Agenda Item No: 10

City Council
Agenda Supplement

Meeting Date: March 19, 2024

Item: REPORT OF THE PLANNING & ZONING COMMISSION

Ridgefield Solar Farm

Request: Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry and Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm and the deferral of the burial of the overhead utility lines and the installation of sidewalk

Petitioner: Gloria Foxman, petitioner
Ridgefield Road

PZC Recommendation: To approve the Planning and Zoning Commission (PZC) recommendations and adopt an Ordinance granting the Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry and Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm at Ridgefield Road (13-23-400-005).

Staff Contact: Elizabeth Maxwell, City Planner

Background:

- The property is currently vacant and is being farmed. The solar farm will be on the northern portion of the lot. The south portion of the property would continue to be farmed.
- The petitioner is requesting the following:
    - Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry.
    - Preliminary and Final Planned Unit Development.
    - Special Use Permit for a Solar Farm.
- The petitioner has provided all documents showing they will meet the regulatory requirements. They have also provided noise, water, safety and property impact studies.

PZC Highlights:

- One resident spoke against the solar farm citing concerns of metal leaking into the soil increased ground temperatures.
    - The petitioner addressed these saying 20 years ago there were concerns of metals leaking from solar panels, but these are made of different material and quality so that is no longer a concern. The petitioner also said the planting of pollinator flowers and the landscape will help reduce ground temperatures.
- The PZC found that the petition met the Findings of Fact.

The PZC recommended **approval (4-0)** of the petitioner's request for the Comprehensive Land Use Map Amendment to Industry and the Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm with the following conditions:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
   A. Application (EIGER LLC, received 01/29/24)
   B. Site Plan (Kimley Horn, dated 11/06/23, received 01/29/24)
   C. Landscape Plan (Kimley Horn, dated 11/03/23, received 02/29/24)
   D. Narrative (Turning Point Energy, dated 01/11/24, received 01/29/24)
   E. Wetland Delineation Report (Kimley Horn, dated November 2023, received

2. The petitioner shall maintain the interior plantings and exterior screening plantings and fabric for the life of the facility.

3. The petitioner must address all of the review comments and requirements of the Community Development, Fire Rescue, Police, and Public Works Departments and the City's Stormwater Consultant.

Votes Required to Pass: A simple majority.

Attachments:

- Site Plan
- Landscape Plan
- Engineering Wetland Report

Table of Appendices:

Appendix A: Planning and Zoning Commission Packet documents

Appendix B: Supplemental Documents

Acknowledgement Form

Regarding the Preliminary/Final PUD and Special Use Permit for a Solar Farm off Ridgefield Road, please check one of the choices and sign below.

- [x] I hereby acknowledge that I have read, understand, and agree to the staff review comments and recommended conditions contained in the staff report, city staff reviews, and consultant reviews (if applicable).

- [ ] I hereby acknowledge that I have read, understand, and agree to most of the staff review comments and recommended conditions contained in the staff report, city staff reviews, and consultant reviews (if applicable) but have concerns with the following items:

  _____

  _____

Petitioner's Name: _____ Date: ___3/12/24_____
Signature

Recommended Conditions:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
   A. Application (EIGER LLC, received 01/29/24)
   B. Site Plan (Kimley Horn, dated 11/06/23, received 01/29/24)
   C. Landscape Plan (Kimley Horn, dated 11/03/23, received 02/29/24)
   D. Narrative (Turning Point Energy, dated 01/11/24, received 01/29/24)
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2. The petitioner shall maintain the interior plantings and exterior screening plantings and fabric for the life of the facility.

3. The petitioner must address all of the review comments and requirements of the Community Development, Fire Rescue, Police, and Public Works Departments and the City's Stormwater Consultant.

PIQ Map
Ridgefield Road



Ord. No.
File No.

The City of Crystal Lake Illinois

AN ORDINANCE GRANTING COMPREHENSIVE LAND USE PLAN AMENDMENT TO INDUSTRY AND PRELIMINARY AND FINAL PLANNED UNIT DEVELOPMENT AND SPECIAL USE PERMIT FOR A SOLAR FARM WITH A DEFERRAL FROM THE REQUIREMENT TO BURY OVERHAD UTILITY LINES AND INSTALL SIDEWALK AT RIDGEFIELD ROAD (13-23-400-005)

Draft

WHEREAS, pursuant to the terms of a Petition (File #PLN-2024-05) before the Crystal Lake Planning and Zoning Commission, the Petitioner has requested the Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry, a Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm with a deferral from the requirement to bury overhead utility lines and install sidewalk at Ridgefield Road (13-23-400-005); and

WHEREAS, the Planning and Zoning Commission of the City of Crystal Lake, pursuant to notice duly published on February 17, 2024 in the Northwest Herald, held a public hearing at 7:00 p.m., on March 6, 2024, at City Hall at 100 W. Woodstock Street, Crystal Lake, Illinois to consider the proposed Comprehensive Land Use Plan Amendment, Preliminary and Final Planned Unit Development and Special Use Permit, and

WHEREAS, on March 6, 2024, the Planning and Zoning Commission, having fully heard and considered the testimony of all those present at the public hearing who wished to testify, made findings of fact as required by law and recommended to the Mayor and City Council of the City of Crystal Lake that the proposed Comprehensive Land Use Plan Amendment, Preliminary and Final Planned Unit Development and Special Use Permit be approved, as documented in the minutes, and

WHEREAS, it is in the best interests of the CITY OF CRYSTAL LAKE that the Comprehensive Land Use Plan Amendment, Preliminary and Final Planned Unit Development and Special Use Permit, deferral of the burial of overhead utility lines and installation of sidewalk be issued.

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF CRYSTAL LAKE, McHENRY COUNTY, ILLINOIS, as follows:

Ord. No.
File No.

Section I: That the Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry, Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm, deferral of the burial of overhead utility lines, and installation of sidewalk at Ridgefield Road (13-23-400-005), Crystal Lake, Illinois is hereby approved.

Section II: Said Comprehensive Land Use Plan Amendment, Preliminary and Final Planned Unit Development and Special Use Permit, deferral of the burial of overhead utility lines and installation of sidewalk be issued with the following conditions:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
   A. Application (EIGER LLC, received 01/29/24)
   B. Site Plan (Kimley Horn, dated 11/06/23, received 01/29/24)
   C. Landscape Plan (Kimley Horn, dated 11/03/23, received 02/29/24)
   D. Narrative (Turning Point Energy, dated 01/11/24, received 01/29/24)
   E. Wetland Delineation Report (Kimley Horn, dated November 2023, received

2. The petitioner shall maintain the interior plantings and exterior screening plantings and fabric for the life of the facility.

3. The petitioner must address all of the review comments and requirements of the Community Development, Fire Rescue, Police, and Public Works Departments and the City's Stormwater Consultant.

Section III: That the City Clerk be and is hereby directed to amend all pertinent records of the City of Crystal Lake to show the issuance of the Comprehensive Land Use Plan Amendment, Preliminary and Final Planned Unit Development and Special Use Permit, deferral of the burial of overhead utility lines and installation of sidewalk in accordance with the provisions of this Ordinance, as provided by law.

Draft

Ord. No.
File No.

Section IV: That this Ordinance shall be in full force and effect from and after its passage, approval and publication as provide by law.

DATED at Crystal Lake, Illinois, this 19th day of March, 2024.

City of Crystal Lake, an
Illinois municipal corporation

_____
Haig Haleblian, MAYOR

SEAL

ATTEST:

_____
Nick Kachiroubas, CITY CLERK

Passed: March 19, 2024
Approved: March 19, 2024

Draft

#2024-05
Ridgefield Road Solar Farm
Project Review for Planning and Zoning Commission

Meeting Date: March 6, 2024

Request:
1. Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry.
2. Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm.

Location: Ridgefield Road

Acreage: Approximately 46 acres (solar area) lot is approximately 78 acres

Zoning: M PUD Manufacturing

Surrounding Properties:
North: F Farming
South: O PUD Office
East: M PUD Manufacturing (The MAC soccer fields)
West: A-1 Agriculture (McHenry County)

Staff Contact: Elizabeth Maxwell (815.356.3615)

Background:

- The site is a vacant lot used for agriculture.
- The proposed solar company would be acquiring the back half of the property to install solar panels, battery storage and a fabric-wrapped fence.
- The site was annexed and zoned in 1989. This property was a planned Office-Industrial District. This PUD was never established as no development occurred.

Development Analysis:

General

- Requests:
    - Comprehensive Land Use Plan Amendment. This is a request to amend the Comprehensive Land Use Map from Agriculture / Rural Residential to Industry. The zoning of the property is M PUD Manufacturing so this is an appropriate land use category.

  - A Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm.
- Zoning: The property is zoned M PUD Manufacturing, which is the appropriate zoning district for this use.

Site Layout

- The site would be accessed from Ridgefield Road, just west of the MAC and the kids soccer fields.
- A 10-foot paved drive is from Ridgefield Road. It runs throughout the site.
- The panels will be on a single track and not extend higher than 15' at the sharpest angle of tilt.
- There is a 100-foot setback from the Lilly Pond Marsh wetland to protect the integrity of the wetland.
- All equipment and improvements meet all required setbacks.

Landscape

- The landscape plan illustrates a staggered row of evergreen trees and shrubs and large deciduous shrubs surrounding the perimeter.
- A fabric-wrapped fence also screens the site from view.
- Within the site around the solar panels and perimeter are two pollinator seed mixes. These are plants that attract pollinators like bees, butterflies, and birds.

Preliminary/Final Planned Unit Development

The petitioner is requesting approval of a Preliminary and Final Planned Unit Development and a Special Use Permit to allow the construction of a Solar Farm. A Planned Unit Development is a Special Use and Special Uses require separate review because of their potential to impact surrounding properties and the orderly development of the City.

Section 2-400 B General Standards for all special uses in the Unified Ordinance establishes standards for all special uses in Crystal Lake. Briefly, the criteria are as follows:

1. The use is necessary or desirable, at the proposed location, to provide a service or facility which will further the public convenience and general welfare.
   ☒ *Meets* ☐ *Does not meet*
2. The use will not be detrimental to area property values.
   ☒ *Meets* ☐ *Does not meet*
3. The use will comply with the zoning districts regulations.
   ☒ *Meets* ☐ *Does not meet*
4. The use will not negatively impact traffic circulation.
   ☒ *Meets* ☐ *Does not meet*

5. The use will not negatively impact public utilities or municipal service delivery systems. If required, the use will contribute financially to the upgrading of public utilities and municipal service delivery systems.
   ☒ *Meets* ☐ *Does not meet*
6. The use will not negatively impact the environment or be unsightly.
   ☒ *Meets* ☐ *Does not meet*
7. The use, where possible will preserve existing mature vegetation, and provide landscaping and architecture, which is aesthetically pleasing, compatible or complementary to surrounding properties and acceptable by community standards.
   ☒ *Meets* ☐ *Does not meet*
8. The use will meet requirements of all regulating governmental agencies.
   ☒ *Meets* ☐ *Does not meet*
9. The use will conform to any conditions approved as part of the issued Special Use Permit.
   ☒ *Meets* ☐ *Does not meet*
10. The use will conform to the regulations established for specific special uses, where applicable.
    ☒ *Meets* ☐ *Does not meet*

In addition PUDs must also meet the standards in Section 4-500 C. Development Standards and 4-500 D. 1 Additional standards for Planned Unit Developments Commercial PUDs.

1. Implements the vision and land use policies of the Comprehensive Plan.
   ☒ *Meets* ☐ *Does not meet*
2. Shall not result in substantial adverse effect on adjacent property, natural resources, infrastructure, public sites or other matter of public health, safety and welfare.
   ☒ *Meets* ☐ *Does not meet*
3. PUDs must provide transitional uses to blend with adjacent development.
   ☒ *Meets* ☐ *Does not meet*
4. PUD phases must be logically sequenced.
   ☒ *Meets* ☐ *Does not meet*
5. The density and intensity of a PUD shall be in accordance with the Comprehensive Plan.
   ☒ *Meets* ☐ *Does not meet*
6. All dimensional standards shall be listed within the PUD plan if they do not meet the Ordinance minimum standards.
   ☒ *Meets* ☐ *Does not meet*
7. The responsible parties for all on-site and other required public improvements shall be established and a utility plan indicating all proposed easements shall be provided.
   ☒ *Meets* ☐ *Does not meet*
8. Any private infrastructure shall comply with the city standards.
   ☒ *Meets* ☐ *Does not meet*

9. The PUD plan shall establish the responsibility of the applicant/developer.
   ☒ *Meets* ☐ *Does not meet*

10. A bond or letter of credit shall be posted to cover required fees or public improvements.
   ☒ *Meets* ☐ *Does not meet*

SOLAR FARM
Solar Farms must comply with the following standards:

1. The entire project site shall be surrounded with landscape and a fabric-wrapped chain link fence, which would screen the property from any roadways or public driveways.
   ☒ *Meets* ☐ *Does not meet*

2. The grounds in and around the panels shall be repurposed for wildflowers or agriculture. A landscape plan is required.
   ☒ *Meets* ☐ *Does not meet*

3. One ten-foot-wide paved drive shall provide access around the entire site.
   ☒ *Meets* ☐ *Does not meet*

Comprehensive Land Use Plan 2030 Summary Review:
The Comprehensive Plan designates the subject property as Agriculture / Rural Residential. The petitioner is requesting an amendment to Industry. The Industrial land use allows for areas for jobs, industry and manufacturing. The following goal is applicable to this request:

Land Use – Industry
Goal: Support manufacturing uses within the community which contribute to the regional and local economy and Crystal Lake's live, work, play philosophy.

This can be accomplished with the following supporting actions:

Supporting Action: Expand and attract manufacturing users, which provide jobs, services, and products strengthening the City's economy.

Success Indicator: The number of properties zoned manufacturing as reviewed annually.

Supporting Action: Encourage businesses to adhere to regular maintenance of grounds and structure to maintain compliance with codes and ordinances.

Recommended Conditions:
If a motion to recommend approval of the petitioner's request is made, the following conditions are recommended:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
   A. Application (EIGER LLC, received 01/29/24)
   B. Site Plan (Kimley Horn, dated 11/06/23, received 01/29/24)
   C. Landscape Plan (Kimley Horn, dated 11/03/23, received 02/29/24)
   D. Narrative (Turning Point Energy, dated 01/11/24, received 01/29/24)
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2. The petitioner shall maintain the interior plantings and exterior screening plantings and fabric for the life of the facility.

3. The petitioner must address all of the review comments and requirements of the Community Development, Fire Rescue, Police, and Public Works Departments and the City's Stormwater Consultant.

City of Crystal Lake
Development Application

Office Use Only
File # _____

Project Title: TPE IL MH405, LLC

Action Requested

- __ **Annexation**
- __ **Comprehensive Plan Amendment**
- __ **Conceptual PUD Review**
- __ **Final PUD**
- ☑ **Final PUD Amendment**
- __ **Final Plat of Subdivision**
- __ **Preliminary PUD**
- __ **Preliminary Plat of Subdivision**
- __ **Rezoning**
- ☑ **Special Use Permit**
- __ **Variation**
- __ **Other**

Petitioner Information

Name: Gloria Foxman, TPE

Address: 3720 S Dahlia St,

Denver, CO 80237

Phone: (646) 229-5041

Fax:

E-mail: gfoxman@tpoint-e.com

Owner Information (if different)

Name: EIGER LLC

Address: 1625 W Lake Shore Dr

Woodstock, IL, 60098

Phone: (815) 861-2339

Fax:

E-mail:

Property Information

Project Description: The development of a new 4.99-megawatt AC solar farm, access roads, and utilities.

