

REZONING APPLICATION

Racine County, Wisconsin

Owner: Warrenville Corporation

Applicant/agent: CreteX Materials, Inc.

Address: 30561 Bushnell Road
Burlington, Wisconsin 53105

Address: 500 Market Street
Burlington, Wisconsin 53105

Telephone #: _____

Telephone #: 715.202.3254

Fax #: _____

Fax #: _____

E-mail: _____

E-mail: ckjress@cretexmaterials.com

Date petition filed: _____

Hearing date: _____

TO THE RACINE COUNTY BOARD OF SUPERVISORS:

Please take notice that the undersigned hereby petitions the Economic Development & Land Use Planning Committee to consider a request to REZONE the land described in the attachment

FROM A-2, B-3, M-4 DISTRICT

TO M-4 DISTRICT

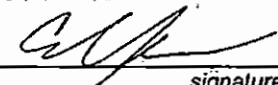
Town of Burlington # of Acres 5.23 1/4 Section _____ Section 04 T 2 N R 19 E

Parcel # 002-021904006000

Location/site address 30561 Bushnell Road, Burlington

Attached are

- Survey or plot plan, prepared by a Wisconsin registered land surveyor, that identifies property ownership with dimensions (12 copies: 10 of the 12 copies should be individually folded to approximately 8.5" x 11")
- Legal description of land to be rezoned, prepared by a Wisconsin registered land surveyor
- Names & addresses of land owners within 300 feet of the boundary of the area requested to be rezoned (include across the street, highway, &/or Interstate)
- Hearing & publication fees as set by the adopted fee schedule, payable to Racine County Planning (Fees are non-refundable. Re-publication/amendment fees will be charged where applicable.)
- Report of existing & future land usage / Proposed development plan
- Letter of Agent Status


signature

The completed petition with all required attachments must be submitted to: Racine County Development Services, 14200 Washington Avenue, Sturtevant, WI 53177; phone: 262-886-8440; fax: 262-886-8480; hours: 8:00 a.m. to 12:00 noon & 12:30 p.m. to 4:30 p.m., Monday through Friday. This is the minimal required information that must be submitted to have a rezoning application processed. Additional information might be requested if the Department, the Committee, &/or the Town feel that such additional information is necessary to adequately evaluate the application.

credit card/cash/check #: _____ amount received: \$ _____

The Economic Development & Land Use Planning Committee public hearings are generally held the 3rd Monday of each month. They start at 5:00 p.m. & are held in the Ives Grove Office Complex Auditorium, 14200 Washington Avenue (just west of the Sheriff's Patrol Station on Highway 20). Parking is available in the visitor parking lot on the north side of the building.

STAFF USE ONLY: Recommend: <input type="checkbox"/> approval <input type="checkbox"/> denial	ECONOMIC DEVELOPMENT & LAND USE PLANNING COMMITTEE Recommend: <input type="checkbox"/> approval <input type="checkbox"/> denial
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CONDITIONAL USE / SITE PLAN REVIEW APPLICATION

Racine County, Wisconsin

Owner: Warrenville Corp.

Applicant/Agent: Cretex Materials, Inc.

Town: Town of Burlington

Zoning district(s): A-2, B-3, M-4

TO THE RACINE COUNTY ECONOMIC DEVELOPMENT & LAND USE PLANNING COMMITTEE:

The undersigned requests a conditional use / site plan review permit to (specify use, project, structure, size, etc.)
Expand the Warren Quarry

AT (site address): 30561 Bushnell Rd. Burlington, WI 53105

Subdivision: _____ Lot(s): _____ Block: _____

Parcel # 002-02190400600 Section(s) 4 T 2 N R 19 E

If served by municipal sewer, check here: _____ Sanitary permit #: _____

Attached are:

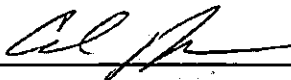
- zoning permit application
- hearing/review fee (Fees are non-refundable, & re-publication/amendment fees will be charged where applicable.)
- 12 SETS: drawn-to-scale site plan that is based on a survey (10 of the 12 should be sized or folded to 8.5" x 11")
- 3 SETS: landscaping/lighting plan
- letter of agent status
- 12 SETS: report/cover letter & operations plan
- other

print name: Cretex Materials, Inc.

e-mail address: ckress@cretexmaterials.com

address: 500 W Market St. Burlington, WI 53105

telephone #: 262-661-4275

signed: 

STAFF USE ONLY:

BASED ON CURRENT MAPPING, check applicable statement(s) below & underline or circle the word "all" or "partially".

- The *property* is all / partially located in the _____ shoreland area.
- The *project* is all / partially located in the _____ shoreland area.
- The *property* is all / partially located in the _____ floodplain.
- The *project* is all / partially located in the _____ floodplain.
- The *property* is all / partially located in the wetland.
- The *project* is all / partially located in the wetland.

The applicant is subject to the following Racine County Ordinance provisions (specify article/section):

Shoreland contract: yes _____ no _____

Public hearing date: _____

Site plan review meeting date: _____

Submittal received by: _____

Date petition filed: _____

cash or check #: _____

amount received: \$ _____

Introduction and Purpose

Aggregates are essential to quality of life but are not uniformly available everywhere. In the Town of Burlington, located in the southwest corner of Racine County, Wisconsin, Cretex Materials Inc. (Cretex Materials) operates an aggregate resource known as the Warren Quarry (refer to **Figure I – Site Location, Appendix B**). Originally operated by J.W. Peters and Sons under an agreement with owners Philip and Rose Warren starting in 1969, the operation was transferred to Cretex Materials in 1981.

The Warren Quarry has supported the Burlington area for more than 50 years and continues to hold substantial economic and strategic importance due to its composition, durability, and proximity to key transportation corridors. New reserves are identified on a 5.23-acre parcel located northeast of the existing operation, and on the southeast property boundary, originally sold to the Wisconsin DOT for the bypass in 2007.

The following plan documents existing site conditions and provides the details of a proposed expansion for the 5.23-acre parcel in alignment with Racine County Code of Ordinances, NR 135 of the Wisconsin Administrative Code, and other applicable local, regional, and state requirements. Its aim is to supplement a request to rezone the 5.23-acre parcel and modify the site's conditional use permit in accordance with the Town of Burlington Future Land Use Plan adopted in 2008 (refer to **Town of Burlington Future Land Use Plan, Appendix A**).

Existing Site Conditions

This section contains a review of the site's physical location, and includes information on topography, soils, geology, surface and ground water, and existing biological resources.

Location, Zoning and Land Use

The Warren Quarry is situated in the Town of Burlington near the City of Burlington municipal boundary (refer to **Figure 2 – Burlington Municipal Boundaries, Appendix B**). The proposal rezones the 5.23-acre parcel from A-1 Agriculture, B-3 Commercial, and M-4 Non-Metallic in the Town of Burlington to M-4 (refer to Table I – Parcel Information, below, and **Figure 3 – Zoning and Parcel Boundaries, and Figure 3a – Zoning and New Parcel Boundary, Appendix B**).

Table I - Parcel Information

Parcel ID	Acres	Owner	Location	Zoning
002021904006000	5.23 of 16.45	Warrenville Corp.	Section 04, T2N, 19RE	A-1, B-3, M-4

The surrounding zoning in the township consists of P-2 Recreational Park (north), A-2 and A-3 Agriculture and B-5 Highway Business District (east) and includes M-4 Non-Metallic Mining (south and west). A mix of City of Burlington zoning exists north and west of the Fox River (refer to **Figure 3 – Zoning and Parcel Boundaries, Appendix B**). These include city zoning categories of I-1 Institutional, and M-3 Manufacturing and Office Park, northeast of 5.23-acre parcel. **Property owners within 300 feet are listed Appendix H.**

Land uses surrounding the parcel consist of the existing 137.15-acre Warren Quarry and Fox River watershed (south and west); Bushnell Park, White River State Trail, and an academic institution (north); and a blend of agricultural and business uses to the east (refer to **Figure 3 – 2023 Aerial Imagery and Figure 4 – Existing Conditions, Appendix B**).

Warrenville Corporation, the current owner of the parcel, will have the property split, and the west, quarry side of Bushnell Road (5.23 acres) sold to Cretex Materials upon approval of a conditional use permit for the site (refer to **Plat of Survey, Appendix J**).

Topography

The 5.23-acre parcel lies within the Fox River basin. The topography across the site is relatively flat, and ranges from 776 on the southeast side of the parcel to 769 feet mean sea level (msl) on the northwest and drains into the existing quarry (refer to **Figure 1 – Site Location, Appendix B**).

Distribution, Thickness and Types of Soil

Surface soils on the property are classified as glacial outwash characteristic of the Casco Series. These soils, generally found on gently sloping terraces, are well-drained and loamy, with rapid internal drainage and moderate permeability. The A-horizon of these soils is generally 0 to 8 inches. Unconsolidated deposits of glacial till range between 30 and 40 feet in thickness.

Geology and Description of Mineral Resources

The predominant mineral resource on the property is Silurian-Aged dolomite, a carbonate rock belonging to the same family as limestone. The dolomite is approximately 100 to 120 feet in thickness, based upon borings conducted at the site. Dolomite is one of the most marketable construction products used in the State of Wisconsin. Its uses span from building and road aggregate to lakeshore erosion control (refer to **Cretex Materials Service Area, Products and Example Projects, Appendix C**). Cretex Material is a key supplier of roads and infrastructures in the region.

Water and Ground Water

The parcel lies between the Fox River and Hoosier Creek within the Fox River watershed. Existing surface water features and wetlands are identified in **Figures 1 to 8, Appendix B**. Surface water not captured by infiltration or utilized by plants follows topography across the parcel to the west, towards the Fox River or into the existing quarry.

Generally, ground water also follows topography, moving from upland recharge areas to lowland discharge areas. A study on groundwater conducted by HNTB in the vicinity of the site (1996), indicates that groundwater flows to the northeast patterned after the slope of the bedrock surface in the area. Monitoring data (1995 – 1996) suggests the water table is relatively shallow, at an approximate elevation of 740 feet msl. Precipitation has a pronounced effect on the water table in this area.

Ground water for local agriculture, industry, businesses, and homes are serviced by private water supply wells in the Town of Burlington. A search was conducted to identify well construction reports surrounding the property. A representation of available well construction reports are summarized in the appendix (refer to **Local Well Construction Reports Summary, Appendix D**). In general, local water supply wells are installed into unconsolidated glacial deposits or water bearing sections of the dolomite bedrock.

Plant and Wildlife

The property and neighboring areas provide support for a variety of transient wildlife species, such as bank swallows, geese, ducks, and sand hill cranes due to the availability of food, cover and nearby locations of water. Year-round wildlife species in the vicinity of the site include hawks, fox, skunk, turkey, white-tailed deer, rabbits, raccoons, and field mice.

Proposed Operations

The following plan of operation is developed to efficiently utilize the site's geologic resources, protect human health and the environment, and minimize long-term operational costs. Operation details for the Warren Quarry proposed expansion are identified in the appendix (refer to **Figure 7 and 7a – Operation Plan, Appendix B**).

Access and Setbacks

The parcel will be accessed from the existing entrance on Brevier Road, and with a setback of 200' to align with Racine County's approval conditions for the existing operation (refer to **Appendix K**), the site's nonmetallic mining permit # NM01-002-004 & NM-01-002-005, and other requirements to comply with the Racine County and town of Burlington Code of Ordinances.

Site Development and Erosion Control

The general sequence of operation includes clearing and stripping overburden, berm construction and seeding, and drilling and blasting. Stripped material, including topsoil and overburden, will be separated and stored for future reclamation in berms along the perimeter of the parcel between the setback and property line (refer to **Figures 7 and 7a – Operation Plan**). Besides providing topsoil and overburden storage, the berms will provide an aesthetic, sound, and wind buffer to neighboring properties.

Berms, in general, will be 25 feet wide and be graded to a 3:1 slope, and be seeded at the time of construction to optimize stabilization and minimize the growth of invasive species, the berm will be seeded. The selected seed cover will be based upon the soil type and temperature at the time of planting. A mulch cover will be spread on the sloped areas to reduce erosion and enhance plant growth. Seeding and mulching will be conducted in alignment with WDOT standards #630 (Seeding on Slopes) and #627 (Mulching).

