Champaign County
Department of
PLANNING &
ZONING

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CASE NO. 144-S-24

SUPPLEMENTAL MEMORANDUM #2
March 20, 2025

Petitioners: Little Prairie Solar LLC, c/o BayWa r.e. Solar Projects LLC, 18575 Jamboree Road, Suite 850, Irvine CA 92612, via agent David Holly, Development Manager for BayWa r.e. Solar Projects LLC, and the participating landowners listed in Attachment A

Request: Authorize a Utility-Scale PV Solar Farm with a total nameplate capacity of 135 megawatts (MW), including access roads and wiring, and an accessory 135 MW Battery Energy Storage System, in the AG-1 Agriculture Zoning District, and including the following waivers of standard conditions:

Part A: A waiver for not entering into a Roadway Upgrade and Maintenance Agreement or waiver therefrom with the relevant local highway authority prior to consideration of the Special Use Permit by the Zoning Board of Appeals, per Section 6.1.5 G.(1)

Part B: A waiver for locating the PV Solar Farm less than one and one-half miles from an incorporated municipality per Section 6.1.5 B.(2)a.

Part C: A waiver for a separation distance of 225 feet between the solar inverters and the perimeter fence in lieu of the minimum required 275 feet, per Section 6.1.5 D.(6)

Other waivers may be necessary.

Location: In Sidney Township the following sections are included with exceptions as described in Attachment A: Sections 12, 13, 14, 15, 23 and 24, Township 18 North, Range 10 East of the 3rd Principal Meridian.

Site Area: PV Solar Farm Special Use Permit Area is approximately 1047 acres
Fenced solar farm area is approximately 765 acres

Time Schedule for Development: As soon as possible

Prepared by: **Charlie Campo, Senior Planner**

John Hall, Zoning Administrator

BACKGROUND

The petitioner applied for a Special Use Permit to construct a 135-megawatt (MW) Photovoltaic (PV) utility scale solar farm and an accessory 135 MW Battery Energy Storage System (BESS) on a group of properties southeast of the Village of Sidney. The proposed "Little Prairie Solar" facility would have 323,159 solar modules and thirty-five (35) inverters along with a 6.8-acre BESS facility with 174 battery modules and 58 inverters, surrounded by an 8 feet tall wire fence with security gates. Access would be from 17 new access points via 20-feet wide native compacted earth or gravel access roads.

This case was continued from the January 16, 2025, ZBA meeting.

SITE PLAN CHANGES

(1) In response to an objection raised by an adjacent property owner the Petitioner has chosen to revise the Site Plan to eliminate the need for a previously requested waiver for a separation of 65 feet from an adjacent property less than 10 acres and meet the required 240-foot separation requirement. This eliminated the need for the previously identified Waiver C.

(2) The Petitioner has added additional landscaped screening on Sheet SDP-105 and included a note on the plan to exclude Eastern Red Cedar trees within 1,000 ft. of the property with address 2268 County Road 900N at the request of the property owner.

(3) The Petitioner also included a note on the plan identify the 50 ft. setback for the project fence from the top of the bank of any Drainage District channels.

BESS SEPERATION

The BESS facility is greater than one half mile away from the nearest property less than 10 acres and the nearest residence/principal building.

DRAFT HAZARD MITIGATION ANALYSIS AND DRAFT EMERGENCY RESPONSE PLAN

(1) A Draft Hazard Mitigation Analysis and Draft Emergency Response Plan has been submitted to the Sidney Fire Protection District for review.

(2) The Sidney Fire Protection District submitted a letter to the Board stating they have coordinated with the Petitioner regarding the design of the project and are supportive of Proposed Special Condition "J" regarding the BESS facility and the requirements for the Petitioner to provide a design that meets the approval of the Sidney FPD.

SUBMITTALS RECEIVED AFTER THE JANUARY 16, 2025, PUBLIC HEARING

P&Z Staff has received the following items from the petitioner since the January 16, 2025, Public Hearing:

- Petitioner responses to issues brought up at the January 16, 2025, ZBA Public Hearing, received March 7, 2025
- Revised Site Plan (Revision P) received March 7, 2025, with changes to notes regarding Drainage channel setbacks, additional landscaped screening and a note about tree species used for screening near 2268 CR 900N
- Revised Landscape Plan received March 7, 2025, with additional landscaped screening and a note about tree species used for screening near 2268 CR 900N
- Draft Hazard Mitigation Analysis for the accessory BESS facility dated February 25, 2025, received March 7, 2025
- Draft Emergency Response Plan for the accessory BESS facility dated February 25, 2025, received March 7, 2025

- Copies of Little Prairie Solar project notification letters sent to adjacent property owners received March 7, 2025.

P&Z Staff has received the following letter from the Sidney Fire Protection District:

- Letter from the Sidney Fire Protection District

PUBLIC TESTIMONY DURING THE JANUARY 16, 2025, ZBA MEETING

(1) The following questions were received during cross-examination of the petitioner:

a. Daniel Herriott asked how long a battery container might smoke or smolder if it was to catch fire. Eric Wood stated that a 40 ft. battery container would be expected to burn out in 8 hours and would be contained within the enclosure. Daniel Herriott asked if there were concerns about toxic fumes being released by a battery fire and how far they could spread. Eric Wood responded that the fumes would not cause a threat outside of a 100-foot boundary. Mr. Herriott asked if there were consequences of a battery container being damaged by a tornado. Eric Wood responded that there were not. Daniel Herriott asked if there were concerns with food grade grain being grown or stored near the facility. Eric Wood responded that there were not. Daniel Herriott asked if the lease agreements with the landowners could allow the developers to do things prohibited by the Agricultural Impact Mitigation Agreement (AIMA) such as performing earthwork during wet conditions. David Holly responded that the AIMA is a separate agreement with the State of Illinois and will be abided by the developer and there is no method of a property owner being able to waive any conditions of the AIMA in their lease.

b. Ted Hartke asked if he could obtain copies of the soil elevation change map and the revised Site Plan showing the change near the Frito-Lay drainage structure. David Holly replied that he could provide those. Ted Hartke asked if there were MSDS sheets that show the material content of the panels. David Holly responded that MSDS sheets were typically produced for hazardous materials and the panels do not meet the definition of hazardous materials so there aren't MSDS sheets for them. Ted Hartke asked if there was a noise contour map for the inverters showing a 40 dba contour line. David Holly stated that the project was designed to meet the Champaign County Zoning Ordinance and Illinois Pollution Control Board requirements so an exhibit showing a 40 dba contour line wasn't necessary. Ted Hartke asked how quickly the noise from the BESS inverters that had a 75 dba rating, dissipates as you move away from the equipment. David Holly responded that the dba rating comes from the manufacturer, and he doesn't have that information. Ted Hartke asked about testimony regarding broken concrete being brought in on the Prairie Solar 1 project. Jake Romme responded that a photo that was shown before was of rip rap that was needed to be used on site and that he was not aware of any other fill dirt brought in that contained broken concrete.

c. Cindy Shepard asked if there was any plan for further community engagement regarding the project. David Holly responded that there was nothing planned at this time, but they were open to the idea if there was a desire from the community. Cindy Shepard asked who they were partnering with regarding the pollinator plantings and if they were open to working with the University of Illinois Extension. David Holly responded that they are working with the Bee and Butterfly Habitat Fund and that they

have been in contact with the University of Illinois intend for information gathered by the Bee and Butterfly Habitat Fund on the project to be shared with the University. Cindy Shepard asked if they would consider partnering with non-profit service providers that are local. David Holly stated that they are open to hearing from any organizations in the community that are interested in working with them.

(2) The following testimony was received at the January 16, 2025, ZBA meeting:

a. Cindy Shepherd, 2010 Burlison Dr. Urbana, testified that she solar and battery energy will help advance clean energy. She hopes that the developer can work with area residents to help improve energy efficiency and hopes that the developers can work with the area farming to further agrivoltaic innovations.

b. Ted Hartke testified that he has requested a 40 dBA limit at the property line of the development parcels. He also testified on the inefficiency of solar energy and thinks that the costs outweigh the benefits. The petitioner provided a response to these issues in a memo dated 3/7/25 included as Attachment A.

c. Daniel Herriott testified on the companies that he has seen doing work on the Prairie Solar 1 project as well as doing earthwork on the Little Prairie Solar project site. He also testified that while he is not an adjacent landowner to the project site his land is affected by the drainage on the project site. He also testified that during construction of the Prairie Solar 1 project vehicles caused ruts in land that he farms, and that there was earthwork being performed on the Prairie Solar 1 project site during wet weather on November 14, 2024, which is contrary to what the developer has stated. He also testified that the complaint hotline for the Prairie Solar 1 project doesn't always work and that he noticed that a semi was unloading vehicles along the side of County Highway 15 which could cause traffic problems, and he made the Department of Planning and Zoning aware of the issue. He also mentioned his concerns about the BESS facility being located near the Frito-Lay facility and if there was a fire, the smoke could impact the grain stored at Frito-Lay. He also testified that while jobs would be created as a result of the solar farm, jobs in farming would also be lost due to the area not being farmed. He also testified to the financial condition of BayWa r.e and stated that caused concerns with regard to the financial assurances that are required for decommissioning. He asked that the Board hold off on approval of 144-S-24 for 12 months to see the outcome of the Prairie Solar 1 project construction. The petitioner provided a response to these issues in a memo dated 3/7/25 included as Attachment A.

PUBLIC COMMENTS RECEIVED

(1) The following comments were received after 1/16/25 Public Hearing:

a. Email regarding a battery manufacturing plant in Kansas and attachment regarding the efficiency of renewable energy systems from Ted Hartke received 1/16/ (Attachment G)

PROPOSED SPECIAL CONDITIONS

Changes made after the November 14, 2024, Public Hearing are noted in red.

The following special conditions, combined with the requested waivers, would ensure that the proposed solar farm is in compliance with the Zoning Ordinance.

A. **The approved site plan consists of the following documents:**

- **Sheet SDP 100 of the Site Plan received March 7, 2025**
- **Sheets SDP 101-110 of the Site Plan received March 7, 2025**
- **Sheet BSDP 100 of the Site Plan received March 7, 2025**
- **Sheets L 101-107 of the Landscape Plan, sheet L-200 Landscape Notes Details and sheet L-201 of the Maintenance and Monitoring plan received March 7, 2025**

The above special condition is required to ensure that:

The constructed PV SOLAR FARM is consistent with the special use permit approval.

B. **The Zoning Administrator shall not authorize a Zoning Use Permit Application or issue a Zoning Compliance Certificate on the subject property until the lighting specifications in Paragraph 6.1.2.A. of the Zoning Ordinance have been met.**

The special condition stated above is required to ensure the following:

That exterior lighting for the proposed Special Use meets the requirements established for Special Uses in the Zoning Ordinance.

C. **The Zoning Administrator shall not issue a Zoning Compliance Certificate for the proposed PV SOLAR FARM until the petitioner has demonstrated that the proposed Special Use complies with the Illinois Accessibility Code, if necessary.**

The special condition stated above is necessary to ensure the following:

That the proposed Special Use meets applicable state requirements for accessibility.

D. **A signed Decommissioning and Site Reclamation Plan that has been approved by ELUC is required at the time of application for a Zoning Use Permit that complies with Section 6.1.1 A. and Section 6.1.5 Q. of the Zoning Ordinance, including a decommissioning cost estimate prepared by an Illinois Professional Engineer.**

The special condition stated above is required to ensure the following:

That the Special Use Permit complies with Ordinance requirements and as authorized by waiver.

E. **A Roadway Upgrade and Maintenance Agreements or waiver therefrom signed by the County Highway Engineer, Sidney Township Highway Commissioner and any other relevant highway jurisdiction, and approved by the Environment and Land Use Committee, shall be submitted at the time of application for a Zoning Use Permit.**

The special condition stated above is required to ensure the following:

To ensure full compliance with the intent of the Zoning Ordinance in a timely manner that meets the needs of the applicant.