Project Address/Location: Northeast of the intersection of Ridgefield Rd and US Highway 14, in Crystal Lake IL

PIN Number(s): 13-23-400-005

Development Team

Please include address, phone, fax and e-mail

Developer: TurningPoint Energy, (646) 229-5041, gfoxman@tpoint-e.com

Architect: N/A

Attorney: McGuireWoods LLP, Kyle Barry, (217) 527-1280, KBarry@mcguirewoods.com

Engineer: Kimley-Horn, Jason Cooper, jason.cooper@kimley-horn.com

Landscape Architect: Kimley-Horn, Chris Wilson, chris.wilson@kimley-horn.com

Planner: Kimley-Horn, Amy Henry, amy.henry@kimley-horn.com

Surveyor: LW Survey, (717) 826-9354, g.cunningham@lwsurvey.com

Other:

Signatures

PETITIONER: Print and Sign name (*if different from owner*) **Date**

As owner of the property in question, I hereby authorize the seeking of the above requested action.

OWNER: Print and Sign name **Date**

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.

City of Crystal Lake
Development Application
Ownership Sign-off Acknowledgement Form

The following information is related to a development application. As the owner of the property in question, I (we) acknowledge that the information provided in the submittal was reviewed and approved.

Owner Information

Name: EIGER LLC

Address: 1625 Lake Shore Dr

Woodstock IL 60098

Phone: (815) 861-2339

E-mail: craig@woolf1.net

Project Name & Description: IL TPE MH405, LLC: The development of a new 4.99 MW AC solar farm, access roads, and utilities.

Project Address/Location: NE of Ridgefield Rd and US Hwy 14

Signature

Stanley Craig Stoagell 12/4/23

Owner: Print and Sign name Date

NOTE: If the property is held in a trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.

Development Team

Please include address, phone, fax and e-mail

Developer: TurningPoint Energy, (646) 229-5041, gfoxman@tpoint-e.com

Architect: N/A

Attorney: McGuireWoods LLP, Kyle Barry, (217) 527-1280, KBarry@mcguirewoods.com

Engineer: Kimley-Horn, Jason Cooper, jason.cooper@kimley-horn.com

Landscape Architect: Kimley-Horn, Chris Wilson, chris.wilson@kimley-horn.com

Planner: Kimley-Horn, Amy Henry, amy.henry@kimley-horn.com

Surveyor: LW Survey, (717) 826-9354, g.cunningham@lwsurvey.com

Other:

Signatures

Gloria Foxman — 12/12/23

PETITIONER: Print and Sign name (*if different from owner*) **Date**

As owner of the property in question, I hereby authorize the seeking of the above requested action.

Stacy Craig Steagall — 12/14/23

OWNER: Print and Sign name **Date**

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.

CRYSTAL LAKE PLANNING AND ZONING COMMISSION
WEDNESDAY, MARCH 6, 2024
HELD AT THE CRYSTAL LAKE CITY COUNCIL CHAMBERS

The meeting was called to order by Mr. Gronow at 7:03 p.m.

CALL TO ORDER

On roll call, members, Gronow, Mason, Skluzacek, and Teetsov were present. Members Greenman, Repholz and Smith were absent.

Katie Rivard, Assistant City Planner, was present from Staff.

Mr. Gronow said this meeting is being recorded for broadcast and future playback on the City's cable channel. He led the group in the Pledge of Allegiance.

2024-05 – RIDGEFIELD ROAD (13-23-400-005) – SOLAR FARM – COMPREHENSIVE LAND USE PLAN AMENDMENT, PRELIMINARY AND FINAL PLANNED UNIT DEVELOPMENT, SPECIAL USE PERMIT – PUBLIC HEARING

Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry, Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm for the property off Ridgefield Road, north of Ridgefield, East of Route 14 and South of the Chicago and North Western Railroad line.

Mr. Kyle Barry, attorney for the petitioner, Gloria Foxman, Project Manager for TurningPoint, and Amy Henry, Project Manager with Kimley Horn, were present to represent the petition.

Ms. Foxman provided a background on TurningPoint. She spoke to their involvement in the community, and that they have had discussions with the Crystal Lake Food Pantry. She explained the meaning of community solar. One might imagine large solar farms, but this project is must smaller. She noted that customers can subscribe at a reduced rate. She showed a video of an existing TurningPoint solar project in an agricultural setting. She spoke to the project site, site plan, fencing and landscaping.

Mr. Barry asked Ms. Foxman about the area between the fence and road. Ms. Foxman responded the owner would like to continue to farm but may pursue a commercial development in the future. Mr. Barry asked if they could support farming or commercial. Ms. Foxman responded yes.

Ms. Foxman spoke to the benefits to the community, which include increased local jobs, electricity savings, reduced greenhouse gas emissions, increased grid resiliency, pollinator habitat and improved soil health and reduced erosion. She spoke to the planting plan. The array will be quiet and screened. There will be no water or sewage, and no long-term traffic. Ms. Foxman stated they agree to the conditions of approval and have already updated the site plan to address the comments. She spoke to the PUD and SUP Findings of Fact.

Ms. Amy Henry stated she is an Urban Planner and lead on the project. She noted the arrays are on the northern end of the property and consist of approximately 33 acres of the site. She stated the project met the required setbacks, and there would be a 100-foot buffer from the wetland and approximately 400 feet away from the nearest building. She spoke to the surrounding uses. There will be two (2) equipment pads in the southeast corner and one in the northern portion. She spoke to the Transportation and Access Plan. The access road will be at the southeast corner of the parcel off Ridgefield Road. She spoke to the Landscape Plan. The area will be screened with a fabric-wrapped fence and fully screened on the south, west and east sides of the facility by evergreens and deciduous shrubs. There will be a pollinator seed mix throughout, which will improve the soil condition and ecology. She stated the property is currently used for farming, and the owner will continue to farm the southern portion. She spoke to the storm water plans. To meet Fire Department standards requirements for a 20-foot access road, there will be a 12-foot paved road with a 4-foot grass area on each side. She spoke to the depressional area and explained water would go south and would not overflow to neighbor's property. She noted the benefits to soil, storm water and pollinators. Mr. Barry asked Ms. Henry if the pollinator plants will grow around and under the arrays. Ms. Henry responded yes. Ms. Henry stated the noise levels will be in compliance with Illinois Pollution Control and City of Crystal Lake's standards. Ms. Henry spoke to the IDNR requirements. She noted adverse impacts are unlikely.

Mr. Gronow opened the public hearing.

Ms. June Pederson, 8109 Hillside Road, Crystal Lake, stated she has a 20-acre horse farm nearby. She expressed concerns that the solar farm could impact local weather and cause heavy metals to leak into the ground. She stated research is indicating solar farms are raising ground temperatures. She is concerned this will impact the weather and potentially create storms with tornadoes that could damage her farm. She also stated that plantings underneath the arrays will not grow. Mr. Barry asked Ms. Foxman about IDNR's program for native plants. Ms. Foxman stated there are restrictions on what they can plant and where. Ms. Foxman noted she is not familiar with temperature concerns on small-scale solar farms. She noted that pollinator plants should help decrease the local temperature and will increase the absorption of water. Mr. Barry asked Ms. Foxman if there are studies that research leaking metals. Mr. Barry referenced a North Carolina Fire Safety study. He noted that 30 acres of panels are not enough to affect the weather. Ms. Foxman stated she is aware of concerns from 20 years ago, but the panels are of much higher quality and do not contain any toxic material.

Mr. Gronow turned the item over to staff. Staff noted that ComEd has an obligation to purchase renewable energy credits (RECs) from solar, a portion of which is required to come from community solar resources such as this. Staff noted the request meets the Special Use standards for solar farms.

Mr. Gronow turned the item over to the Commission members for discussion.

Ms. Teetsov asked how long construction would take. Ms. Foxman responded approximately 12-18 months. Ms. Teetsov asked how long would the panels last. Ms. Foxman stated that after the project is no longer in commission, they will return the property to its current condition.

Mr. Skluzacek asked if there would be any buildings. Ms. Foxman responded no, just equipment pads and arrays. The site will have remote monitoring, no storage and only access for equipment. Mr. Skluzacek

asked about battery storage. Ms. Foxman responded there would be no battery storage. That was a mistake in the staff report. Mr. Barry clarified with Ms. Foxman there would be no storage. Ms. Foxman noted they would keep the road during decommissioning if the property owner wants them to. She noted they wanted to make sure he could still build on his property. Mr. Barry confirmed the owner would have to come back if they sought a commercial development.

Ms. Mason asked if they had a decommissioning plan. Ms. Foxman stated they have an extensive decommissioning plan. They will leave the site ready to farm again with the exception of access and landscaping if the owner wants to keep them. Ms. Mason asked how far the arrays could provide service.

Mr. Gronow asked if the land would be leased. Ms. Foxman responded yes, a portion. Mr. Gronow asked the length of the contract. Ms. Foxman stated approximately 40 years. The initial lease is usually 20-25 years with the option to extend. Mr. Gronow asked about the width of the access road. Ms. Henry noted the size of the property and size of the access road. Mr. Barry stated he appreciates the time and effort. He feels the evident is sufficient to meet the standards. He asked the Commission to focus on the evidence submitted, and there has been no other evidence submitted against it. Mr. Gronow asked the petitioners if they agree to the conditions of approval. Ms. Foxman responded yes.

Ms. Teetsov made a motion to approve the petition 2024-05 for Comprehensive Land Use Plan Amendment from Agriculture/Rural Residential to Industry, Preliminary and Final Planned Unit Development and Special Use Permit for a Solar Farm with the following conditions:

1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
    A. Application (EIGER LLC, received 01/29/24)
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    E. Wetland Delineation Report (Kimley Horn, dated November 2023, received

2. The petitioner shall maintain the interior plantings and exterior screening plantings and fabric for the life of the facility.

3. The petitioner must address all of the review comments and requirements of the Community Development, Fire Rescue, Police, and Public Works Departments and the City's Stormwater Consultant.

Mr. Skluzacek seconded the motion. On roll call, Members Gronow, Teetsov, Mason and Skluzacek voted yes.

Proposed 4.99 Megawatt AC Ground-Mount Community Solar Facility

Crystal Lake, IL

TPE IL MH405, LLC
c/o TurningPoint Energy, LLC
3720 South Dahlia Street
Denver, CO 80237

Project Manager: Gloria Foxman
Phone: (646) 229-5041
Email: gfoxman@tpoint-e.com

January 11, 2024

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- I – Plat of Survey
- J – Operations and Maintenance Plan
- K – Transportation and Access Plan
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- M – Glare Study and F.A.A. Notice Criteria Filing
- N – Contaminant and Water Studies
- O – Property Value Impact Study
- P – FEMA FIRM Map
- Q – AIMA Submission

1.0 INTRODUCTION

1.1 Project Overview

TurningPoint Energy, LLC d/b/a TPE Development through its affiliated entity TPE IL MH405, LLC (Applicant) proposes the development of a 4.99-megawatt (MW) AC solar photovoltaic system on a parcel of land at Ridgefield Road in Crystal Lake, McHenry County, IL (Project). The Project will consist of a single axis tracking ground-mounted solar array, associated electrical equipment, an access driveway, required paved path surrounding the solar panels, landscape buffer and fence covering approximately 46 acres of the 77.56 acre host parcel (ID 13-23-400-005). The Project intends to participate in the Illinois Adjustable Block Community Solar Program and will power the equivalent of approximately 800-850[1] homes. Community Solar allows residents of Illinois to purchase credits for locally generated clean electricity at a discount to current electric rates without having to install panels on their roof.

The Project's host parcel is located in the M PUD (Manufacturing Planned Development) zoning district within the municipal boundaries of the City of Crystal Lake. The City of Crystal Lake's Zoning Ordinance (Ordinance) allows for the construction and operation of commercial solar energy facilities by special use permit (SUP) in the M PUD District. The development will also require a PUD Amendment. (The Applicant has submitted an Application for both the SUP and the PUD Amendment.) The Project is designed to comply with all setbacks prescribed in the Ordinance to ensure a sufficient buffer is maintained between the trackers and neighboring property lines and rights-of-way. The development will also comply with the Comprehensive Plan's goals for the Northwest Sub-Area, including watershed protection, encouraging development with minimal grading, and environmental preservation.

If approved, the Project would bring significant and consistent benefits to the City of Crystal Lake and the community surrounding the Project. The Project would create approximately 50-75 jobs during the projected 12 to 18-month development period and would generate property tax revenue in amounts estimated at more than $650,000 over 25 years and more than $1,000,000 over 40 years. Property tax revenue in Year 1 of the Project's operations is expected to be over 19 times the amount currently generated for local applicable taxing jurisdictions. Unlike nearly all other forms of development (residential, commercial, or industrial), the local community would benefit from the significant economic benefits mentioned above without straining community infrastructure – no new children in schools, no use of water and sewer systems, extremely limited use of roads, and little to no need for police or fire departments.

1.2 About Turning Point Energy

Formed in 2014, TPE is a privately held, independent company transforming our energy future by creating freedom to choose a smarter, cleaner, more flexible way forward through community solar. As a privately held and independent company, TPE customizes projects to the unique needs of each client. Its team has financed and/or built over 2 Gigawatts (GW) of the solar projects operating in the U.S. today. Since 2017, TPE has focused these services on the expanding community solar market in states including Illinois, Maine, Maryland, Delaware, Pennsylvania, Texas, and Rhode Island. TPE's development and investment

[1] Calculation based on data provided by the U.S. Energy Information Administration (EIA): https://www.eia.gov/energyexplained/use-of-energy/electricity-use-in-homes.php

portfolio now includes over 169MW community solar projects in construction or operation, with an additional 840MW in solar projects under development.

TPE is a "triple bottom line" company; we believe that our business should create financial, environmental, and community value in every project we create. Our intent is to be long-term members of the communities where our projects are developed. Upon successful permitting and utility interconnection, TPE donates to local charities and/or non-profits that support those in need.

2.0 SITE LOCATION & EXISTING CONDITIONS

TPE, in coordination with its engineering consultant, Kimley-Horn and Associates Inc (Kimley-Horn), has prepared and compiled information from many sources to form the basis of design for the proposed Project. A summary of existing conditions and the design elements that avoid and or minimize impact to the environment and surrounding community is presented in the following subsections.

2.1 Existing Conditions

If approved, the proposed Project would occupy approximately 46 acres of 77.56 acres of agricultural land (host parcel) in McHenry County within the municipal boundaries of the City of Crystal Lake. The site is located east of the intersection of IL-14 and Ridgefield Road and west of the Village of Ridgefield. The site is surrounded to the west by a church and agricultural field, to the north by a railway followed by an agricultural field, to the east by a sports complex, and to the south by Ridgefield Road followed by an agricultural field. Based on the results of a Level 2 Wetland delineation of the subject site, there is one freshwater emergent and open water wetland complex in the northern portion of the site. Per the Natural Resources Conservation Services (NRCS), the onsite soils consist of B rated loams.

2.2 Site Control

The landowner and TPE IL MH405, LLC entered into a Real Estate Lease Option Agreement on August 7, 2023.

2.3 Natural Resources and Consultations with State and Federal Authorities

2.3.1 Wetlands and Floodplain

The Project will be designed to avoid impacts to USACE jurisdictional waters. A Level 2 Wetland Delineation was completed, and no potential wetlands and waterways are impacted within the Project Area. Please see **Appendix D** for additional information.

Per FEMA FIRM Map Panels 17111C0200J and 17111C0215J, the entire limit of disturbance for the development is in Zone X, an Area of Minimal Flood Hazard. That is, the Project area is not within a FEMA flood zone. Refer to **Appendix P** for a copy of the FEMA FIRMETTE.

