 8 inches: silt loam
Bt1 - 8 to 14 inches: silt loam
Bt2 - 14 to 30 inches: silt loam
2Bt3 - 30 to 38 inches: silty clay
2Bt4 - 38 to 48 inches: silty clay
2Bt5 - 48 to 55 inches: clay
2Bt6 - 55 to 79 inches: clay

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F105XY013WI - Loamy-Silty Upland
Forage suitability group: Mod AWC, adequately drained (G105XY005WI)
Other vegetative classification: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

Minor Components

Brinkman

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland
Other vegetative classification: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

Mickle

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R105XY011WI - Mollic Loamy-Silty Upland
Other vegetative classification: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

Wildale

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F105XY016WI - Clayey Upland
Other vegetative classification: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

133D2—Valton silt loam, 12 to 20 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2v3g3
Elevation: 800 to 1,300 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Valton and similar soils: 90 percent

Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valton

Setting

Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over clayey pedisediment derived from dolomite

Typical profile

Ap - 0 to 8 inches: silt loam
Bt1 - 8 to 14 inches: silt loam
Bt2 - 14 to 30 inches: silt loam
2Bt3 - 30 to 38 inches: silty clay
2Bt4 - 38 to 48 inches: clay
2Bt5 - 48 to 55 inches: clay
2Bt6 - 55 to 79 inches: clay

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F105XY013WI - Loamy-Silty Upland
Forage suitability group: Mod AWC, adequately drained (G105XY005WI)
Other vegetative classification: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

Minor Components

Lamoille

Percent of map unit: 3 percent
Landform: Ridges

Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F105XY016WI - Clayey Upland
Other vegetative classification: Mod AWC, adequately drained with limitations (G105XY006WI)
Hydric soil rating: No

Mickle

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R105XY011WI - Mollic Loamy-Silty Upland
Other vegetative classification: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

Brinkman

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland
Other vegetative classification: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

Wildale

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F105XY016WI - Clayey Upland
Other vegetative classification: Low AWC, adequately drained (G105XY002WI)
Hydric soil rating: No

Pepin

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland

Other vegetative classification: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

134C2—Lamoille silt loam, 6 to 12 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2v3g5
Elevation: 800 to 1,300 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lamoille and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamoille

Setting

Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over clayey pedisediment over sketetal loamy colluvium

Typical profile

Ap - 0 to 8 inches: silt loam
BE - 8 to 12 inches: silt loam
Bt - 12 to 15 inches: silt loam
2Bt - 15 to 27 inches: clay
3Bt - 27 to 37 inches: very cobbly clay loam
3C - 37 to 79 inches: very cobbly loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: 27 to 72 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F105XY016WI - Clayey Upland
Forage suitability group: Mod AWC, adequately drained with limitations (G105XY006WI)
Other vegetative classification: Mod AWC, adequately drained with limitations (G105XY006WI)
Hydric soil rating: No

Minor Components

Valton

Percent of map unit: 3 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland
Other vegetative classification: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

Wildale

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F105XY016WI - Clayey Upland
Other vegetative classification: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

Newglarus, deep

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F105XY012WI - Shallow Loamy-Silty Upland
Other vegetative classification: Mod AWC, adequately drained with limitations (G105XY006WI)
Hydric soil rating: No

1125F—Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2v3f0
Elevation: 800 to 1,400 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Dorerton, very stony, and similar soils: 60 percent
Elbaville and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dorerton, Very Stony

Setting

Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mantle of mixed loess and loamy slope alluvium over skeletal materail from fragmental loamy colluvium derived from dolomite

Typical profile

A - 0 to 3 inches: loam
E - 3 to 10 inches: loam
BE - 10 to 15 inches: loam
Bt1 - 15 to 18 inches: loam
2Bt2 - 18 to 30 inches: very flaggy clay loam
2C - 30 to 79 inches: very flaggy loamy sand

Properties and qualities

Slope: 30 to 60 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F105XY013WI - Loamy-Silty Upland
Forage suitability group: Not suited, slopes > 30% (G000XY011WI)
Other vegetative classification: Not suited, slopes > 30% (G000XY011WI)
Hydric soil rating: No

Description of Elbaville

Setting

Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loess over clayey rountree sediments colluvium over loamy sketetal material colluvium derived from dolomite

Typical profile

A - 0 to 5 inches: silt loam
E - 5 to 11 inches: silt loam
B/E - 11 to 17 inches: silt loam
Bt1 - 17 to 21 inches: silt loam
2Bt2 - 21 to 26 inches: silty clay
3Bt3 - 26 to 37 inches: very flaggy silty clay loam
3C - 37 to 79 inches: extremely flaggy sandy loam

Properties and qualities

Slope: 30 to 45 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C
Ecological site: F105XY013WI - Loamy-Silty Upland
Forage suitability group: Not suited, slopes > 30% (G000XY011WI)
Other vegetative classification: Not suited, slopes > 30% (G000XY011WI)
Hydric soil rating: No

Minor Components

Churchtown
Percent of map unit: 6 percent
Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland
Hydric soil rating: No

Rockbluff
Percent of map unit: 3 percent
Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F105XY019WI - Dry Upland
Other vegetative classification: Not suited, slopes > 30% (G000XY011WI)
Hydric soil rating: No

Dorerton, nonstony
Percent of map unit: 3 percent
Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F105XY013WI - Loamy-Silty Upland
Other vegetative classification: Not suited, slopes > 30% (G000XY011WI)
Hydric soil rating: No

Brodale
Percent of map unit: 3 percent
Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R105XY021WI - Limestone Colluvium Bluff Prairie
Other vegetative classification: Not suited, slopes > 30% (G000XY011WI)

Hydric soil rating: No

2014—Pits, quarry, hard bedrock

Map Unit Composition

Pits, quarry, hard bedrock: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits, Quarry, Hard Bedrock

Setting

Parent material: Sandstone

Data Source Information

Soil Survey Area: La Crosse County, Wisconsin
Survey Area Data: Version 22, Sep 8, 2023

ATTACHMENT B – WDNR Storm Water Group Permit

WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

GENERAL PERMIT TO DISCHARGE UNDER THE
WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 283, Wisconsin Statutes, any facility engaged in

MINERAL (NONMETALLIC) MINING AND/OR PROCESSING

located in the State of Wisconsin and meeting the applicability criteria listed in Section 1 and the application requirements in Section 2 of this General Permit, is permitted to discharge storm water and/or wastewaters from these operations to a water of the state in accordance with the conditions set forth in this permit.

State of Wisconsin Department of Natural Resources (hereafter department)
For the Secretary

By

Adrian Stocks
Director, Bureau of Water Quality

Jill Schoen
Deputy Director,
Bureau of Watershed Management

June 7, 2022
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE – January 1, 2023 **EXPIRATION DATE – December 31, 2027**

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Note: Information about the department's storm water program, this general permit, forms, and other helpful resources is available at https://dnr.wisconsin.gov/topic/Stormwater and at https://dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

1 Applicability Criteria

This general permit is applicable to the point source discharge of pollutants to a water of the state associated with storm water and wastewater from mineral (nonmetallic) mining operations, mineral processing operations, or other similar activities except those discharge activities excluded from coverage under this permit listed in Section 1.3 and Section 1.4. A permittee meeting the storm water applicability criteria listed below must comply with storm water conditions set forth in this permit. A permittee meeting the wastewater discharge applicability criteria listed below must comply with wastewater conditions set forth in this permit. A discharger may be subject to both storm water and wastewater conditions set forth in this permit if the discharger meets the applicability criteria in Section 1.1 and Section 1.2.

1.1 Storm Water Discharge Activities Covered

This general permit is applicable to point source discharges of storm water associated with industrial activity to a water of the state, either directly or via a separate storm sewer system, originating from any mineral mining, mineral processing, or other similar activity site as defined by SIC Codes 1400 to 1499.

Storm water commingled with a wastewater as described in Section 1.2 is considered wastewater and must comply with wastewater conditions set forth in this general permit.

Storm water collected and used for washing, cleaning, separating, or processing nonmetallic minerals is considered wastewater and must comply with wastewater conditions set forth in this general permit.

1.2 Wastewater Discharge Activities Covered

This general permit is applicable to nonmetallic mineral mining operations, mineral processing operations, or other similar activities as defined by SIC Codes 1400 to 1499 that result in any of the following point source discharges to a water of the state (unless indicated otherwise):

1. Discharge of process generated wastewater from facilities that recycle the process generated wastewater for use in processing. Process generated wastewater means any wastewater used in the slurry transport of mined material, air emissions control, or processing exclusive of mining (e.g. washing, cleaning, drying, or separating minerals). The term also includes any other water (e.g. storm water, sludge decant, dewatering water, mineral (e.g. tailings or sediment) drainage water, vehicle and equipment washwater, dust suppression water, noncontact cooling water, condensates, or boiler blowdown) which becomes commingled with such wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of such wastewater.
2. Discharge of mine dewatering water. Mine dewatering means any water that that is impounded or that collects in the mine and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator. However, if a mine is also used for treatment of process generated wastewater, discharges of commingled water from the facilities shall be deemed discharges of process generated wastewater. For industrial sand and construction sand and gravel facilities, mine dewatering includes any wet pit overflows caused solely by direct rainfall and groundwaterseepage . Mine means an area of land, surface or underground, actively used for or resulting from the extraction of a mineral from natural deposits.
3. Discharge of washwater from the outside washing of vehicles, equipment, or other objects at the site to groundwater via seepage.
4. Discharge of dust suppression water from controlling dust at the site to groundwater via seepage.
5. Discharges of other similar wastewaters as determined by the department to be applicable under this general permit on a case-by-case basis.

1.3 Discharge Activities Not Covered

The storm water and wastewater discharge activities listed in this Section are not applicable to this general permit and may require application under another general or individual WPDES permit. In accordance with ss. NR 205.08(5) and NR 216.25(3), Wis. Adm. Code, the department may deny coverage or revoke coverage under this permit and issue an individual WPDES Permit to a mineral mining, mineral processing, or other similar facility if the department determines that discharges are more appropriately covered under an individual WPDES Permit. The following storm water and wastewater discharge activities are not applicable to this general permit:

1. Discharge of wastewater associated with industrial activity to a water of the state, either directly or via a separate storm sewer system, originating from any concrete products operations defined by SIC Codes 3271, 3272 and 3273 that are contiguous to or located within the mineral mining and processing site. The permittee must apply for the Concrete Product Operations WPDES Permit No. WI-0046558 for wastewater discharges.

   Note: Where storm water discharges associated with industrial activity defined by SIC Codes 3271, 3272 and 3273 are not located within the mineral mining and processing site or where discharges are not covered under the mineral mining and processing general permit, a permittee must apply coverage under the Tier 2 Industrial Facilities WPDES Permit No. WI-S067857.

2. Discharge of storm water from construction activities, where one or more acres of land will be disturbed and impervious surfaces constructed necessitating implementation of post-construction performance measures to comply with s. NR 216.47, Wis. Adm. Code and ss. NR 151.121 through NR 151.128, Wis. Adm. Code, must obtain coverage under the Construction Site Storm Water Runoff WPDES Permit No. WI-S067831.

   Note[1]: Land disturbing construction activity is defined in s. NR 216.002(14), Wis. Adm. Code, and means any man−made alteration of the land surface resulting in a change in the topography or existing vegetative or non−vegetative soil cover that may result in storm water runoff and lead to increased soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.

   Persons or Permittees proposing construction activities of one or more acres that will result in impervious surfaces require permitting under a construction site stormwater discharge permit prior to the commencement of land disturbing construction activitiy. An electronic notice of intent (eNOI) for coverage under the constrcution site storm water discharge permit WPDES Permit No. WI-S067831 shall be submitted at least 14 working days prior commencement of these activities.The construction site and post-constrcution standards of chs. NR 216 and NR 151, Wis. Adm. Code, apply.

   Note[2]:With respect to reclamation, the operator (or landowner if different from the operator) is responsible for ensuring that plans to construct impervious surfaces are in compliance with s. NR 135.19, Wis. Adm. Code, and the approved reclamation plan.

3. Discharge of process generated wastewater (does not include mine dewatering water) to surface water or wetlands from facilities that do not recycle the process generated wastewater for use in processing;

4. Discharge of process generated wastewater from facilities processing nonmetallic minerals subject to 40 CFR Part 436 Subparts E to AL. Discharge of mine dewatering water may be allowed under this general permit if 40 CFR Part 436 Subparts E to AL allows the mine dewatering to be discharged to navigable waters and the effluent limits in this general permit are

equally or more stringent than the effluent limit guidelines listed in 40 CFR Part 436 Subparts E to AL;

5. Discharge of process generated wastewater from facilities processing industrial sand where the facility employs hydrofluoric acid flotation processes;
6. Discharge of wastewater from mineral mining, mineral processing, or other similar facility where the facility is required to install a groundwater monitoring system to demonstrate compliance with ch. 283, Wis. Stats.;
7. Discharge of washwater from the outside washing of vehicles, equipment, or other objects to surface water unless commingled with process generated wastewater;
8. Discharge of dust suppression water from controlling dust at the site that results in a discharge of the dust suppression water to a surface water or results in dust suppression water running off the mineral (nonmetallic) mining and processing site;
9. Discharge of process and non-process wastewaters from metallic mining and dressing activities as defined by SIC Codes 1000 to 1099;
10. Discharge of process and non-process wastewaters from coal mining activities as defined by SIC Codes 1200 to 1299;
11. Discharge of process and non-process wastewaters from the manufacturing of cement;
12. Discharge of domestic wastewaters;
13. Discharge from degreasing operations using degreasing agents containing halogenated hydrocarbons;
14. Discharge of contaminated groundwater;
15. Discharge of petroleum contaminated storm water;
16. Discharge of storm water from paved surfaces that will be initially sealed or re-sealed with coal-tar sealants;
17. Discharge of any water from dewatering sediment or sludge removed during maintenance of storm water best management practices or wastewater treatment and storage facilities directly to surface water unless commingled with process generated wastewater;
18. Discharge of carriage water and/or interstitial water associated with mechanical or hydraulic dredging of sediment from the beds of navigable waterways returned directly back to the waterway;
19. Landspreading of any industrial liquid wastes, by-product solids, or sludges regulated under ch. NR 214, Wis. Adm. Code;
20. Discharge of wastewater from any accidental or unplanned release, spill, leak, or overflow except for wet pit overflows and overflows covered under Sections 1.2 and 4.1.4 of the general permit;

    Note: Any accidental or unplanned release, spill, leak, or overflow of wastewater must be reported by the permittee under the noncompliance and other reporting requirements in Section 8.2.16 unless it is a discharge of a hazardous substance required to be reported under ch. NR 706, Wis. Adm. Code.

21. Discharge of storm water or wastewater containing water treatment additives to surface water where the department determines that the usage of the additives has not been approved in writing by the department;

    Note: Water treatment additives already present in the water supply system do not need to be reviewed and approved by the department. A list of approved additives and allowable usage rates can be found on the department additives webpage: https://dnr.wisconsin.gov/topic/Wastewater/Additives.html.

22. Discharge of storm water or wastewater to a wetland where the department determines that the discharge of pollutants does not comply with the wetland water quality standards in ch. NR 103, Wis. Adm. Code;

23. Discharge of wastewater directly to an outstanding resource water (ORW) as defined in s. NR 102.10, Wis. Adm. Code, or where the department determines that the discharge of pollutants will lower the water quality of downstream ORWs;

24. Discharge of wastewater directly to an exceptional resource water (ERW) as defined in s. NR 102.11, Wis. Adm. Code, or where the department determines that the discharge of pollutants will lower the water quality of downstream ERWs;

25. New or increased discharge of storm water or wastewater where the department determines that the facility does not have the treatment capability to treat any proposed new or increased discharge of pollutants and maintain treatment levels sufficient to meet the effluent limitations or performance standards in this general permit;

26. New or increased discharge of storm water or wastewater where the department determines that the proposed new or increased storm water or wastewater discharge will result in the significant lowering of water quality in fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, or Great Lakes system waters. This exclusion also applies if the new or increased discharge is to a variance water identified in ss. NR 104.05 through NR 104.10, Wis. Adm. Code where the department determines there is a significant lowering of water quality in a downstream fish and aquatic life water or Great Lakes system water.

27. Discharge of storm water or wastewater to a 303(d) listed waterbody where the department determines that the discharge contains a pollutant of concern that contributes to the impairment of a 303(d) listed impaired water that does not have a federally approved TMDL for the pollutant of concern; or if there is a federally approved TMDL for the listed waterbody, where the department determines the discharge is inconsistent with the wasteload allocation for general permits in the federally approved TMDL;

28. Discharge of a hazardous substance required to be reported under ch. NR 706, Wis. Adm. Code;

    Note: Section 292.11(2)(a), Wis. Stats., requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the department **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003**.

29. Discharge of storm water or wastewater where the department determines that the discharge of pollutants adversely impacts endangered and threatened species, including causing an incidental take, and does not comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code;

30. Discharge of storm water or wastewater where the department determines that the discharge of pollutants adversely affects any historic property that is a listed property, or on the inventory or

on the list of locally designated historic places under s. 44.45, Wis. Stats., pursuant to s. 44.40(3), Wis. Stats.;

31. Discharge of storm water and wastewater within Indian Country;

    Note: Indian Country is defined under 18 USC §1151 and includes all lands within the exterior boundaries of federally recognized Indian reservations and on lands held in federal trust status. Facilities that are located within Indian Country shall contact the the United States Environmental Protection Agency (USEPA) to apply for permit coverage. Dischargers that previously held permit coverage under previous versions of this permit after September 30, 2001, are no longer eligible for coverage under this permit and must contact USEPA to apply for permit coverage.

    The following USEPA website contains information on USEPA's Multi-Sector General Permit (MSGP): https://www.epa.gov/npdes/stormwater-discharges-industrial-activities-epas-2021-msgp. Facilities shall verify eligibility for coverage under the MSGP or determine if an individual permit is needed. Information on how to apply for the MSGP can be accessed here: https://www.epa.gov/npdes/stormwater-discharges-industrial-activities-ereporting.

32. Discharge of storm water or wastewater containing substances where the department determines that the discharge of pollutants have reasonable potential to exceed the surface water quality standards in chs. NR 102, NR 103, NR 104, and NR 105, Wis. Adm. Code, or other applicable surface water quality standards. This also includes the discharge of wastewater to groundwater where pollutants in the discharge reach surface waters and have reasonable potential to exceed applicable surface water quality standards; and

33. Discharge of storm water or wastewater containing substances where the department determines that the discharge of pollutants to groundwater will exceed the groundwater quality standards in ch. NR 140, Wis. Adm. Code.

1.4 Permit Exclusions

The storm water and wastewater discharge activities listed in this section are excluded from coverage under this general permit and may not require application under another WPDES permit. The storm water and wastewater discharge activities listed below are excluded from requiring coverage under this general permit:

1. Discharge of wastewater to a holding tank that is pumped and hauled to a publicly owned treatment works;

2. Discharge of wastewater to a sanitary sewer system that conveys the wastewater to a publicly owned treatment works;

3. Disposal of any sludges, solids, spoils, tailings, or pond fines removed from wastewater treatment facilities, including settling ponds, at nonmetallic mining and processing sites and the exclusive disposal of the removed sludges, solids, spoils, tailings, or pond fines at the mine site under a reclamation plan or lands outside of the mine site that are subject to regulation under chs. NR 135 and NR 500 to 538, Wis. Adm. Code;

    Note: Any sludges, solids, spoils, tailings, or pond fines removed from wastewater treatment facilities, including settling ponds, at nonmetallic mining and processing sites and the exclusive disposal of the removed sludges, solids, spoils, tailings, or pond fines at the mine site under a reclamation plan or lands outside of the mine site must be managed in accordance with all applicable solid waste and nonmetallic mining reclamation regulations. The removed sludges, solids, spoils, tailings, or pond fines may be eligible for the conditional exemption under s. NR 500.08(2)(b), Wis. Adm. Code, but a case-by-case analysis is necessary to determine how these materials are regulated under the NR 500 administrative code chapters. Any questions concerning

mine waste disposal should be directed to the department's Waste & Materials Management Program.

