Land Resources and Parks Department
Staff Report

County Conditional Use Permit Application # 2022-0797
Filing Date: September 21, 2022
Date of Complete Application: October 4, 2022
Hearing Date: November 14, 2022

Applicant (Agent):
Robert Haugen
817 W. Main Street, P.O. Box 128
Brownsville, WI 53006

Owner:
Michels Corporation
817 W. Main St
P.O. Box 128
Brownsville, WI 53006-0128

Location
PIN #: 030-1317-0831-000; 030-1317-0831-002; 030-1317-0832-000; 030-1317-0843-000;
Location: Part of the NE ¼ of the SW ¼, Section 8, Town of Lomira. The project site will be located south of the Michels Corporation outdoor storage yard and approximately 1300 feet west of N11478 County Road Y.

Applicants Request
An application for a County Conditional Use Permit under the Dodge County Land Use Code, was made by the applicant to allow the construction of an approximate 1.5-acre solar farm facility on the property described above.

Project Details
The proposed project encompasses approximately 1.56-acres and involves the installation of an access road from the Michels storage yard, 5 rows of solar panels, and a metering station. A total of approximately 2.42-acres is expected to be disturbed with this project. The approximate dimensions of the solar panel project area is 294' X 138'. A 7'8" high woven-wire deer exclusion security fence will be constructed around the perimeter of the solar farm. Entrance to the site will be from a gated gravel access road connecting to the adjacent Michels yard.

The proposed project will involve grading of the site prior to the installation of the solar panels and the construction of a service/access road. The project will include the installation of ground-mounted photovoltaic solar panels that are interconnected. The panels will absorb sunlight rays which will activate the solar cells within the panels. The solar panels convert the sunlight to direct current electricity and an inverter will transform the electricity from direct current to alternating current which will be used to power the Michels plant and/or stored for future distribution and consumption. This will be an unmanned solar farm facility. The proposed electrical generation amount from the solar farm is 492,776 KWhs. The proposed solar farm, once constructed, will be leased to WPS/WE Energies.

No wetlands or waterways are present within the project boundary. No outdoor lighting is planned at this time. Site grading activities are scheduled to begin upon permit issuance, with construction and installation of the solar panels in the spring of 2023. Final restoration of the site is expected by late summer 2023.

Erosion control measures will be constructed in place and will prevent construction erosion and runoff pollutants from leaving the site. Silt fencing will be installed along the contour to capture overland, low-

velocity, sheet flow downslope of all exposed soils in accord with the WDNR Technical Standard 1056. It is anticipated that any stormwater runoff from the panels and the site will be contained within the property lines. Erosion control practices will be maintained until 70% vegetation or greater is established. The disturbed areas will be seeded to grass and any additional measures such as erosion matting will be installed if problem areas are discovered. The foundations for the solar panels are 7' piles (C-Channel driven) are anticipated to be constructed for the foundation units. This foundation type is based on the testing that has been completed.

County Jurisdiction

The County has Zoning Jurisdiction over this site as the Town of Lomira has adopted the County's Land Use Code.

Review Criteria

1. Subsections 2.3.6.A through 2.3.6.H of the Land Use Code details procedural matters, the approval criteria and the form for the conditional use permit application. The Committee shall authorize the Land Use Administrator to issue a Conditional Use Permit (CUP) for conditional uses after review and a public hearing, provided that such conditional uses or structure are found to be in accordance with the purpose and intent of this Code and the approval criteria provided in Section 2.3.6.F and are found not to be hazardous, harmful, offensive, or otherwise adverse to the environment or the value of the area.

Land Use Code Provisions:

1. Section 3.7.2.H of the Land Use Code and ss. 91.46 Wisconsin State Statutes identifies "Utility Uses" which includes solar facilities, as a conditional use permit within the A-1 Prime Agricultural Zoning District.

Purpose Statement

The purpose of the A-1 Prime Agricultural Zoning District is to promote areas for uses of a generally exclusive agricultural nature in order to protect farmland, allow participation in the state's farmland preservation program, and accommodate changing practices in the agricultural industry, subject to appropriate standards.

Physical Features of Site

The features of the proposed construction and property that relate to the granting or denial of the conditional use permit request are as follows:

The County has Zoning Jurisdiction over this site as the Town of Lomira has adopted the County's Land Use Code. The site is located within the A-1 Prime Agricultural Zoning District.

The County has Shoreland Jurisdiction over portions of the applicant's property.

- Portions of the property are designated as wetlands.
- The proposed solar facility site lot is not designated as wetlands.

County has Floodplain jurisdiction over portions of the applicant's property.

- Portions of the property are designated as floodplain.
- The proposed solar facility site lot is not designated as floodplain.

The topography of the site is rolling with slopes ranging from 0 to 12%;

Land Use, Site: Agricultural

Land Use, Area: Agricultural with scattered residences to the south along County Road Y and Industrial development to the north within the Village of Brownsville to the north..

Designated Archaeological Site: Yes ☐ No ☒

Town Recommendation: Approve ☒ Deny ☐ No recommendation submitted ☐

STAFF ADVISORY:

This staff advisory is only advice to the Land Resources and Parks Committee. The Committee may or may not consider the advice of the staff and decision making authority is vested in the Committee only.

The staff has reviewed the proposal for compliance with the criteria listed in Sections 2.3.6.F of the code. The staff comments are listed in Exhibit A for review by the committee. The staff has concerns regarding recycling and disposal of the solar panels when the solar farm is no longer in use. Large scale solar panel recycling programs are not prevalent at this time and waste solar panels are currently treated as e-waste and are disposed of in accord with current disposal requirements. It is the staff's position that the owners of the solar farm should be held accountable for the decommissioning and removal of a solar farm equipment and the recycling of the waste when the solar farm is no longer in use.

It is the staff's position that the project is in compliance with the applicable provisions of the Dodge County Land Use Code and the staff believes that the Committee can make the findings necessary under Section 2.3.6.F of the code that are required to approve the Conditional Use Permit for this project. If approved with the following conditions, the staff believes that the project will not have an adverse effect on the adjacent land owners, the community or the environment and the proposal will be consistent with the purpose and intent of the Code.

CONDITIONS:

1. The operation of the solar facility shall be conducted without offensive noise, vibration, dust, smoke, odor, glare, lighting or the risk of fire, explosion or other accident and shall not be detrimental to the public health, safety or general welfare of the immediate neighborhood or the community;
2. A County Land Use Permit for the construction of the access road, the filling and grading of the site and the construction of the solar facilities shall be obtained by the applicant prior to beginning construction;
3. The proposed solar facilities shall be constructed in compliance with all applicable local, state and federal regulatory codes;
4. The applicant shall submit a copy of a signed decommissioning agreement to the Department between the property owner of the solar facilities and supporting equipment and buildings detailing requirements for the decommissioning, abandonment and subsequent removal of the solar facilities. This agreement shall contain provisions binding said agreement to existing and future property owners. Decommissioning of the system shall occur in the event the project is not in use for 12 consecutive months. The decommissioning plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and assurances that financial resources will be available to fully decommission the site.
5. Any significant change or expansion of the solar facilities as shown in the application dated September 21, 2022 may require that a new conditional use permit be obtained;
6. The decision of the Committee shall expire one year after the decision is filed with the Department unless construction has been diligently pursued, a Certificate of Zoning Compliance has been issued, the use is established, or the Conditional Use Permit is renewed, for a period not to exceed one year.
7. The Conditional Use Permit shall also expire upon termination of a project or if the rights granted by the permit are discontinued for 180 consecutive days.

EXHIBIT A

Staff Review Comments

The staff has reviewed the proposal for compliance with the criteria listed in Section 2.3.6.F of the code. The staff comments are as follows:

2.3.6.F.2 Is the project compatible with adjacent uses in terms of scale, site design, operating characteristics (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts);

- It is the staff's position that if the project is constructed in compliance with the development standards of the code, the proposed solar farm facility will be compatible with the adjacent uses;

2.3.6.F.3 Will the proposed use be significantly detrimental to the public health, safety, and welfare?

- It is the staff's position that if the solar farm is constructed and operated in compliance with the development standards of the code, the proposal will not have a significant detrimental impact on the adjacent properties or the community;
- Recycling and disposal of the solar panels is an area of concern. Large scale solar panel recycling programs are not prevalent at this time. Waste solar panels are currently treated as e-waste and are disposed of in accord with current disposal requirements. The owners of the solar farm should be held responsible for the decommissioning and removal of a solar farm and the recycling of the waste when the solar farm is no longer in use.

2.3.6.F.4 Will the project cause substantial diminution in value of other property in the neighborhood in which it is to be located;

- It is the staff's position that if the solar farm is constructed and operated in compliance with the development standards of the code, the project will not have an adverse impact on the value of other property in the area;

2.3.6.F.5 Are public safety, transportation and utility facilities and services available to serve the subject property while maintaining sufficient levels of service for existing development?

- It is the staff's position that there are adequate public facilities to serve the property;

2.3.6.F.6 Are there adequate assurances of continuing maintenance for the project?

- It is the staff's position that there are adequate assurances of continuing maintenance for the project;
- Recycling and disposal of the solar panels is an area of concern. Large scale solar panel recycling programs are not prevalent at this time. Solar panels are currently treated as e-waste and are disposed of in accord with current disposal requirements. It is the staff's position that the owners of the solar farm should be held responsible for the decommissioning and removal of a solar farm equipment and the recycling of the waste when the solar farm is no longer in use.

2.3.6.F.7 Will any significant adverse impacts on the natural environment be mitigated to the maximum practical extent?

- It is the staff's position any significant adverse impacts on the natural environment during construction will be mitigated to the maximum practical extent. Recycling and disposal of the solar panels is an area of concern. Large scale solar panel recycling programs are not prevalent at this time. Solar panels are currently treated as e-waste and are disposed of in accord with current disposal requirements. It is the staff's position that the owners of the solar farm should be held responsible for the decommissioning and removal of a solar farm equipment and the recycling of the waste when the solar farm is no longer in use.

2.3.6.F.8 The proposed use will not be located in any hazard areas, including floodplains, floodways, etc., unless any potential danger is mitigated to the maximum extent possible, and to the satisfaction of the Wisconsin Department of Natural Resources;

- It is the staff's position that the proposed solar facility site is not located in any hazard areas, including floodplains, floodways

2.3.6.F.1 Does the proposed project comply with all applicable provisions of this Code;

- It is the staff's position that the proposed project complies with the applicable provisions of the code;

Dodge County Land Resources and Parks Committee Decision

County Conditional Use Permit Application # 2022-0797
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Robert Haugen
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Location: Part of the NE ¼ of the SW ¼, Section 8, Town of Lomira. The project site will be located south of the Michels Corporation outdoor storage yard and approximately 1300 feet west of N11478 County Road Y.

Applicants Request
An application for a County Conditional Use Permit under the Dodge County Land Use Code, was made by the applicant to allow the construction of an approximate 1.5-acre solar farm facility on the property described above.

CONCLUSIONS OF LAW
Based on the facts presented in the application and at the public hearing the Committee concludes that:

2.3.6.F General Approval Criteria for Conditional Use Permits
Conditional Use Permits shall be approved by the Committee if they find that all of the following criteria have been met:

2.3.6.F.2 Is the project compatible with adjacent uses in terms of scale, site design and operating characteristics? (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts);

(Yes / No)
If not, what measures can be taken to mitigate any potential conflicts?
_____
_____

2.3.6.F.3 Will the proposed use be significantly detrimental to the public health, safety, and welfare?

(Yes / No)
If yes, what measures can be taken to mitigate the potential detrimental impacts?
_____
_____

2.3.6.F.4 Will the project cause a substantial decrease in value of other property in the neighborhood in which it is to be located;

(Yes / No)

If yes, what measures can be taken to mitigate the decrease in the value of the properties?

_____
_____
_____

2.3.6.F.5 Are public safety, transportation and utility facilities and services available to serve the subject property while maintaining sufficient levels of service for existing development?

(Yes / No / Not Applicable)

If not, what can be done to ensure facilities and services will be available?

_____
_____
_____

2.3.6.F.6 Are there adequate assurances of continuing maintenance for the project?

(Yes / No/ Not Applicable)

If no, what measures can be taken to ensure continued maintenance?

_____
_____
_____

2.3.6.F.7 Will there be any significant adverse impacts on the natural environment that require mitigation?

(Yes / No)

If yes, what measures can be taken to mitigate the potential adverse impacts on the environment?

_____
_____
_____

2.3.6.F.8 Is the project located in any hazard areas? (floodplains, floodways, steep slopes, etc)

(Yes / No)

If yes, are there any measures that need to be taken to mitigate any potential dangers?

_____
_____
_____

2.3.6.F.1 Does the proposed project comply with all applicable provisions of this Code?

(Yes / No)

If not, what changes must be made to bring the project into compliance with the code?

_____
_____
_____

Are any conditions for approval needed in this case to mitigate any potential adverse impacts on the adjacent properties, the environment or the community?

(Yes/No)

1. The operation of the solar facility shall be conducted without offensive noise, vibration, dust, smoke, odor, glare, lighting or the risk of fire, explosion or other accident and shall not be detrimental to the public health, safety or general welfare of the immediate neighborhood or the community;
2. A County Land Use Permit for the construction of the access road, the filling and grading of the site and the construction of the solar facilities shall be obtained by the applicant prior to beginning construction;
3. The proposed solar facilities shall be constructed in compliance with all applicable local, state and federal regulatory codes;
4. The applicant shall submit a copy of a signed decommissioning agreement to the Department between the property owner of the solar facilities and supporting equipment and buildings detailing requirements for the decommissioning, abandonment and subsequent removal of the solar facilities. This agreement shall contain provisions binding said agreement to existing and future property owners. Decommissioning of the system shall occur in the event the project is not in use for 12 consecutive months. The decommissioning plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and assurances that financial resources will be available to fully decommission the site.
5. Any significant change or expansion of the solar facilities as shown in the application dated September 21, 2022 may require that a new conditional use permit be obtained;
6. The decision of the Committee shall expire one year after the decision is filed with the Department unless construction has been diligently pursued, a Certificate of Zoning Compliance has been issued, the use is established, or the Conditional Use Permit is renewed, for a period not to exceed one year.
7. The Conditional Use Permit shall also expire upon termination of a project or if the rights granted by the permit are discontinued for 180 consecutive days.

Others

_____
_____
_____
_____

Does the committee believe that the Conditional Use Permit Request meets the approval criteria in Section 2.3.6.F of the County Land Use Code? (Yes / No)

_____
_____
_____
_____

Motion by _____to approve the conditional use permit request based upon the previously mentioned findings and conditions.

Motion second _____

Vote

Dale Macheel	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Donna Maly	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Ben Priesgen	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Dan Siegmann	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Mary Bobholz – Chair	☐ Yes	☐ No	☐ Abstain	☐ Not Present

Motion (Carried / Denied)

ORDER AND DETERMINATION

On the basis of the above findings of fact, conclusions of law and the record in this matter the committee

☐ Granted preliminary approval of the conditional use permit subject to the conditions listed above and the Land Use Administrator is directed to issue a conditional use permit incorporating the decision of this Committee.

☐ Granted the conditional use permit request as proposed and the Land Use Administrator is directed to issue a conditional use permit incorporating the decision of this Committee.

☐ Denied the conditional use permit request as proposed. The committee finds that the proposal does not meet the following approval criteria of the code:

_____

Expiration of Approval. Any order issued by the Committee requiring a Zoning official to issue a conditional use permit shall become void after one year unless the applicant or appellant shall have met the conditions of approval for such permit and a conditional use permit has been issued by the Zoning official within such time, provided, that the time may be extended when so specified by the Committee.

Revocation. This order may be revoked by the Committee in accord with Section 11.4.4 of the Dodge County Land Use Code after notice and opportunity to be heard for violation of any of the conditions imposed.

Appeals. This decision may be appealed by any person or their agent aggrieved by this decision or by any officer, department, board or bureau of the County, or by any affected town board. Such appeals shall be filed with the Dodge County Land Resources and Parks Department or the review and decision making body from whom the appeal is taken within 30 days after the date of written notice of the decision or order of the review and decision making body. The County assumes no liability for and makes no warranty as to reliance on this decision if construction is commenced prior to expiration of this 30-day period.

If a conditional use permit is denied, the applicant may appeal the decision to the circuit court under the procedures contained in s. 59.694(10) Wis. Stats.

Dodge County Land Resources and Parks Committee

Signed _____ Attest _____

Chairperson Secretary

Dated: _____ Filed: _____

DODGE COUNTY
LAND RESOURCES & PARKS DEPARTMENT
127 E. OAK STREET • JUNEAU, WI 53039
PHONE: (920) 386-3700 x2 • FAX: (920) 386-3979
E-MAIL: landresources@co.dodge.wi.us

CONDITIONAL USE PERMIT APPLICATION

THIS AREA FOR OFFICE USE ONLY	
Activity No. 220797	Permit Issued Date
Application Date: 9-21-2022	Receipt #: 5n98-0012
	Sanitary Permit #

Application Fee: $350 *(After the Fact Application Fee - $700)*

Please complete page 1 and 2 of this application form and submit the application form with all of the required information listed in the "Application Checklist" for your project. PRINT OR TYPE. Use blue or black ink, do not use pencil. The Dodge County Land Resources and Parks Department will not consider your application unless you complete and submit this application form, the applicable information listed in the "application checklist" for your proposed project and the application fee. Personally identifiable information on this form will not be used for any other purpose, but it must be made available to requesters under Wisconsin's open records law [s.19.31-19.39, Wis. Stats.].

(1) NAMES & MAILING ADDRESSES

Applicant (Agent)
Robert Haugen, Managing Dir. of M & A

Street Address
817 W. Main Street, PO Box 128

City • State • ZipCode
Brownsville, WI 53006

Property Owner (If different from applicant)
Michels Corporation

Street Address
817 W. Main St.

City • State • ZipCode
Brownsville, WI 53006-0128

(2) PROPERTY DESCRIPTION

Parcel Identification Number (PIN)
030-1317-0831-000 and 030-1317-083-1002

Town	T N	R E
Lomira	13	17

1/4	1/4	Section	Acreage	Lot (Block)
NE	SW	08	39.968	

Subdivision or CSM (Volume/Page/Lot) and 1.28

Address Of Property (**DO NOT** Include City/State/ZipCode)

Is this property connected to public sewer? ☐ Yes ☑ No

(3) PROPERTY USE

Current Use Of Property

☐ Vacant Property
☐ Single-Family Residential
☐ Active-Working Farm Operation
☑ Business • Industrial • Commercial • *(Describe below)*
Other Agricultural field

(4) PROPOSED PROJECT

(Please check/complete all that apply below)

☐ Non-Farm Residential Lot
☐ Single Family Residence
☐ Two-Family Residence
☐ Multi-Family Residence
☐ Tavern or Restaurant
☐ Professional Office
☐ Non-Metallic Mine/Quarry
☐ Wind Tower
☐ Create/Expand Business
☐ Wildlife Pond > 2-acres
☐ Wireless Communications Tower
☐ Contractor's Offices and Storage Yards
☐ Filling, Grading or Dredging in the Shoreland District
Other: Mixed use - agricultural field and solar farm

DNR Notice

DNR NOTICE: You are responsible for complying with State and Federal laws concerning construction on or near wetlands, lakes and streams. Wetlands that are not associated with open water can be difficult to identify. Failure to comply may result in removal or modification of construction that violates the law or other penalties or costs. For more information, visit the Department of Natural Resources Wetlands Identification Web Page (www.dnr.state.wi.us) or contact a Department of Natural Resources Service Center.

(5) CERTIFICATE

I, the undersigned, hereby apply for a Conditional Use Permit and certify that all the information both above and attached is true and correct to the best of my knowledge. I affirm that I have read the DNR Notice shown above. I affirm that all work performed will be done in accordance with the Dodge County Land Use Code and with all other applicable laws and regulations. I hereby authorize members of the Dodge County Land Resources and Parks Department to enter the above-described property for purposes of obtaining information pertinent to my application request and to conduct land use code inspections.

Signature _____ Date 09/15/2022

Daytime Contact Number (920) 924-8764 (Cell Number (773) 398-8544)

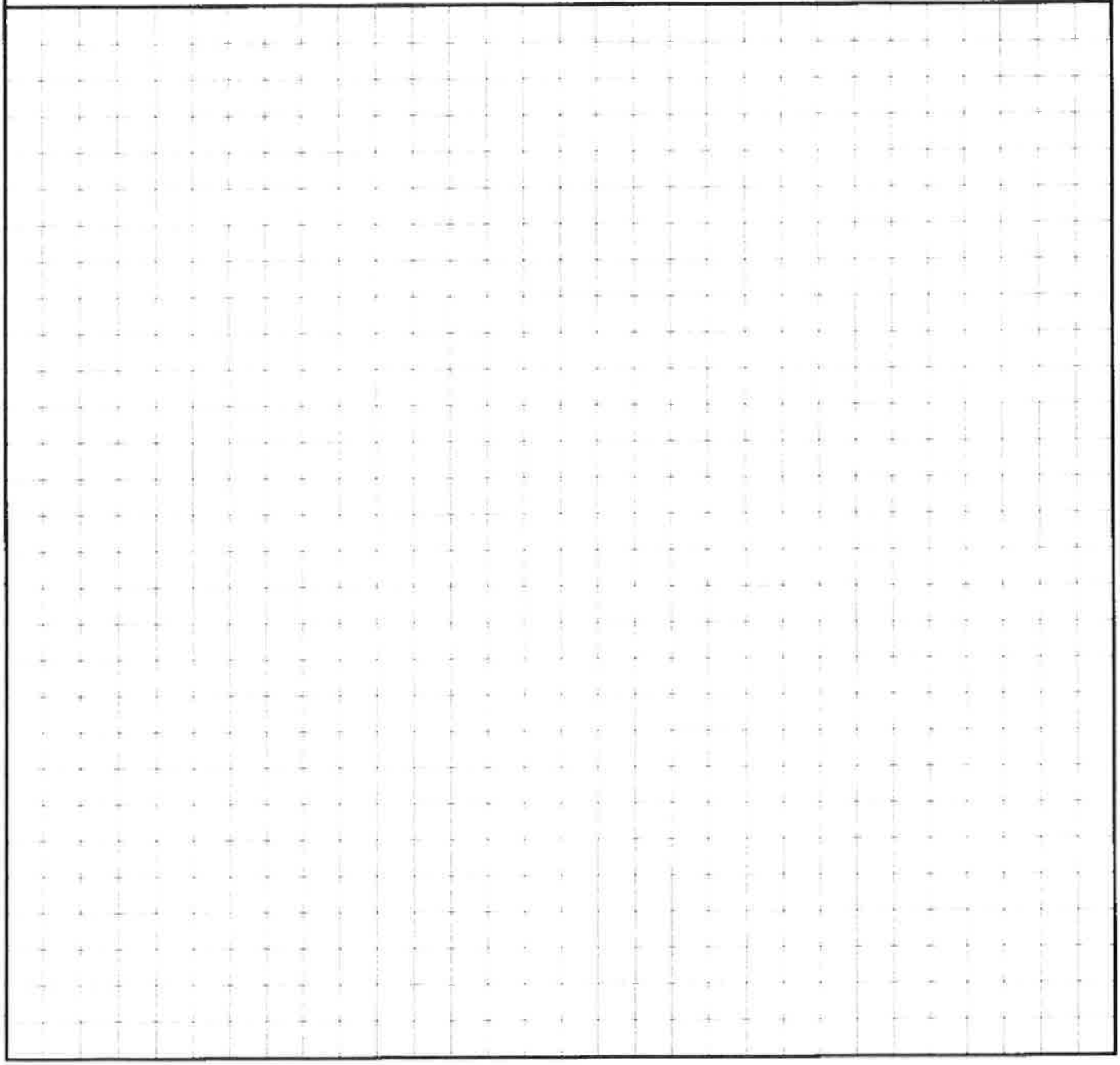
AREA BELOW THIS LINE FOR OFFICE USE ONLY

LAND RESOURCES AND PARKS COMMITTEE ACTION

Date of Decision _____ Decision _____

☐ APPROVED ☐ DENIED	CONDITIONS	Land Resources and Parks Department _____ Date: _____

SITE PLAN (SKETCH)



☑ See Attached Site Plan (Sketch)

THIS AREA FOR OFFICE USE ONLY

BOA ID No.	BOA Appeal Date	BOA P/H Date	BOA Decision Date	BOA Decision
				☐ Approved ☐ Approved w/Conditions ☐ Denied

Notes/Stipulations: 4/26/2022 Additional information required

☐ Approved ☐ Denied	Land Resources and Parks Department	Date

Please use only blue or black ink to complete the application and site plan (sketch) — DO NOT USE PENCIL

September 19, 2022

Dodge County Land Resources & Parks Dept.
127 E. Oak Street
Juneau, WI 53039

Subject: **Conditional Use Permit Application** - Michels Brownsville Solar Farm
Parcels #030-1317-0831-000 And #030-1317-083-1002 (Town of Lomira)

Dear Sir or Madam:

On behalf of our client (Michels Corporation), Mi-Tech Services, Inc. submits this Conditional Use Permit Application for the construction of a proposed solar farm on parcels #030-1317-0831-000 and #030-1317-083-1002, in the Town of Lomira. The proposed project parcels are currently owned by Michels Corporation. Included with this submittal is the *Dodge County Conditional Use Permit Application*, Figures 1-5 depicting the project location and surrounding areas, and the specifications of the proposed construction project. The following addresses the required components of the application submittal in the order in which they are outlined in the "Application Checklist".

1. The Site Location Map is included as Figure 1.

2. Site Plan is included as Figures 2A and 2B. No future expansion of the solar farm is expected at this time. All disturbed soils will be revegetated in accordance with the WDNR Construction Stormwater Permit and the County Erosion Control Plan for the project; no additional landscaping or buffering is proposed.

3. Aerial photographs are included as Figures 2A and Figure 3.

4. Detailed Narrative of Proposed Solar Farm Project –

   The project site is on parcels #030-1317-0831-000 and #030-1317-083-1002, and located directly south of the Michels Corporation yard, in the Town of Lomira, Dodge County. The parcels are landlocked with no access to nearby S. Oakland Road (CTH Y). The coordinates of the site are 43.608630 / -88.496780. The parcels are currently zoned A1 (Prime Agricultural). The proposed project encompasses approximately 1.56 acres and involves the installation of an access road from the Michels yard, 5 rows of solar panels, and a metering station.

   The project parcels are owned by Michels Corporation. Parcel #030-1317-0831-000 is currently leased for agricultural production; parcel #030-1317-083-1002 is undeveloped/wooded. Upon completion of the proposed solar farm, the remainder of parcel #030-1317-0831-000 will remain in agricultural production and the remainder of parcel #030-1317-083-1002 will remain undeveloped/wooded. The approximate dimensions of the solar panel project area are 294' X 138'; a 7'-8" woven-wire deer exclusion fence will be constructed around the perimeter of the solar farm. The solar farm and fence will be entirely on parcel #030-1317-0831-000. Entrance to the solar farm is from a gated gravel access road, connecting to the adjacent Michels yard (refer to Figure 4). This access road crosses both parcels #030-1317-0831-000 and #030-1317-083-1002. No lighting is proposed for the project.

An underground electrical line will connect the solar farm to an existing Michels building in the construction yard. No sanitary facilities are present within the project area and none are proposed for the solar farm project. No hazardous waste will be produced, used or stored on the site.

5. Figure 4 provides an Aerial View of the proposed site and construction plan / specifications.

6. The proposed Michels Solar Farm project is located on two parcels currently owned by Michels Corporation; as such, a "Signed Agreement" is not applicable. See Figure 5 for Parcel Map.

7. A gravel access road will be constructed to connect the solar farm to the adjacent Michels yard. The gravel access road is 8088 sq. ft. and thus the project does not exceed the 20,000 sq. ft. of Impervious surfaces threshold and no County stormwater management plan is required. The project does require a WDNR Construction Site Stormwater Permit (> 1 acre ground disturbance). This WDNR permit will be applied for prior to construction.

8. The project disturbs approximately 1.56 acres of land surface, and thus a construction site erosion control plan is required. This Erosion Control Plan will be submitted to the County as part of the Land Use Permit application for the project

9. All disturbed soils will be revegetated in accordance with the WDNR Construction Stormwater Permit and the County Erosion Control Plan for the project. Based on our review of Section 7.9.2 Landscaping and buffering requirements, no additional landscaping or buffering is required nor planned for this project.

10. All applicable federal, state, and local permits and license that are required in connection with this project, will be obtained.

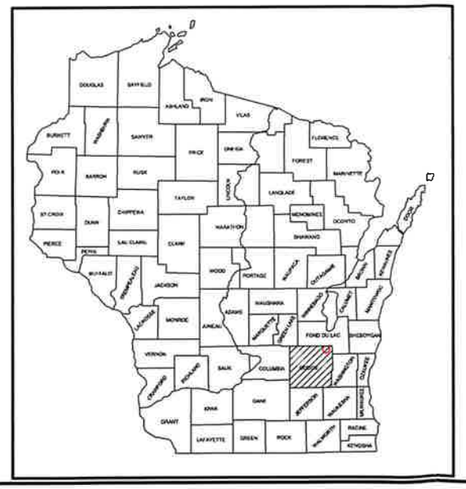
Should you have any questions or require additional information, please feel free to contact me at (715) 359-9400 ext. 5233 or via email at czelenka@mi-tech.us. Thank you for your review

Best Regards,
Mi-Tech Services, Inc.

Cindy Zelenka

Cindy Zelenka
Senior Environmental Specialist II

Attachments:
Dodge County Conditional Use Permit Application
Application Fee (ch. #19171)
Figure 1 Site Location Map
Figure 2A Site Map
Figure 2B General Project Location and Surrounding Area Map
Figure 3 Site Aerial Map
Figure 4 Construction Plan
Figure 5 Parcel Boundary Map



MI-TECH SERVICES, INC.
4901 Stewart Avenue
Wausau, WI 54401
(715) 359-9400
www.mi-tech.us

We Energies

EQUIX

LIGHTHOUSE SOLAR

PROJECT:	MICHELS SOLAR FARM BROWNSVILLE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

REV	DATE	DESCRIPTION

SHEET TITLE

SITE LOCATION MAP

SHEET NUMBER

FIGURE 1

N

SCALE IN FEET

0 100 200

LEGEND

ADJACENT PARCEL LINE

SITE PARCEL LINE

PROPOSED SECURITY FENCE

MI-TECH SERVICES, INC.
4901 Stewart Avenue
Wausau, WI 54401
(715) 359-9400
www.mi-tech.us

We Energies

EQUIX

LIGHTHOUSE SOLAR

PROJECT:	MICHELS SOLAR FARM BROWNSVILLE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

REV	DATE	DESCRIPTION

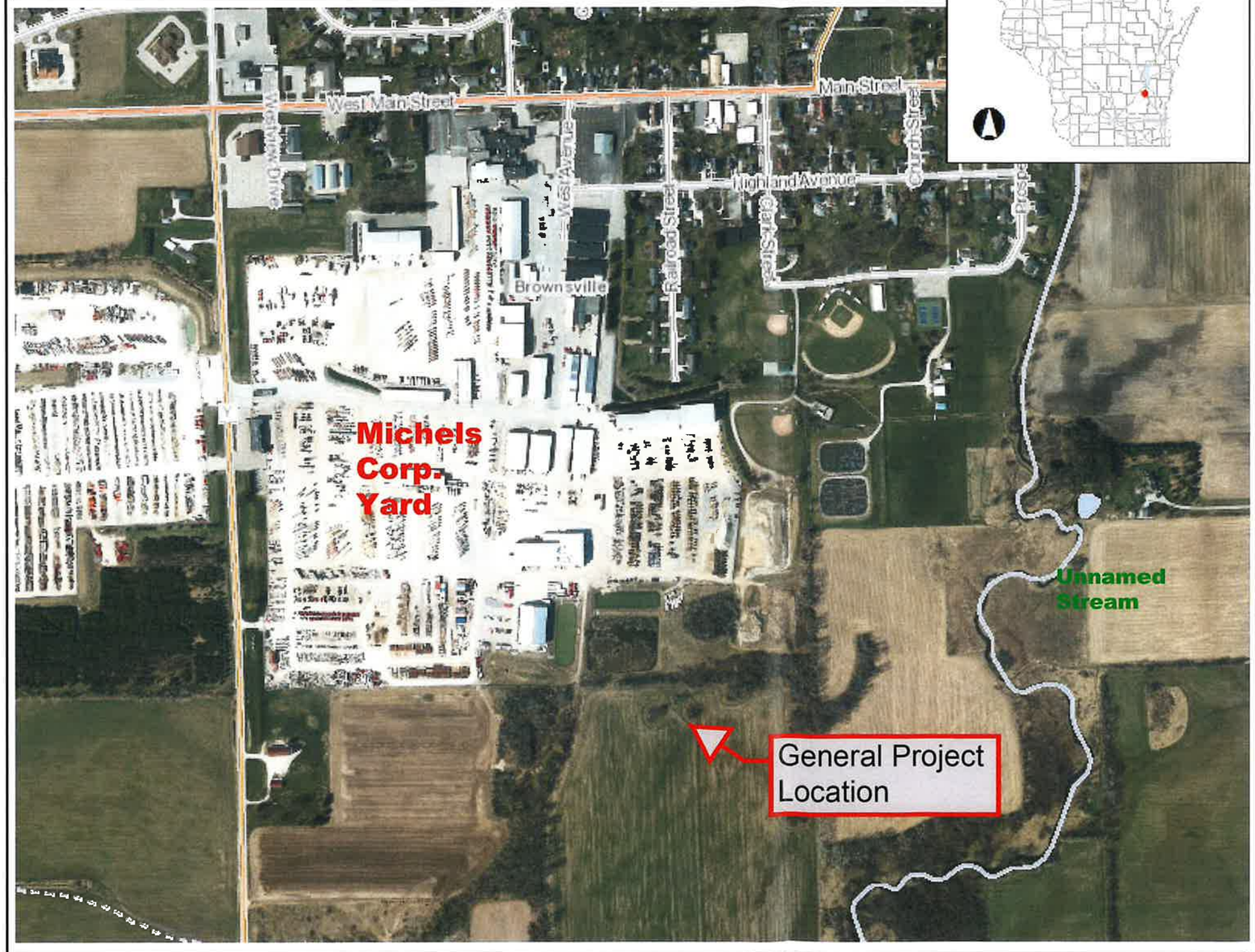
SHEET TITLE

SITE MAP

SHEET NUMBER

FIGURE 2 A

Michels Brownsville Solar Farm Location



Legend

- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- Index to EN_Image_Basemap_Leaf_Off

Figure 2B
General Project Location and Surrounding Area

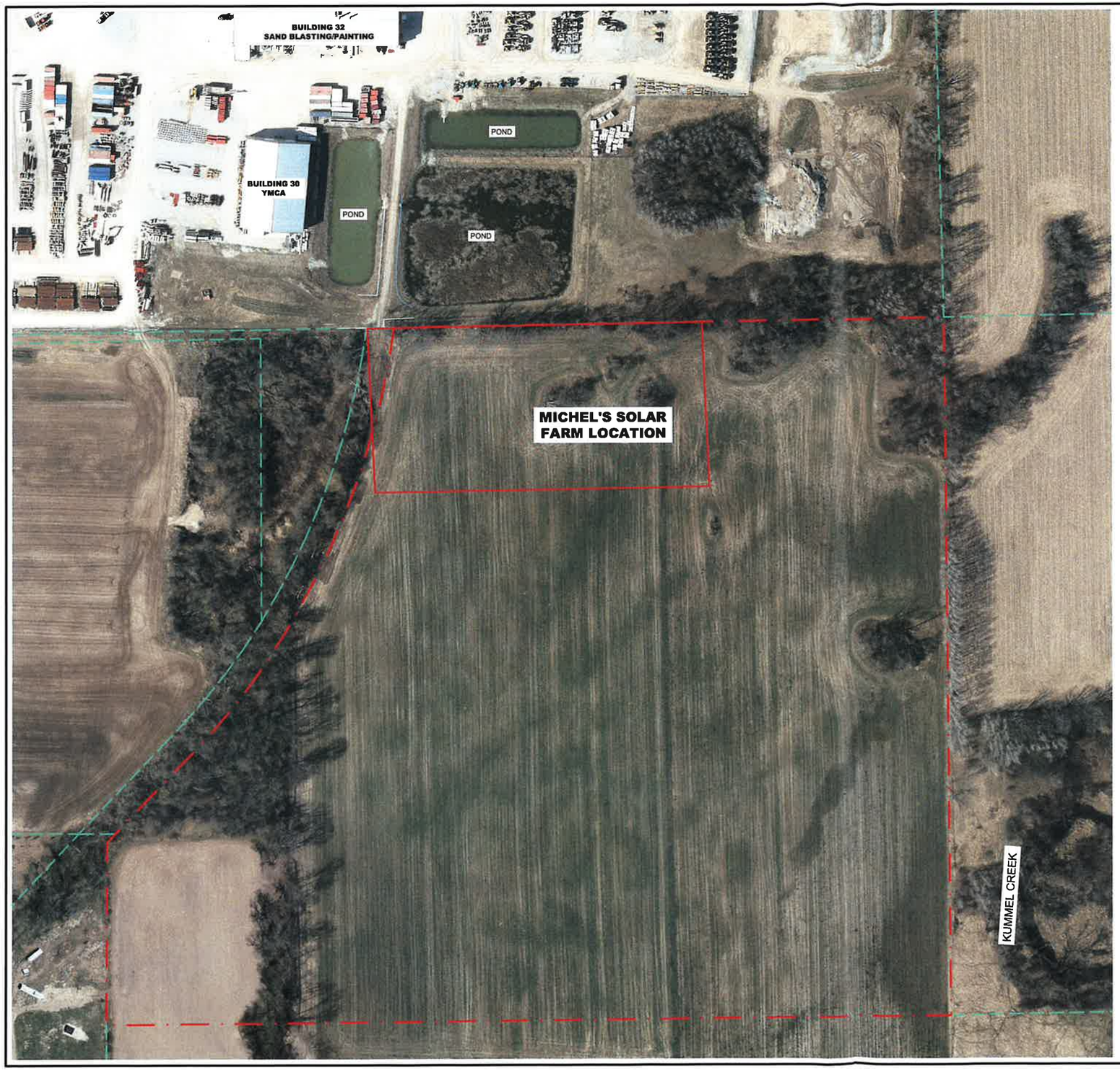
0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920

Notes

Unnamed Stream Located East of Project Area



N

SCALE IN FEET

0 100 200

LEGEND

ADJACENT PARCEL LINE

SITE PARCEL LINE

PROJECT BOUNDARY

MI-TECH SERVICES, INC.
4901 Stewart Avenue
Wausau, WI 54401
(715) 359-9400
www.mi-tech.us

We Energies

EQUIX

LIGHTHOUSE SOLAR

PROJECT:	MICHELS SOLAR FARM BROWNSVILLE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

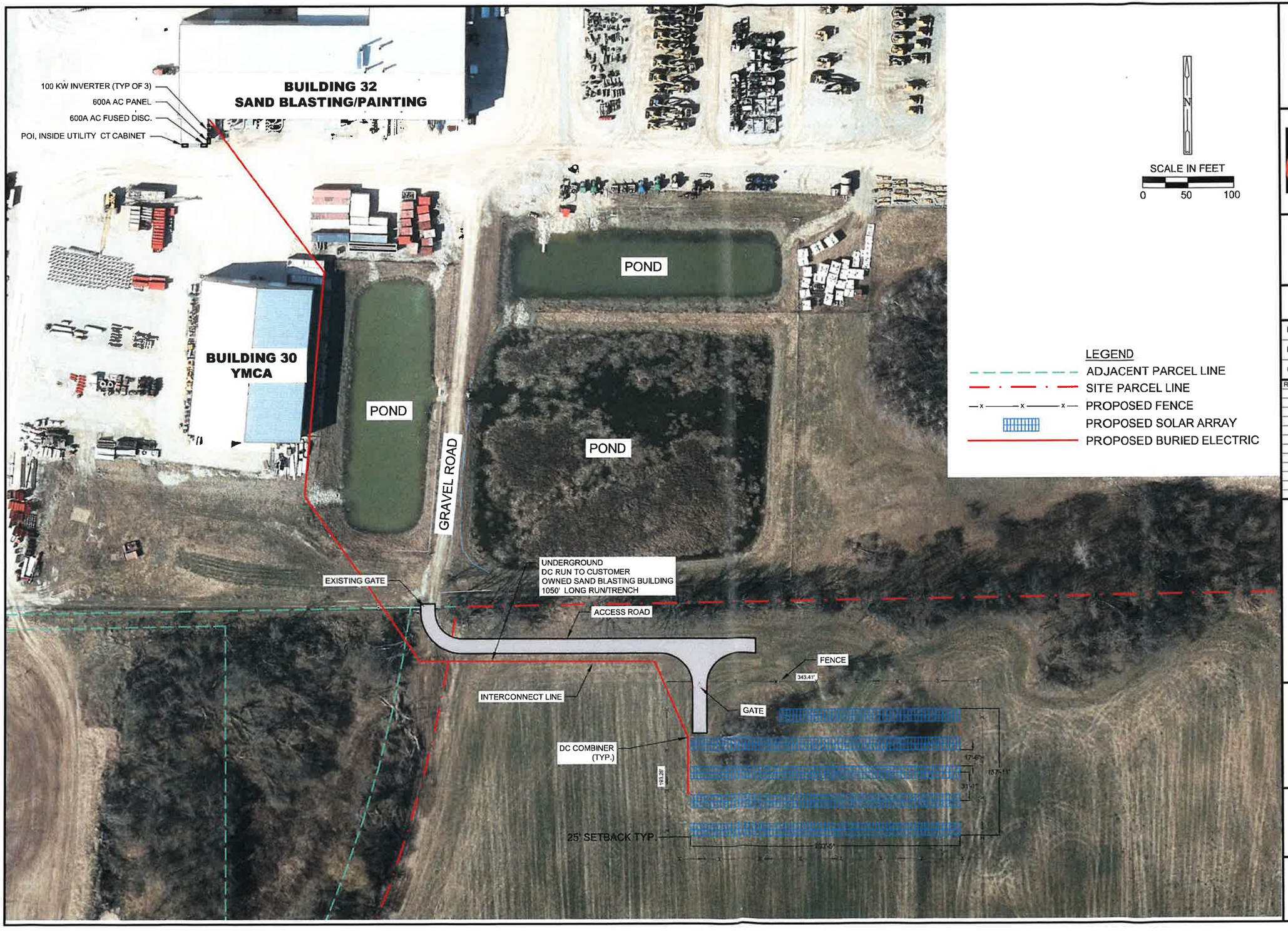
REV	DATE	DESCRIPTION

SHEET TITLE

SITE AERIAL MAP

SHEET NUMBER

FIGURE 3



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DRAWN BY:	AL
CHECKED BY:	SF

REV	DATE	DESCRIPTION

SHEET TITLE

CONSTRUCTION PLAN

SHEET NUMBER

FIGURE 4

MICHELS BROWNSVILLE SOLAR
(43°36'31.8"N) (88°29'48.3"W)

817 W MAIN STREET, BROWNSVILLE, WI 53006

PV SYSTEM DETAILS

ARRAY TYPE:	GROUND MOUNT FIXED TILT
DC SYSTEM SIZE:	385.84 KW DC
DC SYSTEM VOLTAGE:	1500 V
AC SYSTEM SIZE:	300 KW AC
MODULES	(728) (HELIENE) HSPE – 144HC M10 BIFCACIAL (530W)
INVERTERS:	(3) CPS SCA100KTL-DO/US-480-UL
OPTIMIZERS:	N/A
RACKING:	TBD
CLAMPS:	N/A
AZIMUTH:	180°
ARRAY PITCH:	25°

INSPECTION ITEMS

CONTRACTOR SHALL STRICTLY ADHERE TO THE FOLLOWING CODE STANDARDS UNCLES OTHERWISE NOTED WITHIN THE DRAWING; NEC. 2017, IBC. 2015, IFC. 2015 AND APPLICABLE LOCAL CODES.