2.3.2 U.S. Fish & Wildlife Service ("USFWS")

The Project will be designed such that no federally listed species will be significantly impacted. Solar projects typically impose only minimal impacts on wildlife species. The Project's potential to impact federally protected species was evaluated as part of an Environmental Constraints Memorandum, which

is included as **Appendix E**. The assessment indicated that five federally listed species should be considered in an effects analysis for the Project, including the federally threatened northern long-eared bat (*Myotis septentrionalis*), the federally experimental population, non-essential whooping crane (*Grus americana*), the federally endangered rusty patched bumble bee (*Bombus affinis*), the federally threatened eastern prairie fringed orchid (*Platanthera leucophaea*), and the federal candidate monarch butterfly (*Danaus plexippus*). Due to the highly disturbed nature of the existing use (agricultural field), no impacts are anticipated to the five listed species. The Project will be designed to avoid impacts to all wetland and wooded areas; therefore, no impacts are anticipated to the listed species. Prior to the commencement of construction, and a USFWS "No Effect" determination is included as part of **Appendix F**.

2.3.3 Illinois Department of Natural Resources (IDNR) State Ecological Review

The Applicant is in consultation with IDNR for potential impacts to state threatened or endangered species. This consultation is conducted pursuant to IDNR's Ecological Compliance Assessment Tool (EcoCAT). The Applicant submitted an EcoCAT review request to IDNR in September 2023. The review concluded the following protected resources may be in the vicinity of the project location: Class 3 Groundwater (Gladstone Fen) and State Threatened or Endangered Species (Blanding's Turtle (*Emydoidea blandingii*) and Rusty-patched Bumble Bee (*Bombus affinis*)).

IDNR recommends the following to avoid and minimize impact to Gladstone Fen Class 3 Groundwater:

- use the lightest weight equipment possible to complete the job
- use balloon or large tires whenever possible to reduce compaction
- disc site upon completion to de-compact the surface after final soil is placed to ensure good infiltration
- naturalized permeable basins and swales in the design

To comply with the above recommendations, the Project will be designed to follow the above recommendations wherever possible.

IDNR concluded that adverse impacts to Blanding's Turtle (*Emydoidea blandingii*) and Rusty-patched Bumble Bee (*Bombus affinis*) are unlikely. Given the IDNR recommendations are adopted, the IDNR determined that adverse effects to state listed species or protected resources are unlikely. Consultation with IDNR is closed, given the recommendations are adopted.

Refer to **Appendix F** for a copy of the IDNR EcoCAT.

2.3.4 Illinois State Historic Preservation Office

Under the Illinois State Agency Historic Resources Protection Act, the State Historic Preservation Office (SHPO) division at IDNR is responsible for studying possible Project effects on archaeological and/or architectural (cultural) resources. Agencies requiring SHPO evaluation concurrent with their review include the Illinois Environmental Protection Agency (IEPA), IDNR, and the USACE. According to the Illinois SHPO database, no surveys, archeological sites, or historic buildings are listed on or within 0.5 miles of the site. The Applicant submitted a SHPO project review form for agency review. A response letter was received on October 24, 2023. According to SHPO's response letter, the Project is exempt pursuant to Section 6 of the Illinois State Agency Historic Resources Preservation Act and therefore an archaeological survey is not required under Illinois law. The response letter is included as **Appendix G**.

2.3.5 Illinois Department of Agriculture (IDOA)

The Renewable Energy Facilities Agricultural Impact Mitigation Act (505 ILCS 147/1, *et seq.*) requires the owner of a commercial solar energy facility to submit an Agricultural Impact Mitigation Agreement (AIMA) to the Illinois Department of Agriculture not less than 45 prior to the commencement of actual construction of the facility. In addition, at least 30 days prior to the commencement of construction for the facility, the owner of the facility must submit a copy of the fully-executed AIMA to the owner of the facility's host parcel. The intent of the AIMA is to preserve and/or restore the integrity of affected agricultural land during construction and decommissioning activities. On December 13, 2023, TPE submitted an AIMA request to the Department of Agriculture, which is included in this application submittal as **Appendix Q.**

2.4 Community Outreach & Benefits

TPE proactively engages the communities in which we work early in the process to determine what questions and concerns potential neighbors might have and give us adequate time to educate and address them prior to the public process.

We typically place calls, send letters and door knock on adjacent properties to our planned community solar site as well as meet with local officials.

Community solar projects such as TPE IL MH405, LLC enable residents to receive savings on their electricity bills from signing up to participate in a community scale solar project without installing solar on their rooftops.

In 2018, The State of Illinois enacted a statute that imposes a standardized, state assessment of fair cash value for solar energy projects designed to cover both the improvements (Project equipment) and the land. As a result, once constructed and operational, this Project will pay property taxes of more than $650,000 over 25 years split between the McHenry County, the City of Crystal Lake, and applicable school, fire, and other taxing authorities.

The Project would create approximately 50-75 jobs during the approximately 12 to 18 months prior to the start of Project operations. A regional operations and maintenance firm will service the facility over its working life cycle.

Unlike nearly all other forms of development (residential, commercial, or industrial), the community would benefit from the significant economic benefits mentioned above without stressing community infrastructure – no new children in schools, no use of water and sewer systems, limited use of roads, and little to no need for police or fire departments.

2.5 Existing Drain Tile Systems

The Applicant has retained Tom Huddleston with Huddleston McBride Professional Land Drainage Services (Drain Tile Consultant) to consult on drain tile issues. The Drain Tile Consultant will complete an existing drain tile survey prior to construction and work closely with the Applicant to ensure proper drainage and maintain and/or improve the existing surface and subsurface drainage to the extent practicable. Any drain tiles that are damaged during construction will be repaired in accordance with the AIMA.

3.0 PERFORMANCE STANDARDS

3.1 Project Description & Design Standards

The Project will consist of a 4.99 MW ground-mounted solar array. The solar array will consist of Tier 1 graded solar panels attached to single-axis trackers, which are installed on top of driven steel pier foundations or ground screw foundations, depending on the subsurface composition. An Illinois licensed engineer will certify the foundation and design of the solar racking system is suitable to meet local soil and climate conditions. At full tilt, the racking system with modules attached will not exceed fifteen feet (15') in height. In addition to the modules and racking, the Project will include the installation of string-inverters and two (2) medium voltage step-up transformers (600V:12.5KV). The point of interconnection for the Project will be located at Ridgefield Road. ComEd will install new utility-owned poles perpendicular to the existing infrastructure. Please refer to the site plan in **Appendix B** for additional clarification.

The potential equipment manufacturers include, but are not limited to, Silfab Solar, Heliene, AE Solar, or other Tier 1 module manufacturers.

The Project will be constructed by a licensed Engineering Procurement and Construction ("EPC") Contractor. The design and construction process will comply with all federal, state and local appliable building, electrical and fire codes, as well as the National Electrical Code ("NEC"). All modules, inverters, combiners, and disconnects will have Certificates of Compliance from Underwriters Laboratories ("UL") or an equivalent third party. The EPC Contractor shall also possess all professional and trade licenses required by the state and local authorities.

The EPC Contractor will create and maintain a health and safety manual in accordance with OSHA requirements which establishes appropriate rules and procedures concerning workplace safety.

All solid waste related to the construction, operation and maintenance of the Project shall be removed from the site promptly and disposed of in accordance with all federal, state and local regulations.

Any hazardous materials related to the construction, operation and maintenance of the Project will be handled, stored and transported, and disposed of in accordance with all applicable local and state laws. The Project will comply with the existing septic and well regulations required by the County Health Department and State of Illinois Department of Public Health. Noise from construction activities will be managed in accordance with all applicable local and state regulations.

There is no proposed lighting for this Project.

The inverter and transformers will be located on one or more concrete pads or piles. Utility poles at the point of interconnection will be above ground. The solar array will cover approximately 33 acres and the total project area will cover approximately 46 acres. The panels will be surrounded by a 7-foot-high fabric-wrapped chain link fence for safety and security purposes, as well as a landscape buffer to provide vegetative screening using native, pollinator-friendly plants. Entry into the fenced areas will be through gates with Knox Boxes for emergency access.

The Project design and planning has focused on minimizing any potential impacts to the surrounding neighborhood. The Project will produce electricity without requiring any combustion of materials. As a result, the community solar array will not cause or emit odors, dust, gas, smoke, or fumes. Further, the

Project will have very few moving parts and will generate electricity primarily in a passive manner – collecting the sun's rays and converting energy associated with the rays into electricity. There will be no vibrations generated by the solar panels or racking during the operating period of the Project. There may be de minimis vibrations produced by the inverter, and any such vibrations will not extend beyond the host parcel's property lines. The array was designed to meet all required setbacks from neighboring properties and rights of way in compliance with the Ordinance.

A warning sign shall be provided at the facility entrance and along the perimeter fence including the facility's 911 address and a 24-hour emergency contact number. No outdoor storage is planned for the Project at this time. In the event this were to change the Project would apply for the necessary approvals for the contemplated storage.

The scope of work includes but is not limited to:

- Preservation of existing topsoil onsite;
- Construction of a gravel access roads;
- Construction of project equipment pads;
- Construction of a temporary staging area(s); and
- Installation of solar panels and associated support equipment and structures.

3.2 Noise

The Project will operate in accordance with the applicable noise limits of the Illinois Pollution Control Board (IPCB). Solar panels themselves do not produce any noise. The only components in the array that generate noise are the inverters and transformers. The inverter pad location and design will ensure that any noise emitting components will be positioned at a sufficient distance and directed away from neighboring parcels. Kimley-Horn prepared a noise study that evaluated the projected sound levels generated by the string inverters that are likely to be deployed for the Project. The Noise Study is included as **Appendix L** in the Application materials. The Noise Study concludes that so long as the equipment pad for the Project, which will contain the string inverters, is located at least 40 feet from the Project's boundary, the Project will comply with the IPCB's noise limitation. The equipment pad for the Project is preliminarily proposed to be located at least 130 feet away from any property line. Accordingly, the Project, as designed, will more than comply with the ICPB's noise limits, and likewise the final placement for the equipment pad and system configuration will ensure continued compliance with the IPCB's noise limitations.

There will be no vibrations generated by the solar panels or racking during the operating period of the Project. There may be de minimis vibrations produced by the inverter, but any such vibrations will not extend beyond the host parcel's property lines. The Project's comprehensive maintenance plan includes routine inspections to assess and correct any malfunctioning equipment.

3.3 Environmental Impact

The Project will not emit any air pollution. It will, in fact, provide a net environmental carbon benefit. According to the EPA Clean Energy Equivalencies Calculator the Project will avoid the environmental equivalent of 7,991 metric tons of carbon annually, which is comparable to:

- Carbon sequestered by 9,529 acres of forest

- 899,142 gallons of gasoline consumed each year
- 1,778 passenger vehicles removed from our streets

A commitment to wildlife-sensitive construction and operation practices during and after construction will allow for increased local biodiversity. TPE proposes to use pollinator-friendly ground cover underneath the Project and native plantings around the perimeter. These include clover and grass species that promote the establishment and long-term health of bee populations. The Project will not use any pesticides for vegetation management.

3.4 Toxic substances

There are no toxic substances in the panels. The Project will incorporate Tier 1 monocrystalline photovoltaic solar modules, which have been analyzed as follows by North Carolina State University:

> Well over 80% (by weight) of the content of a PV panel is the tempered glass front and the aluminum frame, both of which are common building materials. Most of the remaining portion are common plastics, including polyethylene terephthalate in the back sheet, EVA encapsulation of the PV cells, polyphenyl ether in the junction box, and polyethylene insulation on the wire leads. The active, working components of the system are the silicon photovoltaic cells, the small electrical leads connecting them together, and to the wires coming out of the back of the panel. The electricity generating and conducting components make up less than 5% of the weight of most panels. The PV cell itself is nearly 100% silicon, and silicon is the second most common element in the Earth's crust. The silicon for PV cells is obtained by high-temperature processing of quartz sand (SiO2) that removes its oxygen molecules. The refined silicon is converted to a PV cell by adding extremely small amounts of boron and phosphorus, both of which are common and of very low toxicity.

Please see **Appendix N** for the full report.

3.5 Fire Safety

The solar panels and racking, which comprise the majority of the Project's equipment, are not flammable. Tempered glass offers protection from heat and the elements, and the panels are designed to absorb heat as solar energy. As concluded by the North Carolina State University:

> …Concern over solar fire hazards should be limited because only a small portion of materials in the panels are flammable, and those components cannot self-support a significant fire. Flammable components of PV panels include the thin layers of polymer encapsulates surrounding the PV cells, polymer backsheets (framed panels only), plastic junction boxes on rear of panel, and insulation on wiring. The rest of the panel is composed of non-flammable components, notably including one or two layers of protective glass that make up over three quarters of the panel's weight.

Please see **Appendix N** for the full report.

3.6 Glare and Heat

As explained in Fire Safety **Section 3.6**, there is no heat generated by the Project.

A glare study was performed by TPE using ForgeSolar software to assess the possible effects of reflectivity created by the Project. ForgeSolar software incorporates GlareGauge, the leading solar glare analysis tool which meets Federal Aviation Administration ("FAA") standards and is used globally for glare analysis. It is based on the Solar Glare Hazard Analysis Tool licensed from Sandia National Laboratories.

A model of the Project was input into the software along with (2) Route Receptors along roadways in vicinity of the site. Height was assessed at 5' above ground to emulate passengers in cars. Further, (11) Observation Receptors were modeled at specific dwellings located around the perimeter of the solar array. Heights were modeled at 10' above ground to emulate residents on the 1st floor or doorsteps of dwellings and evaluate the glare impact.

A direct line of sight between the Project and the designated Route Receptors and Observation Receptors is required to produce any discernible glint/glare, so if there is existing or proposed vegetation between the receptor and the project, any glint/glare would be eliminated.

The model assumes the sun is shining 100% of the time it is above the horizon (during laylight hours). That is, it does not account for cloudy or overcast conditions when the sun is not shining. The results, therefore, would be the maximum expected glint and glare during any single year. Existing topography is taken into account in the simulation. Existing and planned vegetation are not considered in the simulation. The model assumed zero vegetation that may screen the Project, so this must be considered when interpreting the study results. Existing vegetation was modeled.

Based on the above inputs/assumptions, no potential for glint or glare was identified in the analysis at any of the Route Receptors or neighboring Observation Receptors. No additional mitigation measures are recommended since no glint or glare is anticipated based on the ForgeSolar GlareGauge results.

Please see **Appendix M** for a more detailed analysis of the Forge Solar results as well as a copy of the ForgeSolar Assessment.

3.7 Setback Compliance, Landscape & Buffering Plan

3.7.1 Setback Compliance

This proposed Project will meet the following setback requirements as set forth by the Ordinance:

- Per Section 3-200 Dimensional Standards for the Manufacturing zoning district, the minimum front setback is 30 feet, the minimum side setback is 15 feet, the minimum rear setback is 20 feet. The Project will also provide a 100-foot buffer around the wetland in the northern portion of the site.

3.7.2 Landscape and Buffering Plan

Appendix BB includes a Landscape Plan that complies with the following guidelines in the Ordinance:

- Per Section 2-400.C.74 regarding special use criteria for Solar Farms, the entire Project site shall be surrounded with landscape and a fabric-wrapped chain link fence, which would screen the property from any roadways or public driveways.
- The area underneath the solar array and buffer area will be seeded with a native pollinator-friendly seed mix. Pollinator seed mixes are intended to provide food and shelter for wildlife and should attract a variety of pollinators and songbirds. The wildflowers and grasses in the mix will provide an attractive display of color from spring to fall and will provide nectar and food for pollinators and their larvae. The Project will also maintain all areas within the lease area, including those outside the Project footprint and within the buffer areas, in accordance with the Ordinance.

3.8 FAA Filing

The Project filed using the Notice Criteria Tool with the Federal Aviation Administration (FAA) and the results indicated the Project did not exceed the Notice Criteria. As a result, no additional filings are required with the FAA. Please see **Appendix M** for a copy of the filing.