4. Discharge of storm water from areas located on plant lands that are segregated from the industrial activities of the plant, such as office buildings and accompanying parking lots, if the storm water drainage from the segregated areas is not mixed with contaminated storm water drainage.

2 Application for Permit Coverage

An applicant shall comply with the following requirements to obtain coverage and authorization to discharge to a water of the state under this general permit.

2.1 New Permittees

2.1.1 Submittal of a Notice of Intent

Any new permittee, meeting the applicability criteria in Section 1 of this general permit that proposes a new or existing discharge that was not previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit, shall submit a complete electronic Notice of Intent (eNOI) for coverage under this general permit at least 14 working days prior to initiating any land disturbing construction activities or industrial operations and discharging to a water of the state.

New permittees must submit an eNOI to obtain coverage under this general permit using the online ePermitting System. The ePermitting System is available for use at water permit applications (https://dnr.wisconsin.gov/permits/water). The ePermitting System does not require any special software and is completely web-based and available using any internet browser. Applicants must have or create a Wisconsin Web Access Management System (WAMS) ID to access the eNOI. If the applicant already has a WAMS ID, then the applicant does not need to recreate one and they may access the eNOI.

2.1.2 NOI Review Time Period

The department will evaluate the information submitted in the eNOI to determine whether the eNOI is true, accurate, complete, and whether the facility is eligible for coverage under the general permit within 30 calendar days of receipt of the complete NOI and associated attachments.

Note: If the department notifies an applicant that a discharge is ineligible for coverage under this general permit but still requires WPDES permit coverage, the department shall notify the applicant in writing, and the applicant shall apply for and obtain coverage under an individual WPDES permit (or alternative general permit, if available) prior to discharging to a water of the state. The necessary steps to apply for coverage under an individual permit can be found at the department website: https://dnr.wisconsin.gov/topic/Wastewater/PermitApplications.html.

2.1.3 Content of the NOI

The applicant shall provide the following on the NOI:

- Legal permittee name;
- Permittee and facility contact information;
- Facility location and type information;
- Applicability and operations information;
- Discharge and permitted activity information;
- Attachments as indicated in Section 2.1.4; and
- Certification and signature pursuant to Section 8.2.6.

2.1.4 NOI Attachments

The new permittee must include the following attachments with the eNOI submittal:

1. A site map with clearly marked discharge and receiving water locations;
2. A process flow diagram showing all mineral mining processes that generate wastewater and any wastewater treatment and storage systems;

3. A copy of the Additive Review Worksheet and Safety Data Sheet (SDS) for each water treatment additive used that may enter surface water without receiving treatment or are not expected to be removed by wastewater treatment or storm water control practices; and
4. A storm water pollution prevention plan (SWPPP) or SWPPP summary as required under Section 3.3 of this general permit unless the facility site has been determined to be internally drained in accordance with Section 3 of this permit.

2.1.5 Incomplete NOI

The department may require an applicant to submit additional information if the department determines a NOI is incomplete. The applicant shall submit the requested information within 30 days from receipt of notification by the department.

2.1.6 Granting of Permit Coverage to New Permittees

The department will transmit a coverage letter via mail addressed to the permittee stating that the discharge from the facility is granted coverage under this general permit within 30 calendar days of receipt of the eNOI, unless the department has otherwise notified the permittee of the need for additional information as identified in Sections 2.1.2 and 2.1.5 or the department determines that the permittee is ineligible for coverage under this general permit. The applicant may not commence a point source discharge of pollutants to a water of the state associated with storm water or wastewater from mineral mining, mineral processing, or other similar activity until a coverage letter has been received from the department. Initial coverage under this permit will become effective at a new facility beginning upon the **Start Date** specified by the department in the coverage letter. The coverage letter will include instructions on where to download the general permit from the department's Internet website. Alternatively, a hard copy of the permit may be mailed to the permittee upon request.

2.2 Existing Permittees

2.2.1 Granting of Permit Coverage to Existing Permittees

Any existing permittee, that still meets the applicability criteria in Section 1 of this general permit and has an existing discharge that was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit, is automatically granted coverage under this general permit upon the **Effective Date.**

The department will transmit a reissuance letter via mail addressed to the existing permittee stating that the discharge from the facility is granted continued coverage under this general permit. The reissuance letter will be provided with instructions on where to download the general permit from the department's Internet website. Alternatively, a hard copy of the permit may be mailed to the permittee upon request.

3 Storm Water Requirements

This section only applies to storm water discharges associated with industrial activity. See Section 4 for wastewater discharge requirements.

Mineral mining, mineral processing, or other similar activity site meeting the applicability criteria in Section 1.1 that have storm water contact with overburden, raw materials, intermediate products, final products, waste materials, by-products, material handling equipment or other nonmetallic mining machinery shall implement storm water best management practices and meet the requirements in this section as specified below.

- **Internally drained site :** Under s. NR 216.30(2), Wis. Adm. Code, a mineral mining, mineral processing, or other similar activity site is internally drained if all storm water that contacts disturbed areas or excavated material is directed to onsite infiltration areas that are entirely confined and retained within the property boundaries of the site. For the purposes of this permit, a nonmetallic mining operation is internally drained if all storm water up to the 25-year, 24-hour frequency storm that falls directly on disturbed areas or comes into contact with excavated material and containing only sediment is entirely captured and contained or infiltrated within the nonmetallic mining operation. To verify internal drainage, the department may request technical information used by an applicant or permittee to claim internal drainage and inspect the nonmetallic mining operation. For an internally drained nonmetallic mining operation, the permittee shall comply with Sections 3.1 and 3.2 but is exempt from Sections 3.3 to 3.7.

  Note: Haul roads are considered part of the nonmetallic mine facility. If haul roads are stable and their associated ditches and conveyances are well vegetated and in a stable condition, the department may exclude them from consideration of the internally drained determination. If haul roads and ditches are not stable, the department shall include them for consideration of the internally drained determination.

  Un-stabilized portions of new or expanded facilities that have stormwater contact with dikes and berms which are not stabilized with vigorous perennial vegetation are considered externally drained for the purposes of this section.

  Materials meeting the exemptions in s. NR 500.08, Wis. Adm. Code, where only clean soil, brick, building stone, concrete or reinforced concrete not painted with lead-based paint, broken pavement, and wood not treated or painted with preservatives or lead-based paint are stored may be considered internally drained on a site-by-site basis.

- **Externally drained site:** For an externally drained mineral mining, mineral processing, or other similar activity site, the permittee shall comply with Sections 3.1 to 3.7.

3.1 Physical Controls

The permittee shall implement the following physical controls to prevent the discharge of storm water contaminants.

3.1.1 Minimum Source Area Pollution Prevention

All permittees shall comply with the following minimum source area pollution prevention requirements. Source areas that have the potential to contaminate storm water are described in s. NR 216.27(3)(e), Wis. Adm. Code. The permittee shall install, to the maximum extent practicable, source area pollution prevention controls that are designed to prevent contaminated storm water at the site prior to discharge. Source area pollution prevention controls include:

1. Practices that prevent and control soil erosion and sediment movement including, but not limited to, practices to stabilize soil such as expeditious revegetation, structural practices to divert overland

storm flow away from exposed soil and material stockpiles, and minimization of tracking on access roads. Sound engineering principles and practices shall be utilized to minimize erosion and movement of sediment by storm water. Both temporary and permanent best management practices (BMPs) for the control of soil erosion and sedimentation shall be designed, installed, and maintained in accordance with the construction site performance standards in s. NR 151.11(6m), Wis. Adm. Code, and in accordance with the department's Construction Site Erosion and Sediment Control Technical Standards or eqvialent methodology. BMPs shall be located so that treatment occurs before runoff enters waters of the state and installed prior to beginning land disturbances.

Note: The Construction Site Erosion and Sediment Control Technical Standards are available at the department website: http://dnr.wisconsin.gov/topic/stormwater/standards/const_standards.html.

2. Practices that manage and control residual contaminants from the outside washing of vehicles, equipment, or other objects consistent with Section 4.2.2.
3. Practices that prevent contaminated storm water as a result of contact with maintenance fluids, fuels, and lubricants associated with vehicles and machinery, including good house-keeping measures, appropriate storage, diversion of off-site storm water, preventative maintenance measures, proper management of waste materials and dumpsters/compactors, visual inspections, spill/leak prevention and response measures, and spill reporting described in Section 8.3.2 of this permit.
4. Structures or materials that cover or otherwise enclose salt handling areas or storage piles so that neither direct precipitation nor storm water runoff comes into contact with the salt. Any salt spillage resulting from activities such as loading or unloading, shall be immediately cleaned up to minimize contact with storm water. Permittees shall have a means of diverting salt contaminated storm water to a brine treatment system to facilitate reuse.
5. If applicable, use a combination of storm water contact control or containment, drainage controls, or diversions to control SARA Title III Section 313 "Water Priority Chemicals" (42 USC §11023(c)) potentially discharged through the action of storm water runoff, leaching, or wind.
6. Containment and protection practices for petroleum products and chemical bulk storage structures that prevent loss of the material to surface water or groundwater.
7. Minimize dust and off-site tracking of soil, raw materials, intermediate products, final products, or waste materials.
8. Minimize exposure of pollutants associated with the potential sources of storm water contamination identified in s. NR 216.27(3)(e), Wis. Adm. Code.
9. Maintain both structural and non-structural control measures.
10. Train and raise awareness of employees as appropriate on storm water pollution prevention, the requirements of this permit, and their specific responsibilities in implementing any of the requirements, practices, or activities of this permit.
11. Ensure that all material backfilled or deposited on the site contains only clean material. Including materials considered to be exempt under s. NR 500.08 Wis. Adm. Code where only clean soil, brick, building stone, concrete or reinforced concrete not painted with lead-based paint, broken pavement, and wood not treated or painted with preservatives or lead-based paint are disposed.

3.1.2 **Storm Water Best Management Practices (BMPs)**

When the permittee determines that source area pollution prevention controls are not feasible, are not cost effective or are inadequate to control storm water contamination, or when the department notifies the permittee that source area pollution prevention controls are inadequate to achieve a water quality standard, contaminated storm water shall be treated to reduce pollutant levels prior to discharge to waters

of the state. Areas of the mineral mining, mineral processing, or other similar activity site that are exposed to direct precipitation or storm water runoff shall implement storm water BMPs as follows:

1. Storm water containing sediment shall be contained on the nonmetallic mining site to the maximum extent practicable to facilitate evaporation or infiltration, so the sediment is removed prior to discharge. The tracking of sediment onto local roads shall be minimized by the use of storm water BMPs such as an asphalt or concrete approach, good housekeeping BMPs, rumble strip or other trackout control BMP.
2. Storm water discharges shall be treated with appropriate storm water BMPs to reduce the amount of sediment discharged. The storm water BMPs may include settling, infiltration, sedimentation, filtration, and/or modifications to retain sediment at drainage inlets (e.g., storm sewer grates or drainage pipe openings) where they occur.

   Note: Technical standards developed in accordance with ch. NR 151, Wis. Adm. Code, such as #1063 Sediment Trap, #1001 Wet Detention Pond, and #1064 Sediment Basin are available to provide guidance for sediment and pollutant control. The technical standards may be obtained by contacting the department or by searching for keyword "storm water" on the department's website. The Storm Water Construction Technical Standards are available at the following department website: http://dnr.wisconsin.gov/topic/stormwater/standards/const_standards.html. The Storm Water Post-Construction Technical Standards are available at the following department website: http://dnr.wisconsin.gov/topic/stormwater/standards/postconst_standards.html.

3.2 Annual Facility Site Compliance Inspections

The permittee shall conduct an annual facility site compliance inspection required under s. NR 216.28(2), Wis. Adm. Code, for each calendar year of coverage under this permit and document the results by February 15 for the previous calendar reporting year. The permittee or SWPPP contact identified in Section 3.3.3 shall perform and/or coordinate the inspections. The permittee or SWPPP contact shall verify that all pollution sources are correctly identified and that the site drainage pattern description remains accurate. If not, the permittee shall amend the SWPPP and notify the department. The permittee or SWPPP contact shall also ensure that appropriate source area pollution prevention controls and storm water BMPs have been chosen, and the practices are being implemented, properly operated, and adequately maintained. For sites that the department has verified are internally drained, the permittee or SWPPP contact shall confirm and document that the conditions for internal drainage remain in place. If the site is no longer internally drained, the permittee shall develop a SWPPP and notify the department. The timing of inspections shall include seasonal or cyclical activities at the facility, so the inspections are representative of the full range of activities at the site. An annual facility site compliance inspection report shall be completed for each inspection and shall include the inspection date, inspection personnel, scope of the inspection, major observations, and a schedule for implementing any further actions needed to control storm water contaminants. The annual facility site compliance inspection reports shall be retained for 5 years beyond the date the record was made and shall be provided to the department upon request.

Note: The annual facility site compliance inspection report form (Form 3400-176) is available on the department website at: https://dnr.wisconsin.gov/topic/Stormwater/industrial/forms.html.

3.3 Storm Water Pollution Prevention Plan (SWPPP)

Unless the mineral mining, mineral processing, or other similar activity site has been determined to be internally drained as specified in Section 3 above, the permittee shall operate in compliance with a site-specific SWPPP. Any potential source areas of storm water contamination shall be included in the SWPPP or, for an existing site without a SWPPP, necessitate that a SWPPP be developed. The SWPPP and any amendments thereto shall be maintained at the nonmetallic mining site or local company headquarters and shall be provided to the department upon request. The permittee shall amend the

SWPPP and notify the department in the event of any facility operational changes that could result in additional significant storm water contamination. Additionally, facilities proposing to modify their SWPPP as a result of a lateral expansion in operations shall notify the department via submittal of an amended SWPPP or SWPPP summary.

3.3.1 SWPPP Required

In accordance with ss. NR 216.27 and NR 216.29(1), Wis. Adm. Code, the owner or operator of a facility requiring coverage under this permit shall prepare a SWPPP. An owner or operator applying for initial permit coverage in accordance with Section 2.1.1, shall prepare the SWPPP prior to applying for permit coverage under s. NR 216.22, Wis. Adm. Code. An owner or operator receiving permit coverage in accordance with Section 2.2.1 shall prepare a SWPPP as follows:

1. For a facility that operated as externally drainedand was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0, as of the **Effective Date** of this permit.
2. For a facility that operated as internally drained and was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0but that no longer qualifies as internally drained, within 90 days of the **Effective Date** of this permit.

3.3.2 Purpose and Content of the SWPPP

The SWPPP is a written document that identifies sources of contaminated storm water; prescribes appropriate source area pollution prevention controls and storm water BMPs designed to prevent or minimize storm water contamination; prescribes storm water BMPs to reduce storm water contaminants prior to discharge; prescribes actions to identify non-storm water discharges that are either regulated under the wastewater requirements of this permit or to remove these discharges from the storm drainage system; and includes schedules, as necessary, to ensure that the storm water management actions prescribed in the SWPPP are implemented and evaluated on a regular basis.

Source area pollution prevention controls and storm water BMPs shall be utilized to minimize sediment discharge to waters of the state. Control of other pollutants, such as salt, petroleum products, nutrients or other materials potentially hazardous to groundwater or surface water shall be controlled through the use of source area pollution prevention controls and storm water BMPs.

3.3.3 SWPPP Contact

The SWPPP shall identify by job title the specific individual who has primary responsibility for coordinating all aspects of SWPPP development and implementation and identify any other individuals concerned with SWPPP development or implementation, and their respective roles. The specific individual who has primary responsibility shall develop, evaluate, maintain, and revise the SWPPP; and carry out and/or coordinate the specific management actions identified in the SWPPP, including maintenance practices, monitoring activities, inspections, preparing and submitting reports, and serving as facility contact for the department.

3.3.4 Site Description and Drainage Base Map

The SWPPP shall contain a drainage base map that depicts how storm water drains on, through, and from the nonmetallic mining site to surface waters, and wetlands, or infiltrates to groundwater. The drainage base map shall show the following: site property boundaries; the storm drainage collection and disposal system (including all known surface and subsurface conveyances, with the conveyances named); any secondary containment structures; roadways (paved and unpaved); groundcover features (i.e., grass, wooded areas, etc.); the location of all water discharge outfall pipes (including any outfalls permitted under another WPDES permit) numbered for reference, that discharge channelized flow to surface water, groundwater, or wetlands; the drainage area boundary for each outfall; the approximate surface area in acres draining to each outfall; the name and location of any surface water features within ¼ mile of the site; source area pollution prevention controls; and storm water BMPs that are in place at the facility.

The permittee shall also identify on the drainage base map any potential sources of pollution (materials or activities) and areas susceptible to erosion that have the potential to result in sediment-laden storm water. Such sources may include disturbed areas with no stabilizing vegetative cover; product or waste stockpiles; truck loading and washing areas, haul roads; equipment storage and maintenance areas; fuel storage areas; and rail lines or access roads and associated areas.

3.3.5 **Description of Storm Water Controls**

The SWPPP shall describe in a narrative form, with accompanying figures, plan sheets, or diagrams as necessary all source area pollution prevention controls and storm water BMPs that are in place or will be implemented for the operation.

3.3.6 **SWPPP Submittal**

The owner or operator of a new nonmetallic mining operation requiring coverage under this permit shall submit the SWPPP summary to the department in accordance with Sections 2.1.3 and 2.1.4. Additionally, an owner or operator has the option to submit their full SWPPP in lieu of the SWPPP summary when applying for coverage. The complete SWPPP for any permittee shall also be submitted to the department upon request.

3.3.7 **SWPPP Implementation**

The SWPPP shall be implemented continually as of the **Start Date** of permit coverage until the site is restored and stabilized to the satisfaction of the department or considered reclaimed in accordance with chs. NR 135 and/or NR 340, Wis. Adm. Code, by the appropriate regulatory authority.

3.4 **Certification of SWPPP Completion**

The SWPPP shall be signed in accordance with s. NR 216.22(7), Wis. Adm. Code, and contain the following statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

3.5 **SWPPP Amendments**

The permittee shall amend the SWPPP in accordance with this section and submit an updated SWPPP or SWPPP summary to the department documenting any amendments made to the SWPPP under the circumstances described below. The SWPPP or SWPPP summary documenting the amendments shall be submitted to the department prior to commencing any work necessitated by the SWPPP amendments.

1. When expansion, production increases, process modifications, changes in material handling or storage or other activities are planned which will result in a significant increase in the exposure of pollutants to storm water discharged to waters of the state or to storm water BMPs. The amendment shall contain a description of the new activities that contribute to the increased pollutant loading, planned source control activities that will be used to minimize pollutant loads, an estimate of the new or increased discharge of pollutants following treatment, and a description of any treatment system modifications needed to manage the storm water contaminants.
2. When the comprehensive annual facility site compliance inspection, quarterly visual inspection of storm water quality, or other information reveals that the provisions of the SWPPP are ineffective in controlling storm water pollutants discharged to waters of the state.

3. When, upon written notice, the department finds the storm water controls to be ineffective in achieving the conditions of this permit.
4. When the facility proposes a lateral expansion that may result in impacts to endangered and threated resources, archeological or historical sites, or wetlands.

Note: The permittee is encouraged to contact the department to discuss proposed SWPPP amendments early in the process.