PROGRESS INSPECTIONS:

ROUGH ELECTRIC:	☐ REQUIRED	☐ NOT REQUIRED
ROUGH BUILDING:	☐ REQUIRED	☐ NOT REQUIRED

FINAL INSPECTIONS:

ELECTRIC:	☐ REQUIRED	☐ NOT REQUIRED
BUILDING:	☐ REQUIRED	☐ NOT REQUIRED
OTHER:	☐ REQUIRED	☐ NOT REQUIRED

CONTRACTOR SHALL BE KNOWLEDGEABLE OF ANY LOCAL AHJ INSPECTIONS REQUIRED NOT LISTED.

SUNVEST SOLAR LLC
N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)-547-1200
WWW.SUNVEST.COM

SCOPE OF WORK

1. CONTRACTOR SHALL ACCEPT, VERIFY AND INSTALL ALL MATERIAL AS LISTED ABOVE AND ON THE B.O.M. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DEVELOPER IMMEDIATELY.
2. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED AS PER MANUFACTURES GUIDELINES SET FORTH IN THE INSTRUCTION MANUAL AND AS PER NEC. 110.
3. CONTRACTOR SHALL PROVIDE PROTECTIVE MATERIALS TO PREVENT DAMAGE TO EXISTING BUILDINGS OR EQUIPMENT AND PROPOSED BUILDINGS OR EQUIPMENT.
4. CONTRACTOR SHALL PERFORM A PRE-CONSTRUCTION SITE WALK AT LEAST 5 DAYS PRIOR TO MOBILIZATION TO CONFIRM SITE CONDITIONS, STAGING AREAS AND ANY OTHER SITE SPECIFIC DETAILS REQUIRED. ANY ISSUES SHALL BE PHOTO DOCUMENTED ALONG WITH A WRITTEN REPORT AND PROVIDED IMMEDIATELY TO THE NECESSARY PARTIES.
5. IF DEVELOPER IS NOT CALLED, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL TESTING/INSPECTION REQUIRED TO APPROVE SITE AT ENGINEERS DISCRETION.
6. PRIOR TO FINAL SIGN-OFF THE CONTRACTOR SHALL PROVIDE A LETTER OF COMPLIANCE FOR THE WORK DONE. THE LETTER MUST REFERENCE THAT THE WORK WAS DONE IN ACCORDANCE TO THE DRAWINGS AND IN COMPLIANCE WITH THE CODE OF THE APPLICABLE AUTHORITY HAVING JURISDICTION.

LOCATION MAP

NOTES

1. THE APPLICANT PROPOSES TO INSTALL PV MODULES AND WEATHER PROOF EQUIPMENT FOR AN UNMANNED FACILITY.
2. EQUIPMENT IS UNMANNED AND NOT FOR HUMAN HABITATION, HANDICAP ACCESS IS THEREFORE NOT REQUIRED.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. NON-CONFORMING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER AND DEVELOPER FOR REMEDIAL OR CORRECTIVE ACTION.
5. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.

SITE INFORMATION

PROPERTY OWNER: MICHELS CORPERATION

POWER COMPANY: WE ENERGIES

PROJECT MANAGER: PHONE:

APPROX LEASED SQ FT: 114,998 S.F. / 2.64 ACRES
1,090' L.F. OF FENCE

TAX ID:

AERIAL MAP

DISCLAIMER

IT IS A VIOLATION OF THE LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING, THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE DEVELOPER OR ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DRAWING INDEX

DWG NO:	SHEET TITLE
T-1.00	TITLE SHEET
PV-1.00	ARRAY LAYOUT
E-1.00	ONE-LINE DIAGRAM
E-4.00	SPEC SHEETS
E-5.00	NEC LABELS
GN-1.00	GENERAL NOTES
GN-2.00	GENERAL NOTES

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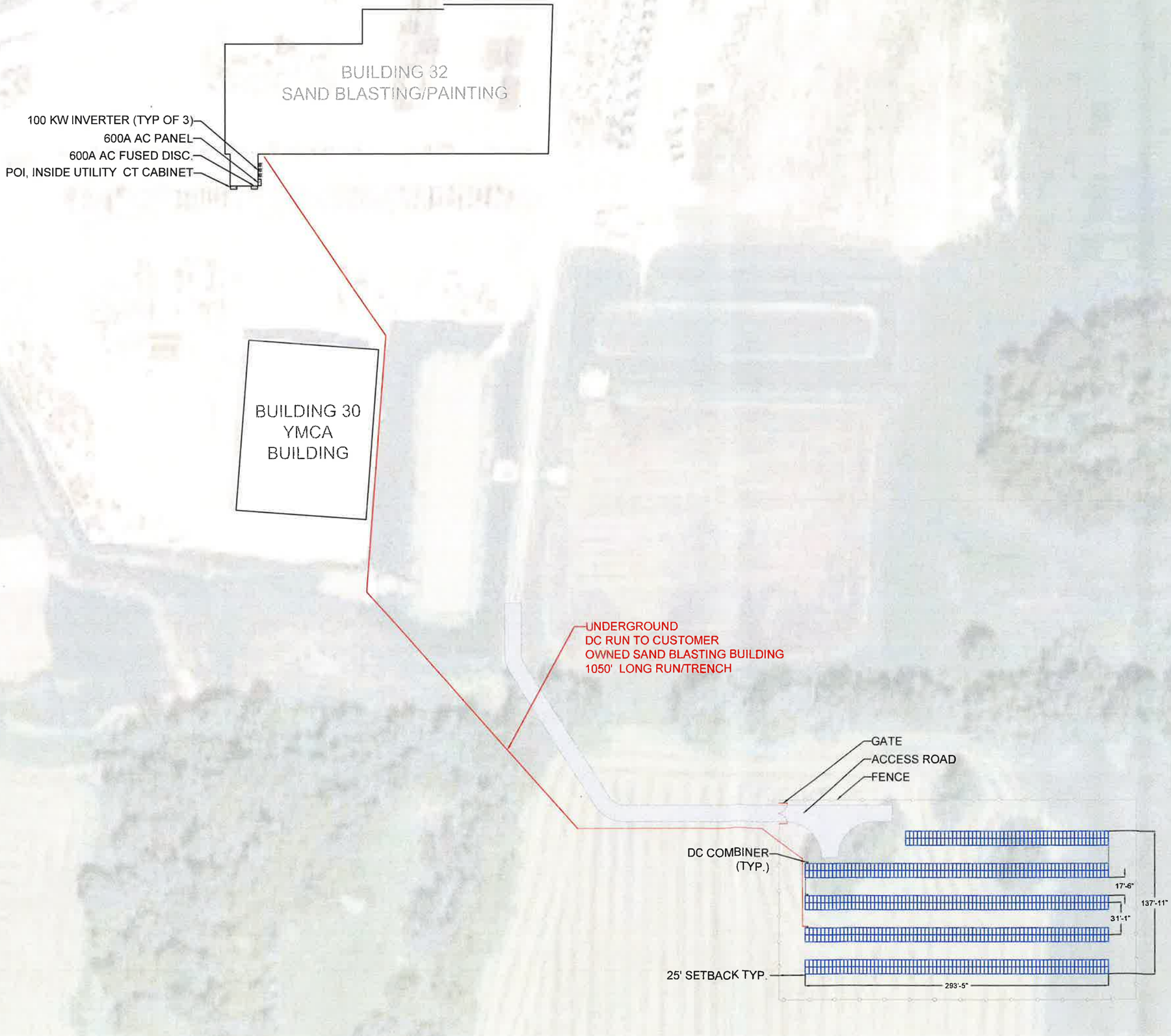
7		17	
6		16	
5		15	
4		14	
3		13	
2	09/13/22	12	
1	08/10/22	11	
REV	SET/DATE	REV	SET/DATE

DRAWN BY: SJ | CHECKED BY: RA
SCALE: AS NOTED | JOB NO: 01596

MICHELS BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
TITLE SHEET

DWG. NO.
T-1.00



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WWW.SUNVEST.COM

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MICHELS
BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
ARRAY LAYOUT

DWG. NO.
PV-1.00

PV SYSTEM DETAILS

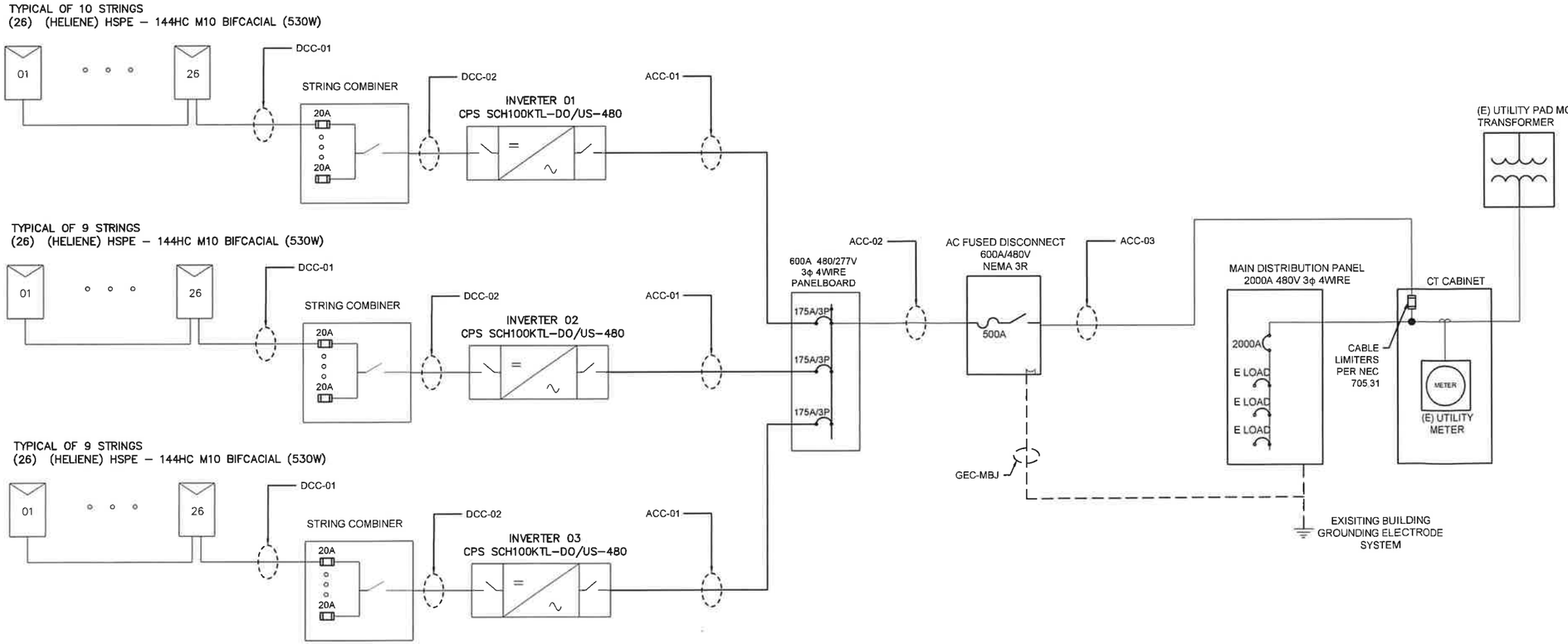
ARRAY TYPE:	GROUND MOUNT FIXED TILT
DC SYSTEM SIZE:	385.84 KW DC
DC SYSTEM VOLTAGE:	1500 V
AC SYSTEM SIZE:	300 KW AC
MODULES	(728) (HELIENE) HSPE – 144HC M10 BIFCACIAL (530W)
INVERTERS:	(3) CPS SCA100KTL-DO/US-480-UL
OPTIMIZERS:	N/A
RACKING:	TBD
CLAMPS:	N/A
AZIMUTH:	180°
ARRAY PITCH:	25°

CONDUCTOR SCHEDULE

ID	SETS	PHASE CONDUCTOR QUANTITY	SIZE	INSULATION	MATERIAL*	NEUTRAL SIZE*	NEUTRAL QUANTITY	EQUIPMENT GROUNDING CONDUCTOR*	EGC QUANTITY
DCC-01	24	2	#10 AWG	PV, UL 1000V	CU	-	-	#12 AWG B.C.W	1 per array
DCC-02	3	2	#3/0 AWG	THWN-2	CU	-	-	#6 AWG THWN-2	1
ACC-01	3	3	#2/0 AWG	THWN-2	CU	#4 AWG THWN-2 CU	1	#6 AWG THWN -2 CU	1
ACC-02	1	3	250 KCMIL	THWN-2	CU	#2 AWG THWN-2 CU	1	#2 AWG THWN -2 CU	1
ACC-03	1	3	250 KCMIL	THWN-2	CU	#2 AWG THWN-2 CU	1	N/A	0
GEC-MBJ	1		#1/0 AWG	BARE	CU				

CONDUIT SCHEDULE

SIZE	TYPE	LENGTH (FT)
2.5"	SCH80	305
1.5"	SCH80	1050
2.0"	EMT	10
2.5"	EMT	10
2.5"	EMT	20
		25



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MICHELS
BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
ONE LINE DIAGRAM

DWG. NO.
E-1.00

HELIENE

144HC M10 Bifacial Module

144 Half-Cut Monocrystalline 520W – 540W

21%

Utilizes the latest M10 size super high efficiency Monocrystalline PERC cells. Half cut design further reduces cell to module (CTM) losses.

Stability & Looks

Rugged, double webbed frame design withstands wind, snow, and other mechanical stresses. Framed Glass-Backsheet aesthetic is ideal for high visibility installation.

Anti-Reflective

Premium solar glass with anti reflective coating delivers more energy throughout the day

High Reliability

Proven resistance to PID and reliable in high temperature and humidity environments.

Manufactured Using International Quality System Standards: ISO9001

Half-Cut Design with Split Junction Box Technology

Bifacial Technology Enabling Additional Energy Harvest from Rear Side

1500V System Voltage Rating

World-class Quality

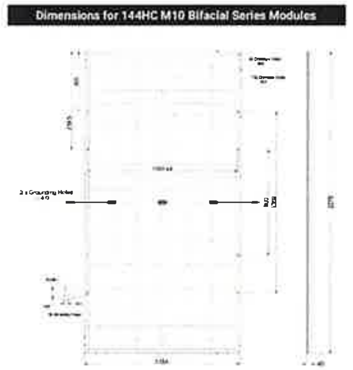
Local Sales, Service, and Support

Bankable Reputation

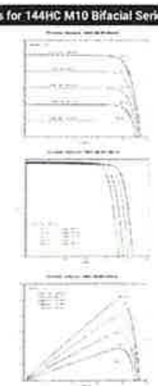
No Compromise Guarantee

15 Year Workmanship Warranty
25 Year Linear Performance Guarantee

Dimensions for 144HC M10 Bifacial Series Modules



I-V Curves for 144HC M10 Bifacial Series Modules



Certifications

Electrical Data (STC)

Peak Rated Power	P_{mpp} (W)	540	530	520
Maximum Power Voltage	V_{mpp} (V)	42.32	41.94	41.56
Maximum Power Current	I_{mpp} (A)	12.77	12.64	12.52
Open Circuit Voltage	V_{oc} (V)	50.22	49.72	48.73
Short Circuit Current	Isc (A)	13.50	13.37	13.28
Module Efficiency *	Eff (%)	20.9	20.5	20.1
Maximum Series Fuse Rating	MF (A)	30	30	30
Power Output Tolerance		[-0/+3%]		
Bifaciality Factor		70%		

Electrical Data (NMOT)

Maximum Power	P_{mpp} (W)	400	390	380
Maximum Power Voltage	V_{mpp} (V)	39.19	38.58	37.96
Maximum Power Current	I_{mpp} (A)	10.21	10.11	10.01
Open Circuit Voltage	V_{oc} (V)	47.13	46.66	45.73
Short Circuit Current	Isc (A)	10.87	10.77	10.70

Mechanical Data

Solar Cells	144 Half Cut, M10, 182mm, PERC Cells
Module Construction	Framed Glass-Backsheet
Dimensions (L x W x D)	2279 x 1134 x 40 mm (89.72 x 44.65 x 1.6 inch)
Weight	29.2 kg (64.3 lbs)
Frame	Double Webbed 15 Micron Anodized Aluminum Alloy
Glass	3.2mm Low-Iron Content, High-Transmission, PV Solar Glass with Anti Reflective Coating
Junction Box	IP-68 rated with 3 bypass diodes
Output Cables	0.3-meter Symmetrical Cables
Connectors	MC4 Compatible

Certifications

UL Certification	UL61215, UL61730

Temperature Ratings

Nominal Operating Cell Temperature (NOCT)	+45°C (±2°C)
Temperature Coefficient of P_{max}	-0.36%/°C
Temperature Coefficient of V_{oc}	-0.28%/°C
Temperature Coefficient of I_{sc}	0.034%/°C

Maximum Ratings

Operational Temperature	-40°C to +85°C
Max System Voltage	1500V
Mech. Load Test (Front)	113 psf / 5400Pa
Mech. Load Test (Back)	50 psf / 2400Pa

Warranty

15 Year Manufacturer's Workmanship Warranty
25 Year Linear Power Guarantee

Packaging Configuration

Modules per box	27 pieces
Modules per 53' trailer:	702 pieces

CPS

100kW, 1500Vdc/480Vac String Inverters for North America

CPS SCH100KTL-DO/US-480

The 100kW high power CPS three phase string inverters are designed for ground mount applications with 480Vac service voltage. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiencies, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 100kW products ship with the Standard or Centralized Wire-box, each fully integrated and separable with AC and DC disconnect switches. The Standard Wire-box includes touch safe fusing for up to 20 strings. The CPS FlexOM solution enables communication, controls and remote product upgrades.

Key Features

- NFPA 70, NEC 2017 compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote FW upgrades
- Integrated AC & DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Advanced Smart-Grid features
- Full power capacity up to 45°C
- Generous DC/AC Inverter Load Ratios
- Separable wire-box design for fast service
- Standard 5 year warranty with extensions to 20 years

100KTL Standard Wire-box

100KTL Centralized Wire-box

CPS

Model Name	CPS SCH100KTL-DO/US-480
DC Input	
Max. DC Input Voltage	1500Vdc
Operating DC Input Voltage Range	750-1450Vdc
Start-up DC Input Voltage / Power	900Vdc / 200W
Number of MPP Trackers	1
MPPT Voltage Range @ PF>0.99[1]	760-1300Vdc
Max. PV Input Current (Isc x1.25)	275A
Number of DC Inputs	20 PV source circuits, pos. & neg. fused (Standard Wire-box) 1 PV output circuit, 1-2 terminations per pole, non-fused (Centralized Wire-box)
DC Disconnection Type	Load-rated DC switch
DC Surge Protection	Type II MOV (with indicator/remote signaling), up=2.5kV, In=20kA (8/20uS)
AC Output	
Rated AC Output Power @ PF>0.99	100kW
Max. AC Apparent Power[2]	100kVA (105.3kVA @ PF>0.95)
Rated Output Voltage	480Vac
Output Voltage Range[3]	423-528Vac
Grid Connection Type[4]	3-Phase / PE / N (Neutral Optional)
Max. AC Output Current @480Vac	120.3A/126.7A
Rated Output Frequency	60Hz
Output Frequency Range[3]	57 - 63Hz
Power Factor	>0.99 (±0.8 adjustable)
Current THD @ Rated Load	<3%
Max. Fault Current Contribution (1 Cycle RMS)	41.47A
Max. OCPD Rating	200A
AC Disconnection Type	Load-rated AC switch
AC Surge Protection	Type II MOV (with indicator/remote signaling), up=2.5kV, In=20kA (8/20uS)
System and Performance	
Topology	Transformerless
Max. Efficiency	98.9%
CEC Efficiency	98.0%
Stand-by / Night Consumption	<4W
Environment	
Enclosure Protection Degree	NEMA Type 4X
Cooling Method	Variable speed cooling fans
Operating Temperature Range	-22°F to +140°F / -30°C to +60°C (derating from +113°F / +45°C)
Non Operating Temperature Range[5]	No low temp minimum to +158°F / +70°C maximum
Operating Humidity	0 to 100%
Operating Altitude	8202ft / 2500m (no derating)
Audible Noise	<65dBA @ 1m and 25°C
Display and Communication	
User Interface and Display	LED indicators, WiFi + APP
Inverter Monitoring	Modbus RS485
Site Level Monitoring	CPS FlexOM (1 per 32 inverters)
Modbus Data Mapping	SunSpec / CPS
Remote Diagnostics / FW Upgrade Functions	Standard / (with FlexOM Gateway)
Mechanical	
Dimensions (WxHxD)	45.28x24.25x9.84in (1150x616x250mm) with Standard Wire-box 39.37x24.25x9.84in (1000x616x250mm) with Centralized Wire-box
Weight	Inverter: 121lbs / 55kg Wire-box: 55lbs / 25kg (Standard Wire-box) 33lbs / 15kg (Centralized Wire-box)
Mounting / Installation Angle	15 - 90 degrees from horizontal (vertical or angled)
AC Termination	M10 Stud Type Terminal [3Φ] (Wire range 1/0AWG - 500kcmil CU/AL, Lugs not supplied) Screw Clamp Terminal Block [N] (#12 - 1/0AWG CU/AL)
DC Termination	Screw Clamp Fuse Holder (Wire range: #12 - #6AWG CU) - Standard Wire-box Busbar, M10 Bolts (Wire range: #1AWG - 500kcmil CU/AL [illegible]), #1AWG - 300kcmil CU/AL (2 terminations per pole), Lugs not supplied) - Centralized Wire-box
Fused String Inputs	20A fuses provided (Fuse values of 15A or 20A acceptable)
Safety	
Certifications and Standards	UL1741-SA-2016, CSA-22.2 NO.107.1-01, IEEE1547a-2014, FCC PART15
Selectable Grid Standard	IEEE 1547a-2014, CA Rule 21, ISO-NE, HECO Rule 14H
Smart Grid Features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-Var, Freq-Watt, Volt-Watt
Warranty	
Standard	5 Years
Extended Terms	10, 15, and 20 Years

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DRAWN BY: SJ | CHECKED BY: RA
SCALE: AS NOTED | JOB NO: 01596

MICHELS BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
SPEC SHEETS

DWG. NO.
E-4.00

⚠ WARNING

THIS PANEL HAS SECONDARY POWER SOURCE FROM PHOTOVOLTAIC SYSTEM TURN-OFF PHOTOVOLTAIC SYSTEM BREAKER PRIOR TO SERVICING PANEL.

MAX AC OUTPUT CURRENT: 380.1 AMPS

MAX AC OUTPUT VOLTAGE: 480 VOLTS

LABEL #1 PLACE AT POINT OF INTERCONNECTION

⚠ WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL #2 PLACE AT POINT OF INTERCONNECTION

⚠ WARNING

SOLAR GENERATOR UTILITY LOCKABLE AC DISCONNECT SWITCH

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #3 PLACE AT UTILITY LOCKABLE DISCONNECT

⚠ WARNING

POTENTIAL ARC FLASH HAZARD

LABEL #4 PLACE AT PV SWITCHBOARD

⚠ WARNING

TURN OFF AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #5 PLACE AT AC COMBINER PANEL

⚠ WARNING

POWER METER AND AC DISCONNECT

TURN OFF INVERTER PRIOR TO OPERATING AC DISCONNECT

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #6 PLACE AT AC DISCONNECT

⚠ WARNING

ELECTRIC SHOCK HAZARD

IF GROUND FAULT IS INDICATED ALL NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED

LABEL #7 PLACE AT INVERTERS

CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

LABEL #8 PLACE ON DC DISCONNECTS AND INVERTERS

CAUTION: SOLAR CIRCUIT

LABEL #9 PLACE ON CONDUIT, JUNCTION BOXES AND COMBINER BOXES AT EVERY 10'

⚠ WARNING

DC JUNCTION BOX

LABEL #10 PLACE ON DC JUNCTION BOXES

⚠ WARNING

PV ARRAY DC DISCONNECT

-ELECTRICAL SHOCK HAZARD-
-DO NOT TOUCH TERMINALS-

TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

MAXIMUM CURRENT: 134 A
OPERATING VOLTAGE: 1470 Vdc

LABEL #11 PLACE ON DC DISCONNECTS

⚠ WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL #12 PLACE ON DC DISCONNECTS AND AC DISCONNECTS

⚠ WARNING

PULL BOX

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #13 PLACE AT PULL BOXES

INV-1 — LABEL #14 PLACE AT INVERTERS

ACB-01 — LABEL #15 PLACE AT INVERTERS

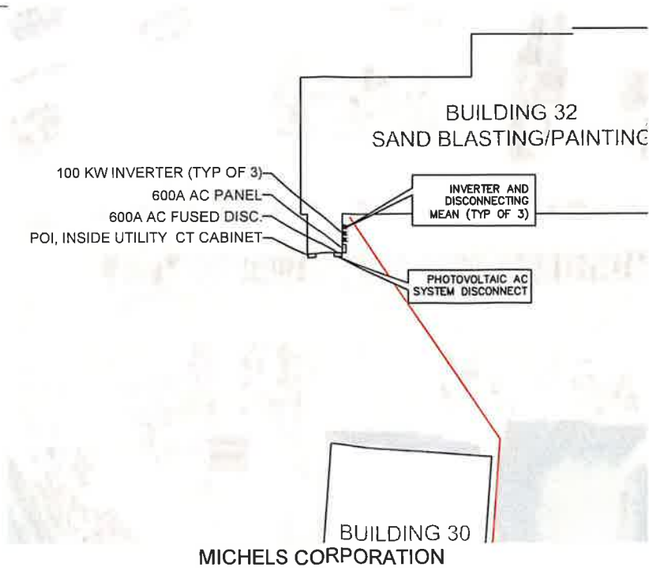
MPD M-01 — LABEL #16 PLACE AT SYSTEM PANELBOARD

DC DISC-1 — LABEL #17 PLACE AT INVERTER/DC DISCONNECT SCREEN

SC-1 — LABEL #18 PLACE AT COMBINER BOX

CAUTION

POWER TO THIS SITE IS SUPPLIED BY MULTIPLE SOURCES: DISCONNECT LOCATIONS ARE SHOWN BELOW



MICHELS CORPORATION
MAP OF PHOTOVOLTAIC POWER SOURCES DISCONNECTING MEANS

SITE DISCONNECT LOCATION PLACECARD

SHEET NOTES:

1. SYSTEM LABELS SHALL BE PERMANENTLY ATTACHED BY MECHANICAL MEANS OR SECURED WITH UV-RESISTANT ADHESIVE.

2. MATERIALS USED IN THE CONSTRUCTION OF THE LABELS SHALL BE UV RESISTANT.

3. ELECTRICAL EQUIPMENT, SUCH AS SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS, THAT ARE IN OTHER THAN DWELLING OCCUPANCIES, AND ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. (NEC 110.16)

4. ALL INTERACTIVE SYSTEM(S) POINTS OF INTERCONNECTION WITH OTHER SOURCES SHALL BE MARKED AT AN ACCESSIBLE LOCATION AT THE DISCONNECTING MEANS AS A POWER SOURCE AND WITH THE RATED AC OUTPUT CURRENT AND THE NOMINAL OPERATING AC VOLTAGE. (NEC 690.54)

5. DIRECT-CURRENT PV POWER SOURCES SHALL BE PERMANENTLY LABELED PER NEC 690.53

6. PROVIDE ALL ADDITIONAL LABELS AS REQUIRED PER NEC, NESC, AND OTHER APPLICABLE CODES AND STANDARDS

KEYED NOTES:

1. PROVIDE 9"X3" ENGLISH/SPANISH ELECTRICAL WARNING SIGN AT EACH OF THE SITE ENTRANCES AND EVERY 200' ALONG THE FENCE.

2. PROVIDE SITE DISCONNECT LOCATION PLACECARD AT EACH OF THE SITE ENTRANCES. MARK "YOU ARE HERE!" AT EACH OF THE LOCATIONS ON THE MAP

SUNVEST SOLAR LLC
N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)-547-1200
WWW.SUNVEST.COM

LICENSED ELECTRICAL ENGINEER certifies that they prepared all the electrical "E" sheets in this drawing set.
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DRAWN BY: SJ	CHECKED BY: RA
SCALE: AS NOTED	JOB NO: 01596

MICHELS
BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE

NEC LABELS

DWG. NO.

E-5.00

SYMBOL LEGEND:

FUSE

SURGE PROTECTION DEVICE

CIRCUIT BREAKER

GROUND

GROUNDED WYE

DELTA

UTILITY DISCONNECT

POTENTIAL TRANSFORMER (PT)

CURRENT TRANSFORMER (CT)

METER

METER

PRIMARY UTILITY METER

INVERTER

INVERTER WITH INTEGRATED DISCONNECT

PANELBOARD

MAIN DISTRIBUTION PANEL

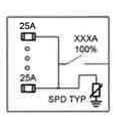
FUSED DISCONNECT

NON FUSED DISCONNECT

UTILITY TRANSFORMER

PAD MOUNTED STEP TRANSFORMER

PAD MOUNTED STEP TRANSFORMER



STRING COMBINER

RECLOSER POLE

CUSTOMER RECLOSER POLE

XX / XX,
XX / XX,
XX XX

TRACKER MOTOR

MV BUSHING

UNDERGROUND MEDIUM VOLTAGE

OHE EXISTING OVERHEAD CONDUCTORS

DC DC CONDUCTORS

AC AC CONDUCTORS

UNDERGROUND CONDUITS WITH AC CONDUCTORS

UNDERGROUND CONDUITS WITH DC CONDUCTORS

GENERAL NOTES:

1. GENERAL REQUIREMENTS:

1.1 THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES NOT INCLUDED IN THE B.O.M, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.

1.2 ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK:

1.3 THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.

1.4 ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.

1.5 THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.

1.6 CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS PROVIDED BY OTHER TRADES.

1.7 PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.

1.8 KEEP PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.

1.9 ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.

1.10 THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS, REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.

1.11 THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.

1.12 ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES. ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTORS EXPENSE.

1.13 BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY AQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.

1.14 THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.

1.15 UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.

1.16 UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

1.17 THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.

1.18 EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.

1.19 IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.

1.20 THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

1.21 DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLIMENT ONE ANOTHER, AND WHAT IS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.

1.22 ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIRMENTS.

1.23 ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.

1.24 THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING AND BACKFILL REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 30" BELOW FINISHED GRADE.

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817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
GENERAL NOTES AND SYMBOLS

DWG. NO.
G-1.00

GENERAL NOTES:

2. PROJECT COORDINATION:

2.1 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.

2.2 THE CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE DOCUMENTS OF ALL TRADES.

2.3 THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN THE OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK, IN CONJUNCTION WITH ALL TRADES. ALL WORK THAT MAY AFFECT OPERATION OF BUILDING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.

2.4 SHUT DOWN OF POWER SHALL BE COORDINATED WITH THE OWNER, ARCHITECT AND PROJECT MANAGER AT LEAST 14 WORKING DAYS PRIOR TO SHUT DOWN. SHUT DOWNS LONGER THAN 2 DAYS SHALL BE COORDINATED WITH THE ABOVE PERSONNEL AT LEAST ONE MONTH IN ADVANCE. TEMPORARY POWER FOR CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR FOR SHUT DOWNS OVER 2 DAYS.

2.5 ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.

2.6 EXACT LOCATIONS OF OUTLETS AND EQUIPMENT SHALL BE COORDINATED WITH ARCHITECTURAL AND MILLWORK PLANS. ALL OUTLET AND EQUIPMENT LAYOUTS SHALL BE VERIFIED AND COORDINATED WITH WORK OF OTHER TRADES.

2.7 PROVIDE TEMPORARY LIGHTING AND POWER IN ACCORDANCE WITH ARTICLE 305 OF THE NEC. TEMPORARY LIGHTING FIXTURES IN UNFINISHED AREAS SHALL REMAIN CONNECTED UNTIL REMOVAL IS REQUESTED BY THE CONTRACTOR.

2.8 THE CONTRACTOR SHALL CONTACT THE BUILDING MANAGER TO OBTAIN A COPY OF THE GENERAL REQUIREMENTS AND/OR CONDITIONS TO BE USED FOR THIS PROJECT.

3. PROTECTION OF WORK:

3.1 EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.

4. WARRANTIES:

4.1 ALL MATERIALS AND EQUIPMENT SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.

4.2 WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF 5 YEARS AFTER FINAL ACCEPTANCE BY OWNER

4.3 OBTAIN AND DELIVER TO THE OWNER'S REPRESENTATIVE ALL GUARANTEES AND CERTIFICATES OF COMPLIANCE.

5. PERMITS:

5.1 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.

6. RACEWAYS:

6.1 ALL CONDUIT SHALL BE MINIMUM SIZE OF 1/2" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE PVC. ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE SCH. 40 PVC. CHANGE TO SCH. 80 PVC CONDUIT BEFORE EXITING OUT OF UNDERGROUND SECTIONS. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.

6.2 ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.

6.3 CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES, SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.

6.4 ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.

6.5 ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.

6.6 ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED, UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.

6.7 ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY IN MECHANICAL ROOMS, BASEMENTS AND CRAWL SPACES MAY BE SURFACE MOUNTED.

6.8 FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1-1/4", AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1" AND SMALLER.

6.9 THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED FIRE RATED SEALANT. ALL PENETRATIONS THROUGH ALL WALLS AND FLOORS SHALL BE SEALED. FOR ALL SLAB PENETRATIONS THE METHOD, DEPTHS AND LOCATIONS SHALL BE PRE-APPROVED BY THE BUILDING ENGINEER PRIOR TO THE START OF WORK.

6.10 THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.

6.11 EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.

6.12 ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SEALANT.

6.13 ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY, SHALL BE MADE WITH FLEXIBLE LIQUID TIGHT METALLIC CONDUIT.

6.14 SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS IN METAL, BEAM CLAMPS IN FRAMEWORK AND WOOD SCREWS IN WOOD. NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO BUILDING LINES.

6.15 DO NOT RUN RACEWAYS CLOSER THAN 6 INCHES WHEN PARALLEL TO HOT WATER OR STEAM PIPES. WHEN CROSSING WATER OR STEAM PIPES CROSS A MINIMUM OF 3 INCHES ABOVE. IF CROSSING BELOW IS UNAVOIDABLE, PROVIDE DRIP SHIELDS EXTENDING 6 INCHES BEYOND THE WATER OR STEAMPIPE. BOXES INSTALLED IN PROXIMITY TO WATER OR STEAM PIPE SHALL BE RATED NEMA 4X.

7. BOXES:

7.1 INTERIOR JUNCTION BOXES SHALL BE SHEET STEEL. EXTERIOR JUNCTION BOXES SHALL BE NONMETALLIC, WITH SCREW COVERS. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS.