3.9 Safety and Security

The solar arrays will be enclosed by a 7-foot-high fabric-wrapped fence and locked gates, as required by the Ordinance and the National Electrical Code (NEC). Emergency access to the fenced areas will be through Knox-Boxes in order to provide the required 24-hour access. The paved driveway has been designed to allow emergency vehicle access, including fire trucks.

3.10 Interconnection

The proposed Project will interconnect to two existing 12.5 kV ComEd feeders. ComEd will install new poles for the line extensions along with multiple poles for metering and pole-top equipment.

3.11 Operations and Maintenance

The Operation and Maintenance Plan including a comprehensive vegetative management plan for the Project is included as **Appendix J**. Preventive maintenance will be conducted on a schedule based on manufacturer's recommendations and industry best practices and standards of care. Regular maintenance will include vegetation control, fence inspection and physical inspection of all system components. A mowing schedule will be followed based on the plant species in the seed mix that is properly timed to balance avoiding wildlife and native pollinator-friendly vegetation disturbance with preventing the establishment of weeds. Vegetation underneath and between the solar panels will be well maintained to keep vegetation below the low edge of the solar panels at maximum tilt angle. Mowing and weed trimming schedules will be adjusted as needed to allow for flexibility based on rainfall and vegetation growth. Chemical control will be applied in accordance with Illinois noxious weed regulations. The Project will be monitored continuously for system failures via a Supervisory Control and Data Acquisition (SCADA) system. Qualified and insured technicians will be dispatched to address any system failures, including inverter, transformer, or tracker motor malfunctions.

3.12 Decommissioning Plan

A Decommissioning Plan has been included as **Appendix C**. The Decommissioning Plan will meet all the standards specified in the AIMA as well as the Ordinance. The required Financial Assurance documentation to cover the estimated costs of decommissioning and site reclamation of the Project will be provided to Crystal Lake.

Decommissioning will include removal of all structures (including equipment, fencing and roads) and foundations and restoration of soil and vegetation. At the end of the operational life of the Project, the Project will be safely dismantled using conventional construction equipment. The Project consists of numerous materials that can be resold or recycled for significant scrap value, including steel, aluminum, glass, copper, and plastics. The solar panels are not considered hazardous waste. The panels used in the Project will contain silicon, glass, and aluminum, which have value for recycling. Often, current market salvage values of a Project exceed estimated decommissioning and site restoration expenses.

The site will be restored and reclaimed to approximately the pre-construction condition in conformance with the site lease agreement and the AIMA. It is assumed that the site will be returned to agricultural use after decommissioning and appropriate measures will be implemented to easily transition back to a use for agricultural purposes.

3.13 Avoidance and Mitigation of Damages to Public Infrastructure

Road: Roadways improved in preparation for and during the construction of the commercial solar energy facility will be repaired and restored as required by all applicable ordinances at the reasonable cost of the Project if the roadways have degraded or were damaged as a result of construction-related activities.

Drainage Systems: A drain tile survey will be completed as required by the AIMA. The Project will ensure no permanent adverse impact to existing mutual drains and drainage patterns. Within the footprints of the solar array, the Project will endeavor to maintain or improve drainage over that which currently exists on site by rerouting drainage networks within the project footprint around footprints where necessary and by repairing or replacing damaged drain tiles.

4.0 SPECIAL USE REVIEW CRITERIA

4.1 Special Use Required Findings of Facts (160.2.400, City Zoning Code)

a) *That the proposed use is necessary or desirable, at the location involved, to provide a service or facility which will further the public convenience and contribute to the general welfare of the neighborhood or community.*

The Project will provide a desirable service and facility which will further the public convenience and contribute to the general welfare of the neighborhood or community. The Project will enhance the local electric grid by serving as a new, direct source for electricity generation in the community. The Project will also promote the general welfare of City of Crystal Lake by supplying new jobs, new tax revenue and will be a source of generation of local, sustainable, clean, pollution-free renewable electricity. Also, the community would benefit from the significant economic benefit without stressing community infrastructure. The Project will also offer community members an opportunity to

subscribe to the delivery of electricity from the Project and potentially enjoy a discount for the purchase of that electricity.

b) That the proposed use will not be detrimental to the value of other properties or improvements in the vicinity.

The Project will not be detrimental to the value of other properties or improvements in the vicinity. As indicated by the property value impact study, **Appendix O**, the existence of the Project will have no negative impact on neighboring property values, and therefore will not substantially diminish or impair property values within the neighborhood of the Project. The CohnReznick General Impact Study Report indicates that solar facilities located in similar areas, with similar land uses, do not cause any negative impacts to adjacent real estate, based on a review of academic studies, CohnReznick's own paired sales data, and interviews with County Assessors and other Market Participants. The reports further detail how solar facilities are generally harmonious with surrounding uses.

c) That the proposed use will comply with the regulations of the zoning district in which it is located and this Ordinance generally, including, but not limited to, all applicable yard and bulk regulations, parking and loading regulations, sign control regulations, watershed, wetlands, and floodplain regulations, Building and Fire Codes and all other applicable City Ordinances.

The Project will fully comply with the Crystal Lake's zoning Ordinance, particularly those provisions found in amended Sections, 650-2-300 Permitted Uses Table, 650-2-400-74 Solar Farms and 650-3 Density and Dimensional Standards, and all regulations that are specifically applicable to a Solar Farm facility. The Project will also comply with all other City, County, State and Federal requirements.

d) *That the proposed use will not negatively impact the existing off-site traffic circulation; will adequately address on-site traffic circulation; will provide adequate on-site parking facilities; and, if required, will contribute financially, in proportion to its impact, to upgrading roadway and parking systems.*

The Project will be designed to include all roads and road entrances necessary to provide adequate ingress and egress to its facilities. Construction traffic will include approximately 25 work trucks per day. Considering the low number of work trucks visiting the Project site over the construction phase, traffic patterns in the vicinity of the Project will not be impacted.

The Project will have minimal traffic upon completion of construction. Landscape maintenance and maintenance to the Project components are anticipated to occur on an as-needed basis, consistent with the Maintenance and Operations Plan. Existing traffic patterns will not be impacted in the post-construction, operations phase. A Transportation and Access Plan is included as **Appendix K**.

e) That the proposed use will not negatively impact existing public utilities and municipal service delivery systems and, if required, will contribute financially, in proportion to its impact, to the upgrading of public utility systems and municipal service delivery systems.

The Project will have adequate utility interconnections. The System impact study by ComEd provides assurance that the electrical capacity is available to host the Project and the proposed point of interconnection is located at the first of the property and west of the site along IL-14. The Project does not require water, sewer or any other public utility facilities to operate. The Project will also build all roads and entrances necessary to access its facilities. A drain tile survey will be completed prior to construction and foundation design will work around or reroute any identified drain tiles to ensure proper drainage. The Project will also be designed in a manner that will not materially modify existing water drainage patterns around its facilities.

f) That the proposed use will not impact negatively on the environment by creating air, noise, or water pollution; ground contamination; or unsightly views.

The Project will not impact negatively on the environment by creating air, noise, or water pollution; ground contamination; or unsightly views. Numerous studies have shown that solar arrays and their components do not have a negative environmental impact. Please refer to **Appendix N** for a copy of these studies. The Project will not emit any air pollution of any kind and any sound generated by the Project's operations (which occur only during the day) will more than comply with the Illinois Pollution Control Board's limitations on noise. Also, please refer to IDNR's response to the Project's EcoCat submission. The Project will comply with all local, state, and federal regulations and will be operated in a safe manner at all times. Dust control and E&S measures will be put in place during construction to alleviate potential issues that may arise with construction, operation, and maintenance. A glare study was performed and showed no glare to nearby routes and residences. The development will also comply with the Comprehensive Plan's goals for the Northwest Sub-Area, including watershed protection, encouraging development with minimal grading, and environmental preservation.

According to the City of Crystal Lake #2023-177 Ridgefield Road Solar Farm staff report, dated September 6, 2023, "While the subject property is not located in the Crystal Lake Watershed, the 2030 Comprehensive Plan encourages development, which minimizes its impact to the Northwest Sub-Area. Development that minimizes grading is encouraged." The Project will include minimal grading for the access road and equipment pads; the remainder of the site within the solar field is generally flat and so minimal grading is anticipated throughout the site. The staff report is included as **Appendix H** in the Application materials. Likewise, the layout for the solar arrays will be a standard layout with panels that do not exceed 15 feet in height. Moreover, the entire Project site will be surrounded with landscape and a fabric-wrapped chain link fence, which will screen the Project from any roadways or public driveways. As a result, the Project will not create any unsightly views.

g) That the proposed use will maintain, where possible, existing mature vegetation; provide adequate screening to residential properties; provide landscaping in forms of ground covers, trees and shrubs; and provide architecture, which is aesthetically appealing, compatible or

complementary to surrounding properties and acceptable by community standards, as further detailed in Article 4, Development and Design Standards.

Adequate screening around the site will be provided to obscure the Project from view. As discussed above, the solar array will be surrounded by a fabric-wrapped chain link fence and a landscape buffer, which will screen the Project from neighboring properties. The replacement of row crops with a pollinator seed mix will be a net positive for stormwater. Please refer to the Landscape Plan provided in **Appendix BB**. Per the Minnesota Rural Water Association, solar installations with native pollinator-friendly ground cover achieve positive impacts similar to soil conservation projects, which reduce soil erosion, reduce soil quality degradation, and improve water quality. This report is included in **Appendix N**. The Project will be designed to account for all existing features, environmental features, and the City of Crystal Lake's Ordinance. Please refer to **Appendix B** for the Zoning Site Plan. TPE proposes to use pollinator friendly ground cover underneath the Project and native plantings around the perimeter. These include clover and grass species that promote the establishment and long-term health of bee populations.

h) *That the proposed use will meet standards and requirements established by jurisdictions other than the City such as federal, state or county statutes requiring licensing procedures or health/safety inspections, and submit written evidence thereof.*

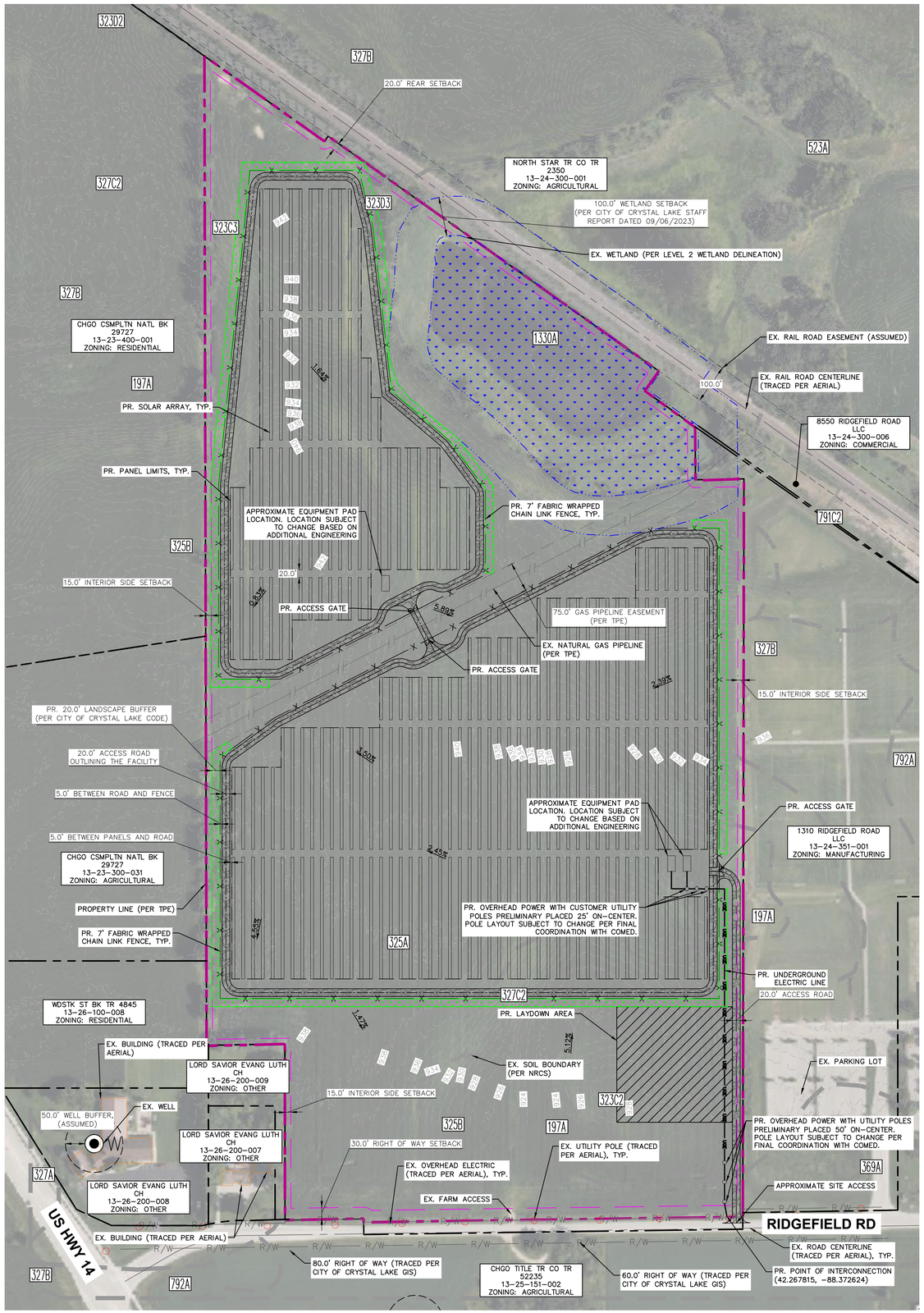
The Project will comply with all local, state, and federal regulations and will be operated in a safe manner at all times. In addition, the Project will promote the general welfare of the City of Crystal Lake by supplying new jobs, new tax revenue and will be a source of generation of local, sustainable, clean, pollution-free renewable electricity. Also, the community will benefit from the significant economic benefit without stressing community infrastructure.

i) That the proposed use shall conform to any stipulations or conditions approved as part of a special use permit issued for such use.

The Project will conform to any stipulations or conditions approved as part of a special use permit issued. In addition, the Project has been designed to incorporate the comments received in the City of Crystal Lake #2023-177 Ridgefield Road Solar Farm staff report, dated September 6, 2023. These comments include providing a 100-foot buffer around the wetland in the northern portion of the site; providing a 20-foot paved path throughout the site; providing a fabric-wrapped fence; providing a landscape plan with the SUP/PUD submittal; and completing a wetland delineation. The Project has also been designed to incorporate the comments received from the City of Crystal Lake Fire Development Review dated September 5, 2023, to meet the applicable City Fire Code and IFC (2018) fire regulations. The staff report and department review comments are included as **Appendix H**.

j) That the proposed use shall conform to the standards established for specific special uses as provided in this section.

The Project will conform to the standards established for specific special uses as provided in Article 2 Section 2-400 C.74 Solar Farms.