3.6 Compliance with SWPPP Requirements

1. Mineral mining, mineral processing, or other similar activity site with existing WPDES general permit coverage for industrial storm water discharges prior to the **Effective Date** of this permit that have previously submitted a SWPPP or SWPPP summary to the department may be considered to be in compliance with the SWPPP requirements specified in Sections 3.3 and 3.4 above if the SWPPP meets the requirements of this permit.
2. For existing mineral mining, mineral processing, or other similar activity site found to be discharging without an industrial storm water WPDES permit, the department may, through an appropriate enforcement action or stipulation, agree to cover the operation under this permit and specify a schedule for SWPPP development, implementation and certification within the shortest time practicable.
3. New mineral mining, mineral processing, or other similar activity site covered under this permit shall comply with the SWPPP requirements of this permit and shall submit a SWPPP or SWPPP summary to the department in accordance with Sections 2.1.3 and 2.1.4.

3.7 Quarterly Visual Inspections

1. The permittee shall perform and document the results of the quarterly visual inspections required under s. NR 216.28(3), Wis. Adm. Code, for all nonmetallic mining operations covered under this permit. The SWPPP contact shall perform and/or coordinate the inspections. The SWPPP contact or SWPPP contact designee shall check that site drainage conditions and potential pollution sources identified in the SWPPP remain accurate, and that appropriate storm water pollution prevention controls and storm water BMPs are being implemented, properly operated and adequately maintained. Documentation of each quarterly visual inspection shall be completed and shall include the inspection date, inspection personnel, scope of the inspection, major observations, possible sources of any observed contaminated storm water, any appropriate revisions needed to the SWPPP, and a schedule for implementing any further actions needed to control storm water contaminants. Quarterly visual inspection documentation shall be included with the annual facility site compliance inspection report required in Section 3.2. Quarterly visual inspection documentation shall be provided to the department upon request.
2. Once per quarter, the SWPPP contact or SWPPP contact designee shall perform and document quarterly visual inspections of storm water discharge quality at each outfall. Inspections shall be conducted within the first 30 minutes or as soon thereafter as practical, but not to exceed 60 minutes, after runoff begins discharging at an outfall. A visual observation record shall be created for each visual check that includes the discharge outfall location and any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators associated with contaminated storm water. The visual observation record shall be included with the quarterly visual inspection documentation described above. Visual observation records shall also be provided to the department upon request.

   Note: The Quarterly Visual Inspection Field Sheet (Form 3400-176A) is available on the department website at: https://dnr.wisconsin.gov/topic/Stormwater/industrial/forms.html.

3. A quarterly visual inspection and/or visual check is not required if any of the following apply: (1) the SWPPP contact or SWPPP contact designee could not reasonably be present at the time of a storm water event; (2) the permittee determined that attempts to complete the inspection would endanger employee safety or well-being; (3) no storm water events large enough to conduct a visual check at an outfall occurred; (4) the quarterly visual inspection or visual check is impractical or unnecessary at an inactive or remote facility and an alternate inspection frequency of at least once every three years is established; or (5) the permittee determined that a source of contaminated storm water was outside the site's property boundary and is not associated with the permittee's activities. Quarterly visual inspections and/or visual checks not performed for any reason listed above shall be documented and included with the annual facility site compliance inspection report required in Section 3.2.

4 Wastewater Discharge Requirements

This section only applies to wastewater discharges. See Section 3 for storm water discharge requirements.

4.1 Surface Water Discharge Requirements

The requirements of this section only apply to surface water discharges. Surface water discharge means any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to surface waters within the state of Wisconsin. Any discharge to a wetland is considered a surface water discharge.

4.1.1 Sampling Points

The discharges shall be limited to the waste types designated for the listed generalized sampling points. The department may state the specific location of sampling points in the coverage letter to the permittee.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
001	Sampling Point 001 applies to the discharge of mine dewatering water from any dimension stone, crushed stone, or construction sand and gravel facility to surface water or wetlands. The permittee shall sample the mine dewatering water following treatment (if applicable) at the end of pipe, or if the end of the pipe is not accessible, prior to entering any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will discharge to surface water or wetland via Outfall 001. The permittee shall take representative samples of the discharge that consists solely of the mine dewatering water before mixing with any other water. The permittee is only required to collect samples when there is a discharge to surface water or wetlands; if there are no discharges within the reporting frequency the permittee shall report no discharge consistent with Sections 4.6.1 and 4.6.2.
002	Sampling Point 002 applies to the discharge of mine dewatering water from any industrial sand facility to surface water or wetlands. The permittee shall sample the mine dewatering water following treatment (if applicable) at the end of pipe or, if the end of the pipe is not accessible, prior to entering any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will discharge to surface water or wetlands via Outfall 002. The permittee shall take representative samples of the discharge that consists solely of the mine dewatering water before mixing with any other water. The permittee is only required to collect samples when there is a discharge to surface water or wetlands; if there are no discharges within the reporting frequency, the permittee shall report no discharge consistent with Sections 4.6.1 and 4.6.2.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
003	Sampling Point 003 applies to the discharge of process generated wastewater from any dimension stone, crushed stone, or construction sand and gravel facility that recycle the wastewater for use in the processing to surface water or wetlands. The permittee shall sample the process generated wastewater following treatment (if applicable) at the end of pipe, or if the end of the pipe is not accessible, prior to entering any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will discharge to surface water or wetlands via Outfall 003. The permittee shall take representative samples of the discharge that consist solely of the process generated wastewater before mixing with any other water. The permittee is only required to collect samples when there is a discharge to surface water or wetlands; if there are no discharges within the reporting frequency the permittee shall report no discharge consistent with Sections 4.6.1 and 4.6.2. Any other water (e.g. storm water, sludge decant, dewatering water, mineral (e.g. tailings or sediment) drainage water, vehicle and equipment washwater, dust suppression water, noncontact cooling water, condensates, or boiler blowdown) commingled with process generated wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of the process generated wastewater is deemed to be process generated wastewater.
004	Sampling Point 004 applies to the discharge of process generated wastewater to surface water or wetlands from any industrial sand facility that recycle the wastewater for use in the processing. The permittee shall sample the process generated wastewater following treatment (if applicable) at the end of pipe prior to discharge, or if the end of the pipe is not accessible, prior to entering any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that willdischarge to surface water or wetlands via Outfall 004. The permittee shall take representative samples of the discharge that consists solely of the process generated wastewater before mixing with any other water. The permittee is only required to collect samples when there is a discharge to surface water or wetlands; if there are no discharges within the reporting frequency the permittee shall report no discharge consistent with Sections 4.6.1 and 4.6.2. Any other water (e.g. storm water, sludge decant, dewatering water, mineral (e.g. tailings or sediment) drainage water, vehicle and equipment washwater, dust suppression water, noncontact cooling water, condensates, or boiler blowdown) commingled with process generated wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of the process generated wastewater is deemed to be process generated wastewater.

4.1.2 Monitoring Requirements and Effluent Limitations for Mine Dewatering

The permittee shall comply with the following monitoring requirements and effluent limitations for mine dewatering discharges at each applicable outfall at the facility site.

4.1.2.1 Sampling Point (Outfall) 001 – Mine Dewatering Discharge to Surface Water from Non-Industrial Sand Facilities

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
Flow Rate		gpd	Daily	Total Daily	Monthly	See Sections 4.1.2.4, 4.1.2.5, 4.1.6, and 4.1.7
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	Grab	Monthly	See Sections 4.1.6, and 4.1.7
pH Field	Daily Min	6.0 s.u.	Monthly	Grab	Monthly	See Sections 4.1.6 and 4.1.7
	Daily Max	9.0 s.u.				

4.1.2.2 Sampling Point (Outfall) 002 – Mine Dewatering Discharge to Surface Water from Industrial Sand Facilities

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
Flow Rate		gpd	Daily	Total Daily	Monthly	See Sections 4.1.2.4, 4.1.2.5, 4.1.6, and 4.1.7
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	Grab Comp	Monthly	See Sections 4.1.5, 4.1.6, and 4.1.7
	Monthly Avg	25 mg/L				
pH Field	Daily Min	6.0 s.u.	Monthly	Grab	Monthly	See Sections 4.1.6 and 4.1.7
	Daily Max	9.0 s.u.				

4.1.2.3 Additional Monitoring Requirements to Outfall 001 and Outfall 002

The permittee shall comply with the following additional monitoring requirements for mine dewatering discharges at each applicable outfall at the facility site if the department determines that these monitoring requirements are necessary to assess compliance with water quality standards. The department will specify the additional monitoring requirements in the coverage letter to the permittee.

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
Phosphorus, Total	-	mg/L	Quarterly	Grab	Quarterly	See Section 4.1.2.3.1
Water Treatment Additives - Specify	TBD	TBD	Monthly	Grab	Monthly	See Section 6

4.1.2.3.1 Total Phosphorus Monitoring

If the permittee discharges to a surface water with a federally approved TMDL where total phosphorus is listed as a pollutant of concern, and if the TMDL assigns a total phosphorus wasteload allocation to general permit facilties, the permittee shall sample the discharge for total phosphorus and comply the applicable sections in Section 5 of this general permit.

4.1.2.4 Flow Rate

The permittee shall estimate the total daily flow rate of the mine dewatering discharge. The flow rate may be estimated based on water balance, an uncalibrated weir, readings of a water meter on the discharge, computation from the operating period of one or more calibrated pumps handling the flow, calculations from the velocity and cross section of the discharge or any other approved flow estimating methods in s. NR 218.04(15), Wis. Adm. Code. The permittee may request, in writing, the approval of an additional method for estimating flow.

4.1.2.5 Flow Rate Control

The permittee shall control the flow rate to minimize the erosion of the stream bank, resuspension of sediment, downstream flooding, or property damage.

4.1.3 Monitoring Requirements and Effluent Limitations for Process Generated Wastewaters

The permittee shall comply with the following monitoring requirements and effluent limitations for process generated wastewater discharges to surface water at each applicable outfall at the facility site.

4.1.3.1 Sampling Point (Outfall) 003 – Process Generated Wastewater Discharge to Surface Water from Non-Industrial Sand Facilities

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
Flow Rate		gpd	Daily	Continuous	Monthly	See Section 4.1.3.5
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	Grab Comp	Monthly	See Sections 4.1.5, 4.1.6, and 4.1.7
pH Field	Daily Min	6.0 s.u.	Monthly	Grab	Monthly	See Sections 4.1.6 and 4.1.7
	Daily Max	9.0 s.u.				

4.1.3.2 Sampling Point (Outfall) 004 – Process Generated Wastewater Discharge to Surface Water from Industrial Sand Facilities

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
Flow Rate		gpd	Daily	Continuous	Monthly	See Section 4.1.3.5
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	Grab Comp	Monthly	See Sections 4.1.5, 4.1.6, and 4.1.7
	Monthly Avg	25 mg/L				
pH Field	Daily Min	6.0 s.u.	Monthly	Grab	Monthly	See Sections 4.1.6 and 4.1.7
	Daily Max	9.0 s.u.				

4.1.3.3 Additional Monitoring Requirements to Outfall 003 and Outfall 004

The permittee shall comply with the following additional monitoring requirements and limitations for process generated wastewater discharges to surface water at each applicable outfall at the facility site if the department determines that these monitoring requirements are necessary to assess compliance with surface water quality standards. The department will specify the additional monitoring requirements in the coverage letter to the permittee.

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
Phosphorus, Total	-	mg/L	Quarterly	Grab	Quarterly	See Section 4.1.3.3.1
Water Treatment Additives - Specify	TBD	TBD	Monthly	Grab	Monthly	See Section 6

4.1.3.3.1 Total Phosphorus Monitoring

If the permittee discharges to a surface water with a federally approved TMDL where total phosphorus is listed as a pollutant of concern, and if the TMDL assigns a Total Phosphorus Waste Load Allocation to general permit facilities, the permittee shall sample the discharge for total phosphorus and comply the applicable sections in Section 5 of this general permit.

4.1.3.4 Discharge Screening Requirements

The permittee shall sample the process generated wastewater discharge for the parameters provided below. The department will determine if the discharge screening results for any parameter has the reasonable potential to exceed surface water quality standards in chs. NR 102, NR 104, NR 105, NR 106, NR 207, and NR 217, Wis. Adm. Code, or other applicable water quality standards. The department will assess if the discharge is still eligible for coverage under this general permit based on the results and the applicability criteria in Section 1 of this general permit.

Discharge Screening Requirments				
Parameter	**Units**	**Sample Type**	**Number of Samples**	**Notes**
Oil & Grease	mg/L	Grab	1	See Sections 4.1.3.4.1 and 4.1.3.4.2
Temperature, Maximum	°F	Grab	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.3.4.3
Nitrogen, Ammonia (NH_3-N) Total	mg/L	Grab	1	See Sections 4.1.3.4.1 and 4.1.3.4.2
Sulfate	mg/L	Grab	1	See Sections 4.1.3.4.1 and 4.1.3.4.2

Discharge Screening Requirments				
Parameter	**Units**	**Sample Type**	**Number of Samples**	**Notes**
Chloride	mg/L	Grab	1	See Sections 4.1.3.4.1 and 4.1.3.4.2
Arsenic, Total Recoverable	µg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.5
Cadmium, Total Recoverable	µg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.5
Chromium, Total Recoverable	µg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.5
Copper, Total Recoverable	µg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.5
Lead, Total Recoverable	µg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.5
Nickel, Total Recoverable	µg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.5
Zinc, Total Recoverable	µg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, and 4.1.5
Hardness, Total as $CaCO_3$	mg/L	Grab Comp	1	See Sections 4.1.3.4.1, 4.1.3.4.2, 4.1.3.4.4, and 4.1.5

4.1.3.4.1 **New Permittee**

Any new permittee that proposes a new discharge during the permit term that was not previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the Effective Date of this general permit, shall submit the discharge screening results with the NOI. In lieu of providing the discharge screening results with the NOI, the permittee shall sample the discharge after start-up to fulfill the discharge screening requirement above. The permittee shall submit the discharge screening results after start-up within 90 days of the date on the letter granting coverage under this general permit or commencement of the discharge, whichever is later, to the department general permit contact for their county.

4.1.3.4.2 **Existing Permittee**

Any existing permittee that had an existing discharge that was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit, shall provide the discharge screening results within 90 days of the effective date of this general permit to the department general permit contact for their county.

4.1.3.4.3 Maximum Temperature

For maximum temperature, the permittee shall collect a grab sample thatis representative of the highest effluent temperature known or expected to occur on any day under normal operating conditions.

4.1.3.4.4 Total Hardness

The permittee shall require analyses be performed on the same sample for total recoverable metals and total hardness.

4.1.3.5 Continuous Flow Rate Monitoring

4.1.3.5.1 New Permittees

Any new permittee that was not previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit, shall continuously measure the effluent flow rate of process generated wastewater prior to being discharged to surface water with a department approved continuous recording device specified in s. NR 218.05(1), Wis. Adm. Code. Devices used for continuously measuring flow shall be calibrated and the calibration rechecked at least annually using one of the methods specified in s. NR 218.06(1), Wis. Adm. Code.

4.1.3.5.2 Existing Permittees

Any existing permittee that was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit that does not have a continuous flow recording device installed to measure the effluent flow rate of process generated wastewater prior to being discharged to surface water shall comply with the compliance schedule in Section 7.2 to install a continuous flow recording device.

4.1.4 Overflows from Facilties Covered By Permit

Any overflow from facilities covered by this general permit shall not be subject to the limitations of Section 4.1.2 and Section 4.1.3 if the facilities are designed, constructed and maintained to contain or treat the volume of wastewater which would result from a 10-year 24-hour precipitation event. The term "10-year 24-hour precipitation event" shall mean the maximum 24 hour precipitation event with a probable reoccurrence interval of once in 10 years.

Note: This information is available in "Weather Bureau Technical Paper No. 40," May 1961 and "NOAA Atlas 14 Volume 8 Version 2, *Precipitation-Frequency Atlas of the United States, Midwestern States"*, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce or the following website: https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html.

4.1.5 Grab Composite Samples

When grab composite is listed as the sample type, the permittee shall create grab composite samples by combining at least 3 individual grab samples of equal volume taken at approximately 1-hour intervals over a 3-hour period.

4.1.6 Sampling and Reporting Frequency

4.1.6.1 New Permittees

Any new permittee that was not previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit, shall comply with the sampling and reporting frequencies listed in either Sections 4.1.2.1 to 4.1.2.3 or 4.1.3.1 to 4.1.3.3. The permittee may request a sampling and reporting reduction if the conditions of Section 4.1.7 are met.

4.1.6.2 Existing Permittees

For any existing permittee that was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit, the sampling and reporting frequency shall be quarterly for the applicable parameters, except flow rate, for facilities listed in either Sections 4.1.2.1 to 4.1.2.3 or 4.1.3.1 to 4.1.3.3. If limit exceedances occur for parameters listed in either Sections 4.1.2.1 to 4.1.2.3 or 4.1.3.1 to 4.1.3.3, the department may increase the sampling frequency and provide notice by letter for that parameter to monthly. The permittee may request a sampling and reporting reduction if the conditions of Section 4.1.7 are met.

4.1.6.2.1 Sampling and Reporting Frequency for Flow Rate

For any existing permittee that was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit, the sampling frequency and reporting frequency shall be as specified in this section for flow rate for facitlies listed under either Sections 4.1.2.1 or 4.1.2.2. This section does not apply to facilities that are required to continuously measure the flow rate under Sections 4.1.3.1 and 4.1.3.2. The department may require a permittee to comply with the sampling and reporting frequencies listed in Sections 4.1.2.1 or 4.1.2.2 and provide notice by letter if more frequent flow rate monitoring is necessary to comply with the effluent limitations at the site. The permittee shall maintain a daily log of daily flows at the facility and retain the records pursuant to Section 8.2.5 except for remote and unmanned sites, which shall at least maintain and retain a monthly log of total monthly flows at the facility. The permittee shall furnish the flow log to the department upon request.

Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Reporting Frequency	Notes
Flow Rate	-	gal/qtr	Quarterly	Total Quarterly	Quarterly	

4.1.7 Sampling and Reporting Frequency Reduction

The department may approve in writing a sampling and reporting frequency reduction for total suspended solids, pH, or other specified water treatment additives. To qualify for reduced sampling and reporting frequency, the permittee must comply with the following conditions:

1. To allow a reduced sampling and reporting frequency of quarterly for TSS or additives, the permittee must have collected 24 consecutive representative samples of the discharge, and the average of the monitoring results must be less than 50% of the discharge limitations for total suspended solids or other specified water treatment additives. To allow reduced sampling and reporting frquency of quarterly for pH, the average pH concentration must be between 6.0 to 9.0 s.u. Sampling and reporting frequency for flow rate may be reduced in accordance with Section 4.1.6.2.1.
2. To allow a reduced sampling and reporting frequency of once per six months for TSS or additives, the permittee must have collected 24 consecutive representative samples of the discharge and the average of the monitoring results must be less than 25% of the discharge limitations for total suspended solids or other specified water treatment additives. To allow a reduced sampling and reporting frequency of quarterly for pH, the average pH concentration must be between 6.5 to 8.5 s.u. Sampling and reporting frequency for flow rate may be reduced in accordance with Section 4.1.6.2.1.
3. Permittees requesting reduced sampling and reporting frequencies must submit a sampling and reporting frequency reduction request to the department general permit contact for their county (https://dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html) with supporting monitoring results, or request that the department evaluate any electronically submitted data.

Permittees may use historical discharge data predating the effective date of this permit, if available, in the sampling and reporting frequency reduction request.