8. WIRING:

8.1 ALL WIRE SHALL BE MADE OF COPPER WITH INSOLATION SUITABLE FOR THE APPLICABLE ENVIROMENT AND VOLTAGE. CONTRACTOR SHALL GET APPROVAL FOR ANY OTHER WIRE TYPE.

8.2 UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.

8.3 ALL ELECTRICAL TERMINAL TEMPERATURE RATINGS ASSUMED TO BE 75° C UNLESS SITE CONDITIONS REQUIRE OTHERWISE.

8.4 WIRE SIZES SHALL BE INCREASED WHERE NECESSARY TO LIMIT AC VOLTAGE DROP TO 1.5% TOTAL FROM INVERTER TO POINT OF COMMON COUPLING

9. GROUNDING:

9.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250 AND 690, OF THE NEC, AND AS SPECIFIED HEREIN.

9.2 ALL BRANCH CIRCUITS AND FEEDERS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.

10. MECHANICAL SYSTEMS POWER:

10.1 DISCONNECT SWITCHES SHALL BE HEAVY DUTY, QUICK MAKE, QUICK BREAK TYPE, ENCLOSED IN A HEAVY SHEET METAL ENCLOSURE WITH HINGED INTERLOCKING COVER, IN PROPER NEMA RATED ENCLOSURES. FUSED OR NON-FUSED AS REQUIRED. DISCONNECT SWITCHES SHALL BE PROVIDED BY CONTRACTOR, EXCEPT AS NOTED ON DRAWINGS.

10.2 THE RATING FOR DISCONNECT SWITCHES SHALL BE THE SAME AS, OR GREATER THAN, THE PROTECTIVE DEVICE SERVING THE EQUIPMENT.

10.3 A STRUT FRAME SHALL BE PROVIDED AT ALL LOCATIONS WHERE STRUCTURE WILL NOT ADEQUATELY SUPPORT EQUIPMENT, OR FOR FREESTANDING EQUIPMENT.

11. PANEL BOARDS:

11.1 PANELBOARDS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT BREAKER TYPE UNLESS OTHERWISE NOTED. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 98% CONDUCTIVITY, AND SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48 IN. HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48 IN. HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED, 5-KNUCKLE STEEL WITH NONFRERROUS PINS, 180-DEG OPENING, LOCATED A MAXIMUM 26 IN. ON CENTERS. PROVIDE DOOR-IN-DOOR CONSTRUCTION. MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5- BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER.

11.2 PROVIDE A NEW TYPE WRITTEN CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THIS PROJECT.

11.3 WHEREVER POSSIBLE, PANELBOARDS SHALL BE RECESSED IN WALL. SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED ON A PLYWOOD BACKBOARD. PLYWOOD SHALL BE MOUNTED ON TOP OF GYMPSUM BOARD. PLYWOOD SHALL BE PAINTED ON ALL SIDES AND EDGES. COORDINATE WITH OWNER FOR COLOR.

11.4 PROVIDE LIGHTNING SURGE PROTECTION FOR MAIN SWITCHBOARD OR MAIN SERVICE PANEL BOARD. PROVIDE GROUNDING OF SURGE DEVICE PER THE NEC.

11.5 CONTRACTOR IS RESPONSIBLE FOR BALANCING LOADS ON ALL PHASES AND MAY ALTER ASSIGNMENT OF CIRCUITS FOR BALANCING PHASES.

11.6 CIRCUIT SCHEDULES ARE INTENDED TO REPRESENT THE GENERAL WIRING NEEDS OF THE EQUIPMENT SERVICED FROM THE PANEL. THE EXACT CIRCUIT ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND PANELS ACTUALLY FURNISHED.

12. IDENTIFICATION:

12.1 PROVIDE BLACK PHENOLIC IDENTIFICATION PLATES, WITH WHITE LETTERS ON ALL ELECTRICAL EQUIPMENT FURNISHED IN THIS CONTRACT. ATTACH WITH SUITABLE ADHESIVE.

12.2 INSTALL NAMEPLATES ON ALL MAJOR EQUIPMENT, INCLUDE STARTERS, TRANSFORMERS, PANELBOARDS, DISCONNECT SWITCHES AND OTHER ELECTRICAL BOXES AND CABINETS INSTALLED UNDER THIS CONTRACT.

12.3 APPLY CABLE/CONDUCTOR IDENTIFICATION MARKERS ON EACH CABLE AND CONDUCTOR IN EACH BOX, ENCLOSURE OR CABINET.

13. RECORD DRAWINGS:

13.1 THE CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS. THE APPROVAL OF SHOP DRAWINGS SHALL ONLY BE CONSTRUED TO APPLY TO THE GENERAL LAYOUT AND CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR THE COMPLIANCE WITH THE GENERAL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL RETAIN THE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

13.2 PROVIDE SHOP DRAWINGS FOR THE LIGHTING FIXTURES, PANEL BOARDS, CIRCUIT BREAKERS, WIRING DEVICES, FIRE ALARM DEVICES AND SEALS FOR FIRE AND WATER STOPPING.

13.3 DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A RECORD SET OF INSTALLATION PRINTS. HE SHALL NEATLY AND CLEARLY RECORD ON THESE PRINTS ALL DEVIATIONS FROM THE CONTRACT DRAWINGS IN SIZES, LOCATIONS AND DETAILS.

13.4 UPON PROJECT COMPLETION, THE CONTRACTOR SHALL COMPLETE THE MARK UP OF ALL PROJECT DRAWINGS TO RECORD INSTALLED CONDITIONS.

13.5 REPRODUCIBLE "RECORD" DRAWINGS PREPARED IN CAD FORMAT SHALL BE PROVIDED AS INSTALLED CONDITIONS OF THE WORK. A FULL SIZE PRINT OUT OF THE "RECORD" DRAWING FILE SHALL BE PROVIDED AFTER COMPLETION OF THE INSTALLATION.

13.6 UPON COMPLETION AND ACCEPTANCE OF WORK, THE CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE THE PROPER OPERATIONS AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

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SHEET TITLE
GENERAL NOTES
AND SYMBOLS

DWG. NO.
G-2.00

Parcels Owned by Michels Corporation are Outlined in Thick Red Lines

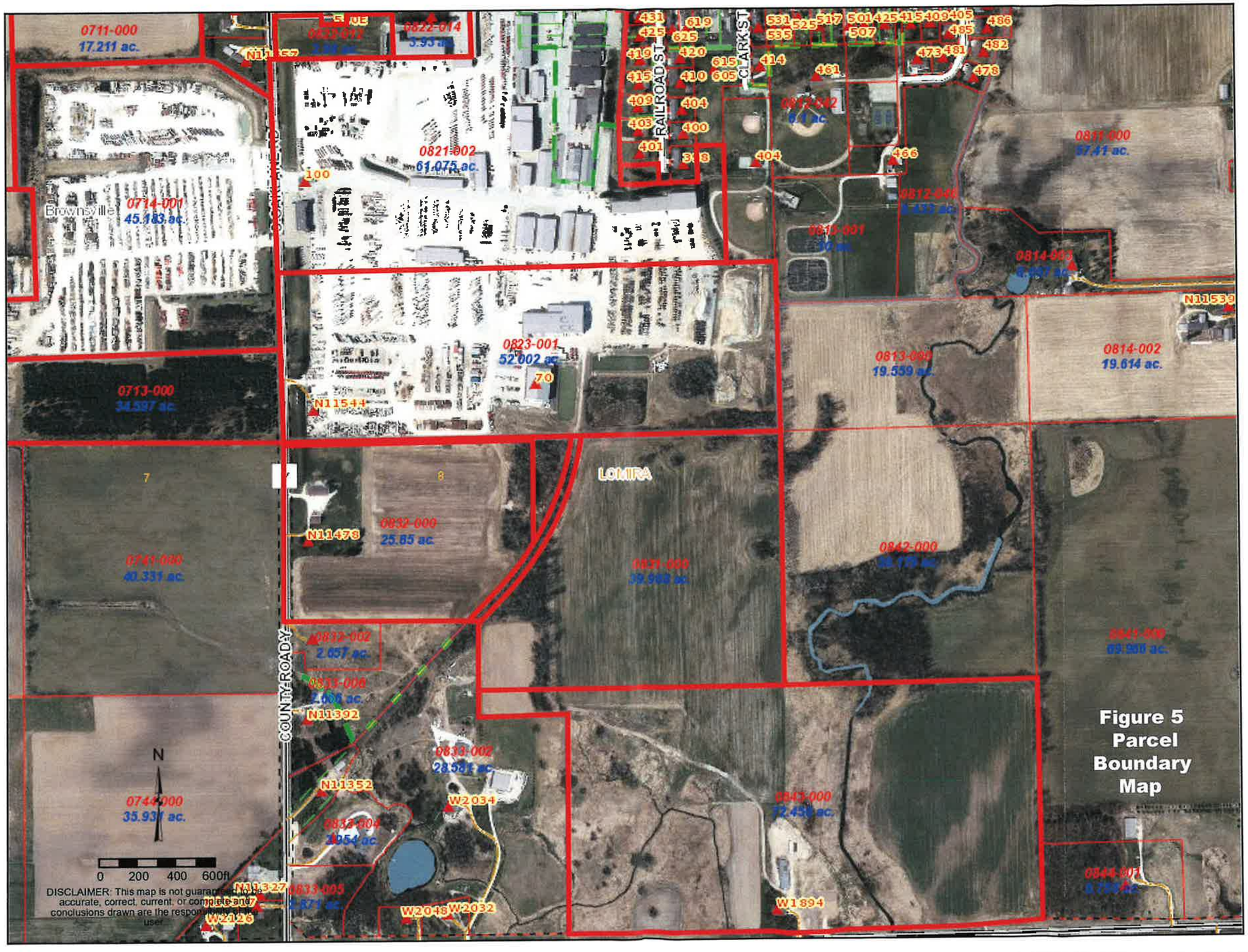


Figure 5 Parcel Boundary Map

September 29, 2022

Dodge County Land Resources & Parks Dept.
127 E. Oak Street
Juneau, WI 53039

Subject: **Dodge County Land Use Permit Application** - Michels Brownsville Solar Farm
Parcels #030-1317-0831-000 And #030-1317-083-1002 (Town of Lomira)
Mi-Tech Services, Inc. #12297

Dear Sir or Madam:

On behalf of our client (Michels Corporation), Mi-Tech Services, Inc. submits this *Land Use Permit Application* for the construction of a proposed solar farm at the Michels Corporation (Michels) property in Brownsville, Wisconsin. Included with this submittal is the *Dodge County Land Use Permit Application,* included with Attachment A and the *Storm Water Pollution Prevention Plan* (SWPPP) included as Attachment B.

Project Description

The project site is on parcels #030-1317-0831-000 and #030-1317-083-1002, and located directly south of the Michels Corporation yard, in the Town of Lomira, Dodge County. The parcels are landlocked with no access to nearby S. Oakland Road (CTH Y). The coordinates of the site are 43.608630 / -88.496780. The parcels are currently zoned A1 (Prime Agricultural). The proposed project encompasses approximately 1.56 acres and involves the installation of an access road from the Michels yard, 5 rows of solar panels, and a metering station.

Both project parcels are owned by Michels Corporation. The proposed project will be primarily on Parcel #030-1317-0831-000, which is currently leased for agricultural production; parcel #030-1317-083-1002 is a smaller, more narrow, and undeveloped/wooded parcel. Upon completion of the proposed solar farm, the remainder of parcel #030-1317-0831-000 will remain in agricultural production and the remainder of parcel #030-1317-083-1002 will remain undeveloped/wooded. The approximate dimensions of the solar panel project area are 294' X 138'; a 7'-8" woven-wire deer exclusion fence will be constructed around the perimeter of the solar farm. The solar farm and fence will be entirely on parcel #030-1317-0831-000.

Entrance to the solar farm is from a gated gravel access road, connecting to the adjacent Michels yard. The gravel access road will be constructed to connect the solar farm to the adjacent Michels yard, crossing both parcels. The gravel access road is 8,088 sq. ft. and thus the project does not exceed the 20,000 sq. ft. of Impervious surfaces threshold and therefore, no County stormwater management plan is required for this portion of the project. The project does require a WDNR Construction Site Stormwater Permit (> 1 acre ground disturbance). The WDNR permit will be applied for prior to construction.

An underground electrical line will connect the solar farm to an existing Michels building in the construction yard. No sanitary facilities are present within the project area and none are proposed for the solar farm project. No hazardous waste will be produced, used or stored on the site, and no lighting is planned.

Supporting Documentation

A review of Page 2 of the Land Use Application was completed. Mi-Tech determined that two of the nine items are applicable to this project. They include:

Item #7 – This project involves the grading and disturbing of more than 2,000 square feet of land. As such, Worksheet No. 6 (Erosion Control Supplemental Information) was completed and is included with the *Land Use Permit Application* in **Attachment A.** The *Storm Water Pollution Prevention Plan* (SWPPP) is included as **Attachment B.**

Item #9 – This project involves excavation and grading work. A County *Conditional Use Permit* (CUP) was submitted to Dodge County on September 22, 2022. In response, Mr. Joe Giebel, Code Administration Manager, indicated via email on September 26, 2022, that the CUP submittal was incomplete. On September 29, 2022, Mi-Tech submitted an Addendum to the CUP submittal with the requested information. A copy of the CUP and Addendum submittals will be provided upon request.

Permit Application Fee

On September 28, 2022, Mi-Tech submitted pages 1-2 of the Land Use Permit Application electronically to Ms. Karen Boyd, Dodge County, so that Ms. Boyd could generate an invoice for the permit application fee of $1,850.00. The fee will be paid directly to Dodge County from the Mi-Tech Services office in Fond du Lac, WI.

Closing

Should you have any questions or require additional information, please feel free to contact me at (715) 359-9400 ext. 5233 or via email at czelenka@mi-tech.us. Thank you for your review

Best Regards,
Mi-Tech Services, Inc.

Cindy Zelenka

Cindy Zelenka
Senior Environmental Specialist II

Attachments
Attachment A - Land Use Permit Application and Worksheet No. 6 Erosion Control Plan Contents
Attachment B – Storm Water Pollution Prevention Plan

cc: Mr. Robert Haugen - Michels Corporation
Mr. Mark Miller – Equix, Infrastructure, Inc.
Ms. Stephanie Finamore – Mi-Tech Services, Inc.

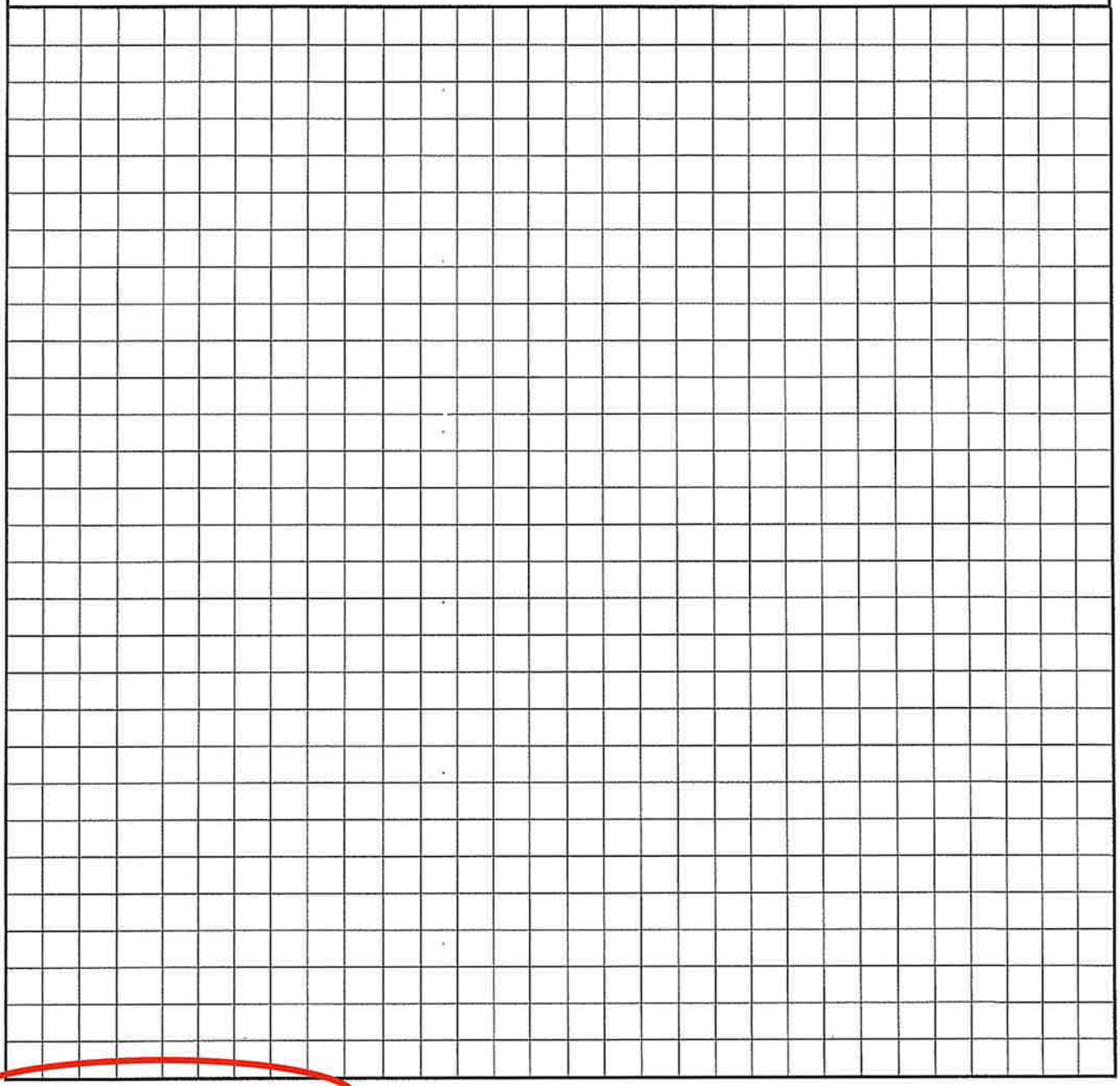
Attachment A

Land Use Permit Application

and

Worksheet No. 6

SITE PLAN (SKETCH)



☒ See Attached Site Plan (Sketch)

THIS AREA FOR OFFICE USE ONLY

BOA ID No.	BOA Appeal Date	BOA P/H Date	BOA Decision Date	BOA Decision
				☐ Approved ☐ Approved w/Conditions ☐ Denied

Notes/Stipulations:

☐ Approved ☐ Denied	**Land Resources and Parks Department**	**Date**

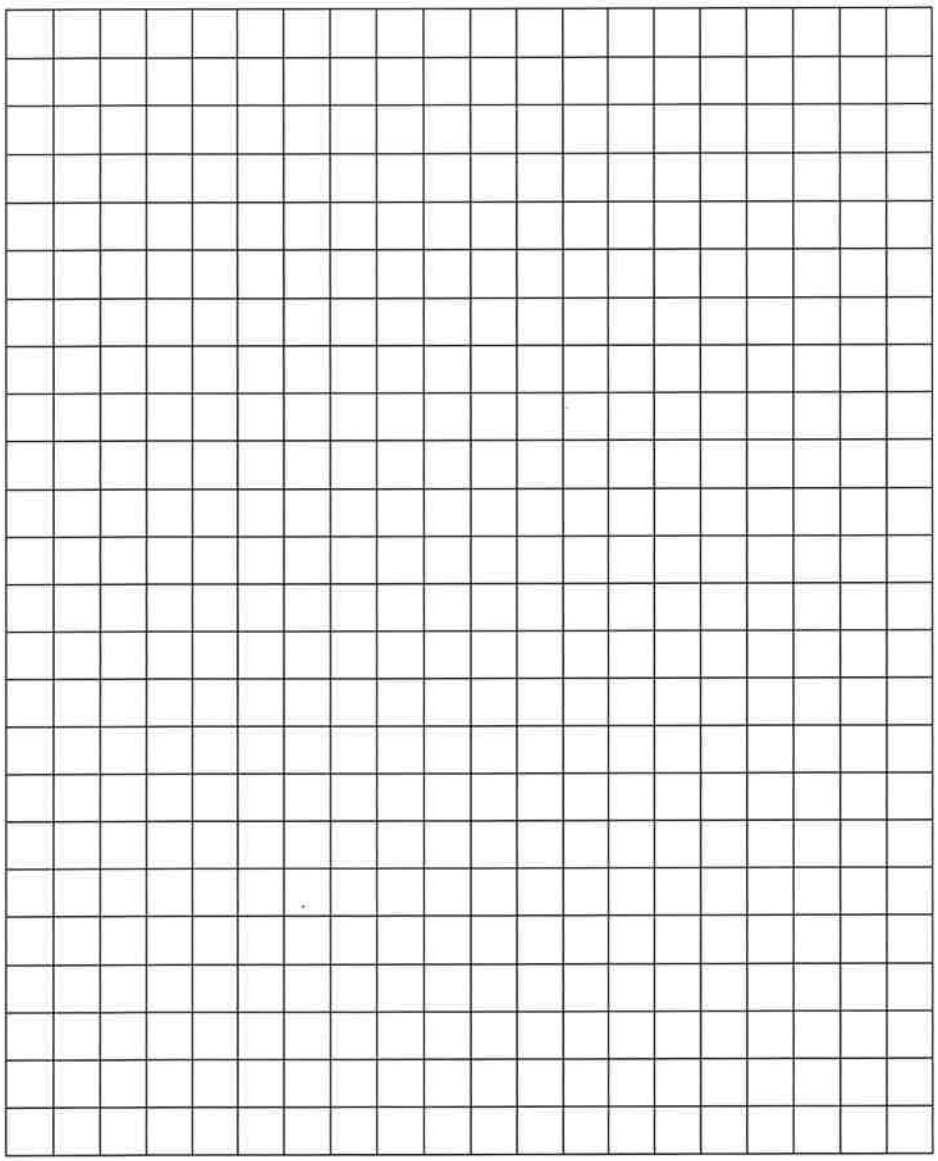
Please use only blue or black ink to complete the application and site plan (sketch) — **DO NOT USE PENCIL**

Worksheet No. 06
Erosion Control Plan Contents

According to Chapter 7 of the Dodge County Land Use Code, a soil erosion control plan needs to be submitted and approved prior to beginning construction or land disturbing activity of any kind in those areas where the soil erosion control provisions of the Land Use Code are enforced. This erosion control plan worksheet is provided to assist you in meeting this requirement.

Instructions:

1. Complete this plan by filling in the requested information, completing the site diagram and marking the appropriate boxes on the inside of this form. Give consideration to potential erosion that may occur before, during, and after grading.
2. Submit this erosion control plan along with the applicable Dodge County Land Use Permit application and the applicable fees to Dodge County Land Resources and Parks Department, Administration Building, 127 East Oak Street, Juneau, WI 53039 for review and approval.



EROSION CONTROL PLAN LEGEND

- Property Line
- Existing overland flow direction
- Existing Drainageways
- TD — Temporary Diversion
- Finished Drainageways
- Limits of Grading
- Silt Fences
- Straw Bales
- Gravel
- Vegetation Specification
- Tree Preservation
- Stockpiled Soil

Project Location: Parcel 030-1317-0831-000, Town of Lomira

Owner: Michels Corporation

Builder:

Work Sheet Completed by: Stephanie Finamore Mi-Tech Services, Inc. (agent) Date: 09/09/2022

Scale : 1" = _____.

N
(Indicate North)

EROSION CONTROL PLAN CONTENTS
Site Characteristics

Completed	Not Applicable	
		(Check the appropriate boxes below and complete the site diagram with necessary information.)
☑		Name, address, daytime phone number of the person(s) charged with installing and maintaining the best management practices of the code.
☑	☐	Scaled drawing of the site showing the following information:
☑		North arrow, scale and property boundary. Indicate the name of the adjacent street or roadway.
☑		Delineate the proposed land disturbance area.
☑		Location of existing and proposed buildings, roads, access drives, culverts, trees and other structures within 50 feet of the proposed land disturbance.
☑	☐	Location of existing ditches, drainageways, streams, rivers, lakes, wetlands or wells.
☑		The approximate steepness and direction of slopes before the proposed land disturbance and after the final grading.
☑		Overland runoff (sheet flow) coming onto the site from adjacent areas.

EROSION CONTROL PRACTICES TO BE USED

☑	☐	A Description and location of all temporary best management practices proposed to be used to minimize off-site impacts during the construction phase shall be included in the plan.
☑	☐	A Description and location of all temporary best management practices proposed to be used to stabilize the site within 3 days following construction.
☑	☐	Location of temporary soil storage piles *Note: Soil storage piles should be placed behind a sediment fence, a 10 foot wide vegetative strip, or should be covered with a tarp or should be located more than 25 feet from any downslope road or drainageway.*
☑		Location of gravel access drive(s). *Note: Gravel drive should have 2 to 3 inch aggregate stone laid at least 7 feet wide and 6 inches thick. Drives should extend from the roadway 50 feet or to the house foundation (whichever is less).*
☑	☐	Location of sediment controls (filter fabric fence, straw bale fence or 10-foot wide vegetative strips) that will prevent eroded soil from leaving the site.
☐	☑	Location of diversions. *Note: although not specifically required by code, it is recommended that concentrated flow (drainageways) be diverted (re-directed) around disturbed areas. Overland runoff (sheet flow) from adjacent areas greater than 10,000 square feet should also be diverted around disturbed areas.*
☐	☑	Location of practices that will be applied to control erosion on steep slopes (greater than 12% grade). *Note: Such practices include maintaining existing vegetation, placement of additional sediment fences, diversions, and re-vegetation by sodding or by seeding with use of erosion control mats.*
☐	☑	Location of practices that will control erosion in areas of concentrated runoff flow. *Note: Unstabilized drainageways, ditches, diversions, and inlets should be protected from erosion through use of such practices as in-channel fabric or straw bale barriers, erosion control mats, staked sod, and rock rip-rap. When used, a given in-channel barrier should not receive drainage from more than two acres of unpaved area, or one acre of paved area. In-channel practices should not be installed in perennial streams (streams with year-round flow.)*
☐	☑	Location of other planned practices not already noted.

Management Strategies

Planned	Not Planned	
		(Indicate management strategy by checking the appropriate box:)
☑	☐	Temporary stabilization of disturbed areas. Note: *It is recommended that disturbed areas and soil piles left inactive for extended periods of time be stabilized by seeding (between April 1st and September 15th), or by other cover, such as tarping or mulching.*
☑		Permanent stabilization of site by re-vegetation or other means as soon as possible (lawn establishment).
		Indicate re-vegetation method: Seed ☑ Sod ☐ Other ☐ _____
		Expected date of permanent re-vegetation: Summer 2023
		Re-vegetation responsibility of : Builder ☑ Owner / Buyer ☐
		Is temporary seeding or mulching planned if site is not seeded by September 15, or sodded by November 1? Yes ☑ No ☐
☐	☑	Use of downspout and / or sump pump outlet extensions. Note: *It is recommended that flow from downspouts and sump pump outlets be routed through plastic drainage pipe to stable areas such as sod or pavement.*
☐	☑	Trapping sediment during dewatering operations. Note: *Sediment-laden discharge water from pumping operations should be ponded behind a sediment barrier until most of the sediment settles out.*
☑		Proper disposal of building material waste so that pollutants and debris are not carried off-site by wind or water.
☑		**Maintenance of erosion control practices.** • Sediment will be removed from behind sediment fences and barriers before it reaches a depth that is equal to half the barrier's height. • Breaks and gaps in sediment fences and barriers will be repaired immediately. Decomposing straw bales will be replaced (typical bale life is three months). • All sediment that moves off-site due to construction activity will be cleaned up before the end of the next workday. • All sediment that moves off-site due to storm events will be cleaned up before the end of the next workday. • Gravel access drives will be maintained throughout construction. • All installed erosion control practices will be maintained until the disturbed areas they protect are stabilized.

FOR MORE INFORMATION
For more assistance on plan preparation and plan requirements, refer to Section 7.9 of the Dodge County Land Use Code, and the DNR Wisconsin Construction Site Best Management Technical Standards.

The Dodge County Land Use Code is available through the Dodge County Land Resources and Parks Department, Administration Building , 127 East Oak Street, Juneau, WI 53039, (920) 386-3700 and is available on the Dodge County Website: www.co.dodge.wi.us/landresources/

The DNR Wisconsin Construction Site Best Management Practice technical standards can be downloaded from the internet: dnr.wi.gov/runoff/stormwater

LOCAL ORDINANCES
Check with the town, city or village for any local erosion control ordinances including shoreland zoning requirements. In addition, check with the Department of Natural Resources for additional erosion control and stormwater management plan requirements that may be required at the state or federal level.

EROSION CONTROL REGULATIONS
Dodge County Land Use Code

CONSTRUCTION SITE EROSION CONTROL – Unless otherwise exempted or waived, erosion control plan approval under Chapter 7 of the County Land Use Code shall be required, and all construction site erosion control provisions of the Code shall apply to all land disturbing activity that meets any of the following criteria:

- Disturbs 2,000 square feet or more of total land surface area;
- Involves excavation or filling, or a combination of excavation and filling, in excess of 400 cubic yards of material;
- Disturbs 100 lineal feet of road ditch, grass waterway, or other land area where surface drainage flows in a defined channel;
- Involves excavation or filling, or a combination of excavation and filling, on slopes of 12 percent or greater; or
- Other land disturbing activities, including the installation of access drives, that the Committee determines to have a high risk of soil erosion or water pollution, or that may have a significant adverse impact on environmentally sensitive areas.

EXEMPTIONS - The following sites shall be exempt from the construction site erosion control provisions of the County Land Use Code:

- The construction of one- and two-family residential buildings on lots outside subdivisions, except those on slopes of 12 percent or greater, those sites with soil depths to bedrock of 60 inches or less, and on those sites with high water table;

Please note: Contact the town, city or village for the local erosion control ordinances that are in effect for all 1 and 2-family construction projects.

FILLING, GRADING LAGOONING OR DREDGING - In addition to the construction site erosion control regulations listed here, a County Conditional Use Permit is required for filling, grading, lagooning or dredging of any area which is within 300 feet horizontal distance of a navigable water body and which has surface drainage toward the water and on which there is:

- Filling of more than 500 feet of any wetland that is contiguous to the water;
- Filling or grading on slopes of 20 percent or more;
- Filling or grading of more than 1,000 square feet on slopes 12-20 percent or greater;
- Filling or grading of more than 2,000 square feet on slopes of 12% or less.

APPLICATION PROCESS – The following information shall be submitted to the County Land Use Administrator:

- A completed Land Use Permit or Shoreland Land Use Permit Application and Conditional Use Permit Application if required;
- The applicable fees;
- An erosion control plan in accordance with the Land Use Code requirements;
- The erosion control plan must show:
  1. Location of the dwelling, other buildings, wells, surface waters and disposal systems on the site with respect to the property lines;
  2. Direction of all slopes on the site;
  3. Location and type of erosion control measures.

MAINTENANCE

- Sediment controls must be maintained until the site is stabilized by mulching and seeding, sodding or landscaping;

FOR MORE INFORMATION

- Dodge County Land Resources and Parks Department, Administration Building, 127 East Oak Street, Juneau, WI 53039, (920) 386-3700

STORMWATER MANAGEMENT CONTROL PLAN - Unless otherwise exempted or waived, erosion control plan approval under Chapter 7 of the County Land Use Code shall be required, and all stormwater management provisions of the Code shall apply to all land development activity that meets any of the following criteria:

- Divides an existing parcel into 5 separate parcels of 5 acres each or less in total area within a common plan of development;
- Involves the construction of any new public or private roads;
- Results in the addition of impervious surfaces of 20,000 square feet or greater in total area, including smaller individual sites that are part of a common plan of development; or
- Other land development activities, including access drives, that the Land Use Administrator determines may significantly increase downstream runoff volumes, flooding, soil erosion, water pollution or property damage, or significantly impact an environmentally sensitive area.

If a stormwater management plan is required, contact Dodge County Land Resources and Parks Department for application requirements.

Attachment B

Storm Water Pollution Prevention Plan

(SWPPP)

STORM WATER POLLUTION PREVENTION PLAN

FOR THE

MICHELS - BROWNSVILLE SOLAR FARM

DODGE COUNTY, WI

September 2022

Prepared for:
Michels Corporation
PO Box 128
817 Main Street
Brownsville, WI 53006

Prepared by:
Mi-Tech Services, Inc.
Wausau, WI
Project # 12297

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Purpose

This document shall serve as the Storm Water Pollution Prevention Plan (the Plan) for the Michels Corporation Solar Farm project in Brownsville, Dodge County, Wisconsin. The proposed project encompasses approximately 1.56 acres and involves installation of an access road from the Michels yard, 5 rows of solar panels, and a metering station. A security fence will surround the utility for this unmanned facility. The proposed solar farm, once constructed, will be leased to WPS/WE Energies. See **Appendix A** for detailed maps depicting the site location and project area.

Mi-Tech Services is submitting this Plan to the State of Wisconsin to obtain storm water permit coverage. Once the permit is issued, a copy of the permit coverage letter will be available while construction is ongoing.

The object of this plan is to 1) review soil erosion and sedimentation control management practices; and 2) establish and implement the appropriate construction performance standards to minimize or limit the discharge of pollutants carried by storm water runoff in accordance with the State of Wisconsin Chapter NR 216.

The erosion control section describes temporary erosion control practices to be used during construction activities. Erosion control practices during construction will be installed, inspected, and maintained throughout the duration of the construction sequence. Erosion control measures will include, as applicable; slope erosion control devices (silt fence or straw wattle), inlet protection, ditch checks, seeding, mulching, and/or dust control. Regular inspections will occur throughout the duration of the construction sequence to ensure proper installation of erosion control devices is maintained.

2.0 EXISTING CONDITIONS

2.1 Location

The proposed project site is located in T13N, R17E, Section 8, Town of Lomira, Dodge County, Wisconsin on parcels #030-1317-0831-000 and #030-1317-083-1002 and is located directly south of the Michels Corporation yard at 817 Main Street in Brownsville (**Appendix A**). The coordinates of the site are 43.608630 / -88.496780; (43° 36' 31.8" N) (88° 29' 48.3" W).

2.2 Current Land Use

Michels Corporation is a large diverse construction and utility contractor with dozens of locations throughout North America. The corporate office is located on Main Street in Brownsville, WI where the company was started in the late 1950's. In addition to the corporate office, the Brownsville location also includes a large construction equipment and machinery yard. Michels currently owns numerous contiguous parcels in Brownsville including the two for the proposed solar farm project. The larger parcel for the proposed project is currently used for agricultural production; the second smaller parcel is a narrow strip of undeveloped/wooded land. Both parcels are zoned A1 (Prime Agricultural). Refer to **Appendix A** for project location maps and **Appendix B** for existing physical conditions.

2.3 Project Topography

The topography in the project area is gently rolling, with elevations ranging from 986 to 1002 feet above mean sea level (MSL). Elevation is highest at the central portion of the proposed project, and lowest in the southeastern area of the solar farm. See **Appendix B** for the Topographic Map.

The proposed project will involve grading of the site prior to the installation of the solar panels. The proposed elevations will range from 1000' near the northcentral portion of the project with gradual downward sloping to about 990' to the east/southeast and about 992' toward the west. The proposed slope for the project area will be an average of 3%. See **Appendix C** for proposed contours.

2.4 Project Soils

Soil Map Unit Distributions

According to the NRCS Soil Survey, the project encounters two soil units. K values of the soil units range from .32 to .43 and are moderately susceptible to sheet and rill erosion from water. See soils Information included in **Appendix B**, which includes a map of the soil series on the project site and a list of map units, along with their soil erodibility (K values) for the Revised Universal Soil Loss Equation Version 2 (RUSLE2).

Soil Unit	% of Project Area	K Value
Lamartine silt loam (LmB) 2 to 6 percent slopes	22.4%	Moderate (0.32)
LeRoy silt loam (LrC2) 6 to 12 percent slopes, eroded	77.6%	Moderate (0.43)

Note: The higher the K value the more susceptible the soil is to sheet and rill erosion from water

2.5 Floodplain

The project site is in Zone X, area of minimal chance of flood hazard.

3.0 PROJECT ACTIVITIES

3.1 Project Contacts

Project Owner: Michels Corporation	PO Box 128 817 Main Street Brownsville, WI 53006-0128 Attn: Robert Haugen, Managing Director of M&A and Private Capital Investments Phone: (920) 924-8764 Email: rhaugen@michels.us
Solar Farm Design: SunVest Solar, LLC	N27 W24025 Paul Court, Suite 100 Pewaukee, WI 53072 Attn: Roger Aranda Phone: (262) 547-1200 Email: raranda@sunvest.com

Site Design: Equix Infrastructure, Inc.	46 S. Rolling Meadows Drive. Fond du Lac, WI 54937 Attn: Mark Miller Phone: 920-924-3690 Email: mmiller@equixinc.com
Stormwater Design: Mi-Tech Services, Inc.	4901 Stewart Avenue Wausau, WI 54476 Attn: Stephanie Finamore, Sr. Environmental Scientist Phone: (715) 359-9400 Email: sfinamor@mi-tech.us

3.2 General Description of Project

The proposed project encompasses approximately 1.56 acres and involves the installation of an access road from the Michels yard, 5 rows of solar panels, and a metering station. The parcels are landlocked with no access to nearby S. Oakland Road (CTH Y).

Upon completion of the proposed solar farm, the remainder of parcel #030-1317-0831-000 will remain in agricultural production and the remainder of parcel #030-1317-083-1002 will remain undeveloped/wooded. The approximate dimensions of the solar panel project area are 294' X 138'; a 7'-8" woven-wire deer exclusion fence will be constructed around the perimeter of the solar farm. The solar farm and fence will be constructed entirely on parcel #030-1317-0831-000. Entrance to the solar farm is from a gated gravel access road, connecting to the adjacent Michels yard. The access road will cross both parcels #030-1317-0831-000 and #030-1317-083-1002. No lighting is proposed for the project. See **Appendix C** for the Proposed Project Plan Sheets.

3.3 Solar Power Explained

Solar energy involves the use of electromagnetic waves emitted from the sun. The waves are harnessed to generate clean, renewable energy which can provide power to homes and businesses. The process is not only efficient, reliable, and renewable, but is also eco-friendly since it does not produce greenhouse gas emissions or pollution which is typically generated from fossil fuels.

Solar Photovoltaic Systems (commonly called PV cells or solar cells) are the powerhouse behind a PV system. Each cell consists of two thin silicon sheets similar to a battery; one is positively charged and the other is negatively charged. An electrical current is produced when the two layers are joined and exposed to sunlight. A solar panel contains many of the "battery-like cells" to maximize the generation of electricity.

The Michels Brownsville Solar Farm Project will include the installation of ground-mounted photovoltaic (PV) solar panels that are interconnected. The panels will absorb sunlight rays which will activate the solar cells within the framed glass-backsheet constructed panels. It is there that photons (particles of energy), are converted into electrons. The electrons pass through the cells of the solar panel setting loose electrons in motion. The solar panels convert the sunlight to direct current (DC) electricity. An inverter will transform the electricity from direct current to alternating current (AC), which will be used to power the Michels plant and/or stored for future distribution and consumption.

3.3 Project Timeline

Site grading activities are scheduled to begin upon permit issuance, with construction and installation of the solar panels in Spring 2023; final restoration is expected by late summer 2023.