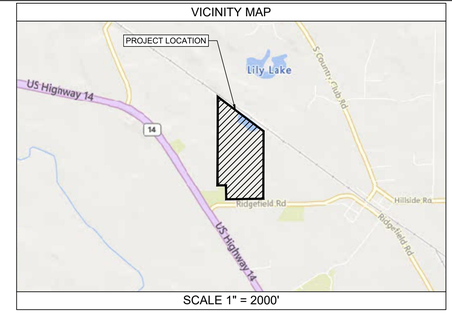


PRELIMINARY - NOT FOR CONSTRUCTION

NORTH

GRAPHIC SCALE IN FEET
0 75 150 300

VICINITY MAP



SCALE 1" = 2000'

LEGEND

ROAD NAME	**N 100 ST.**
PROPERTY LINE	
PROJECT BOUNDARY	
RIGHT OF WAY	R/W
SETBACK	
EX. OVERHEAD ELECTRIC	EX OHE
EX. ROAD CENTERLINE	
EX. EASEMENT	
EX. UTILITY POLE	
EX. RESIDENCE/STRUCTURE	
EX. WETLANDS	
WETLAND SETBACK	
EX. FLOW (DIRECTION AND SLOPE)	XX%
EX. NATURAL GAS PIPELINE	
EX. PIPELINE EASEMENT	
PR. SECURITY FENCE	X
PR. ACCESS GATE	
PR. LAYDOWN AREA	
PR. PANEL LIMITS	
PR. UNDERGROUND ELECTRIC	UGE
PR. OVERHEAD ELECTRIC	OHW
PR. ACCESS ROAD	
PR. UTILITY POLE	
PR. EQUIPMENT PAD	
PR. SOLAR ARRAY	
PR. LANDSCAPE BUFFER	
EX. WELL	W
WELL BUFFER	

SITE DATA TABLE

PIN #	13-23-40-005
PROPERTY OWNER	EIGER LLC 1625 W LAKE SHORE DR WOODSTOCK, IL 60098
SITE ADDRESS	RIDGEFIELD ROAD, CRYSTAL LAKE, IL 60098
LEGAL DESCRIPTION	DOC 2003R0085874 PT LT 15 SECS 23 & 24 LYING S OF RR /EX DOC 2012R0002480/ ASSRS PLAT
ZONING JURISDICTION	CITY OF CRYSTAL LAKE
ZONING	M PUD, MANUFACTURING PLANNED UNIT DEVELOPMENT
CURRENT LAND USE	AGRICULTURAL FIELD
PROPOSED USE	COMMERCIAL SOLAR FIELD
TOTAL PARCEL AREA	78 ± AC
PRELIMINARY DISTURBED AREA	46 ± AC
PRELIMINARY SOLAR AREA	33 ± AC
RIGHT OF WAY SETBACK	30 FT
PROPERTY LINE SETBACK	15 FT

*ZONING SITE PLAN IS BEING SUBMITTED FOR SPECIAL USE PERMIT AND PUD AMENDMENT TO CONSTRUCT/OPERATE A SOLAR FARM

NOTES

1. THE PURPOSE OF THIS PLAN IS FOR SPECIAL USE PERMIT AND PUD AMENDMENT REVIEW AND APPROVAL BY CITY OF CRYSTAL LAKE TO CONSTRUCT A SOLAR FARM.
2. THIS PLAN WAS PRODUCED UTILIZING GIS RESOURCES AND INFORMATION FROM MULTIPLE SOURCES, INCLUDING CITY OF CRYSTAL LAKE GIS, GOOGLE EARTH, AND USGS TOPOGRAPHIC INFORMATION.
3. SUBJECT PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AS SHOWN ON THE FLOOD INSURANCE RATE MAP (COMMUNITY PANEL 17111C0200J AND 17111C0215J) PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).
4. THE LOCATIONS OF PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCING, SOLAR ARRAY RACKING, INVERTER/TRANSFORMER PADS, OVERHEAD POLES AND LINES, ETC., SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MODIFICATION DUE TO SITE CONDITIONS, ADDITIONAL PERMITTING REQUIREMENTS, EQUIPMENT SPECIFICATIONS, AND/OR OTHER CONSTRAINTS DURING FINAL ENGINEERING.
5. PROJECT AREA, INCLUDING CONSTRUCTION STAGING AREAS, WILL BE CLEARED AND GRUBBED AS NECESSARY, RETAINING PRE-DEVELOPMENT DRAINAGE PATTERNS TO THE BEST EXTENT POSSIBLE. CONSTRUCTION STAGING AND AREAS SUBJECT TO RUTTING DURING CONSTRUCTION WILL BE TEMPORARILY STABILIZED WITH GRAVEL. SOIL CONDITIONS AND EQUIPMENT LOADS WILL DETERMINE FINAL DESIGN.
6. ALL DIMENSIONS SHOWN ARE AT 90 DEGREES UNLESS OTHERWISE NOTED.
7. CONTRACTOR SHALL CALL AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. ADDITIONALLY, CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES.
8. CONTRACTOR SHALL MAINTAIN ACCESS AND UTILITY SERVICES TO ANY REMAINING BUILDING(S) OR ADJACENT BUILDING(S) THROUGHOUT THE DEMOLITION AND CONSTRUCTION PHASES. EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED/RESTORED TO THE SATISFACTION OF THE OWNER BY THE CONTRACTOR RESPONSIBLE FOR THE DAMAGE.
9. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO PROVIDE SIGNS, BARRICADES, WARNING LIGHTS, GUARD RAILS, AND EMPLOY FLAGGERS AS NECESSARY WHEN CONSTRUCTION ENDANGERS EITHER VEHICULAR OR PEDESTRIAN TRAFFIC. THESE DEVICES SHALL REMAIN IN PLACE UNTIL THE TRAFFIC MAY PROCEED NORMALLY AGAIN.
10. SITE WILL HAVE NO DEDICATIONS FOR OPEN SPACE, NATURAL AREA, HISTORIC BUILDING(S)/STRUCTURE(S), OR STORMWATER MANAGEMENT FACILITIES.
11. SITE WILL NOT INCLUDE WATER SOURCE OR SEWAGE DISPOSAL. APPROXIMATE LOCATION OF EXISTING WATER WELL LOCATIONS SHOWN PER THE ILLINOIS WATER WELL INTERACTIVE MAP ONLINE.
12. STORMWATER MANAGEMENT FACILITIES TO BE PROVIDED AS REQUIRED BY CITY AND/OR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITTING. REQUIREMENTS TO BE DETERMINED DURING FINAL ENGINEERING.
13. THE MAXIMUM HEIGHTS OF ANY SOLAR PANEL SHALL NOT EXCEED 25 FEET.
14. SOLAR PANELS WILL BE DESIGNED WITH ANTI-REFLECTIVE COATING TO MINIMIZE GLARE.
15. COLLECTION LINES WITHIN THE SOLAR FARM WILL BE LOCATED AND MAINTAINED UNDERGROUND.
16. THERE SHALL BE NO EXTERIOR LIGHTING.
17. SETBACKS SHOWN ON THIS PLAN ARE BASED ON CITY OF CRYSTAL LAKE CODE OF ORDINANCES, SECTION 3-200.
18. ALL NECESSARY PERMITS FOR SOIL EROSION CONTROL AND DRIVEWAY CONSTRUCTION WILL BE OBTAINED AS PART OF FINAL ENGINEERING AND PRIOR TO CONSTRUCTION
19. LANDSCAPE BUFFERS SHOWN ON THIS PLAN ARE BASED ON CITY OF CRYSTAL LAKE CODE OF ORDINANCES, SECTION 2-400C.
20. TO AVOID AND MINIMIZE IMPACT TO GLADSTONE FEN CLASS 3 GROUNDWATER, PER RECOMMENDATIONS FROM THE IDNR STATE ECOLOGICAL REVIEW, THE PROJECT WILL:
    - USE THE LIGHTEST WEIGHT EQUIPMENT POSSIBLE TO COMPLETE THE JOB.
    - USE BALLOON OR LARGE TIRES WHENEVER POSSIBLE TO REDUCE COMPACTION.
    - DISC SITE UPON COMPLETION TO DE-COMPACT THE SURFACE AFTER FINAL SOIL IS PLACED TO ENSURE GOOD INFILTRATION.
    - USE NATURALIZED PERMEABLE BASINS AND SWALES IN THE DESIGN.
21. SITE FENCE TO BE FABRIC WRAPPED PER CITY OF CRYSTAL LAKE SOLAR ORDINANCE.
22. SIGNAGE, ACCESS, GATES, AND SITE DESIGN SHALL BE IN ACCORDANCE WITH INTERNATIONAL FIRE CODE (IFC) 2018 EDITION WITH CITY OF CRYSTAL LAKE AMENDMENTS.

SOILS DATA TABLE

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
197A	TROXEL SILT LOAM, 0 TO 2 PERCENT SLOPES	B
323C2	CASCO LOAM, 4 TO 6 PERCENT SLOPES	B
323C3	CASCO CLAY LOAM, 4 TO 6 PERCENT SLOPES. SEVERELY ERODED	B
323D2	CASCO LOAM, 6 TO 12 PERCENT SLOPES, ERODED	B
323D3	CASCO CLAY LOAM, 6 TO 12 PERCENT SLOPES, SEVERELY ERODED	B
325A	DRESDEN SILT LOAM, 0 TO 2 PERCENT SLOPES	B
325B	DRESDEN SILT LOAM, 2 TO 4 PERCENT SLOPES	B
327A	FOX SILT LOAM, 0 TO 2 PERCENT SLOPES	B
327B	FOX SILT LOAM, 2 TO 4 PERCENT SLOPES	B
327C2	FOX SILT LOAM, 4 TO 6 PERCENT SLOPES, ERODED	B
369A	WAUPECAN SILT LOAM, 0 TO 2 PERCENT SLOPES	B
523A	DUNHAM SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES	B/D
791B	RUSH SILT LOAM, 2 TO 4 PERCENT SLOPES	B
791C2	RUSH SILT LOAM, 4 TO 6 PERCENT SLOPES, ERODED	B
792A	BOWES SILT LOAM, 0 TO 2 PERCENT SLOPES	B
1330A	PEOTONE SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, UNDRAINED	C/D
4103A	HOUGHTON MUCK, PONDED, 0 TO 2 PERCENT SLOPES	A/D

No.	REVISIONS	DATE

TurningPoint Energy

Kimley»Horn

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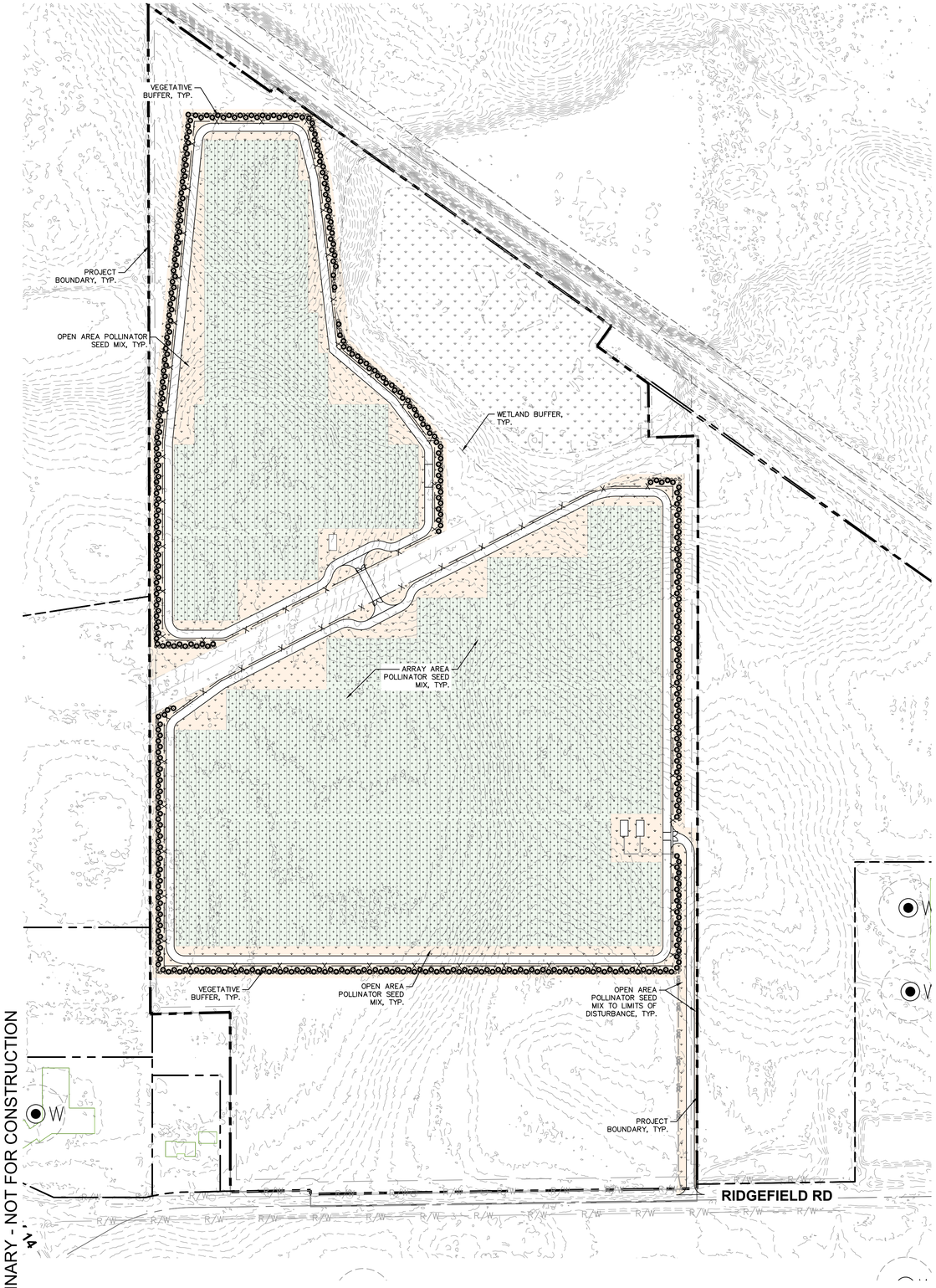
KHA PROJECT 26817304.3
DATE 11/06/2023
SCALE AS SHOWN
DESIGNED BY AH
DRAWN BY LAD
CHECKED BY APK

ZONING SITE PLAN

TPE IL MH405, LLC

CITY OF CRYSTAL LAKE,
MCHENRY COUNTY, IL

SHEET NUMBER
EX-1



PRELIMINARY - NOT FOR CONSTRUCTION

CONCEPT PLANT SCHEDULE

EVERGREEN TREE/SHRUB — 426
SAWARA CYPRESS `SOFT SERVE`
JUNIPERUS VIRGINIANA
JUNIPERUS CHINESIS `MOUNTBATTEN`
PICEA PUNGENS `FAT ALBERT`
TAXUS CUSPIDATA `CAPITATA`
TAXUS X MEDIA `HICKSII`
THUJA OCCIDENTALIS `WOODWARDI`

LARGE DECIDUOUS SHRUB — 439
ARONIA ARBUTIFOLIA
CORNUS SERICEA CARDINAL
EUONYMUS ALATUS `COMPACTUS`
ILEX VERTICILLATA
LINDERA BENZOIN
PHYSOCARPOS OPULIFOLIUS
SAMUCUS CANADENSIS
VIBURNUM DENTATUM
VIBURNUM LENTAGO `MOHICAN`
VIBURNUM PRUNIFOLIUM

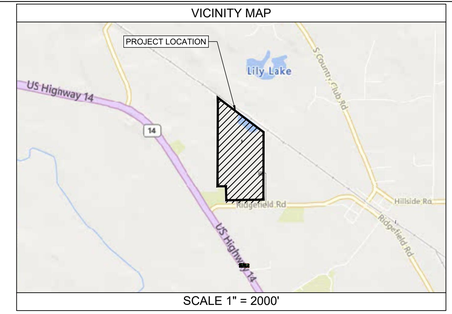
OPEN AREA POLLINATOR SEED MIX

ARRAY AREA POLLINATOR SEED MIX

NORTH

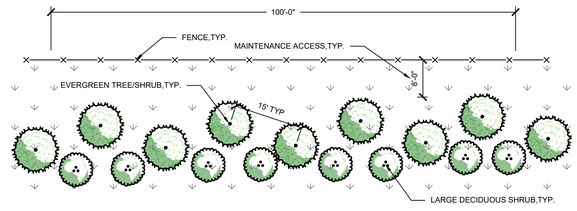
GRAPHIC SCALE IN FEET
0 75 150 300

VICINITY MAP



SCALE 1" = 2000'