F. **Underground drainage tile shall be investigated and identified with any necessary changes made to the solar array as follows:**

1. **A qualified drain tile contractor with experience in Illinois shall be employed to investigate, repair, and install any underground drain tile.**

2. **Desktop mapping and field reconnaissance shall identify all areas where drain tile are expected to be located based on soils, topographic elevations, ground surface channels and/or depressions, wetlands, natural drainage ingress and egress locations, and knowledge of current owners and/or current farmers.**

3. **Slit trenching shall be used to investigate the presence of mutual drainage tiles that serve upland areas under different ownership. All existing drain tiles encountered shall be logged on field mapping and repaired to the original state according to Illinois Department of Agriculture Impact Mitigation Agreement (AIMA) standards.**

4. **Drain tile routes shall be located by surface probing or electronic detection and field staked at 20 feet intervals.**

5. **All existing drain tile that are found shall be located in the field using GPS location systems and recorded on as-built plans. Record mapping shall be completed according to typical civil engineering mapping and AIMA standards.**

6. **Any tile found shall be protected from disturbance or repaired and/ or relocated in a manner consistent with AIMA and Zoning Ordinance.**

7. **All mutual drain tiles shall be protected from construction disturbance and a 40-feet wide no construction area shall be centered on all mutual drain tiles.**

8. **A Drain Tile Investigation Survey including a map of all identified drain tile and a revised site plan to reflect any changes to the layout of the solar array shall be submitted to the Zoning Administrator prior to Zoning Use Permit Approval.**

9. **Future access shall be guaranteed for maintenance of all mutual drain tiles.**

The special condition stated above is required to ensure the following:

The identification and protection of existing underground drainage tile and to allow ongoing maintenance of mutual drain tiles.

G. **The following submittals are required prior to the approval of any Zoning Use Permit for a PV SOLAR FARM:**

1. **Documentation of the solar module's unlimited 10-year warranty and the 25-year limited power warranty.**

2. **A Storm Water Management Plan which conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

3. **Certification by an Illinois Professional Engineer that any relocation of drainage district tile conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

4. **An irrevocable letter of credit to be drawn upon a federally insured financial institution with a minimum acceptable long term corporate debt (credit) rating of the proposed financial institution shall be a rating of "A" by S&P or a rating of "A2" by Moody's within 200 miles of Urbana or reasonable anticipated travel costs shall be added to the amount of the letter of credit.**

5. **A permanent soil erosion and sedimentation plan for the PV SOLAR FARM including any access road that conforms to the relevant Natural Resources Conservation Service guidelines and that is prepared by an Illinois Licensed Professional Engineer**.

6. **Documentation regarding the seed to be used for the pollinator planting, per 6.1.5 F.(9).**

7. **A Transportation Impact Analysis provided by the applicant that is mutually acceptable to the Applicant and the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, as required by 6.1.5 G. 2.**

8. **The telephone number for the complaint hotline required by 6.1.5 S.**

9. **Any updates to the approved Site Plan from Case 144-S-24 per the Site Plan requirements provided in Section 6.1.5 U.1.c.**

The special condition stated above is required to ensure the following:

That the PV SOLAR FARM is constructed consistent with the Special Use Permit approval and in compliance with the Ordinance requirements.

H. **A Zoning Compliance Certificate shall be required for the PV SOLAR FARM prior to going into commercial production of energy. Approval of a Zoning Compliance Certificate shall require the following:**

1. **An as-built site plan of the PV SOLAR FARM including structures, property lines (including identification of adjoining properties), as-built separations, public access road and turnout locations, substation(s), electrical cabling from the PV SOLAR FARM to the substations(s), and layout of all structures within the geographical boundaries of any applicable setback.**

2. **As-built documentation of all permanent soil erosion and sedimentation improvements for all PV SOLAR FARM including any access road prepared by an Illinois Licensed Professional Engineer.**

3. **An executed interconnection agreement with the appropriate electric utility as required by Section 6.1.5 B.(3)b.**

The special condition stated above is required to ensure the following:

The PV SOLAR FARM is constructed consistent with the Special Use Permit approval and in compliance with the Ordinance requirements.

I. **The Applicant or Owner or Operator of the PV SOLAR FARM shall comply with the following specific requirements that apply even after the PV SOLAR FARM goes into commercial operation:**

1. **Maintain the pollinator plantings and required visual screening in perpetuity.**

2. **Cooperate with local Fire Protection District to develop the District's emergency response plan as required by 6.1.5 H.(2).**

3. **Cooperate fully with Champaign County and in resolving any noise complaints including reimbursing Champaign County any costs for the services of a qualified noise consultant pursuant to any proven violation of the I.P.C.B. noise regulations as required by 6.1.5 I.(4).**

4. **Maintain a current general liability policy as required by 6.1.5 O.**

5. **Submit annual summary of operation and maintenance reports to the Environment and Land Use Committee as required by 6.1.5 P.(1)a.**

6. **Maintain compliance with the approved Decommissioning and Site Reclamation Plan including financial assurances.**

7. **Submit to the Zoning Administrator copies of all complaints to the telephone hotline on a monthly basis and take all necessary actions to resolve all legitimate complaints as required by 6.1.5 S.**

The above special condition is required to ensure that:

That future requirements are clearly identified for all successors of title, lessees, any operator and/or owner of the PV SOLAR FARM.

J. **Regarding the proposed BESS that is included as an accessory use:**

1. **The Battery Energy Storage System (BESS) proposed as an accessory use is a 135-megawatt (MW) lithium-ion system that will occupy 6.8 acres (not including any required stormwater detention area.**

2. **The following submittals are required prior to the approval of any Zoning Use Permit for the PV SOLAR FARM in addition to any other required submittals:**

    a. **A Hazard Mitigation Analysis for the proposed BESS that meets the requirements of NFPA 855 and a written approval of the Hazard Mitigation Analysis by the Sidney Fire Protection District.**

    b. **Documentation of any smoke and fire detection systems that are required by the Sidney Fire Protection District and a written approval of the smoke and fire detection systems by the Sidney Fire Protection District.**

c. **Documentation of any fire control and suppression systems that are required by the Sidney Fire Protection District and a written approval of the fire control and suppression systems by the Sidney Fire Protection District.**

d. **Documentation of explosion control per NFPA 69 or deflagration venting per NFP68 shall be provided if explosion control or deflagration venting is required by the approved Hazard Mitigation Analysis and a written approval of the explosion control or deflagration venting by the Sidney Fire Protection District.**

e. **The owner hereby commits to provide Authorized Service Personnel per NFPA 855 to be dispatched to assist emergency first responders to mitigate the hazard or remove damaged equipment from the premises within a response time approved by the Sidney Fire Protection District.**

f. **Documentation of a requirement of the owner to provide Hazard Support Personnel that may be required by the Sidney Fire Protection District per NFPA 855 and a written approval of the plan to provide Hazard Support Personnel by the Sidney Fire Protection District.**

3. **The following BESS submittals are required prior to the approval of the Zoning Compliance Certificate that authorizes operation in addition to any other required submittals:**

a. **A Commissioning Report for the BESS that meets the requirements of NFPA 855 and documentation that a copy of the Commissioning Report has been provided to and accepted by the Sidney Fire Protection District**

4. **The accessory BESS shall be allowed subject to these special conditions regardless of the outcome of Zoning Case 130-AT-24.**

The special condition stated above is required to ensure the following:

That future requirements are clearly identified for all successors of title, lessees, any operator and/or owner of the PV SOLAR FARM and to ensure consistency with Zoning Case 130-AT-24.

K. **The owners of the subject property hereby recognize and provide for the right of agricultural activities to continue on adjacent land consistent with the Right to Farm Resolution 3425.**

The special condition stated above is required to ensure the following:

Conformance with Policy 4.2.3 of the Land Resource Management Plan.

L. **The PV SOLAR FARM COUNTY Board SPECIAL USE Permit designation shall expire in 10 years if no Zoning Use Permit is granted.**

The special condition stated above is required to ensure the following:

The PV SOLAR FARM is constructed in compliance with the Ordinance requirements.

M. **A 5 feet deep open trench shall extend for 30 feet on either side of any drainageway that is crossed with underground wiring and the relevant drainage district shall be provided 48 hours in which to inspect for tile and the positions of any tile lines that are discovered shall be recorded using Global Positioning System (GPS) technology.**

The special condition stated above is required to ensure the following:

That drainage district tiles are protected.

N. **The terms of approval are the requirements of the current Section 6.1.5 of the Zoning Ordinance as amended February 23, 2023.**

The special condition stated above is required to ensure the following:

That the current version of the Zoning Ordinance has been referenced.

ATTACHMENTS

A Memo from David Holly received 3/7/25 with responses to questions from 1/16/25 ZBA Public Hearing
B Revised Site Plan received 3/7/25
C Revised Landscape Plan received 3/7/25
D Draft Hazard Mitigation Analysis for the accessory BESS received 3/7/25
E Draft Emergency Response Plan (ERP) for the accessory BESS received 3/7/25
F Letter from Sidney Fire Protection District dated March 5, 2025
G Email from Ted Hartke received 1/17/25 with attachment
H Handouts to the ZBA at the 1/16/25 Public Hearing:
1. Three Letters from Participating Properties in support received January 13, 2025
2. Email from Tannie Justus received January 13, 2025
3. Email from Janet Smith received January 13, 2025
4. Email from Mary White received January 15, 2025
5. Letter from Kent Krukewitt received January 16, 2025
6. Email from Cindy Shephard received January 16, 2025
I. Summary of Evidence, Finding of Fact and Final Determination for Case 144-S-24 dated March 27, 2025

Questions and Comments from the Zoning Board of Appeals Public Hearing January 16, 2025

- The questions below are related to the proposed accessory Battery Energy Storage System (BESS) portion of the solar project. The Applicant has provided clarification on topics discussed during cross-examination and public testimony, which may have required more breadth and depth than was discussed during the second ZBA hearing on 01/16/25. Please note that if topics are universal to more than one participant, the responses are localized in this memorandum section regarding the accessory battery energy storage topic of the Little Prairie Solar project. The Applicant consulted with an industry-leading battery storage safety expert, Energy Safety Response Group (ESRG), with regards to the data provided in this section. Please see the questions and responses below, providing the details requested to be addressed by the public and the Zoning Board members.

    - **Question:** It was noted by the ZBA Board that a draft Hazard Mitigation Analysis (HMA) would be appropriate for review before the ZBA board could make a vote on zoning case 144-S-24.
        - **Response:** Please find the draft HMA for the accessory BESS facility. The applicant confirms the commitment to the proposed condition language stating that the HMA shall meet the requirements of NFPA 855 and a written approval of the HMA by the Sidney Fire Protection District is required prior to the approval of a zoning use permit from the County. The draft HMA has been shared with the Sidney Fire Protection District on 03/03/25. Furthermore, in a letter from the Sidney Fire Protection District dated March 5, 2025, President Tim Maupin stated that, “We agree that the safety systems outlined by Bay.Wa meet NFPA 855 Standards and that SFPD has no further suggestions or revisions to offer.”

          Once final engineering has concluded and final BESS vendor specifications have been incorporated, this HMA draft will be updated accordingly, before the Applicant applies for a zoning use permit from Champaign County.

    - **Question:** It was noted that a draft Emergency Response Plan (ERP) would be appropriate for review before the ZBA board could make a vote on zoning case 144-S-24.
        - **Response:** Please find the attached draft ERP for review. This draft was shared with the Sidney Fire Protection District on 03/03/25. This draft shall serve as the base document which shall be revised over the course of the development

and finalized prior to a zoning use permit application. Please see the attached email confirmation from Tim Maupin (Sidney Fire Trustee) indicating that the draft ERP was reviewed by the Sidney Fire Protection District Board of Trustees along with the Fire Chief and was found to be satisfactory.

- **Question:** The Board discussed the need for Sidney Fire to comment on the proposed special conditions specific to the accessory BESS that were transmitted to Sidney Fire Chief Mr. Don Happ Jr. by zoning administrator Mr. John Hall via email on 01/14/25.
    - **Response:** Little Prairie Solar LLC remains committed to working with Sidney Fire throughout the development of the Little Prairie Solar Project and met with the Fire Chief Mr. Don Happ Jr. on the morning of 01/17/25 to coordinate and discuss the proposed special conditions that relate specifically to the BESS. No specific concerns were shared by Sidney Fire during this meeting. The Applicant had also coordinated a virtual meeting with our consulting battery safety expert (ESRG), two Sidney Fire Trustees, acting Fire Chief Mr. Don Happ Jr., and the future Fire Chief Matt Kosick, to discuss the proposed County SUP conditions on 02/18/25.