3.4 Area of Site Disturbance

The project area will encompass 1.56 acres across the two parcels. A total of approximately 105,263 square feet (2.42 acres) is expected to be disturbed. This calculation is based on the area within the limits of the silt fence.

No wetlands are waterways are present within the project boundary (**Appendix B**).

3.5 Construction Sequence

The following summarizes the main construction activities anticipated for this project:

A. Construct sediment control BMP's.

B. Install stabilized construction entrances.

C. Clear and grub as needed, strip and stockpile topsoil.

D. Grade project site.

E. Install project facilities (solar panel areas, access road, fence, etc.).

F. Place salvaged topsoil and seed.

G. Temporarily stabilize any disturbed areas as soon as possible, or if construction will halt for 14 days or longer.

H. Complete final stabilization (seed and mulch) within 5 calendar days after final grading or final earth change has been reached on any portion of the site.

I. Remove temporary erosion and sediment control BMP's when the site has reached final stabilization.

3.6 Nearest Receiving Waters

Following is a list of the waters of that may receive runoff from the Project:

- **Unnamed Stream** located ~900' east from project area **(Appendix B).**

Erosion control measures will be in-place to prevent construction erosion and runoff pollutants from leaving the site.

3.7 Impaired Waterways

There are no known impaired waterways associated with this project.

4.0 SOIL EROSION SEDIMENTATION CONTROL

The construction methods, sequencing, and scheduling activities described in this document were chosen specifically to minimize the amount and duration of disturbance to topsoil and existing vegetative cover. Erosion prevention and sediment control BMPs will supplement the construction practices to manage construction runoff. Natural regeneration of vegetation is expected to occur relatively rapidly in the project area due to the minimally invasive construction practices and the timing of installation. Sediment and erosion control BMPs used will be concentrated in and near environmentally sensitive areas such as streams.

The need for BMPs in non-environmentally sensitive areas is expected to be minimal as natural revegetation is anticipated; however, additional practices will be installed if problem areas are discovered during the construction site inspection. All sediment control measures will be in-place prior to any installation operations and will be maintained until the revegetation of the disturbed area is complete.

The goals of BMP implementation are to:

A. Prevent or minimize soil movement from the project route into wetlands, streams, culverts, storm-water inlets, road side ditches, neighboring properties, and public roadways.

B. Reach "Final Stabilization" as quickly as possible. Final stabilization has been reached when soil-disturbing activities have been completed and a uniform vegetative cover with a density of 70 percent or greater has been established.

A list of the BMPs and initial quantities is provided below. Initial BMP locations are illustrated on the sediment and erosion control drawings in **Appendix D**.

BEST MANAGEMENT PRACTICES		
Category	**BMP**	**WDNR Technical Standard**
Temporary Erosion Control	• Limit Disturbance • Temporary Seeding	1059
Temporary Sediment Control	• Silt Fence	1056
Permanent Erosion Control	• Re-vegetation (grass) – entire project area • Mulch – as needed • Erosion Mat – as needed	1059 1058 1052
Permanent Sediment Control	• None proposed	
Pollution Prevention Practices	• Preventive Maintenance – throughout construction • Petroleum Project Storage and Handling – throughout construction • Spill Prevention and Response – throughout construction	

4.1 Construction Site Soil Loss and Sediment Discharge Calculation

Calculations are attached and are included in **Appendix C.**

4.2 Erosion Control

Seed and Mulch:

A. Stabilization shall be actively implemented as soon as possible after construction and final grading in areas where erosion and/or sediment transport is likely, such as steep slopes, highly erosive soils, within 50 feet of waterbodies or wetlands, etc.

B. When land disturbance has temporarily ceased, and will not resume for 14 days or more, all exposed soils shall be stabilized as soon as possible.

C. All exposed soil areas located in the normal wetted perimeter of a ditch or swale shall be stabilized within 24 hours of inactivity within 200' of downstream waterways. If culverts are present, the inlet shall be protected with ditch checks such as filter logs.

D. Final stabilization shall commence when land disturbance ceases and final grade has been reached on any portion of the site. Finished portions of the site shall be stabilized within 5 calendar days after final grading or final earth change has been reached.

E. Type 1 Hydro mulch or erosion mat to be used in areas that are permanent seeded.

4.3 Sediment Control

Construction Entrance/Exit:

Stabilized temporary construction access points will not be necessary for this project.

Culverts and Ditches:

No culverts or ditches are present in the vicinity of the project.

Stockpile Protection:

Any soil or dirt storage piles containing more than 10 cu. yds. of material should not be located with a down slope drainage length of less than 25' to a roadway or drainage channel. If remaining for 14 days or more, the piles shall be stabilized by mulching, vegetative cover, tarps, or other means. Erosion from piles which will be in existence for less than 14 days shall be controlled by placing straw bales or silt fence barriers around the pile.

Dewatering Activities:

No dewatering activities are anticipated for this project.

Silt Fence Installation:

Silt fencing shall be installed along the contour to capture overland, low-velocity, sheet flow down-gradient of all exposed soils, and prior to discharge to surface waters. WDNR Technical Standard 1056 shall be followed.

5.0 PREVENTIVE MAINTENANCE

All equipment shall be maintained according to manufacturer's specifications. The following provides a general description of equipment maintenance and repair activities, and/or polices, which will occur at Contractor's project yard.

A. Engines and gearboxes will be inspected and fully serviced as needed to eliminate leaking seals, fuel lines, and gaskets. Leaks that develop during operation will be contained by drip pans, absorbents, or other acceptable means, until company maintenance personnel repair the problem. In cases where continued operation may cause uncontainable fluid losses, the equipment will be removed from service until the problem is corrected.

B. Vehicles and equipment will be inspected regularly for leaking fluids such as oil, antifreeze, etc.

C. Engine oil changes may only be completed at the project's construction yard. Maintenance is completed with adequate containment pans and absorbent material to provide for drips and spills associated with maintenance operations. Used oil will be stored in drums with sealed lids and properly managed.

D. No equipment will be washed on the project site. Washing of equipment will be done at a commercial car or truck wash site with proper water management.

E. Engine degreasing is not permitted along the project route.

5.1 Petroleum Product Storage and Handling

A. Stationary fuel tanks will be restricted to the Contractor's project yard. Secondary containment dike or double walled tanks will be provided.

B. Tanks and hoses will be inspected prior to fueling for integrity and any problems will be immediately corrected.

C. All fuel transfers will be supervised by a qualified, trained employee; under no circumstances will fuel transfers be left unattended.

D. A spill kit will be present within 25 feet of the tank(s), and on all trucks with truck mounted "slip tanks" and off-road equipment.

E. Lubricants and grease will be stored inside job trailers.

5.2 Spill Prevention and Response

A spill is the release of any substance into the environment, (including sediment-laden water and petroleum products) which "poses a potential hazard to human health or the environment because of its quantity, concentration or physical, chemical characteristics."

Spill and leaks will be immediately controlled, contained, and cleaned up. Operations are immediately shut down when necessary to redirect proper resources and manpower in spill response. Contractor's spill response procedures are then implemented. An abbreviated summary of this spill response procedure is below:

A. Protect yourself and others if there is a safety risk.

B. If you are able, control the spill and stop the leak.

C. If you are able, contain the spill and prevent it from spreading.

D. Isolate the spill material.

E. Contact your immediate supervisor to report the incident.

F. Clean up the spill and ensure all proper agency reporting is completed.

5.3 Waste Management

Solid waste generated in the project site may include employee generated waste from lunches, wood pallets, banding and packaging for materials delivered to the project site and other miscellaneous packaging or waste materials. All debris and waste will be removed from the site daily and transported to the construction yard for proper segregation and placed into appropriate dumpsters and/or recycling containers.

5.4 Dewatering

Dewatering is not expected for this project. Should dewatering become necessary, the contractor will construct and maintain all dewatering BMPs necessary to avoid impacts and nuisance conditions to downstream wetlands and water bodies. Dewatering directly into wetlands or streams is not permitted. One or more of the following may be implemented:

A. Pump water to a well vegetated upland a sufficient distance from a wetland or stream

B. Geotextile filter bag

C. Straw bale dewatering structure

5.5 Dust Control

Vehicle speed will be limited to minimize dust at the project site. The need for dust controls in the project area is not anticipated due to the slow-moving nature of the equipment.

6.0 RESTORATION AND STABILIZATION SCHEDULE

Natural regeneration of the vegetation is expected to occur rapidly; however, dormant seeding, and erosion matting may be used to allow for germination as soon as possible after project completion. If compaction appears to be a problem, the soil surface may be roughened by Harley rakes, discs, or other methods in an effort to improve soil to seed contact in select areas.

The temporary BMPs surrounding the disturbed area will be maintained until 70% or greater vegetative cover is established. If the disturbed area has not achieved 70% vegetation before the end of the growing season, the contractor may implement additional stabilization practices. The disturbed soils shall be returned to pre-construction conditions. Ditches, wetlands and other areas will be seeded with a location-appropriate seed mixture. The location may be stabilized with the seed mixture for specific areas of the project.

7.0 EROSION CONTROL INSPECTION AND MAINTENANCE

The contractor or owner's designated representative shall inspect the project locations in accordance with the State of Wisconsin's regulations. Inspections shall be conducted at least once per week during the time construction or maintenance activity is being pursued on the project locations, and at all of the following times:

A. Within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24–hour period, or that results in any discharge.

B. At each stage, as new portions of the project route are disturbed, required additional erosion control practices shall be implemented.

C. Upon completion of installation of permanent best management practices.

D. At the completion of the project. The inspection to be performed at the completion of the project shall be made before the Owner provides the prime contractor with written notice of final acceptance of the project.

E. Contractor shall correct any deficiencies immediately (within 24 hours of rainfall event) and maintain erosion control measures as needed to correct inadequacies of erosion control system. Contractor shall stage or phase the work in a method to cover disturbed areas in a timely manner prior to continuing subsequent work.

F. Inspectors shall document each inspection on the Construction Site Inspection Report form. The inspection report is considered a part of the project. See Appendix E for a copy of the Construction Site Inspection Form.

G. The designated inspector shall be allowed access to the work area for the purpose of inspecting compliance with erosion and sediment control plan, or for performing any work necessary to bring the location into compliance with the erosion control plan. The Contractor shall keep a copy of the erosion control plan on-site throughout construction.

8.0 CHANGES

This Plan will be amended as necessary to include additional requirements, such as supplemental or modified BMPs, designed to correct problems identified, or to address the following situations:

A. A change in design, construction, operation, maintenance, weather, or seasonal conditions that has a significant effect on the discharge of pollutants to surface waters or ground water.

B. Inspections or investigations by site operators or local, state, or federal officials, that indicate this Plan is not effective in eliminating or significantly minimizing the discharge of pollutants to surface water or ground water, or that the discharges are causing water quality standard exceedances.

C. It is determined that this Plan is not achieving the general objectives of minimizing pollutants in storm water discharges associated with construction activity, or this Plan is not consistent with the terms and conditions of the permit.

D. The State of Wisconsin may determine (and notify in writing) that the project's storm water discharges may cause, have reasonable potential to cause, or contribute to, non-attainment of any applicable water quality standard, or that the Plan does not incorporate the applicable requirements for discharges to protective waters. In response, a supplemental BMP action plan, or appropriate Plan amendments describing Plan modifications to address the identified concerns, will be prepared and implemented.

9.0 PROJECT COMPLETION

9.1 Final Stabilization

The Permittee(s) must ensure Final Stabilization of the site prior to terminating storm water permit coverage OR have the permit transferred to another entity. Final stabilization includes completion of all the following:

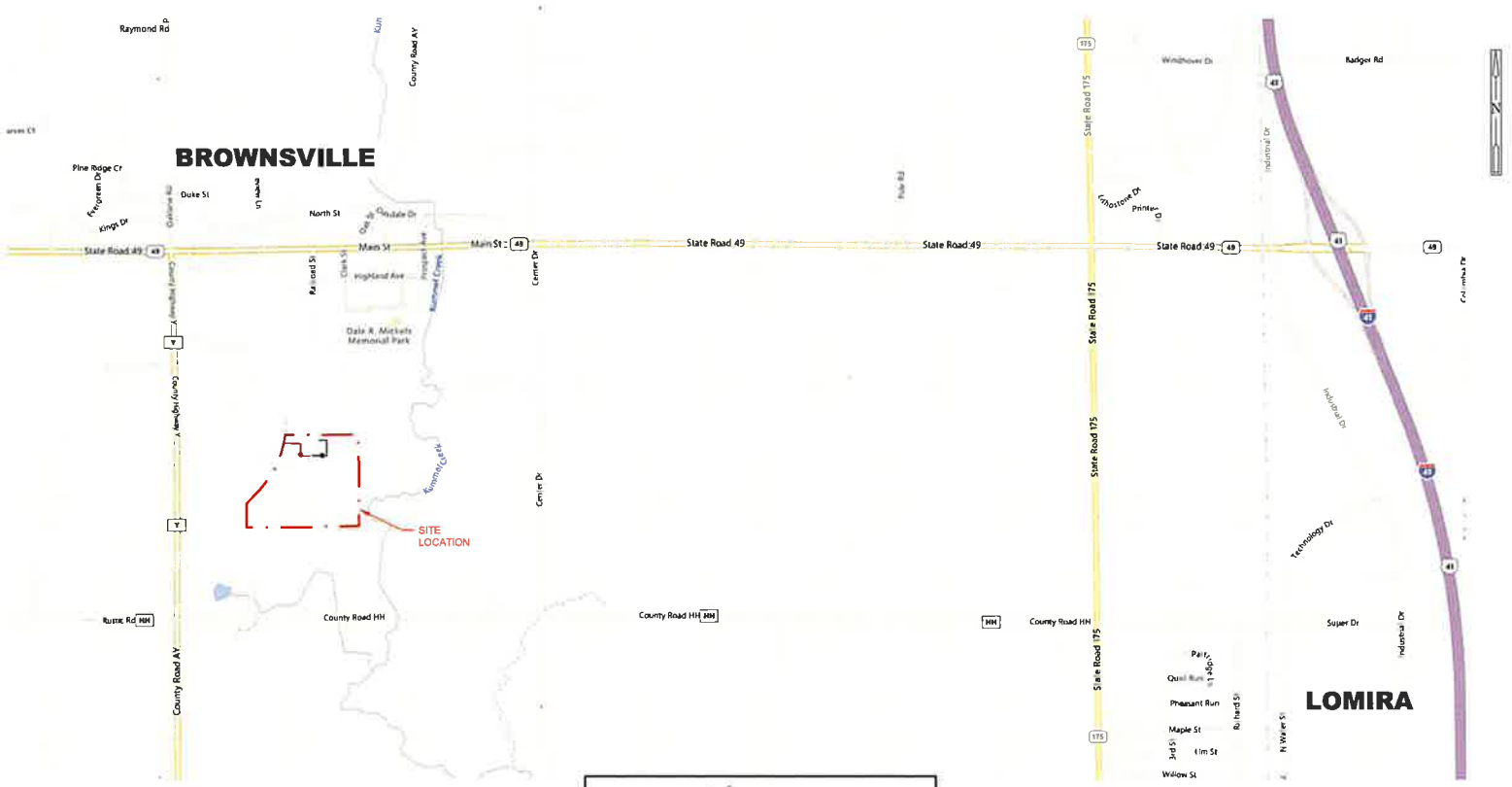
A. All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70% over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.

B. Temporary synthetic and structural erosion prevention and sediment control BMPs (such as silt fence) have been removed. BMPs designed to decompose on site (such as some compost logs) may be left in place (if acceptable to the landowner).

Additional final stabilization considerations are included in the permit, however only those applicable to this utility construction project are summarized above.

APPENDIX A

Project Location and Layout Maps



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Wausau, WI 54401
(715) 359-9400
www.mi-tech.us

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EQUIX

LIGHTHOUSE SOLAR

PROJECT:	MICKELS SOLAR FARM BROWNSVILLE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

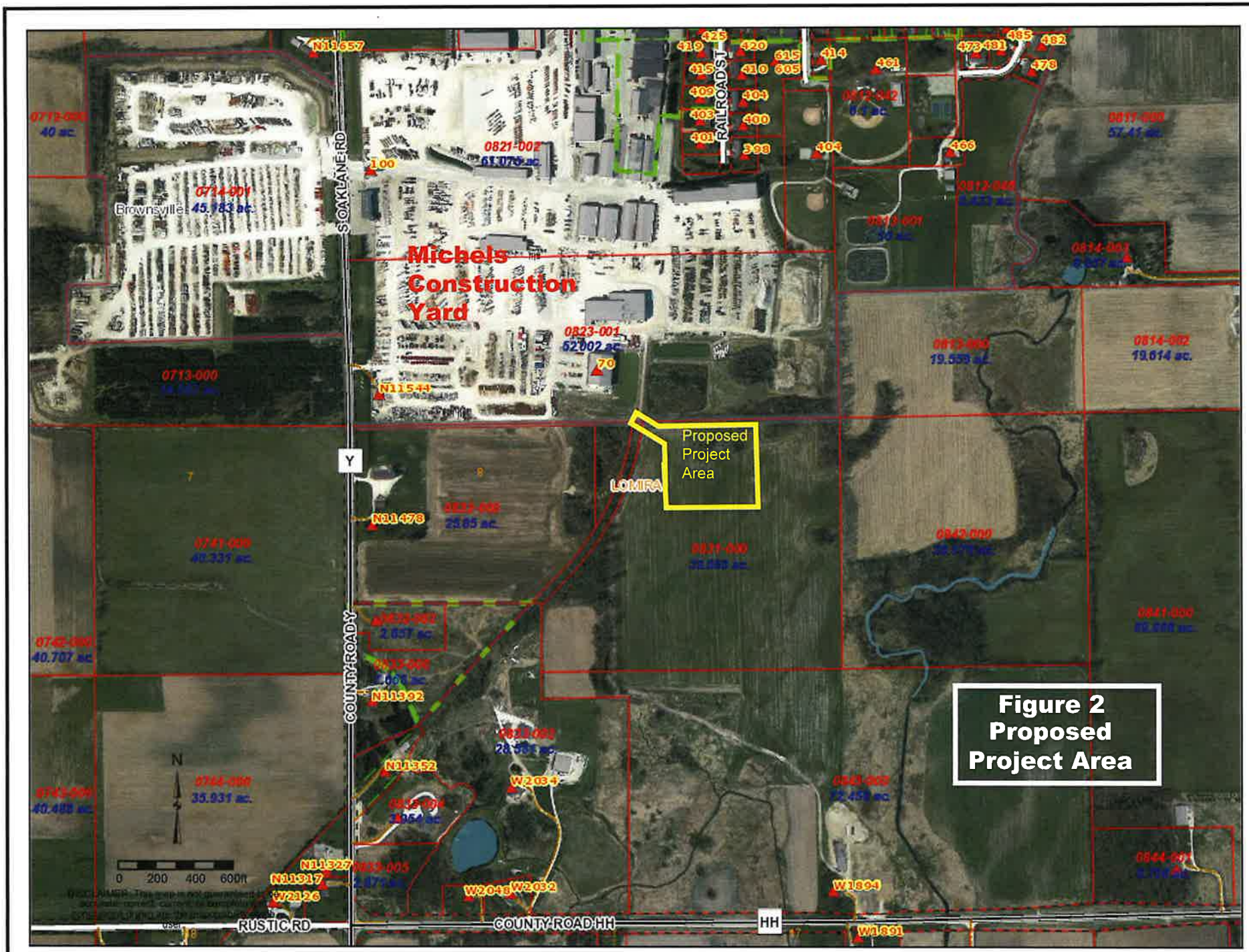
REV	DATE	DESCRIPTION

SHEET TITLE

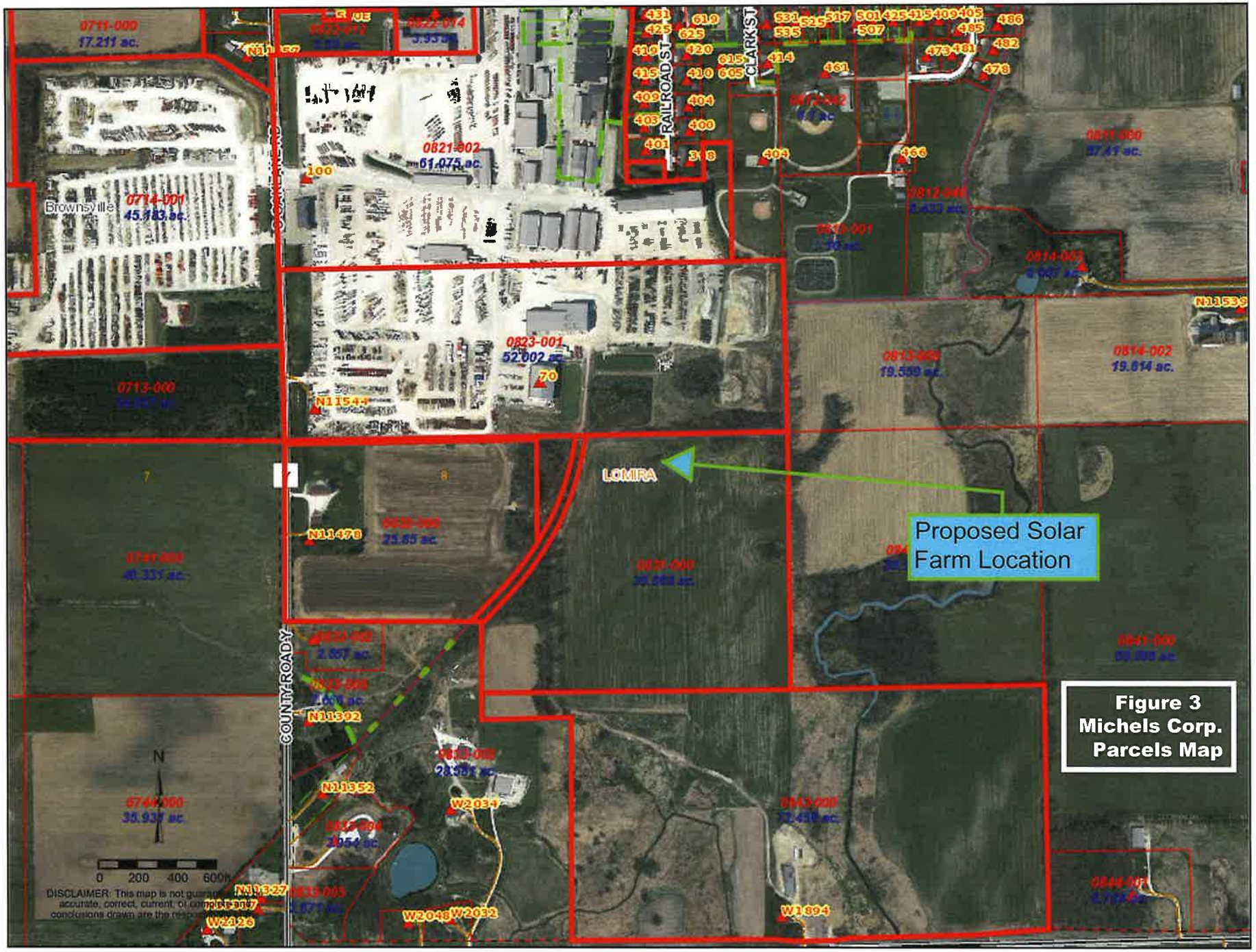
SITE LOCATION MAP

SHEET NUMBER

FIGURE 1


Michels Construction Yard
Proposed Project Area
LOMRA
S OAK LANE RD
RAILROAD ST
COUNTY ROAD Y
COUNTY ROAD HH
RUSTIC RD
Y
HH
Brownsville
N
0 200 400 600ft
Figure 2
Proposed
Project Area

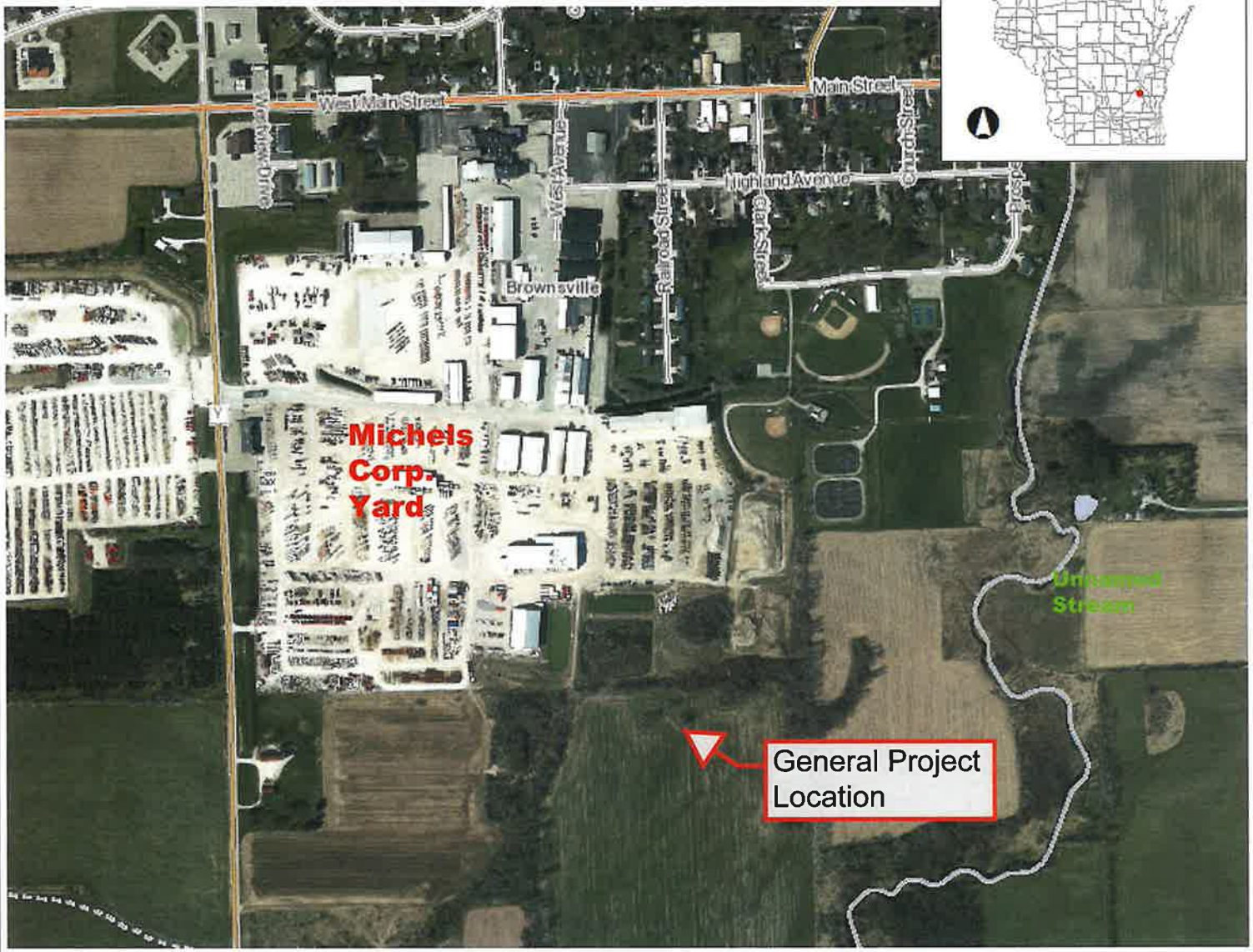
Parcels Owned by Michels Corporation are Outlined in Thick Red Lines



APPENDIX B

Existing Conditions

Michels Brownsville Solar Farm Location



Legend

- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- Index to EN_Image_Basemap_Leaf_Off

Existing Conditions

Notes

Unnamed Stream Located East of Project Area

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920

K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
LmB	Lamartine silt loam, 2 to 6 percent slopes	.32	0.4	22.4%
LrC2	LeRoy silt loam, 6 to 12 percent slopes, eroded	.43	1.4	77.6%
Totals for Area of Interest			**1.8**	**100.0%**

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.

Rating Options

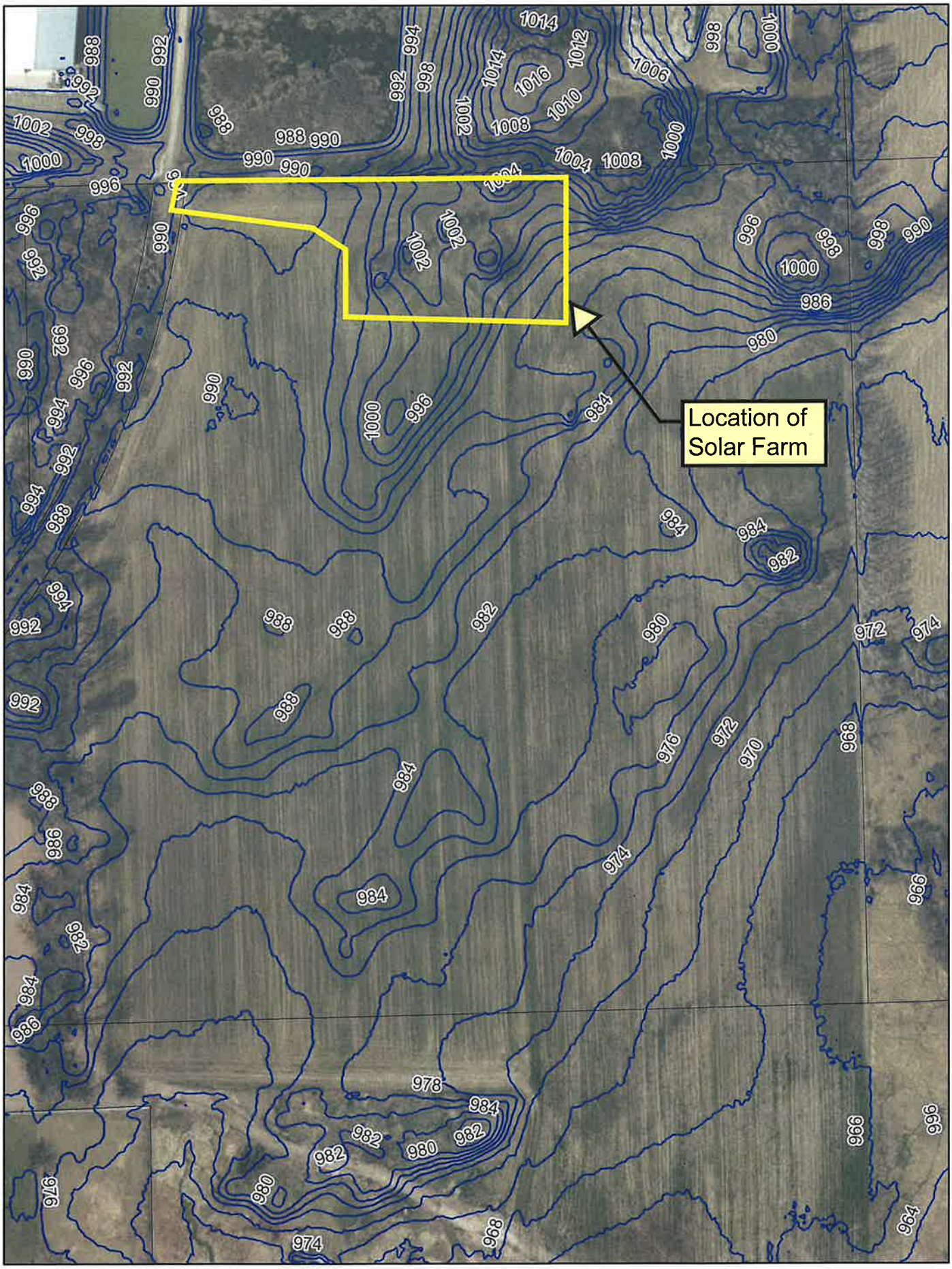
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

Michels Brownsville Solar Farm - Topographic Map



Brownsville Solar Farm 2 Ft Contours

Soil Map—Dodge County, Wisconsin
(NRCS Soil Survey - Michels Brownsville Solar Farm)

Map Scale: 1:908 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N 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 1:15,800.

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: Dodge County, Wisconsin
Survey Area Data: Version 18, Sep 7, 2021

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

Date(s) aerial images were photographed: May 20, 2020—Sep 15, 2020

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
LmB	Lamartine silt loam, 2 to 6 percent slopes	0.4	22.4%
LrC2	LeRoy silt loam, 6 to 12 percent slopes, eroded	1.4	77.6%
Totals for Area of Interest		**1.8**	**100.0%**

From: Radermacher, Geri M - DNR
To: Stephanie Finamore
Subject: FW: Request for Wetland Consultation - Michels Brownsville Solar Site, Dodge County (new site)
Date: Monday, September 26, 2022 5:49:52 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image006.png
image007.png
image008.png
image009.png
image010.png
Michels Corp_REV6.pdf
WDNR SWDV.pdf
Historical Aerial Review of Hydric Soil Area.pdf

Hi Stephanie,

Thank you for providing the updated wetland consultation request for the proposed Michels Brownsville Solar Project in Dodge County. The Office of Energy previously provided wetland consultation for the project on July 8, 2022. The updated request includes a modified project area (moved to adjacent parcel to east of original request). I reviewed the updated request and agree it accurately evaluated for the presence of wetland for the purpose of this project and wetland in not present within the modified project area. Please upload this email and attachments with any WDNR permit application submittals as proof of wetland consultation. Please keep in mind all waterways mapped in the WDNR 24K hydro layer and any additional waterways field located are considered navigable unless determined non-navigable by the WDNR through a navigability determination.

Please note this determination did not include a review for approvals or permits needed for:

- Cultural/archaeological/historical resources,
- state threatened or endangered species,
- state stormwater/erosion control permitting,
- state wastewater permitting,
- state water use permitting, or
- easements needed for crossing of WDNR property (state lands, state trails, etc.)
- resource identification, approvals, permits, or authorizations needed from tribal entities for work within tribal reservation boundaries
-

As stated in my previous wetland consultation email, the WDNR Office of Energy requires further site documentation to demonstrate that wetlands are not present within projects proposing permanent fill. Further documentation to support an upland determination may include documentation of an aerial imagery review with findings and Google Street View Imagery or clearly labeled site photographs. This Michels Brownsville Solar Farm consultation request included the historical aerial review which sufficiently supported the upland determination, however site visit confirmation is preferred and may be required for future projects.

Thanks,

~Geri

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Geri Radermacher
Energy Project Liaison
Office of Energy- https://dnr.wisconsin.gov/topic/Sectors/UtilityPermitting.html
Wisconsin Department of Natural Resources

141 NW Barstow Room 180
Waukesha WI 53188
Cell Phone: (262) 239-0994
geri.radermacher@wi.gov


dnr.wi.gov

From: Stephanie Finamore <sfinamor@mi-tech.us>
Sent: Monday, September 12, 2022 3:27 PM
To: Radermacher, Geri M - DNR <Geri.Radermacher@wisconsin.gov>
Subject: Request for Wetland Consultation - Michels Brownsville Solar Site, Dodge County (new site)

Good afternoon Geri –

You provided me with a wetland consultation for a proposed solar farm project in Brownsville (Dodge County) back in July. The proposed project has moved over to the adjacent parcel to the east, and so I am seeking a revised consultation please.

The new site is still located directly south of the Michels Corporation yard, in the City of Brownsville, Dodge County, but is directly east of the other parcel. This parcel is landlocked, and access is from the yard. The coordinates of the site are 43.608616 / -88.493338. The preliminary site plan is attached.

The proposed project involves installation of an access road from the Michels yard, 4.5 rows of solar panels, and a metering station. A security fence will surround the utility. This proposed solar farm, once constructed, will be leased to WPS/WE Energies; the energy generated will be utilized for public consumption.

The site is currently in agricultural production. Based on review of the SWDV (see

attached), there are no mapped wetlands within the project boundary. There is an area of wetland indicator soils along the west side of the parcel, part of the Lamartine silt loam unit (LmB). Based on a review of current and historical aerial photos on Google Earth, there are no signs of wetness, stunted/stressed vegetation, etc. visible anywhere within the project site (including the area of wetland indicator soils). It is our interpretation that the project will not result in impacts to wetlands.

A Stormwater Construction General Permit will be required for construction of the site, and thus we are requesting a wetland consultation/review for this project.

Please let me know if you have any questions or need any additional information.

Thank you for your review.