VEGETATIVE BUFFER



TYPICAL VEGETATIVE BUFFER PLAN



TYPICAL VEGETATIVE BUFFER ELEVATION

OPEN AREA POLLINATOR SEED MIX

25%	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM
10%	BOUTELOUA CURTIPENDULA	SIDEOATS GRAMA
6%	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED
5.5%	ELYMUS CANADENSIS	CANADA WILDRYE
5.2%	ECHINACEA PURPUREA	PURPLE CONEFLOWER
5%	DALEA PURPUREA	PURPLE PRAIRIE CLOVER
4.3%	COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS
3.5%	RUDBECKIA HIRTA	BLACKEYED SUSAN
3%	ALLIUM CERNUUM	NODDING WILD ONION
2.2%	SOLIDAGO NEMORALIS	GRAY GOLDENROD
2.1%	SPIRAEA ALBA DU ROI	MEADOWSWEET
2%	RATIBIDA PINNATA	YELLOW PRAIRIE CONEFLOWER
2%	ROSA SETIGERA MICHX	MICHIGAN ROSE
1.8%	SOLIDAGO SPECIOSA	SHOWY GOLDENROD
1.8%	SYMPHYOTRICHUM LAEVE	SMOOTH BLUE ASTER
1.6%	CEANOTHUS AMERICANUS	NEW JERSEY TEA
1.5%	GERANIUM MACULATUM	WILD GERANIUM
1.5%	LIATRIS ASPERA MICHX	ROUGH BLAZING STAR
1.4%	SOLIDAGO RIDDELLII	RIDDELL'S GOLDENROD
1.4%	SYMPHYOTRICHUM ERICOIDES	HEATH ASTER
1.3%	PENSTEMON HIRSUTUS	HAIRY BEARDTONGUE
1.2%	LOBELIA SIPHILITICA	BLUE LOBELIA
1.2%	ASCLEPAIS TUBEROSA	BUTTERFLY WEED
1.2%	ASCLEPIAS INCARNATA	SWAMP MILKWEED
1.2%	ZIZIA AUREA	GOLDEN ALEXANDERS
1.1%	PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE
1%	ANEMONE CANADENSIS	CANADA ANEMONE
1%	AQUILEGIA CANADENSIS	COLUMBINE
1%	BAPTISIA BRACTEATA VAR LEUCOPHAEA	WILD INDIGO
1%	LUPINUS PERENNIS V. OCCIDENTALIS	WILD LUPINE
1%	MONARDA FISTULOSA	WILD BERGAMOT
1%	MONARDA PUNCTATA	HORSE MINT

SEEDING RATE: 25 LB PER ACRE
SEED WITH COVER CROP OF OATS, JAPANESE MILLET, WINTER PEA, OR ANNUAL RYE DEPENDENT ON SEASON AT A RATE OF 30 LB PER ACRE.

SPECIFIED MIX SUBJECT TO AVAILABILITY DURING TIME OF CONSTRUCTION, OR APPROVED EQUAL.

ARRAY AREA POLLINATOR SEED MIX

26%	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM
10%	BOUTELOUA CURTIPENDULA	SIDEOATS GRAMA
8%	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED
5%	CAREX BICKNELLII	COPPER-SHOULDERED OVAL SEDGE
5.2%	COREOPSIS LANCEOLATA	SAND COREOPSIS
4.8%	SYMPHYOTRICHUM LAEVE	SMOOTH BLUE ASTER
4%	SYMPHYOTRICHUM ERICOIDES	HEATH ASTER
3.5%	DALEA PURPUREA	PURPLE PRAIRIE CLOVER
3.5%	GERANIUM MACULATUM	WILD GERANIUM
3%	ALLIUM CERNUUM ROTH	NODDING WILD ONION
3%	VERONICASTRUM VIRGINICUM	CULVER'S ROOT
1.8%	DESMODIUM CANADENSES	SHOWY TICK TREFOIL
1.7%	SPIRAEA ALBA DU ROI	MEADOWSWEET
1.6%	ZIZIA AUREA	GOLDEN ALEXANDERS
1.5%	ECHINACEA PURPUREA	PURPLE CONEFLOWER
1.4%	SOLIDAGO SPECIOSA	SHOWY GOLDENROD
1.2%	PYCNANTHEMUM VIRGINIANUM	COMMON MOUNTAIN MINT
1.2%	EUPATORIUM PERFOLIATUM	BONESET
1.2%	OENOTHERA BIENNIS	EVENING PRIMROSE
1.2%	SILPHIUM PERFOLIATUM	CUP PLANT
1.2%	RUDBECKIA HIRTA	BLACKEYED SUSAN
1.1%	HERACLEUM MAXIMUM	COMMON COWPARSNIP
1.1%	LUPINUS PERENNIS V. OCCIDENTALIS	WILD LUPINE
1%	RATIBIDA PINNATA	YELLOW PRAIRIE CONEFLOWER
1%	LIATRIS ASPERA MICHX	ROUGH BLAZING STAR
0.9%	ANGELICA ATROPURPUREA	ANGELICA
0.8%	CACALIA ATRIPLICIFOLIUM	PALE INDIAN PLANTAIN
0.8%	LOBELIA SIPHILITICA	BLUE LOBELIA
0.8%	PENSTEMON HIRSUTUS	HAIRY BEARDTONGUE
0.8%	ASCLEPAIS TUBEROSA	BUTTERFLY WEED
0.7%	ANEMONE CANADENSIS	CANADA ANEMONE
0.6%	SOLIDAGO NEMORALIS	GRAY GOLDENROD
0.4%	CEANOTHUS AMERICANUS	NEW JERSEY TEA

SEEDING RATE: 25 LB PER ACRE
SEED WITH COVER CROP OF OATS, JAPANESE MILLET, WINTER PEA, OR ANNUAL RYE DEPENDENT ON SEASON AT A RATE OF 30 LB PER ACRE.

SPECIFIED MIX SUBJECT TO AVAILABILITY DURING TIME OF CONSTRUCTION, OR APPROVED EQUAL.

No.	REVISIONS	DATE

TurningPoint Energy

Kimley»Horn

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KHA PROJECT

DATE	11/03/2023
SCALE	AS SHOWN
DESIGNED BY	AH
DRAWN BY	LAD
CHECKED BY	AK

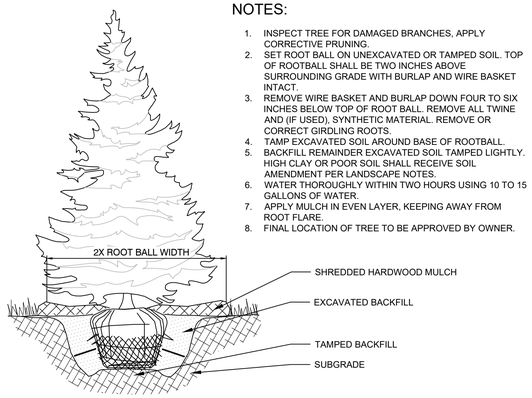
CONCEPT LANDSCAPE PLAN

TPE IL MH405, LLC

CITY OF CRYSTAL LAKE,
MCHENRY COUNTY, IL

SHEET NUMBER

LA-1

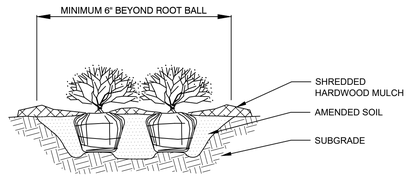


NOTES:

1. INSPECT TREE FOR DAMAGED BRANCHES, APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL SHALL BE TWO INCHES ABOVE SURROUNDING GRADE WITH BURLAP AND WIRE BASKET INTACT.
3. REMOVE WIRE BASKET AND BURLAP DOWN FOUR TO SIX INCHES BELOW TOP OF ROOT BALL. REMOVE ALL TWINE AND (IF USED), SYNTHETIC MATERIAL. REMOVE OR CORRECT GIRDLING ROOTS.
4. TAMP EXCAVATED SOIL AROUND BASE OF ROOTBALL.
5. BACKFILL REMAINDER EXCAVATED SOIL TAMPED LIGHTLY. HIGH CLAY OR POOR SOIL SHALL RECEIVE SOIL AMENDMENT PER LANDSCAPE NOTES.
6. WATER THOROUGHLY WITHIN TWO HOURS USING 10 TO 15 GALLONS OF WATER.
7. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE.
8. FINAL LOCATION OF TREE TO BE APPROVED BY OWNER.

1 EVERGREEN TREE PLANTING

NTS



NOTES:

1. APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL OR CONTAINER ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL (CONTAINER) SHALL BE ONE INCH ABOVE SURROUNDING GRADE. FOR LARGER SHRUBS WITHIN PLANTING BED DIG A DEEPER PIT ONLY FOR THOSE SHRUBS.
3. REMOVE BURLAP FROM TOP HALF THE LENGTH OF ROOTBALL. TWINE AND (IF USED) SYNTHETIC MATERIAL SHALL BE REMOVED FROM PLANTING BED. FOR CONTAINER GROWN SHRUBS, REMOVE CONTAINER AND LOOSEN ROOTS PRIOR TO INSTALLATION.
4. REMOVE OR CORRECT GIRDLING ROOTS.
5. PLUMB AND BACKFILL WITH AMENDED SOIL PER LANDSCAPE NOTES. WATER THOROUGHLY WITHIN TWO HOURS.
6. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE. MULCH LIMITS FOR SHRUBS EXTEND TO ALL LIMITS OF PLANTING BED, SEE PLANS FOR BED LAYOUTS.

2 SHRUB PLANTING

NTS

3 LANDSCAPE NOTES

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING MATERIALS AND PLANTS SHOWN ON THE LANDSCAPE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT LANDSCAPE, PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION OR DURING THE SPECIFIED MAINTENANCE PERIOD. CALL FOR UTILITY LOCATIONS PRIOR TO ANY EXCAVATION.
2. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY IN PLAN VS. FIELD CONDITIONS IMMEDIATELY TO THE LANDSCAPE ARCHITECT, PRIOR TO CONTINUING WITH THAT PORTION OF WORK.
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE.
5. ALL PLANTS TO BE SPECIMEN GRADE, WELL BRANCHED, HEALTHY, FULL, PRE-INOCULATED AND FERTILIZED. PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, AND SCARS. PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES. PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES. TRUNKS WILL BE WRAPPED IF NECESSARY TO PREVENT SUN SCALD AND INSECT DAMAGE. THE LANDSCAPE CONTRACTOR SHALL REMOVE THE WRAP AT THE PROPER TIME AS PART OF THIS CONTRACT.
6. THE OWNER'S REPRESENTATIVE MAY REJECT ANY PLANT MATERIALS THAT ARE DISEASED, DEFORMED, OR OTHERWISE NOT EXHIBITING SUPERIOR QUALITY.
7. ALL NURSERY STOCK SHALL BE GUARANTEED, BY THE CONTRACTOR, FOR ONE YEAR FROM DATE OF FINAL INSPECTION. THE GUARANTEE BEGINS ON THE DATE OF THE LANDSCAPE ARCHITECT'S OR OWNERS WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
8. PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2014 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
9. PRUNE PLANTS AS NECESSARY- PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
10. TOPSOIL SHALL BE PROVIDED AND GRADED BY THE GENERAL CONTRACTOR UP TO 6 INCHES BELOW FINISHED GRADE IN TURF AREAS AND 18 INCHES IN PLANTING AREAS.
11. SEED/SOD LIMIT LINES ARE APPROXIMATE. CONTRACTOR SHALL SEED/SOD ALL AREAS WHICH ARE DISTURBED BY GRADING WITH THE SPECIFIED SEED/SOD MIXES.
12. EDGING TO BE A SPADED EDGE UNLESS INDICATED OTHERWISE ON THE PLANS. SPADED EDGE TO PROVIDE V-SHAPED DEPTH AND WIDTH TO CREATE SEPARATION BETWEEN MULCH AND GRASS. A SPADED BED EDGE SHALL SEPARATE MULCH BEDS FROM TURF OR SEEDED AREAS. A SPADED EDGE IS NOT REQUIRED ALONG CURBED EDGES.
13. CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD MULCH AT A 3" DEPTH TO ALL TREES, SHRUB, PERENNIAL, AND GROUNDCOVER AREAS. TREES PLACED IN AREA COVERED BY TURF SHALL RECEIVE A 4 FT WIDE MAXIMUM TREE RING WITH 3" DEPTH SHREDDED HARDWOOD MULCH.
14. INSTALLATION OF TREES WITHIN PARKWAYS SHALL BE COORDINATED IN THE FIELD WITH LOCATIONS OF UNDERGROUND UTILITIES. TREES SHALL NOT BE LOCATED CLOSER THAN 5' FROM UNDERGROUND UTILITY LINES AND NO CLOSER THAN 10' FROM UTILITY STRUCTURES.
15. DO NOT DISTURB THE EXISTING PAVING, LIGHTING, OR LANDSCAPING THAT EXISTS ADJACENT TO THE SITE UNLESS OTHERWISE NOTED ON PLAN.
16. ALL DISTURBED AREAS TO BE SODDED OR SEEDED, UNLESS OTHERWISE NOTED. SOD/SEED SHALL BE LOCAL HARDY TURF GRASS MIX UNLESS, OTHERWISE NOTED.
17. PLANT QUANTITIES SHOWN ARE FOR THE CONVENIENCE OF THE OWNER AND JURISDICTIONAL REVIEW AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES AS DRAWN.
18. THE CONTINUED MAINTENANCE OF ALL REQUIRED LANDSCAPING SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH SAID MATERIALS ARE REQUIRED. ALL PLANT MATERIALS REQUIRED BY THIS SECTION SHALL BE MAINTAINED AS LIVING VEGETATION AND SHALL BE PROMPTLY REPLACED IF THE PLANT MATERIAL HAS DIED PRIOR TO FINAL ACCEPTANCE. PLANTING AREAS SHALL BE KEPT FREE OF TRASH, LITTER, AND WEEDS AT ALL TIMES.

PRELIMINARY - NOT FOR CONSTRUCTION

No.	REVISIONS	DATE

TurningPoint Energy

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KHA PROJECT	
DATE	11/03/2023
SCALE	AS SHOWN
DESIGNED BY	AH
DRAWN BY	LAD
CHECKED BY	AK

LANDSCAPE NOTES AND DETAILS

TPE IL MH405, LLC

CITY OF CRYSTAL LAKE,
MCHENRY COUNTY, IL

SHEET NUMBER

LA-2

GROUND COVER MAINTENANCE REQUIREMENTS

MAINTENANCE PROGRAMS SHALL BE SITE SPECIFIC AND COORDINATED WITH THE LANDSCAPE CONTRACTOR AND COUNTY FOR ADEQUATE MAINTENANCE PROCEDURES. A FIVE YEAR STEWARDSHIP PROGRAM IS NECESSARY TO ENSURE PROPER ESTABLISHMENT AND HEALTH OF GROUND COVER, TO CONTROL INVASIVE SPECIES, AND TO PREVENT OVERGROWTH AND SHADING OF EQUIPMENT. AFTER THE FIFTH GROWING SEASON, PROGRAM IS TO BE REDUCED TO TWO VISITS PER YEAR, DEPENDENT UPON SITE CONDITIONS AND REQUIRED STRATEGIES TO MAINTAIN GOOD HEALTH OF THE SITE SUCH AS DETHACHING, ADDITIONAL MOWING, OR HERBICIDE TREATMENTS.

FIRST YEAR

SPRING:
-EARLIEST POSSIBLE INSTALLATION MAY OCCUR IN THE SPRING OF THE FIRST YEAR. NO MAINTENANCE ACTIONS ARE REQUIRED TO BE PERFORMED DURING THE FIRST SEASON OF INSTALL. IF SEED APPLICATION TAKES PLACE IN SUMMER OR FALL OF THE FIRST YEAR, MAINTENANCE AND MONITORING SHOULD START THE FOLLOWING SEASON.