      Drafts of the Hazard Mitigation Analysis (HMA) and an Emergency Response Plan (ERP) have been circulated to Sidney Fire District on 03/03/25. The intent of coordination at this early development stage is so Sidney Fire can gain familiarity with the content of the reports, which shall serve as the basis for updates in the future. These revisions will be coordinated between the Applicant and Sidney Fire per the special conditions proposed relating to the accessory BESS facility.

      Please see the attached letter, dated 03/05/25, from the Sidney Fire Board of Trustees and the acting Fire Chief, confirming that they are supportive of the special conditions of approval presented by Champaign County. In researching the nuances of BESS technology, Sidney Fire has consulted with the Illinois Fire service Institute (IFSI) at University of Illinois Champaign-Urbana, and the result was that Sidney Fire has no additional suggestions or revisions to offer. Sidney Fire has also toured the site and met with BayWa r.e. to begin developing the future training for BESS technology.

Question: ZBA Board member, Mr. Brian Anderson, had a question about specific job title classifications in the economic impact analysis report prepared by Strategic Economic Research, LLC. Also noted whether the project had engaged in a Project Labor Agreement (PLA).

- **Response:** The Economic Impact Analysis prepared by Strategic Economic Research utilizes labor position noted in Table 7.1 in Appendix VII which are classified by occupation codes from the U.S. Bureau of Labor Statistics (BLS). If

there are discrepancies between the BLS occupation position classifications and any positions in state of Illinois classifications, the Applicant can rectify the occupational classification differences between the two.

Little Prairie is in the early stages of project planning. In the event that Little Prairie Solar evaluates their position on this issue during the construction permitting phase of the project, a PLA would be explored at that time.

The applicant made the following revisions to the conceptual site plan included with this memo:

- Eliminated the request for the Part C waiver and incorporated a 240-foot setback from the property line of Parcel ID: 242813400002 to comply with the County ordinance in lieu of applicable state siting legislation (55 ILCS 5/5-12020) that would otherwise allow for a 50-foot setback from adjacent non-participating property. This adjustment was made in response to public testimony from Mr. Kent Krukewitt. The Applicant wanted to accommodate his request by withdrawing the previously sought Part C waiver.

- Added additional landscape buffer on the west side of the project access road to further screen viewshed from an adjacent property located at 2268 CR 900N. The landscape plan was also revised to incorporate this additional buffer. This adjustment was in response to a comment from the Planning Department received via email on 01/29/25 and County planning personnel (Mr. Campo) confirmed via email on 02/25/25 that the changes were satisfactory.

- Included note on the landscape plan and conceptual site plan regarding eliminating the planting of eastern red cedar in the landscape buffer within a proximity of 1,000 feet to Parcel ID: 242814400005 at the request of County Planning Department and after an in-person discussion between the Applicant and this adjacent landowner on 02/5/25. County planning personnel (Mr. Charlie Campo) confirmed via email on 02/25/25 that the changes were satisfactory.

- Confirmed the setback from the drainage ditch running through the project meets the County stormwater ordinance requirement of a 50-foot setback from the Top of Bank (TOB) of the limits of the ditch infrastructure. Labels have been revised to reflect the setback requirements needed for compliance with the County stormwater ordinance.

Request and Comment from the County Planning Department received via email on January 29, 2025:

- **Question:** In an email Little Prairie Solar LLC received on 01/29/25, Mr. Charlie Campo indicated that the County was in contact with the owner of the property at 2268 County Road 900N (Tannie Justus) regarding a request for the project not to use eastern red cedar in the landscape buffer near their property. Mr. Campo requested **if** the project could accommodate

this request and modify the landscape plan and conceptual site plan accordingly. Additionally, Mr. Campo noted that the proposed landscape buffer on the south side of CR 900N near 2268 CR 900N, shown on SDP-105 and L-105, ends at the access road; however, it should continue south along the west side of the access road to join up with the landscape buffer that runs from east to west on the Prairie Solar 1 property.

- **Response:** In response to this request, the Applicant immediately requested an in-person meeting with Ms. Justus. This meeting occurred on 02/05/25 to promptly discuss any concerns Ms. Justus had in regard to the proposed landscape buffer. The Applicant has revised the landscape plan and conceptual site plan to accommodate all the requests noted by County planning staff and to further ensure Ms. Justus' request is incorporated into the site plan. Specifically, a note has been added to the conceptual site plan (sheet SDP-105) and Landscape Plan (sheet L-105) which states "Proposed Landscape Buffer to Exclude Eastern Red Cedar" and the area of the buffer that would exclude cedar trees has been depicted. County planning personnel (Mr. Campo) confirmed via email on 02/25/25 that the changes were satisfactory.

<u>Public Testimony about Prairie Solar 1 LLC:</u>

- There was discussion brought during the public testimony period of the second ZBA hearing on 01/16/25, with regards to concerns associated with construction activities on an adjacent but separate solar project (Zoning Use Permit No. 211-24-01). Those concerns have been addressed directly to the County zoning administrator under separate email (transmitted 01/23/25) outside of the scope of the Little Prairie Solar project being reviewed under Zoning Use Case No. 144-S-24. There were claims stating that a complaint hotline was not functioning, work was being performed in June 2024 without the applicable permit, water well work was being without the applicable permit, and requests for a heat grading map associated with Prairie Solar 1. These questions and clarifications have been addressed with the County zoning administrator directly as they are outside of the scope of Zoning Use Case No. 144-S-24 and the Applicant does not believe there is anything further to discuss regarding these raised concerns/claims.

<u>Cross examination from Mr. Ted Hartke:</u>

- **Question:** Mr. Hartke requested material safety data sheets (MSDS) documents for the solar panels proposed on the project.
    - **Response:** Material Safety Data Sheets (MSDS) are required for any supplier, distributor, or manufacturer of hazardous chemicals. The solar modules proposed for the project are not considered hazardous and therefore would not have MSDS

documents. As shared with Mr. Hartke previously, the solar modules on the Little Prairie Solar Project have passed the Toxicity Characteristic Leaching Procedure (TCLP) tests, which determines if any hazardous material would leach into nearby soils in the event of disposal or malfunction. This test is contracted directly by the manufacturers of solar modules.

- **Question:** Mr. Hartke noted concerns about sound levels produced from the project, specifically the inverters. He also requested information be shared for a "Part B" of the Illinois Pollution Control Board (IPCB) regulations referenced in the County Ordinance. Lastly, Mr. Hartke requested what the inverter specifications were for sound and the distance it was measured by the manufacturer.
    - **Response:** To date, the applicant has prepared the following information in response to concerns about sound on the project:
        1) A sound analysis report which showed that operational sound levels which could come from the inverters are below the average daytime ambient sound levels at the adjacent properties. As such, the project is meeting the Illinois Pollution Control Board (IPCB) standards and the requirements of the County ordinance in section 6.1.5(I)(1). This sound analysis report was provided in the original SUP application in Exhibit P.
        2) The applicant prepared a sound contour map which was provided to Mr. Hartke by the Planning Department on December 23, 2024. This map showed the sound contours at nighttime levels in response to Mr. Hartke's expressed concern for sleep disturbance. This map also demonstrated that the project was meeting IPCB standards and the requirements of the County ordinance in section 6.1.5(I)(1) for nighttime sound levels.
        3) Equipment specification sheets for the solar inverters, solar modules, BESS inverters, and the BESS containers have been provided with our application for reference.
        4) Mr. Hartke requested the distance at which the inverter manufacturer claims the sound is measured at and what that is. The manufacturer claims that the solar inverter exhibits a sound level of less than 79dB(A) measured at three feet. Our sound analysis confirms that the measured ambient average daytime sound levels were higher than any sound the project could emit at surrounding residential properties.
        5) Regarding "Part B" that Mr. Hartke had referenced, to the best of our knowledge, he may be referencing the following which we have shared for reference on the record. If there was another section Mr. Hartke was

referring to, we will need more clarification as to exactly what that is in the IPCB document, under Title 35.

- According to Title 35 (Environmental Protection), Subtitle H (Noise), Chapter I (Pollution Control Board), Part 901 (Sound Emission Standards and Limitations for Property Line-Noise Sources), "a facility operating in an agricultural field (Class C Land) cannot cause an exceedance of sound levels at any point within a residential land use (Class A Land) during daytime/nighttime hours listed in the document in Table 1 and 2."

In summary, the IPCB noise regulations are based on allowable octave band sound pressure levels during daytime and nighttime hours. The allowable octave band sound pressure levels result in overall A-weighted sound pressure levels at Class A land uses of approximately 60 dB(A) during daytime hours and approximately 51 dB(A) during nighttime hours. The sound analysis for the Little Prairie project showed that operational sound levels would not exceed 45 dB(A) at the boundaries of Class A properties. As such, the project meets and exceeds the applicable sound requirements, and it is our position that no further measures are necessary to address sound.

As the project is designed, the sound analysis shows that the facility operational sound levels are below Illinois Pollution Control Board Standards and meet the County zoning ordinance requirements.

<u>Public Testimony from Mr. Kent Krukewitt</u>

- **Question:** Mr. Krukewitt requested that the Board not grant a waiver requested regarding setbacks from his property line on CR 900 N.
    - **Response:** After understanding Mr. Krukewitt's concerns regarding the requested waiver, we have eliminated the waiver request and revised the conceptual site plan to account for this design change. We have chosen to apply a 240-foot setback from the property boundary (Parcel ID: 242813400002) to comply with the County ordinance in lieu of applicable stating legislation (55 ILCS 5/5-12020) that would otherwise allow for a 50-foot setback from adjacent non-participating property.

<u>Cross-Examination from Mr. Daniel Herriott</u>

- **Question:** Mr. Herriott asked about the length of time a BESS could burn if there were a thermal event in the worst-case scenario.

- **Response:** An unlikely thermal event could last a couple minutes to numerous hours and generally the focus from industry experts is to focus efforts on perimeter containment during an event such as a fire.

- **Question:** Mr. Herriott asked about the distance that a plume from a BESS container could travel in the air if there were a thermal event in the worst-case scenario.
    - **Response:** To answer this question the Little Prairie Solar team explored the recent testing completed in September 2024 for the Escondido incident that occurred in San Diego County and created a Hazard Mitigation Analysis based on our currently selected equipment. During this fire, air quality was monitored which resulted in no observations of levels of oxygen deviating from 20.9 percent which is considered normal atmospheric level. Any decrease in the percentage of oxygen would indicate that there was some unknown gas in the atmosphere that was not able to be detected by monitoring equipment. Fortunately, no such deviation was detected. The use of fluoride reactive test strips was negative at all locations. Additionally, hydrofluoric acid was not detected at any of the sampling locations. In addition to the air quality monitoring report, our Hazard Mitigation Analysis identified that if the inlet fans activate within 12 seconds after the beginning of thermal runaway, the explosion prevention system can maintain average gas concentrations below 25% low flammability limit as required by NFPA 69 8.3.1. Therefore, no toxic or highly toxic gases would be released in excess concentrations considered dangerous to life or health.

- **Question:** Mr. Herriott asked the applicant if there is potential for a plume in the scenario of a thermal event worst-case scenario, would that affect the Frito Lay corn handling facility in Champaign County?

    - **Response:** The Applicant does not believe that our proposed project poses any threat to Frito Lay's facility operations, given the stringent safety standards and requirements for BESS projects. In the unlikely event of a thermal runaway, significant impacts to air quality are not anticipated. Air quality monitoring conducted during a September 2024 thermal runaway event at a San Diego Gas & Electric BESS facility supports this conclusion.[1] During this event, nine gases were monitored, along with measurements of the lower explosive limit (LEL), at both the incident site and 17 surrounding properties to assess potential for hazards. Monitoring took place from the initial stages of the event through 12 hours after its conclusion. Data from this incident indicate that all emissions were well below Occupational Safety and Health

[1] San Diego County HAZMAT, San Diego City Fire Rescue HAZMAT, and Haley & Aldrich, Inc. 2024. "Air Quality Report: SDG&E Battery Fire." Available online at: https://www.escondido.gov/DocumentCenter/View/6716/SDGE-Battery-Fire-Air-Quality-Report-PDF?bidId=

Administration (OSHA) and National Institute for Occupational Safety and Health (NIOSH) exposure limits and are consistent with expected emissions from structure fires. Additionally, oxygen levels remained at normal atmospheric levels, confirming that no unidentified gases were present beyond what monitoring equipment could detect.