Erosion controls outlined in the Wisconsin Department of Natural Resources (WDNR) “Construction Site Best Management Practices” handbook will be utilized as needed to prevent sediment loss during the initial construction phase of the project. Such measures include the utilization of straw bales, filter fabric, seeding, mulching and/or the construction of settling or containment structures.

Stone Removal and Processing

The dolomite bedrock will be intermittently “drilled and shot.” This process involves drilling holes into the dolomite rock and loading the holes with explosive material. The explosives are detonated by trained and licensed blasters. The blasts are designed to displace the rock from the solid formation and produce fragmentation that permits efficient crushing and sizing of the rock. All blasting in the State of Wisconsin is performed in accordance with COM 7 of the Mine, Safety and Health Administration Code, published by the Wisconsin Department of Commerce.

Dolomite reserves will be extracted in benches to an approximate elevation of 620 feet msl and processed (crushed, screened, stockpiled). A list of equipment that could be utilized in stripping, berm construction, seeding, drilling and blasting, and processing is included in **Aggregate Equipment, Appendix E**. In addition, a dewatering pump is used to keep the quarry floor dry.

Hours of Operation

Hours of operation are from 6:00 a.m. to 6:00 p.m., Monday through Friday, and Saturdays with pre-approval from the Town of Burlington.

Human Health and Environmental Protections

A number of different features have been incorporated into this plan to protect human health and the environment as summarized below.

Safety and Aesthetics

The safety aspects of nonmetallic mining are regulated by the Mine, Safety and Health Administration (MSHA). The primary safety features include the installation of berms and a locking gate. Posted notices or signs will additionally be used to increase awareness and improve safety. These include:

1. Notice of the required site-specific safety training for those entering the site.
2. Signs with “No Trespassing” and “Danger Active Quarry” posted on the entrance and perimeter of active operations.

The proposed expansion is situated 200 feet away from Bushnell and Brever Roads, as well as the White River State Trail, and operated below the current ground level. A gradual berm presents views from the roadside that show natural vegetation rather than the active work area. Existing trees within setback areas along the fence line, where no berms are present, will be preserved, as much as possible.

Noise

Noise can be produced by various pieces of construction equipment. The following noise abatement measures were compiled to address potential noise concerns. They include:

1. Using sound control devices on equipment, such as mufflers.
2. Maintaining equipment on a regular basis.
3. Strategically placing material stockpiles and berms between processing operations and potentially affected dwellings.

Air Quality

Cretex Materials utilizes best management practices to minimize dust during stripping, berm construction, drilling and blasting in alignment with WDNR requirements. These include using water spray, dust suppressants, and dust collection as needed to meet all applicable emission limits (refer to **Fugitive Dust Control Plan, Appendix F**).

Surface Water and Ground Water Protection

Groundwater is pumped at the Warren Quarry to keep the quarry floor dry. Groundwater and surface water protection are an integrated part of Cretex Materials daily operation. Work is conducted in alignment with the site's storm water pollution prevention plan which identifies potential contaminants and provides best management practices for spill prevention (refer to **Stormwater Pollution Prevention Plan, Appendix G**).

An attempt has been made to identify all water supply wells within 1,000 feet (refer to **Local Well Construction Reports Summary, Appendix D**). Not all occupied structures have well construction reports filed with the WDNR or Wisconsin Geological and Natural History Survey (WGNHS). Regardless, any water well issue presented to Cretex Materials will be researched and addressed with licensed professionals in cooperation with water supply professionals from the WDNR.

Blasting Vibration

Humans are very sensitive to vibration and can detect levels as low as 0.15 mm/second. How people notice and respond to vibration varies greatly from person to person. To protect human health and private property, blasting is conducted by licensed and credentialed blasters to minimize vibration. A typical quarry blast lasts between 50 to 100 milliseconds, which is a fraction of a second. Each blast is recorded by a seismograph. The seismograph monitors vibration levels and ensures compliance with State and Federal limits.

Between January 2023 and December 2023, seismographs recorded vibration associated with blasting at the site an average of .26 inches/second peak particle velocity (PPV), with no readings above half the regulatory limit of 2.0 PPV. Property owners wishing to be notified in advance of a blast may do so upon request. Cretex Materials maintains a list of people wishing to be notified in advance of a blast. Anyone can be added to this list by contacting Cretex Materials.

Reclamation Plan

An approved reclamation plan for the existing Warren Quarry is on file with Racine County. Reclamation measures for the parcel expansion and existing Warren Quarry are found below and summarized in the Appendix (refer to **Figure 8 – Reclamation Plan, Appendix B**). An updated reclamation plan will be submitted to the county for consideration upon approval of a conditional use permit for the expansion.

Post-Mining Land Use

When the resource is fully depleted, the quarry will be restored as a freshwater lake, with vegetation and food plots consistent with local wildlife habitat and recreation.

Rock Wall Stability

The dolomite will be extracted to a maximum elevation of 620 feet MSL. High walls will be left in a stable and safe condition. Rock wall stability will be enhanced by minimizing or removing all overhangs and back breaks. The rock face will be scaled to remove any loose material prone to dislodging and falling.

Site Grading and Preparation

Grading and site preparation will involve removing and/or leveling remaining stockpiles across the quarry floor. Topsoil and overburden stored in berms along the perimeter of the operation will be used to cover the base of the quarry where there are not springs or water collection. Clean fill may be utilized as available.

Overburden/Topsoil Placement and Revegetation

Reserved overburden will be spread to a minimum thickness of 4 feet. Reserved topsoil and/or topsoil substitute material will be placed over the overburden to enhance plant growth, a minimum of 4 inches.

These areas will be vegetated in alignment with the Conservation Practice Standards (refer to **NRCS Critical Area Planting and Guidelines for Herbaceous Stand Evaluation, Appendix I**). This standard demonstrates how to re-vegetate and stabilize bare soils, including slope stabilization, topsoil application, seedbed preparation, fertilization, seed selection, mulching and maintenance such as the control of erosion and noxious weeds. The seed mixture that was selected is known as the Wisconsin Department of Transportation (WISDOT) seed mix No. 20; this mixture contains the following:

- Tall Fescue 40%
- Perennial Ryegrass 30%
- Hard Fescue 24%
- Kentucky Bluegrass 6%

This seed mixture is recommended because the germination rate is quick. The application rate at which this mixture will be spread is 145 lbs. per acre. Fertilizer will be applied to enhance growth, where needed. This application will consist of an equal proportion of 15% of Nitrogen, Phosphorus and Potassium.

Mulching such as straw or hay may be used after seed placement to aid in erosion control, water infiltration and seed establishment. Where necessary, additional erosion and sediment controls may be applied as outlined in Wisconsin Department of Natural Resources' "Construction Site Best Management Practice Handbook."

Criteria for Measuring Reclamation Success

Revegetation success will be determined by visual inspection. Reclamation will be considered complete when a plant density of up to 10 seedlings per square foot is established, depending upon the specific crop cover. Plant density determination shall be accomplished by a one square foot frame count technique (refer to **NRCS Critical Area Planting and Guidelines for Herbaceous Stand Evaluation, Appendix I**). Determination of stand density shall be conducted at the end of the first growing season.

In the event plant densities are not established sufficient to avoid soil erosion, those areas will be reworked and reseeded. When Cretex Materials believes a portion of the site has been satisfactorily reclaimed, the regulatory authority for Racine County will be brought in to perform a field verification.

Estimated Reclamation Cost and Financial Assurance

Expected reclamation costs for areas above the water table used for conservation in preparation of wildlife food plots subject to approval by Racine County. Financial assurance will be coordinated with the county upon approval of the reclamation plan.

Standard of Care

This plan was prepared using generally accepted geologic and hydrogeologic practices and is based upon the information available at the time of preparation. The scope of this plan is limited to the specific locations described herein.

Prepared By:

Susan M. Courter

Registered Professional Geologist #334-013



Reference Sources

Soil Survey of Racine and Kenosha County, Wisconsin, United States Department of Agriculture, Soil Conservation Service, 1978

Well Construction Reports, 1936-1989, Wisconsin Geologic and Natural History Survey, and 1989-2007, Wisconsin Department of Natural Resources

Bedrock Geologic Map of Wisconsin, by M.G. Mudrey, Jr., B.A. Brown and J.K. Greenberg, Wisconsin Geologic and Natural History Survey, 1982

2008 Town of Burlington Land Use Plan (<https://townofburlington.com/land-use-plan/>)

Water Resources of Racine and Kenosha Counties, Southeastern Wisconsin, US Geological Survey Water Supply Paper 1878, E.F., Hutchinson, 1971

Water Resources of Wisconsin-Rock-Fox River Basin, Hydrogeologic Investigations Atlas, US Geological Survey, 1973

"GEMS Database," Wisconsin Department of Natural Resources, January 2020

Hydrogeologic Assessment for the Warrenville Quarry Ketterhagen Property Expansion, prepared for J.W. Peters & Sons, Inc., by HNTB Corporation, October 1996

Natural Resource Conservation Service (NRCS) Code 342 Critical Area Planting and Wisconsin Technical Note – Agronomy – WI – 1, Guidelines for Herbaceous Stand Evaluation, May 1991

SITE AND CONTACT INFORMATION

Site Location: Section 04, T02N, R19E
Town of Burlington, Racine County, Wisconsin

Zoning Districts: A-2 General Agriculture and Residential District
B-3 Commercial Service District
M-4 Quarrying District

Parcel ID 002-021904006000

Property Size: 5.23 Acres (split)

Operator: Cretex Materials. Inc.
500 Market Street
Burlington, Wisconsin 53105

Phone: (715) 202-3254

Calvin Kress cjkress@cretexmaterials.com

Property Owner: Warrenville Corporation
30561 Bushnell Road
Burlington, Wisconsin 53105

Consultant: Courter Resource Group, LLC
17054 State Highway 178
Jim Falls, Wisconsin 54748
(715) 450-3669

Susan Courter, P.G. susan@courterresource.com

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Appendix C Cretex Materials Service Area, Products and Example Projects

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APPENDIX A

Town of Burlington Future Land Use Plan 2035

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Figure 1	Site Location
Figure 2	Town of Burlington Municipal Boundaries
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**Figure 1
Site Location**

-  Quarry Entrance
-  New Parcel
-  Existing Cretex Materials Parcels
-  Land Parcels
-  White River State Trail
-  Fox River Est. Elevation 746' msl
-  Waterways