-Stephanie

Stephanie Finamore
Environmental Manager/Sr. Environmental Scientist II
Mi-Tech Services, Inc.
4901 Stewart Ave
Wausau, WI 54401
Direct: 715.359.9400 x5232
Mobile: 920.621.8417
Email: sfinamor@mi-tech.us
www.mi-tech.us

mi-TECH
an EQUIX company

APPENDIX C

Proposed Project Plans

SCALE IN FEET
0 100 200

LEGEND
- ADJACENT PARCEL LINE
- SITE PARCEL LINE
- PROPOSED SECURITY FENCE

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Wausau, WI 54401
(715) 359-9400
www.mi-tech.us

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EQUIX

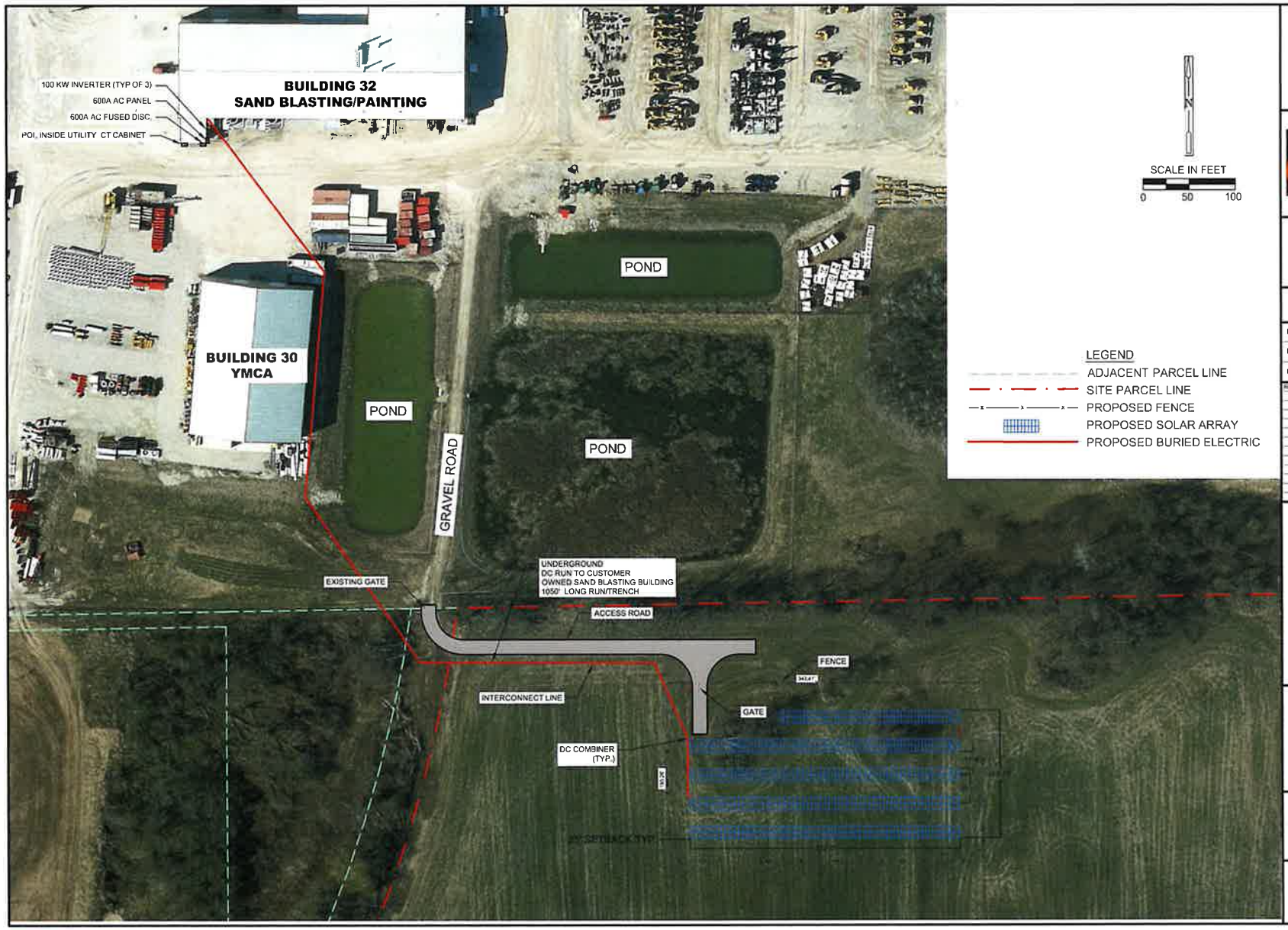
LIGHTHOUSE SOLAR

PROJECT:	MICHELS SOLAR FARM BROWNSVILLE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

REV	DATE	DESCRIPTION

SHEET TITLE
SITE MAP

SHEET NUMBER
FIGURE 1



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(715) 359-9400
www.mi-tech.us

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EQUIX

LIGHTHOUSE SOLAR

PROJECT:	WISCONSIN SOLAR FARM INDEPENDENCE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

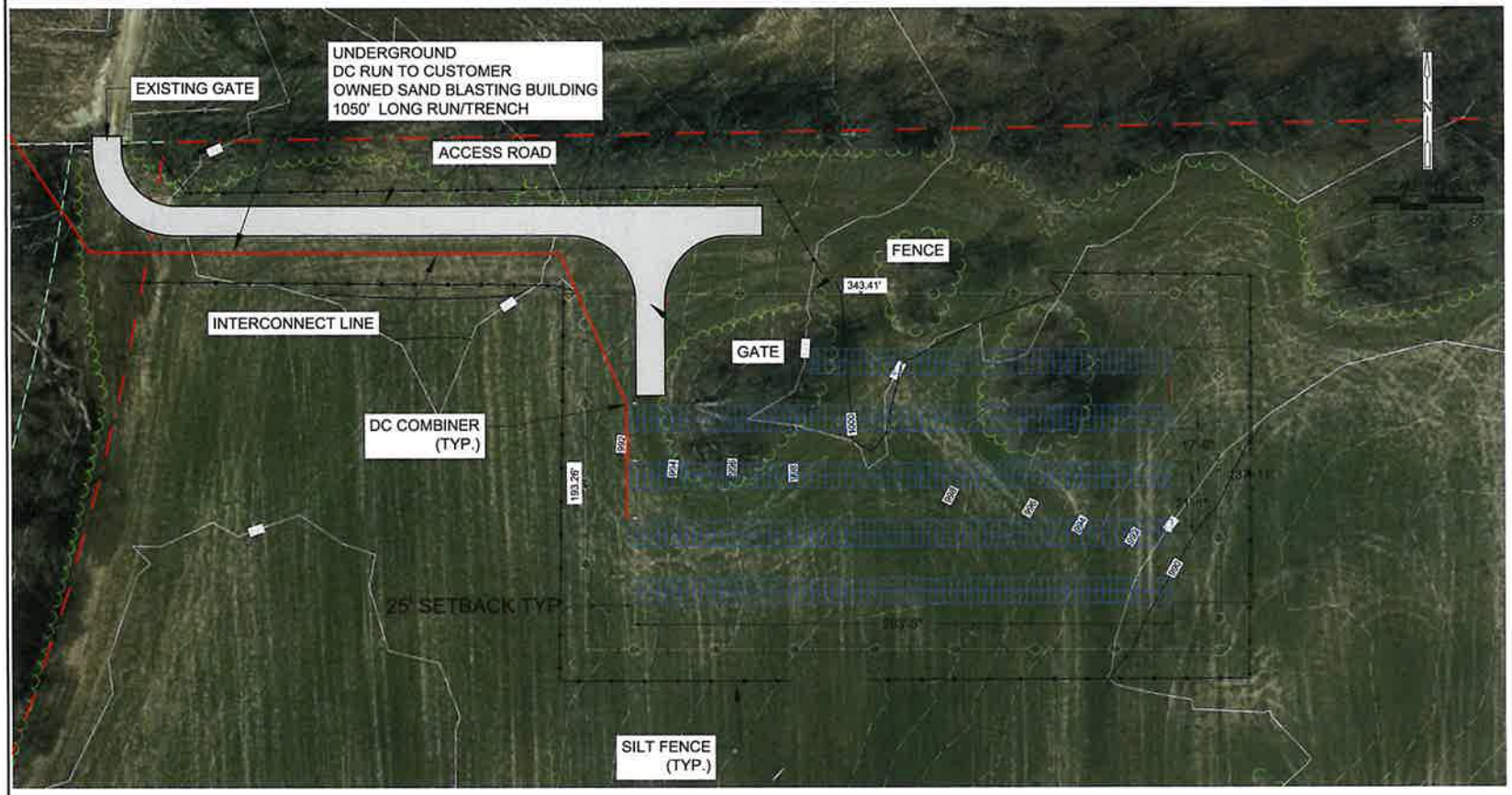
REV	DATE	DESCRIPTION

SHEET TITLE

CONSTRUCTION PLAN

SHEET NUMBER

FIGURE 2



LEGEND

- EXISTING CONTOUR LINE
- PARCEL LINE
- PROPOSED CONTOUR LINE
- PROPOSED FENCE
- PROPOSED SOLAR ARRAY
- PROPOSED BURIED ELECTRIC
- PROPOSED SILT FENCE

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EQUIX

LIGHTHOUSE SOLAR

PROJECT:	MICHELS SOLAR FARM BROWNSVILLE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

REV	DATE	DESCRIPTION

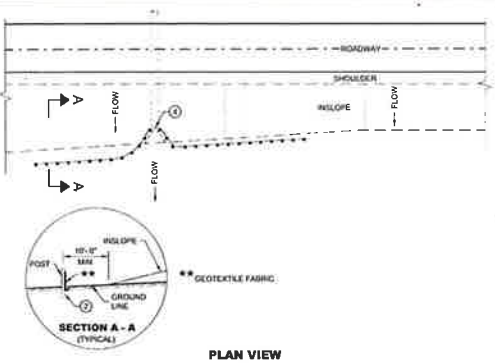
SHEET TITLE

EROSION CONTROL PLAN

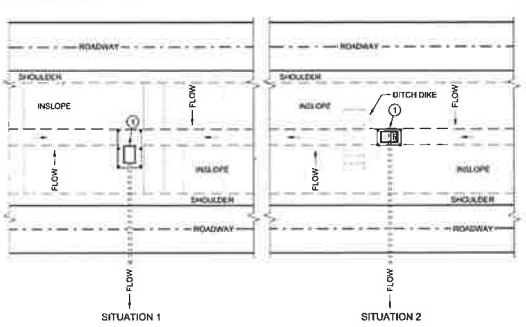
SHEET NUMBER

Figure 3

SDD 08E09 Silt Fence



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

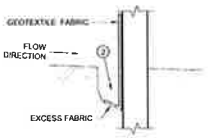


PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

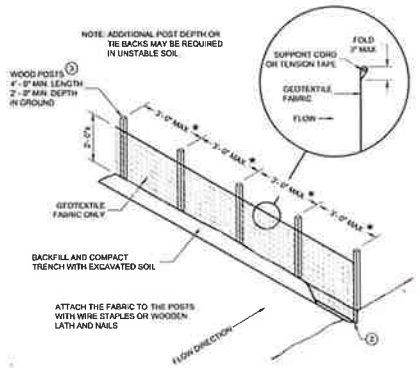
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

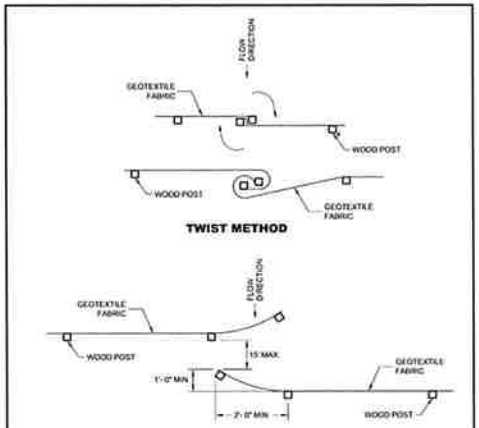
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 ½" X 1 ½" OF OAK OR HICKORY
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS. a) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES. b) HOOK THE ENDS OF EACH SILT FENCE LENGTH.



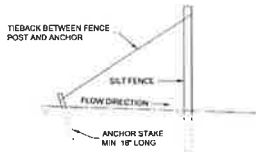
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE (5)



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/29/15
DATE

/S/ Beth Cannestra
CHIEF HIGHWAY DEVELOPMENT ENGINEER

SDD 08E09 - 06

6

SDD 08E09 - 06

6

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Wausau, WI 54401
(715) 359-9400
www.mi-tech.us

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EQUIX

LIGHTHOUSE SOLAR

PROJECT:	MICHELS SOLAR FARM BROWNSVILLE DODGE COUNTY, WI
DRAWN BY:	AL
CHECKED BY:	SF

REV	DATE	DESCRIPTION

SHEET TITLE
EROSION CONTROL PLAN

SHEET NUMBER
FIGURE 4

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 1

Developer: Michels Corp.

Project: Brownsville Solar Farm

Date: 09/26/22

County: Dodge

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	11/01/22	06/01/23	23.0%	130	Silt Loam	0.43	3.0%	100	0.30	1.00	3.8	1.011	Silt Fence	2.3
Seed with Mulch or Er	06/01/23	09/01/23	60.0%	130	Silt Loam	0.43	3.0%	100	0.30	0.10	1.0	1.011	Silt Fence	0.6
End	09/01/23	-----	-----	-----	-------	-----	3.0%	100	0.30	-------	-----	0.000		0.0
		-----	-----	-----	-------	-----	0.0%	100	-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	0.0%	0	-----	-----	-----	0.000		0.0
		-----	-----	-----	-------	-----	0.0%	0	-----	-----	-----	0.000		0.0
										TOTAL	4.8		TOTAL	2.9
													% Reduction Required	NONE

Notes:

See Help Page for further descriptions of variables and items in drop-down boxes.
The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

Recommended Permanent Seeding Dates:

4/15-6/1 Thaw-6/30	and	8/1-8/21	Turf, introduced grasses and legumes Native Grasses, forbs, and legumes

Designed By:	Mi-Tech Services, SMF
Date	9/26/2022

MICHELS BROWNSVILLE SOLAR
(43°36'31.8"N) (88°29'48.3"W)

817 W MAIN STREET, BROWNSVILLE, WI 53006

PV SYSTEM DETAILS

ARRAY TYPE:	GROUND MOUNT FIXED TILT
DC SYSTEM SIZE:	385.84 KW DC
DC SYSTEM VOLTAGE:	1500 V
AC SYSTEM SIZE:	300 KW AC
MODULES	(728) (HELIENE) HSPE – 144HC M10 BIFCACIAL (530W)
INVERTERS:	(3) CPS SCA100KTL-DO/US-480-UL
OPTIMIZERS:	N/A
RACKING:	TBD
CLAMPS:	N/A
AZIMUTH:	180°
ARRAY PITCH:	25°

SCOPE OF WORK

1. CONTRACTOR SHALL ACCEPT, VERIFY AND INSTALL ALL MATERIAL AS LISTED ABOVE AND ON THE B.O.M. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DEVELOPER IMMEDIATELY.
2. ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED AS PER MANUFACTURES GUIDELINES SET FORTH IN THE INSTRUCTION MANUAL AND AS PER NEC. 110.
3. CONTRACTOR SHALL PROVIDE PROTECTIVE MATERIALS TO PREVENT DAMAGE TO EXISTING BUILDINGS OR EQUIPMENT AND PROPOSED BUILDINGS OR EQUIPMENT.
4. CONTRACTOR SHALL PERFORM A PRE-CONSTRUCTION SITE WALK AT LEAST 5 DAYS PRIOR TO MOBILIZATION TO CONFIRM SITE CONDITIONS, STAGING AREAS AND ANY OTHER SITE SPECIFIC DETAILS REQUIRED. ANY ISSUES SHALL BE PHOTO DOCUMENTED ALONG WITH A WRITTEN REPORT AND PROVIDED IMMEDIATELY TO THE NECESSARY PARTIES.
5. IF DEVELOPER IS NOT CALLED, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL TESTING/INSPECTION REQUIRED TO APPROVE SITE AT ENGINEERS DISCRETION.
6. PRIOR TO FINAL SIGN-OFF THE CONTRACTOR SHALL PROVIDE A LETTER OF COMPLIANCE FOR THE WORK DONE. THE LETTER MUST REFERENCE THAT THE WORK WAS DONE IN ACCORDANCE TO THE DRAWINGS AND IN COMPLIANCE WITH THE CODE OF THE APPLICABLE AUTHORITY HAVING JURISDICTION.

LOCATION MAP

INSPECTION ITEMS

CONTRACTOR SHALL STRICTLY ADHERE TO THE FOLLOWING CODE STANDARDS UNCLES OTHERWISE NOTED WITHIN THE DRAWING; NEC. 2017, IBC. 2015, IFC. 2015 AND APPLICABLE LOCAL CODES.

PROGRESS INSPECTIONS:

ROUGH ELECTRIC:	☐ REQUIRED	☐ NOT REQUIRED
ROUGH BUILDING:	☐ REQUIRED	☐ NOT REQUIRED

FINAL INSPECTIONS:

ELECTRIC:	☐ REQUIRED	☐ NOT REQUIRED
BUILDING:	☐ REQUIRED	☐ NOT REQUIRED
OTHER:	☐ REQUIRED	☐ NOT REQUIRED

CONTRACTOR SHALL BE KNOWLEDGEABLE OF ANY LOCAL AHJ INSPECTIONS REQUIRED NOT LISTED.

NOTES

1. THE APPLICANT PROPOSES TO INSTALL PV MODULES AND WEATHER PROOF EQUIPMENT FOR AN UNMANNED FACILITY.
2. EQUIPMENT IS UNMANNED AND NOT FOR HUMAN HABITATION, HANDICAP ACCESS IS THEREFORE NOT REQUIRED.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. NON-CONFORMING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER AND DEVELOPER FOR REMEDIAL OR CORRECTIVE ACTION.
5. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.

DISCLAIMER

IT IS A VIOLATION OF THE LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING, THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

SUNVEST SOLAR LLC
N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)-547-1200
WWW.SUNVEST.COM

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1	08/10/22	11	
REV.	SET/DATE	REV.	SET/DATE

DRAWN BY: SJ	CHECKED BY: RA
SCALE: AS NOTED	JOB NO: 01596

MICHELS BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
TITLE SHEET

DWG. NO.
T-1.00

SITE INFORMATION

PROPERTY OWNER: MICHELS CORPERATION

POWER COMPANY: WE ENERGIES

PROJECT MANAGER: PHONE:

APPROX LEASED SQ FT: 114,998 S.F. / 2.64 ACRES
1,090' L.F. OF FENCE

TAX ID:

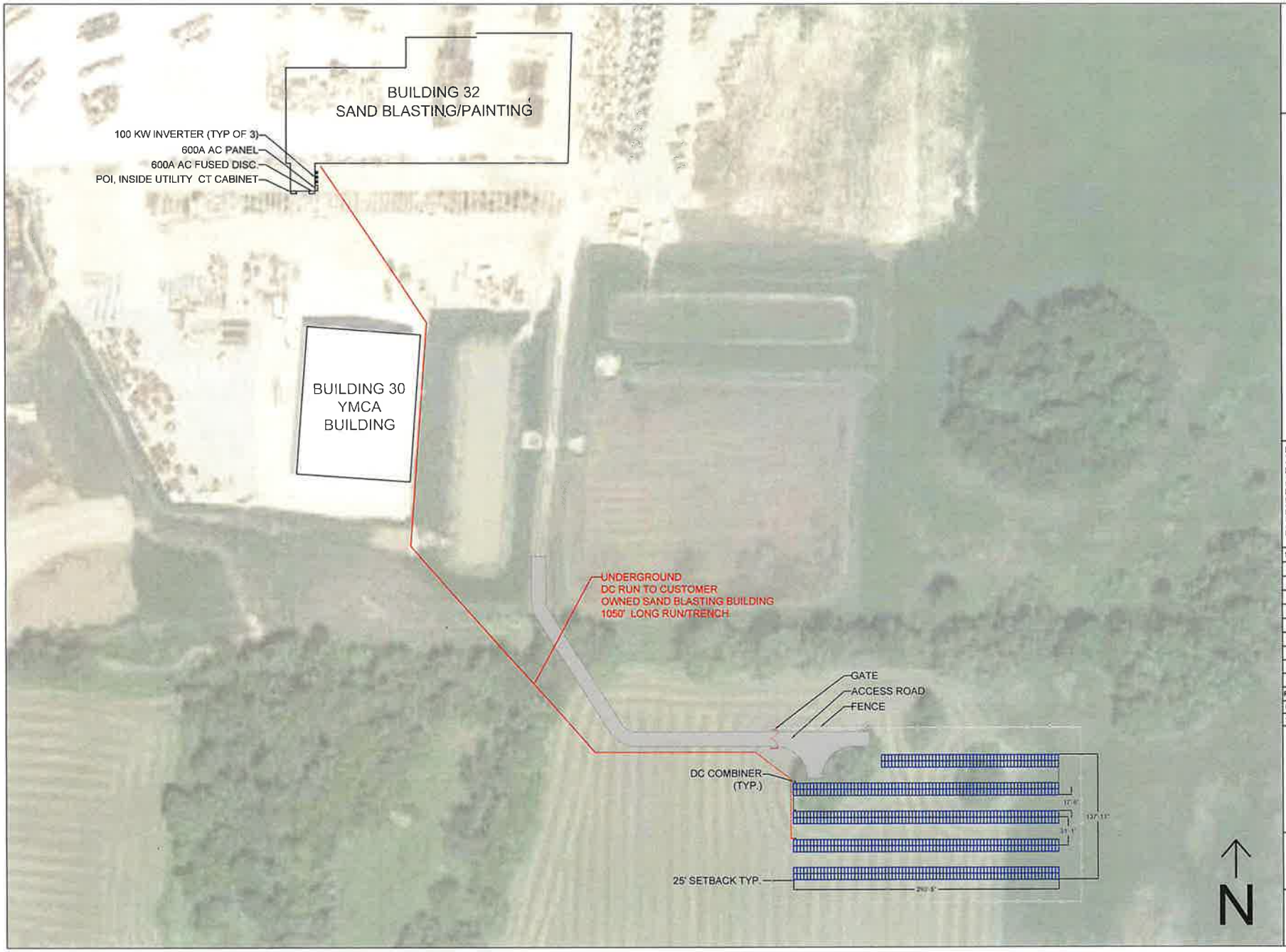
AERIAL MAP

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE DEVELOPER OR ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DRAWING INDEX

DWG NO:	SHEET TITLE
T-1.00	TITLE SHEET
PV-1.00	ARRAY LAYOUT
E-1.00	ONE LINE DIAGRAM
E-4.00	SPEC SHEETS
E-5.00	NEC LABELS
GN-1.00	GENERAL NOTES
GN-2.00	GENERAL NOTES



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MICHELS
BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
ARRAY LAYOUT

DWG. NO.
PV-1.00

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DC SYSTEM VOLTAGE:	1500 V
AC SYSTEM SIZE:	300 KW AC
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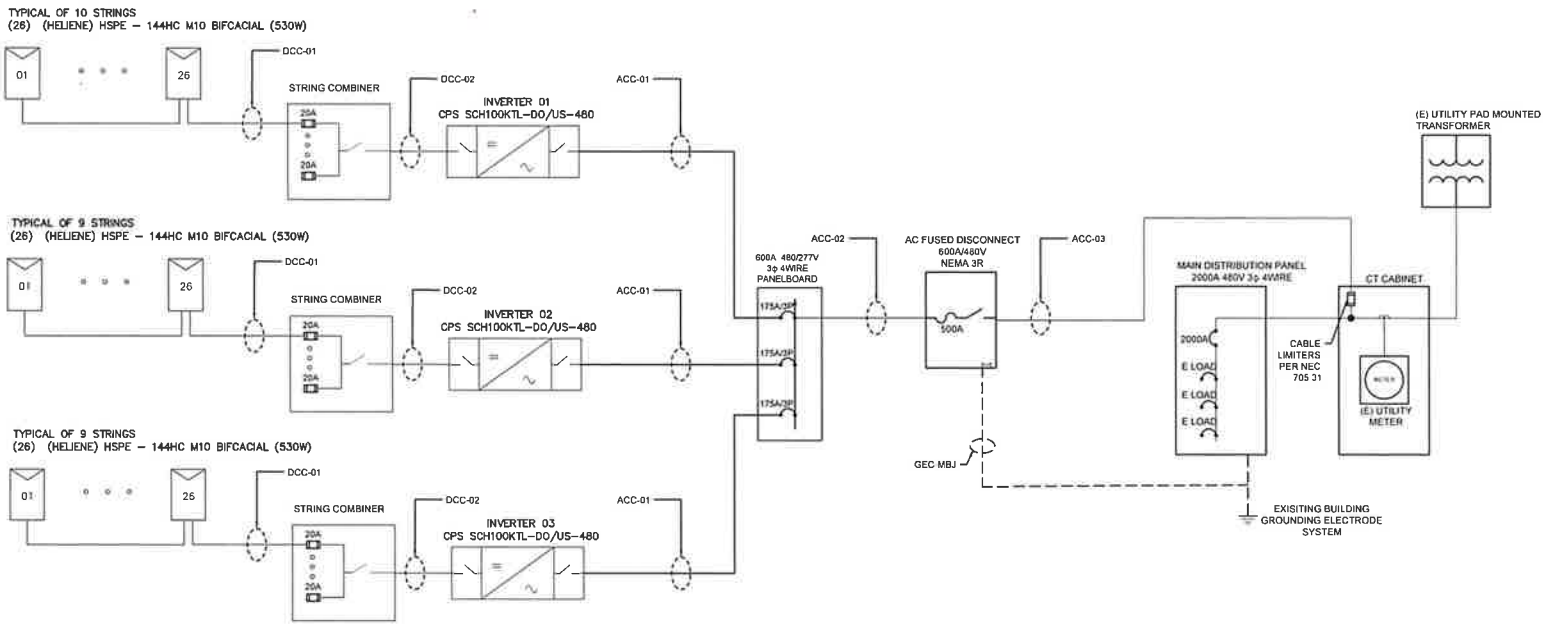
OPTIMIZERS:	N/A
RACKING:	TBD
CLAMPS:	N/A
AZIMUTH:	180°
ARRAY PITCH:	25°

CONDUCTOR SCHEDULE										CONDUIT SCHEDULE		
ID	SETS	PHASE CONDUCTOR QUANTITY	SIZE	INSULATION	MATERIAL*	NEUTRAL SIZE*	NEUTRAL QUANTITY	EQUIPMENT GROUNDING CONDUCTOR*	EGC QUANTITY	SIZE	TYPE	LENGTH (FT)
DCC-01	24	2	#10 AWG	PV, UL 1000V	CU	-	-	#12 AWG B.C.W	1 per array	2.5"	SCH80	305
DCC-02	3	2	#3/0 AWG	THWN-2	CU	-	-	#6 AWG THWN-2	1	1.5"	SCH80	1050
ACC-01	3	3	#2/0 AWG	THWN-2	CU	#4 AWG THWN-2 CU	1	#6 AWG THWN -2 CU	1	2.0"	EMT	10
ACC-02	1	3	250 KCMIL	THWN-2	CU	#2 AWG THWN-2 CU	1	#2 AWG THWN -2 CU	1	2.5"	EMT	10
ACC-03	1	3	250 KCMIL	THWN-2	CU	#2 AWG THWN-2 CU	1	N/A	0	2.5"	EMT	20
GEC-MBJ	1		#1/0 AWG	BARE	CU							25



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MICHELS
BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
ONE LINE DIAGRAM

DWG. NO.
E-1.00

144HC M10 Bifacial Module

HELIENE

144HC M10 Bifacial Module

144 Half-Cut Monocrystalline 520W – 540W

21%

Stability & Looks

Anti-Reflective

High Reliability

Manufactured Using International Quality System Standards: ISO9001

Half-Cut Design with Split Junction Box Technology

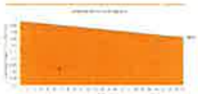
Bifacial Technology Enabling Additional Energy Harvest from Rear Side

1500V System Voltage Rating

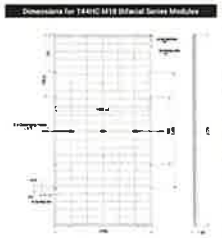
No Compromise Guarantee

15 Year Workmanship Warranty

25 Year Linear Performance Guarantee



144HC M10 Bifacial Module



Electrical Data (STC)

Peak Rated Power	P_{max} (W)	540	530	520
Maximum Power Voltage	V_{mp} (V)	42.32	41.94	41.56
Maximum Power Current	I_{mp} (A)	12.77	12.64	12.52
Open Circuit Voltage	V_{oc} (V)	50.22	49.73	48.73
Short Circuit Current	Isc (A)	13.50	13.37	13.28
Module Efficiency *	Eff (%)	20.9	20.5	20.1
Maximum Series Fuse Rating	MF (A)	30	30	30
Power Output Tolerance		[-0/+3%]		
Bifaciality Factor		70%		

STC: Standard Test Conditions: Irradiation 1000 W/m², Air mass AM 1.5, Cell temperature 25°C

Electrical Data (NMOT)

Maximum Power	P_{max} (W)	400	390	380
Maximum Power Voltage	V_{mp} (V)	39.19	38.68	37.96
Maximum Power Current	I_{mp} (A)	10.21	10.11	10.01
Open Circuit Voltage	V_{oc} (V)	47.13	46.66	45.73
Short Circuit Current	Isc (A)	10.87	10.77	10.70

NMOT: Nominal Module Operating Temperature

Mechanical Data

Solar Cells	144 Half Cut, M10 182mm, PERC Cells
Module Construction	Framed Glass-Backsheet
Dimensions	[illegible]
Weight	[illegible]
Frame	Double Webbed 15-Micron Anodized Aluminum Alloy
Glass	[illegible] Anti Reflective Coating
Junction Box	IP-68 rated with 3 bypass diodes
Output Cables	0.3-meter Symmetrical Cables
Connectors	MC4 Compatible

Certifications

UL Certification

Temperature Ratings

Nominal Operating Cell Temperature (NOCT)	+45°C
Temperature Coefficient of P_{max}	-0.36%/°C
Temperature Coefficient of V_{oc}	-0.28%/°C
Temperature Coefficient of I_{sc}	0.034%/°C

Maximum Ratings

Operational Temperature	-40°C to +85°C
Max System Voltage	1500V
Mech. Load Test (Front)	113 psf / 5400 Pa
Mech. Load Test (Back)	50 psf / 2400 Pa

Warranty

15 Year Manufacturer's Workmanship Warranty

Packaging Configuration

Modules per pallet [illegible] pieces

Modules per [illegible] 702 pieces

Certifications

CPS

100kW, 1500Vdc/480Vac String Inverters for North America

CPS SCH100KTL-DO/US-480

Key Features

- Touch safe DC fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote FW upgrades
- Integrated AC & DC disconnect switches
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Advanced Smart-Grid features
- Full power capacity up to 45°C
- Separable wire-box design for fast service
- Standard 5 year warranty with extensions to 20 years

Standard Wire-box

Centralized Wire-box

CPS

Model Name	CPS SCH100KTL-DO/US-480
DC Input	
Max. DC Input Voltage	1500Vdc
Start-up DC Input Voltage / Power	900Vdc / 250W
MPPT Voltage Range @ PF>0.99	860-1300Vdc
Number of DC Inputs	20 PV source circuits, pos. & neg. fused (Standard Wire-box); 1 PV output circuit, 1-2 terminations per pole, non-fused (Centralized Wire-box)
DC Disconnection Type	Load-rated DC switch
AC Output	
Rated AC Output Power	100kW
Max. AC Apparent Power	100kVA (105.3kVA @ PF>0.95)
Rated Output Voltage	480Vac
Output Voltage Range	422-528Vac
Grid Connection Type	3-Phase / PE / N (Neutral Optional)
Max. AC Output Current	120.3A/126.7A
Rated Output Frequency	60Hz
Output Frequency Range	57 - 63Hz
Power Factor	>0.99 (±0.8 adjustable)
Current THD @ Rated Load	<3%
Max. OCPD Rating	200A
AC Disconnection Type	Load-rated AC switch
System and Performance	
Max. Efficiency	98.9%
CEC Efficiency	98.0%
Stand-by / Night Consumption	<4W
Environment	
Enclosure Protection Degree	NEMA Type 4X
Cooling Method	Variable speed cooling fans
Operating Temperature Range	-22°F to +140°F / -30°C to +60°C (derating from +113°F / +45°C)
Non-Operating Temperature Range	No low temp minimum to +158°F / +70°C maximum
Operating Humidity	0 to 100%
Operating Altitude	8202ft / 2500m (no derating)
Audible Noise	<65dBA @ 1m and 25°C
Display and Communication	
User Interface and Display	LCD indicators, WiFi + APP
Site Level Monitoring	CPS FlexOM (1 per 32 inverters)
Modbus Data Mapping	SunSpec / CPS
Remote Diagnostics / FW Upgrade Functions	Standard (with FlexOM Gateway)
Mechanical	
Dimensions	45.28x24.25x9.84in (1150x616x250mm) with Standard Wire-box; 39.37x24.25x9.84in (1000x616x250mm) with Centralized Wire-box
Weight	Inverter: 121lbs / 55kg; Wire-box: 55lbs / 25kg (Standard Wire-box); 33lbs / 15kg (Centralized Wire-box)
AC Termination	M10 Stud Type Terminal [3Φ] (Wire range 1/0AWG - 600kcmil CU/AL, Lugs not supplied); Screw Clamp Terminal Block (N) (#12 - 1/0AWG CU/AL)
DC Termination	Screw Clamp Fuse Holder (Wire range #12 - 6AWG CU) - Standard Wire-box; Busbar, M10 Bolts (Wire range #1AWG - 500kcmil CU/AL [1 termination per pole]; #1AWG - 300kcmil CU/AL [2 terminations per pole], Lugs not supplied) - Centralized Wire-box
Fused String Inputs	20A fuses provided (Fuse values of 15A or 20A acceptable)
Safety	
Selectable Grid Standard	IEEE 1547a-2014, CA Rule 21, ISO-NE, HECO Rule 14H
Smart-Grid Features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-Var, Freq-Watt, Volt-Watt
Warranty	
Standard	5 years
Extended Terms	10, 15, and 20 years

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MICHELS
BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
SPEC SHEETS

DWG. NO.
E-4.00

⚠ WARNING

THIS PANEL HAS SECONDARY POWER SOURCE FROM PHOTOVOLTAIC SYSTEM TURN-OFF PHOTOVOLTAIC SYSTEM BREAKER PRIOR TO SERVICING PANEL

MAX AC OUTPUT CURRENT 380.1 AMPS

MAX AC OUTPUT VOLTAGE 480 VOLTS

LABEL #1 PLACE AT POINT OF INTERCONNECTION

⚠ WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL #2 PLACE AT POINT OF INTERCONNECTION

⚠ WARNING

SOLAR GENERATOR UTILITY LOCKABLE AC DISCONNECT SWITCH

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #3 PLACE AT UTILITY LOCKABLE DISCONNECT

⚠ WARNING

POTENTIAL ARC FLASH HAZARD

LABEL #4 PLACE AT PV SWITCHBOARD

⚠ WARNING

TURN OFF AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #5 PLACE AT AC COMBINER PANEL

⚠ WARNING

POWER METER AND AC DISCONNECT

TURN OFF INVERTER PRIOR TO OPERATING AC DISCONNECT

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #6 PLACE AT AC DISCONNECT

⚠ WARNING

ELECTRIC SHOCK HAZARD

IF GROUND FAULT IS INDICATED ALL NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED

LABEL #7 PLACE AT INVERTERS

CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

LABEL #8 PLACE ON DC DISCONNECTS AND INVERTERS

CAUTION: SOLAR CIRCUIT

LABEL #9 PLACE ON CONDUIT, JUNCTION BOXES AND COMBINER BOXES AT EVERY 10'

⚠ WARNING

DC JUNCTION BOX

LABEL #10 PLACE ON DC JUNCTION BOXES

⚠ WARNING

PV ARRAY DC DISCONNECT

-ELECTRICAL SHOCK HAZARD-
-DO NOT TOUCH TERMINALS-

TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

MAXIMUM CURRENT 134 A
OPERATING VOLTAGE 1470 Vdc

LABEL #11 PLACE ON DC DISCONNECTS

⚠ WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL #12 PLACE ON DC DISCONNECTS AND AC DISCONNECTS

⚠ WARNING

PULL BOX

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #13 PLACE AT PULL BOXES

INV-1 LABEL #14 PLACE AT INVERTERS

ACB-01 LABEL #15 PLACE AT INVERTERS

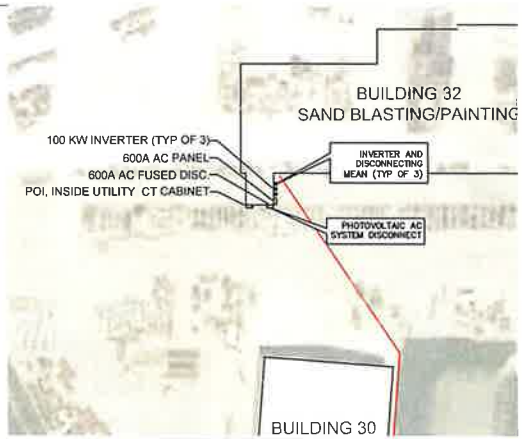
MPD M-01 LABEL #16 PLACE AT SYSTEM PANELBOARD

DC DISC-1 LABEL #17 PLACE AT INVERTER/DC DISCONNECT SCREEN

SC-1 LABEL #18 PLACE AT COMBINER BOX

CAUTION

POWER TO THIS SITE IS SUPPLIED BY MULTIPLE SOURCES: DISCONNECT LOCATIONS ARE SHOWN BELOW



MICHELS CORPORATION
MAP OF PHOTOVOLTAIC POWER SOURCES DISCONNECTING MEANS

SITE DISCONNECT LOCATION PLACECARD

SHEET NOTES

1 SYSTEM LABELS SHALL BE PERMANENTLY ATTACHED BY MECHANICAL MEANS OR SECURED WITH UV-RESISTANT ADHESIVE

2 MATERIALS USED IN THE CONSTRUCTION OF THE LABELS SHALL BE UV RESISTANT

3 ELECTRICAL EQUIPMENT, SUCH AS SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS, THAT ARE IN OTHER THAN DWELLING OCCUPANCIES, AND ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. (NEC 110.16)

4 ALL INTERACTIVE SYSTEM(S) POINTS OF INTERCONNECTION WITH OTHER SOURCES SHALL BE MARKED AT AN ACCESSIBLE LOCATION AT THE DISCONNECTING MEANS AS A POWER SOURCE AND WITH THE RATED AC OUTPUT CURRENT AND THE NOMINAL OPERATING AC VOLTAGE. (NEC 690.54)

5 DIRECT-CURRENT PV POWER SOURCES SHALL BE PERMANENTLY LABELED PER NEC 690.53

6 PROVIDE ALL ADDITIONAL LABELS AS REQUIRED PER NEC, NESC, AND OTHER APPLICABLE CODES AND STANDARDS

KEYED NOTES

1 PROVIDE 9"X3" ENGLISH/SPANISH ELECTRICAL WARNING SIGN AT EACH OF THE SITE ENTRANCES AND EVERY 200' ALONG THE FENCE

2 PROVIDE SITE DISCONNECT LOCATION PLACECARD AT EACH OF THE SITE ENTRANCES. MARK "YOU ARE HERE" AT EACH OF THE LOCATIONS ON THE MAP

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817 W MAIN STREET
BROWNSVILLE, WI 53006

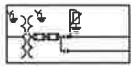
SHEET TITLE
NEC LABELS

DWG. NO.
E-5.00

SYMBOL LEGEND:

- FUSE
- SURGE PROTECTION DEVICE
- CIRCUIT BREAKER
- GROUND
- GROUNDED WYE
- DELTA
- UTILITY DISCONNECT
- POTENTIAL TRANSFORMER (PT)
- CURRENT TRANSFORMER (CT)
- METER
- METER
- PRIMARY UTILITY METER
- INVERTER
- INVERTER WITH INTEGRATED DISCONNECT
- PANELBOARD
- MAIN DISTRIBUTION PANEL
- FUSED DISCONNECT
- NON FUSED DISCONNECT


- UTILITY TRANSFORMER


- PAD MOUNTED STEP TRANSFORMER


- PAD MOUNTED STEP TRANSFORMER


- STRING COMBINER

- RECLOSER POLE
- CUSTOMER RECLOSER POLE


- TRACKER MOTOR

- MV BUSHING
- UNDERGROUND MEDIUM VOLTAGE
- OHE — EXISTING OVERHEAD CONDUCTORS
- DC — DC CONDUCTORS
- AC — AC CONDUCTORS
- UNDERGROUND CONDUITS WITH AC CONDUCTORS
- UNDERGROUND CONDUITS WITH DC CONDUCTORS

GENERAL NOTES:

1. GENERAL REQUIREMENTS:

1.1 THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES NOT INCLUDED IN THE B.O.M, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.

1.2 ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK.

1.3 THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.

1.4 ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.

1.5 THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.

1.6 CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS PROVIDED BY OTHER TRADES.

1.7 PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.

1.8 KEEP PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.

1.9 ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.

1.10 THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS, REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.

1.11 THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.

1.12 ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES. ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTORS EXPENSE.

1.13 BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY AQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.

1.14 THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.

1.15 UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.

1.16 UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

1.17 THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.

1.18 EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.

1.19 IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.

1.20 THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

1.21 DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLIMENT ONE ANOTHER, AND WHAT IS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.

1.22 ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIRMENTS.

1.23 ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.

1.24 THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING AND BACKFILL REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 30" BELOW FINISHED GRADE.

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DRAWN BY: SJ	CHECKED BY: RA
SCALE: AS NOTED	JOB NO: 01596

MICHELS
BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
GENERAL NOTES AND SYMBOLS

DWG. NO.
G-1.00

GENERAL NOTES:

2. PROJECT COORDINATION:

2.1 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.

2.2 THE CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE DOCUMENTS OF ALL TRADES.

2.3 THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN THE OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK, IN CONJUNCTION WITH ALL TRADES. ALL WORK THAT MAY AFFECT OPERATION OF BUILDING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.