Throughout the project's development, the Applicant has conducted adjacent landowner outreach with the intention of gathering public response to our proposed project in proximity to adjacent parcels. These adjacent parcel notification letters were sent on two separate occasions, first between 05/15/24 - 05/20/24 and a second outreach attempt was sent on 08/16/24. The Applicant retains communications log electronically for all actions pertaining to stakeholder outreach and communications which was also provided with our original SUP application as Exhibit D for reference. Two separate letters on the dates above were provided to the adjacent property owner and Frito Lay Inc., notifying the company of our plans for Little Prairie Solar and offering contact information to continue discussion and answer any questions they could have about the project.

To date, the Applicant has not received any communications from Frito Lay Inc. in response to our notifications. It is our position that Frito Lay Inc. is a well-known and sophisticated organization. Since Frito Lay Inc. has not provided any written comment on the Little Prairie Solar project to the ZBA and further has not engaged with BayWa r.e. directly regarding the two notification letters that were transmitted, it is reasonable to assume Frito Lay Inc. does not share the concerns raised by Mr. Herriott. The address used for notification letters to Frito Lay Inc. was the publicly available address derived from County records which also serves as the address for disbursement of property tax communications directly from Champaign County. A copy of each letter which was disseminated to properties adjacent to the project, including Frito Lay Inc., is attached for reference with direct communication details to reach Little Prairie Solar LLC representative, Mr. David Holly.

- **Question:** Mr. Herriott asked whether BayWa r.e. could act independently outside of the AIMA at the landowners request?
    - **Response:** Per condition B in the Prairie AIMA executed for Little Prairie Solar LLC with the State of Illinois in April 2024, all portions of AIMA are negotiable with landowners except for Section 17 (B)-(F) (decommissioning and financial assurance items). In short, AIMA does not always prevail over lease agreements with the landowners.

Public Testimony from Mr. Daniel Herriott

- **Question:** Mr. Herriott provided comments about the adjacent solar project construction and his tracking of workers/companies coming from other cities/states.
    - **Response:** Prior to construction, Little Prairie Solar LLC will interview several top-tier electrical and civil contractors to identify the best candidates for installing facilities such as those proposed for our project. Little Prairie Solar LLC does not have the responsibility or the authority to dictate the hiring process for each contractor as they are a separate entity known for their excellent work products. Little Prairie Solar LLC encourages each contractor to hire local labor to the maximum extent practicable; however, due to timing, location, and availability, sometimes this can be difficult. We believe that our contractors will promote local hiring to the maximum extent practicable and look forward to working with the community more in the future to identify skilled labor in the area.

- **Question:** Mr. Herriott noted his concern for maintaining drainage from upstream and downstream inputs through the Little Prairie project as it could impact his farming and family property located south of our project.
    - **Response:** The Applicant exchanged email coordination with Mr. Herriott directly between 01/30/25 – 02/03/25, to discuss this concern specifically. The applicant also noted to Mr. Herriott that Little Prairie Solar LLC is committed, and further, obligated to ensure that drainage through the Little Prairie Solar Project remains in functional condition as it exists pre-construction. The requirement to maintain off-site flow can be noted in the Agriculture Impact Mitigation Agreement and Section 5-12020 (j-5) of the IL state solar siting legislation (55 ILCS 5/5-12020). Additionally, the Applicant has prepared a Farmland Drainage Plan (FDP) which details the requirements to maintain drainage through the project and the existing infrastructure that outfalls drainage through the project and we believe addresses this concern directly.

- **Question:** Mr. Herriott asked whether the loss of farm jobs is included in the economic analysis report.
    - **Response:** The economic analysis report does not include any impact in loss of acreage being farmed by either the participating landowner or their tenant farmer. Given that the project is comprised of willing private landowner participants, Little Prairie Solar LLC does not interfere with the relations between a landowner and tenant farmer unless specifically requested to do so by the private participating landowners. The communication and form of contractual agreement between a participating landowner and their tenant farmer is outside of the relationship the Applicant has with the participating landowners given their choice to host the project on their private property.

- **Question:** Mr. Herriott requested clarification on whether the Heritage School District tax abatement agreement was incorporated into the figures stated in the economic impact analysis.
    - **Response:** The economic impact analysis which was revised and provided as part of a previous memorandum to the County on 02/30/24, does include a tax abatement agreement with Heritage School District. This directly affects the property tax revenue projected to the be divided amongst the different taxing jurisdictions and was further disclosed and emphasized in our presentation to the ZBA Board during the public hearing on 01/16/25, specifically on slide 16 of the PowerPoint presentation.

- **Question:** Mr. Herriott read and entered to the record news articles about BayWa AG in what we interpret as an attempt to discredit the overall financial ability of the applicant, Little Prairie Solar LLC, to provide financial assurances for the project and protections for the County and local community.
    - **Response:** BayWa r.e. Global is restructuring some elements of its business to strengthen its financial outlook and sharpen its focus on core areas like wind, solar, battery storage, and energy trading. As part of this effort, the company secured a long-term financing agreement to strengthen its financial foundation. It is important to point out that these global changes do not impact BayWa r.e. Americas. The U.S. business remains financially strong, operates independently, and continues delivering high-quality clean energy projects and partnerships. BayWa r.e.'s primary shareholders are actively discussing a potential capital increase, with a decision expected by the end of Q1 2025. This additional capital would drive further investment in U.S. renewable energy infrastructure, strengthening American energy security, creating jobs, and attracting private investment to the local economy. [1] News of this capital increase was released on 02/24/2025 and can be referenced on the BayWa r.e. website, amongst other public news sources online.

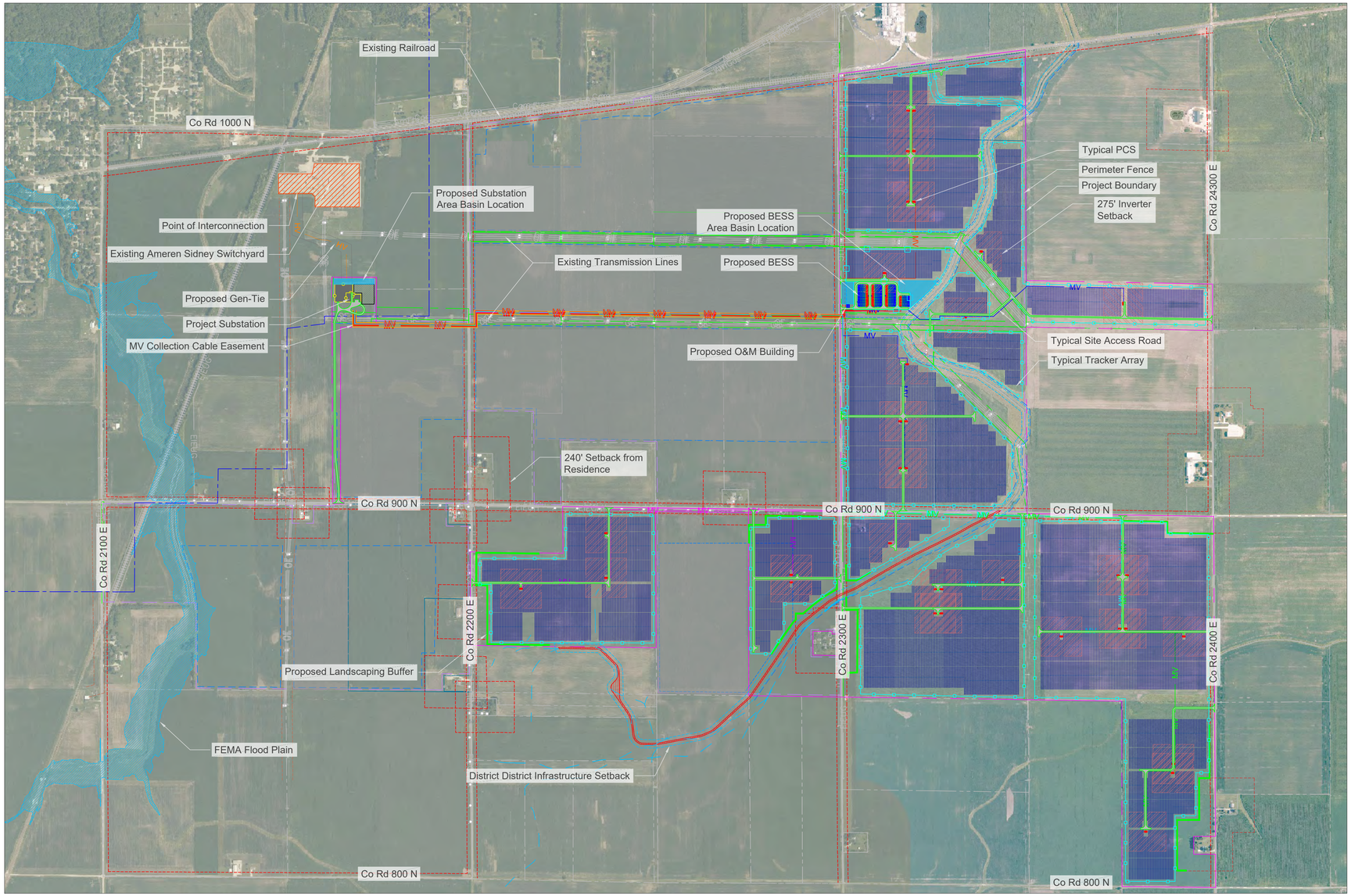
      We encourage the ZBA Board members to form their own opinions as it pertains to BayWa r.e.'s ability to meet its financial obligations. We would encourage the Board to make their recommendation based on BayWa r.e.'s historic business actions in the County and not based on media articles relating to our parent companies.

      The purpose of financial assurance protections that the project has committed to meeting within the County ordinance Section 6.1.5(Q)(4), state solar siting legislation (55 ILCS 5/5-12020), and the executed AIMA already provided in the original SUP application (Exhibit O) is to establish financial mechanisms in the event that the project owner was unable to meet the commitments in a special use permit and zoning use permit, the County could draw upon those funds to take action necessary without being burdened financially.

The applicant has been doing business in Champaign County since 2017 and represents a track record we are proud of which includes meeting our financial commitments and on time. For reference, in 2024, BayWa r.e. was required to meet the below financial obligations relating to a utility scale solar project in Champaign County, IL (Zoning Use Permit No. 211-24-01). All three were provided within applicable timelines in the related agreements and BayWa r.e. did not seek a waiver to obtain permits prior to meeting these financial obligations.