Scale: 1:15,000

1 inch = 1,250 ft

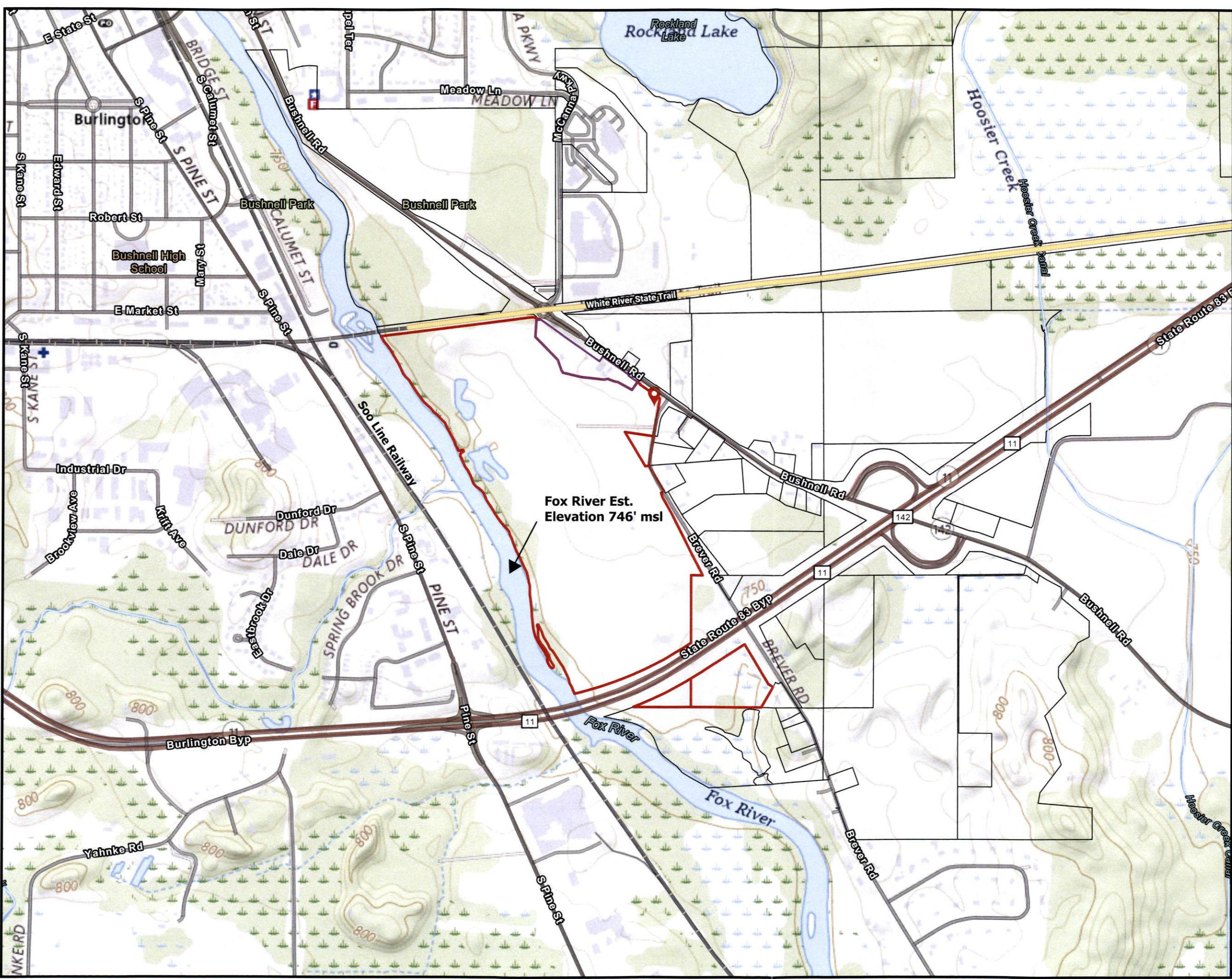
0 1,000 2,000 Feet



*Scale is approximate and note based upon legally recorded or surveyed datum.

*Sources: USGS The National Map
Racine County Parcels 2015

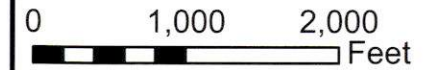
Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI



**Figure 2
Burlington Municipal
Boundaries**

-  Quarry Entrance
-  Existing Cretex
Materials Parcels
-  City of Burlington
-  Town of Burlington
-  White River State Trail
-  Waterways
-  Fox River

Scale: 1:15,000
1 inch = 1,250 ft



*Scale is approximate and note based upon legally recorded or surveyed datum.

*Sources: USGS The National Map
Racine County Parcels 2015, WI DNR 2022,

Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI





**Figure 3
Zoning and Parcel Boundaries**

-  Quarry Entrance
-  New Parcel
-  Existing Cretex Parcels
-  City of Burlington
-  Fox River Waterbody
-  Waterways
-  White River State Trail

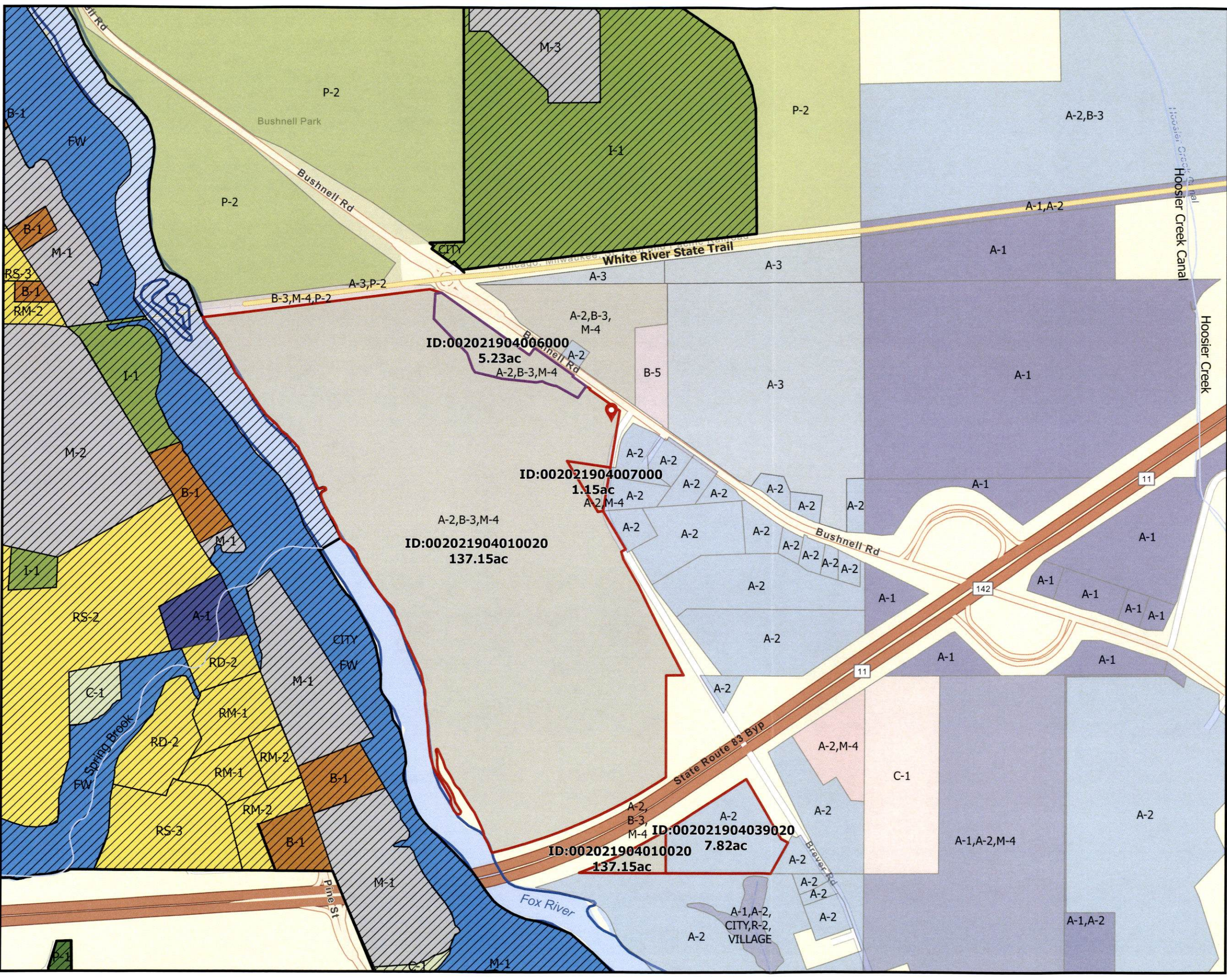
City of Burlington Zoning	Town of Burlington
 A-1	 A-1
 B-1	 A-1,A-2
 C-1	 A-1,A-2,CITY
 FW	 A-1,A-2,M-4
 I-1	 A-2
 M-1	 A-2,B-3
 M-2	 A-2, B-3, M-4
 M-3	 A-2,M-4
 P-1	 A-3
 RD-2	 B-3,M-4,P-2
 RM-1	 B-5
 RM-2	 C-1
 RS-2	 P-2
 RS-3	

Scale: 1:10,000
1 inch = 833 ft

*Scale is approximate and note based upon legally recorded or surveyed datum.
*Sources: Esri Street Map
Racine County Parcels 2015, WI DNR 2022






Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI



**Figure 3a
Zoning and New Parcel
Boundary**

-  Quarry Entrance
-  New Parcel
-  Existing Cretex Parcels
-  Fox River Waterbody
-  Waterways
-  White River State Trail

Zoning District

-  A-2 , A-3
-  B-3 , B-5
-  M-4
-  P-2
-  City

Scale: 1:2,500

1 inch = 208 ft



*Scale is approximate and note based upon legally recorded or surveyed datum.

*Sources: Esri Street Map
Racine County Parcels 2015,

Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI

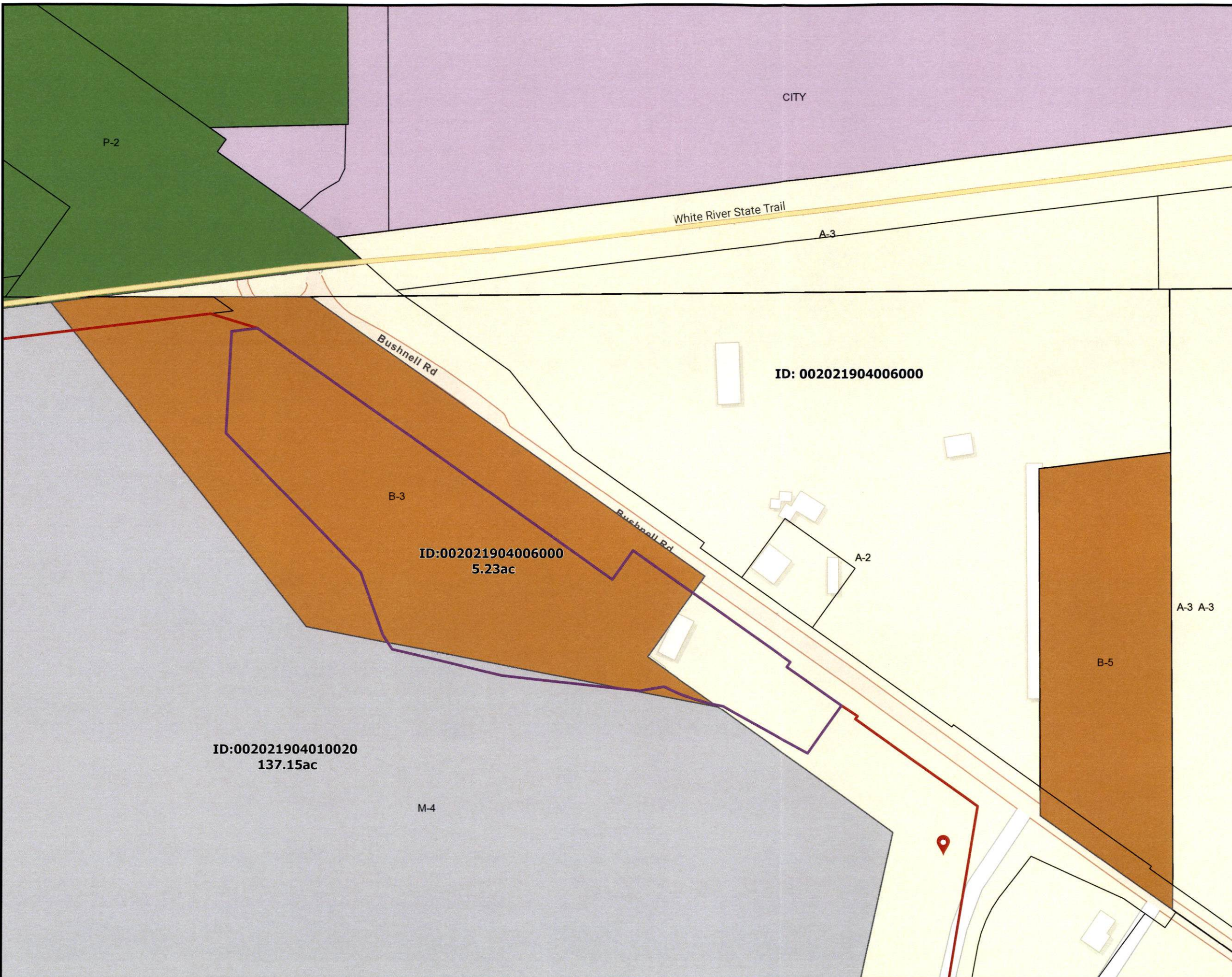

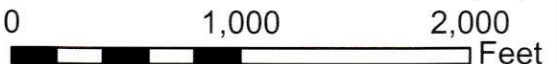


Figure 4
2023 Aerial Imagery

-  Quarry Entrance
-  New Parcel
-  Existing Cretex Materials Parcels
-  Fox River Waterbody
-  White River State Trail
-  Waterways

Scale: 1:10,000
1 inch = 833 ft

*Scale is approximate and note based upon legally recorded or surveyed datum.