4. Permittees may only receive reduced sampling and reporting frequencies if they are in substantial compliance with the permit and have not violated any permit limitations during the two-year period or after taking 24 consecutive representative samples.
5. Sampling and reporting frequency reductions are only valid for the term of the permit. Permittees shall reapply each permit term.
6. If limit exceedances occur, the department may increase the sampling frequency for that parameter to monthly until the permittee can demonstrate compliance with conditions 1. to 4. above. Any such increase will be communicated to the permittee in a letter.

4.1.8 Surface Water Narrative Requirements

In accordance with s. NR 102.04, Wis. Adm. Code, to preserve and enhance the quality of waters, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

a) Substances that will cause objectionable deposits on the shore or on the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

4.1.9 Wetland Narrative Requirements

In accordance with s. NR 103.01, Wis. Adm. Code, the permittee shall meet the following conditions at all times so that wetland water quality related functional values or uses of wetlands as stated in s. NR 103.03(1), Wis. Adm. Code are protected:

a) Liquids, fill, or other solids or gas may not be present in amounts which may cause significant adverse impacts to wetlands.

b) Floating or submerged debris, oil or other material may not be present in amounts which may interfere with public rights or interest or which may cause significant adverse impacts to wetlands.

c) Materials producing color, odor, taste or unsightliness may not be present in amounts which may cause significant adverse impacts to wetlands.

d) Concentrations or combinations of substances which are toxic or harmful to human, animal or plant life may not be present in amounts which individually or cumulatively may cause significant adverse impacts to wetlands.

e) Hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent significant adverse impacts on:

   a. Water currents, erosion or sedimentation patterns;

b. Water temperature variations;

c. The chemical, nutrient and dissolved oxygen regime of the wetland;

d. The movement of aquatic fauna;

e. The pH of the wetland; and

f. Water levels or elevations.

f) Existing habitats and the populations of wetland animals and vegetation shall be maintained by:

a. Protecting food supplies for fish and wildlife;

b. Protecting reproductive and nursery areas; and

c. Preventing conditions conducive to the establishment or proliferation of nuisance organisms.

4.2 Groundwater Discharge Requirements

The requirements of this section only apply to groundwater discharges. Groundwater discharge means any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to a permeable surface, unlined lagoon, absorption pond, or seepage cell system that infiltrates or seeps the wastewater into the soil.

4.2.1 Sampling Points

The discharges shall be limited to the waste types designated for the listed generalized sampling points. The department may state the specific location of sampling points in the coverage letter to the permittee.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
005	Sampling Point 005 applies to the separate discharge of either mine dewatering water; washwater from outside washing of vehicles, equipment, or other objects; or dust suppression water to groundwater via infiltration at any mineral (nonmetallic) mining operations, mineral processing operations, or other similar activities The permittee shall comply with the best management practices listed in Section 4.2.2 for each type of wastewater.
006	Sampling Point 006 applies to the discharge from process generated wastewater treatment facilites to groundwater via infiltration from any active mineral (nonmetallic) mining operations, mineral processing operations, or other similar activities. The permittee shall sample the process generated wastewater in the treatment facility at a point and in a manner that will yield representative results of the wastewater that may enter groundwater via Outfall 006. Any other water (e.g. storm water, sludge decant, dewatering water, mineral (e.g. tailings or sediment) drainage water, vehicle and equipment washwater, dust suppression water, noncontact cooling water, condensates, or boiler blowdown) commingled with process generated wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of the process generated wastewater is deemed to be process generated wastewater. The permittee is not required to sample process generated wastewater treatment facilities while the site is temporarily inactive and sits idle per Section 4.5.

4.2.2 Best Management Practices for Mine Dewatering, Vehicle Washwater, and Dust Suppression Water

The permittee shall comply with the following best management practices for mine dewatering, vehicle washwater, and dust suppression water discharges to groundwater via infiltration at each applicable outfall at the facility site.

4.2.2.1 Winter Operations

The permittee may discharge to groundwater during frozen conditions provided infiltration is adequate to prevent runoff and long-term ponding or pooling of water. Since infiltration decreases in the winter, the department may require storage during cold weather when feasible.

4.2.2.2 Rainfall Events

The permittee may not discharge during any rainfall events that cause runoff from the site into surface waters, unless the infiltration area is located such that runoff from the area cannot enter a surface water.

4.2.2.3 Mine Dewatering Activities

If the discharge of mine dewatering water is directed to and commingled with any other wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of wastewater, the wastewater is deemed to be process generated wastewater and required to be monitored in accordance with either Section 4.1.3 or Section 4.2.3.

4.2.2.4 Outside Washing Activities

The permittee shall comply the following BMPs specific to discharges from outside washing of vehicles, equipment, and other objects.:

1. Biodegradable detergents or soaps are used during washing and a record of the biodegradable detergents or soaps used at the site is maintained by the facility;
2. Road deicing chemicals (e.g. road salt) that have accumulated on vehicles and equipment are physically removed to the extent practical and disposed as solid waste.
3. The number of vehicles and equipment containing significant amounts of road deicing chemicals washed at a site is limited to the maximum extent practicable; and
4. Any visible oil and grease are physically removed from vehicles, equipment, or other objects to the maximum extent feasible and disposed as a solid waste prior to washing.
5. Vehicle maintenance is not performed in vehicle washing areas that drain to groundwater.

If the discharge of vehicle or equipment washwater is directed to and commingled with any other wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of wastewater, the wastewater is deemed to be process generated wastewater and required to be monitored in accordance with either Section 4.1.3 or Section 4.2.3.

4.2.2.5 Dust Suppression Control

The permittee shall comply the following BMPs specific to discharges from dust suppression control.

1. The permittee shall conduct dust suppression practices that will not result in a discharge of the dust suppression water to a surface water or result in dust suppression water running off the mineral mining and processing site.
2. The permittee may reuse collected storm water, mine dewatering water, or process generated wastewater, for dust suppression activities provided the water is evenly distributed and the water use is limited to the maximum extent practicable to control the dust.

If the discharge of dust suppression water is directed to and commingled with any other wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of wastewater, the wastewater is deemed to be process generated wastewater and required to be monitored in accordance with either Section 4.1.3 or Section 4.2.3.

Note: Further guidance is available from the *Wisconsin Transportation Bulletin No. 13, Dust Control on Unpaved Roads*, at:
https://epd.wisc.edu/tic/wp-content/uploads/sites/3/2019/12/Bltn_013_DustControl.pdf.

4.2.3 Monitoring Requirements and Effluent Limitations for Process Generated Wastewater Treatment Facility

The permittee shall comply with the following monitoring requirements and limitations for each process generated wastewater treatment facility at the facility site. Process generated wastewater treatment facility means any pit, pond, lagoon, mine, series of ponds or other facility used for treatment of process generated wastewater. Any discharge to a process generated wastewater treatment facility is considered a discharge to groundwater and is subject to the monitoring requirements and limitations specified in this section unless the permittee can demonstrate under Section 4.2.3.1.3 that the discharge to groundwater from the process generated wastewater treatment facility is prevented or minimized to the extent technically and economically feasible.

4.2.3.1 Sampling Point (Outfall) 006 – Process Generated Wastewater Treatment Facility

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
COD	-	mg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
pH Field	-	s.u.	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Nitrogen, Nitrate + Nitrite Total	-	mg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Chloride	-	mg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Sulfate, Total	-	mg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Aluminum, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Arsenic, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Cadmium, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Chromium, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Copper, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Iron, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4

Monitoring Requirements and Effluent Limitations						
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Reporting Frequency**	**Notes**
Lead, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Manganese, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Nickel, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4
Zinc, Dissolved	-	µg/L	Annual	Grab Comp	Annual	See Sections 4.2.3.1.1 to 4.2.3.1.4

4.2.3.1.1 Grab Composite Samples

The permittee shall create grab composite samples of the wastewater in the process generated wastewater treatment facility by combining at least three individual grab samples of equal volume taken at three locations across the process generated wastewater treatment facility. At least one of those grab samples shall be taken near the inlet to the process generated wastewater treatment facility.

4.2.3.1.2 Waiver from Sampling and Reporting for Certain Parameters

The department may approve a sampling and reporting waiver from the sampling and reporting requirements for certain parameters listed in Section 4.2.3.1 if the permittee has collected representative samples of the wastewater in the process generated wastewater treatment facility in two consecutive years and the concentrations of the parameter are equal to or less than the preventive action level for that parameter in ch. NR 140, Wis. Adm. Code. The permittee must submit a sampling and reporting waiver request to the department general permit contact for their county with supporting monitoring data. If any changes occur at the nonmetallic mining and/or processing site that could impact this waiver approval, the permittee must notify the department to determine if the waiver approval is still valid. The sampling and reporting waiver is only valid for the term of the permit. Permittees shall reapply each permit term.

4.2.3.1.3 Waiver from All Sampling and Reporting Requirements

The department may approve a sampling and reporting waiver from the sampling and reporting requirements in Section 4.2.3.1 if one of the following criteria are met. The permittee must submit a sampling and reporting waiver request to the department general permit contact for their county with supporting information provided below. If any changes occur at the nonmetallic mining and/or processing site that could impact this waiver approval, the permittee must notify the department to determine if the waiver is approval is still valid. The sampling and reporting waiver is only valid for the term of the permit. Permittees shall reapply each permit term. The permittee must demonstrate that the process generated wastewater treatment facility will comply with one of the following:

1. **Exfiltration Rate:**

   Perform an engineered analysis of the existing process wastewater treatment facility to determine the average wastewater lost to groundwater via exfiltration during active and inactive processing from the process generated wastewater treatment facility. If the average exfiltration rate from the process generated wastewater treatment facility is at or below 500 gallons per acre per day, then the permittee may be exempt from the sampling and reporting requirements in Section 4.2.3.1. If the average exfiltration rate from the process generated wastewater treatment facility is greater than 500 gallons per acre per day, then permittee shall comply with the sampling and reporting

requirements in Section 4.2.3.1 or demonstrate qualification for the exemption under subs. 2, 3, or 4 below.

2. **Wastewater Treatment Facility Upgrades:**

   The process generated wastewater facility was modified or upgraded in accordance ch. NR 213, Wis. Adm. Code to prevent exfiltration to groundwater to the extent technically and economically feasible. Any plans and specifications for modications or upgrades to a process generated wastewater treatment facility shall be reviewed and approved by the department in accordance with s. 281.41, Wis. Stats.

3. **Site Specific and Background Conditions:**

   a. That increases of substances in the groundwater from the process generated wastewater treatment facility at the site will be minimized to the extent technically and economically feasible; and

   b. That applicable enforcement standards and/or preventive action limits will not be exceeded.

   Information to include to demostrate site specific and background conditions are met:

   1. Physical characteristics of the site, such as soil texture, soil permeability, direction and rate of groundwater flow, depth to groundwater and depth to and type of bedrock.
   2. Age and condition of existing structures.
   3. Background and downgradient groundwater concentrations.
   4. The quantity and composition of the materials stored or treated at the facility.
   5. The compatibility between the materials stored or treated and the bottom of the process generated wastewater treatment facility.
   6. Any other information relevant to the environmental impacts of the facility's operations.

4. **Inactive Site:**

   Inactive mines must only sample process generated wastewater ponds for the parameters specified in section 4.2.3.1 in the first year of the permit. Following collection of an initial sample, permittees may notify the department that the mine is inactive using the process in Section 4.5 and be exempt from future monitoring and reporting for process generated wastewater while inactive. If the mine becomes active again, the mine must notify the department, and this waiver is no longer valid.

4.2.3.1.4 Potential Violation of Groundwater Standards in ch. NR 140, Wis. Adm. Code

If representative sampling results of the process generated wastewater collected from the treatment facility include exceedances of an enforcement standard in two consecutive reporting periods for any parameter under ch. NR 140, Wis. Adm. Code, the department may require, or permittee may request, any of the following actions:

1. Revoke coverage under this general permit and apply for an individual WPDES permit to the owner or operator of the nonmetallic mining and/or processing operation that may specify groundwater monitoring requirements.
2. Modify or upgrade the treatment facility in accordance ch. NR 213, Wis. Adm. Code to prevent exfiltration to groundwater and to prevent continued exceedances of groundwater standards. Any

plans and specifications for modifications or upgrades to a process generated wastewater treatment facility shall be reviewed and approved by the department in accordance with s. 281.41, Wis. Stats.

3. Perform an engineered analysis of the existing process wastewater treatment facility to determine the average wastewater lost to groundwater via exfiltration during active and inactive processing from the process generated wastewater treatment facility. If the average exfiltration rate from the process generated wastewater treatment facility is at or below 500 gallons per acre per day then the permittee may remain eligible for this general permit if the department determines that groundwater standards will be met at the point of standards application. If the average exfiltration rate from the process generated wastewater treatment facility is greater than 500 gallons per acre per day, the department may request that the facility perform one of the actions listed above under condition 1. and 2.

4.2.3.1.5 Polyacrylamide

If a polyacrylamide product is used as a water treatment additive, the permittee shall limit the amount of acrylamide monomer in the additive to no more than 0.05% by weight. The permittee shall certify to the department in writing the additive name and manufacturer, and that the acrylamide monomer content does not exceed 0.05% by weight within 30 calendar days of the effective date of this permit or prior to use of a polyacrylamide product. The permittee may use a third-party or manufacturer's certification to verify the percent of acrylamide content. The permittee shall limit the maximum dose of polyacrylamide product used to no more than necessary to achieve effective sedimentation in the treatment process.

Note: The 0.05% acrylamide monomer content by weight in a polyacrylamide water treatment additive is consistent with the USEPA's requirement for drinking water treatment. See http://water.epa.gov/drink/contaminants/basicinformation/acrylamide.cfm.

4.3 Dewatering of Sediment and Sludge

The permittee shall not discharge any water from dewatering sediment removed during maintenance of storm waterBMPs or from sludge removed during maintenance of wastewater treatment facilities directly to surface water. The permittee shall recycle this water as process wastewater and may discharge the process wastewater in accordance with Sections 4.1.3 or 4.2.3.

4.4 Oil & Grease Best Management Practices

The permittee shall implement best management practices to eliminate the release or leak of oil and grease from vehicles and equipment to a water of the state.

4.5 Notification of Temporarily Inactive Site

The permittee shall notify the department when a mine and/or processing site will be temporarily inactive for a prolonged period of time and when the site becomes active again with a discharge to a water of the state. The department will inactivate the electronic discharge monitoring reports (eDMR) for the site until the site and discharge become active again. The permittee is not required to sample process generated wastewater treatment facilities while the site is temporarily inactive and sits idle, except in the first year of the permit term. The permittee must collect the annual sample required under section 4.2.3.1 for a given year if the mine is active at any point during that calendar year.

4.6 Wastewater Reporting Requirements

The permittee shall comply with the following wastewater reporting requirements.

4.6.1 Reporting of Monitoring Results

The permittee shall submit wastewater discharge monitoring data as required by Section 4.1 and/or Section 4.2 on an electronic discharge monitoring report (eDMR) form in accordance with s. NR 205.07(1)(r), Wis. Adm. Code upon on the **Effective Date** of this general permit. The eDMR form is available through the Switchboard (https://dnr.wisconsin.gov/topic/Switchboard). The eDMRs are due 21 days following the end of the reporting period. For instance, if a parameter is to be sampled quarterly, the eDMRs are due 21 days following the end of each quarter. **The eDMR shall be submitted to the department regardless whether or not there is a discharge during any reporting period and the flow rate shall be reported consistent with Section 4.6.2 when there is no flow or discharge on a day. Paper copies will no longer be accepted.**

In order to access the eDMR forms, you must have or create a Wisconsin Web Access Management System (WAMS) ID and request access for each facility for which you intend to submit data. The Switchboard can be used to create a WAMS ID and register with your contact information and user roles. If you already have a WAMS ID, then you do not need to recreate one but must still request access to each facility for which you intend to submit data.

4.6.2 Reporting Conventions

The permittee shall use the following conventions when reporting effluent monitoring results except when otherwise noted:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified unless otherwise noted.
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a value of 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.
- For days with no flow or discharge, the flow rate shall be reported as “0” on those days.

5 Antidegradation, Impaired Waters & TMDLs, and Wetland Requirements

5.1 Antidegradation Standard and Procedures

Any permittee proposing a new discharge of wastewater or new or increased discharge of storm water to surface water of the state is in compliance with the antidegradation standard in s. NR 102.05(1)(a), Wis. Adm. Code and antidegradation evaluation procedures in ch. NR 207, Wis. Adm. Code when the department determines that the discharge is authorized for coverage under this general permit via letter. Any increased discharge of storm water or wastewater would not be applicable to antidegradation evaluation procedures in ch. NR 207, Wis. Adm. Code if the discharge is in compliance with the effluent limitations or performance standards in this general permit. However, any proposed new or increased discharge of storm water to an ORW or ERW must also comply with Section 5.1.1 prior to discharge to demonstrate compliance with the antidegradation standard in s. NR 102.05(1)(a), Wis. Adm. Code and antidegradation evaluation procedures in ch. NR 207, Wis. Adm. Code.

5.1.1 New or Increased Discharge of Storm Water to ERW or ORW

Any permittee proposing new or increased discharge of storm water to an ORW or an ERW or discharges of storm water that would lower the water quality of downstream ORWs or ERWs, the permittee shall comply with the following requirements:

a. The new or increased discharge of storm water is controlled to discharge pollutants equal to or less than background levels of the pollutants immediately upstream of the discharge site upon the **Start Date** of coverage under this permit;

b. The SWPPP, as required under Section 3 of this permit, includes storm water control practices designed to remove pollutants equal to or less than background levels of the pollutants immediately upstream of the discharge site; and

c. The permittee demonstrates in writing how the proposed new or increased storm water discharge will accommodate important economic or social development in any of the ways listed in s. NR 207.04(1)(c), Wis. Adm. Code.

5.2 Impaired Waters & TMDL Requirements

Note: The section 303(d) list of Wisconsin impaired surface water bodies may be obtained by contacting the department or by searching for the section 303(d) list on the department's Internet site: https://dnr.wisconsin.gov/topic/SurfaceWater/ConditionLists.html. The department updates the section 303(d) list approximately every two years. State and Federal Approved TMDLs can be identified by contacting the department, or by searching for the State and Federal Approved TMDL list on the department Internet site: https://dnr.wisconsin.gov/topic/TMDLs/TMDLReports.html. General permit discharges located inside of a permitted Municipal Separate Storm Sewer System (MS4) may be included in the wasteload allocation for MS4s pursuant to the approved TMDL.

5.2.1 Impaired Water and TMDL Compliance

5.2.1.1 Wastewater Discharges

IThe permittee shall must comply with the pollutant wasteload allocation assigned to general permit discharges in any USEPA approved TMDLs. The permittee shall assess whether the TMDL requirements are being met based on current practices. If additional control measures are necessary to consistently meet the TMDL wasteload allocations, the permittee shall implement such controls and reduce the pollutant of concern loadings or concentrations to meet the wasteload allocation for general permits.

Note: The department will specify whether the discharge is within a federally approved TMDL in the coverage letter to the permittee.

5.2.1.2 Storm Water Discharges

If the permittee will have a storm water discharge with a detectable pollutant of concern to a surface water with a federally approved TMDL, the permittee is required to include a written section in the SWPPP for the facility that specifically identifies source area pollution prevention controls and storm water BMPs that will collectively be used to reduce, with the goal of eliminating, the pollutant of concern in the storm water discharge and explain why these controls and practices were chosen as opposed to other alternatives within 180 calendar days of the effective date of this permit. The permittee must comply with the pollutant wasteload allocation granted to general permit discharges in any USEPAapproved TMDLs.