- Per the Road Use and Maintenance Agreement with Champaign County – provide a financial security in the amount of $100,000
- Per the Zoning Use Permit Application – provide a permit fee in the amount of $174,183
- Per the Special Use Permit and Champaign County Ordinance – provide the initial Decommissioning Letter of Credit in the amount of $256,276.41

[1]Available online at: Energy Infrastructure Partners (EIP) strengthens BayWa r.e.'s capital base and becomes new majority shareholder with a 65 per cent stake



LEGEND

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- Existing Easement
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- Existing Contours
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- PCS Station (35)

SITE IMPROVEMENT PLAN

SCALE: 1" = 800'

NORTH

Imperial Scale

800 400 0 800 1600 2400

Scale: 1" = 800'

Information used to prepare this drawing		
Item	**Source**	**Date, Revision**
Boundary Information	CAD file provided by BayWa r.e.: ACAD-418736-Boundary-20240412.dwg	4/16/2024
CUP/SUP	None	N/A
Site Constraints	CAD file provided by BayWa r.e.: ACAD-418736-Boundary-20240412.dwg	4/16/2024
Geotechnical Report	None	N/A
FEMA Panel	Panel: 17019C0475D	10/1/2013
Topographic Survey	USGS	N/A
Hydrology Information	None	N/A
Wetlands Information	National Wetland Database	N/A
Point of Interconnection	Little Prairie Solar Project Site Plan	2/27/24, A
Aerial Imagery	Bing Map	N/A
ASHRAE Data	http://ashrae-meteo.info/index.php	ASHRAE 2021
Wind Load Source	https://asce7hazardtool.online/	(ASCE 7-21)
Snow Load Source	https://asce7hazardtool.online/	(ASCE 7-21)
Seismic Load Source	https://asce7hazardtool.online/	(ASCE 7-21)

*Files are based on State Plane Coordinate System NAD83

Little Prairie Solar LLC

Sidney, Champaign County, Illinois

Owner/Developer	BayWa r.e.
Latitude:	40.012334
Longitude:	-88.028735
Min Elevation:	658
Max Elevation:	698
Total Project Boundary Acres:	1047.0
Total Buildable Acres:	854.5
Total Fenced Acres:	765.5
Total Array Acres:	629.1
Annual Cooling Design Temp:	91.3° F
Extreme Annual Min DB Mean Temp:	-9.4° F
Wind Load:	100 mph
Snow Load:	27 psf
Seismic	
Ss:	0.28
S1:	0.11

Design Information

Rotation/Tilt Angle	**60**
Module Wattage	**550**
Quantity of Modules	**323,159**
MWac PV	**135.00**
MWac BESS	**135.0**
BESS MWh	**540**
GCR	**35%**
Row Spacing	**21.35**

Notes:
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Vegetative screening for all dwellings within 1,000 feet of PV Solar Farm.

Access Roads
20' Wide (PV)
24' Wide (BESS)

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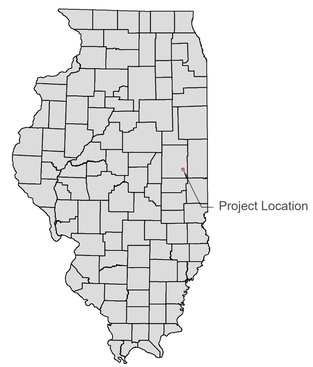

KEY MAP
SCALE: NTS

NOT FOR CONSTRUCTION

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BayWa r.e.

LITTLE PRAIRIE SOLAR LLC
SIDNEY, CHAMPAING COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
J	7/31/24	REVISED ACCESS ROAD AND BESS SPACING	MP	MP	MP
K	8/26/24	REVISED ACCESS ROAD	MP	MP	MP
L	10/24/24	REVISED DITCH SETBACK AND ACCEESS ROAD	MP	MP	MP
M	12/11/24	ADDED DRAIN LINE	MP	MP	MP
N	1/10/25	UPDATED FENCE ACRES	MP	MP	MP
O	1/21/25	UPDATED FENCE ACRES	MP	MP	MP
P	2/21/25	UPDATED LANDSCAPING BUFFER	MP	MP	MP

TITLE:

SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.003
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-100

SHEET 1 OF 1

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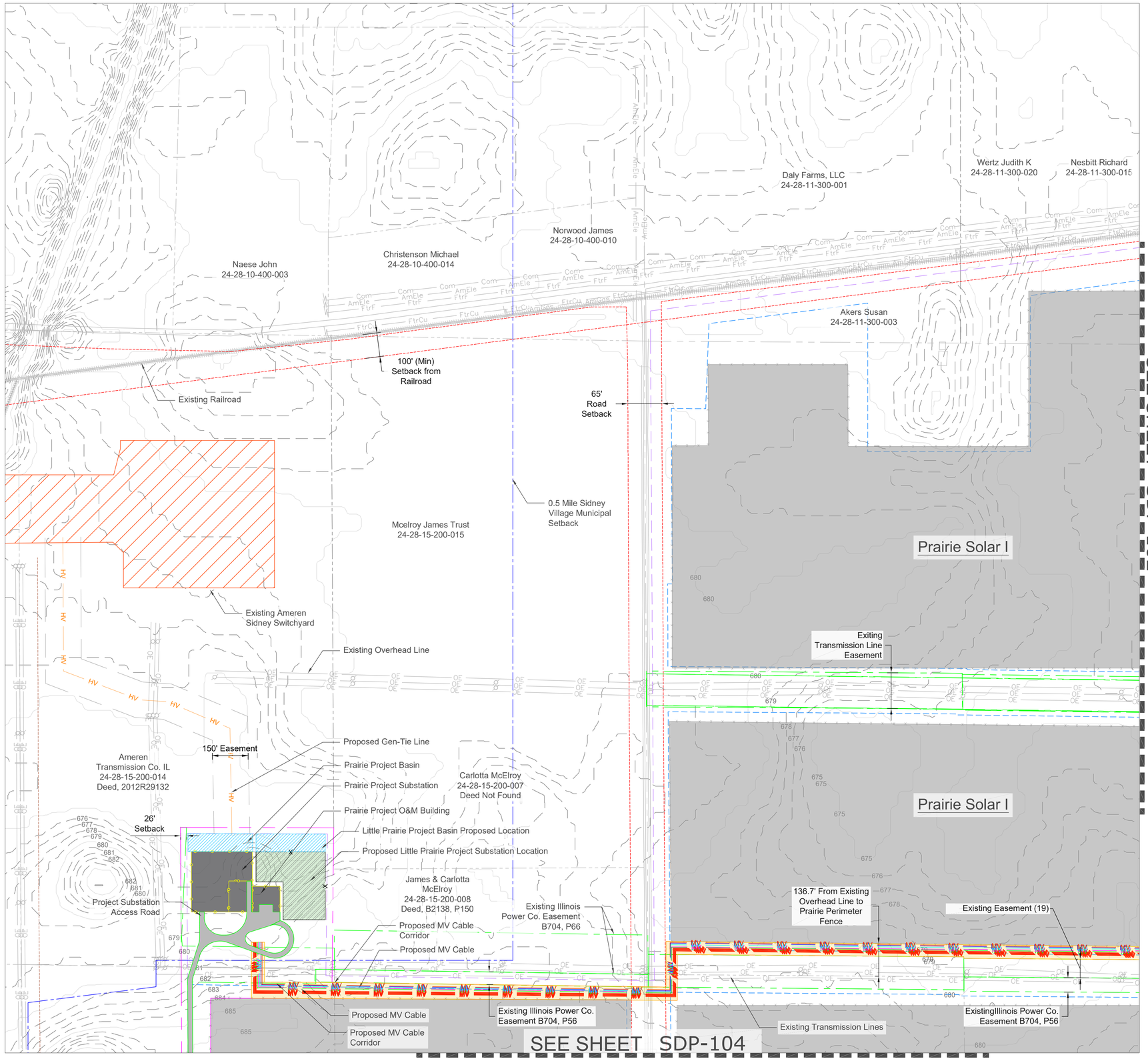

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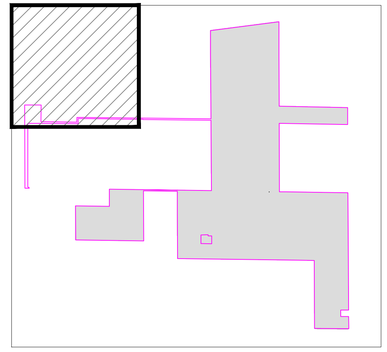

KEY MAP
SCALE: NTS
NORTH

NOT FOR CONSTRUCTION

Imperial Scale
200 100 0 200 400 600
Scale: 1" = 200'

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BayWa r.e.

LITTLE PRAIRIE SOLAR LLC
SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
B	3/25/24	ISSUED FOR REVIEW	MP	MP	MP
C	3/27/24	ISSUED FOR REVIEW	MP	MP	MP
D	3/25/24	ADDED PARCEL INFORMATION	MP	MP	MP
E	4/22/24	REVISED BOUNDARY	MP	MP	MP
F	4/24/24	CORRECTED BOUNDARY	MP	MP	MP
G	5/29/24	CORRECTED BOUNDARY	MP	MP	MP
H	7/14/24	REVISED ACCESS ROAD	MP	MP	MP

TITLE:

SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-101

SHEET 2 OF 11

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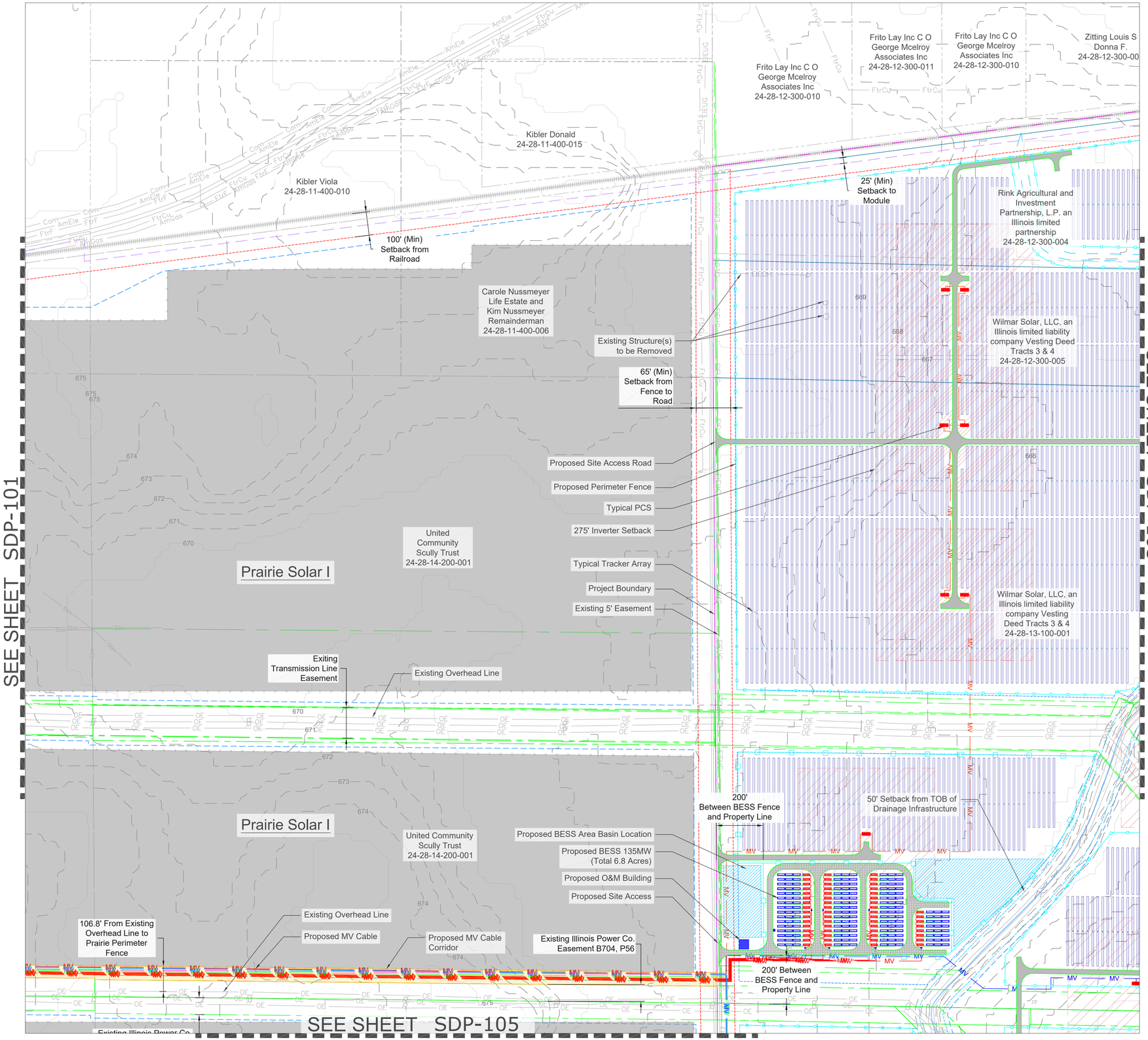

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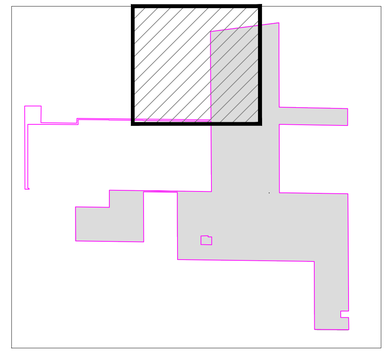

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BayWa r.e.