*Sources: SEWRPC, Maxar, Esri
Racine County Parcels 2015, WI DNR 2022

Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI



**Figure 4
Wetlands and Floodplains**

-  Quarry Entrance
-  New Parcel
-  Existing Cretex Materials Parcels
-  Land Parcels
-  FEMA Floodplain
-  Fox River Waterbody
-  Waterways
-  White River State Trail
- Wetland Class**
-  Emergent/wet meadow - "E2Kv"
-  Forested - "E2K"
-  Forested, Emergent/wet meadow - "T3/E2K"
-  Open Water - "W0Hx"

Scale: 1:6,400

1 inch = 533 ft



*Scale is approximate and note based upon legally recorded or surveyed datum.

*Sources: SEWRPC, Maxar, Esri
Racine County Parcels 2015, Wi DNR 2022, FEMA

Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI



Figure 6
2023 Satellite Imagery

-  Quarry Entrance
-  New Parcel
-  Existing Cretex Materials Parcels
-  White River State Trail

Scale: 1:5,000

1 inch = 417 ft

0 400 800 Feet



*Scale is approximate and note based upon legally recorded or surveyed datum.

*Sources: SEWRPC, Maxar, Esri
Racine County Parcels, 2015

Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI



**Figure 7
Operation Plan
(2023 Satellite Imagery)**

-  Quarry Entrance
-  New Parcel
-  Fox River
-  Existing Cretex Materials Parcels
-  Access Road
-  25' Berm
-  White River State Trail
-  200' Setback, Property Lines

Scale: 1:4,500

1 inch = 375 ft





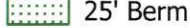



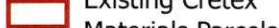
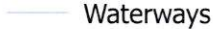

*Scale is approximate and note based upon legally recorded or surveyed datum.

*Sources: Esri Topographic map,
Racine County Parcels 2015

Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI

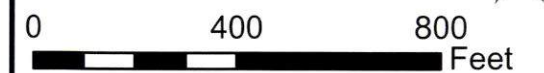


**Figure 7a
Operation Plan
(2017 Hillshade)**

-  Quarry Entrance
-  Access Road
-  25' Berm
- Quarry Setbacks
- SetbackID
-  200' Setback, Property Lines
-  White River State Trail
-  New Parcel
-  Existing Cretex Materials Parcels
-  Waterways
-  Fox River

Scale: 1:4,500

1 inch = 375 ft



*Scale is approximate and note based upon legally recorded or surveyed datum.

















*Sources: Esri Topographic map, Racine County Parcels 2015, UW Science & Engineering 2017

Cretex Materials
Warren Quarry
Section 4, Town of Burlington,
Racine County, WI


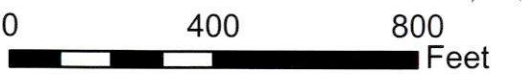


**Figure 8
Reclamation Plan
(2023 Satellite Imagery)**



-  Quarry Entrance
-  Walking Trail
-  Cretex Materials Parcels
-  White River State Trail
-  25' Berm
-  50' Access Road
-  Municipal Boundaries
-  Existing Trees
-  Restored Vegetation
-  Freshwater Lake
-  FEMA Floodplain
-  Fox River
- Wetland Areas**
-  Emergent/wet meadow - "E2Kv"
-  Forested - "E2K"
-  Forested, Emergent/wet meadow - "T3/E2K"
-  Open Water - "W0Hx"

Scale: 1:4,500
 1 inch = 375 ft

*Scale is approximate and note based upon legally recorded or surveyed datum.
 *Sources: Esri Topographic map, Racine County Parcels 2017, WI DNR 2022

Cretex Materials
 Warren Quarry
 Section 4, Town of Burlington,
 Racine County, WI



APPENDIX C

Cretex Materials Service Area, Products and Example Projects

**Cretex Materials Inc.
Abbreviated Product List**

Blast Run
Rip-rap (8 – 12" and 12-24")
4-6" Large, Clear Rotten Granite
Breaker Run
Fill Stone
Crushed Pit Run
Select Crushed
Clear Stone (various sizes)
3" Clear – Tracking Pad Material
Conveyor Stone ¾" Clear
¾" Clean Stone
Crushed Stone (various sizes)
Dense Crusher Run (various sizes)
Chips
Screenings (various sizes)
5/16" Clean Chips
Mason Sand
Crushed Concrete Stone (various sizes)
Manufactured Sand
Blacktop, Hauled In
Cold Mix

Various products listed can be and are used for concrete and pavements

LIST OF LOCAL PROJECTS CRETEX MATERIALS PROVIDED MATERIAL FOR:	
COMPANY	ADDRESS
Oak Park Place Senior Living	1700 S Teut Rd Burlington, WI 53105
Applied Materials Solutions	1956 S Pine St Burlington, WI 53105
Oreilly Auto Parts	824 Milwaukee Avenue Burlington, WI 53105
Aurora Health Care	709 Spring Valley Road Burlington, WI 53105
Tidal Wave Auto Spa	357 Wegge Ct. Burlington, WI 53105
YMCA Camp MacLean- Driveway Restoration	31401 Durand Avenue Burlington, WI 53105
Lynch GM Superstore Storage Building	2300 Brown Lake Drive Burlington, WI 53105
Hampton Inn	400 Dodge Street Burlington, WI 53105
Integrity Celebrations Center & Banquet Hall	2789 Brown Lakes Drive Burlington, WI 53105
Burlington Parking Garage	224 E Washington Street Burlington, WI 53105
Burlington Community Aquatic Center	394 Amanda Street Burlington, WI 53105
Wisconsin Vision Associates WVA Building Addition	35263 W State Street Burlington, WI 53105
Nestle Food Cookie Dough Addition	637 S Pine Street Burlington, WI 53105
Faust Development Apartments, Storage Facility	Hwy 83 Burlington, WI 53105
Burlington	Bridge Street Overpass
Springbrook Village Homes Condos & Senior Living	1088 Hidden Creek Lane Burlington, WI 53105
LDV Addition	180 Industrial Drive Burlington, WI 53105
City of Burlington Street and Utility Improvements	
City of Burlington	S Pine Street Sanitary Sewer Project
WE Energy	Burlington Substation Wall
Performance Tire & Auto Service Parking Lot	1051 Milwaukee Avenue Burlington, WI 53105
Pizza Ranch	960 Milwaukee Avenue Burlington, WI 53105
Browns Lake Sanitary District New Well Building	Burlington , WI 53105
Murphy Farm New Subdivision	Burlington, WI 53105
Various Town and City roads and patches	Burlington, WI 53105
Scherrer Construction parking lot	601 Black Hawk Dr, Burlington, WI 53105

APPENDIX D

Well Construction Reports Summary

Select Well Construction Reports within 1200 ft, T2N R19E, Town of Burlington, Racine County

Legal Description	WI Well ID	Property Owner* Well type	Date Drilled	Static Water Level (below ground surface)	Geologic Profile (feet)
SE, NE, Sect. 4 31229 Bushnell Rd	OL650	Lunsmann, Matthew* (New)	2000	57ft	0-8 Sand 8-15 Clay 15-32 Clay Sand 32-40 Sand Gravel Clay 40-143 Limestone 143-145 Shale
SE, NE, Sect. 4 5741 Brever Rd	WW293	Ketterhagen, Joe	2012	270ft	0-2 Clay 2-30 Sand & Gravel 30-50 Hard Clay 50-140 Limestone 140-330 Shale 330-624 Limestone 624-644 Sandstone
SW, NE, Sec. 4 5649 Brewer Rd	ZO843	Fitz, Patrick* (New Well)	2022	112ft	0-43 Clay & Gravel w/Cobbles/Boulders 43-200 Limestone
NW, NE, Sec. 4 31319 Bushnell Road	AB0988	Taylor, Anthony & Laurie*	2023	112ft	0-9 Clay 9-15 Clay & Gravel 15-31 Clay 31-200 Limestone/Dolomite
SE 1/4 of NE 1/4, Sec. 4	No Well ID	Ketterhagen, Cyril (Home)	1959	25 ft	0-2 Topsoil 2-15 Sand & Gravel 15-30 Red Sand 30-46 Gray Sand 46-49 Sand & Gravel

Select Well Construction Reports within 1200 ft, T2N R19E, Town of Burlington, Racine County

SE 1/4 of NE 1/4, Sec. 4	No Well ID	Ketterhagan, Roman (Home)	1958	11ft	0-3 Topsoil 3-14 Red Clay 14-22 Red Sand 22-41 Gray Clay 41-43 Sand & Gravel
NE of NE 1/4, Sec. 4	No Well ID	Eckert, John (Farm)	1946	17ft	0-60 Stone & Gravel 60-90 Blue Clay 90-98 Gravel
NE 1/4 of NE 1/4, Sec.4	No Well ID	Eckert, Donald* (Home)	1957	14ft	0-3 Topsoil 3-18 Red Clay 18-40 Gray Clay 40-42 Sand & Gravel
NE 1/4 of NE 1/4, Sec.4	No Well ID	Meyers, Everett (Home)	1970	14ft	0-1 Fill 1-12 Red Clay 12-24 Stony Clay 24-45 Hard Pan 45-52 Lime & Water
NW, NE, Sec. 4 31340 Bushnell Road	FG794	Scherrer Construction Co. (Bus Barn)	1965	19ft	0-22 Red Clay 22-35 Red Clay 35-44 Gray Clay 44-47 Limestone
SW 1/4, NE 1/4, Sec. 4 5642 Brever Road	No Well ID	Warren, Tim* (Home)	1977	36ft	0-10 Sand Clay & Gravel 10-45 Sand & Gravel 45-48 Gray Clay 48-102 Limestone
SW of NE 1/4 of Sec. 4	No Well ID	Ketterhagen, Ben (Dairy Farm)	1945	12ft	0-30 Hard Pan 30-42 Blue Clay 38-80 Lime Drift 80-88 Limestone
NW 1/4 of NE 1/4 of Sec. 4	No Well ID	Scherrer Construction Co. (Bus Barn)	1965	19ft	0-22 Red Clay 22-35 Red Sand 35-44 Gray Clay 44-57 Limestone

Select Well Construction Reports within 1200 ft, T2N R19E, Town of Burlington, Racine County

NE SE, Sec. 4 6065 Brever Road	ID658	Burlington Conservation Club (Replacement)	1995	12ft	0-2 Topsoil 2-5 Clay & Gravel 5-25 Gravel 25-35 Clay & Gravel 35-77 Limestone
NE SE, Sec. 4 5967 Brever Road	YP288	Agen, Jay* (New)	2016	45ft	0-35 Sand & Gravel, Sandy 35-48 Clay 48-120 Limestone/Dolo mite

Source: Well Data from WDNR

*Notes:

- Property owner name at the time of well construction.
- Data as entered in the well construction report.
- May not represent all well construction reports in each area.
- Locations are not field verified.

APPENDIX E

Aggregate Equipment

Aggregate Processing and Construction Equipment

Example aggregate processing and construction equipment includes:

Site Development Equipment

Excavator

Processing and Material Transport Equipment

Crushing units (primary, secondary, tertiary)

Screening units

Surge bin

Conveyors/stackers

Front end loader

Skidsteer

Service truck(s)

Scale

Generator

Water Pumps

Environmental Control Equipment

Water truck

Safety Equipment

Aerial lift

APPENDIX F

Fugitive Dust Control Plan

Fugitive Dust Control Plan

I. Site Roadways / Plant Yard

A. The dust on the site roadways/plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. Applications of dust suppressants shall be done as often as necessary to meet all applicable emission limits.

B. All paved roadways/plant yards shall be swept as needed between applications.

C. Any material spillage on roads shall be cleaned up immediately.

2. Plant

A. The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve. The transfer point from the re-circulating belt to the feed belt shall be equipped with an enclosed chute.

3. Storage Piles

A. Stockpiling of all nonmetallic minerals shall be performed to minimize drop distance and control potential dust problems.

B. Stockpiles shall be watered on an as needed basis in order to meet the opacity limits. Also, equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day. A record of all watering shall be kept on file and be made available to the Department upon request.

4. Truck Traffic

A. On-site: Vehicles shall be loaded to prevent their contents from dropping, leaking blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within six (6) inches of the top of any side board, side panel or tail gate, otherwise, the truck shall be tarped.

5. Department Inspection

A. The provisions and procedures of this plan are subject to adjustment if following an inspection and written notification, the Department finds the fugitive dust requirements and/or permitted emission limits are not being met.

APPENDIX G

Stormwater Pollution Prevention Plan

STORM WATER POLLUTION PREVENTION PLAN CRETEX MATERIALS, INC.