5.2.2 Department Determinations

The permittee may not commence a new discharge of a pollutant of concern to a surface water with a federally approved TMDL until the department has determined that the proposed discharge is consistent with the wasteload allocation specified in a federally approved TMDL. The department will make this determination by granting coverage of the discharge under this general permit by letter. If the department determines, by notification to the permittee, that the proposed discharge is inconsistent with the wasteload allocation in a federally approved TMDL, the permittee must perform one of the following actions and notify the department of the selected option:

1. Apply for coverage under an individual permit;
2. Find an alternative discharge location (e.g., discharging to groundwater or sanitary sewer). If the alternative discharge location is to another water of the state, the department will determine if the discharge will be eligible and granted coverage under this general permit by letter; or
3. Reduce or eliminate loadings or concentrations of the pollutant of concern so that the discharge meets the wasteload allocation in the approved TMDL for general permits. The department will determine if the discharge will be eligible and granted coverage under this general permit by letter.

5.3 Wetland Requirements

Note: Activities performed in or near wetlands, floodplains, or shorelands may require approvals or permits pursuant to other applicable Wisconsin administrative codes or statutes or by other federal, state, or local agencies.

5.3.1 Practicable Alternatives Analysis

If the permittee will propose a new discharge to a wetland, the permittee shall demonstrate the following in writing:

1. That no practicable alternatives exist that would avoid discharge to the wetland; and
2. That all practicable measures to minimize adverse impacts to the functional values of the affected wetlands will be taken.

5.3.2 Department Determinations

The permittee may not establish a new discharge to a wetland until the department has determined that the proposed discharge meets the wetland requirements in Section 5.3.1 and ch. NR 103, Wis. Adm. Code, including that the proposed discharge will not result in significant adverse impacts to wetland functional values, significant adverse impacts to water quality, or other significant adverse environmental consequences. The department will make this determination by granting coverage of the discharge under this general permit by letter. If the department determines, by notification to the permittee, that the

proposed discharge will not meet the wetland requirements in Section 5.3.1 and ch. NR 103, Wis. Adm. Code, the permittee must do one of the following actions and notify the department of the selected option:

1. Apply for coverage under an individual permit;
2. Find an alternative discharge location (e.g., discharging to groundwater or sanitary sewer). If the alternative discharge location is to another water of the state, the department will determine if the discharge will be eligible and granted coverage under this general permit by letter; or
3. Reduce or eliminate pollutant concentrations in the discharge so that the discharge does not result in adverse impacts to wetland functional values, significant adverse impacts to water quality, or other significant adverse environmental consequences. The department will determine if the discharge will be eligible and granted under this general permit by letter.

6 Water Treatment Additives

6.1 Use of Water Treatment Additives

The permittee shall not add any substance or water treatment additive to the storm water and/or wastewater discharge to a surface water unless the use of the water treatment additive is reviewed and approved, in writing, by the department. A water treatment additive review and approval by the department is necessary for substances that may enter surface water without receiving treatment or substances that are used in a water treatment process but are not expected to be removed by wastewater treatment or storm water control practices.

Note: For more information on the water treatment additive review process, please see the department's additives webpage: https://dnr.wisconsin.gov/topic/Wastewater/Additives.html.

6.2 Approval of Water Treatment Additive Usage

6.2.1 New Discharge

Any permittee that proposes a new discharge to a surface water during the permit term that has not been covered under this general permit and wishes to commence use of a water treatment additive, the permittee shall submit a copy of the Additive Review Worksheet and SDS to the department for each water treatment additive used which requires department approval with the NOI. The Additive Review Worksheet is available on the department's additives webpage link above. The department will transmit the additive use approval on the coverage letter to the permittee. The permittee shall comply with the conditions specified in the coverage letter.

6.2.2 Existing Discharge

Any permittee with an existing discharge that has been granted coverage under this general permit during the permit term and wishes to commence use of a new water treatment additive or increase the usage of an approved water treatment additive, the permittee shall submit a written request with a copy of the Additive Review Worksheet and SDS to the department for each water treatment additive used which requires department approval. The Additive Review Worksheet is available on the department's additives webpage link above. The permittee must receive written approval from the department prior to initiating such changes. The department will transmit an additive use approval letter to the permittee. The permittee shall comply with the conditions specified in the approval letter.

6.3 Water Treatment Additive Usage Record

The permittee shall maintain records of the monthly water treatment additive usage including the water treatment additive name, manufacturer, and daily maximum and monthly average amount used. Water treatment additive use may be recorded as the quantity of the pollutant added to the discharge.

6.4 Public Notice of Additive Use Restrictions

If the department determines that a water treatment additive requires a usage restriction and effluent limits, the department is required to public notice those proposed limits prior to the limits becoming effective and implemented through this general permit. The public notice period is to last 30-days and be issued in a newspaper of general circulation in the area affected by the discharge and/or the department's public notice webpage as required by ch. NR 203, Wis. Adm. Code. The effluent limitations, limit type, and sample type for substances will be stated in the additive use approval letter.

7 Schedules

7.1 Submittal of Discharge Information for Existing Permittees

This schedule applies to existing permittees that had a wastewater discharge that was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the **Effective Date** of this general permit.

Required Action	Due Date
Discharge Information Submittal: Any existing permittee shall submit a detailed description of all wastewater discharge activities that occur at the mineral mining and processing site to the department. The discharge information submittal shall include the status of the site, storm water discharge location, wastewater discharge type, wastewater discharge location, water sources used at the facility, water treatment additives used, and the discharge monitoring contact. The department will provide a discharge information form to the permittee to complete upon reissuance of this general permit.	January 31, 2023

7.2 Continuous Effluent Flow Monitoring Device Installation

This schedule applies to any existing permittee that was previously covered under WPDES Permit No. WI-A046515-06-0 or WI-B046515-06-0 prior to the Effective Date of this general permit that does not have a continuous flow recording device installed to measure the effluent flow rate of process generated wastewater at the end of pipe prior to being discharged to surface water.

Required Action	Due Date
Final Plans and Specifications: The permittee shall submit a brief engineering design report with final construction plans and specifications to the department for approval pursuant to s. 281.41, Wis. Stats., specifying the installation of a continuous effluent flow monitoring device to measure the flow rate of process generated wastewater discharged to surface water in compliance with s. NR 218.05(1), Wis. Adm. Code.	June 30, 2023
Complete Construction: The permittee shall complete construction and installation of the continuous effluent flow monitoring device.	December 31, 2023

8 Standard Requirements

The conditions in ss. NR 205.07(1), NR 205.07(3), NR 205.08(3), and NR 216.30, Wis. Adm. Code and 40 CFR Part 122 are included by reference in this permit. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirements can be found in the ch. NR 216 and ss. NR 205.07(1), 205.07(3), NR 205.08, Wis. Adm. Code and 40 CFR 122.

8.1 General Conditions for General Permits

The permittee shall comply with the following general conditions for general permits.

8.1.1 Delegation of Signature Authority

The permittee must submit a completed delegation of signature authority (DSA) request (Form 3400-220) or equivalent to the department for a duly authorized representative to submit specific permit documents on the behalf of the responsible executive or municipal officer, manager, partner or proprietor of a permitted discharge. A responsible executive or municipal officer, manager, partner or proprietor can only delegate signature authority to a duly authorized representative if that person is responsible for the overall operation of the facility or activity regulated by this general permit. The permittee shall specify the name of the individual or the employment position that has the signature authority and responsibility on the DSA. The permittee must submit the DSA to the department with the NOI or together with the submittal of any required documents. If there are any changes to this request, the permittee shall submit a new DSA request to the department.

Note: The DSA form (Form 3400-220) is available on the department website: https://dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

8.1.2 Permit Coverage Transfers

A permit is not transferrable to any person except after notice to the department. Any permittee that wishes to transfer general permit coverage to a new permittee who will control the industrial facility must submit a completed Transfer of Coverage (TOC, Form 3400-222) to the department. All TOCs shall be completed by both the existing and new permittees. The department may require additional information including an NOI to be filed prior to transferring permit coverage. Permit coverage is not transferred until the department sends notification of transfer approval to the new permittee.

Note: Existing permittees must submit all required reporting to the department before permit coverage can be transferred. The TOC form (Form 3400-222) is available on the department website: https://dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

8.1.3 Permit Coverage Terminations

At the conclusion of successful reclamation and when the permittee no longer wishes to claim coverage under this permit, the permittee shall submit a signed Notice of Termination (NOT, Form 3400-221) to the department in accordance with s. NR 216.32, Wis. Adm. Code.

Note: Permittees must submit all required reporting to the department before permit coverage can be terminated. The NOT form (Form 3400-221) is available on the department website: https://dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

8.1.4 Continuation of an Expired General Permit

If a permittee submitted a complete and timely NOI to be covered by this general permit, all conditions of an expired general permit shall continue to apply until the effective date of a new general permit.

8.2 General Conditions for WPDES Permits

The permittee shall comply with the following general conditions for WPDES Permits.

8.2.1 Duty to Comply

The permittee shall comply with all conditions of the permit. Any permit noncompliance is a violation of the permit and is grounds for enforcement action; permit coverage termination; or denial of reapplying for permit coverage. If a permittee violates any terms of the permit, the permittee is subject to the penalties established in ch. 283, Wis. Stats.

8.2.2 Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. The permit does not authorize any injury or damage to private property or any invasion of personal rights, or any infringement of federal, state or local laws or regulations.

8.2.3 Inspection and Entry

The permittee shall allow an authorized representative of the department, upon the presentation of credentials, to:

- Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are required under the conditions of the permit;
- Have access to and copy, at reasonable times, any records that are required under the conditions of the permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the permit; and
- Sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances or parameters at any location.

8.2.4 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

8.2.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least three years from the date of the sample, measurement, report or application. All pertinent sludge information, including notice of intent information and other documents specified in the permit or ch. NR 204, Wis. Adm. Code, shall be retained for a minimum of five years.

8.2.6 Signatory Requirement

All permit notice of intents, reports and other information requested by the department shall be signed by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code.

8.2.7 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114 and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back−up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

8.2.8 Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent the likelihood of any adverse impacts to public health, the waters of the state, or the environment resulting from noncompliance with the permit.

8.2.9 Duty to Provide Information

The permittee shall furnish the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, terminating, suspending, revoking or reissuing the permit or to determine compliance with the permit. The permittee shall give advance notice to the department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall also furnish the department, upon request, copies of records required to be kept by the permittee.

8.2.10 Need to Halt or Reduce Activity Not a Defense

It is not a defense for a permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

8.2.11 Sampling Procedures

The permittee shall take samples and measurements that are representative of the volume and nature of the monitored discharge at points specified in the permit using sample types specified in the permit. The permittee shall also follow the effluent flow measurement and sample collection procedures in ch. NR 218, Wis. Adm. Code.

8.2.12 Testing Procedures

Samples collected under this permit shall be tested for the parameters listed in this permit and follow approved test methods and procedures specified in ch. NR 219, Wis. Adm. Code. If the required level cannot be met by any of the methods available in ch. NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in the permit.

8.2.13 Laboratory Certification or Registration

Samples collected under this permit shall be tested and analyzed by a laboratory certified or registered under ch. NR 149, Wis. Adm. Code. A list of Wisconsin DNR accredited laboratories can be found here: https://dnr.wisconsin.gov/topic/labCert/certified-lab-lists. The following parameters and tests are excluded from this requirement:

- Temperature;
- Turbidity;

- Bacteria tests in wastewater effluent and sludges;
- pH;
- Chlorine residual;
- Specific conductance;
- Physical properties of soils and sludges;
- Nutrient tests of soils and sludges; and
- Flow measurements.

8.2.14 Effluent Limits Less than LOD or LOQ

When an effluent limitation for any substance in this permit is less than the limit of detection (LOD) or the limit of quantitation (LOQ), the following conditions shall apply:

(a) The permittee shall perform monitoring required in this permit using an acceptable analytical methodology as specified in ch. NR 219, Wis. Adm. Code for that substance in the effluent which produces the lowest LOD and LOQ.

(b) The permittee shall determine the LOD and LOQ using a test method specified in ch. NR 219, Wis. Adm. Code.

(c) Compliance with concentration limitations shall be determined as follows:

1. When the effluent limitation is less than the LOD, effluent levels less than the LOD are in compliance with the effluent limitation.
2. When the effluent limitation is less than the LOD, effluent levels greater than the LOD, but less than the LOQ are in compliance with the effluent limitation except when analytically confirmed and statistically confirmed by a sufficient number of analyses of multiple samples and use of appropriate statistical techniques.
3. When the effluent limitation is greater than the LOD, but less than the LOQ effluent levels less than the LOD or less than the LOQ are in compliance with the effluent limitation.

8.2.15 More Frequent Monitoring

As specified in NR 205.07(1)(r), Wis. Adm. Code, if the permittee monitors any parameter more frequently than required by the permit, using test procedures specified in ch. NR 204 or NR 219, Wis. Adm. Code or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report.

8.2.16 Noncompliance and Other Reporting

The permittee shall report the all other types of noncompliance by a telephone call to the department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the department as directed at the end of this permit within five days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the department may waive the requirement for submittal of a written report within five days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period

of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources immediately of any discharge not authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.

8.2.17 **Other Information**

Where the permittee becomes aware that it failed to submit any relevant facts in a notice of intent or submitted incorrect information in a notice of intent or in any report to the department, it shall promptly submit such facts or correct information to the department.

8.2.18 **Bypassing**

Except for a controlled diversion as specified in s. NR 205.07(1)(v), Wis. Adm. Code, any bypass is prohibited. The department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

8.2.19 **Permit as Enforcement Shield**

Compliance with a permit during its term constitutes compliance for purposes of enforcement with 33 USC 1311, 1312, 1316, 1317, 1328, and 1345 (a) and (b), except for any toxic effluent standard or prohibition, and standards for sewage sludge use or disposal. If a new or revised toxic effluent standard or toxic prohibition becomes effective during the term of the permit, the permittee may be subject to enforcement action if the discharge exceeds the new or revised effluent standard for the toxic pollutant even though the discharge is in compliance with the existing permit. The permittee may also be subject to enforcement action standards for sewage sludge use or disposal. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code.

8.2.20 **Severability**

The provisions of this permit are severable, and if any provisions of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

8.3 General Conditions for non-POTW Permits

The permittee shall comply with the following general conditions for non-POTW permits.

8.3.1 Removed Substances

Solids, sludges, filter backwash or other pollutants removed from or resulting from treatment or control of wastewaters or intake waters shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state. Land disposal or application of treatment plant solids and sludges shall be at a site or operation licensed by the department under chs. NR 500 to 538, Wis. Adm. Code or chs. NR 660 to 670, Wis. Adm. Code.

8.3.2 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59(1), Wis. Stats., the permittee shall report to the department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new general permit notice of intent or, if the new discharge will not violate the effluent limitations of the general permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the department may modify the general permit coverage letter to specify any discharges of pollutants not previously covered by the general permit.

8.3.3 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

8.3.4 Abandonment Conditions

Lagoons, storage structures and treatment structures which will no longer be used, shall be properly abandoned within two years of the date on which waste material was last stored, treated, or applied. A plan outlining the proposed method of abandonment shall be submitted to the department for approval prior to abandonment pursuant to s. NR 213.07 Wis. Adm. Code.

8.4 General Conditions for Storm Water WPDES Permits

The permittee shall comply with the following general conditions for Storm Water WPDES Permits.

8.4.1 Permit Fee

A storm water discharge permit fee shall be paid annually for each facility covered under this permit, except under s. NR 216.30(2), Wis. Adm. Code, no fee will be charged for a facility that the department concurs is internally drained and no pollutants are exposed that could contaminate groundwater. The permittee will be billed by the department annually in May of each year and the fee is due by June 30 of each year in accordance with s. NR 216.30, Wis. Adm. Code. A permittee may be referred to the Wisconsin Department of Revenue for the collection of any unpaid storm water fee.

9 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Due Date	Page
Notice of Intent (NOI)	**New Permittees:** 14 working days prior to initiating industrial operations and discharging to a water of state. **Existing Permittees**: Automatically granted coverage under this general permit upon the Effective Date.	7
Annual Facility Site Compliance Inspection Reports	Record results by February 15th for the previous calendar year. Reports shall be provided to the department upon request.	11
Storm Water Pollution Prevention Plan (SWPPP)	**New Permittees:** Submitted with the NOI **Existing Permittees:** SWPPP as of the Effective Date of permit coverage and implemented until final site reclamation. **Note:** SWPPP is not required if site is internally drained.	11
Quarterly Visual Inspections	Once per quarter, record results of visual inspections of storm water discharge quality at each outfall. Records shall be provided to the department upon request. **Note:** Not required if the site is internally drained.	14
Discharge Screening Results	**New Permittees:** Submitted with the NOI or after start-up within 90 days of the date on the letter granting coverage under this general permit or commencement of the discharge, whichever is later, **Existing Permittees:** Within 90 days of the effective date of this general permit	21

Description	Due Date	Page
Polyacrylamide Certification	Certify that the acrylamide monomer content does not exceed 0.05% by weight within 30 calendar days of the Effective Date of this permit or prior to use of a polyacrylamide product.	33
Electronic Discharge Monitoring Reports (eDMRs)	21 days following the end of the reporting frequency	34
Discharge Information Submittal	January 31, 2023	39
Continuous Effluent Flow Monitoring Device Installation – Final Plans & Specifications	June 30, 2023	39
Continuous Effluent Flow Monitoring Device Installation – Complete Construction	December 31, 2023	39
Delegation of Signature Authority (Form 3400-220)	Submitted with the NOI or together with the submittal of any required documents	40
Notice of Termination (Form 3400-221)	After discontinuing permitted discharge	40
Transfer of Coverage (Form 3400-222)	Prior to the proposed transfer of the permitted facility	40
Noncompliance Notification and 5-Day Written Report	Notification within 24 hours after becoming aware of the noncompliance and written report (if required) within five days after becoming aware of the noncompliance	43
Planned Changes	Prior to any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants	45
Storm Water Fee	June 30 of each year	45

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications of industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to the department regional general permit contact. A listing of the general permit contacts for each region with mailing addresses and phone numbers can be found at https://dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

ATTACHMENT C - WisDOT Standard Specifications for Erosion Control

627 Mulching

627.1 Description

(1) This section describes furnishing, placing, and anchoring a mulch cover, usually in connection with seeding the surfaces of the roadway.

627.2 Materials

(1) Mulching material consists of straw or hay in an air-dry condition, wood excelsior fiber, wood chips, or other suitable material of a similar nature that the engineer approves, and is substantially free of noxious weed seeds and objectionable foreign matter.

(2) Furnish tackifiers from the PAL.

627.3 Construction

627.3.1 General

(1) Do not perform mulching during periods of excessively high winds that might preclude proper mulch placement.

(2) Place the mulch loosely or open enough to allow some sunlight to penetrate and air to slowly circulate, but thick enough to shade the ground, conserve soil moisture, and prevent or reduce erosion.

(3) Maintain the mulched areas and repair areas damaged by wind, erosion, traffic, fire or other causes.

627.3.2 Placing

(1) The contractor may perform the work as specified in one of the following ways: Method A, Method B, or Method C, or a combination of the 3, unless a specific method is specified in the contract.

627.3.2.1 Method A, Netting

(1) Uniformly spread the mulching material over the designated areas to a loose depth of 1/2 to 1 1/2 inches. Use a specific rate of application; dependent on the character of the material, that results in a cover conforming to the requirements specified above in 627.3.1. Loosen or make fluffy the mulch material from compacted bales before spreading in place. Unless directed otherwise, begin mulching at the top of the slopes and proceed downward.

(2) Securely anchor straw or hay mulch by using engineer-approved netting anchored to the ground with pegs or staples to prevent it from floating as the vegetation grows. Instead of this anchorage, the contractor may secure mulch by heavy biodegradable twine fastened by pegs or staples to form a grid with 6 to 10 feet spacing.