LITTLE PRAIRIE SOLAR LLC
SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
F	4/24/24	CORRECTED BOUNDARY AND ADDED BESS CAPACITY	MP	MP	MP
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H	7/14/24	REVISED FENCE AND ADD BASIN	MP	MP	MP
I	7/31/24	REVISED BESS ACCESS ROADS AND SPACING	MP	MP	MP
J	10/24/24	REVISED DRAINAGE DITCH SETBACK	MP	MP	MP
K	12/11/24	ADDED DRAIN LINE	MP	MP	MP
L	1/24/24	REVISED DITCH SETBACK NOTE	MP	MP	MP

TITLE:
SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-102

SHEET 3 OF 11

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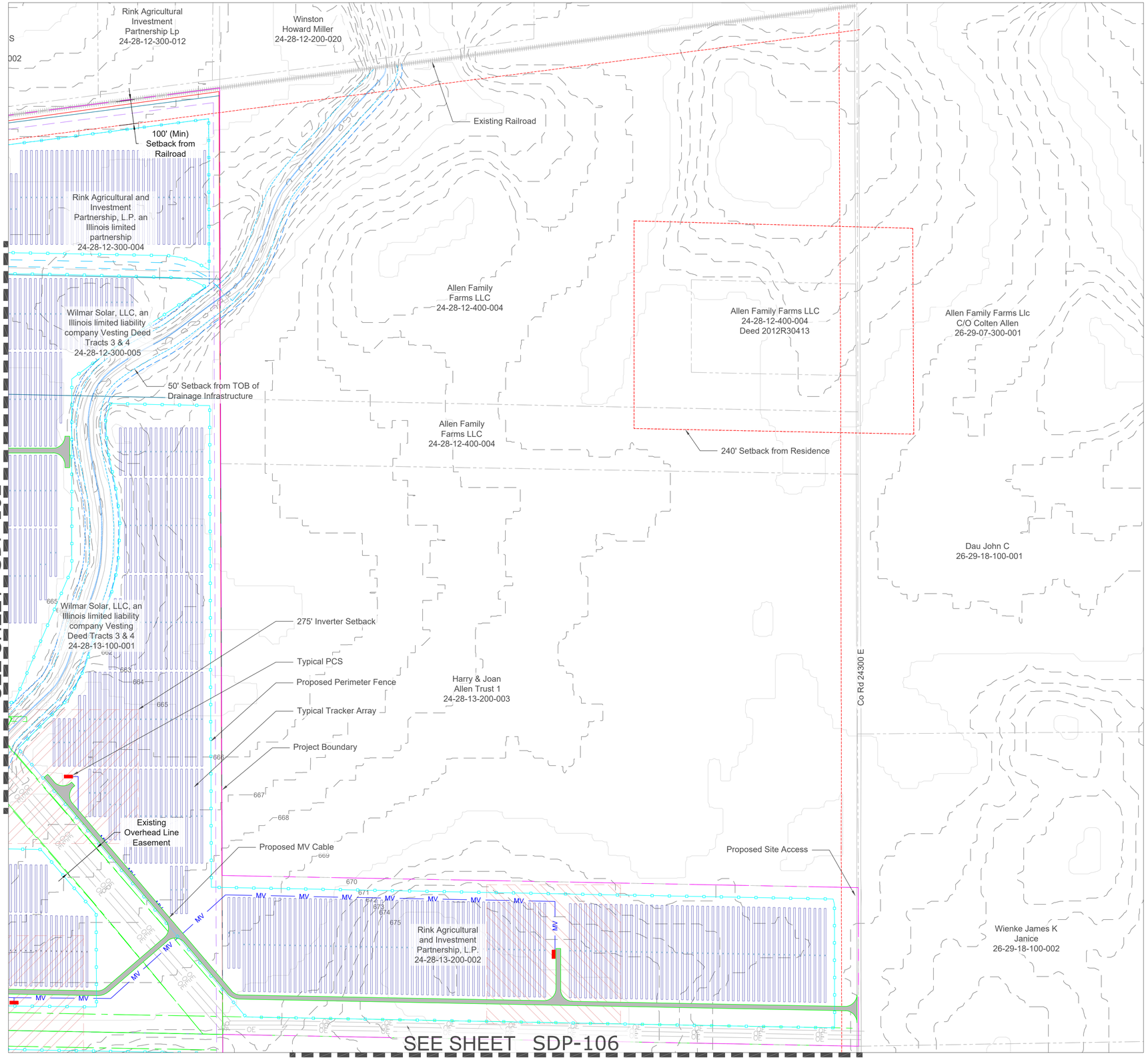

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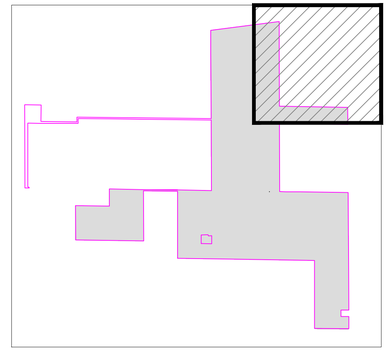

KEY MAP
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NORTH

NOT FOR CONSTRUCTION

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SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

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TITLE:
SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-103

SHEET 4 OF 11

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SEE SHEET SDP-101

Proposed MV Cable

Proposed MV Cable Corridor

Existing Illinois Power Co. Easement B704, P56

Existing Transmission Lines

ExistingIllinois Power Co. Easement B704, P56

Prairie Solar I

Prairie Solar I

Ameren Transmission Co. IL 24-28-15-200-014 Deed 2012R29132

Krukewitt James Kent Krukewitt Linda L 24-28-14-300-002

Ruhter Jeremy & Colleen 24-28-14-300-008

Busey Ag Services 24-28-15-400-001

John Grobe Busey Ag Services 24-28-15-400-004

Lauchner Virginia S 24-28-14-300-007

Krukewitt James Kent & Krukewitt Linda L 24-28-14-300-002

Tingley M 24-28-14-300-003

Project Substation Access Road

Co Rd 900 N

65' (Min) Setback from Fence to Road

Proposed Site Access

75' (Min) Setback from C/L of Overhead Lines

Jeffrey Snodgrass 24-28-22-200-008 Deed 2010R02766

Existing Overhead Line

240' Setback from Residence

Typical Tracker Array

Lauchner Virginia S 24-28-23-100-001

Perimeter Fence

Project Boundary

Proposed Landscape Buffer

75' Setback from C/L of Overhead Lines

Hastings David L 24-28-22-200-009

Typical PCS

275' Inverter Setback

Proposed Site Access

Proposed MV Cable

Prairie Solar I

Illinois Presbyterian Home 24-28-23-100-002

Approximate Location of Underground Drainage Infrastructure

Stipp Kathryn 24-28-22-200-015

SEE SHEET SDP-107

SEE SHEET SDP-105

LEGEND

- Project Boundary / Special Use Permit Boundary
- OE — Existing Overhead Line
- Existing Easement
- Existing RailRoad
- Existing Contours
- HV — High Voltage Line
- Proposed Fence
- MV — Proposed MV Cable
- 0.5 Mile Sidney Village Municipal Setback
- 65' Road Setback
- 10/20' Side and Rear Setback
- 20' Fence Setback
- 50' Drainage District Infrastructure Setback
- 75' Overhead C/L Setback
- 240' Setback from Residence
- 275' Inverter Setback
- Solar Array
- Access Roads
- Proposed Landscape Buffer
- FEMA Flood Plain
- Project Substation
- PCS Station (35)

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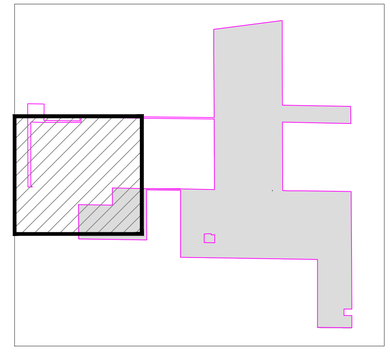
Vegetative screening for all dwellings within 1,000 feet of PV Solar Farm.

Access Roads
20' Wide (PV)
24' Wide (BESS)

Perimeter Fence
Approximately 86,117' LF of minimum 8-foot tall perimeter fence with 24' wide security gates



KEY MAP
SCALE: NTS

NORTH

NOT FOR CONSTRUCTION

Imperial Scale

200 100 0 200 400 600

Scale: 1" = 200'

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BayWa r.e.

LITTLE PRAIRIE SOLAR LLC
SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
C	3/27/24	ISSUED FOR REVIEW	MP	MP	MP
D	3/28/24	ADDED PARCEL INFORMATION	MP	MP	MP
E	4/22/24	REVISED BOUNDARY	MP	MP	MP
F	4/24/24	CORRECTED BOUNDARY	MP	MP	MP
G	5/29/24	CORRECTED BOUNDARY	MP	MP	MP
H	7/14/24	REVISED FENCE AND ACCESS ROAD	MP	MP	MP
I	10/24/24	REVISED ACCESS ROAD	MP	MP	MP

TITLE:

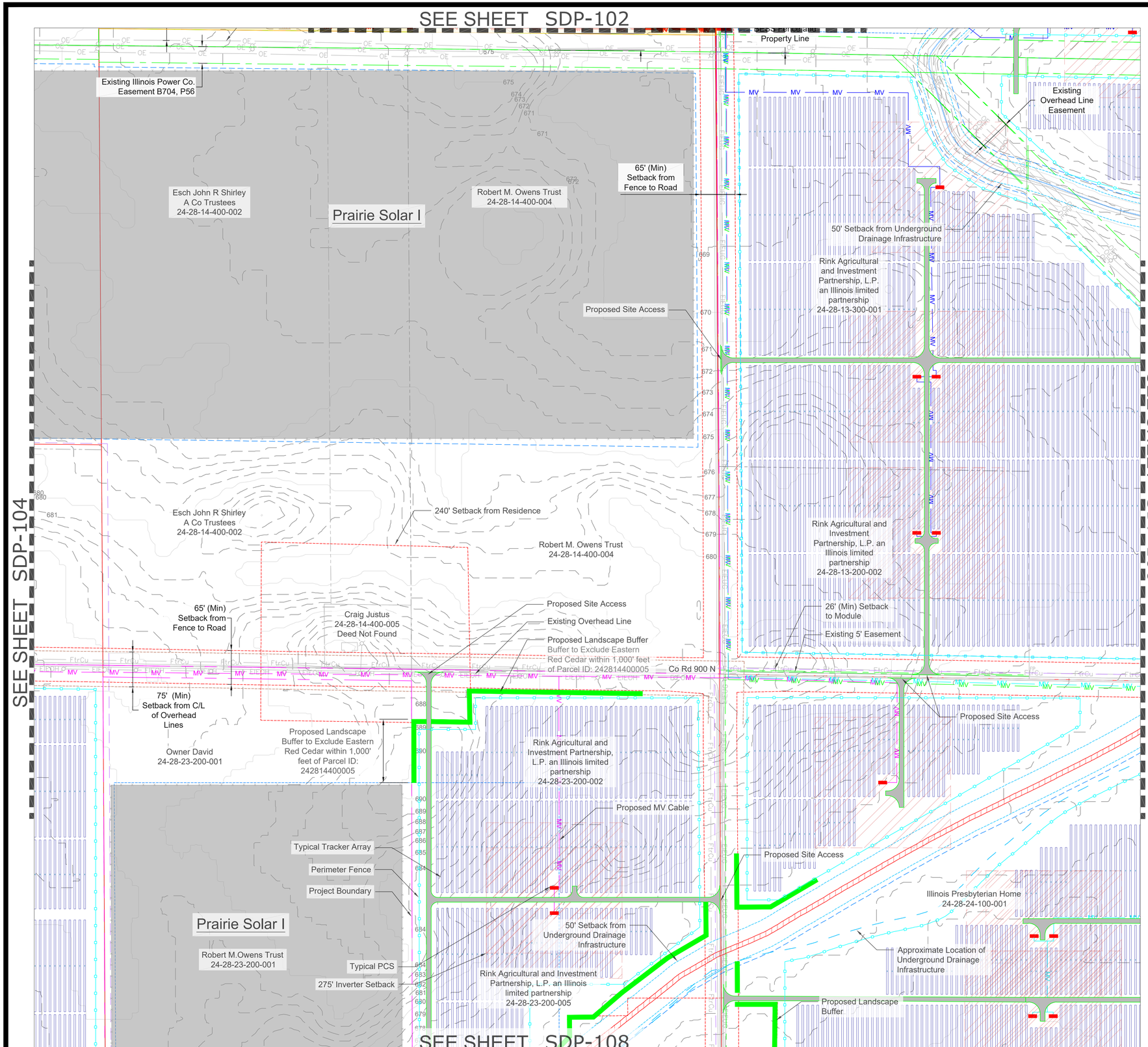
SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-104