Introduction and Purpose

Cretex Materials, Inc. produces aggregates at their dolomite quarries and sand pits located in Northeast Wisconsin. Material from each site is excavated, processed and delivered using one or more combinations of stripping, blasting, excavating, crushing, screening, washing and loading equipment.

This storm water pollution prevention plan has been developed to identify potential pollutants associated with these operations to minimize their exposure to sensitive waters of the State through contractor education, and the best management practices (BMPs) described herein.

Responsibility

The official responsible for training and implementation of this storm water pollution prevention plan is:

Calvin Kress
Cretex Materials, Inc.
500 W Market Street
Burlington, Wisconsin 53105
(262) 661-4275

Contractor Education

It is the responsibility of all contractors to recognize, report and/or respond to potential environmental concerns at the site. All contractors shall review and comply with the attached best management practices to protect surface water and ground water as a condition of their work. Field crews and petroleum delivery drivers shall additionally receive training in pollution prevention best practices, including good housekeeping, proper erosion and sediment control, safe petroleum product handling, and proper equipment maintenance and inspection procedures.

Potential Pollutants and Best Management Practices

There are two general types of potential pollutants at the site. These include: (1) sediment, and (2) petroleum products such as fuels and/or lubricants. The following section describes potential pollutant sources and BMPs for prevention of their release to sensitive waters of the state.

BMPs for Site Preparation

Site preparation activities such as topsoil and/or overburden stripping, berm construction, and/or the establishment of an access drive can release sediments, allowing their capture into storm water. Soils containing a high percentage of silt or clay, and those located near water ways, wetlands or on steep slopes pose the highest risk for erosion and sediment runoff, particularly during periods of high precipitation.

Proper site planning is the best approach to prevention. The following BMP's are effective controls for soil erosion and sediment control under changing site conditions:

- Develop the site incrementally, preserving existing vegetation (where possible) along the perimeter of the excavation.
- Divert surface water away from disturbed areas.
- Prevent tracking from the entrance of the site. This can be done in a number of ways: (1) restricting on-road vehicles to stabilized or paved areas, (2) diverting surface water runoff away from roadway surfaces, (3) constructing a gravel tracking pad, or (4) inspecting and cleaning up material tracked onto adjacent roadways.
- Contain surface water runoff within the excavation so suspended sediments in surface water are captured and filtered as the surface water filters downward to the ground water.
- Construct berms with stable slopes (typically 3:1 or less), away from sensitive wetlands or waterways.
- Stabilize berm areas upon construction with perennial vegetative cover using a WDOT #10 mix or equivalent.
- Evaluate runoff at outfalls, near wetlands and waterways, or areas of steep slopes to evaluate the need for additional erosion controls such as those outlined in the Wisconsin Construction Site Best Management Practices Handbook, and Wisconsin DOT handbook. These controls may include, but are not limited to the temporary erection of silt fence, sediment traps, straw bails or natural or synthetic matting or netting, or the permanent construction of grassed swales, rock dams, and/or sediment retention ponds.

BMPs for Material Processing and Loading

Nonmetallic mineral processing requires the physical reduction, sizing and/or washing of natural earth materials. Portable processing equipment is used to produce various-sized material stockpiles. This equipment is used intermittently at the site to produce the needed construction aggregates. MCC and/or their trained subcontractors may elect to implement any one or more of the following BMPs to minimize risk from sediment to storm water and nearby surface water bodies during processing and loading:

- Maintain internal drainage of the site for the duration of the processing cycle.
- Use conveying equipment to stockpile sand and crushed stone products away from major transportation routes within the site.
- Manage bulk storage piles following the BMPs described in WDNR publication "Storage Pile Best Management Practices" WT-468-96, when placed outside of the internally-drained limits of the excavation.
- Properly size wash ponds to have sufficient storage capacity for wash out purposes, as well as a 10-year storm event.
- Routinely remove fines generated from crushing, screening or conveying operations to a secure area to prevent buildup and off-site tracking.
- Load out within the area of extraction, being careful to avoid over spilling from trucks.
- Site all processing equipment away from surface water bodies; preferably below grade within the area of extraction.*

* Note: When a plant must be placed in an area where additional containment is needed because of the amount of fines being produced; field employees may elect to construct berms or temporary basins for collection and

control of sediment-laden water. Necessity of construction is based on slope of plant site, the area drained, soil type, and proximity to receiving waters, and shall be designed in accordance with WDNR “Construction Site Best Management Practices” handbook to capture a 10-year storm event. Other influences may be considered on a site-specific basis as needed to fulfill the purpose of the plan.

BMPs for Maintenance of Roads, Erosion Controls, and Wash Ponds

Roadways, temporary and permanent erosion control structures, and wash ponds need to be maintained to ensure optimum performance. Routine maintenance is scheduled on an as-needed basis and may include any one or more of the following:

- Routinely inspect topsoil and overburden berms for signs of erosion.
- Clean out sediment from retention and/or wash ponds as-needed and store in a secure area of the site.
- Refresh the tracking pad and/or sweep sediments from paved roadways.
- Remove silt fence, straw bales or other temporary erosion controls when surface soils have been stabilized.

BMPs for Mobile Fueling of Heavy Equipment

Fuel is delivered to nonmetallic processing sites as they are in other, rural areas. Local supply trucks are equipped with spill control and containment equipment. The truck arrives during working hours to fuel necessary equipment and loaders or related storage. Where present, fuels are in operating equipment, in containment, or inside protective areas (i.e., building or storage vessel) onsite. BMPs associated with fueling may include:

- Keeping spill kits up to date
- Assisting tanker drivers as needed to provide safe and effective transfer of fuels.
- Monitoring bulk shipment deliveries at all times to prevent overfilling.
- Providing spill containment and recovery assistance in the event of a spill.

BMPs for Maintenance and Repair of Equipment

Petroleum fluids such as oil lubricants or grease can impact sensitive waters of the State. The following BMPs have been provided as means of prevention.

- Follow manufacturer’s specifications when greasing bearings and wear surfaces.
- Repair leaking seals on mechanical equipment.
- Avoid overfilling gearboxes and crankcases; prevent spills during oil changes.
- Maintain an ample supply of absorbent material for routine maintenance and petroleum spills
- Properly store and secure petroleum products to avoid their contact with storm water.
- Store waste oil in spill proof containers for off-site disposal.
- Discard soiled towels in flame resistant containers (do not burn).
- Fully service and inspect engines and gearboxes in the off-season to eliminate leaking seals, fuel lines and gaskets

Petroleum Spill Response

Operating equipment used at the site is equipped with supplies to respond to a potential petroleum release. Housekeeping supplies, including drip pans, booms, pads, oil dry and/or other absorbent materials are kept with the equipment at all times. Operators have access to these materials and are instructed in their use. Other resources may be mobilized to mitigate the effects of a petroleum release, such as subcontractors, additional equipment or personnel if required.

Storm Water Inspections

Nonmetallic mineral processing operations are inspected at two levels, at the operating level (equipment processing), and ground level. During processing (crushing, screening or washing), equipment is inspected daily to ensure that all equipment is functioning properly, all valves are closed, hoses and lines are secure, and significant petroleum products properly stored and secure. Ground and surface water conditions are inspected for erosion, sediment, fuels, pH, or other deleterious conditions at off-site discharge locations. In addition, water collected in on-site-basins, such as retention or wash ponds, is routinely inspected for evidence of petroleum sheen or odor.

Storm water controls and their effectiveness on the entire site are reviewed on an annual and/or quarterly basis, depending upon site status as internally or externally drained. SWPPP deficiencies are noted and addressed as needed.

APPENDIX H

Property Owners List

Property Owners Within 300' of Rezone Request (Warren Quarry Planned Expansion)

Name	Burlington Mailing Address	300 feet
Warren Corporation	30561 Bushnell Rd	x
Long Shed Enterprise LLC	30561 Bushnell Rd	x
Anthony Taylor	31319 Bushnell Rd	x
Curt Stoffel	5731 Brever Rd	x
Jeremy J Krusemark	5741 Brever Rd	x
Joeseph and Gail Ketterhagen	7922 Wheatland Rd	x
Burlington Area School District	100 N Kane St.	x
Anthony Taylor	31319 Bushnell Rd	x
Mathew Lunsman	31229 Bushnell Rd	x

- source: Racine County Map Book 2020 (viewed online July 16, 2024)

APPENDIX I

NRCS Critical Area Planting and Guidelines for Herbaceous Stand Evaluation

Critical Area Planting

(Acre)
Code 342

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Planting vegetation, such as trees, shrubs, vines, grasses, forbs, or legumes on highly erodible or critically eroding areas.

II. Purposes

The purposes of this practice are to revegetate bare soils and stabilize eroding sites.

III. Conditions Where Practice Applies

This practice applies to sites where bare soils and erosion are found in conjunction with agriculture, construction, forestry, mining, and wetland restoration activities and where natural revegetation is unlikely to occur.

This practice does not apply to tree planting mainly for wood products.

IV. Federal, State and Local Laws

Critical area planting practices shall comply with all federal, state and local laws, rules or regulations. The operator is responsible for securing required permits. This standard does not contain the text of the federal, state or local laws.

V. Criteria

- A. **Site Assessment** - A site assessment shall be conducted, documented, and incorporated into the design. The assessment shall be performed to determine physical site characteristics that will influence the appropriate seeding mixture and establishment procedures. The site assessment shall include evaluation of: soil characteristics, aspect, slope, exposure to sunlight, proximity to natural plant communities, proximity to nuisance, noxious and/or invasive species, site history, moisture regime, climatic patterns, soil fertility, and previous herbicide applications.

- B. **Site Preparation** - Site preparation activities shall include:

1. **Slope Stabilization** - Grade to a stable slope when shaping. For slopes steeper than 2H:1V, special practices such as *soil bioengineering*¹ may be required. These practices shall follow approved design procedures located in the NRCS Engineering Field Handbook (EFH), Chapter 18. Eliminate all overfalls. The toe of the slope, or the outlet of the concentrated flow channel, shall be stable before attempting seeding on the slope. In some cases, concentrated flow may need to be diverted during establishment period.
2. **Topsoiling** - A minimum of 4 in. of friable soil material or topsoil shall be added and mixed to exposed rocky, sandy, gravelly, shaley material, or extremely fine textured subsoil.
3. **Seedbed Preparation** - Do not use conventional tillage where desirable vegetation is already present or where the site is environmentally sensitive.

During recommended seeding periods seedbed preparation shall immediately follow construction activities. For seeding outside recommended seeding periods other erosion control methods such as applying mulch or seeding temporary cover, shall be performed. Seedbed preparation methods include:

- a. **Conventional Tillage** - Prepare a tilled, fine, but firm seedbed. The seedbed shall contain enough fine soil particles for uniform shallow coverage of the seed and contact with moisture and nutrients.

When preparing a site for *native species*, it is important to have a firm seedbed. Cultipack or roll before and after seeding if broadcast.

- b. **No-Till** - Control existing vegetation through mowing, burning, or herbicide

¹Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

application. If desirable species are present, consider spot treatment to control unwanted species.

4. Fertilization

- a. When using introduced species on dry, dry-mesic, and mesic sites, ensure proper pH and fertility. In lieu of soil testing, apply a minimum of 150 lbs. Of 20-10-10, and 2 tons of 80-85 lime or equivalent.
- b. For native species, fertilizer and lime are not recommended.

C. Seeding

1. Seed Selection - Seeding rates are based on pounds or ounces of *Pure Live Seed (PLS)* per acre. Where seed germination and purity can not be assured, a waiver will be required from the State Agronomist.

Use *introduced species* only in places where they will not spread into existing natural areas. For example, a dam is constructed in the middle of a pasture that is composed of bluegrass, quackgrass and smooth brome grass. Since abundant introduced species surround the dam, it could be seeded with either the standard mesic native mixture composed of native species or introduced species mix #6, which is composed of introduced species. Another example is if an embankment is constructed as part of a wetland restoration which is adjacent to an existing natural wetland. Introduced species would grow in this location, but due to the presence of the natural wetland, the embankment shall be seeded with a native species mix.

a. Seed mixtures-Native Species

Where available, local *genotype* species are preferred. Refer to Agronomy Technical Note 5 and the following guidelines to develop your seed mixture, considering cost and availability of seed. Example seed mixtures are shown in Table 4.