2.4 SHUT DOWN OF POWER SHALL BE COORDINATED WITH THE OWNER, ARCHITECT AND PROJECT MANAGER AT LEAST 14 WORKING DAYS PRIOR TO SHUT DOWN. SHUT DOWNS LONGER THAN 2 DAYS SHALL BE COORDINATED WITH THE ABOVE PERSONNEL AT LEAST ONE MONTH IN ADVANCE. TEMPORARY POWER FOR CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR FOR SHUT DOWNS OVER 2 DAYS.

2.5 ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.

2.6 EXACT LOCATIONS OF OUTLETS AND EQUIPMENT SHALL BE COORDINATED WITH ARCHITECTURAL AND MILLWORK PLANS. ALL OUTLET AND EQUIPMENT LAYOUTS SHALL BE VERIFIED AND COORDINATED WITH WORK OF OTHER TRADES.

2.7 PROVIDE TEMPORARY LIGHTING AND POWER IN ACCORDANCE WITH ARTICLE 305 OF THE NEC. TEMPORARY LIGHTING FIXTURES IN UNFINISHED AREAS SHALL REMAIN CONNECTED UNTIL REMOVAL IS REQUESTED BY THE CONTRACTOR.

2.8 THE CONTRACTOR SHALL CONTACT THE BUILDING MANAGER TO OBTAIN A COPY OF THE GENERAL REQUIREMENTS AND/OR CONDITIONS TO BE USED FOR THIS PROJECT.

3. PROTECTION OF WORK:

3.1 EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.

4. WARRANTIES:

4.1 ALL MATERIALS AND EQUIPMENT SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.

4.2 WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF 5 YEARS AFTER FINAL ACCEPTANCE BY OWNER

4.3 OBTAIN AND DELIVER TO THE OWNER'S REPRESENTATIVE ALL GUARANTEES AND CERTIFICATES OF COMPLIANCE.

5. PERMITS:

5.1 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.

6. RACEWAYS:

6.1 ALL CONDUIT SHALL BE MINIMUM SIZE OF 1/2" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE PVC. ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE SCH. 40 PVC. CHANGE TO SCH. 80 PVC CONDUIT BEFORE EXITING OUT OF UNDERGROUND SECTIONS. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.

6.2 ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.

6.3 CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES, SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.

6.4 ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.

6.5 ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.

6.6 ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED, UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.

6.7 ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY IN MECHANICAL ROOMS, BASEMENTS AND CRAWL SPACES MAY BE SURFACE MOUNTED.

6.8 FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1-1/4", AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1" AND SMALLER.

6.9 THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED FIRE RATED SEALANT. ALL PENETRATIONS THROUGH ALL WALLS AND FLOORS SHALL BE SEALED. FOR ALL SLAB PENETRATIONS THE METHOD, DEPTHS AND LOCATIONS SHALL BE PRE-APPROVED BY THE BUILDING ENGINEER PRIOR TO THE START OF WORK.

6.10 THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.

6.11 EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.

6.12 ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SEALANT.

6.13 ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY, SHALL BE MADE WITH FLEXIBLE LIQUID TIGHT METALLIC CONDUIT.

6.14 SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS IN METAL, BEAM CLAMPS IN FRAMEWORK AND WOOD SCREWS IN WOOD. NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO BUILDING LINES.

6.15 DO NOT RUN RACEWAYS CLOSER THAN 6 INCHES WHEN PARALLEL TO HOT WATER OR STEAM PIPES. WHEN CROSSING WATER OR STEAM PIPES CROSS A MINIMUM OF 3 INCHES ABOVE. IF CROSSING BELOW IS UNAVOIDABLE, PROVIDE DRIP SHIELDS EXTENDING 6 INCHES BEYOND THE WATER OR STEAMPIPE. BOXES INSTALLED IN PROXIMITY TO WATER OR STEAM PIPE SHALL BE RATED NEMA 4X.

7. BOXES:

7.1 INTERIOR JUNCTION BOXES SHALL BE SHEET STEEL. EXTERIOR JUNCTION BOXES SHALL BE NONMETALLIC, WITH SCREW COVERS. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS.

8. WIRING:

8.1 ALL WIRE SHALL BE MADE OF COPPER WITH INSOLATION SUITABLE FOR THE APPLICABLE ENVIROMENT AND VOLTAGE. CONTRACTOR SHALL GET APPROVAL FOR ANY OTHER WIRE TYPE.

8.2 UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.

8.3 ALL ELECTRICAL TERMINAL TEMPERATURE RATINGS ASSUMED TO BE 75° C UNLESS SITE CONDITIONS REQUIRE OTHERWISE.

8.4 WIRE SIZES SHALL BE INCREASED WHERE NECESSARY TO LIMIT AC VOLTAGE DROP TO 1.5% TOTAL FROM INVERTER TO POINT OF COMMON COUPLING

9. GROUNDING:

9.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250 AND 690, OF THE NEC, AND AS SPECIFIED HEREIN.

9.2 ALL BRANCH CIRCUITS AND FEEDERS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.

10. MECHANICAL SYSTEMS POWER:

10.1 DISCONNECT SWITCHES SHALL BE HEAVY DUTY, QUICK MAKE, QUICK BREAK TYPE, ENCLOSED IN A HEAVY SHEET METAL ENCLOSURE WITH HINGED INTERLOCKING COVER, IN PROPER NEMA RATED ENCLOSURES. FUSED OR NON-FUSED AS REQUIRED. DISCONNECT SWITCHES SHALL BE PROVIDED BY CONTRACTOR, EXCEPT AS NOTED ON DRAWINGS.

10.2 THE RATING FOR DISCONNECT SWITCHES SHALL BE THE SAME AS, OR GREATER THAN, THE PROTECTIVE DEVICE SERVING THE EQUIPMENT.

10.3 A STRUT FRAME SHALL BE PROVIDED AT ALL LOCATIONS WHERE STRUCTURE WILL NOT ADEQUATELY SUPPORT EQUIPMENT, OR FOR FREESTANDING EQUIPMENT.

11. PANEL BOARDS:

11.1 PANELBOARDS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT BREAKER TYPE UNLESS OTHERWISE NOTED. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 98% CONDUCTIVITY, AND SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48 IN. HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48 IN. HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED, 5-KNUCKLE STEEL WITH NONFRERROUS PINS, 180-DEG OPENING, LOCATED A MAXIMUM 26 IN. ON CENTERS. PROVIDE DOOR-IN-DOOR CONSTRUCTION. MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5- BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER.

11.2 PROVIDE A NEW TYPE WRITTEN CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THIS PROJECT.

11.3 WHEREVER POSSIBLE, PANELBOARDS SHALL BE RECESSED IN WALL. SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED ON A PLYWOOD BACKBOARD. PLYWOOD SHALL BE MOUNTED ON TOP OF GYMPSUM BOARD. PLYWOOD SHALL BE PAINTED ON ALL SIDES AND EDGES. COORDINATE WITH OWNER FOR COLOR.

11.4 PROVIDE LIGHTNING SURGE PROTECTION FOR MAIN SWITCHBOARD OR MAIN SERVICE PANEL BOARD. PROVIDE GROUNDING OF SURGE DEVICE PER THE NEC.

11.5 CONTRACTOR IS RESPONSIBLE FOR BALANCING LOADS ON ALL PHASES AND MAY ALTER ASSIGNMENT OF CIRCUITS FOR BALANCING PHASES.

11.6 CIRCUIT SCHEDULES ARE INTENDED TO REPRESENT THE GENERAL WIRING NEEDS OF THE EQUIPMENT SERVICED FROM THE PANEL. THE EXACT CIRCUIT ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND PANELS ACTUALLY FURNISHED.

12. IDENTIFICATION:

12.1 PROVIDE BLACK PHENOLIC IDENTIFICATION PLATES, WITH WHITE LETTERS ON ALL ELECTRICAL EQUIPMENT FURNISHED IN THIS CONTRACT. ATTACH WITH SUITABLE ADHESIVE.

12.2 INSTALL NAMEPLATES ON ALL MAJOR EQUIPMENT, INCLUDE STARTERS, TRANSFORMERS, PANELBOARDS, DISCONNECT SWITCHES AND OTHER ELECTRICAL BOXES AND CABINETS INSTALLED UNDER THIS CONTRACT.

12.3 APPLY CABLE/CONDUCTOR IDENTIFICATION MARKERS ON EACH CABLE AND CONDUCTOR IN EACH BOX, ENCLOSURE OR CABINET.

13. RECORD DRAWINGS:

13.1 THE CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS. THE APPROVAL OF SHOP DRAWINGS SHALL ONLY BE CONSTRUED TO APPLY TO THE GENERAL LAYOUT AND CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR THE COMPLIANCE WITH THE GENERAL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL RETAIN THE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

13.2 PROVIDE SHOP DRAWINGS FOR THE LIGHTING FIXTURES, PANEL BOARDS, CIRCUIT BREAKERS, WIRING DEVICES, FIRE ALARM DEVICES AND SEALS FOR FIRE AND WATER STOPPING.

13.3 DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A RECORD SET OF INSTALLATION PRINTS. HE SHALL NEATLY AND CLEARLY RECORD ON THESE PRINTS ALL DEVIATIONS FROM THE CONTRACT DRAWINGS IN SIZES, LOCATIONS AND DETAILS.

13.4 UPON PROJECT COMPLETION, THE CONTRACTOR SHALL COMPLETE THE MARK UP OF ALL PROJECT DRAWINGS TO RECORD INSTALLED CONDITIONS.

13.5 REPRODUCIBLE "RECORD" DRAWINGS PREPARED IN CAD FORMAT SHALL BE PROVIDED AS INSTALLED CONDITIONS OF THE WORK. A FULL SIZE PRINT OUT OF THE "RECORD" DRAWING FILE SHALL BE PROVIDED AFTER COMPLETION OF THE INSTALLATION.

13.6 UPON COMPLETION AND ACCEPTANCE OF WORK, THE CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE THE PROPER OPERATIONS AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

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DRAWN BY: SJ | CHECKED BY: RA
SCALE: AS NOTED | JOB NO: 01598

MICHELS BROWNSVILLE SOLAR
817 W MAIN STREET
BROWNSVILLE, WI 53006

SHEET TITLE
GENERAL NOTES AND SYMBOLS

DWG. NO.
G-2.00

APPENDIX D

WDNR Technical Standards

Seeding For Construction Site Erosion Control
(1059)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

Planting seed to establish temporary or permanent vegetation for erosion control.

II. Purpose

The purpose of *temporary seeding*[1] is to reduce runoff and erosion until permanent vegetation or other erosion control practices can be established. The purpose of *permanent seeding* is to permanently stabilize areas of exposed soil.

III. Conditions Where Practice Applies

This practice applies to areas of exposed soil where the establishment of vegetation is desired. Temporary seeding applies to disturbed areas that will not be brought to final grade or on which land-disturbing activities will not be performed for a period greater than 30 days, and requires vegetative cover for less than one year. Permanent seeding applies to areas where perennial vegetative cover is needed.

IV. Federal, State and Local Laws

Users of this standard shall be aware of all applicable federal, state and local laws, rules, regulations or permit requirements governing seeding. This standard does not contain the text of federal, state or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. Site and Seedbed Preparation

Site preparation activities shall include:

1. Temporary Seeding

   a. Temporary seeding requires a seedbed of loose soil to a minimum depth of 2 inches.

   b. Fertilizer application is not generally required for temporary seeding. However, any application of fertilizer or lime shall be based on soil testing results.

   c. The soil shall have a pH range of 5.5 to 8.0.

2. Permanent Seeding

   a. *Topsoil* installation shall be completed prior to permanent seeding.

   b. Permanent seeding requires a seedbed of loose topsoil to a minimum depth of 4 inches with the ability to support a *dense* vegetative cover.

   c. Application rates of fertilizer or lime shall be based on soil testing results.

   d. Prepare a tilled, fine, but firm seedbed. Remove rocks, twigs foreign material and clods over two inches that cannot be broken down.

   e. The soil shall have a pH range of 5.5 to 8.0.

[1] Words 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.

B. Seeding

1. Seed Selection

   a. Seed mixtures that will produce dense vegetation shall be selected based on soil and site conditions and intended final use. Section IX References, lists sources containing suggested seed mixtures.

   b. All seed shall conform to the requirements of the Wisconsin Statutes and of the Administrative Code Chapter ATCP 20.01 regarding noxious weed seed content and labeling.

   c. Seed mixtures that contain potentially invasive species or species that may be harmful to native plant communities shall be avoided.

   d. Seed shall not be used later than one year after the test date that appears on the label.

   e. Seed shall be tested for purity, germination and noxious weed seed content and shall meet the minimum purity and germination requirements as prescribed in the current edition of Rules for Testing Seed, published by the Association of Official Seed Analysts.

2. Seed Rates

   a. Temporary Seeding (Cover Crop)

      Areas needing protection during periods when permanent seeding is not applied shall be seeded with annual species for temporary protection. See Table 1 for seeding rates of commonly used species. 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.

Table 1 Temporary Seeding Species and Rates

Species	Lbs/Acre	Percent Purity
Oats	131[1]	98
Cereal Rye	131[2]	97
Winter wheat	131[2]	95
Annual Ryegrass	80[2]	97

[1] Spring and summer seeding
[2] Fall seeding

   b. Permanent Seeding

      Rates shall be based on pounds or ounces of Pure Live Seed (PLS) per acre. Section IX contains some possible reference documents that provide seeding rates. Permanent seeding rates may be increased above the minimum rates shown in the reference documents to address land use and environmental conditions.

      If a *nurse crop* is used in conjunction with permanent seeding, the nurse crop shall not hinder establishment of the permanent vegetation.

      A nurse crop shall be applied at 50% its temporary seeding rate when applied with permanent seed.

3. Inoculation

   Legume seed shall be inoculated in accordance with the manufacturer's recommendations. Inoculants shall not be mixed with liquid fertilizer.

4. Sowing

   Seed grasses and legumes no more than ¼ inch deep. Distribute seed uniformly. Mixtures with low seeding rates require special care in sowing to achieve proper seed distribution.

   Seed may be broadcast, drilled, or hydroseeded as appropriate for the site.

   Seed when soil temperatures remain consistently above 53° F. *Dormant seed* when the soil temperature is consistently below 53° F (typically

Nov. 1st until snow cover). Seed shall not be applied on top of snow.

VI. Considerations

A. Consider seeding at a lower rate and making two passes to ensure adequate coverage.

B. Compacted soil areas may need special site preparation prior to seeding to mitigate compaction. This may be accomplished by chisel plowing to a depth of 12 inches along the contour after heavy equipment has left the site.

C. Sod may be considered where adequate watering is available.

D. When working in riparian areas refer to the NRCS Engineering Field Handbook, Chapter 16, Streambank and Shoreline Protection and Chapter 18, *Soil Bioengineering* for Upland Slope Protection and Erosion Reduction.

E. A site assessment should be conducted to evaluate soil characteristics, topography, 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.

F. Use *introduced species* only in places where they will not spread into existing natural areas.

G. Lightly roll or compact the area using suitable equipment when the seedbed is judged to be too loose, or if the seedbed contains clods that might reduce seed germination.

H. See Section IX. References for suggested seed mixes (NRCS, WisDOT, UWEX) or use their equivalent.

I. Turf seedlings should not be mowed until the stand is at least 6 inches tall. Do not mow closer than 3 inches during the first year of establishment.

J. Seeding should not be done when the soil is too wet.

K. Consider watering to help establish the seed. Water application rates shall be controlled to prevent runoff and erosion.

L. Prairie plants may not effectively provide erosion control during their establishment period without a nurse crop.

M. Topsoil originating from agricultural fields may contain residual chemicals. The seedbed should be free of residual herbicide or other contaminants that will prevent establishment and maintenance of vegetation. Testing for soil contaminants may be appropriate if there is doubt concerning the soil's quality.

N. Consider using mulch or a nurse crop if selected species are not intended for quick germination. When mulching refer to WDNR Conservation Practice Standard Mulching for Construction Sites (1058).

VII. Plans and Specifications

Plans and specifications for seeding shall be in keeping with this standard and shall describe the requirements for applying this practice.

All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

A. During construction areas that have been seeded shall at a minimum be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24-hour period. Inspect weekly during the growing season until vegetation is densely established or permit expires. Repair and reseed areas that have erosion damage as necessary.

B. Limit vehicle traffic and other forms of compaction in areas that are seeded.

C. A fertilizer program should begin with a soil test. Soil tests provide specific fertilizer recommendations for the site and can help to avoid over-application of fertilizers.

IX. References

A. Seed Selection References

United States Department of Agriculture – Natural Resource Conservation Service Field Office Technical Guide Section IV, Standard 342, Critical Area Planting.

UWEX Publication A3434 Lawn and Establishment & Renovation.

WisDOT, 2003. State of Wisconsin Standard Specifications For Highway and Structure Construction. Section 630, Seeding.

B. General References

Association of Official Seed Analysts, 2003. Rules for Testing Seed. http://www.aosaseed.com.

Metropolitan Council, 2003. Urban Small Sites Best Management Practice Manual, Chapter 3, Vegetative Methods 3-85 – 3-91. Minneapolis.

The State of Wisconsin list of noxious weeds can be found in Statute 66.0407.

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

UWEX Publication GWQ002 Lawn & Garden Fertilizers.

X. Definitions

Dense (V.A.2.b) A stand of 3-inch high grassy vegetation that uniformly covers at least 70% of a representative 1 square yard plot.

Dormant seed (V.B.4): Seed is applied after climatic conditions prevent germination until the following spring.

Introduced Species (VI.F) 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 bromegrass and alfalfa. Some of these species may have a wide distribution such as Kentucky bluegrass.

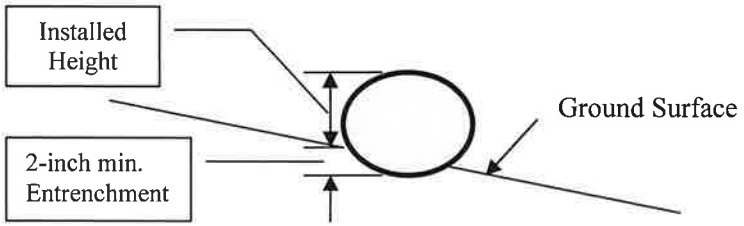
Nurse Crop (V.B.2.b): Also known as a companion crop; is the application of temporary (annual) seed with permanent seed.

Permanent seeding (II) Seeding designed to minimize erosion for an indefinite period after land disturbing construction activities have ceased on the site.

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

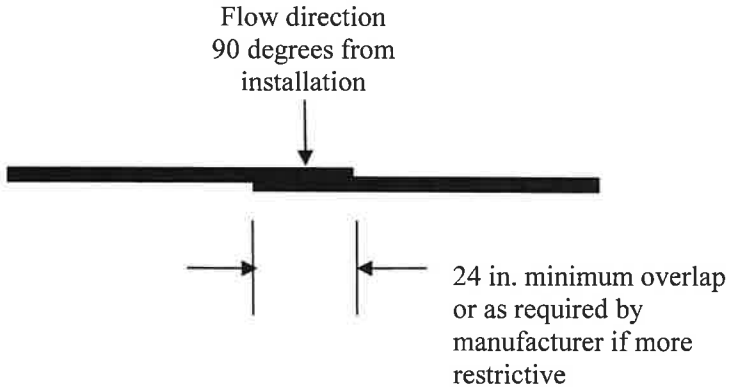
Temporary Seeding (II) Seeding designed to control erosion for a time period of one year or less that is generally removed in order to perform further construction activities or to permanently stabilize a construction site.

Topsoil (V.A.2.a) Consists of loam, sandy loam, silt loam, silty clay or clay loam humus-bearing soils adapted to sustain plant life with a pH range of 5.5 – 8.0. Manufactured topsoil shall through the addition of sand or organic humus material, peat, manure or compost meet the above criteria.

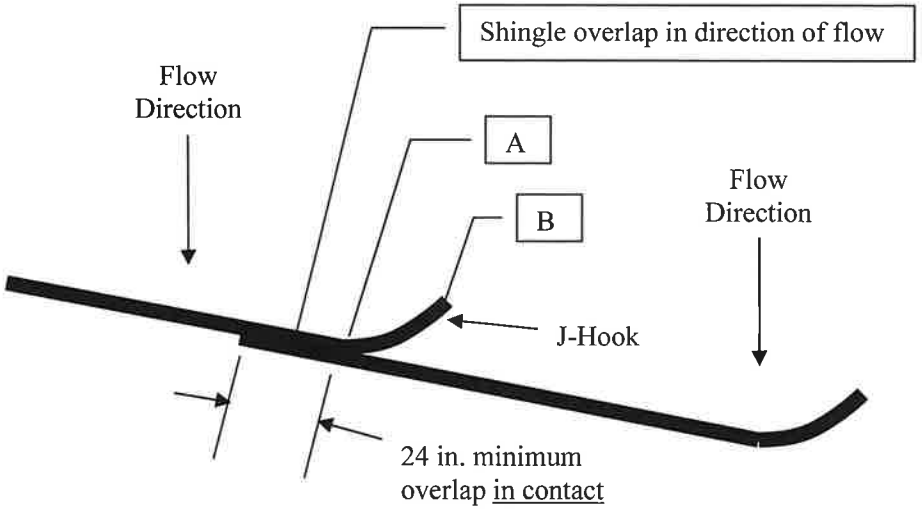


Note:
Installed height is measured from the upslope ground surface to the top of the product. Due to settlement and/or deformation, the installed height may not be equivalent to the nominal diameter of the product.

CROSS SECTION



TYPICAL INSTALLATION
(Plan View)



Notes:
1. J-hooks shall be installed so that the ground-product interface elevation at location B is higher than the top of product elevation at location A to create a weir at point A.
2. J-hooks shall be installed every 2 vertical feet of drop along the length of the installation.
3. Stake overlap as required by manufacturer.

SLOPING INSTALLATION
(Plan View)

FIGURE 1
LOG-TYPE PRODUCT INSTALLATION ILLUSTRATION

Silt Fence
(1056)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

Silt fence is a temporary sediment barrier of entrenched permeable geotextile fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil.

II. Purpose

The purpose of this practice is to reduce slope length of the disturbed area and to intercept and retain transported sediment from disturbed areas.

III. Conditions Where Practice Applies

A. This standard applies to the following applications:

1. Erosion occurs in the form of *sheet and rill erosion*[1]. There is no concentration of water flowing to the barrier (*channel erosion*).

2. Where adjacent areas need protection from sediment-laden runoff.

3. Where effectiveness is required for one year or less.

4. Where conditions allow for silt fence to be properly entrenched and staked as outlined in the Criteria Section V.

B. Under no circumstance shall silt fence be used in the following applications:

1. Below the ordinary high watermark or placed perpendicular to flow in streams, swales, ditches or any place where flow is concentrated.

2. Where the maximum gradient upslope of the fence is greater than 50% (2:1).

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of silt fence. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. Placement

1. When installed as a stand-alone practice on a slope, silt fence shall be placed on the contour. The parallel spacing shall not exceed the maximum slope lengths for the appropriate slope as specified in Table 1.

Table 1.

Slope	Fence Spacing
< 2%	100 feet
2 to 5%	75 feet
5 to 10%	50 feet
10 to 33%	25 feet
> 33%	20 feet

2. Silt fences shall not be placed perpendicular to the contour.

3. The ends of the fence shall be extended upslope to prevent water from flowing around the ends of the fence.

B. **Height** – Installed silt fences shall be a minimum 14 inches high and shall not exceed 28 inches in height measured from the installed ground elevation.

[1] Words 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.

C. **Support** – Silt fences shall be supported by either steel or wood supports as specified below:

1. Wood supports

   a. The full height of the silt fence shall be supported by 1 1/8 inches by 1 1/8 inches air or kiln dried posts of hickory or oak.

   b. The silt fence fabric shall be stapled, using at least 0.5-inch staples, to the upslope side of the posts in at least 3 places.

   c. The posts shall be a minimum of 3 feet long for 24-inch silt fence and a minimum of 4 feet for 36-inch silt fence fabric.

2. Steel supports

   a. The full height of the silt fence shall be supported by steel posts at least 5 feet long with a strength of 1.33 pounds per foot and have projections for the attachment of fasteners.

   b. The silt fence fabric shall be attached in at least three places on the upslope side with 50 pound plastic tie straps or wire fasteners. To prevent damage to the fabric from fastener, the protruding ends shall be pointed away from the fabric.

3. The maximum spacing of posts for non-woven silt fence shall be 3 feet and for woven fabric 8 feet.

4. Silt fence shall have a support cord.

5. Where joints are necessary, each end of the fabric shall be securely fastened to a post. The posts shall then be wrapped around each other to produce a stable, secure joint or shall be overlapped the distance between two posts.

6. A minimum of 20 inches of the post shall extend into the ground after installation.

D. **Anchoring** – Silt fence shall be anchored by spreading at least 8 inches of the fabric in a 4 inch wide by 6 inch deep trench, or 6 inch deep V-trench on the upslope side of the fence. The trench shall be backfilled and compacted. Trenches shall not be excavated wider and deeper than necessary for proper installation.

On the terminal ends of silt fence the fabric shall be wrapped around the post such that the staples are not visible.

E. **Geotextile Fabric Specifications** – The geotextile fabric consists of either woven or non-woven polyester, polypropylene, stabilized nylon, polyethylene, or polyvinylidene chloride. Non-woven fabric may be needle punched, heat bonded, resin bonded, or combinations thereof. All fabric shall meet the following requirements as specified in Table 2.

Table 2.

Test Requirement	Method	Value[1]
Minimum grab tensile strength in the machine direction	ASTM D 4632	120 lbs. (550 N)
Minimum grab tensile strength in the cross machine direction	ASTM D 4632	100 lbs. (450 N)
Maximum apparent opening size equivalent standard sieve	ASTM D 4751	No. 30 (600 µm)
Minimum permittivity	ASTM D 4491	0.05 scc^{-1}
Minimum ultraviolet stability percent of strength retained after 500 hours of exposure	ASTM D 4355	70%

(WisDOT Standard Specifications for Road and Bridge Construction, 2001)

[1] All numerical values represent minimum / maximum average roll values. (For example, the average minimum test results on any roll in a lot should meet or exceed the minimum specified values.)

Silt fence shall have a maximum flow rate of 10-gallons/minute/square foot at 50mm constant head as determined by multiplying permittivity in 1/second as determined by ASTM D-4491 by a conversion factor of 74.

F. **Removal** – Silt fences shall be removed once the disturbed area is permanently stabilized and no longer susceptible to erosion.

VI. Considerations

A. Improper placement as well as improper installation and maintenance of silt fences will significantly decrease the effectiveness of this practice.

Silt fences should be considered for trapping sediment where sheet and rill erosion may be expected to occur in small drainage areas. Silt fences should not be placed in areas of concentrated flow.

B. Silt fences should be installed prior to disturbing the upslope area.

C. Silt fences should not be used to define the boundaries of the entire project. Silt fence should be placed only in areas where it is applicable due to its cost and the fact that it is not biodegradable. For example, silt fence should not be placed in locations where the natural overland flow is from an undisturbed area into disturbed areas of the project. It should also not be used as a diversion.

D. Silt fence should not be used in areas where the silt fence is at a higher elevation than the disturbed area.

E. When placing silt fence near trees, care should be taken to minimize damage to the root system. Avoid compaction and root cutting within 1.5 feet multiplied by the inch diameter of the tree (for example: for 10-inch trees keep out a 15-foot radius from the trunk). Refer to UWEX publication Preserving Trees During Construction for more information.

F. To protect silt fence from damage in areas of active construction or heavy traffic, silt fence should be flagged, marked, or highlighted to improve visibility.

G. Silt fence effectiveness is generally increased when used in conjunction with other upslope erosion control practices. To further strengthen the silt fence, straw / hay bales can be placed on the down slope side.

H. To help ensure effectiveness, silt fence should be inspected and repaired as necessary prior to forecasted rain events.

I. Where installation with wood posts is difficult, such as when hard or frozen ground is encountered, the use of steel post is recommended.

J. Silt fence can be mechanically installed with a plow type device provided that the silt fence is trenched in a manner such that equivalent performance is achieved to that specified in Section V.D.

VII. Plans and Specifications

A. Plans and specifications for installing silt fence shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:

1. Location of silt fence
2. Contributory drainage area
3. Schedules
4. Material specification conforming to standard
5. Standard drawings and installation details
6. Restoration after removal

B. All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

A. Silt fences shall at a minimum be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24 hour period.

B. Damaged or decomposed fences, undercutting, or flow channels around the end of barriers shall be repaired or corrected.

C. Sediment shall be properly disposed of once the deposits reach ½ the height of the fence.

IX. References

UWEX Publication A0327 "Preserving Trees During Construction"

X. Definitions

Channel Erosion (III.A.1): The deepening and widening of a channel due to soil loss caused by flowing water. As rills become larger and flows begin to concentrate, soil detachment occurs primarily as a result of shear.

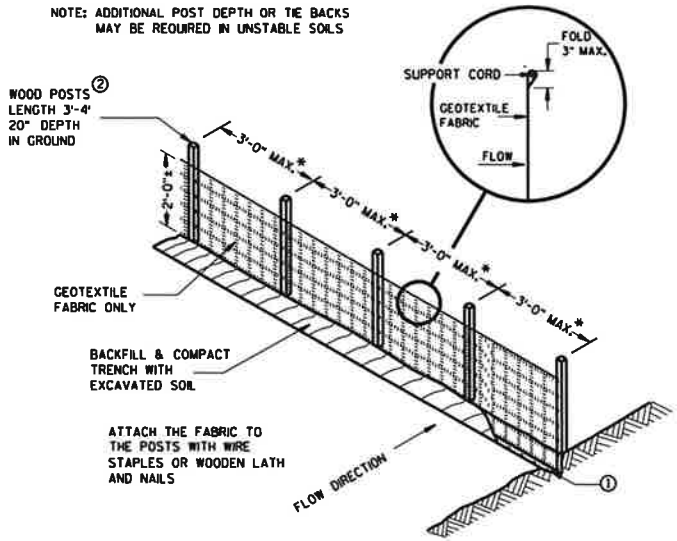
Sheet and Rill Erosion (III.A.1): Sheet and rill erosion is the removal of soil by the action of rainfall and shallow overland runoff. It is the first stage in water erosion. As flow becomes more concentrated rills occur. As soil detachment continues or flow increases, rills will become wider and deeper forming gullies.

GENERAL NOTES

① TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

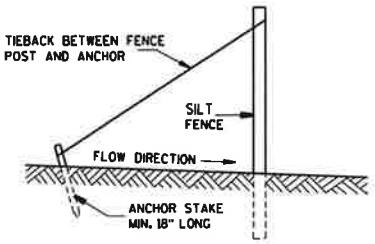
② WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" x 1½" OF OAK OR HICKORY.

③ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) TWIST METHOD -- OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK METHOD -- HOOK THE END OF EACH SILT FENCE LENGTH.

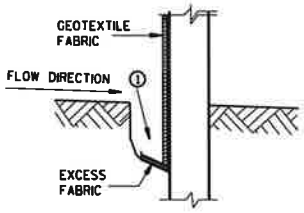


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

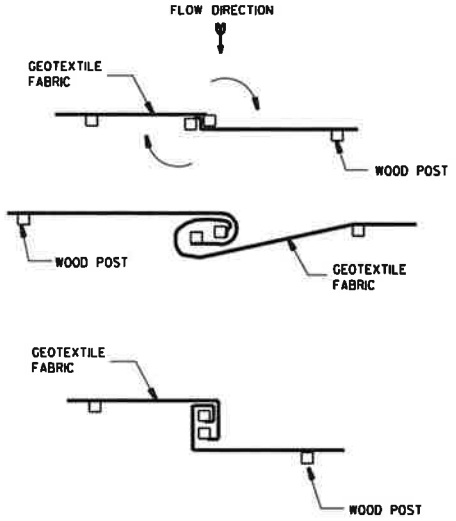
SILT FENCE



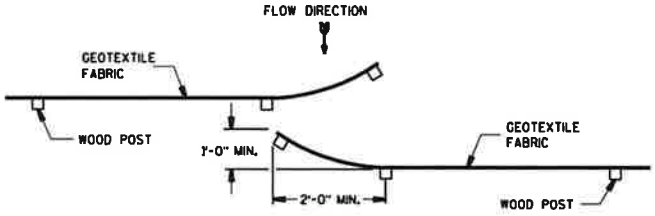
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL



TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ④

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

SILT FENCE

Mulching For Construction Sites
(1058)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

Mulching is the application of organic material to the soil surface to protect it from raindrop impact and overland flow. Mulch covers the soil and absorbs the erosive impact of rainfall and reduces the flow velocity of runoff.

II. Purpose

This practice may be used to:

- Reduce soil erosion
- Aid in seed germination and establishment of plant cover
- Conserve soil moisture

III. Conditions Where Practice Applies

This practice may be applied on exposed soils as a temporary control where soil grading or landscaping has taken place or in conjunction with temporary or permanent seeding. Mulching is generally not appropriate in areas of concentrated flow.

IV. Federal, State, and Local Laws

Users of this standard shall comply with applicable federal, state and local laws, rules, regulations or permit requirements governing mulching. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. Site Preparation:

Soil surface shall be prepared prior to the application of mulch in order to achieve the desired purpose and to ensure optimum contact between soil and mulch. All areas to be mulched shall be reasonably free of rills and gullies.

B. Materials:

Mulch shall consist of natural biodegradable material such as plant residue (including but not limited to straw, hay, wood chips, bark and wood cellulose fiber), or other equivalent materials of sufficient dimension (depth or thickness) and durability to achieve the intended effect for the required time period.

Mulch shall be environmentally harmless to wildlife and plants. Materials such as gravel, plastic, fabric, sawdust, municipal solid waste, *solid waste byproducts*[1], shredded paper, and non-biodegradable products shall not be used.

Mulch shall be free of diseased plant residue (i.e. oak wilt), *noxious weed* seeds, harmful chemical residues, heavy metals, hydrocarbons and other known environmental toxicants.

Marsh hay shall not be used as mulch in lowland areas but may be used on upland sites to prevent the spread of invasive, non-native species (i.e. reed canary grass) commonly found in marsh hay.

Straw and hay mulch that will be crimped shall have a minimum fiber length of 6 inches.

[1] Words 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.

Wood chips or wood bark shall only be used for sites that are not seeded.

C. Application Rate:

1. Mulch shall cover a minimum of 80% of the soil surface for unseeded areas. For seeded areas, mulch shall be placed loose and open enough to allow some sunlight to penetrate and air to circulate but still cover a minimum of 70% of the soil surface.

2. Mulch shall be applied at a uniform rate of 1½ to 2 tons per acre for sites that are seeded, and 2 to 3 tons per acre for sites that are not seeded. This application results in a layer of ½ to 1½ inches thick for seeded sites, and 1½ to 3 inches thick for sites not seeded.

3. Wood chips or wood bark shall be applied at a rate of 6 to 9 tons per acre to achieve a minimum of 80% ground cover. This application should result in a layer of wood chips or wood bark ½ to 1½ inches thick.

D. Mulch Anchoring Methods

Anchoring of mulch shall be based on the type of mulch applied, site conditions, and accomplished by one of the following techniques:

1. Crimping

Immediately after spreading, the mulch shall be anchored by a mulch crimper or equivalent device consisting of a series of dull flat discs with notched edges spaced approximately 8 inches apart. The mulch shall be impressed in the soil to a depth of 1 to 3 inches.

2. Polypropylene Plastic, or Biodegradable Netting

Apply plastic netting over mulch application and staple according to manufacturer's recommendations.

3. Tackifier

Tackifier shall be sprayed in conjunction with mulch or immediately after the mulch has been placed. Tackifiers must be selected from those that meet the WisDOT Erosion Control Product Acceptability List (PAL). Asphalt based products shall not be applied.

The tackifiers shall be applied at the following minimum application rates per acre:

a. Latex-Base: mix 15 gallons of adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as a tracer with 375 gallons of water.

b. Guar Gum: mix 50 pounds of dry adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as tracer with 1,300 gallons of water.

~~c.~~ Other Tackifiers: (Hydrophilic Polymers) mix 100 pounds of dry adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as a tracer with 1,300 gallons of water.

VI. Considerations

A. Wood products typically absorb available soil nitrogen as they degrade, thus making it unavailable for seed.

B. The use of mulch behind curb and gutter may not be desirable unless anchored by netting, because air turbulence from nearby traffic can displace the mulch. Consider the use of erosion mat or sod as an alternative.

C. In areas where lawn type turf will be established, the use of tackifiers is the preferred anchoring method. Crimping will tend to leave an uneven surface and plastic netting can become displaced and entangled in mowing equipment.

D. A heavier application of mulch may be desired to prevent seedlings from being damaged by frost.

E. It may be beneficial to apply polyacrylimide in addition to mulch. Refer to WDNR Conservation Practice Standard (1050) Erosion Control Land Application of Anionic Polyacrylamide for information about the advantages and proper use of polymers.

F. Concentrated flows above the site where mulch is applied should be diverted.

G. Mulch should be placed within 24 hours of seeding.

H. Mulching operations should not be performed during periods of excessively high winds that would preclude the proper placement of mulch.

I. Materials such as gravel may be effective for erosion control but are not considered mulches.

VII. Plans and Specifications

A. Plans and specifications for mulching shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:

   1. Type of mulch used
   2. Application rate
   3. Timing of application
   4. Method of anchoring

B. All plans, standard detail drawings, or specifications shall include schedules for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

Mulch shall, at a minimum, be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24 hour period.

Mulch that is displaced shall be reapplied and properly anchored. Maintenance shall be completed as soon as possible with consideration to site conditions.

IX. References

WisDOT's Erosion Control Product Acceptability List (PAL) can be found on the WisDOT web site: http://www.dot.wisconsin.gov/business/engrserv/pal.htm Printed copies are no longer being distributed.

X. Definitions

Noxious weed (V.B): Any weed a governing body declares to be noxious within its respective boundaries. The State of Wisconsin list of noxious weeds can be found in Statute 66.0407.

Solid Waste Byproducts (V.B): Includes industrial, commercial, residential, and agricultural wastes that have been processed, incinerated, or composted and still contain inorganic wastes such as glass and metals and organic wastes including plastics, textiles, rubber, leather, and other miscellaneous organic wastes which may be toxic or hazardous in nature.

Wisconsin Department of Natural Resources
Conservation Practice Standard
Non-Channel Erosion Mat
1052

DEFINITION

A protective soil cover made of straw, wood, coconut fiber or other suitable plant residue, or plastic fibers formed into a mat, usually with a plastic or biodegradable mesh on one or both sides. Erosion mats are rolled products available in many varieties and combinations of material and with varying life spans.

PURPOSE

The purpose of this practice is to protect the soil surface from the erosive effect of rainfall and prevent erosion during the establishment of grass or other vegetation, and to reduce soil moisture loss due to evaporation. This practice applies to both *Erosion Control Revegetative Mats (ECRM)* and *Turf-Reinforcement Mats* (*TRM*).

CONDITIONS WHERE PRACTICE APPLIES

This standard applies to erosion mat selection for use on erodible slopes.

This standard is not for *channel* erosion. For channel applications, reference WDNR Conservation Practice Standard (1053) Channel Erosion Mat.

Be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of erosion mat. This standard does not contain the text of federal, state, or local laws.

CRITERIA

Products

Use erosion mat products identified on the Wisconsin Department of Transportation (WisDOT) Erosion Control Product Acceptability List (PAL).