SUMMER:
-SITE VISITS ARE TO BE PERFORMED THREE TIMES THROUGHOUT THE SUMMER AT THE MIDDLE OR END OF EACH MONTH, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING AT EACH VISIT.
-CONTROL INVASIVE WOODY AND HERBACEOUS FLORA THROUGH PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS.
-CONDUCT MOWING UP TO THREE TIMES MAXIMUM DURING THE SUMMER IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 16 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 16 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. NEWLY SEEDED AREAS SHOULD BE CUT BACK TO 10 INCHES IN HEIGHT.

FALL:
-SITE VISITS ARE TO BE PERFORMED THREE TIMES THROUGHOUT THE FALL AT THE MIDDLE OR END OF EACH MONTH, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING AT EACH VISIT.
-CONTROL INVASIVE WOODY AND HERBACEOUS FLORA THROUGH PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS.
-CONDUCT MOWING UP TO THREE TIMES MAXIMUM DURING THE FALL IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 16 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 16 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. NEWLY SEEDED AREAS SHOULD BE CUT BACK TO 10 INCHES IN HEIGHT.

SECOND YEAR

SPRING:
-SITE VISITS ARE TO BE PERFORMED THREE TIMES THROUGHOUT THE SPRING AT THE MIDDLE OR END OF EACH MONTH, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING AT EACH VISIT.
-DURING FIRST VISIT, MOWING SHOULD OCCUR TO CUT BACK ANY VEGETATION TO A HEIGHT OF 10 INCHES AND REMOVE DEAD STALKS AND SEED HEADS FROM THE PREVIOUS GROWING SEASON.
-CONTROL INVASIVE WOODY AND HERBACEOUS FLORA THROUGH PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS.
-CONDUCT MOWING UP TO THREE TIMES MAXIMUM DURING THE SPRING IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 16 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 16 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. SEEDED AREAS SHOULD BE CUT BACK TO 12 INCHES IN HEIGHT.
-PLANT SUPPLEMENTAL SEED AS NEEDED TO ADDRESS AREAS OF POOR COVERAGE AND TO INCREASE COMPETITION AND BIO-DIVERSITY.

SUMMER:
-SITE VISITS ARE TO BE PERFORMED THREE TIMES THROUGHOUT THE SUMMER AT THE MIDDLE OR END OF EACH MONTH, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING AT EACH VISIT.
-CONTROL INVASIVE WOODY AND HERBACEOUS FLORA THROUGH PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS.
-CONDUCT MOWING UP TO THREE TIMES MAXIMUM DURING THE SUMMER IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 16 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 16 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. SEEDED AREAS SHOULD BE CUT BACK TO 12 INCHES IN HEIGHT.

FALL:
-SITE VISITS ARE TO BE PERFORMED THREE TIMES THROUGHOUT THE FALL AT THE MIDDLE OR END OF EACH MONTH, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING AT EACH VISIT.
-CONTROL INVASIVE WOODY AND HERBACEOUS FLORA THROUGH PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS.
-CONDUCT MOWING UP TO THREE TIMES MAXIMUM DURING THE SUMMER IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 16 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 16 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. SEEDED AREAS SHOULD BE CUT BACK TO 12 INCHES IN HEIGHT.

THIRD, FOURTH, AND FIFTH YEAR

SPRING:
-SITE VISIT IS TO BE PERFORMED ONE TIME DURING THE EARLY SPRING, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING.
-MOWING SHOULD OCCUR TO CUT BACK ANY VEGETATION TO A HEIGHT OF 10 INCHES AND REMOVE DEAD STALKS AND SEED HEADS FROM THE PREVIOUS GROWING SEASON.
-IF INVASIVE WOODY AND HERBACEOUS FLORA HAVE BEEN IDENTIFIED, PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS ARE REQUIRED.

SUMMER:
-SITE VISIT IS TO BE PERFORMED ONE TIME DURING THE SUMMER, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING.
-MOWING SHOULD OCCUR IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 16 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 16 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. SEEDED AREAS SHOULD BE CUT BACK TO 12 INCHES IN HEIGHT.
-IF INVASIVE WOODY AND HERBACEOUS FLORA HAVE BEEN IDENTIFIED, PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS ARE REQUIRED.

FALL:
-SITE VISIT IS TO BE PERFORMED ONE TIME DURING THE FALL, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING.
-MOWING SHOULD OCCUR IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 24 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 24 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. SEEDED AREAS SHOULD BE CUT BACK TO 12 INCHES IN HEIGHT.
-IF INVASIVE WOODY AND HERBACEOUS FLORA HAVE BEEN IDENTIFIED, PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS ARE REQUIRED.

FOLLOWING THE FIFTH YEAR

-SITE VISITS ARE TO BE PERFORMED TWICE A YEAR, DURING THE EARLY SPRING AND LATE SUMMER, WITH MONITORING AND EVALUATION OF VEGETATION HEIGHT AND PRESENCE OF INVASIVE SPECIES OCCURRING AT EACH VISIT.
-DURING THE SPRING, MOWING SHOULD OCCUR TO CUT BACK ANY VEGETATION TO A HEIGHT OF 10 INCHES AND REMOVE DEAD STALKS AND SEED HEADS FROM THE PREVIOUS GROWING SEASON.
-DURING THE FALL, MOWING SHOULD OCCUR IN AREAS OF THE SITE IDENTIFIED TO HAVE VEGETATION OVER 24 INCHES IN HEIGHT. AREAS WITH HEIGHT UNDER 24 INCHES MAY REMAIN UNTIL THE NEXT SCHEDULED MONITORING VISIT. SEEDED AREAS SHOULD BE CUT BACK TO 12 INCHES IN HEIGHT.
-IF INVASIVE WOODY AND HERBACEOUS FLORA HAVE BEEN IDENTIFIED, PHYSICAL REMOVAL OR SPOT *HERBICIDE TREATMENTS ARE REQUIRED.

*ALL HERBICIDES ARE TO BE ANIMAL FRIENDLY AND APPLIED BY A TRAINED PERSONNEL.

PERFORMANCE STANDARDS

SATISFACTORY LANDSCAPE DEVELOPMENT ASSOCIATED WITH NATURALIZED VEGETATION WILL BE BASED ON THE FOLLOWING ITEMS.

FIRST YEAR:

WITHIN THREE MONTHS OF SEED INSTALLATION (OR THREE MONTHS AFTER THE START OF THE GROWING SEASON FOLLOWING DORMANT SEEDING), APPROXIMATELY 90 PERCENT OF THE SEEDED AREA, AS MEASURED BY AERIAL COVER, WILL BE VEGETATED OR OTHERWISE STABILIZED AGAINST EROSION. THE COVER CROP MAY BE INCLUDED IN THIS MEASUREMENT. IF MINIMUM IS NOT MET, ADDITIONAL SEEDING IS REQUIRED IN AREAS WITH POOR COVER.

SECOND YEAR:

BY THE END OF THE SECOND GROWING SEASON, THE PLANTED AREAS ARE DESIGNED TO HAVE A MINIMUM OF 50 PERCENT GROUND COVER BY SPECIES IN FINAL SEED MIX (NOT TO INCLUDE TEMPORARY COVER CROP OR UNDESIRABLE / INVASIVE SPECIES).

THIRD YEAR:

BY THE END OF THE THIRD GROWING SEASON, THE PLANTED AREAS ARE DESIGNED TO HAVE A MINIMUM OF 75 PERCENT GROUND COVER BY SPECIES IN FINAL SEED MIX (NOT TO INCLUDE TEMPORARY COVER CROP OR UNDESIRABLE / INVASIVE SPECIES).

IF PERFORMANCE STANDARD IS NOT MET AT EACH OBSERVATION, LANDSCAPE CONTRACTOR IS TO NOTIFY OWNER AND DEVELOP CORRECTIVE ACTION SUCH AS SEEDING OR HERBICIDE TREATMENT

GENERAL LANDSCAPE NOTES

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING MATERIALS AND PLANTS SHOWN ON THE LANDSCAPE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT LANDSCAPE, PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION OR DURING THE SPECIFIED MAINTENANCE PERIOD. CALL FOR UTILITY LOCATIONS PRIOR TO ANY EXCAVATION.
2. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY IN PLAN VS. FIELD CONDITIONS IMMEDIATELY TO THE LANDSCAPE ARCHITECT, PRIOR TO CONTINUING WITH THAT PORTION OF WORK.
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE..
5. DO NOT DISTURB THE EXISTING PAVING, LIGHTING, OR LANDSCAPING THAT EXISTS ADJACENT TO THE SITE UNLESS OTHERWISE NOTED ON PLAN.
6. PLANT QUANTITIES SHOWN ARE FOR THE CONVENIENCE OF THE OWNER AND JURISDICTIONAL REVIEW AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES AS DRAWN.
7. THE CONTINUED MAINTENANCE OF ALL REQUIRED LANDSCAPING SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH SAID MATERIALS ARE REQUIRED. ALL PLANT MATERIALS REQUIRED BY THIS SECTION SHALL BE MAINTAINED AS LIVING VEGETATION AND SHALL BE PROMPTLY REPLACED IF THE PLANT MATERIAL HAS DIED PRIOR TO FINAL ACCEPTANCE.
8. NO GENERAL SPRAY OF HERBICIDES IS TO BE USED FOR ANY SEEDED AREAS.
9. ONLY HERBICIDES FORMULATED FOR ANIMAL SAFETY SHALL BE USED.
10. ALL WORK DEEMED NATURAL AREA TO BE SEEDED OR PLANTED SHALL BE PERFORMED BY A QUALIFIED LANDSCAPE CONTRACTOR.
11. SEED SHALL BE OBTAINED FROM SOURCE SPECIALIZING IN NATIVE SPECIES, WHERE AVAILABLE OR AS APPROVED BY CLIENT OR CLIENT'S REPRESENTATIVE.
12. ALL SEED MIXES SHALL BE INSTALLED WITH A COVER CROP DEPENDENT ON SEASON AND REQUIREMENTS SPECIFIED PER SEED MIX / SEED SUPPLIER.

ESTABLISHMENT NOTES AND STANDARDS

SEED AREA ESTABLISHMENT

PREPARATION

-SOIL IN AREAS OF EXISTING AGRICULTURAL USAGE IS RECOMMENDED TO BE TESTED FOR HIGH LEVELS OF HERBICIDES, AND AMENDED APPROPRIATELY TO BRING CONCENTRATION DOWN TO LEVELS APPROPRIATE FOR COMMON GRASSES. SOILS IDENTIFIED TO BE HIGH IN HERBICIDES OR CONTAMINATES SHOULD BE EVALUATED BY AN ENVIRONMENTAL SPECIALIST OR SOIL SCIENTIST TO DETERMINE REQUIRED METHODS OF REMEDIATION.
-SOILS SHALL BE UNIFORM, WITHOUT EXCESSIVE FURROWS, RUTS, OR RIDGES, AND LOW AREAS WHERE WATER MAY COLLECT.
-SOILS SHOULD BE CLEARED OF TRASH, DEBRIS, AND INVASIVE SPECIES PRIOR TO FINAL SEEDING APPLICATION.
-SOIL PREPARATION SHALL OCCUR WHEN WEATHER PERMITS AND TIMING ALLOWS FOR AT LEAST A FOLLOWING 48 HOURS WHERE SEEDING AND STABILIZATION METHODS MAY TAKE PLACE.

TIMING

-TO PROMOTE EARLY AND STRONG ESTABLISHMENT OF SPECIFIED SEED MIX, DORMANT SEASON SEED APPLICATION SHOULD BE UTILIZED IF POSSIBLE AND AS CONSTRUCTION TIMELINE PERMITS.
-DORMANT SEASON SEEDING SHOULD UTILIZE WINTER-TOLERANT SEED FROM THE SPECIFIED SEED MIX, ALONG WITH 20-30 LBS PER ACRE OF A WINTER NURSE CROP SUCH AS SECALE CEREALE, PISUM SATIVUM, OR AVENA SATIVA.
-TO APPLY DORMANT SEED, SITE SHOULD BE CLEARED OF INVASIVE WEEDS, LIGHTLY TILLED OR DISKED, THEN DRILL APPLIED ACROSS THE ENTIRE AREA OF AGRICULTURAL SOIL.
-ACTIVE SEASON SEED APPLICATION SHOULD BE PERFORMED BETWEEN APRIL 1ST AND MAY 30TH, AFTER RISK OF MAJOR FREEZING CONDITIONS IS MINIMIZED, FOR IDEAL ESTABLISHMENT AND MINIMIZING INVASIVE SPECIES COMPETITION.

APPLICATION

-SEED MIXTURES SHALL BE MECHANICALLY DRILLED.
-NO STRAW MULCH IS REQUIRED, UNLESS NEEDED FOR STEEP SLOPES, SOIL STABILIZATION, OR OTHER AREAS THAT ARE IDENTIFIED FOR EROSION PREVENTION.
-SEED SHALL BE APPLIED AT INDICATED RATES WITH COVER CROP OATS, JAPANESE MILLET, WINTER WHEAT, ANNUAL RYE, OR SPECIFIED CROP DEPENDENT ON SEASON AND SOIL CONDITIONS.
-SEED SPECIES SHALL BE LOCALLY SOURCED WHEN FEASIBLE.
-FINAL SEED MIX MAY VARY DEPENDENT UPON SPECIFIC SPECIES AVAILABILITY AND TIME OF INSTALLATION.
-FINAL SEED MIX SHALL BE APPROVED BY OWNER, OWNER'S REPRESENTATIVE, OR LANDSCAPE ARCHITECT.
-IF SEEDING IS PERFORMED PRIOR TO FINAL SITE INSTALLATION, ADDITIONAL SEED MAY BE APPLIED BY A LOW SPREADER IN AREAS THAT WERE DISTURBED.
-SITE SHOULD BE MONITORED FOLLOWING INSTALLATION FOR AREAS IDENTIFIED FOR ADDITIONAL RESEEDING UNTIL SEED MIX IS SUFFICIENTLY ESTABLISHED.

INVASIVE WEED CONTROL, MONITORING, AND MANAGEMENT

-A WORK PLAN SHOULD BE DEVELOPED TO AVOID THE SPREAD OF INVASIVE PLANTS FROM THESE AREAS.
-IF SUBSTANTIAL AREAS OF INVASIVE HERBACEOUS SPECIES ARE FOUND PRIOR TO OR AFTER PROJECT DEVELOPMENT, FOLIAR OR BROADCAST HERBICIDE APPLICATIONS MAY BE REQUIRED.
-FOR INVASIVE TREES, SHRUBS, AND VINES, MANAGEMENT MAY REQUIRE CUT-STEM HERBICIDE TREATMENTS.
-ALL INVASIVE SPECIES MANAGEMENT SHOULD BE CONDUCTED DURING THE SUMMER MONTHS WHILE THE TARGET PLANTS ARE ACTIVELY GROWING.
-TREATMENTS SHOULD BE CONDUCTED ACCORDING TO MAINTENANCE PLANS EACH YEAR AND SHOULD BE SEPARATED BY AT LEAST TWO WEEKS.
-HERBICIDE USE REPORTING WILL ADHERE TO ALL APPLICATOR LICENSING REQUIREMENTS.