- (1) For *dry, dry-mesic, and mesic sites*: For these mixtures select: 4 grasses (a minimum total of 80 oz. (5 lb.)/acre of grass seed, each grass to be seeded at a minimum of 8 oz./acre), plus 5 forbs, including 1 legume. Forbs must be seeded at a minimum of 6 seeds/ft². This guideline should result in a

mixture containing a minimum of 30 seeds/ft².

- (2) For *wet-mesic and wet sites*: Seed mixtures may be developed from Agronomy Technical Note 5 using the following guidelines. For seeding at these sites, select 8 species, with a minimum of 3 from forbs and 3 from grass/sedge/rush. Apply a minimum of 16 oz. PLS per acre.
- b. Seed Mixtures - **Introduced species**
Plant mixtures that are potentially invasive and harmful to native plant communities shall be evaluated prior to seeding. See Table 5 for standard seeding mixtures for introduced species. See Table 6 for guidelines for custom seeding mixtures for introduced species. When designing a custom mixture, 50% of the mixture must be grass.
2. Concentrated Flow Channels - For dry, dry-mesic, and mesic sites seed introduced species. For wet-mesic sites, consider using native species. For wet sites use native species.
3. Inoculation - Legume seed shall be inoculated in accordance with the manufacturer's recommendations. When seeding with a hydroseeder, the amount of inoculant shall be increased 5 times the recommended rate. Inoculant shall not be mixed with liquid fertilizer.
4. Methods - Seed grasses and legumes no more than ¼ in. deep. Distribute seed uniformly. Mixtures with low seeding rates require special care in sowing to achieve proper seed distribution. Seed may be broadcast or drilled, as appropriate for the site. If drilled, proper calibration is essential.
5. Seeding Dates - Tables 1 and 2 show typical dates for normal seasons. Specific seasonal conditions may require adjustments to the seeding dates. Date of seeding is a critical factor in determining whether a seeding will succeed or fail. The specific date that provides the best chance for success will vary from year to year with prevailing moisture and temperature conditions. Planting at either end of the allowable range is riskier than the middle of the range. See Figure 1 for planting zones.

Figure 1

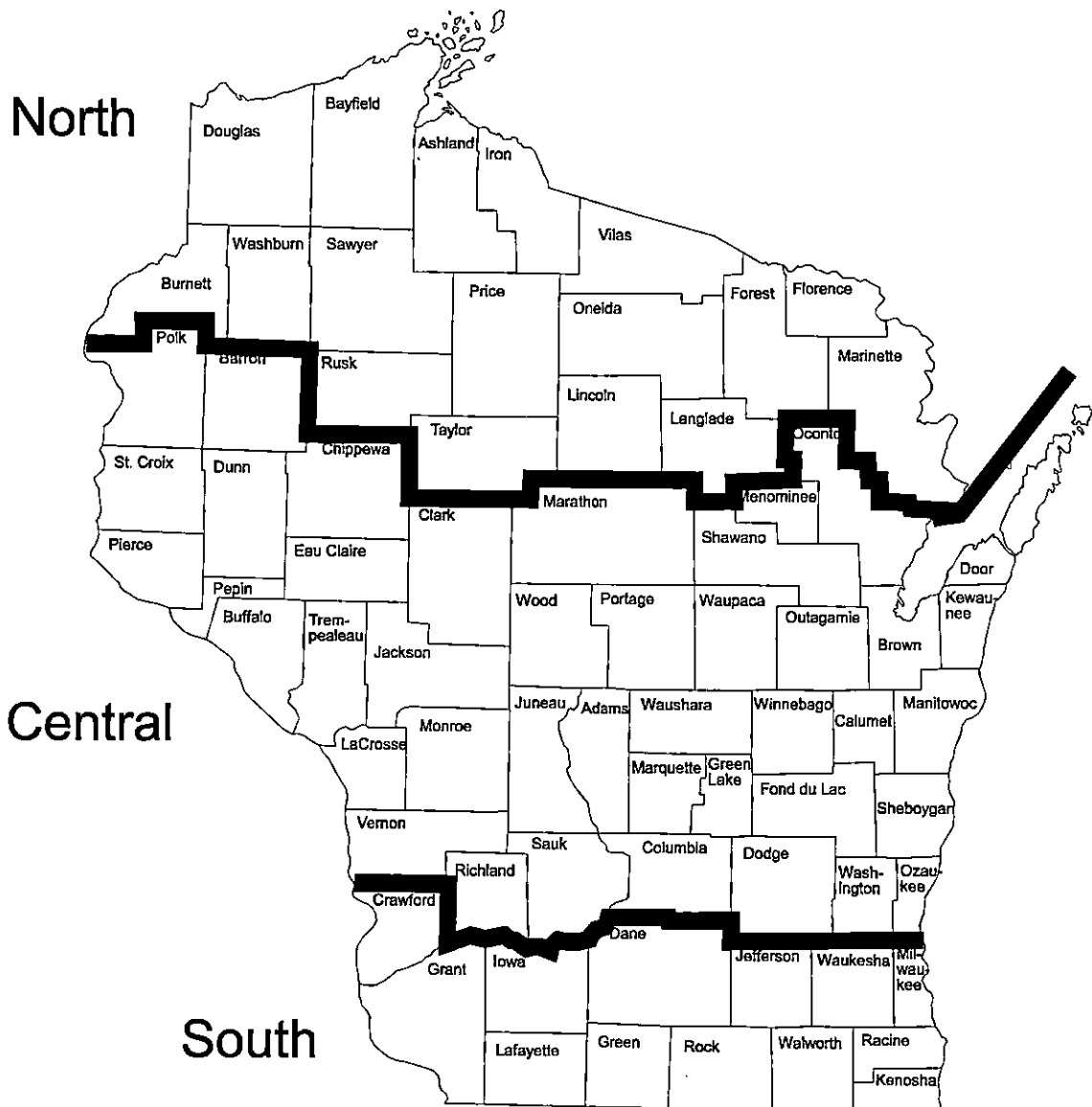


Table 1 - Seeding Date/Ranges for Native Mixtures

	Spring Seeding	Fall Dormant Seeding
Northern Zone	Thaw - 7/15	10/8 - Snow Cover
Central Zone	Thaw - 6/30	10/15 - Snow Cover
Southern Zone	Thaw - 6/30	11/1 - Snow Cover

Table 2 - Seeding Date Ranges for Introduced Grasses and Legumes

	Spring	Late Summer
North	5/1 - 6/15	7/15 - 8/10
Central	4/15 - 6/1	8/1 - 8/21
South	4/1 - 5/15	8/7 - 8/29

- a. Dormant Seeding - Dormant seeding for introduced specie plantings occur when construction is completed and seedbeds are prepared between the end of the late summer seeding period and November 1. Seeding will be done after November 1. These seeding dates are risky. A split application of seed may also be made, using half in November and the balance in the early spring.
- b. Frost Seeding - Frost seeding is only available for introduced specie plantings. Frost seeding is sowing the seed on the soil surface that has been made friable by freezing and thawing. The soil surface is usually "honeycombed" with small cracks. These seeding are made beginning in late February and March in the south through mid April in the north. Seeding is on seedbeds which were prepared in the fall and were limed, fertilized, and mulched according to needs, and where a fall seeding of an annual crop may have been established for temporary protection. No

further seedbed preparation is required. Frost seeding shall not be made on areas covered with ice or snow. Do not frost seed into winter wheat or winter rye.

- 6. Companion Crop - Where erosion is a concern, a companion crop or mulching will be used.
 - a. For Introduced Mixtures - Oats, barley, winter wheat, rye, or spring wheat shall be seeded at the rate of 1½ bushels/acre in the spring or fall. Annual rye grass may be used in lieu of small grain at the rate of 3 lb/acre. With the exception of annual ryegrass, the companion crop shall be mowed before heading. Mow 8 - 10 in. high to avoid harm to the permanent seeding.
 - b. For Native Mixtures - Where planting a companion crop, use a mixture which contains: Canada Wild Rye (*Elymus canadensis*), seeded at 1-2 lbs. PLS/acre or Side-oats Grama (*Boutelouea curtipendula*), seeded at 1-2 lbs. PLS/acre, or Oats (*Avena sativa*) seeded at ½ bushel/acre (spring only).
- 7. Temporary Cover Crop - Areas needing protection during periods when permanent seedings are not made shall be seeded to annual species for temporary protection. See Table 3 for seeding rates. The residue from this crop may either be incorporated into the soil during seedbed preparation at the next permanent seeding period or left on the soil surface and the planting made as a no-till seeding or frost seeding. Do not seed temporary covers after October 15 in the southern and central zones and October 1 in the northern zone.

Table 3 - Temporary Cover Crop

Species	Rate/Acre
Oats	3 bushels
Corn (drilled)	3 bushels
Sudangrass	35 pounds
Cereal Rye ¹	2 bushels
Winter Wheat ¹	2 bushels
Annual Ryegrass	25 pounds
¹ Rye and winter wheat will be destroyed by seedbed preparation at next permanent seeding period.	

8. Mulching - Construction that exposes sand, gravel, or rocky material shall be mulched after seeding. Steep areas that are topsoiled shall be mulched. After the seeding period has passed, mulch shall be applied for protection on all disturbed areas subject to erosion. If companion or temporary cover crops are being used, mulching may not be necessary unless site conditions dictate the use. Mulch shall be applied following criteria outlined in NRCS Field Office Technical Guide (FOTG) Section IV, Standard 484, Mulching.
9. Protection - Protect all critical area plantings from animals and traffic (vehicle or foot) during the establishment period. In some cases, silt fences and/or erosion control matting/netting may be needed to protect the seeding.

VI. Considerations

- A. Consider seeding at a lower rate and making 2 passes to ensure adequate coverage. Check seed boxes regularly to ensure even distribution.
- B. Heavy traffic and/or compacted soil areas may need special site preparation prior to seeding.
- C. Sprigs, root stocks, crowns, cones, culms, and sod may be considered where appropriate.
- D. Woody shrubs or trees may be used only after initial stabilization. Plant in accordance with the purpose of the planting. See NRCS FOTG Section IV, Standard 612 - Tree Planting, Standard 562 - Recreation Area Improvement, Standard 580 - Streambank and Shoreland Protection, and the DNR Interim Best Management Practice Shoreline Habitat Restoration for Developed Areas. Also see NRCS Engineering Field Handbook, Chapter 16, Streambank and Shoreline Protection and Chapter 18, Soil Bioengineering for Upland Slope Protection and Erosion Reduction.
- E. Consider using carriers such as vermiculite, sawdust, and soybean meal to increase volume and weight for uniform distribution.
- F. Consider limited or no use of herbicides one year prior to seeding. If herbicides must be used, be sure there is no potential for carryover.

VII. Plans and Specifications

Specifications for establishment and operation of this practice shall be prepared for each field or treatment unit according to the Criteria, Consideration, and Operation and Maintenance sections described in this standard. Specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

VIII. Operation and Maintenance

- A. Noxious weeds and other undesirable species must be controlled at all sites. During the first year, mow native plantings at 30-day intervals or when weeds are 18"-24" high. Mowing height should range from 6"-12". Spot spraying or hand pulling may be needed for some noxious species such as Thistles and Purple loosestrife.
- B. Sites may require periodic maintenance consisting of mowing, burning, or herbicide treatment.
- C. Sites should be inspected periodically to ensure objectives are being met.

IX. References

- Curtis, J. T. 1959. *The Vegetation of Wisconsin: an ordination of plant communities*. University of Wisconsin Press, Madison, Wisconsin, 657pp.
- Henderson, R. A. 1995. *Plant Species Composition of Wisconsin Prairies: an Aid to Selecting Species for Plantings and Restorations Based Upon University of Wisconsin-Madison Plant Ecology Laboratory Data*. Wisconsin Department of Natural Resources Technical Bulletin No. 188.
- Ladd, D. and Oberle, F. 1995. *Tallgrass Prairie Wildflowers, A Field Guide*. The Nature Conservancy.
- Nichols, S. and Entine, L. 1976. *Prairie Primer*. University of Wisconsin - Extension, publication G2736, 44pp.
- Packard, S. and Mutel, C. 1997. *The Tallgrass Restoration Handbook for Prairies, Savannas and Woodlands*. Society for Ecological Restoration, 463pp.

Rock, H. W. 1971. *Prairie Propagation Handbook*. Boerner Botanical Gardens, 60pp.