Selection

Use WisDOT PAL classes and types to select and specify erosion mat.

Select the appropriate erosion mat based on site specific slope and slope length conditions in accordance with the WisDOT Facilities Development Manual (FDM Section 10-5) Slope Erosion Control Matrix.

Select erosion mat that will last long enough for turf grass or other vegetation to become densely established.

Use only mats containing exclusively organic material (no plastic) in or near *waterways* or other sensitive areas.

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

Installation

Install and anchor erosion mat in accordance with manufacturer's instructions.

At the time of installation, retain material labels and manufacturer's installation instructions until the site has been stabilized.

Install ECRMs after topsoil is placed and seeding is complete.

Install TRMs in conjunction with placement of topsoil, followed by ECRM installation.

Install erosion mat so that it bears completely on the soil surface.

Use staples that are at least 6 inches long.

Do not install Class I or Class II - Type B products that incorporate photo- or bio-degradable netting after September 1st of a given year.

CONSIDERATIONS

Use Class I Urban mats in locations where shortly mowed turf grasses are to be established.

ECRMs without topsoiling and seeding can be used for temporary soil stabilization during the non-growing season or for periods of inactivity.

Slope interruption products that are designed, installed and maintained in accordance with DNR Interim Manufactured Perimeter Control and Slope Interruption Products Technical Standard 1071 can be used to reduce slope length.

Some erosion mat products can have detrimental effects on local wildlife. Plastic netting without independent movement of strands can easily entrap small animals moving through the area, leading to dehydration, desiccation, and eventually mortality. Netting that contains biodegradable thread with the "leno" or "gauze" weave (contains strands that can move independently) have the least impact on wildlife.

PLANS AND SPECIFICATIONS

Prepare plans and specifications in accordance with the criteria of this standard and describe the requirements for applying the practice to achieve its intended use.

OPERATION AND MAINTENANCE

Inspect erosion mat at least weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24-hour period.

If there are signs of rilling under the mat, install more staples or more frequent anchoring trenches. If rilling becomes severe enough to prevent establishment of vegetation, remove the section of mat where the damage has occurred. Fill the eroded area with topsoil, compact, reseed and replace the section of mat, trenching and overlapping ends per manufacturer's recommendations. Additional staking is recommended near where rilling was filled.

In situations where soil type, topography, or other conditions result in poor observed performance, use multiple practices such as adding mulch under the mat, or installing appropriately placed check devices to reduce local velocity.

If the reinforcing plastic netting has separated from the mat, remove the plastic and if necessary replace the mat.

Complete maintenance as soon as possible with consideration to site conditions.

REFERENCES

WisDOT "Erosion Control Product Acceptability List" is available online at:

http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/pal/default.aspx

DEFINITIONS

Erosion Control Revegetative Mats (ECRM) (II): A blanket like covering laid on top of a prepared seed bed to protect the soil and seed from the erosive forces of nature.

Turf-Reinforcement Mats (TRM) (II): Helps to permanently stabilize the soil by acting as reinforcement for the roots of the vegetation. This open weaved, synthetic mat is installed on top of soil and filled with topsoil and seeded. As the vegetation grows, the roots intertwine into the mat and reinforces the turf.

Channel: A constructed swale or ditch designed to convey storm water.

Waterways: Natural watercourses such as lakes or streams.

APPENDIX E

Construction Site Inspection Form

State of Wisconsin
Department of Natural Resources (DNR)
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

CONSTRUCTION SITE INSPECTION REPORT

Form 3400-187 (R 11/16)

Notice: This form was developed in accordance with s. NR 216.48 Wis. Adm. Code for WPDES permittees' convenience; however, use of this specific form is voluntary. Multiple copies of this form may be made to compile the inspection report. Inspections of the construction site and implemented erosion and sediment control best management practices (BMPs) must be performed weekly and within 24 hours after a rainfall event 0.5 inches or greater.

Construction Site Name and Location (Project, Municipality, and County):	**Site/Facility ID No. (FIN):**
Onsite Contact/Contractor:	**Onsite Phone/Cell:**

Note: Inspection reports, along with erosion control and storm water management plans, are required to be maintained on site in accordance with s. NR 216.48 (4) and made available upon request. PLEASE PRINT LEGIBLY.

Date of inspection:	**Time of inspection:** **Start:** _____ ◯ am ◯ pm **End:** _____ ◯ am ◯ pm	**Type of inspection:** ◯ **Weekly** ◯ **Precipitation Event** ◯ **Other (specify)**
Weather/Site Conditions: **Temp.** _____ **°F** **Antecedent Soil Moisture** **Last Rainfall Depth:** _____ **inches** **Last Rainfall Date:** _____	◯ **Dry** ◯ **Frozen or snow covered** ◯ **Variable** ◯ **Frozen (Thaw predicted in next week)** ◯ **Wet** ◯ **Melting Snow/slush**	**Describe current phase of construction:** Scheduled Final Stabilization Date for Universal Soil Loss Equation (USLE) [1]: **Project on Schedule[2]?** ◯ **Yes** ◯ **No**
Name(s) of individual(s) performing inspection:		**Inspector Phone/Cell:**

I certify that the information contained on this form is an accurate assessment of site conditions at the time of inspection:

Inspector Signature _____ **Date:** _____

Inspection Questions:	Yes	No (Identify Actions Required):	Location/Comments:	Actions Completed by Date & Initials
1. Is the erosion control plan accessible to operators?	☐	☐ Provide onsite copy		
2. Is the permit certificate posted where visible?	☐	☐ Post certificate		
3. Is the current phase of construction on sequence with the site-specific erosion and sediment control plan, including installation/stabilization of ponds and ditches?	☐	☐ Add sediment control ☐ Install missing ditch/pipe/pond ☐ Stabilize bare soil		
4. Are all erosion and sediment control BMPs shown on plan properly installed and in functional condition?	☐	☐ Repair ☐ Modify ☐ Install/Replace		
5. Is inlet protection properly installed and functioning in all inlets likely to receive runoff from the site?	☐	☐ Clean ☐ Replace ☐ Install		
6. Is the air free of fugitive dust resulting from construction activity and bare soil exposure?	☐	☐ Apply water ☐ Apply dust control product		

[1] The Universal Soil Loss Equation (USLE) model and the Construction Site Soil Loss and Sediment Discharge Guidance are available at: http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

[2] If the project is not on schedule then the soil loss summary for the project should be reviewed and schedule, plan or practices modified accordingly.

CONSTRUCTION SITE INSPECTION REPORT

Inspection Questions:	Yes	No (Identify Actions Required):	Location/Comments:	Actions Completed by Date & Initials
7. Is the public right of way curb line free of tracked soil and accumulation?	☐	☐ Install tracking pad ☐ Widen/lengthen pad ☐ Amend stone/Add geotextile ☐ Install wheel washing station ☐ Close entrance/exit ☐ Limit traffic across disturbed areas ☐ Sweep road and curb line		
8. Are wetlands, lakes, streams, ditches, or storm sewers downstream of the site free of sedimentation and turbid water leaving the site?[3]	☐	☐ Repair/Replace erosion control ☐ Add sediment controls ☐ Modify operations ☐ Contact DNR to verify extent of cleanup required		
9. Is dewatering and/or vehicle and equipment washing being done in a manner that prevents erosion and sediment discharge?	☐	☐ Install treatment train ☐ Install energy dissipation ☐ Modify discharge location ☐ Modify intake to reduce sediment		
10. Are soil stockpiles existing for more than 7 days covered and stabilized?	☐	☐ Seed ☐ Install mat/mulch/polymer ☐ Cover with tarp/plastic sheeting		
11. Are downstream channels and other downhill areas protected from scour and erosion?	☐	☐ Install energy dissipation at outfall ☐ Install ditch checks ☐ Install slope interruption ☐ Install onsite detention		
12. Are good housekeeping practices or treatment controls in place to prevent the discharge of chemicals, cement, trash, and other materials into wetlands, waterways, storm sewers, ditches, or drainage-ways?[4]	☐	☐ Properly dispose of trash ☐ Provide concrete washout station ☐ Contact DNR to verify extent of cleanup required		
13. Is the plan reflective of current site operations and does it address all erosion and sediment control issues identified during the inspection?	☐	☐ Revise sequence ☐ Revise sediment control BMP ☐ Revise erosion control BMP ☐ Revise post-construction storm water BMP		
14. Are all areas where construction has temporarily ceased (and will not resume for more than 2 weeks) temporarily stabilized?	☐	☐ Topsoil & seed ☐ Install mat/mulch/polymer ☐ Cover with tarp/plastic sheeting		
15. Are all areas at final grade permanently vegetated or stabilized with other treatments?	☐	☐ Topsoil & seed ☐ Install mat/mulch/polymer ☐ Sod ☐ Install stone base		
16. Have temporary sediment controls been removed in areas of the site that meet the permit definition of 'final stabilization'?	☐	☐ Water to establish vegetation ☐ Repair or reseed areas ☐ Remove temporary practices		

3 If sediment discharge enters a wetland or waterbody, the permittee should consult with DNR staff to determine if sediment cleanup and/or additional control measures are required.

4 The permittee shall notify the DNR immediately via the spills hotline at (800)943-0003 of any release or spill of a hazardous substance to the environment in accordance with s. 292.11, Wis. Stats., and ch. NR 706, Wis. Adm. Code.

Land Resources and Parks Department
Staff Report

County Conditional Use Permit Application # 2022-0821
Filing Date: September 29, 2022
Hearing Date: November 14, 2022

Applicant /Owner:
Skalitzky Drainage LLC
N8274 Moungey Ln
Waterloo, Wi 53594

Location
PIN #: 014-1013-3634-000; 3633-001; 3631-000 and 3624-001;
Location: Part of the SE ¼ of the SW ¼, Section 36, Town of Elba, the site address being N2566 Benninger Road.

Applicants Request
An application for a County Conditional Use Permit under the Dodge County Land Use Code, was made by the applicant to allow for the creation of an approximate 2.5-acre nonfarm single family residential lot within the A-1 Prime Agricultural Zoning District. The proposed 2.5-acre lot contains the existing farm buildings and residence which are intended for non-farm residential use. The remaining 116+acres of farmland will remain in agricultural use at this time.

County Jurisdiction
The County has Zoning Jurisdiction over this site as the Town of Elba has adopted the County's Land Use Code.

Review Criteria
1. Subsections 2.3.6.A through 2.3.6.H of the Land Use Code details procedural matters, the approval criteria and the form for the conditional use permit application.

2. According to Section 3.7.4 of the Code, the Committee may authorize the Land Use Administrator to issue a Conditional Use Permit (CUP) for those conditional uses listed under Section 3.7.2 of this Code after review and a public hearing, provided that such conditional uses are in accordance with Section 2.3.6 of this Code and Wis. Stats. 91.46.

Land Use Code Provisions:
1. Section 3.7.2.D of the Land Use Code identifies proposals that convert a farm residence to a nonfarm residence through a change in occupancy as a conditional use in the A-1 Prime Agricultural Zoning District provided the proposal complies with the requirements listed in 3.7.2.D.1 through 3.7.2.D.3.

Purpose Statement
The purpose of the A-1 Prime Agricultural Zoning District is to promote areas for uses of a generally exclusive agricultural nature in order to protect farmland, allow participation in the state's farmland preservation program, and accommodate changing practices in the agricultural industry, subject to appropriate standards.

Physical Features of Site
The features of the proposed construction and property that relate to the granting or denial of the conditional use permit request are as follows:

The County has Zoning Jurisdiction over this site as the Town of Elba has adopted the County's Land Use Code. The site is located within the A-1 Prime Agricultural Zoning District.

The County has Shoreland Jurisdiction over portions of the remnant lands.

- Portions of the remnant land are designated as wetlands.
- The proposed 2.5-acre lot is not designated as wetlands.

The County has Floodplain jurisdiction over portions of the remnant lands.

- The 2.5-acre lot is designated as floodplain.

The base farm tract contains 119.1-acres that are located within the A-1 Prime Agricultural Zoning District;

- 5.67-acres are available for non-farm residential use under Section 3.7.2.D.1 of the code.

The topography of the site is rolling with slopes ranging from 0 to 12%;

Land Use, Site: Residential and agricultural.

Land Use, Area: Agricultural with scattered residences along County Road BB.

Designated Archaeological Site: Yes ☐ No ☒

Town Recommendation: Approve ☒ Deny ☐ No recommendation submitted ☐

STAFF ADVISORY:

This staff advisory is only advice to the Land Resources and Parks Committee. The Committee may or may not consider the advice of the staff and decision making authority is vested in the Committee only.

The staff has reviewed the proposal for compliance with the criteria listed in Sections 2.3.6.F and 3.7.2.D of the Dodge County Land Use Code and with Chapter 91.46 of the Wisconsin State Statutes. The staff comments are listed in Exhibit A for the Committee review.

It is the staff's position that the project as proposed is in compliance with the applicable provisions of the Dodge County Land Use Code and the provisions of Chapter 91.46 of the Wisconsin State Statutes and the staff believes that the Committee can make the findings necessary under Section 2.3.6.F and 3.7.2.D of the code that are required to approve the Conditional Use Permit for this project. If approved with the following conditions, the staff believes that the project will not have an adverse effect on the adjacent land owners, the community or the environment, and the proposal will be consistent with the purpose and intent of the Code.

CONDITIONS:

1. The applicant shall obtain the required land division approvals for the proposed lot from the County and local municipalities if required, prior to the creation of these lots;
2. The proposed non-farm residential lot shall not exceed 5.67-acres in area unless the lot is successfully rezoned out of the A-1 Prime Agricultural Zoning District;
3. Only one single family residential unit may be located on the proposed non-farm residential lot unless this lot is successfully rezoned into a zoning district which allows additional residential units;
4. The acreage of the proposed non-farm residential lot shall count towards the total non-farm residential acreage that can be created from the base farm tract for this property;
5. A "Notice of Zoning Limitations" document shall be recorded with the Dodge County Register of Deeds Office for the following parcels which make up the "base farm tract" which notifies the potential buyers of these parcels that there may be limitations as to the number of new lots that can be created from this base farm tract:
    - 014-1013-3634-000; 014-1013-3634-001; 014-1013-3631-000; 014-1013-3624-001;
6. The owner and subsequent owners of this non-farm residential lot hereby agree to comply with Subsection 9.2, Right to Farm provisions of the Dodge County Land Use Code and that they will not cause unnecessary interference with adjoining farming operations producing agricultural products and using generally accepted agricultural practices, including access to active farming operations;
7. The decision of the Committee shall expire one year after the decision is filed with the Department unless construction has been diligently pursued, a Certificate of Zoning Compliance has been issued, the use is established, or the Conditional Use Permit is renewed, for a period not to exceed one year.
8. The Conditional Use Permit shall also expire upon termination of a project or if the rights granted by the permit are discontinued for 180 consecutive days.

"EXHIBIT A"

Staff Review Comments

The staff has reviewed the proposal for compliance with the criteria listed in Section 2.3.6.F and 3.7.2 of the code. The staff comments are as follows:

Subsection 3.7 Is the proposed conditional use permit request in compliance with Chapter 91.46, Wisconsin State Statutes?

	Complies	Potential Problem	N/A
Proposed Use:	☒	☐	☐

3.7.2.D.1 Non-farm residential acreage ratio: ☒ ☐ ☐

- Acreage of Base Farm Tract: 119.069 acres;
- Non-farm residential acreage: 2.5 acres;
- Farm acreage remaining after project is completed: 116.57 acres;
- The ratio of all "nonfarm residential acreage" to farm acreage: on the "base farm tract" shall not exceed 1 to 20 (0.05).
  - Ratio of non-farm residential acreage to farm acreage: 1 to 46 or 0.02

3.7.2.D.2 The total number of non-farm residential units on the base farm tract shall not exceed 4; ☒ ☐ ☐

Existing non-farm residences on base farm tract:

- 0 - Number of existing non-farm residential units located on base farm tract;
- 1 - Number of proposed non-farm residential units located on base farm tract;
- 1 - Total number of non-farm residential units located on base farm tract;

The total number of residential units of any kind on the base farm tract shall not exceed 5; ☒ ☐ ☐

Existing residential units on base farm tract:

- 1 - Number of existing residential units located on base farm tract;
- 0 - Number of proposed residential units located on base farm tract;
- 1 - Total number of residential units located on base farm tract;

3.7.2.D.3.a Location of the proposed lots: ☒ ☐ ☐

Will the proposed nonfarm residential lot convert cropland or "prime farmland" into non-farm use;

☐ Yes; ☒ No;

3.7.2.D.3.b Location of the proposed lots: ☐ ☐ ☐

Will the location of the nonfarm residential lot significantly impair the current or future agricultural use of other "protected farmland"?

☐ Yes; ☒ No;

Non-Farm Residential Cluster: ☐ ☐ ☒

2.3.6.F.2 Is the project compatible with adjacent uses in terms of scale, site design, operating characteristics (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts);

- It is the staff's position that the proposed lot that contains an existing residential use will be compatible with the adjacent uses;

2.3.6.F.3 Will the proposed use be significantly detrimental to the public health, safety, and welfare?

- It is the staff's position that the proposal will not have a significant detrimental impact on the adjacent properties or the community as the lot will contain an existing residence;

2.3.6.F.4 Will the project cause substantial diminution in value of other property in the neighborhood in which it is to be located;

- It is the staff's position that the proposal will not have an adverse impact on the value of other property in the area;

2.3.6.F.5 Are public safety, transportation and utility facilities and services available to serve the subject property while maintaining sufficient levels of service for existing development?

- It is the staff's position that there are adequate public facilities to serve the property;

2.3.6.F.6 Are there adequate assurances of continuing maintenance for the project?

- It is the staff's position that there are adequate assurances of continuing maintenance for the project.

2.3.6.F.7 Will any significant adverse impacts on the natural environment be mitigated to the maximum practical extent?

- It is the staff's position that the proposal will not have an adverse impact on the natural environment.

2.3.6.F.8 The proposed use will not be located in any hazard areas, including floodplains, floodways, etc., unless any potential danger is mitigated to the maximum extent possible, and to the satisfaction of the Wisconsin Department of Natural Resources;

- It is the staff's position that proposed use will not be located in any hazard areas.

2.3.6.F.1 Does the proposed project comply with all applicable provisions of this Code;

- It is the staff's position that the proposed project complies with the applicable provisions of the code;

Dodge County Land Resources and Parks Committee Decision

County Conditional Use Permit Application # 2022-0821
Filing Date: September 29, 2022
Hearing Date: November 14, 2022

Applicant /Owner:
Skalitzky Drainage LLC
N8274 Moungey Ln
Waterloo, Wi 53594

Location
PIN #: 014-1013-3634-000; 3633-001; 3631-000 and 3624-001;
Location: Part of the SE ¼ of the SW ¼, Section 36, Town of Elba, the site address being N2566 Benninger Road.

Applicants Request
An application for a County Conditional Use Permit under the Dodge County Land Use Code, was made by the applicant to allow for the creation of an approximate 2.5-acre nonfarm single family residential lot within the A-1 Prime Agricultural Zoning District. The proposed 2.5-acre lot contains the existing farm buildings and residence which are intended for non-farm residential use. The remaining 116+acres of farmland will remain in agricultural use at this time.

CONCLUSIONS OF LAW
Based on the facts presented in the application and at the public hearing the Committee concludes that:

According to Section 3.7.2.D of the Land Use Code and Wisconsin State Statute 91.46, a proposal to convert a farm residence to a nonfarm residence through a change in occupancy can be approved if all of the following apply:

3.7.2.D.1 Does the proposal meet the nonfarm residential acreage standards for the A-1 Prime Agricultural Zoning District?

(Yes / No)

If no, the request shall be denied.

3.7.2.D.2 Does the proposal meet the density standards for the A-1 Prime Agricultural Zoning District?

(Yes / No)

If no, the request shall be denied.

3.7.2.D.3.a Will the proposed nonfarm residential lot convert cropland or “prime farmland” into non-farm use;

(Yes / No)

If yes, are there reasonable alternative locations for the proposed lot that would convert less cropland or prime farmland into nonfarm residential use?

_____

_____

3.7.2.D.3.b Will the location of the nonfarm residential lot significantly impair the current or future agricultural use of other “protected farmland”?

(Yes / No)

If yes, are there any mitigation measures that can be implemented in order to minimize the impact of the nonfarm residential use on the adjacent agricultural use?

_____

_____

2.3.6.F General Approval Criteria for Conditional Use Permits

Conditional Use Permits shall be approved by the Committee if they find that all of the following criteria have been met:

2.3.6.F.2 Is the project compatible with adjacent uses in terms of scale, site design and operating characteristics? (hours of operation, traffic generation, lighting, noise, odor, dust, and other external impacts);

(Yes / No)

If not, what measures can be taken to mitigate any potential conflicts?

_____

_____

2.3.6.F.3 Will the proposed use be significantly detrimental to the public health, safety, and welfare?

(Yes / No)

If yes, what measures can be taken to mitigate the potential detrimental impacts?

_____

_____

2.3.6.F.4 Will the project cause substantial decrease in value of other property in the neighborhood in which it is to be located;

(Yes / No)

If yes, what measures can be taken to mitigate the decrease in the value of the properties?

_____

_____

2.3.6.F.5 Are public safety, transportation and utility facilities and services available to serve the subject property while maintaining sufficient levels of service for existing development?

(Yes / No / Not Applicable)

If not, what can be done to ensure facilities and services will be available?

_____

_____

2.3.6.F.6 Are there adequate assurances of continuing maintenance for the project?

(Yes / No/ Not Applicable)

If no, what measures can be taken to ensure continued maintenance?

_____

_____

2.3.6.F.7 Will there be any significant adverse impacts on the natural environment that require mitigation?

(Yes / No)

If yes, what measures can be taken to mitigate the potential adverse impacts on the environment?

_____

_____

2.3.6.F.8 Is the project located in any hazard areas? (floodplains, floodways, steep slopes, etc)

(Yes / No)

If yes, are there any measures that need to be taken to mitigate any potential dangers?

_____

_____

2.3.6.F.1 Does the proposed project comply with all applicable provisions of this Code;

(Yes / No)

If not, what changes must be made to bring the project into compliance with the code?

_____

_____

Are any conditions for approval needed in this case to mitigate any potential adverse impacts on the adjacent properties, the environment or the community?

(Yes/No)

1. The applicant shall obtain the required land division approvals for the proposed lot from the County and local municipalities if required, prior to the creation of these lots;
2. The proposed non-farm residential lot shall not exceed 5.67-acres in area unless the lot is successfully rezoned out of the A-1 Prime Agricultural Zoning District;
3. Only one single family residential unit may be located on the proposed non-farm residential lot unless this lot is successfully rezoned into a zoning district which allows additional residential units;
4. The acreage of the proposed non-farm residential lot shall count towards the total non-farm residential acreage that can be created from the base farm tract for this property;
5. A "Notice of Zoning Limitations" document shall be recorded with the Dodge County Register of Deeds Office for the following parcels which make up the "base farm tract" which notifies the potential buyers of these parcels that there may be limitations as to the number of new lots that can be created from this base farm tract:
    - 014-1013-3634-000; 014-1013-3634-001; 014-1013-3631-000; 014-1013-3624-001;
6. The owner and subsequent owners of this non-farm residential lot hereby agree to comply with Subsection 9.2, Right to Farm provisions of the Dodge County Land Use Code and that they will not cause unnecessary interference with adjoining farming operations producing agricultural products and using generally accepted agricultural practices, including access to active farming operations;
7. The decision of the Committee shall expire one year after the decision is filed with the Department unless construction has been diligently pursued, a Certificate of Zoning Compliance has been issued, the use is established, or the Conditional Use Permit is renewed, for a period not to exceed one year.
8. The Conditional Use Permit shall also expire upon termination of a project or if the rights granted by the permit are discontinued for 180 consecutive days.

Others

_____

_____

Does the committee believe that the Conditional Use Permit Request meets the approval criteria in Sections 2.3.6.F and 3.7.2.D of the County Land Use Code and the provisions of Wisconsin State Statute 91.46?

(Yes / No)

Motion by _____to (approve / deny) the conditional use permit request based upon the previously mentioned findings and conditions.

Motion second _____

Vote

Dale Macheel	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Donna Maly	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Ben Priesgen	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Dan Siegmann	☐ Yes	☐ No	☐ Abstain	☐ Not Present
Mary Bobholz – Chair	☐ Yes	☐ No	☐ Abstain	☐ Not Present

Motion (Carried / Denied)

ORDER AND DETERMINATION

On the basis of the above findings of fact, conclusions of law and the record in this matter the committee

☐ Granted preliminary approval of the conditional use permit subject to the conditions listed above and the Land Use Administrator is directed to issue a conditional use permit incorporating the decision of this Committee.

☐ Granted the conditional use permit request as proposed and the Land Use Administrator is directed to issue a conditional use permit incorporating the decision of this Committee.

☐ Denied the conditional use permit request as proposed. The committee finds that the proposal does not meet the following approval criteria of the code:

_____

_____

Expiration of Approval Any order issued by the Committee requiring a Zoning official to issue a conditional use permit shall become void after one year unless the applicant or appellant shall have met the conditions of approval for such permit and a conditional use permit has been issued by the Zoning official within such time, provided, that the time may be extended when so specified by the Committee.

Revocation. This order may be revoked by the Committee in accord with Section 11.4.4 of the Dodge County Land Use Code after notice and opportunity to be heard for violation of any of the conditions imposed.

Appeals. This decision may be appealed by any person or their agent aggrieved by this decision or by any officer, department, board or bureau of the County, or by any affected town board. Such appeals shall be filed with the Dodge County Land Resources and Parks Department or the review and decision making body from whom the appeal is taken within 30 days after the date of written notice of the decision or order of the review and decision making body. The County assumes no liability for and makes no warranty as to reliance on this decision if construction is commenced prior to expiration of this 30-day period.

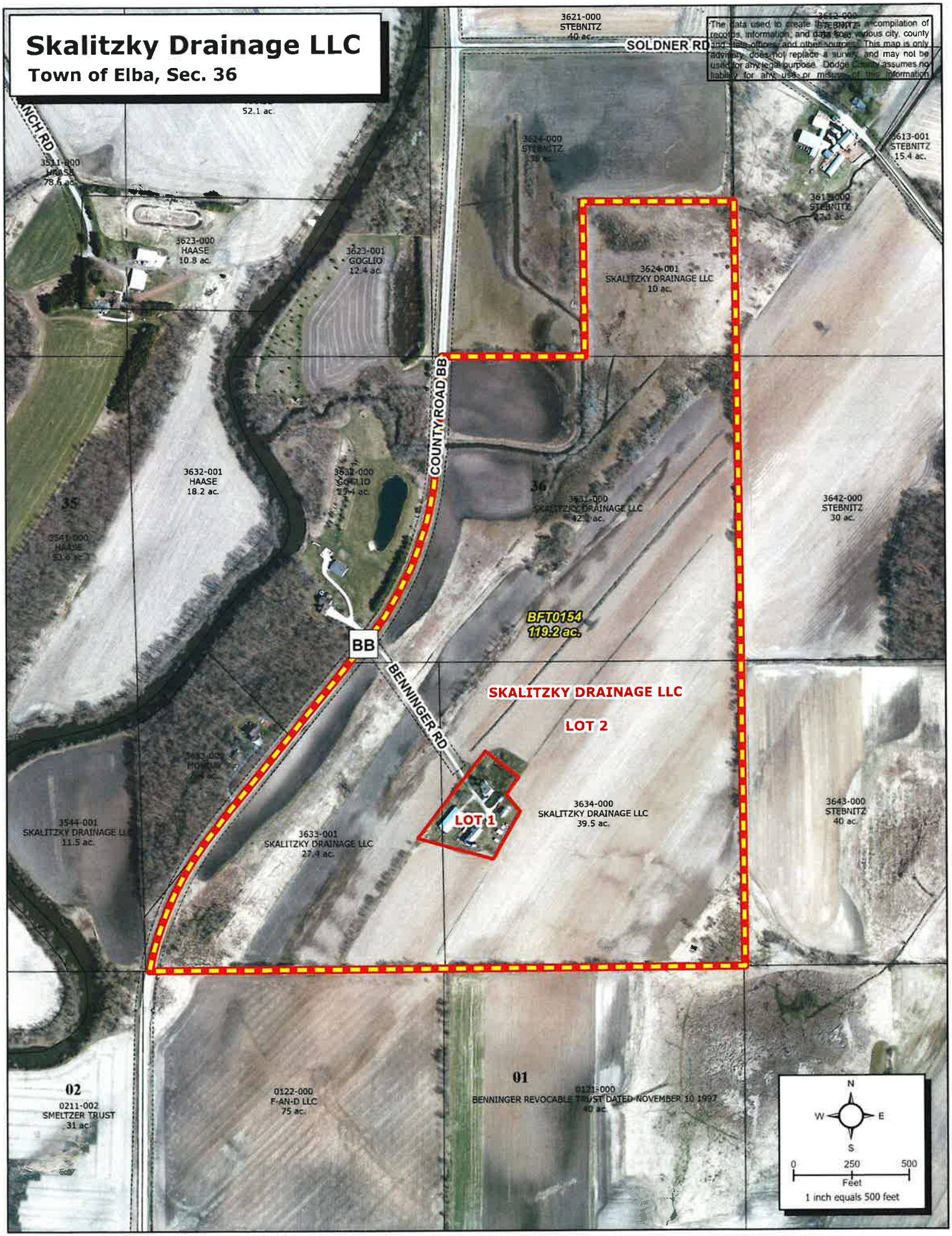
If a conditional use permit is denied, the applicant may appeal the decision to the circuit court under the procedures contained in s. 59.694(10) Wis. Stats.

Dodge County Land Resources and Parks Committee

Signed _____ Attest _____

Chairperson Secretary

Dated: _____ Filed: _____


Skalitzky Drainage LLC
Town of Elba, Sec. 36
The data used to create this map is a compilation of records, information, and data from various city, county and state offices and other sources. This map is only advisory, does not replace a survey, and may not be used for any legal purpose. Dodge County assumes no liability for any use or misuse of this information.
3621-000
STEBNITZ
40 ac.
SOLDNER RD
52.1 ac.
3624-000
STEBNITZ
3613-001
STEBNITZ
15.4 ac.
3623-000
HAASE
10.8 ac.
3623-001
GOGLIO
12.4 ac.
3624-001
SKALITZKY DRAINAGE LLC
10 ac.
COUNTY ROAD BB
3632-001
HAASE
18.2 ac.
3632-000
GOGLIO
12.4 ac.
35
36
3631-000
SKALITZKY DRAINAGE LLC
42.1 ac.
3642-000
STEBNITZ
30 ac.
BFT0154
119.2 ac.
BB
BENNINGER RD
SKALITZKY DRAINAGE LLC
LOT 2
LOT 1
3634-000
SKALITZKY DRAINAGE LLC
39.5 ac.
3643-000
STEBNITZ
40 ac.
3544-001
SKALITZKY DRAINAGE LLC
11.5 ac.
3633-001
SKALITZKY DRAINAGE LLC
27.4 ac.
02
0211-002
SMELTZER TRUST
31 ac.
0122-000
F-AN-D LLC
75 ac.
01
0121-000
BENNINGER REVOCABLE TRUST DATED NOVEMBER 10 1997
40 ac.
N
W
E
S
0
250
500
Feet
1 inch equals 500 feet

DODGE COUNTY
LAND RESOURCES & PARKS DEPARTMENT
127 E. OAK STREET • JUNEAU, WI 53039
PHONE: (920) 386-3700 x2 • FAX: (920) 386-3979
E-MAIL: landresources@co.dodge.wi.us

CONDITIONAL USE PERMIT APPLICATION

THIS AREA FOR OFFICE USE ONLY	
Activity No. 220821	**Permit Issued Date**
Application Date: 9-29-2022	Receipt #: 5751-0011
	Sanitary Permit #:

Application Fee: $350 *(After the Fact Application Fee - $700)*

Please complete page 1 and 2 of this application form and submit the application form with all of the required information listed in the "Application Checklist" for your project. PRINT OR TYPE. Use blue or black ink, do not use pencil. The Dodge County Land Resources and Parks Department will not consider your application unless you complete and submit this application form, the applicable information listed in the "application checklist" for your proposed project and the application fee. Personally identifiable information on this form will not be used for any other purpose, but it must be made available to requesters under Wisconsin's open records law [s.19.31-19.39, Wis. Stats.].

(1) NAMES & MAILING ADDRESSES

Applicant (Agent)
Shaltry Drainage
Street Address
W8593 Michel Ln
City • State • ZipCode
Waterloo WI 53594

Property Owner (If different from applicant)
Shaltry Drainage
Street Address
N2566 Benninger Rd
City • State • ZipCode
Reeseville WI 53579

(2) PROPERTY DESCRIPTION

Parcel Identification Number (PIN)
014-1013-3634-000

Town	T N	R E
ELBA	10	13

1/4	1/4	Section	Acreage	Lot (Block)
SW	SE	36	142	2.50

Subdivision or CSM (Volume/Page/Lot)
— —

Address Of Property (**DO NOT** Include City/State/ZipCode)
N2566 Benninger RD

Is this property connected to public sewer? ☐ Yes ☑ No

(3) PROPERTY USE

Current Use Of Property

☐ Vacant Property
☑ Single-Family Residential
☑ Active-Working Farm Operation
☐ Business • Industrial • Commercial • *(Describe below)*

Other _____

(4) PROPOSED PROJECT

(Please check/complete all that apply below)

☐ Non-Farm Residential Lot
☑ Single Family Residence
☐ Two-Family Residence
☐ Multi-Family Residence
☐ Tavern or Restaurant
☐ Professional Office
☐ Non-Metallic Mine/Quarry
☐ Wind Tower
☐ Create/Expand Business
☐ Wildlife Pond > 2-acres
☐ Wireless Communications Tower
☐ Contractor's Offices and Storage Yards
☐ Filling, Grading or Dredging in the Shoreland District

Other: _____

DNR Notice

DNR NOTICE: You are responsible for complying with State and Federal laws concerning construction on or near wetlands, lakes and streams. Wetlands that are not associated with open water can be difficult to identify. Failure to comply may result in removal or modification of construction that violates the law or other penalties or costs. For more information, visit the Department of Natural Resources Wetlands Identification Web Page (www.dnr.state.wi.us) or contact a Department of Natural Resources Service Center.

(5) CERTIFICATE

I, the undersigned, hereby apply for a Conditional Use Permit and certify that all the information both above and attached is true and correct to the best of my knowledge. I affirm that I have read the DNR Notice shown above. I affirm that all work performed will be done in accordance with the Dodge County Land Use Code and with all other applicable laws and regulations. I hereby authorize members of the Dodge County Land Resources and Parks Department to enter the above-described property for purposes of obtaining information pertinent to my application request and to conduct land use code inspections.

Signature _____ Date 9-28-22

Daytime Contact Number (920) 988 - 2440

AREA BELOW THIS LINE FOR OFFICE USE ONLY

LAND RESOURCES AND PARKS COMMITTEE ACTION

Date of Decision _____ Decision _____

☐ **APPROVED** ☐ **DENIED**	CONDITIONS	**Land Resources and Parks Department** _____ **Date:** _____

SITE PLAN (SKETCH)

☐ See Attached Site Plan (Sketch)

THIS AREA FOR OFFICE USE ONLY				
BOA ID No.	BOA Appeal Date	BOA P/H Date	BOA Decision Date	BOA Decision ☐ Approved ☐ Approved w/Conditions ☐ Denied
Notes/Stipulations:				
☐ **Approved** ☐ **Denied**	**Land Resources and Parks Department**		**Date**	

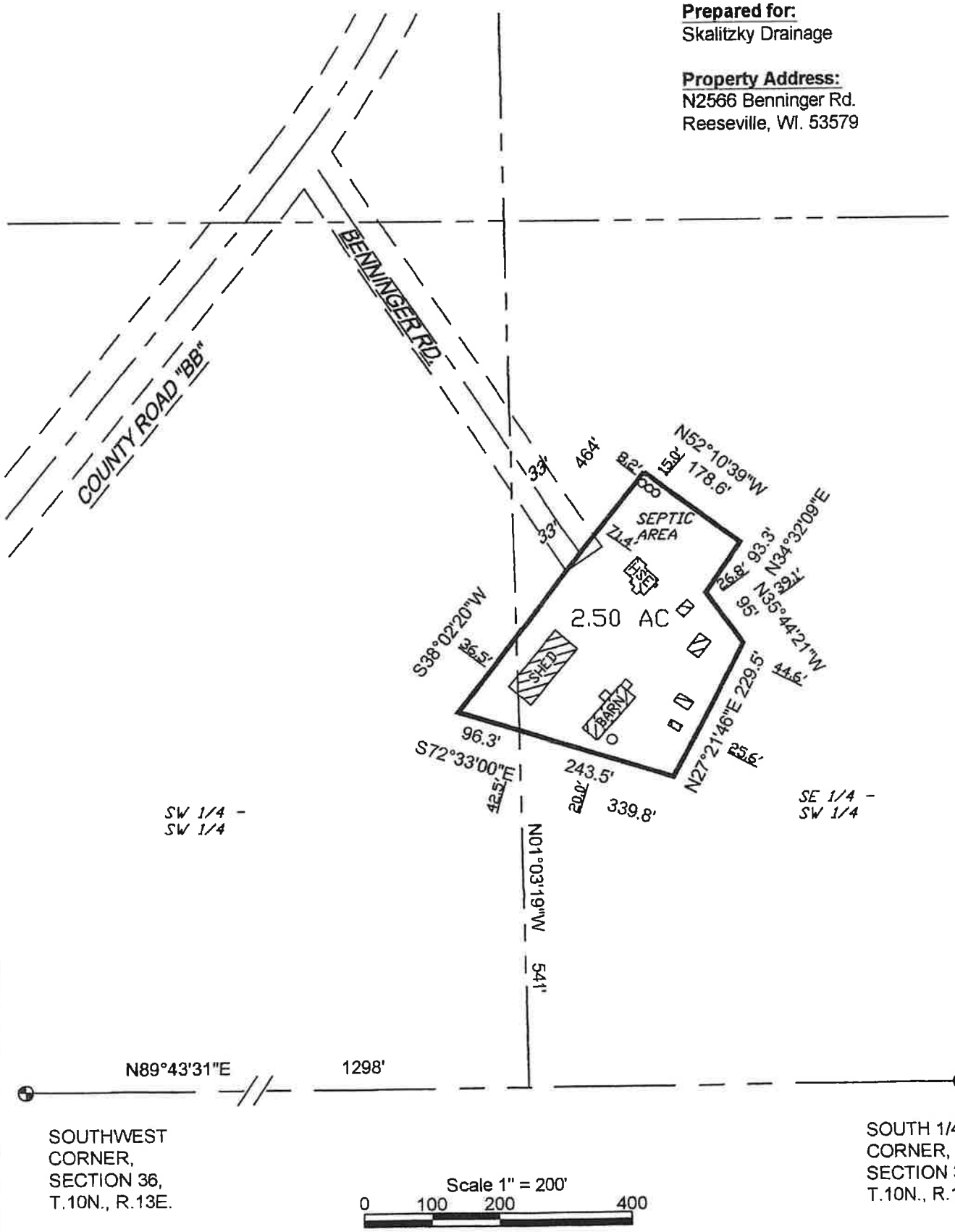
Please use only blue or black ink to complete the application and site plan (sketch) — **DO NOT USE PENCIL**

PRELIMINARY CERTIFIED SURVEY

PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 AND PART OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 36, TOWNSHIP 10 NORTH, RANGE 13 EAST, TOWN OF ELBA, DODGE COUNTY, WISCONSIN.