SHEET 5 OF 11

C:\Users\Mike Perez\DC\ACCDocs\EnerSol Design\Little Prairie Solar LLC\Project Files\04_WIP\01_Active Drawings\Site Plans\Prairie SDP-100.dwg February 21, 2025



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- FEMA Flood Plain
- Project Substation
- PCS Station (35)

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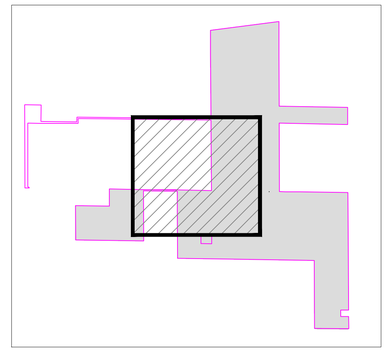

KEY MAP
SCALE: NTS
NORTH

NOT FOR CONSTRUCTION

Imperial Scale
200 100 0 200 400 600
Scale: 1" = 200'

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SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
E	4/22/24	REVISED BOUNDARY	MP	MP	MP
F	4/24/24	REVISED BOUNDARY	MP	MP	MP
G	5/29/24	CORRECTED BOUNDARY	MP	MP	MP
H	7/14/24	REVISED FENCE AND ACCESS ROAD	MP	MP	MP
I	10/24/24	REVISED ACCESS ROAD AND SETBACK	MP	MP	MP
J	1/24/25	REVISED DITCH SETBACK NOTE	MP	MP	MP
K	2/21/25	REVISED LANDSCAPING BUFFER	MP	MP	MP

TITLE:

SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-105

SHEET 6 OF 11

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SEE SHEET SDP-103

SEE SHEET SDP-105

SEE SHEET SDP-109

Existing Overhead Line

Wienke Martin C
Estate
26-29-18-300-003

Rink Agricultural and
Investment Partnership,
L.P. an Illinois limited
partnership
24-28-13-300-003

James & Linda
Krukewitt
24-28-13-400-005

Wienke Kevin & Tammy
26-29-18-300-002

Existing 132'
Overhead Line
Easement

240' Setback from Residence

Existing Overhead Line

50' Setback from TOB of
Drainage Infrastructure

Krukewitt James Kent
& Krukewitt Linda L
24-28-13-400-002

65' (Min) Setback
from Fence to Road

Proposed Site Access

Proposed MV Cable

Proposed Site Access

Proposed Landscape Buffer

Perimeter Fence

Project Boundary

Typical Tracker Array

Co Rd 900 N

275' Inverter Setback

Typical PCS

65' (Min)
Setback from
Fence to
Road

Approximate Location of
Underground Drainage
Infrastructure

Existing Overhead Line

Illinois Presbyterian Home
24-28-24-100-001

Existing 150'
Transmission
Easement

Rink Agricultural and
Investment Partnership,
L.P. an Illinois limited
partnership
24-28-24-200-005

Rink Agricultural and
Investment Partnership,
L.P. an Illinois limited
partnership
24-28-24-200-006

Rink Agricultural and
Investment Partnership,
L.P. an Illinois limited
partnership
24-28-24-200-004

Bennett
Barbara Jean
26-29-19-200-001

Rink Agricultural and
Investment Partnership,
L.P. an Illinois limited
partnership
24-28-24-200-003

LEGEND

- Project Boundary / Special Use Permit Boundary
- OE — Existing Overhead Line
- Existing Easement
- Existing RailRoad
- Existing Contours
- HV — High Voltage Line
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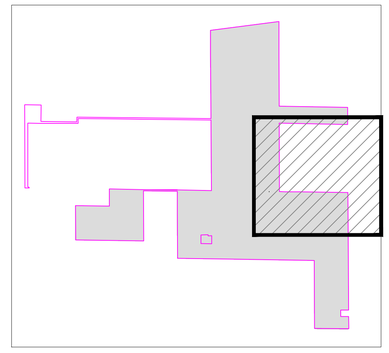

KEY MAP
SCALE: NTS
NORTH

NOT FOR CONSTRUCTION

Imperial Scale
200 100 0 200 400 600
Scale: 1" = 200'

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LITTLE PRAIRIE SOLAR LLC
SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
E	4/22/24	REVISED BOUNDARY	MP	MP	MP
F	4/24/24	CORRECTED BOUNDARY	MP	MP	MP
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H	7/14/24	REVISED FENCE AND ACCESS ROAD	MP	MP	MP
J	10/24/24	REVISED ACCESS ROAD AND SETBACK	MP	MP	MP
K	1/21/25	REVISED FENCED ACRES	MP	MP	MP
K	1/24/25	REVISED DITCH SETBACK NOTE	MP	MP	MP

TITLE:
SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-106

SHEET 7 OF 11

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SEE SHEET SDP-104

SEE SHEET SDP-108

Prairie Solar I

Wertz Judith K
24-28-22-200-040

Darren & Jenny Stipp
24-28-22-200-011
Deed 2007R22148

JBK Farms LLC
24-28-23-100-004
Deed 2017R15799

JBK Farms LLC
24-28-23-100-004
Deed 2017R15799

RMP Enterprises, LLC
24-28-23-100-005

Berbaum Paul D Shirley J
24-28-23-100-006

Herriott Daniel &
Constance
24-28-23-300-006

Herriott Steven &
Diana
24-28-23-300-001

Heriott Matthew S
& Samantha M.
24-28-23-300-002

Herriott Matthew
& Samantha
24-28-23-300-003

Goodwin Marsha A
24-28-23-300-004

Co Rd 2200 E

Co Rd 800 N

Proposed Landscape Buffer

Project Boundary

Perimeter Fence

Typical Tracker Array

50' Setback from Underground Drainage Infrastructure

Approximate Location of Underground Drainage Infrastructure

240' Setback from Residence

75' Setback from C/L of Overhead Lines

Existing Overhead Line

LEGEND

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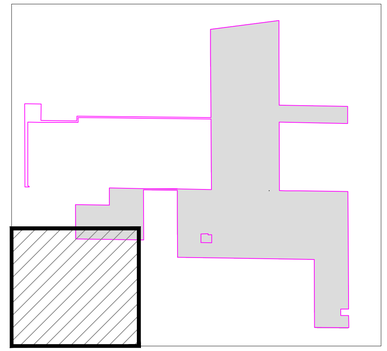

KEY MAP
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NORTH

NOT FOR CONSTRUCTION

Imperial Scale
200 100 0 200 400 600
Scale: 1" = 200'

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SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
D	3/28/24	ADDED PARCEL INFORMATION	MP	MP	MP
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F	4/24/24	CORRECTED BOUNDARY	MP	MP	MP
G	5/29/24	CORRECTED BOUNDARY	MP	MP	MP
H	7/14/24	REVISED FENCE AND ACCESS ROAD	MP	MP	MP
I	10/24/24	REVISED DRAINAGE DITCH SETBACK	MP	MP	MP
J	1/24/25	REVISED DITCH SETBACK NOTE	MP	MP	MP

TITLE:

SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-107

SHEET 8 OF 11

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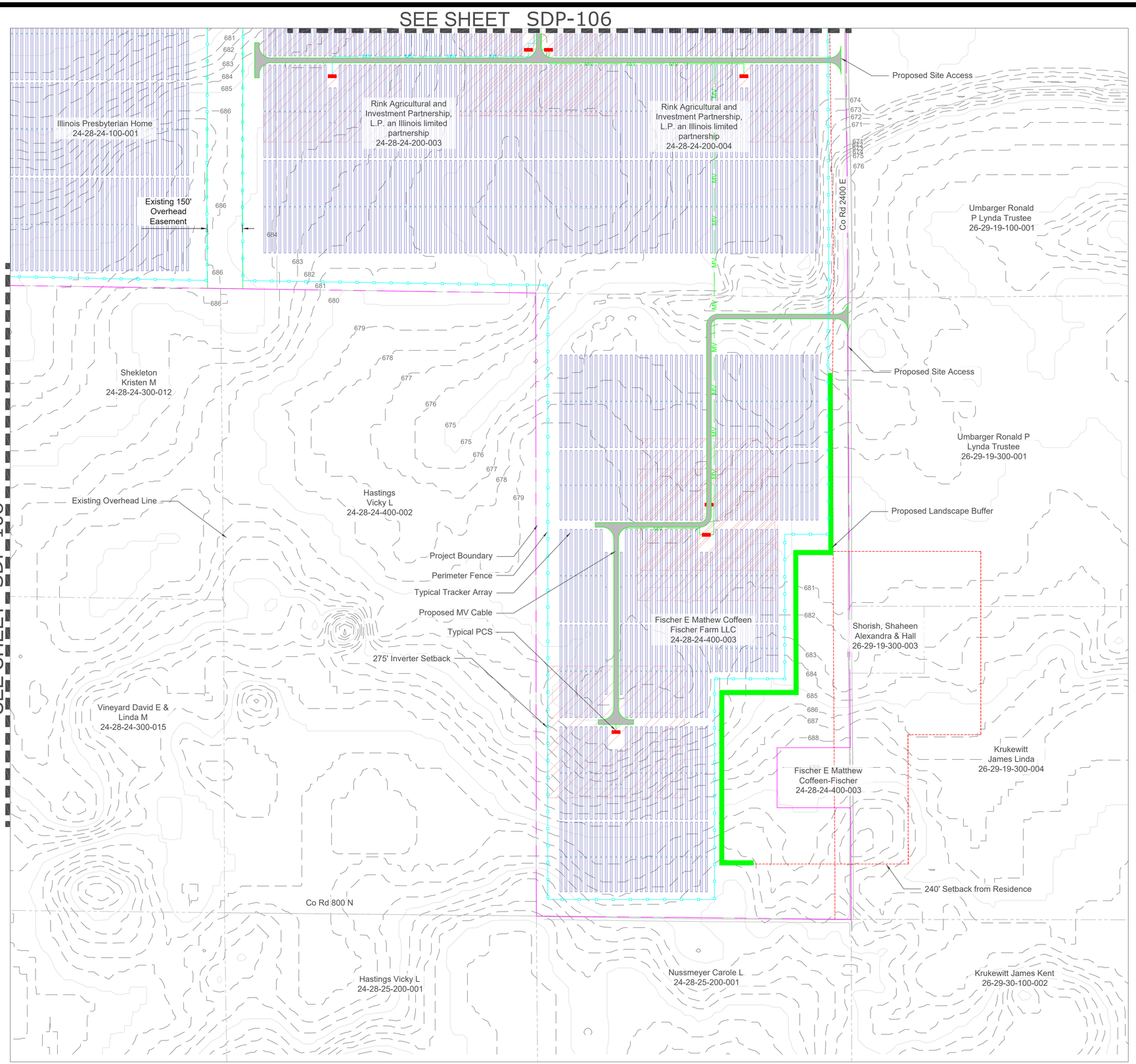

LEGEND

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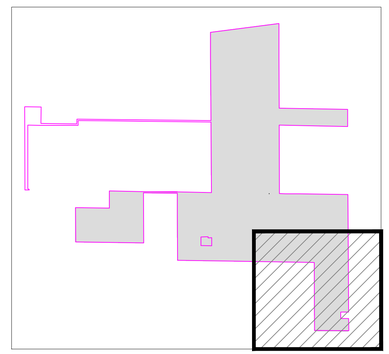