(3) The contractor may use department-approved erosion control mats, listed in the PAL, instead of separately applying mulch and netting.

627.3.2.2 Method B, Tackifier

(1) Treat straw or hay with a tackifier, blow from a machine, and uniformly deposit over designated areas in one operation. Place straw or hay uniformly over the area 1/2 to 1 inch deep, using 1/2 to 3 tons of mulch per acre. Mix and place tackifier according to the PAL. Within the above limits, the engineer will determine, on the job, the application rate of the mulch and the tackifier, and the engineer may vary the rates during mulching to produce the desired results. Use an engineer-approved machine to place the mulch that blows or ejects by constant air stream a controlled quantity of mulch and applies a spray of tackifier to partially coat the straw or hay, sufficient to hold together and keep in place the deposited straw or hay. The contractor may apply the tackifier as an overspray in a separate operation after placing the straw or hay.

(2) Apply wood fiber, wood chips, or similar material with engineer-approved blowing machines, or other engineer-approved methods, that place a controlled quantity of mulch uniformly over the area 1/2 to 1 1/2 inches deep. Treat areas receiving wood chip mulch, with one pound of available nitrogen per 1000 square feet before or after applying the chips.

(3) Throughout the process, feed the mulch material into the blowing machine to produce a constant and uniform ejection from the discharge spout, and operate in a position to produce mulch of uniform depth and coverage.

627.3.2.3 Method C, Crimping

(1) Spread the straw or hay mulch uniformly over the designated areas to a loose depth of 1/2 to 1 1/2 inches, using 1/2 to 3 tons of mulch per acre, by blowing from a machine, as specified in Method B, or by other engineer-approved methods.

(2) Immediately after spreading, anchor the mulch in the soil by using a mulch crimper consisting of a series of dull, flat discs with notched edges. Space the 20 inch diameter discs at about 8 inch centers. Equip the crimper with a ballast compartment to allow adjusting the weight for depth control.

(3) Impress the mulch into the soil 1 1/2 to 2 1/2 inches deep in one pass of the crimper. The department will not allow mulch crimpers to operate on slopes so steep that damage to the mulch, seedbed, or soil occurs. Anchor the mulch on these areas by one of the following methods: Method A or Method B. Equip and operate tractors to minimize disturbing or displacing the soil. This process may require more than one pass of the crimper to ensure adequate anchoring of the mulch.

(4) Do not use Method C if it cannot impress the mulch to a minimum of 1 1/2 inch.

627.4 Measurement

(1) The department will measure Mulching acceptably completed by the square yard or by the ton, whichever the contract specifies.

(2) If measured by the square yard, the measured quantity equals the number of square yards of surface area that the contractor applied the mulch.

(3) If measured by the ton, the measured quantity equals the number of tons of mulch provided, placed, and acceptably completed.

627.5 Payment

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
627.0200	Mulching	SY
627.0205	Mulching	TON

(2) Payment for Mulching is full compensation for providing materials, including tackifiers or nitrogen; for hauling, treating, placing, spreading, and anchoring of the mulch material; and for maintaining the work and repairing damaged areas.

(3) If the contractor opts to use department-approved erosion control mats instead of separately applying mulch and netting, the department will pay for it at the contract unit price for Mulching only.

628 Erosion Control

628.1 Description

(1) This section describes providing erosion control mats, bale checks or dikes, fences, screens, blankets, and other erosion control devices.

(2) This section also describes cleaning sediment basins and mobilizations for erosion control.

628.2 Materials

628.2.1 General

628.2.1.1 Acronyms

(1) Interpret acronyms used throughout this section as follows:

ECRM Class I, II, and IIIA erosion control revegetative mats.

TRM Class III B, C, and D turf reinforcement mats.

628.2.1.2 Product Acceptability

(1) The department prequalifies selected erosion control products in the PAL. If the contract specifies, furnish products of the class, type, and subject to the seasonal limitations the PAL designates. Before installing a product from the PAL, submit to the engineer a written copy of the manufacturer's specifications for installing that product on slopes, channels, shorelines, high wind locations, and next to live traffic lanes as applicable to the contract installation. Install products from the PAL conforming to those manufacturer's specifications. The department may specify modifications to the manufacturer's procedures for individual materials here within 628.

(2) The department may sample and test products supplied in the field to verify that they conform to the PAL prequalification requirements. Provide samples as the engineer directs.

628.2.2 Erosion Mat

(1) The department must prequalify erosion mat products before use. Furnish erosion mat products from the PAL.

(2) The PAL identifies prequalified erosion mat products by class and type. Use the required class and type of erosion mat the plans show or the engineer specifies. The contractor may furnish any prequalified erosion mat product of the class and type the plans show or that the engineer specifies.

(3) If using jute fabric for a Class II Type A erosion mat, use a woven fabric of a uniform open weave of single jute yarn. Use a jute yarn of loosely twisted construction with an average twist of not less than 1 1/2 turns per one inch. Ensure the average size of the warp and weft yarns are approximately the same. Furnish the woven fabric in rolled strips. Submit a certificate of compliance certifying that the jute fabric erosion mat conforms to the following:

- Is a minimum 48 inches wide with a tolerance of minus one inch.
- Has 78 warp ends, +/- one for each 48 inches of width. Has 45 weft yarns, +/- 2, per linear yard of length.
- Weighs 92 pounds per 100 square yards +/- 10 percent, measured under average atmospheric conditions.
- Is non-toxic to vegetation.

628.2.3 Staples

(1) Furnish U-shaped staples, made of No. 11 or larger diameter steel wire, or other engineer-approved material, one to 2 inches wide, and not less than 6 inches long for firm soils and not less than 12 inches for loose soils. The contractor may use anchors the staple gun manufacturer recommends, either lighter gage staples or equivalent, for engineer-approved staple gun systems.

628.2.4 Bales

(1) For bales, use straw, hay, or other engineer-approved material, in good condition, of the dimensions the plans show.

628.2.5 Stakes

(1) Furnish wood or metal stakes of the dimensions the plans show.

628.2.6 Silt Fence

628.2.6.1 Geotextile

(1) Furnish one of the following geotextiles: woven or non-woven polyester, polypropylene, stabilized nylon, polyethylene, or polyvinylidene chloride. For non-woven fabric the contractor may use needle punched, heat bonded, resin bonded, or combinations of all 3. Submit a certificate of compliance certifying that the geotextile conforms to the following:

TEST REQUIREMENT	METHOD	VALUE[1]

Minimum grab tensile strength (machine direction)	ASTM D4632	120 lb
Minimum grab tensile strength (cross machine direction)	ASTM D4632	100 lb
Maximum apparent opening size (equivalent standard sieve)	ASTM D4751	No. 30
Minimum Permittivity	ASTM D4491	0.05 s^{-1}
Minimum ultraviolet stability (strength retained at 500 hrs of exposure)	ASTM D4355	70%

[1] Numerical values represent minimum or maximum average roll values. Average test results from all rolls in a lot must conform the tabulated values.

628.2.6.2 Fence Support System

(1) Conform to plan requirements.

628.2.7 Silt Screen

(1) Furnish fabric and submit a certificate of compliance certifying that the fabric conforms to the following:

Thickness ..... 15 mils
Minimum grab tensile strength..... 120 lb
Minimum equivalent opening ..... No.170 sieve

(2) Heat seal or sew all fabric seams.

(3) For flotation, use an 8-inch diameter solid expanded polystyrene log, or engineer-approved equal, with a buoyancy of approximately 20 pounds per foot. Do not use polystyrene beads or chips.

(4) For the main load line, use 5/16-inch cable. For ballast, use a 1/4-inch chain.

628.2.8 Sand Bags

(1) Furnish bags made of canvas, burlap, nylon, or other engineer-approved material filled with concrete sand or other engineer-approved granular material.

628.2.9 Polyethylene Sheeting

(1) Furnish 6 mil or thicker polyethylene sheeting conforming to ASTM D4397.

628.2.10 Turbidity Barriers

(1) Furnish barrier made of coated impervious fabric capable of containing sediment at the location placed. It must have a cable, with a 5/16 inch or larger diameter, capable of supporting the barrier at the required height above the water. It must have a self-contained ballast that weighs at least 0.7 pound per foot. The ballast may be either chain or flexible cable. Barrier ends must have grommets to lace together adjoining sections. For anchor posts use one of the following: steel fence posts, steel pipes, or steel channels.

(2) Submit a certificate of compliance certifying that the turbidity barrier fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	200 lb
Minimum puncture strength	ASTM D4833	90 lb
Maximum permeability	ASTM D4491	$1x10^{-7}$ cm/s
Minimum ultraviolet stability (strength retained at 500 hrs of exposure)	ASTM D4355	70%

[1] Numerical values represent minimum or maximum average roll values. Average test results from all rolls in a lot must conform the tabulated values.

628.2.11 Soil Stabilizer

(1) Soil stabilizer type A is one of the following: a cementitious soil binder added to wood cellulose fiber mulch, or a bonded fiber matrix. Soil stabilizer type B is a polyacrylimide.

(2) Furnish soil stabilizer products from the PAL.

628.2.12 Inlet Protection

(1) Furnish type FF geotextiles, or bags manufactured from type FF geotextiles, from the PAL. If using field sewn seams, furnish a field sewn seam sample produced from the geotextile and thread and with the equipment proposing to use on the project, before incorporating into the work.

628.2.13 Rock Bags

(1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile that will retain 70 percent of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18 inches long by 12 inches wide by 6 inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10% min
Puncture	ASTM D4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

(2) Fill the bags with a clean, sound, hard, durable, engineer-approved coarse aggregate conforming by visual inspection to the gradation specified for No. 2 coarse aggregate for concrete in 501.2.7.4.2.

628.2.14 Tracking Pads

(1) Furnish tracking pad aggregate conforming to 312.2 for select crushed material except the material must be substantially free of particles passing the No. 10 sieve. Furnish type R geotextile conforming to 645.2.2.6.

628.3 Construction

628.3.1 General

(1) Arrange to have available a sufficient quantity of contract-required temporary erosion control materials to protect the project site from erosion at all times during construction. Include erosion mat, erosion bales, silt fence, manufactured alternative materials for temporary ditch checks, and other temporary erosion control materials the contract requires.

(2) Ensure that erosion control products selected from the PAL are properly installed and maintained to remain in place and functioning as the contract specifies.

628.3.2 Erosion Mat

628.3.2 Revise information for entrenching erosion mat.

(1) Provide protective covering mats or soil retention mats for erosion control on prepared planting areas of slopes, ditches, channels, or shorelines, at locations the plans show or the engineer directs. Conform to the seasonal limitations designated in the PAL for photodegradable products.

(2) Install as the manufacturer specifies except as follows:

1. Do not use single roll material less than 6 feet wide in channels.
2. Entrench the initial upstream leading edges of mat on slopes and channels. Place subsequent downstream mat layers in a manner that creates a shingling effect. Provide a trench meeting the details shown in the manufacturer specifications. If the manufacturer does not specify trench dimensions, the minimum trench dimensions shall be 6 inches wide by 6 inches deep.
3. Entrench all edges of mat along curb and gutter to a minimum depth of 3 inches.
4. For erosion mats classified as urban:
   - Do not overlap mat edges by more than 3 inches.
   - Anchor the mat using anchoring devices from the PAL.

(3) Cover TRM's immediately after installation with materials from the PAL as follows:

1. On slopes use either an ECRM or a type A soil stabilizer. If using a soil stabilizer, apply at the manufacturer's recommended rate unless the contract or engineer specifies otherwise.
2. In channels use an ECRM of a class and type the PAL allows for channel applications.

(4) Remove stones, clods, roots, sticks, or other foreign material that prevent the mat from bearing completely on the surface before placing the mat.

(5) Reseed any seeded areas damaged or destroyed during placement of the erosion mat as specified for the original seeding.

(6) Dispose of surplus excavation or materials, and stones, clods, or other foreign material removed in preparing for placing the mat.

(7) Maintain the erosion mat and repair any damaged areas until the work is accepted.

(8) Do not overlap type urban erosion mat with type urban or other type erosion mat.

628.3.3 Erosion Bales

(1) Furnish bales of straw, hay, or other suitable baled material to form erosion control structures other than ditch checks. Install at locations the plans show or as the engineer directs.

(2) Maintain the bales as required including removing and disposing of sediment deposits. Remove erosion bales after slopes and ditches are stable and turf develops enough to make future erosion unlikely. The engineer will determine when the contractor meets these criteria satisfactorily. The contractor may use bales as mulch. Dispose of bales not used as mulch in a manner acceptable to the engineer. Reshape ditches; fill sumps and trenches; dispose of excess eroded material; and topsoil, fertilize, and seed the affected area.

628.3.4 Silt Fence

628.3.4.1 Installation and Removal

(1) Install silt fence before starting a construction operation that might cause sedimentation or siltation.

(2) If possible, construct the silt fence in an arc or horseshoe shape with its ends pointing up slope. Construct the silt fence to the dimensions, and according to the details the plans show. Remove silt fences, as the engineer determines, after stabilizing the slopes and ditches and developing the turf to the extent that future erosion is unlikely. Clean up and restore the surface after removal. The contractor owns materials remaining after removal and is responsible for their disposal off the right-of-way.

628.3.4.2 Inspection and Maintenance

(1) Inspect all silt fences immediately after each rainfall and at least daily during prolonged rainfall. Correct any deficiencies immediately. Additionally, review the locations for silt fences and filter barriers in areas that construction activity changed the earth contour and drainage runoff on a daily basis to ensure that the silt fences are properly and effectively located. If deficiencies exist, install additional silt fences as the engineer directs or approves.

(2) Remove sediment deposits when the build-up exceeds approximately 1/2 the volume capacity of the silt fence. The engineer may order the contractor to remove deposits if the engineer determines deposits exceed 1/2 the volume capacity of the silt fence. Dress, to the existing grade, sediment deposits remaining in place after the silt fence is no longer required, this includes topsoiling, fertilizing, and seeding the affected area.

628.3.5 Silt Screen

(1) Install the silt screen to prevent drift shoreward or downstream. Securely attach the flotation log to the fabric in both the horizontal and vertical direction.

(2) Attach the 5/16-inch cable at the flotation members and extend along the entire length of each section of silt screen. Seal a 1/4-inch chain in the lower hem for ballast.

(3) Use connectors to join the main load line and ballast chain to carry tensile pressure. Join the fabric for its entire height with grommets and lacing rope.

(4) Ensure the silt screen extends from the water surface to a maximum 10 foot depth.

(5) Install anchorages or stakes on both shore and stream side to maintain stability. Use a post with deadman or engineer-approved equal for shore anchors. Ensure stream anchors are of sufficient size, type, and strength to stabilize the barrier beyond the construction area.

(6) Buoy anchors to prevent pulling the barrier under water. Use Danforth-type anchors in sandy bottom and heavy kedge type or mushroom anchors on mud bottoms.

(7) Maintain the barrier throughout construction operations.

(8) After completing the work, remove the barrier in a way that prevents siltation of the river.

628.3.6 Cleaning Sediment Basins

(1) Clean sediment basins when the engineer determines the sediment has accumulated to an extent that impairs the effectiveness of the sediment basin.

(2) Dispose of the surplus material according to 205.3.12 for disposal of surplus or unsuitable material.

628.3.7 Erosion Control Orders

628.3.7.1 Corrective Action

(1) Begin erosion control corrective action within 24 hours of the engineer's written order and promptly complete items on the written order.

628.3.7.2 Mobilizations Erosion Control

(1) Under the Mobilizations Erosion Control bid item; move personnel, equipment, and materials to the project site and promptly install erosion control items at the stages the contract indicates or the engineer directs.

(2) Submit for approval an ECIP required in 107.20 for accomplishing temporary and permanent erosion control work. Stage the ECIP erosion control work to conform to the number of Mobilizations Erosion Control bid items the contract plans show. The department will not allow any deviation from approved staging without the engineer's written approval. The engineer will direct each of the mobilizations. Mobilize with sufficient personnel, equipment, supplies, and incidentals, within 72 hours of the engineer's written order.

628.3.7.3 Mobilizations Emergency Erosion Control

(1) Under the Mobilizations Emergency Erosion Control bid item; move personnel, equipment, and materials to the project site to install temporary erosion control items on an emergency basis as the engineer directs.

(2) Mobilize with sufficient personnel, equipment, materials, and incidentals on the job site within 8 hours the engineer's written order to install temporary erosion control items on an emergency basis.

(3) An emergency is a sudden occurrence of a serious and urgent nature, beyond normal maintenance of erosion control items and mobilizations the ECIP includes. Under this definition, an emergency mobilization requires immediate action to move necessary personnel, equipment, and materials to the emergency site followed by immediate installation of temporary erosion control measures.

(4) Unless the engineer directs otherwise, replenish stockpiled material delivered as specified for plan quantities in 628.3.1 and subsequently used for emergency erosion control to the pre-emergency totals of these stockpiles.

628.3.8 (Vacant)

628.3.9 Polyethylene Sheeting

628.3.9 Revise information for polyethylene sheeting.

(1) Install polyethylene sheeting at locations the plans show or as the engineer directs for use as a device to prevent erosion, pollution, or other engineer approved use. Include the location and securing methods in the ECIP.

(2) Secure the sheeting from wind and water dislocation. Before placing, remove stones, roots, sticks, and other materials that interfere with the sheeting bearing completely on the soil. Overlap adjacent sheets a minimum of 3 feet in the direction of flow; and seal the edges with waterproof tape or other engineer-approved method. Entrench upstream edges a minimum of six inches for use on slopes and channels. Patch damaged areas with sheeting overlapped a minimum of 3 feet and seal the joints with waterproof tape or other engineer-approved method. Maintain the sheeting and make satisfactory repairs of damaged areas.

(3) Upon completing the work, remove the polyethylene sheeting and all materials used for securing the sheeting. Assume ownership of removed material.

628.3.10 Turbidity Barriers

(1) Install turbidity barriers at locations the plans show or as the engineer directs.

(2) Place barriers, before beginning adjacent construction, in a way that causes minimum disturbance of the streambed and banks. Extend the barrier into the stream banks far enough to preclude washing out or erosion around the ends. Drive posts securely into the streambed at 10 foot intervals along the line of the barrier installation. Fasten the barrier to the posts and securely anchor the barrier load lines at the barrier ends and at 10 foot intervals between the barrier ends, unless the engineer directs otherwise. Provide additional anchoring if necessary to maintain the barrier location during construction operations. Install sand bags as the plans show to anchor the barrier to the streambed. The engineer may require additional sand bags to ensure adequate performance. Provide and anchor both danger buoys and navigational markers as required by permit under 107.19.

(3) Maintain the integrity of the barrier as necessary to contain erosion from adjacent construction operations. Promptly correct deficiencies. Barrier maintenance includes removing and disposing of accumulations of soil and other detrimental material.

(4) Remove the barrier after completing the adjacent work. Delay removal until removing and disposing of accumulated soils and other suspended materials, and all suspended materials settle. Minimize disturbing the streambed and banks during removal operations.

(5) If the engineer approves, the contractor may substitute sheet pile installed as a part of their construction operation for all or part of the turbidity barrier the plans show.

628.3.11 (Vacant)

628.3.12 Soil Stabilizer

628.3.12.1 General

(1) Provide soil stabilizer as a soil bonding agent to prevent or minimize erosion. Install on exposed soil surfaces of temporary or permanent slopes as the plans show or as the engineer directs.

628.3.12.2 Soil Stabilizer Type A

(1) Apply soil stabilizer with conventional hydraulic seeding equipment. Ensure that surrounding surfaces, structures, signs, trees, and shrubs are not over-sprayed. The engineer will not accept the work until the contractor cleans over-sprayed surfaces. Provide a finished application 3/16 to 1/4 inches thick.