Prepared for:
Skalitzky Drainage

Property Address:
N2566 Benninger Rd.
Reeseville, WI. 53579

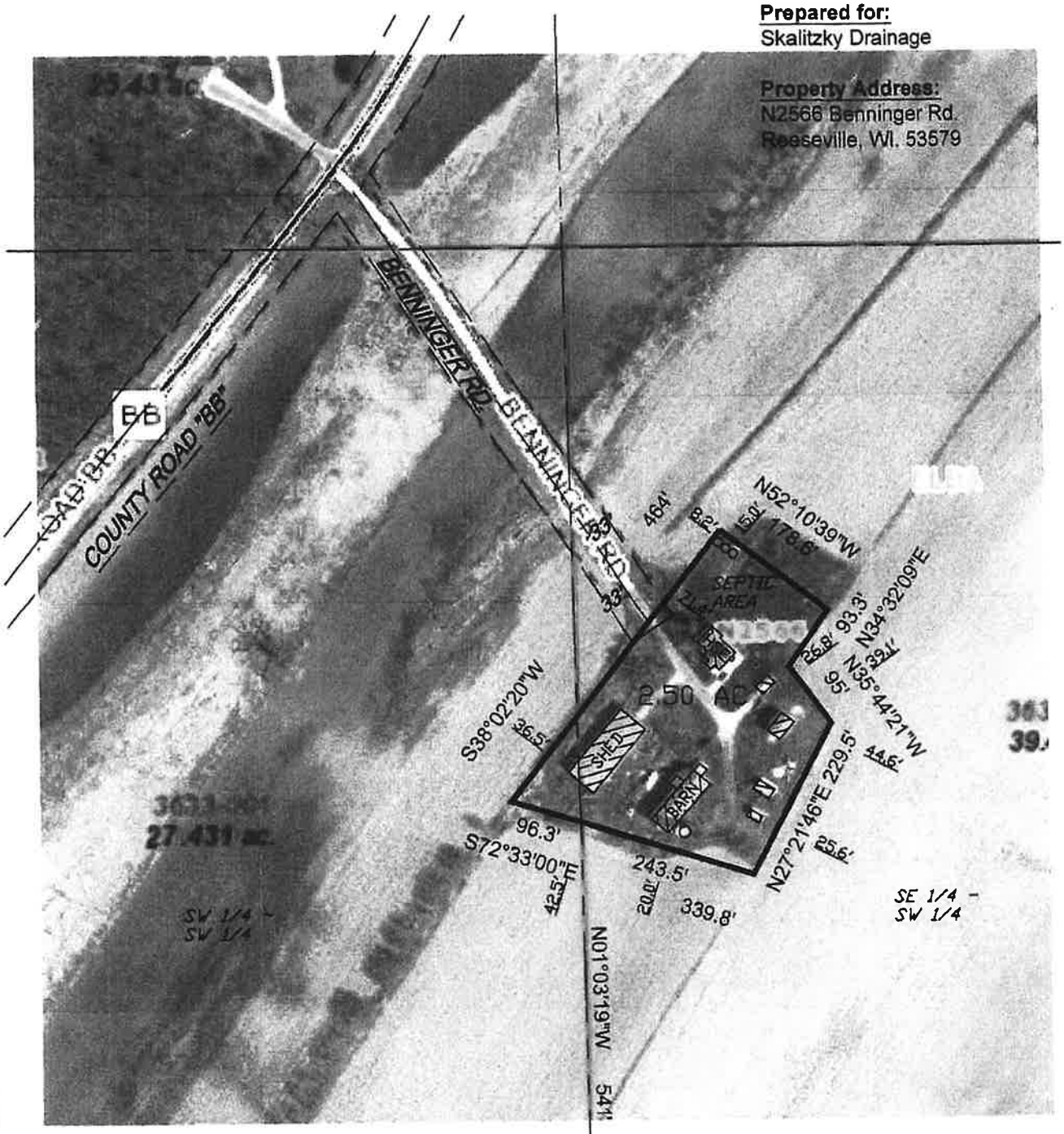


PRELIMINARY CERTIFIED SURVEY

PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 AND PART OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 36, TOWNSHIP 10 NORTH, RANGE 13 EAST, TOWN OF ELBA, DODGE COUNTY, WISCONSIN.

Prepared for:
Skalitzky Drainage

Property Address:
N2566 Benninger Rd.
Reeseville, WI. 53579



N89°43'31"E 1298'

SOUTHWEST CORNER, SECTION 36, T.10N., R.13E.

SOUTH 1/4 CORNER, SECTION 36, T.10N., R.13E.

Scale 1" = 200'

0 100 200 400

Land Resources and Parks Department
Staff Report

County Rezoning Petition # 2022-0860
Filing Date: October 17, 2022
Hearing Date: November 14, 2022

Applicant (Agent):
Andrea Lindemann
P.O. Box 426
Johnson Creek, WI 53038

Owner:
Patricia Braasch
N1308 Poplar Grove Road
Watertown, WI 53098

Location
PIN# 026-0916-1533-000; 026-0916-1534-000;
Part of the SE ¼ and SW ¼'s of the SW ¼, Section 15, Town of Lebanon, the site address being N1308 Poplar Grove Road.

Applicants Request
A rezoning petition has been submitted by the applicant in order they be allowed to rezone approximately 29-acres of land from the A-1 Prime Agricultural Zoning District to the A-2 General Agricultural Zoning District to allow for the creation of two non-farm residential lots at this location. An approximate 8-acre lot will contain an existing residence and accessory buildings and the approximate 21-acre lot is vacant agricultural and recreational land which is intended for non-farm residential use.

Land Use Code Provisions
1. Subsections 2.3.4.A through 2.3.4.J of the Land Use Code details procedural matters, the approval criteria and the form for the petition. The Committee must hold a public hearing and report to the County Board. The role of the Town boards in the process is also outlined in this section.

2. Subsection 2.3.4.B states that a petition for rezoning may be made by any property owner in the area to be affected by the rezoning.

Purpose Statements
The purpose of the A-1 Prime Agricultural Zoning District is to promote areas for uses of a generally exclusive agricultural nature in order to protect farmland, allow participation in the state's farmland preservation program, and accommodate changing practices in the agricultural industry, subject to appropriate standards.

The purpose of the A-2 General Agricultural Zoning District is to promote areas for agriculture which are transitional, allowing for expansion of urban areas limited to rural residential development, and the conversion of agricultural land to other related uses, subject to appropriate standards.

Physical Features of Site
The features of the proposed construction and property that relate to the rezoning request are as follows:

The applicant owns approximately 78.7-acres of land at this location. Approximately 29-acres are located along the east side of Poplar Grove Road and 49.1-acres along the west side of Poplar Grove Road and approximately .5-acres along the south side of Poplar Grove Road. The applicant is proposing to create an approximate 8-acre and a 21-acre non-farm residential lot along the east side of Poplar Grove Road. The applicant is also proposing to create an approximate 21-acre and a 28-acre lot along the west side of Poplar Grove Road for agricultural and open space recreational use. The remaining approximate .7-acres is intended to be dedicated to the Town for road purposes.

The County has Zoning Jurisdiction over this site as the Town of Lebanon has adopted the County's Land Use Code. The site is located within the A-1 Prime Agricultural Zoning District. A request has been made to rezone the 29-acres of land along the east side of Poplar Grove Road in order to create the proposed 8-acre and the 21-acre lots.

The County has Shoreland Jurisdiction over portions of the proposed lots.

- Portions both lots to be created along the east side of the road are designated as wetlands.
- Portions of both lots to be created along the west side of the road are designated as wetlands.
- The approximate .7-acre lot along the south side of Poplar Grove Road is not designated as a wetland.

The County has Floodplain jurisdiction over portions of all of the lots

- Portions both lots to be created along the east side of the road are designated as floodplain.
- Portions of both of the lots to be created along the west side of the road are designated as floodplain.
- The approximate .7-acre lot along the south side of Poplar Grove Road is not designated as a floodplain.

The topography of the site is rolling with slopes ranging from 0 to 12%;

Land Use, Site: Residential, agricultural and open space recreational.

Land Use, Area: Agricultural and open space wetland areas with scattered residences along Poplar Grove Road.

Designated Archaeological Site: Yes ☐ No ☒

Density Standards

The base farm tract for this property contains 78.7-acres within the A-1 Prime Agriculture Zoning District. The Code would allow a maximum of 3.7-acres for non-farm residential use under the conditional use permit process. Therefore, in this case, rezoning is required to allow for the creation of an approximate 8-acre and a 21-acre non-farm residential lot along the east side of Poplar Grove Road.

The proposal is consistent with the Dodge County Comprehensive Plan and Farmland Preservation Plan:

- Portions of the site are designated as agricultural according to the County's Future Land Use Map which can include a limited amount of residential development, but where the predominant land use would be agricultural in nature.
- Portions of the site are also designated as conservancy which will remain in open space recreational use.

Town Recommendation

The Town Board has submitted a recommendation to the Department approving the rezoning petition.

STAFF ADVISORY:

This staff advisory is only advice to the Land Resources and Parks Committee. The Committee may or may not consider the advice of the staff and decision making authority is vested in the Committee only.

The staff has reviewed the petition for compliance with the approval criteria listed in Section 2.3.4.I of the Code with Chapter 91.48 of the Wisconsin State Statutes. The staff comments are listed in Exhibit A for the Committee review.

The staff believes that the committee can make the findings necessary under Section 2.3.4.I of the code and Chapter 91.48 of the Wisconsin State Statutes in order to submit a favorable recommendation to the County Board for this proposal.

Exhibit A

2.3.4.I Approval Criteria
In acting on a rezoning petition, the County Board of Supervisors shall consider the stated purpose of the proposed zoning district and shall approve the rezoning petition only if it finds that:

2.3.4.I.1 Adequate public facilities and services (including sewage and waste disposal, water, gas, electricity, schools, police and fire protection, and roads and transportation, as applicable) will be available to serve the subject property while maintaining adequate levels of service to existing development;

- It is the staff's position that there are adequate public facilities and services to serve the proposed lots;

2.3.4.I.2 Provision of public facilities to accommodate development will not place an unreasonable burden on the ability of affected local units of government to provide them;

- It is the staff's position that the proposed development project will not place an unreasonable burden on the ability of the Town to provide adequate public facilities or services;

2.3.4.I.3 The proposed development will not result in significant adverse impacts upon surrounding properties or the natural environment, including air, water, noise, stormwater management, soils, wildlife, and vegetation;

- It is the staff's position that if the proposed lots is developed in accord with the Land Use Code provisions, the development project will not have an unreasonable adverse effect on surrounding properties or the environment;

2.3.4.I.4 The land proposed for rezoning is suitable for development and will not cause unreasonable soil erosion or have an unreasonable adverse effect on rare or irreplaceable natural areas;

- It is the staff's position that the area to be rezoned is suitable for development and if the land is developed in accord with the land use code provisions, the project will not cause unreasonable soil erosion;

2.3.4.I.5 The proposed rezoning is consistent with the Dodge County Comprehensive Plan and Farmland Preservation Plan and the stated purposes of this Code;

- It is the staff's position that the proposal is consistent with the Dodge County Comprehensive Plan as the site is designated as agricultural according to the County's Future Land Use Map which can include a limited amount of residential development, but where the predominant land use would be agricultural in nature.
- The staff also notes that the areas that are designated as conservancy will remain in open space recreational use.
- It is the staff position that the proposal is consistent with the Farmland Preservation Plan

2.3.4.I.6 The proposed rezoning will not be used to legitimize, or "spot zone," a nonconforming use or structure;

- It is the staff's position that the proposed rezoning is consistent with the County's Future Land Use Map as this site intended for residential development is designated as agriculture. Therefore it is the staff's position that the proposed rezoning will not result in spot rezoning.

2.3.4.I.7 The proposed rezoning is the minimum action necessary to accomplish the intent of the petition, and an administrative adjustment, variance, or Conditional Use Permit could not be used to achieve the same result.

- It is the staff's position that the proposed rezoning is the minimum action necessary to accomplish the intent of the petition;

2.3.4.I.8 For all proposed rezoning petitions that will remove land from the A-1 Prime Agricultural Zoning District, the following additional findings shall be made:

2.3.4.I.8.a The land is better suited for a use not allowed in the A-1 Prime Agricultural Zoning District;

- It is the staff's position that the land is better suited to non-farm residential and open space recreational use.

2.3.4.I.8.b The rezoning is substantially consistent with the Dodge County Comprehensive Plan and Farmland Preservation Plan;

- The property is designated as agricultural and conservancy according to the County's Future Land Use Map and therefore it is the staff's position that the proposed rezoning is substantially consistent with the Dodge County Comprehensive Plan and the Farmland Preservation plan;

2.3.4.I.8.c The rezoning will not substantially impair or limit current or future agricultural use of surrounding parcels of land that are zoned for or legally restricted to agricultural use;

- It is the staff's position that the proposed rezoning will not substantially impair or limit the current or future agricultural use of the adjacent parcels;

2.3.4.J Approval by Affected Town Boards

Approval of rezoning petitions by affected town boards shall occur pursuant to the procedures set forth in Section 2.2.15.

- The Town Board has submitted a recommendation to the Department approving the rezoning petition.

DODGE COUNTY
LAND RESOURCES & PARKS DEPARTMENT
127 E. OAK STREET • JUNEAU, WI 53039
PHONE: (920) 386-3700 • FAX: (920) 386-3979
E-MAIL: landresources@co.dodge.wi.us

REZONING PETITION

τ THIS AREA FOR OFFICE USE ONLY τ	
Activity No. 220860	**Application Date:** 8-10-2022 (10/7 per Lebanon)
	Receipt #: 5435-0010

Petition Fee: $350 (**Payable to Dodge County**)

NAMES & MAILING ADDRESSES

Petitioner (Agent) ~~Patricia Braasch~~ Andria Lindemann

Street Address PO Box 426
~~N4308 Poplar Grove Rd.~~

City • State • ZipCode ~~Water~~ Johnson Creek, WI

Property Owner (If different from petitioner) Patricia Braasch

Street Address N4308 Poplar Grove Rd.

City • State • ZipCode Watertown, WI 53098

PROPERTY DESCRIPTION

Parcel Identification Number (PIN) 026-0916-1533-000/026-0916-1534-000

Town	T N	R E
Lebanon	9	16

Section	1/4	1/4	Acreage	Lot (Block)
15				

Subdivision or CSM (Volume/Page/Lot)

Address Of Property (**DO NOT** Include City/State/ZipCode)

Is this property connected to public sewer? ☐ Yes ☒ No

CONTACT PERSON

Name and daytime phone number (include area code) of a person we can contact if we have any questions about your petition.

Name Andria Lindemann Daytime Phone (920) 941 - 0079

PROPOSED REZONING

Current Zoning District	Proposed Zoning District
A-1 Prime Agricultural	A-2 General Agr

Reason For Rezoning

To create non-farm residential lots

Please complete the site map on the reverse side of this sheet.

CERTIFICATE

I, the undersigned, hereby petition to rezone the aforementioned property and certify that all the information both above and attached is true and correct to the best of my knowledge.

Signature [signature] Date 8/10/22

Daytime Contact Number (920) 295 - 0673

♦ AREA BELOW THIS LINE FOR OFFICE USE ONLY ♦

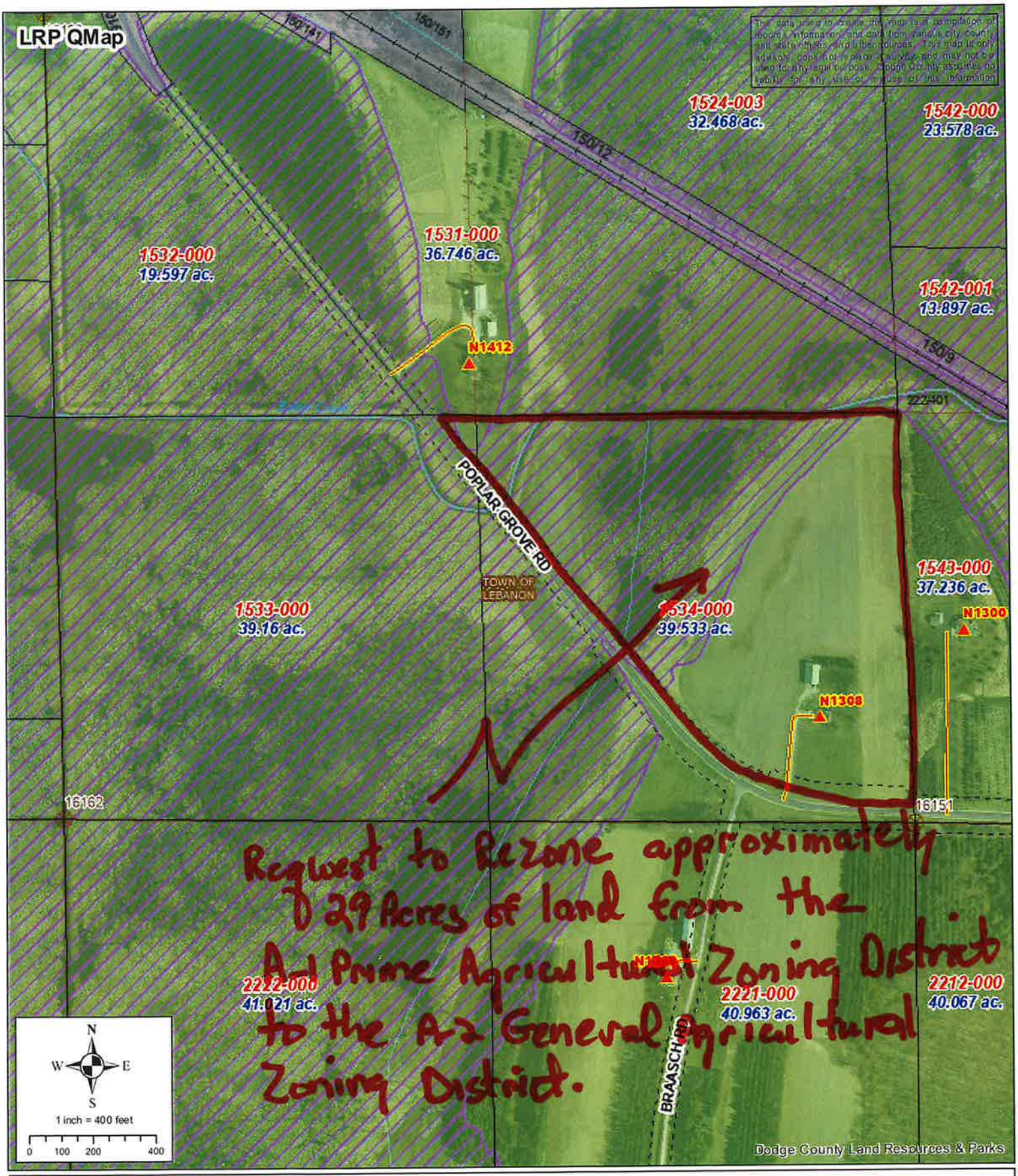
8/10/2022 Request by Applicant to hold LOI & RZN until Town Access is Approved by town meets on 10/6/2022

Sketch Map – Attach a sketch map or aerial photo of the proposed land to be rezoned to the application. The sketch map or aerial photo shall be at a scale of 1" = 200' or other appropriate scale. This sketch map or aerial photo shall include the following information:

1. North arrow, date and scale;
2. Reference to a section corner or existing lot line;
3. The location and dimensions of the proposed area to be rezoned;
4. The location of the existing and proposed lot lines;
5. The location and dimensions of any existing or proposed easements;
6. The location of any existing buildings, water wells, septic systems, water courses, drainage ditches and other features pertinent to the rezoning petition;
7. The location and name of existing roads, easements of record, public access to navigable waters and dedicated areas;
8. The location of existing and proposed driveways;
9. Any other additional information pertinent to this rezoning petition;

(An aerial photo of your site may be available through the Dodge County Planning, Development and Parks Department. Please contact our office for additional information (920) 386-3700)

Please submit the application form, sketch map and the appropriate application fee (payable to Dodge County) to the address listed on the front of this form.



General
- Urbanized Roads
- Soils
- Airport Ordinance 3-Mile Buffer
- Sewer Service Areas
- Highly Developed Shoreline
- Elevation Contours

WI Historical Society
- Historic Structures
- Archaeological Sites
- Survey Areas

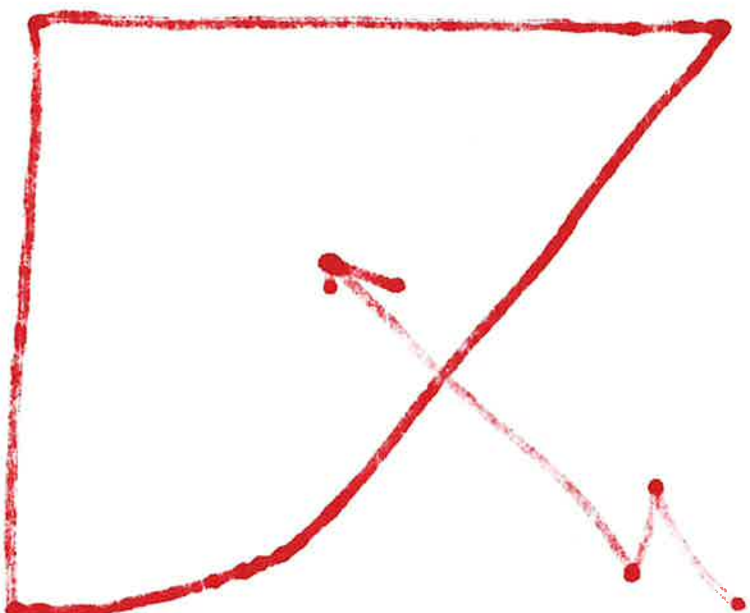
Non-Metallic Mining
- Active Mining Area
- Approved Mining Area
- Mine Property Boundaries

Floodplain / Wetland
- FEMA Floodplain/Storage/Dam Shadow
- DNR Wetland Areas/Points

Shoreland Zoning
- Shoreland Zoning Buffer
- Lakes/Ponds/Sloughs
- Rivers/Streams/Creeks

County Zoning
- Planned Unit Development
- Hartford Extraterritorial
- General Agricultural
- Prime Agricultural
- One Family Residential
- Two Family Residential
- Multi-Family Residential
- General Commercial
- Extensive Commercial
- Light Industrial
- Industrial
- Waterbody
- ROW/City/Village

Date: 10/19/2022



Request to Rezone approximately 29 Acres of land from the A-1 Prime Agricultural Zoning District to the A-2 General Agricultural Zoning District.

Land Resources and Parks Department
Staff Report

County Rezoning Petition # 2022-0609- Proposed Revision
Filing Date: October 24, 2022
Committee Review Date: November 14, 2022

Applicant (Agent):
Glen Beske
W10003 County Road F
Fox Lake, WI 53933

Owner:
Gerhardt and Carol Beske Family Trust
W9701 County Road F
Fox Lake, WI 53933

Location
PIN# 018-1313-1322-000
Part of the NW ¼ of the NW ¼, Section 13, T13N, R13E, Town of Fox Lake, the site address being W10003 County Road F.

Applicants Request
On September 20, 2022, the County Board of Supervisors approved a rezoning petition for the property described above to rezone approximately 10-acres of land from the A-1 Prime Agricultural zoning district to the A-2 General Agricultural zoning district under the Dodge County Land Use Code as shown in Exhibit A in order to allow for the creation of an approximate 10-acre non-farm residential lot.

On October 24, 2022, the applicant has requested a revision to the shape of the proposed area to be rezoned as shown in Exhibit B.

The staff's question to the Committee is: Is the proposed revision considered as substantially the same plan as approved by the County Board on September 20, 2022 or does this proposed revision need to go back to the Committee for a new public hearing and to the County Board for review and approval.

JODGE COUNTY
LAND RESOURCES & PARKS DEPARTMENT
127 E. OAK STREET • JUNEAU, WI 53039
PHONE: (920) 386-3700 • FAX: (920) 386-3979
E-MAIL: landresources@co.dodge.wi.us

REZONING PETITION

THIS AREA FOR OFFICE USE ONLY	
Activity No. 220609	Application Date: 7-19-2022
	Receipt #: 5265-0012

Petition Fee: $350 (Payable to Dodge County)

NAMES & MAILING ADDRESSES	PROPERTY DESCRIPTION
Petitioner (Agent): Glenn Beske	Parcel Identification Number (PIN): 018-1313-1322-000
Street Address: W10003 Cty F	Town: Fox Lake; T 13 N; R 13 E
City • State • ZipCode: Fox Lake, WI 53933	Section 13; NW 1/4; NW 1/4; Acreage 10; Lot (Block)
Property Owner (If different from petitioner): Gerhardt J & Carol Beske Family trust	Subdivision or CSM (Volume/Page/Lot)
Street Address: W9701 Cty F	Address Of Property (DO NOT Include City/State/ZipCode): W10003 Cty F
City • State • ZipCode: Fox Lake, WI 53933	Is this property connected to public sewer? ☐ Yes ☐ No

CONTACT PERSON

Name and daytime phone number (include area code) of a person we can contact if we have any questions about your petition.

Name Carol Beske Daytime Phone (920) 928-2392

PROPOSED REZONING

Current Zoning District	Proposed Zoning District
A-1 Prime Agricultural	A-2 General Agricultural

Reason For Rezoning

to create a non-farm Residential lot containing the existing Buildings

Please complete the site map on the reverse side of this sheet.

CERTIFICATE

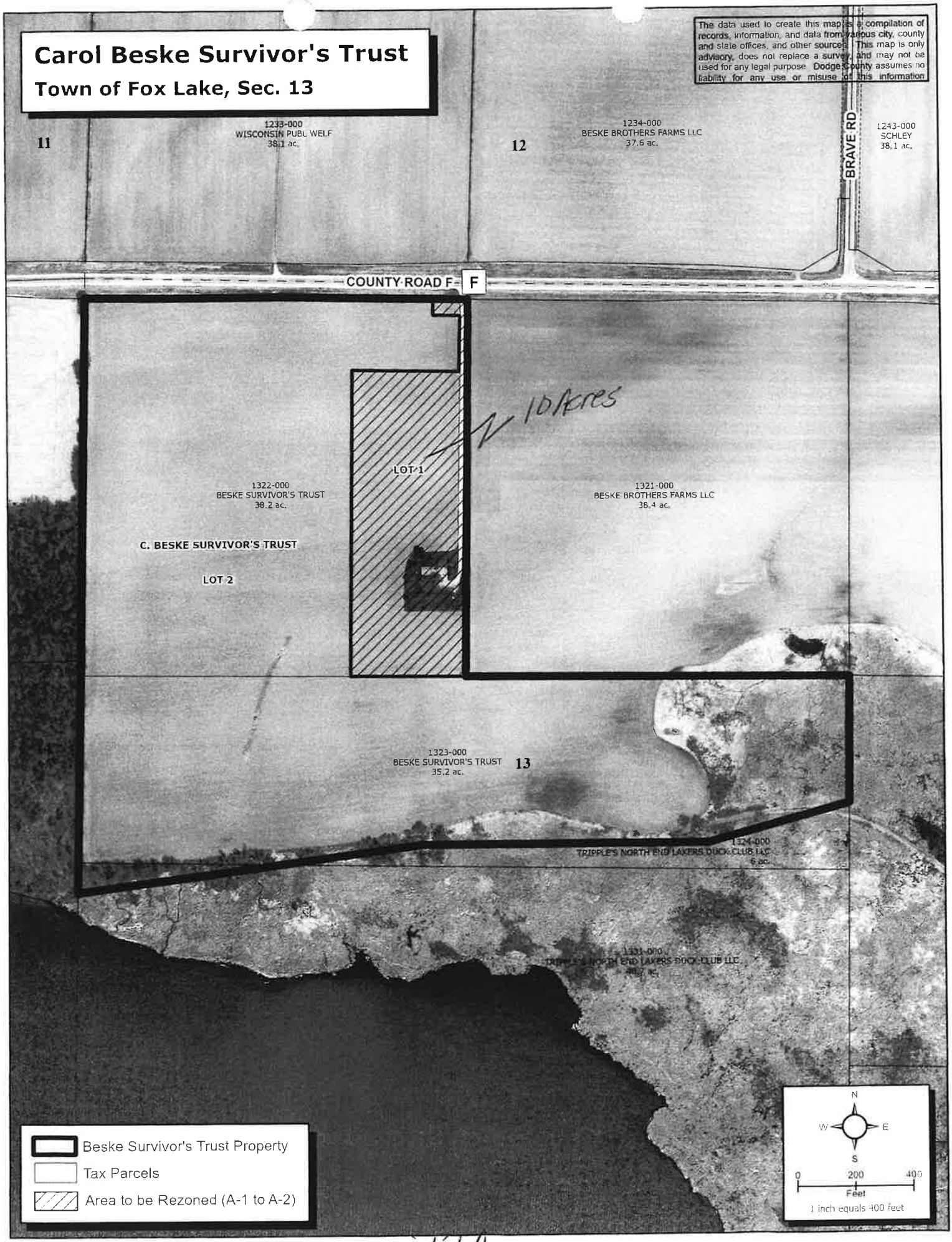
I, the undersigned, hereby petition to rezone the aforementioned property and certify that all the information both above and attached is true and correct to the best of my knowledge.

Signature Glenn Beske Date 07-19-2022

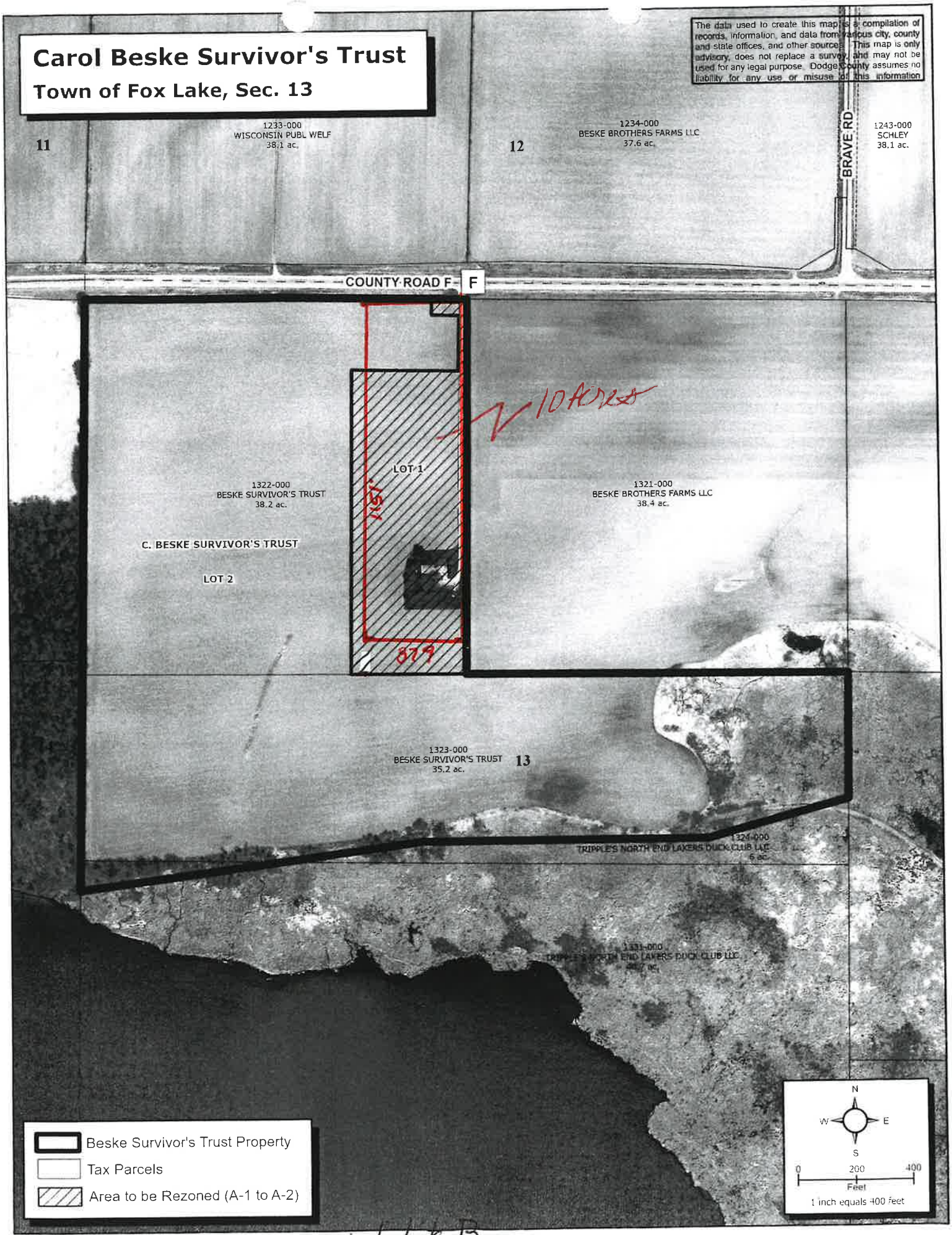
Daytime Contact Number (920) 204-9806

♦ AREA BELOW THIS LINE FOR OFFICE USE ONLY ♦

Approved by County Board 9/20/2021
Request for Removal area to be rezoned 10/24/2022


Carol Beske Survivor's Trust
Town of Fox Lake, Sec. 13
The data used to create this map is a compilation of records, information, and data from various city, county and state offices, and other sources. This map is only advisory, does not replace a survey, and may not be used for any legal purpose. Dodge County assumes no liability for any use or misuse of this information
11
1233-000
WISCONSIN PUBL WELF
38.1 ac.
12
1234-000
BESKE BROTHERS FARMS LLC
37.6 ac.
BRAVE RD
1243-000
SCHLEY
38.1 ac.
COUNTY ROAD F
F
10 Acres
LOT 1
1322-000
BESKE SURVIVOR'S TRUST
38.2 ac.
1321-000
BESKE BROTHERS FARMS LLC
38.4 ac.
C. BESKE SURVIVOR'S TRUST
LOT 2
1323-000
BESKE SURVIVOR'S TRUST
35.2 ac.
13
1324-000
TRIPPLE'S NORTH END LAKERS DUCK CLUB LLC
6 ac.
1331-000
TRIPPLE'S NORTH END LAKERS DUCK CLUB LLC
Beske Survivor's Trust Property
Tax Parcels
Area to be Rezoned (A-1 to A-2)
N
W
E
S
0
200
400
Feet
1 inch equals 400 feet

Exibit A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BRAVE RD
1243-000
SCHLEY
38.1 ac.
COUNTY ROAD F
F
10 ACRES
LOT 1
1322-000
BESKE SURVIVOR'S TRUST
38.2 ac.
C. BESKE SURVIVOR'S TRUST
LOT 2
1321-000
BESKE BROTHERS FARMS LLC
38.4 ac.
1323-000
BESKE SURVIVOR'S TRUST
35.2 ac.
13
1324-000
TRIPPLE'S NORTH END LAKERS DUCK CLUB LLC
6 ac.
1331-000
TRIPPLE'S NORTH END LAKERS DUCK CLUB LLC
Beske Survivor's Trust Property
Tax Parcels
Area to be Rezoned (A-1 to A-2)
N
W
E
S
0
200
400
Feet
1 inch equals 400 feet

Exhibit B

DODGE COUNTY LAND RESOURCES AND PARKS COMMITTEE
MINUTES
October 24, 2022

The Dodge County Land Resources and Parks Committee met on **October 24, 2022** at 7:00 p.m. on the 1st Floor of the Administration Building, Juneau, Wisconsin.

Call to Order: Chair Mary Bobholz called the meeting to order at 7:00 PM.

Members present: Mary Bobholz, Dale Macheel, Donna Maly and Benjamin Priesgen
Members absent: Dan Siegmann.

Other County Board members in attendance requesting a per diem: **None**

Staff present: Bill Ehlenbeck - Director, Joseph Giebel – Manager of Code Administration, Jason Roy – Parks Manager, Kim Nass – Corporation Counsel

Others present: Members of the public for the public hearings. Glenn Daily, Cindy Haerterich from the Friends of the Dodge County Parks Group.

The Chairman asked the staff to confirm compliance with the open meeting laws and the public hearing notice requirements. Mr. Giebel noted that the meeting was properly noticed in accord with the open meeting law and noted that the required notices for the public hearings listed on the agenda were posted, mailed and published in accord with the statute and code requirements.

1. The minutes from the October 10, 2022 meeting were reviewed by the Committee.

   Motion by Donna Maly to approve the minutes as written.

   Second by Ben Priesgen Vote: 4-0 Motion carried.

The hearing procedures were read into the record.

PUBLIC HEARING
Dodge County Land Resources and Parks Committee – Request to rezone certain lands located within the Towns of Calamus, Lomira and Trenton so that the Dodge County Land Use Maps for these Towns are consistent with the Dodge County Comprehensive Plan and the Dodge County Farmland Preservation Plan Map.

Motion by Mary Bobholz to submit a favorable recommendation to the County Board of Supervisors on the request to rezone certain lands located within the Towns of Calamus, Lomira and Trenton so that the Dodge County Land Use Maps for these Towns are consistent with the Dodge County Comprehensive Plan and the Dodge County Farmland Preservation Plan Map.

Second by Dale Macheel Vote 4-0 Motion carried.

On the basis of the findings of fact, conclusions of law and the record in this rezoning matter, the committee shall provide a favorable recommendation to the County Board on the rezoning petition as proposed. An ordinance shall also be drafted effectuating the recommendation of the committee and said ordinance shall be submitted to the Board for approval;

Administrative Business:
Motion by Ben Priesgen to meet in closed session for the purpose of conferring with legal counsel for Dodge County, who will render oral or written advice concerning strategy to be adopted by Dodge County with respect to litigation in which it is involved, namely, Katrina Dalgren, Plaintiff, v. Dodge County and Dodge County Land Resources and Parks Committee, Defendants, and, Dodge County Wisconsin Circuit Court Case No. 22-CV-289.

Second by Donna Maly Vote 4-0 Motion carried. 7:19 PM

This portion of the meeting was closed pursuant to Section 19.85(1)(g), of the Wisconsin Statutes.

Reconvene into Open Session
Motion by Donna Maly to reconvene in open session. 7:50 PM
Second by Ben Priesgen
Motion carried 4-0

PARK SYSTEM
Comprehensive Outdoor Recreation Plan kick off with Friends of Dodge County Parks Board

Bill Ehlenbeck introduced the Committee and the members of the Friends of Dodge County Parks Board and Ben Rohr of Vandewalle & Associates. Mr. Rohr is the Project Manager for the County Outdoor Recreation Plan being updated. Mr. Rohr facilitated the discussion with the project overview, objectives, project schedule, goals and priorities. The Committee, Friends Board and staff shared thoughts and ideas about opportunities and improvements.

OTHER BUSINESS
No Committee Member Reports, No other Per Diems.

Next Meeting: November 14, 2022, 7:00 PM

Motion by order of the Chair to adjourn the meeting.

Meeting adjourned at 8:48 p.m.

Respectfully Submitted,

_____
Secretary

Disclaimer: The above minutes may be approved, amended or corrected at the next committee meeting.