TREE AND SHRUB INSTALLATION

-ALL PLANTS TO BE SPECIMEN GRADE, WELL BRANCHED, HEALTHY, FULL, PRE-INOCULATED, AND FERTILIZED. PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, AND SCARS. PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES. PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES.
-TRUNKS WILL BE WRAPPED IF NECESSARY TO PREVENT SUN SCALD AND INSECT DAMAGE. THE LANDSCAPE CONTRACTOR SHALL REMOVE THE WRAP AT THE PROPER TIME AS PART OF THIS CONTRACT.
-THE OWNER'S REPRESENTATIVE MAY REJECT ANY PLANT MATERIALS THAT ARE DISEASED, DEFORMED, OR OTHERWISE NOT EXHIBITING SUPERIOR QUALITY.
-ALL NURSERY STOCK SHALL BE GUARANTEED, BY THE CONTRACTOR, FOR ONE YEAR FROM DATE OF FINAL INSPECTION. THE GUARANTEE BEGINS ON THE DATE OF THE LANDSCAPE ARCHITECT'S OR OWNER'S WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
-PLANTS ARE TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2014 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
-PRUNE PLANTS AS NECESSARY PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
-CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD MULCH AT A 3" DEPTH TO ALL TREE AND SHRUB AREAS. TREES PLACED IN AREA COVERED BY TURF SHALL RECEIVE A 4' WIDE TREE RING WITH 3" DEPTH SHREDDED HARDWOOD MULCH.

PRELIMINARY - NOT FOR CONSTRUCTION

No.	REVISIONS	DATE

TurningPoint Energy

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KHA PROJECT

DATE	11/03/2023
SCALE	AS SHOWN
DESIGNED BY	AH
DRAWN BY	LAD
CHECKED BY	AK

MAINTENANCE AND MONITORING AND PLAN

TPE IL MH405, LLC
CITY OF CRYSTAL LAKE, MCHENRY COUNTY, IL

SHEET NUMBER
LA-3

Wetland Delineation Report

MH405

City of Crystal Lake

McHenry County, Illinois

Prepared for:

TPE IL MH405, LLC
3720 S Dahlia Street
Denver, CO 80237

Prepared by:

Kimley-Horn and Associates, Inc.
570 Lake Cook Road, Suite 200,
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November 2023

Kimley»Horn

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1 Introduction

Wetland scientists Mason Kunkel and Cassie Baumgartner with Kimley-Horn and Associates, Inc. conducted a wetland investigation and field delineation for TPE IL MH405, LLC and the MH405 project in the City of Crystal Lake, McHenry County, Illinois. The wetland investigation and delineation included parcel number 13-23-400-005 (the "study area"). The study area is shown on **Figure 1.** The study area consists primarily of undeveloped agricultural land.

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on October 26, 2023. The purpose of this delineation was to identify the extent of wetlands within the study area. The information will be used to facilitate project design and determine if aquatic resource impacts are avoidable and/or if minimization of impacts can result from design modifications.

2 Project Description

TPE IL MH405, LLC is proposing a community scale solar development. The project will primarily consist of ground mounted solar panels, racking, associated electrical components, with security fencing and interior access roads.

3 Statement of Qualifications

Kimley-Horn has extensive experience completing wetland investigations and delineations across the United States. Kimley-Horn's personnel has been trained to use the *1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987)* along with the applicable regional supplements. Kimley-Horn has experience completing off-site hydrology analysis, historic aerial reviews, and difficult or atypical situation delineations.

Ashley Payne earned a Bachelor of Arts Degree in Environmental Biology from Saint Mary's University of Minnesota. She is an environmental scientist with over 14 years of experience specializing in wetland services environmental documentation and assessments, and geographic information systems mapping and data collection. During the last 14 years, she has successfully completed hundreds of delineations for various types of projects. In the last seven years, Ashley's primary focus has been the delineation of agricultural fields for future development. She is familiar with completing historic aerial reviews and off-site hydrology determinations which are required for delineation of farmed wetlands. Ashley has also obtained environmental permits for clients through efficient and thorough preparation of permit applications, and by coordinating with agency personnel. Ashley is a certified delineator in the state of Minnesota and her primary focus is environmental work in the Midwest. She has extensive experience working in Minnesota, Illinois, Wisconsin, Michigan, Iowa, and South Dakota.

Keller Leet-Otley earned a Bachelor of Arts Degree in Environmental Science from Colby College. He is an environmental scientist who specializes in wetland delineation and permitting, geographic information systems mapping, and threatened and endangered species due diligence. He has led the delineation of agricultural fields, roadway corridors, and undeveloped areas for future development and transit projects. He is proficient using ArcGIS to produce client specific exhibits for various project types. Keller has prepared environmental permit applications and documentation for public and private sector clients. He is a certified delineator in the state of Minnesota and his focus is environmental work in the upper Midwest.

Mason Kunkel earned a Bachelor of Science Degree in Biology with an emphasis in Wildlife Conservation from Western Colorado University. He is a biologist who specializes in wetland delineation and geographic

information systems mapping. He has assisted with the delineation of agricultural fields, roadway corridors, and undeveloped areas for future development and transit projects. He is proficient using ArcGIS to produce client specific exhibits for various project types. He is familiar with completing historic aerial reviews and off-site hydrology determinations which are required for delineation of farmed wetlands. He has extensive experience working in Minnesota, Iowa, Illinois, and Michigan.

Cassie Baumgartner earned a Bachelor of Science degree in Environmental Science, Policy, and Management, from the University of Minnesota. Cassie has experience in Phase I Environmental Site Assessments, natural resource surveying and permitting, threatened and endangered species due diligence, NPDES stormwater compliance, and specializes in wetland delineations and geographic information systems mapping. She has completed wetland delineations for both public and private sector clients throughout the Midwest and is proficient in wetland delineations in agricultural areas.

4 Regulatory Requirements

A summary of the permit requirements that may pertain to the project is provided below. Any activity planned within areas identified as wetland must be coordinated with and approved by the appropriate agencies prior to commencement of such activities.

4.1 State and Federal Regulations

The regulatory authority of the U.S. Army Corps of Engineers (USACE) covers Waters of the United States (WOTUS) in accordance with Section 404 of the Clean Water Act. Generally, the USACE reviews delineations to determine whether wetlands are jurisdictional (i.e., WOTUS). On December 30, 2022, the U.S. Environmental Protection Agency (EPA) and Department of the Army ("the agencies") announced the final "Revised Definition of 'Waters of the United States'" rule. The rule took effect on March 20, 2023. Based on a preliminary federal injunction on April 12, 2023, the Revised Definition was revoked and the pre-2015 regulatory regime is in effect for 27 states. In Illinois, the 2023 Revised Definition of the Waters of the United States is in effect as of the date of this report.

Based on the May 25, 2023 ruling of Sackett v. EPA (2023), the Clean Waters Act's use of "waters" encompasses only relatively permanent, standing, or continuously flowing bodies, ordinarily called streams, oceans, rivers, and lakes. Wetlands qualify as WOTUS only if "indistinguishable from waters of the United States," having a continuous surface connection to bodies that are waters of the United States in their own right, with no clear division between waters and wetlands. As of September 8, 2023, the EPA and the Department of the Army amended the WOTUS rule to conform to the 2023 Supreme Court decision in Sackett v. EPA.

Section 10 of the Rivers and Harbors Act requires that regulated activities conducted below the ordinary high-water mark elevation of navigable Waters of the U.S. or mean high water mark for tidal waters be approved/permitted by the USACE. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable Waters of the U.S. are those waters that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used or have been used in the past or may be susceptible to use to transport interstate or foreign commerce.

At this time, Illinois does not regulate wetlands under Section 404, or require setback buffers for wetlands on private land.

4.2 Local Regulations

The City of Crystal Lake comprehensive plan for the northwest sub-area denotes the wetland in the northern boundary of the study area as Lilly Pond Marsh and requires a 100-foot buffer to protect the water quality of the feature. McHenry County requires all development activities impacting wetlands to comply with

Chapter 17.60.060 in the County Code of Ordinances. According to the McHenry County Code of Ordinances, development activities that create an impact within a wetland, WOTUS, isolated waters of the county, or their associated buffers, regardless of the Corps of Engineers jurisdiction, must submit a stormwater management permit application. Additionally, McHenry County Code of Ordinances states that a minimum 30 foot buffer is required for any USACE jurisdictional wetland between 0.25 and 0.5 acres and a 50 foot buffer for any wetland over 0.5 acres. Linear features with a tributary area over 20 acres require a 50 foot buffer, and a 100 foot buffer may be required for higher classifications of linear features.

5 Mapping and Background Information

Prior to field reconnaissance, potential wetland areas within the project study areas were identified through a desktop review of United States Geological Survey (USGS) topographic maps, National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), Illinois Department of Natural Resources (IDNR) Public Waters, LiDAR, the soil survey for McHenry County, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), aerial photography, and antecedent precipitation for a location near the study area. The selected resources are described below:

5.1 Topography

The 1992 McHenry IL 7.5-minute USGS topographic map and 2-foot contours derived from a digital elevation model (DEM) from USGS were reviewed for the study area. According to the USGS topographic map (see **Figure 2**), the study area is undeveloped land with a pond located on the northern boundary of the study area. The 2-foot contour data depicts the study area sloping northeast towards the mapped wetland and southeast offsite. The study area ranges from 944 feet (above mean sea level) to 918 feet, see **Figure 3**.

5.2 National Wetlands Inventory

NWI mapping, available from the U.S. Fish and Wildlife Service (USFWS) Wetland Mapper (updated in 2020), depicts potential wetland areas and waterbodies based on stereoscopic analysis of high altitude and aerial photographs and was reviewed for the study area. According to the NWI map, there are three wetlands in the study area, including one freshwater pond and two freshwater emergent wetlands along the northern boundary of the study area, **see Figure 3**.

5.3 National Hydrography Dataset

The NHD, available from USGS, depicts drainage networks and related features, including rivers, streams, canals, lakes, and ponds. The NHD dataset is not field verified. According to NHD mapping, there is one NHD waterbody on the northern border of the study area, **see Figure 3**. No NHD-mapped linear features are located in the study area or vicinity of the study area.

5.4 IDNR Public Waters

The IDNR Public Waters viewer depicts IDNR Public Waters. According to the Public Waters viewer, there are no Public Waters within the study area or the vicinity of the study area.

5.5 Soil Survey

The Natural Resources Conservation Service's (NRCS) *Web Soil Survey* for McHenry County was reviewed for the study area. According to the survey, there are 10 soil map units within the study area which are generally silt loams and clay loams. The majority of the study area was mapped with soils with a non-hydric soil rating of 0% or a predominantly non-hydric soil rating between 4% and 15%. A minor portion of

the study area is mapped with a predominantly hydric rating of 90%. Maps and information obtained from NRCS online web soil survey are included in **Figure 4** and **Appendix A**.

5.6 Federal Emergency Management Agency Floodplain

The FEMA FIRM was reviewed for the study area. According to FEMA, the study area is located in Zone X of panels 17111C0200J and 17111C0215J (effective November 16, 2006), which is outside the designated 100-year floodplain zones, see **Figure 5**.

5.7 Aerial Photography Review

Aerial photography, acquired from Google Earth, was reviewed to identify the potential for wetlands across the study area. Fourteen photos were reviewed between 1999 and 2021, available in **Appendix B**. These photos were used to determine the presence of wetland hydrology using industry accepted offsite hydrology analysis for areas showing crop stress or other potential wetland signatures. Each image was interpreted for the presence or lack of hydrologic indicators.

Two Areas of Investigation (AOIs) were identified in the study area. AOIs 1 and 2 had wetland signatures in less than 30% of the historic aerials with normal precipitation conditions, lacked hydric soils and hydrology indicators in the field; thus, these areas were not delineated as wetland. The AOIs are shown in **Appendix B**.

5.8 Precipitation

Precipitation data for the study area were obtained from the U.S. Department of Agriculture (USDA) Agricultural Applied Climate Information System (AgACIS). NRCS WETS (Wetlands) tables were reviewed for a climate station within the vicinity of the study area to determine the current hydrologic conditions for the site and if those conditions are typical for this time of year. Antecedent precipitation was determined by comparing the precipitation levels during the three months preceding the site visit to the 30-year historical average. The data shows the October and September had normal precipitation conditions and August had drier than normal precipitation conditions. In conclusion, the field visit constituted normal precipitation conditions. This information is included in **Appendix C**.

6 Field Investigation

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) along with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on October 26, 2023.

During the onsite delineation, vegetation, soils, and current hydrologic characteristics were evaluated at each wetland area and area of investigation identified within the study area. Wetland boundaries were digitally recorded with a Geode GPS with sub-meter accuracy until one or more of the three criteria were no longer present. The sample point locations, wetland boundaries, and aquatic resources are shown in **Figure 6**.

In addition to wetlands that were investigated and delineated, non-wetland aquatic features were sought but none were delineated. Non-wetland aquatic features are defined based on the observation of the following characteristics:

- Flow
    - Perennial: contains water at all times of the year except during extreme drought
    - Intermittent: contains water occasionally or seasonally
    - Ephemeral: contains water only during and immediately after periods of rainfall or snowmelt

- Ordinary High Water Mark (OHWM): The limit line on the shore established by the fluctuation of the water surface. It is shown by such things as a clear line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, the presence of litter and debris, or other features influenced by the surrounding area
- Bank Shape
    - Undercut: banks that overhang the stream channel
    - Steep: bank slope of approximately greater than 30 degrees
    - Gradual: bank slope of approximately 30 degrees or less

Sample points were completed for all observed wetlands. Historic aerials were reviewed for sample points taken in agricultural fields (See **Appendix B**). The field data sheets are included in **Appendix D**. Study area photos can be found in **Appendix E**. Photo locations map is included in **Figure 6**.

7 Summary of Results

Table 1: Wetland Delineation Summary

Resource ID	Wetland Plant Community	Cowardin Classification[1]	Size (acres)[2]	NWI?	Hydric Soils?[3]	Photo ID	Associated Sample Points	NOTES	Regulatory Status[4]
Wetlands									
Wetland 1	Seasonally Flooded Basin / Open Water Pond	PEM1A / PUBGx	5.8	PEM1C/ PEM1F/ PUBGx	Yes	1,2,3,4	SP-1 (Wet) SP-2 (Up)	Wetland located in depression along the northern boundary of the study area. The wetland collects runoff from the surrounding landscape. The wetland boundary was based on the change in topography, presence of hydric soil, and hydrophytic vegetation dominance. The resource appears to drain northeast off-site towards Lily Lake. No culvert was visible, but the off-site connection was assumed.	USACE Jurisdictional: wetland has a continuous surficial connection to a Traditionally Navigable Water (TNW).

[1] The Cowardin Classification System codes are found here: https://www.fws.gov/wetlands/documents/Wetlands-and-Deepwater-Habitats-Classification-chart.pdf
[2] Size of wetland features and additional areas investigated provided in acres within the study area.
[3] Areas identified as hydric contain partially hydric soils (equal to or greater than 33% of soil component) mapped within the resource area.
[4] Regulatory Status is based on best professional judgment and has not been verified with agency staff.

8 Report Preparation

The procedures followed for this wetland delineation are in accordance with the *Corps of Engineers Wetlands Delineation Manual* and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010).

This report describes study area conditions for a specific date in time and is generally valid for a period of five years from the date of the final field investigation and delineation, which was October 26, 2023.

9 Conclusion

The field delineation identified one wetland within the study area which is described in Table 1. The wetland is anticipated to be USACE-jurisdictional.

10 Disclaimer

Kimley-Horn has prepared this document based on limited field observations and our interpretation, as scientists, of applicable regulations and agency guidance. While Kimley-Horn believes our interpretation to be accurate, final authority to interpret the regulations lies with the appropriate regulatory agencies. Regulatory agencies occasionally issue guidance that changes the interpretation of published regulations. Guidance issued after the date of this report has the potential to invalidate our conclusions and/or recommendations and may cause a need to reevaluate our conclusions and/or recommendations.

Because Kimley-Horn has no regulatory authority, the Client understands that proceeding based solely upon this document does not protect the Client from potential sanction or fines from the applicable regulatory agencies. The Client acknowledges that they have the opportunity to submit documentation to the regulatory agencies for concurrence prior to proceeding with any work. If the Client elects not to do so, then the Client proceeds at their sole risk.