(2) For permanent slope applications, sow seed separately, before applying the soil stabilizer, to ensure that the seed has direct contact with the soil.

628.3.12.3 Soil Stabilizer Type B

(1) Apply soil stabilizer with conventional hydraulic seeding equipment or by dry spreading. Apply the material at the manufacturer's recommended rate unless the engineer directs otherwise.

(2) For permanent slope applications, apply a department-approved mulch when applying the soil stabilizer or after applying it to protect the seed.

628.3.13 Inlet Protection

(1) Furnish, install, maintain, and remove type FF geotextile, and fabric hold down and support systems for inlet protection where the plans show or the engineer directs. The contractor may provide manufactured alternatives selected from the PAL.

(2) For type A inlet protection, install around field inlets until establishing permanent soil stabilization; and around pavement inlets before placing curb, gutter, or curb & gutter.

(3) For type B inlet protection, install on curb, gutter, curb & gutter, and pavement inlets after placing the surrounding pavement surfaces.

(4) For type C inlet protection use a wooden 2 x 4, wrapped and secured in type FF geotextile, installed in front of the curb head as the plans show. The wood must not block the entire opening of the curb box.

(5) For type D inlet protection, the contractor may make the bag from type FF geotextile or choose a manufactured type FF bag from the PAL. Ensure that the device is designed to fit the size and shape of the inlet. At a minimum, inspect and maintain after every precipitation event.

628.3.14 Temporary Ditch Checks

(1) Provide suitable ditch check materials, installed and maintained at locations the plans show or as the engineer directs.

(2) Construct temporary ditch checks using a double row of erosion bales or a manufactured alternative from the PAL. Place temporary ditch checks across ditches at locations the plans show or as the engineer directs immediately after shaping the ditches or slopes. Excavate upstream sumps as the engineer directs.

(3) Remove sediment deposits when the build-up exceeds approximately 1/2 the erosion bale structures volume capacity. The engineer may order the contractor to remove deposits if the engineer determines that sediment deposits exceed 1/2 the erosion bale structures volume capacity. Dispose of excess sediment as the engineer directs.

(4) Remove ditch checks after the slopes and ditches are stable and the turf develops enough to make future erosion unlikely. The engineer will determine when the contractor meets these criteria. The contractor may use bales as mulch. Dispose of bales not used as mulch in a manner acceptable to the engineer. Reshape the ditch; fill sumps and trenches; dispose of excess eroded material; and topsoil, fertilize, and seed the affected area.

628.3.15 Culvert Pipe Checks

(1) Install rock bag culvert pipe checks as the plans show and as the engineer directs. Place bags immediately after installing new culverts and before beginning earth disturbing activities in areas drained by existing culverts. Place rock bags on the inlet end of the culvert only. Leave rock bags in place until slopes and ditches are stable and turf develops enough to make future erosion unlikely. Periodically remove sediment to maintain effective function. Remove and dispose of the bags and rock filler when they are no longer needed to control erosion. Dispose of accumulated sediment and restore the site. The contractor may spread accumulated sediment to form a surface suitable for seeding.

628.3.16 Tracking Pads

(1) Install tracking pads at the locations the plans show, locations consistent with an engineer-approved ECIP, or where the engineer directs before allowing construction traffic to leave the site. Ensure that the pad is wide enough to cover the full width of the egress point. Design the installation to divert surface water flow away from the pad and, if field conditions dictate, provide a culvert to channel flow under the pad.

(2) Replace or rework material in the surface of the pad to minimize material tracked onto public roads. Maintain the driving surface in a clean and safe operating condition. Remove the pad and restore the site upon completion of contract work.

628.3.17 Rock Bags

(1) Install rock bags as the plans show or the engineer directs either in conjunction with work done under other contract bid items or as stand-alone erosion control devices. Periodically remove sediment to maintain effective function. Remove and dispose of the bags and rock filler when they are no longer needed to control erosion. Dispose of accumulated sediment and restore the site. The contractor may spread accumulated sediment to form a surface suitable for seeding.

628.4 Measurement

628.4.1 General

628.4.1.1 Borrow Sites and Material Disposal Sites

(1) The department will measure work acceptably completed under selected bid items placed on borrow sites and material disposal sites if that work is consistent with an engineer-approved ECIP. The department will measure only the following bid items using the methods described in their respective measurement subsections:

Erosion Mat (type)	Soil Stabilizer (type)	Mulching
Erosion Bales	Culvert Pipe Checks	Seeding Borrw Pit
Temporary Ditch Checks	Polyethylene Sheeting	Seeding Temporary
Silt Fence	Tracking Pads	Fertilizer Type (type)
Silt Fence Maintenance	Rock Bags	Seed Water
Inlet Protection (type)	Mobilizations Emergency Erosion Control	

628.4.1.2 Sand Bags

(1) The department will not measure sand bags. Sand bags are incidental to the bid items that use sand bags.

628.4.2 Erosion Mat

(1) The department will measure the Erosion Mat bid items by the square yard acceptably completed. The department will not make allowance for portions of the mat that must be entrenched in the soil for any end or junction slot, or for required overlaps.

628.4.3 (Vacant)

628.4.4 Erosion Bales

(1) The department will measure Erosion Bales as each individual bale acceptably completed.

628.4.5 (Vacant)

628.4.6 Silt Fence

(1) The department will measure Silt Fence by the linear foot acceptably completed. The department will measure along the base of the fence, center-to-center of end post, for each section of fence.

628.4.7 (Vacant)

628.4.8 Silt Fence Maintenance

(1) The department will measure Silt Fence Maintenance by the linear foot acceptably completed. The department will measure along the base of the fence, end-to-end of the section maintained, for each time a section of fence is cleaned and repaired.

628.4.9 Silt Screen

(1) The department will measure Silt Screen by the linear foot acceptably completed.

628.4.10 Cleaning Sediment Basins

(1) The department will measure Cleaning Sediment Basins by the cubic yard acceptably completed, measured in the vehicle.

628.4.11 Mobilizations Erosion Control

(1) The department will measure Mobilizations Erosion Control as each individual mobilization acceptably completed. The department will not include the following:

1. Delivering and installing materials provided for in specific contract bid items.
2. Work specified under the Mobilizations Emergency Erosion Control bid item, or the work and operations necessary for normal contractor maintenance of erosion control items.
3. The movement of personnel, equipment, and materials to the work site to accomplish installing additional erosion control items the engineer deems necessary to control erosion between the stages contained in the department-approved plan of operations, unless the engineer directs otherwise in writing.

628.4.12 Mobilizations Emergency Erosion Control

(1) The department will measure Mobilizations Emergency Erosion Control as each individual mobilization acceptably completed. The department will not include delivering and installing temporary erosion control materials provided for in specific contract bid items.

628.4.13 Polyethylene Sheeting

628.4 Revise measurement and payment information for polyethylene sheeting.

(1) The department will measure Polyethylene Sheeting by the square yard acceptably completed. The department will not make allowance for portions of the sheeting that must be entrenched in the soil, or for required overlaps.

628.4.14 Turbidity Barriers

(1) The department will measure Turbidity Barrier by the square yard acceptably completed. The department will make no allowance for portions of the turbidity barrier considered as part of the anchorages, required overlaps, or having a bottom flap greater than 48 inches.

(2) If the contractor substitutes sheet pile for turbidity barrier as allowed in 628.3.10, the department will measure that turbidity barrier as the plan quantity in square yards of material replaced.

628.4.15 Soil Stabilizer

(1) The department will measure the Soil Stabilizer bid items by the acre acceptably completed within the limits the contract designates or as the engineer directs.

628.4.16 Inlet Protection

(1) The department will measure the Inlet Protection bid items as each individual location and type acceptably completed.

628.4.17 Temporary Ditch Checks

(1) The department will measure Temporary Ditch Checks by the linear foot acceptably completed. If using erosion bales, the department will only measure the length across the ditch, not the length of each row of bales. The department will not measure ditch checks constructed with a single row of bales.

628.4.18 (Vacant)

628.4.19 Culvert Pipe Checks

(1) The department will measure Culvert Pipe Checks as each individual rock bag acceptably completed.

628.4.20 Tracking Pads

(1) The department will measure Tracking Pads as each individual location acceptably completed measured only at the locations the plans show, consistent with an engineer-approved ECIP, and where the engineer directs.

628.4.21 Rock Bags

(1) The department will measure Rock Bags as each individual bag acceptably completed.

628.5 Payment

628.5.1 General

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
628.1104	Erosion Bales	EACH
628.1504	Silt Fence	LF
628.1520	Silt Fence Maintenance	LF
628.1550	Silt Screen	LF

628.1905	Mobilizations Erosion Control	EACH
628.1910	Mobilizations Emergency Erosion Control	EACH
628.1920	Cleaning Sediment Basins	CY
628.2000 - 2099	Erosion Mat (class) (type)	SY
628.5505	Polyethylene Sheeting	SY
628.6005	Turbidity Barriers	SY
628.6500 - 6599	Soil Stabilizer (type)	ACRE
628.7000 - 7099	Inlet Protection (type)	EACH
628.7504	Temporary Ditch Checks	LF
628.7555	Culvert Pipe Checks	EACH
628.7560	Tracking Pads	EACH
628.7570	Rock Bags	EACH

(2) The department will pay for measured quantities at the contract unit price under selected bid items placed on borrow sites and material disposal sites if that work is consistent with an engineer-approved ECIP. The department will pay for only the following bid items using the methods described in their respective payment subsections:

Erosion Mat (type)	Soil Stabilizer (type)	Mulching
Erosion Bales	Culvert Pipe Checks	Seeding Borrw Pit
Temporary Ditch Checks	Polyethylene Sheeting	Seeding Temporary
Silt Fence	Tracking Pads	Fertilizer Type (type)
Silt Fence Maintenance	Rock Bags	Seed Water
Inlet Protection (type)	Mobilizations Emergency Erosion Control	

628.5.2 Erosion Mat

(1) Payment for the Erosion Mat bid items is full compensation for providing, protecting, and storing erosion mat materials on the project; for placing and anchoring the mat, including staples; for preparing the seeded areas; for installing end and junction slots; and for repairing and reseeding damaged areas.

(2) The department will pay separately for covering class III types B, C, and D mats with an ECRM under the applicable Erosion Mat bid item, or with type A soil stabilizer under the Soil Stabilizer Type A bid item.

628.5.3 (Vacant)

628.5.4 Erosion Bales

(1) Payment for Erosion Bales is full compensation for providing, protecting, and storing erosion bales on the project; for placing materials, including stakes; for anchoring the bales; for excavating, including trenches and sumps; for removing excess sediment during construction; for removing the bales and eroded material; and for shaping and restoring ditches.

(2) The department will pay separately for any required topsoiling, fertilizing, or seeding under the applicable bid item.

628.5.5 (Vacant)

628.5.6 Silt Fence

(1) Payment for Silt Fence is full compensation for providing, protecting, and storing silt fence on the project; for erecting fence, including excavating, placing posts, backfilling, and attaching geotextile; and for removing the fence at project completion.

628.5.7 (Vacant)

628.5.8 Silt Fence Maintenance

(1) Payment for Silt Fence Maintenance is full compensation for required cleaning and repairing; for removing or spreading the accumulated sediment to form a surface suitable for seeding; and for replacing silt fence and damages caused by overloading sediment material or ponding water adjacent to the silt fence.

628.5.9 Silt Screen

(1) Payment for Silt Screen is full compensation for providing, assembling, erecting, maintaining, and removing the silt screen barrier.

628.5.10 Cleaning Sediment Basins

(1) Payment for Cleaning Sediment Basins is full compensation for excavating; and for disposing of eroded material.

628.5.11 Erosion Control Orders

628.5.11.1 Corrective Action

(1) If the contractor fails to begin corrective action within 24 hours of the engineers written order, or fails to promptly install the required corrective action, the department will deduct $500 per calendar day of delay under the Failing to Perform Corrective Action for Erosion Control administrative item. The engineer may extend the 24-hour period for delays not the contractor's fault.

628.5.11.2 Mobilizations Erosion Control

(1) Payment for Mobilizations Erosion Control is full compensation for the staged moving of personnel, moving equipment, and moving materials. The department will pay separately for delivery and installation of erosion control devices under the other bid items in this section.

(2) If the contractor fails to mobilize and promptly install staged erosion control work within 72 hours of receipt of the engineer’s written order, the department will deduct $500 per calendar day of delay under the Failing to Mobilize for Erosion Control administrative item. The engineer may extend the 72-hour period for delays not the contractor's fault.

628.5.11.3 Mobilizations Emergency Erosion Control

(1) Payment for Mobilizations Emergency Erosion Control is full compensation for the emergency moving of personnel, moving equipment, and moving materials. The department will pay separately for delivery and installation of temporary erosion control devices under the other bid items in this section.

(2) If the contractor fails to mobilize and immediately install temporary erosion control measures within 8 hours of receipt of the engineer’s written order, the department will deduct $500 per calendar day of delay under the Failing to Mobilize for Emergency Erosion Control administrative item. The engineer may extend the 8-hour period for delays not the contractor's fault.

628.5.12 (Vacant)

628.5.13 Polyethylene Sheeting

(1) Payment for Polyethylene Sheeting is full compensation for furnishing and delivering the polyethylene sheeting and securing material to the project site; for storing on the project; for installing the sheeting; for excavating and backfilling; for securing the sheeting and sealing or entrenching the edges of the sheeting; for removing the sheeting and all materials used for securing the sheeting; and for disposing of eroded material.

628.5.14 Turbidity Barriers

(1) Payment for Turbidity Barriers is full compensation for furnishing, assembling, installing, maintaining, and removing the turbidity barrier; and for sandbags, buoys, navigational markers, anchors, and anchor ropes.

(2) If the contractor substitutes sheet pile for turbidity barrier as allowed in 628.3.10, the department will pay for the plan quantity of turbidity barrier replaced.

628.5.15 Soil Stabilizer

(1) Payment for the Soil Stabilizer bid items is full compensation for furnishing, mixing, and applying soil stabilizer.

628.5.16 Inlet Protection

(1) Payment for the Inlet Protection bid items is full compensation for furnishing, transporting, and installing materials; and for maintaining and removing the inlet protection devices.

628.5.17 Temporary Ditch Checks

(1) Payment for Temporary Ditch Checks is full compensation for providing, protecting, and storing ditch check materials on the project; for installing and removing ditch checks at project completion or as the engineer directs; for repairing and reseeding damaged areas; and for disposing of eroded material.

(2) The department will not pay for installing ditch checks if constructed of a single row of erosion bales.

628.5.18 (Vacant)

628.5.19 Culvert Pipe Checks

(1) Payment for Culvert Pipe Checks is full compensation for providing rock bags; for periodic sediment removal; for removing rock bags and rock filler; for disposing of eroded material; and for restoring the site.

628.5.20 Tracking Pads

(1) Payment for Tracking Pads is full compensation for providing tracking pads including aggregate and geotextile; for replacing or reworking material as required to maintain performance; and for removing the pad and restoring the site.

628.5.21 Rock Bags

(1) Payment for Rock Bags is full compensation for providing rock bags; for periodic sediment removal; for removing rock bags and rock filler; for disposing of eroded material; and for restoring the site.

629 Fertilizer and Agricultural Limestone

629.1 Description

(1) This section describes furnishing and incorporating fertilizing material in the soil on areas of proposed seeding or proposed sodding.

(2) This section also describes furnishing and incorporating agricultural limestone in the soil.

629.2 Materials

629.2.1 Fertilizers

629.2.1.1 General

(1) Use fertilizers for seeding, sodding, or other planting that are standard commercial packaged or bulk products in granular or liquid form conforming to Wisconsin statutes and the Wisconsin administrative code chapter ATCP 40. Ensure that each container of packaged fertilizer is plainly marked with the analysis of the contents showing minimum percentages of total nitrogen, available phosphoric acid, and soluble potash. If furnishing the fertilizer in bulk, include an invoice in each shipment indicating the minimum percentages of total nitrogen, available phosphoric acid, and soluble potash in the contents.

http://docs.legis.wi.gov/statutes/statutes/

http://docs.legis.wi.gov/code/admin_code/atcp/020/40.pdf

(2) If using fertilizer with a total of nitrogen, phosphoric acid, and potash greater than 32 percent for type A or 50 percent for type B, apply them at a rate that provides equal nitrogen, phosphoric acid, and potash.

629.2.1.2 Type A

(1) Type A fertilizer must conform to the following minimum requirements:

Nitrogen, not less than.....16%
Phosphoric Acid, not less than 6%
Potash, not less than 6%

(2) The total of nitrogen, phosphoric acid, and potash must equal at least 32 percent.

(3) Total nitrogen must at least equal the sum of the phosphoric acid and soluble potash.

629.2.1.3 Type B

(1) Type B fertilizer must conform to the following minimum requirements:

Nitrogen, not less than.....16%
Phosphoric Acid, not less than 6%
Potash, not less than 24%

(2) The total of nitrogen, phosphoric acid, and potash must equal at least 50 percent.

629.2.2 Agricultural Limestone

(1) Conform to chapter 94.66 of the Wisconsin statutes and of the Wisconsin administrative code chapter ATCP 41. Furnish limestone with a neutralizing index of not less than 40 or more than 109.

http://docs.legis.wi.gov/statutes/statutes/94

http://docs.legis.wi.gov/code/admin_code/atcp/020/41.pdf

(2) Before using, furnish a statement to the engineer indicating the index zone or grade of the limestone for each deposit.

629.3 Construction

629.3.1 Fertilizer

629.3.1.1 General

(1) Uniformly apply the fertilizer selected for the seeding areas and incorporate into the soil by light discing or harrowing. If applying granular fertilizer, ensure it is well pulverized and free from lumps.

(2) If incorporating fertilizer into topsoiled areas, the contractor may apply it just before, and in conjunction with, final discing or harrowing, or if hand manipulating the topsoil, apply it just before final raking and leveling.

(3) If placing fertilizer on surfaces with no topsoil, prepare the soil by discing or harrowing to at least 6 inches deep and then incorporate the fertilizer as specified above.

(4) If sowing seeding areas by pressure sprayer, then fertilize by placing the required quantity of fertilizer in the tank, mixing with the water and the seed, agitating constantly, and apply during the seeding

operation. If applying fertilizer this way then the department will not require discing and harrowing after placement.

(5) If fertilizing areas to receive sod, spread the fertilizer uniformly over the soil before sodding at the rate specified below, and then work the fertilizer into the soil while preparing as specified for preparing the earth bed in 631.3.1.

(6) If applying fertilizer for work specified under 632, then apply the fertilizer as specified in that section.

629.3.1.2 Type A

(1) Apply fertilizer containing 32 percent total of nitrogen, phosphoric acid, and potash at 7 pounds per 1000 square feet, unless the contract specifies otherwise. For type A fertilizer that contains a different percentage of components, determine the new application rate by multiplying the specified rate by a dimensionless conversion factor determined as follows:

Conversion Factor = 32 / New Percentage of Components

629.3.1.3 Type B

(1) Apply fertilizer containing 50 percent total of nitrogen, phosphoric acid, and potash at 7 pounds per 1000 square feet, unless the contract specifies otherwise. For type B fertilizer that contains a different percentage of components, determine the new application rate by multiplying the specified rate by a dimensionless conversion factor determined as follows:

Conversion Factor = 50 / New Percentage of Components

629.3.2 Agricultural Limestone Treatment

(1) Unless the contract specifies otherwise, spread agricultural limestone over the contract-designated areas at a uniform rate, measured in pounds per 1000 square feet, as follows:

INDEX ZONES	40-49	50-59	60-69	70-79	80-89	90-99	100-109
RATE	140	120	100	90	80	70	60

(2) To conveniently check the required application rate, the contractor may measure materials used on a volumetric basis, providing the conversion from weight to volume is determined from representative samples of materials used.