United States Department of Agriculture - Natural Resources Conservation Service. *Engineering Field Handbook*, Chapters 16 and 18.

United States Department of Agriculture - Natural Resources Conservation Service-Wisconsin, Agronomy Technical Note 5.

United States Department of Agriculture - Natural Resources Conservation Service. Wisconsin Field Office Technical Guide, Section IV, Standards 612, 562, and 484.

X. Definitions

Soil Bioengineering (V.B.1) Practice of combining mechanical, biological and ecological concepts to arrest and prevent shallow slope failures and erosion.

Dry Prairies (V.C.1.a.(1)) Dry Prairies occur mostly on somewhat excessively drained and excessively drained soils. This would include soils such as; Sparta, Impact and Plainfield.

Dry-Mesic Prairies (V.C.1.a.(1)) Dry-Mesic prairies are transitional prairies between Dry Prairie and Mesic Prairie. They occur on some somewhat excessively drained and some well drained soils. Examples of Dry-Mesic soils would include Billett, Dickinson and Rassett.

Genotype (V.C.1.a) A group of individual plants which share a specified genetic makeup. For example, all big bluestem plants that are genetically adapted to grow and mature in the climatic conditions found in the driftless region could be considered a genotype.

Introduced Species (V.C.1.) Plant species that historically would not have been found in North America until they were brought here by travelers from other parts of the world. This would include smooth brome grass and alfalfa. Some of these species may have a wide distribution such as Kentucky bluegrass.

Mesic Prairie (V.C.1.a.(1)) Mesic Prairies will be found on most moderately well and well drained soils which have moderate to very high Available Water Capacity. Mesic Prairies also occur on some somewhat poorly drained soils with low or very low available water capacity or perched water tables. Mesic prairies would be expected on soils such as; Markham, Varna, Parr, Plano, Dresden, Warsaw, Tama, and Downs.

Native Species (V.B.3.a.) Plants species that historically would have been found growing in North America such as Big bluestem or Green needle-grass.

Pure Live Seed (PLS) (V.C.1.) A relative value representing the quality of the seed of a given specie. PLS is calculated by multiplying the percent germination times the percent purity.

Wet-Mesic Prairie (V.C.1.a.(2)) Wet-Mesic prairies are transitional between Wet Prairie and Mesic Prairie. Most Wet-Mesic Prairies occur on somewhat poorly drained soils. Wet-Mesic Prairies would occur on soils such as Beecher, Elliott, Lamartine, Locke, Elburn, Kane, Matherton, Muscatine, Curran and Rawley.

Wet Prairie (V.C.1.a.(2)) Wet prairies occur on soils with poor and very poor drainage. They can also be found on some frequently flooded sites. Wet prairies can be found on soils such as; Ashkum, Barry, Brookston, Ossian, Pella, Sebewa, Garwin and Ettrick.

Table 4 - Example Seeding Mixtures for Native Species ¹

Site Type	Common Name	Genus and species	Plant Type	Seeding Rate in oz/acre PLS
Dry	Little bluestem	Schizachyrium scoparium	Grass	32
	Big bluestem	Andropogon gerardii	Grass	24
	Side-oats grama	Bouteloua curtipendula	Grass	16
	Switchgrass	Panicum virgatum	Grass	8
	Sand dropseed	Sporobolus cryptandrus	Grass	4
	Rough blazing star	Liatris aspera	Forb	1
	Evening primrose	Oenothera biennis	Forb	1
	Prairie cinquefoil	Potentilla arguta	Forb	1
	Black-eyed Susan	Rudbeckia hirta	Forb	1
	Purple prairie clover	Dalea purpurea	Legume	2
Dry	Side-oats grama	Bouteloua curtipendula	Grass	24
	Little bluestem	Schizachyrium scoparium	Grass	24
	Switchgrass	Panicum virgatum	Grass	16
	Sand dropseed	Sporobolus cryptandrus	Grass	16
	Rough blazing star	Liatris aspera	Forb	1
	Spotted bee balm	Monarda punctata	Forb	1
	Black-eyed Susan	Rudbeckia hirta	Forb	0.25
	Hoary vervain	Verbena stricta	Forb	0.25
	Purple prairie clover	Dalea purpurea	Legume	3
Dry-Mesic	Side-oats grama	Bouteloua curtipendula	Grass	20
	Little bluestem	Schizachyrium scoparium	Grass	20
	Big bluestem	Andropogon gerardii	Grass	16
	Indian grass	Sorghastrum nutans	Grass	16
	Switchgrass	Panicum virgatum	Grass	8
	Sand dropseed	Sporobolus cryptandrus	Grass	4
	Rough blazing star	Liatris aspera	Forb	2
	Yellow cone flower	Ratibida pinnata	Forb	1.5
	Evening primrose	Oenothera biennis	Forb	1
	Butterfly milkweed	Asclepias tuberosa	Forb	1
	Black-eyed Susan	Rudbeckia hirta	Forb	0.5
	Illinois tick trefoil	Desmodium illinoense	Legume	10
Dry-Mesic	Big bluestem	Andropogon gerardii	Grass	24
	Little bluestem	Schizachyrium scoparium	Grass	24
	Indian grass	Sorghastrum nutans	Grass	24
	Switchgrass	Panicum virgatum	Grass	8
	Heath aster	Aster ericoides	Forb	0.5
	Bergamot	Monarda fistulosa	Forb	0.5
	Black-eyed Susan	Rudbeckia hirta	Forb	0.25
	Pale spiked lobelia	Lobelia spicata	Forb	0.1
	Round-headed bush-clover	Lespedeza capitata	Legume	5

¹ Consult Agronomy Technical Note 5 and Section IV.C.1.a.(1) for guidelines for species substitution.

Table 4 (continued)

Site Type	Common Name	Genus and species	Plant Type	Seeding Rate in oz/acre PLS
Mesic	Indian grass	<i>Sorghastrum nutans</i>	Grass	24
	Big bluestem	<i>Andropogon gerardii</i>	Grass	16
	Canada wild rye	<i>Elymus canadensis</i>	Grass	16
	Little bluestem	<i>Schizachyrium scoparium</i>	Grass	16
	Switchgrass	<i>Panicum virgatum</i>	Grass	8
	Ox-eye Sunflower	<i>Heliopsis helianthoides</i>	Forb	2
	Prairie blazing star	<i>Liatris pycnostachya</i>	Forb	2
	Yellow cone flower	<i>Ratibida pinnata</i>	Forb	1.5
	Cupplant	<i>Silphium perfoliatum</i>	Forb	1
	Golden Alexander	<i>Zizia aurea</i>	Forb	1
	Prairie cinquefoil	<i>Potentilla arguta</i>	Forb	0.5
	Black-eyed Susan	<i>Rudbeckia hirta</i>	Forb	0.5
	Evening primrose	<i>Oenothera biennis</i>	Forb	0.25
	Purple prairie clover	<i>Dalea purpurea</i>	Legume	1.5
	Canada milk vetch	<i>Astragalus canadensis</i>	Legume	1
Mesic	Big bluestem	<i>Andropogon gerardii</i>	Grass	24
	Indian grass	<i>Sorghastrum nutans</i>	Grass	24
	Switchgrass	<i>Panicum virgatum</i>	Grass	16
	Little bluestem	<i>Schizachyrium scoparium</i>	Grass	16
	New England aster	<i>Aster novae-angliae</i>	Forb	1
	Bergamot	<i>Monarda fistulosa</i>	Forb	1
	Yellow cone flower	<i>Ratibida pinnata</i>	Forb	1
	Black-eyed Susan	<i>Rudbeckia hirta</i>	Forb	0.5
Purple prairie clover	<i>Dalea purpurea</i>	Legume	2.5	
Wet-Mesic	Indian grass	<i>Sorghastrum nutans</i>	Grass	26
	Big bluestem	<i>Andropogon gerardii</i>	Grass	26
	Canada wild rye	<i>Elymus canadensis</i>	Grass	18
	Switchgrass	<i>Panicum vergatum</i>	Grass	8
	Fowl mannagrass	<i>Glyceria striata</i>	Grass	1
	Prairie cordgrass	<i>Spartina pectinata</i>	Grass	1
	Cupplant	<i>Silphium perfoliatum</i>	Forb	2
	Yellow cone flower	<i>Ratibida pinnata</i>	Forb	1.5
	Golden Alexander	<i>Zizia aurea</i>	Forb	1
	Bergamot	<i>Monarda fistulosa</i>	Forb	1
	Boneset	<i>Eupatorium perfoliatum</i>	Forb	0.5
	Black-eyed Susan	<i>Rudbeckia hirta</i>	Forb	0.6
	Common Ironweed	<i>Vernonia fasciculata</i>	Forb	0.5
Sawtooth sunflower	<i>Helianthus grosseserratus</i>	Forb	0.1	
Canada milk vetch	<i>Astragalus canadensis</i>	Legume	3	
Wet-Mesic	Big Bluestem	<i>Andropogon gerardii</i>	Grass	16
	Switchgrass	<i>Panicum virgatum</i>	Grass	8
	Little Bluestem	<i>Schizachyrium scoparium</i>	Grass	18
	Prairie Dropseed	<i>Sporobolus heterolepis</i>	Grass	20
	Canada Wild Rye	<i>Elymus canadensis</i>	Grass	18
	Yellow Coneflower	<i>Ratibida pinnata</i>	Forb	1.5
	Blue Vervain	<i>Verbena hastata</i>	Forb	1
	Prairie Blazing Star	<i>Liatris pycnostachya</i>	Forb	3
	Virginia Mt. Mint	<i>Pycnanthemum virginianum</i>	Forb	1
	Prairie Dock	<i>Silphium terebinthinaceum</i>	Forb	2
	New England Aster	<i>Aster novae-angliae</i>	Forb	1
	Bergamot	<i>Monarda fistulosus</i>	Forb	1
	Black-eyed Susan	<i>Rudbeckia hirta</i>	Forb	0.5
	Showy Tick Trefoil	<i>Desmodium canadense</i>	Legume	1
White Wild Indigo	<i>Baptisia lactea</i>	Legume	2	

Table 4 (continued)

Site Type	Common Name	Genus and species	Plant Type	Seeding Rate in oz/acre PLS
Wet	Rice Cutgrass	<i>Leersia oryzoides</i>	Grass	2
	Prairie Cordgrass	<i>Spartina pectinata</i>	Grass	2
	Fowl Mannagrass	<i>Glyceria striata</i>	Grass	2
	Wool Grass	<i>Scirpus cyperinus</i>	Sedge	1
	Fox Sedge	<i>Carex vulpinoidea</i>	Sedge	2
	Great Blue Lobelia	<i>Lobelia siphilitica</i>	Forb	0.5
	Joe-Pye Weed	<i>Eupatorium maculatum</i>	Forb	2
	Blue Vervain	<i>Verbena hastata</i>	Forb	2
	Sneezeweed	<i>Helenium autumnale</i>	Forb	1
	Marsh Milkweed	<i>Asclepias incarnata</i>	Forb	2
	Spotted Touch-me-not	<i>Impatiens capensis</i>	Annual	2
Wet	Canada Bluejoint	<i>Calamagrostis canadensis</i>	Grass	1.5
	Giant Mannagrass	<i>Glyceria grandis</i>	Grass	3
	Virginia Wild Rye	<i>Elymus virginicus</i>	Grass	16
	Awl-fruited Sedge	<i>Carex stipata</i>	Sedge	2
	Common Rush	<i>Juncus effusus</i>	Rush	1
	Great St. Johns Wort	<i>Hypericum pyramidatum</i>	Forb	0.5
	Nodding Beggarstick	<i>Bidens coronata</i>	Forb	1
	Blue Vervain	<i>Verbena hastata</i>	Forb	2
	Culver's Root	<i>Veronicastrum virginicum</i>	Forb	0.25
	Virginia Mt. Mint	<i>Pycnanthemum tenuifolium</i>	Forb	1
	Boneset	<i>Eupatorium perfoliatum</i>	Forb	2