(3) Incorporate the agricultural limestone with the required fertilizers into the soils in the designated areas. The construction requirements applicable to fertilizers must apply to those materials also.

629.4 Measurement

(1) The department will measure the Fertilizer bid items by the hundred pounds (CWT) acceptably completed, measured based on an application rate of 7 pounds per 1000 square feet. The department will not measure fertilizer used for the bid items under 632. The measured quantity equals the number of hundred-weight (CWT) of material determined by multiplying the actual number of cwt. of material incorporated by the ratio of the actual percentage of fertilizer components used to 32 percent for type A and to 50 percent for Type B.

(2) The department will measure Agricultural Limestone Treatment by the ton acceptably completed, measured based on an application rate of 100 pounds per 1000 square feet and an index zone of 60-69. The measured quantity equals the number of tons of material determined by multiplying the actual number of tons of material incorporated by 100 and dividing by the application rate required for the index zone of the material used.

629.5 Payment

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
629.0200 - 0299	Fertilizer (type)	CWT
629.1100	Agricultural Limestone Treatment	TON

(2) Payment for the Fertilizer bid items is full compensation for providing, hauling, placing, and incorporating in the work.

(3) Payment for Agricultural Limestone Treatment is full compensation for furnishing, hauling, placing, and incorporating the required materials in the soil.

630 Seeding

630.1 Description

(1) This section describes preparing seed beds and furnishing and sowing the required seed on slopes, appurtenances, and other areas, and on borrow pits and material disposal sites.

(2) This section also describes furnishing and sowing temporary seed mixture on the slopes and appurtenances of temporary embankments and roadways.

630.2 Materials

630.2.1 Seed

630.2.1.1 General

(1) Use seed within one year of the test date appearing on the label.

(2) Seed mixtures 70, 70A, 75, and 80 contain wild type forbs and grasses. Wild type is defined as seed that is derived directly from native, wild stock, including seed that was wild collected and placed into production or has been harvested directly from native stands.

630.2.1.2 Purity and Germination

(1) Test seed for purity, germination, and noxious weed seed content according to the Rules for Testing Seed, published by the Association of Official Seed Analysts.

(2) Percent live seed (PLS) is determined by multiplying the percent purity times the percent germination. Determine sowing rate and measure mixtures containing PLS as described in CMM 640.3.4 to ensure the correct quantity of viable seed of each species is applied.

630.2.1.3 Inoculation

(1) Inoculate legume seed (white clover, red clover, alsike clover, partridge pea, purple prairie clover, Canada tick-trefoil, and lupine) unless pre-inoculated by the vendor. Follow the inoculation instructions that come with the culture purchases. If applying the seed according to method B, 630.3.3.3, treat seeds requiring inoculation with 5 times the quantity of inoculant recommended in the instructions.

(2) Avoid exposure of the culture or inoculated seed to the sunlight; do not exceed 1/2 hour exposure.

630.2.1.4 Storing Seed

(1) Store seed delivered before use in a way that protects it from damage by heat, moisture, rodents, or other causes. Discard and replace any previously tested and accepted seed that becomes damaged.

630.2.1.5 Seed Mixtures

630.2.1.5.1 Permanent

630.2.1.5.1.1 Composition

(1) Seed mixtures for the right-of-way and easements must, unless specified otherwise, be composed of seeds of the purity, germination, and proportions, by weight, as given in table 630-1 and table 630-2.

(2) Use seed of the species and varieties listed below. If no variety is listed, there will be no restriction on the variety furnished, except as follows:

1. Pure live seed (PLS) species must contain no named or improved varieties and be grown in Wisconsin, northern Illinois, northeastern Iowa, or eastern Minnesota. Use out-of-state seed grown in one of the following counties:

1.1 From northern Illinois:

Boone	Bureau	Carroll	Cook	De Kalb	Du Page	Grundy	Henry
Jo Daviess	Kane	Kendall	Lake	La Salle	Lee	McHenry	Ogle
Putnam	Rock Island	Stevenson	Whiteside	Will	Winnebago		

1.2 From northeastern Iowa:

Allamakee	Benton	Black Hawk	Bremer	Buchanan	Cedar	Chickasaw	Clayton
Clinton	Delaware	Dubuque	Fayette	Floyd	Howard	Jackson	Johnson
Jones	Linn	Mitchell	Muscatine	Scott	Winneshiek		

1.3 From eastern Minnesota:

Aitkin	Anoka	Carlton	Carver	Chisago	Dakota	Dodge	Fillmore
Goodhue	Hennepin	Houston	Isanti	Kanabec	La Sueur	Mille Lacs	Mower
Olmsted	Pine	Ramsey	Rice	Scott	Sherburne	Steele	Wabasha
Washington	Winona	Wright					

2. PLS for seed mixtures 70, 70A, 75, and 80 must be packaged separately by species and clearly labeled with the vendor's name, species common and botanical names, gross weight, percent PLS, year of harvest and any specialized treatments that have been applied to ensure or enhance germination.
3. Minimum percent purity for native for species is 90 percent. If a listed species is not available, substitutions may be made with engineer's approval and must be documented.

(3) Mix native species on the project; clean and debeard seed with awns or excessive hairs before mixing.

SPECIES COMMON NAME	SPECIES BOTANICAL NAME	ACCEPTABLE VARIETIES
Kentucky Bluegrass	Poa pratensis	Low Maintenance
Red Fescue	Festuca rubra	Creeping
Hard Fescue	Festuca ovina	Improved
	var. duriuscula	
Tall Fescue	Festuca arundinacea	Improved turf type
Salt Grass	Puccinella distans	Fult's
	Puccinella distans	Salty
Redtop	Agrostis alba	
Timothy	Phleum pratense	
Canada Wild Rye	Elymus canadensis	
Perennial Ryegrass	Lolium perenne	
Perennial Ryegrass	Lolium perenne	Improved Fine
Annual Ryegrass	Lolium multiflorum	
Alsike Clover	Trifolium hybridum	
Red Clover	Trifolium pratense	
White Clover	Trifolium repens	
Japanese Millet	Echinochola crusgalli	
	var. frumentacea	
Annual Oats	Avena sativa	
Agricultural Rye	Secale cereale	
Winter Wheat	Triticum aestivum	

TABLE 630-1 HIGHWAY SEED MIXTURES

SPECIES	PURITY minimum %	GERMINATION minimum %	MIXTURE PROPORTIONS (in percent)				
			NO.10	NO.20	NO.30	NO.40	NO.60
Kentucky Bluegrass	98	85	40	6	10	35	
Red Fescue	97	85	25	15	30	30	
Hard Fescue	97	85		24	25	20	
Tall Fescue	98	85		40			
Salt Grass	98	85			15		
Redtop	92	85	5				
Timothy	98	90					12
Canada Wild Rye		PLS					10
Perennial Ryegrass	97	90	20	15			
Improved Fine Perennial Ryegrass	96	85			20	15	
Annual Ryegrass	97	90					30
Alsike Clover	97	90					4
Red Clover	98	90					4
White Clover	95	90	10				
Japanese Millet	97	85					20
Annual Oats[1]	98	90					20

[1] Substitute winter wheat for annual oats in fall plantings started after September 1.

TABLE 630-2 NATIVE SEED MIXTURES

SPECIES		SPECIES BOTANICAL NAME	PURITY & GERMINATION minimum %	MIXTURE PROPORTIONS in percent			
				NO. 70	NO. 70A	NO. 75	NO. 80
FORBES	Canada Anemone	Anemone canadensis	PLS	2			
	Butterflyweed	Asclepias tuberosa	PLS		2		
	New England Aster	Aster novae-angliae	PLS	2	2		
	Partridge-pea	Chamaecrista (Cassia) fasciculata	PLS		2		
	Purple Prairie Clover	Dalea (Petalostemum) purpurea	PLS	2	2	4	
	Canada Tick-trefoil	Desmodium canadense	PLS	2			
	Flowering Spurge	Euphorbia corollata	PLS		2		
	Wild Geranium	Geranium maculatum	PLS	2			
	Western Sunflower	Helianthus occidentalis	PLS	3	2		
	Rough Blazingstar	Liatris aspera	PLS		2		
	Prairie Blazingstar	Liatris pycnostachya	PLS	2			
	Lupine	Lupinus perennis	PLS		3		
	Wild Bergamot	Monarda fistulosa	PLS	2			
	Horse Mint	Monarda punctata	PLS		2		
	Yellow Coneflower	Ratibida pinnata	PLS	2	2		
	Blackeyed Susan	Rudbeckia hirta	PLS			1	
	Showy Goldenrod	Solidago speciosa	PLS	2	2		
	Spiderwort	Tradescantia ohiensis	PLS	2	2		
	Golden Alexanders	Zizia aurea	PLS	2			
GRASSES	Big Bluestem	Andropogon gerardi	PLS	15	15	10	
	Sideoats Grama	Bouteloua curtipendula	PLS	15	20	20	25
	Canada Wildrye	Elymus Canadensis	PLS	15	15	35	23
	Slender Wheatgrass	Elymus trachycaulus	PLS				20
	Junegrass	Koeleria macrantha	PLS		5		
	Annual Ryegrass	Lolium multiflorum	[1]			10	10
	Switchgrass	Panicum virgatum	PLS				10
	Salt Grass	Puccinella distans	[1]				2
	Little Bluestem	Schizachyrium (Andropogon) scoparium	PLS	15	20	10	10
	Indiangrass	Sorgastrum nutans	PLS	15		10	
ALTERNATE FORBES	Sky Blue Aster	Aster azureus	PLS	[2]	[2]		
	White Wild Indigo	Baptisia leucantha	PLS	[2]	[2]		
	Pale Purple Coneflower	Echinacea pallida	PLS	[2]	[2]		
	White Prairie Clover	Petalostemum candidum	PLS	[2]	[2]		
	Stiff Goldenrod	Solidago rigida	PLS	[2]	[2]		
	Hoary Vervain	Verbena stricta	PLS	[2]	[2]		

[1] Provide the minimum purity and germination specified in table 630-1.

[2] The contractor may, if the engineer approves, substitute an alternate forb for a required forb that is not available using the same percentage as specified for the required forb. Use a different alternate forb for each unavailable required forb. Provide documentation showing that a required forb is not available before using an alternate.

630.2.1.5.1.2 Mixture

(1) Use seed mixtures that meet with the engineer's approval and conform to the following:

- No. 10 where average loam, heavy clay, or moist soils predominate.
- No. 20 where light, dry, well-drained, sandy, or gravelly soils predominate and for high cut and fill slopes generally exceeding 6 to 8 feet, except where using No. 70.
- No. 10 or 20 on ditches, inslopes, median areas, and low fills, except where using No. 30 or 70.
- No. 30 for medians and on slopes or ditches generally within 15 feet of the shoulder where a salt-tolerant turf is preferred.
- No. 40 in urban or other areas where a lawn type turf is preferred.
- No. 60 only on areas, the contract designates or the engineer specifies. Use it as a cover seeding for newly graded wet areas or as a nurse crop for specified wetland seed mixtures. Do not apply it to flooded areas.
- Nos. 70 and 70A on slopes and upland areas the contract designates or the engineer specifies. Use seed mixture No. 70 on loamy soils and seed mixture No. 70A on sandy soils.
- No. 75 where native grasses are desired for erosion control.
- No. 80 on inslopes where a salt tolerant seed mix containing native grasses is desired.

630.2.1.5.2 Temporary

(1) Under the Seeding Temporary bid item, use a temporary seed as follows:

SPECIES	% MINIMUM PURITY	% MINIMUM GERMINATION
Annual Oats	98	90
Agricultural Rye	97	85
Winter Wheat	95	90

(2) Use oats in spring and summer plantings. Use winter wheat or rye for fall plantings started after September 1.

630.2.1.5.3 Nurse Crop

(1) If seeding bare soil with either mixture 70, 70A, 75, or 80, include the Seeding Nurse Crop as follows:

SPECIES	% MINIMUM PURITY	% MINIMUM GERMINATION
Annual Oats	98	90
Annual Ryegrass	97	90
Winter Wheat	95	90

(2) When a nurse crop is required for spring seeding before June 15, or if the engineer allows seeding between June 15 and October 15, use annual oats. For fall seeding after October 15, use winter wheat, or annual ryegrass.

630.2.2 Water

(1) Furnish clean water, free of impurities or substances that might injure the seed.

630.3 Construction

630.3.1 General

(1) Perform seeding when and as the engineer directs or allows. Provide protective cover within 24 hours after sowing. The engineer may direct or allow covering with mulch as specified in 627, erosion mat as specified in 628, or using other contract bid items.

(2) If using Nos. 60, 70 and 70A mixtures, do not seed between June 15 and October 15 unless the engineer allows.

630.3.2 Seed Bed Preparation

(1) Complete grading, shouldering, topsoiling, and fertilizing, if part of the work under contract, before permanent seeding, except the contractor may place the fertilizer and seed mixture in one operation if using equipment designed for the purpose.

(2) Just before seeding, work the area being seeded with discs, harrows, or other appropriate equipment to obtain a reasonably even and loose seedbed. Place topsoil as specified in 625.3.3.

630.3.3 Sowing Methods

630.3.3.1 General

(1) Select the method of sowing from either method A, method B, method C, or an appropriate combination of methods A, B, and C. Obtain the engineer's approval for the sowing method and specific procedures used for each seed mixture used before sowing that mixture.

630.3.3.2 Method A

(1) Sow the selected seed mixture using equipment adapted to the purpose, or by scattering it uniformly over the areas to be seeded. Lightly rake or drag to cover the seed with approximately 1/4 inch of soil. After seeding, lightly roll or compact the areas using suitable equipment, preferably the cultipacker type, when the engineer judges the seedbed too loose, or if the seedbed contains clods that might reduce seed germination. Do not roll slopes steeper than 1:3.

(2) If scattering seed by hand, perform this work with satisfactory hand seeders and only when the air is calm enough to prevent seeds from blowing away.

630.3.3.3 Method B

(1) Sow or spread the seed upon the prepared bed using a stream or spray of water under pressure and operated from an engineer-approved machine designed for that purpose. Place the selected seed mixture and water into a tank, provided within the machine, in sufficient quantities that when spraying the seed on a given area it is uniformly spread at the required application rate. During this process, keep the tank contents stirred or agitated to provide uniform distribution. Spread the tank contents within one hour after adding the seed to the tank. The engineer will reject seed that remains mixed with the water for longer than one hour. The engineer will not require dragging or rolling.

630.3.3.4 Method C

(1) For spring seeding of seed mixtures 70 and 70A into existing ground cover, mow existing vegetation to 4 inches or less in height 2 to 4 weeks before seeding. Ten to 14 days after mowing, spray with vegetation control herbicide conforming to 632.2.12.

(2) For fall seeding of seed mixtures 70 and 70A into existing ground cover, mow existing vegetation to 4 inches or less in height 4 to 6 weeks before seeding. Ten to 14 days after mowing, spray with vegetation control herbicide conforming to 632.2.12. Retreat with vegetation control herbicide 10 to 14 days after initial application if live vegetation persists.

(3) Seed with a rangeland type drill with one or more seed boxes that can be calibrated independently to deliver different sized seeds uniformly at the required rate and equipped with a rear-mounted press wheel for each seed drop tube. If seeding into existing vegetation or thatch, use a rangeland type drill equipped with a no-till attachment that can cut through the vegetation or thatch in front of the V disc and seed drop tube. If the configuration of the area to be seeded allows, apply seed at 1/2 the specified seed rate and apply the second 1/2 in a perpendicular direction.

630.3.4 Borrow Pits and Material Disposal Sites

(1) Seed borrow pits and material disposal sites off the right-of-way. Consult with the landowner or the landowner's agent when selecting the seed mixture.

630.3.5 Seeding Rates

(1) Use the following sowing rate for seeds in pounds per 1000 square feet:

- No. 10 at 1.5 pounds
- No. 20 at 3 pounds
- No. 30 at 2 pounds
- No. 40 at 2 pounds
- No. 60 at an equivalent seeding rate of 1.5 pounds[1]
- No. 70 or 70A at 0.4 pounds
- No. 75 at an equivalent seeding rate of 0.7 pounds[1]
- No. 80 at an equivalent seeding rate of 0.8 pounds[1]
- Temporary seeding at 3 pounds
- Nurse crop seeding at 0.8 pounds

[1] Determine the actual seeding rate by multiplying the equivalent seeding rate by the sum of the unadjusted and adjusted percentages of the various species in the seed mixtures as sown.

(2) The unadjusted percentage equals the minimum percent of purity and germination specified in the table 630-1 and table 630-2.

(3) Obtain the adjusted percentage for each of the PLS species by dividing the specified percentage of the species by the product of the percent of purity and the percent of germination for each of the PLS species as delivered.

630.3.6 Watering

(1) If rainfall is not sufficient, keep seeded areas thoroughly moist. Once the seed has germinated, do not let the top inch of soil dry out until the grass is well established. Maintain soil moisture for 30 days

unless the engineer directs or allows otherwise. Apply water in a manner that precludes washing or erosion.

630.3.7 Establishment Period for Native Seeding

(1) During the growing season after planting seed mixture 70 or 70A, mow seeded areas twice as the engineer directs. Mow vegetation back to 6 inches when it has reached a height of at least 12 inches.

(2) During the growing season after planting seed mixture 70 or 70A, eradicate the following species from the seeded areas as soon as they become evident:

SPECIES COMMON NAME	SPECIES BOTANICAL NAME
Musk thistle	Carduus nutans
Spotted knapweed	Centaurea maculosa
Canada thistle	Cirsium arvense
Bull thistle	Cirsium vulgare
Field bindweed	Convolvulus arvensis
Leafy spurge	Euphorbia esula
Sweetclover	Melilotus species
Wild parsnip	Pastinaca sativa
Teasel	Dipsacus species
Phragmites	Phragmites australis

(3) Eradicate by hand pulling or by applying a vegetation control herbicide conforming to 632.2.12 to individual plants.

630.4 Measurement

630.4.1 Seeding

(1) The department will measure the Seeding bid items by the equivalent pound acceptably completed, measured based on net weights of seed shipments or weighed on department-approved scales the contractor furnishes. The department will deduct quantities wasted or not actually incorporated in the work according to the contract. The department will determine the equivalent pounds of seed furnished and applied by dividing the actual pounds of seed applied by the sum of the unadjusted and adjusted percentages, determined as specified in 630.3.5, of the various species in the seed mixture sown.

630.4.2 Watering

(1) The department will measure Seed Water by the 1000 gallons acceptably completed, measured as the volume indicated by engineer-approved meters or by the volume of tanks of known capacity.

630.5 Payment

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
630.0100 - 0199	Seeding (mixture)	LB
630.0200	Seeding Temporary	LB
630.0300	Seeding Borrow Pit	LB
630.0400	Seeding Nurse Crop	LB
630.0500	Seed Water	MGAL

(2) Payment for the Seeding bid items is full compensation for providing, handling, and storing seed; for providing the required culture and inoculating seed as specified; and for preparing the seed bed, sowing, covering, and firming the seed. If the landowner does not want the pit or material disposal site seeded, or seeded with any of the mixtures allowed, the department will not pay for fertilization or seeding of those areas.

(3) Payment for Seed Water is full compensation for watering seed.

(4) The department will pay separately for seed covering required under 630.3.1 as follows:

- Under the Mulching bid items as specified in 627.5.
- Under the Erosion Mat and Soil Stabilizer Type A bid items as specified in 628.5.
- Absent the appropriate bid items, as extra work.