Table 5 - Example Seeding Mixtures for Introduced Species

Mix #	Common Name	Genus & Species	Seeding Rate in lb./ac PLS
1 - Dry-Mesic and Mesic Sites	Smooth Bromegrass	Bromus inermis	10
	Creeping Red Fescue	Festuca rubra	3
	Alfalfa	Medicago sativa	3
	Red Clover	Trifolium pratense	3
2 - Dry-Mesic and Mesic Sites	Smooth Bromegrass	Bromus inermis	15
	Alfalfa	Medicago sativa	3
3 - Mesic Sites	Smooth Bromegrass	Bromus inermis	5
	Creeping Red Fescue	Festuca rubra	2
	Kentucky bluegrass	Poa pratensis	2
	Birdsfoot trefoil	Lotus corniculatus	2
4 - Mesic Sites	Smooth Bromegrass	Bromus inermis	15
	Creeping Red Fescue	Festuca rubra	2
5 - Mesic Sites	Kentucky Bluegrass	Poa pratensis	4
	Creeping Red Fescue	Festuca rubra	3
6 - Mesic Sites	Smooth Bromegrass	Bromus inermis	14
	Timothy	Phleum pratense	1
	Red Clover	Trifolium pratense	2
	OR Alsike Clover	Trifolium hybridum	1
	OR Birdsfoot trefoil	Lotus corniculatus	2
7 - Wet Mesic Sites	Redtop	Agrostis alba	1
	Timothy	Phleum pratense	2
	Red Clover	Trifolium pratense	5
8 - Wet Sites	Redtop	Agrostis alba	2
	Alsike Clover	Trifolium hybridum	2

Table 6 - Custom Seeding Mixture for Introduced Species ¹

Genus and species	Name	Plant Type	Moisture Regime	Single Species Seeding Rate (lb/ac PLS)	Deep rooted species
<i>Bromus inermis</i>	Smooth brome grass	Grass	DM, M, WM	20	yes
<i>Agrostis alba</i>	Redtop	Grass		4	----
<i>Festuca rubra</i>	Creeping red fescue	Grass		5	----
<i>Festuca rubra ssp falax</i>	Chewings red fescue	Grass		5	----
<i>Festuca arundinacea</i>	Tall fescue	Grass		10	yes
<i>Phleum pratense</i>	Timothy	Grass		8	----
<i>Poa pratensis</i>	Kentucky bluegrass	Grass	M, WM	8	----
<i>Lotus corniculatus</i>	Birdsfoot trefoil	Legume	M, WM	6	----
<i>Medicago sativa</i>	Alfalfa	Legume	D, DM, M	12	yes
<i>Trifolium hybridum</i>	Alsike clover	Legume		3	----
<i>Trifolium pratense</i>	Red clover	Legume	DM, M, WM	10	----
<i>Trifolium repens</i>	Ladino clover	Legume	M, WM	3	----

¹ It is required that at least 50% of the custom mixture is composed of grass.

Example: A seed mixture of 50% red clover, 25% brome grass, and 25% red fescue is desired. What would be the seeding rate of each specie in the mixture in pounds of Pure Live Seed (PLS)?

To solve this problem, take the pure stand seeding rate in PLS pounds per acre for each specie, multiply this value times the percent of that specie desired in the mixture and the answers will be the seeding rates of each specie in pounds of PLS per acre.

Specie	Pure Stand Seeding Rate (pounds/acre)	Percent in Mix	Seeding Rate Pounds PLS/acre for Mixture
Red Clover	10	50%	5
Brome grass	20	25%	5
Red Fescue	5	25%	1.25

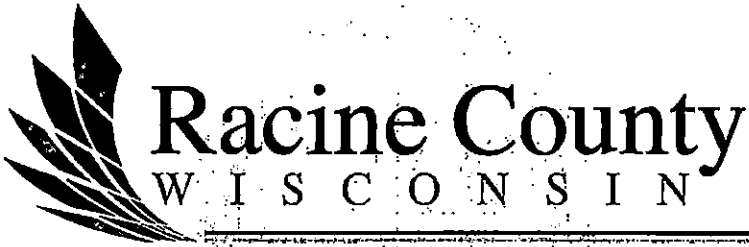
Total pounds PLS/acre = 11.25

APPENDIX J

Plat of Survey

APPENDIX K

**Approval Conditions, Cretex Materials, Inc. Warren Pit
(December 20, 2021)**



Public Works & Development Services

14200 Washington Avenue
Sturtevant, WI 53177
262-886-8440
fax: 262-886-8480

December 27, 2021

JAN 03 2022

Cretex Materials
311 Lowell Avenue
Elk River, MN 55330

Warrenville Corp.
30561 Bushnell Road
Burlington, WI 53105

SUBJECT: Site Plan Review to continue a non-metallic (limestone) extraction operation; located in the M-4 Quarrying District; 5731 Brever Road; Sec. 4, T2N, R19E, **Town of Burlington** (Parcel Id. Nos. 002021904-006000 & -010020)

Dear Mr. Beck:

The Racine County Economic Development and Land Use Planning Committee (EDLUPC) approved the subject site plan review at their December 20, 2021, meeting. You will be allowed to proceed with the subject project, which will be located at 5731 Brever Road, Section 4, Town 2 North, Range 19 East, Town of Burlington.

Attached to this letter is Exhibit A, which lists the conditions of approval established by Racine County. You must comply with all the conditions listed in Exhibit A. **PLEASE BE SURE TO READ EXHIBIT A.**

Additionally, you must obtain approval from the Town of Burlington and comply with any conditions they establish. Failure to comply with the terms and conditions of this approval as listed in Exhibit A or as established by the Town of Burlington could result in the issuance of citation(s) and permit revocation. If you have any comments or questions, do not hesitate to contact this office at 262-886-8440 or via e-mail (Brian.Jensen@RacineCounty.com).

Yours truly,

Julie A. Anderson
Public Works and Development Services Director

JAA/bdj

attachment

c: Adelheid Streif, Town Clerk
Jeff Lang, Town Chair
Mike Dawson, District 21 Supervisor
File

CRETEX MATERIALS, INC.
WARREN PIT
APPROVAL CONDITIONS
DECEMBER 20, 2021

1. **The applicant must obtain a zoning permit card from this office after paying the required \$1,635.00 fee (\$750, plus \$10 per acre worked). This fee must be paid in full no later than January 31, 2022.** This card must be displayed in a prominent location at the project site, and a copy of these conditions must be kept at the project site at all times until the project has been completed.
2. **Failure to comply with the terms and conditions stated herein could result in citations being issued and/or the approval/permit being revoked. This includes payment of any zoning or other local fees that are due.**
3. This operation must follow the plans and documents received by this office and approved by the EDLUP Committee. In addition, all applicable conditions from previous approvals shall remain in effect, unless otherwise amended herein.
4. In compliance with NR 135, this site is filed under Racine County Non-Metallic Mining Permit # NM-01-002-004 & NM-01-002-005.
5. The applicant must keep current the restoration bond written to Racine County for \$60,000.00 prior to the issuance of the County zoning permit.
6. The restoration bond written to Racine County must be kept current and may not expire during this approval period. The restoration of the site must meet or exceed all the requirements of the mandated NR 135 regulation and subsequent nonmetallic mine reclamation ordinance.
7. This approval is for the limestone extraction operation, including crushing of material. This approval is valid for a two-year period from the date of this letter; a two-year extension must be requested to continue operations at this site. However, no permit renewal will be granted unless the project is in reasonable compliance with the conditions of this approval. An on-site evaluation by this office will determine compliance. The operation must follow the submitted and approved operations plan.
8. Hours of operation may be from 6:00am – 6:00 pm Monday thru Friday. Saturday hours may be 7:00 am – 2:00 pm, may be permitted with prior approval by the Town of Burlington and Racine County. No Sundays or Holidays. The hours must be coordinated with the Town of Burlington and the most restrictive hours will apply. Maintenance and repairs only may be performed outside of these hours if necessary.
9. Crushing hours will remain as 6:00 am – 6:00 pm, Monday – Friday. No crushing operations shall occur on Saturday, Sunday, or Holidays.
10. Blasting of limestone will be limited to the hours of 9:00 am to 3:00 pm.
11. Materials shall be shipped by way of the existing haul road through the Warren Quarry.
12. You may use the south driveway entrance to Brever Road as an emergency access point. All other truck traffic must be routed to the north through the Warren pit and out to STH 142. The

south driveway may only be used for regular traffic once the quarry is restored as a lake for public access.

13. All overburden and topsoil must be stockpiled on the premises for future use in restoration of this property. The stockpiles must be seeded with a mixture of grasses that will remain until the stockpiles are used to cover the land being mined. Finished side slopes must be consistent with the approved plan, with proposed farmland areas being 8:1 or flatter.
14. Materials for mine reclamation are required to be specified in the reclamation plan and approved. Solid waste materials that are not specified in the approved plan shall not be used, placed, or stored at this site. Only materials that may be considered as potentially suitable for use in reclamation are clean fill; or low-level contaminated soils approved by WI-DNR Remediation and Redevelopment program under Ch. NR 718; and solid waste materials approved by the WI-DNR Waste and Materials Management program that are granted a low hazard exemption and an exemption for industrial byproducts under Ch. NR 538.
15. Follow extraction as shown on the submitted plan. Maintain proposed side slopes and setbacks as extraction continues. Continue to operate in the active mining area and complete interim reclamation as mineral extraction is complete. The active mining area shall not be within 200-feet of the road right-of-way.
16. Topsoil must be stockpiled separately from the remaining overburden material. All stockpiles must be temporarily seeded with twenty (20) pounds of 1,000 square feet of perennial rye grass or winter wheat within seven (7) days of formation. The operator is responsible for reseeding until all overburden stockpiles are in a dense vegetative cover. This must be done prior to September 15 of each year. See the attached WI-CPA-123 for seeding recommendations.
17. As the site is reclaimed, topsoil may need to be brought in to obtain at least 3-inches in thickness. Upon final grading of the side slopes, the seeding must be completed and all 3:1 slopes or steeper must be covered with erosion-control netting (or blankets). Slopes flatter than 3:1 may be seeded and mulched with no netting. All Erosion-control netting must be thoroughly stapled with six-inch wire or wood staples to firmly hold the netting in place.
18. The Racine County Economic Development and Land Use Planning Committee and the Town of Burlington reserve the right to require, with 60 days' notice, a complete set of elevations including bottom of the pit grades. A registered land surveyor or a professional engineer must take these elevations. The operation may not occur below the grades shown on the submitted restoration plan and no excavations may occur below the ground water table.
19. The applicant must provide this office with an "as-built" survey within 90 days of completed restoration on this site. Racine County will need to certify the site as "reclaimed" before release of financial assurance.
20. Racine County staff may enter the premises of this quarry operation to inspect those premises and to ascertain compliance with these conditions or to investigate an alleged violation. Unless the operation is in reasonable compliance with the terms of this approval, such approval is subject to amendment or revocation.

CRETEX MATERIALS, INC.
WARREN PIT
APPROVAL CONDITIONS
DECEMBER 20, 2021

21. The applicant is responsible for compliance with Article VII, Division 4 Performance Standards of Chapter 20, Zoning. Please see enclosed copy.
22. The operator must notify this office and the Town of Burlington in writing at least 30 working days prior to completion of site reclamation.
23. Storm water drainage plan review and approval is the Town's responsibility. The landowner must contact the Town regarding this matter. The Town might not issue a permit until they have approved said plan.
24. The applicant is responsible for ensuring that all truck drivers whether they are his own employees or contract drivers; strictly obey all posted speed limits and all traffic signs and laws. This includes coming to a full stop before entering the public roadway. Should this office receive substantive complaints that such laws are being broken, the EDLUP Committee reserves the right to reconsider and possible revoke this permit for non-compliance.
25. All phases of this operation must be conducted in conformance with the air quality regulations of the State of Wisconsin.
26. The applicant is responsible for control and/or cutting of noxious weeds in compliance of Town's weed ordinance.
27. Dust control must be established on all internal haul roads. Dust palliatives must be Wisconsin Department of Natural Resources approved. Airborne particulate matter may not exceed Wisconsin State Administrative Code regulations.
28. No additions, deletions, or changes may be made to these conditions without the prior approval at the Racine County Economic Development and Land Use Planning Committee and the Town of Burlington.
29. The applicant is responsible for obtaining all necessary federal, state, and local permits, approvals, and licenses.
30. Your accepting the conditional use approval/zoning permit and beginning the project means that you have read, understand and agree to follow all conditions of this approval. Therefore, Cretex Materials, Inc. and Warrenton Corporation and their successors and assigns are responsible for full compliance with the above conditions. It is the property owner's responsibility to inform any subsequent owner of these conditions.