KEY MAP
SCALE: NTS
NORTH

NOT FOR CONSTRUCTION

Imperial Scale
200 100 0 200 400 600
Scale: 1" = 200'

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SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

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H	7/14/24	REVISED FENCE AND ACCESS ROAD	MP	MP	MP
I	8/26/24	REVISED ACCESS ROAD	MP	MP	MP
J	10/24/24	REVISED ACCESS ROAD AND SETBACK	MP	MP	MP

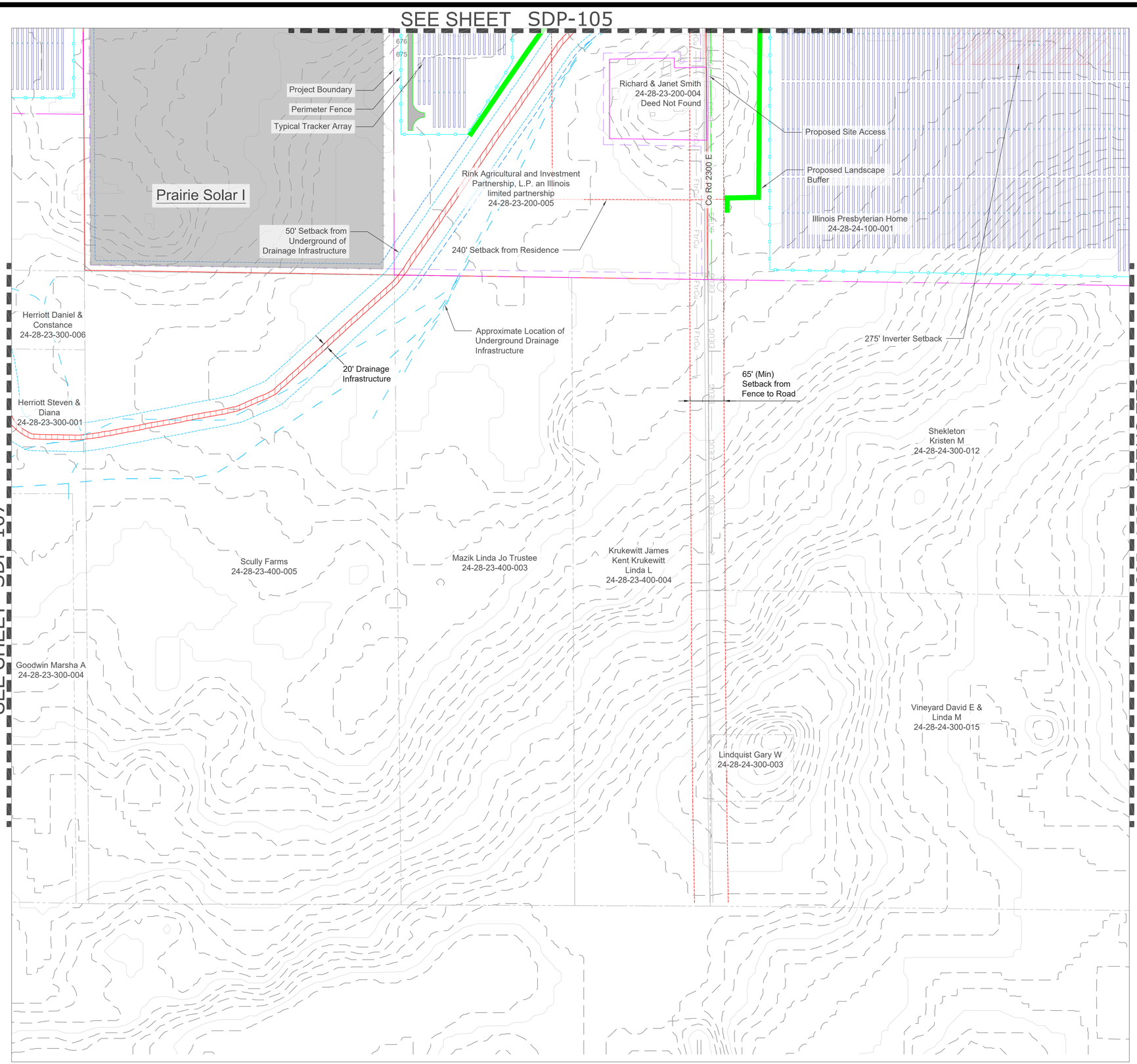
TITLE:

SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-109

SHEET 10 OF 11



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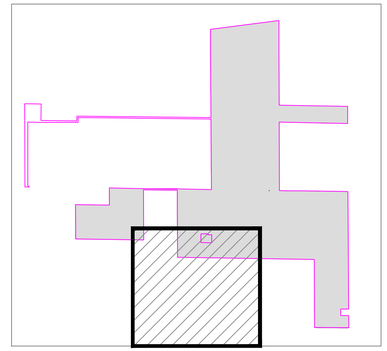

KEY MAP
SCALE: NTS
NORTH

NOT FOR CONSTRUCTION

Imperial Scale
200 100 0 200 400 600
Scale: 1" = 200'

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SIDNEY, CHAMPAIGN COUNTY, ILLINOIS

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F	4/24/24	CORRECTED BOUNDARY	MP	MP	MP
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H	7/14/24	REVISED FENCE AND ACCESS ROAD	MP	MP	MP
I	10/24/24	REVISED DRAINAGE DITCH SETBACK	MP	MP	MP
J	1/24/25	REVISED DITCH SETBACK NOTE	MP	MP	MP

TITLE:

SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-108

SHEET 9 OF 11

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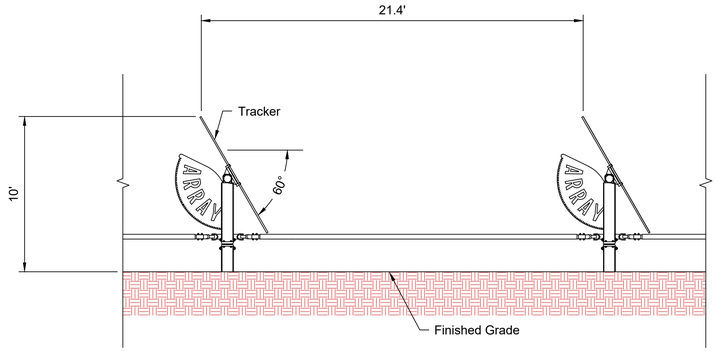
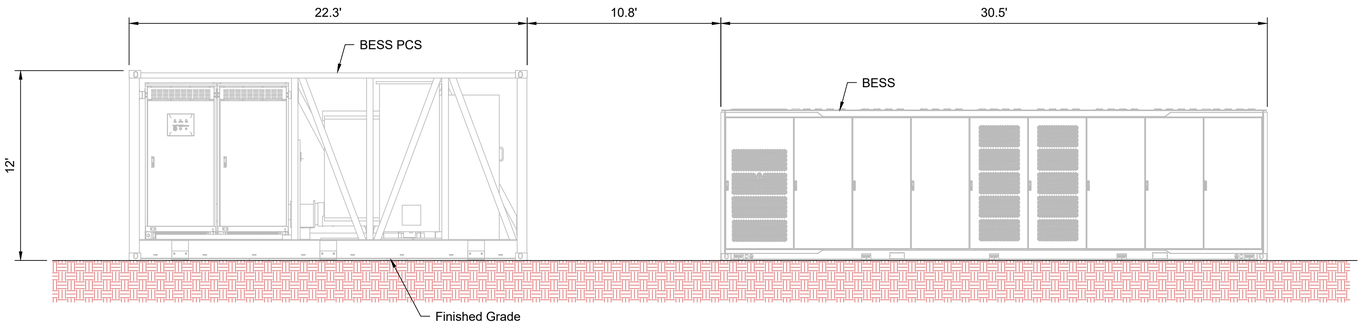
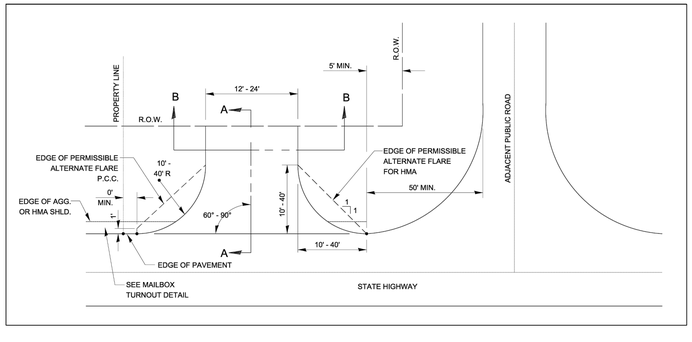


TYPICAL TRACKER ELEVATION
SCALE: NTS

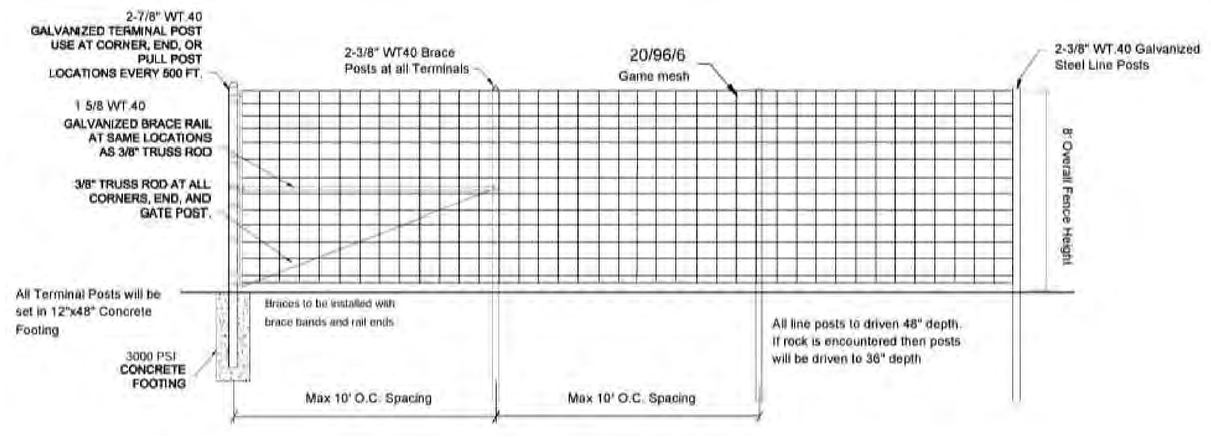


TYPICAL BATTERY ENERGY STORAGE SYSTEM (BESS) ELEVATION VIEW
SCALE: NTS

NOTES:
1. BESS ENCLOSURES ARE ASSUMED TO BE WHITE IN COLOR WITH ENCLOSURE DIMENSIONS 19.9'x9.5'x8'. EACH ENCLOSURE WALL AND ROOF IS ASSUMED TO BE MADE OF STEEL AND CONTAINS TEN 1P416S PACKS.
2. INVERTERS ARE ASSUMED TO HAVE THE SAME COLOR AND MATERIAL AS BESS ENCLOSURES.
3. BESS UNIT SPECIFICATIONS ARE SUBJECT TO CHANGE DUE TO ADVANCEMENT IN BATTERY TECHNOLOGY OR PRODUCT AVAILABILITY.



TYPICAL NONCOMMERCIAL - RURAL (PRICATE ENTRANCE)
SCALE: NTS



TYPICAL PERIMETER FENCE DETAIL
SCALE: NTS

NOT FOR CONSTRUCTION

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LITTLE PRAIRIE SOLAR LLC
SIDNEY, CHAMPAING COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
A	3/15/24	ISSUED FOR REVIEW	MP	MP	MP
B	3/25/24	ISSUED FOR REVIEW	MP	MP	MP
C	3/27/24	ISSUED FOR REVIEW	MP	MP	MP
D	8/26/24	REVISED MODULE HEIGHT	MP	MP	MP
E	10/24/24	REVISED FENCE DETAIL	MP	MP	MP
-	-	-	-	-	-
-	-	-	-	-	-

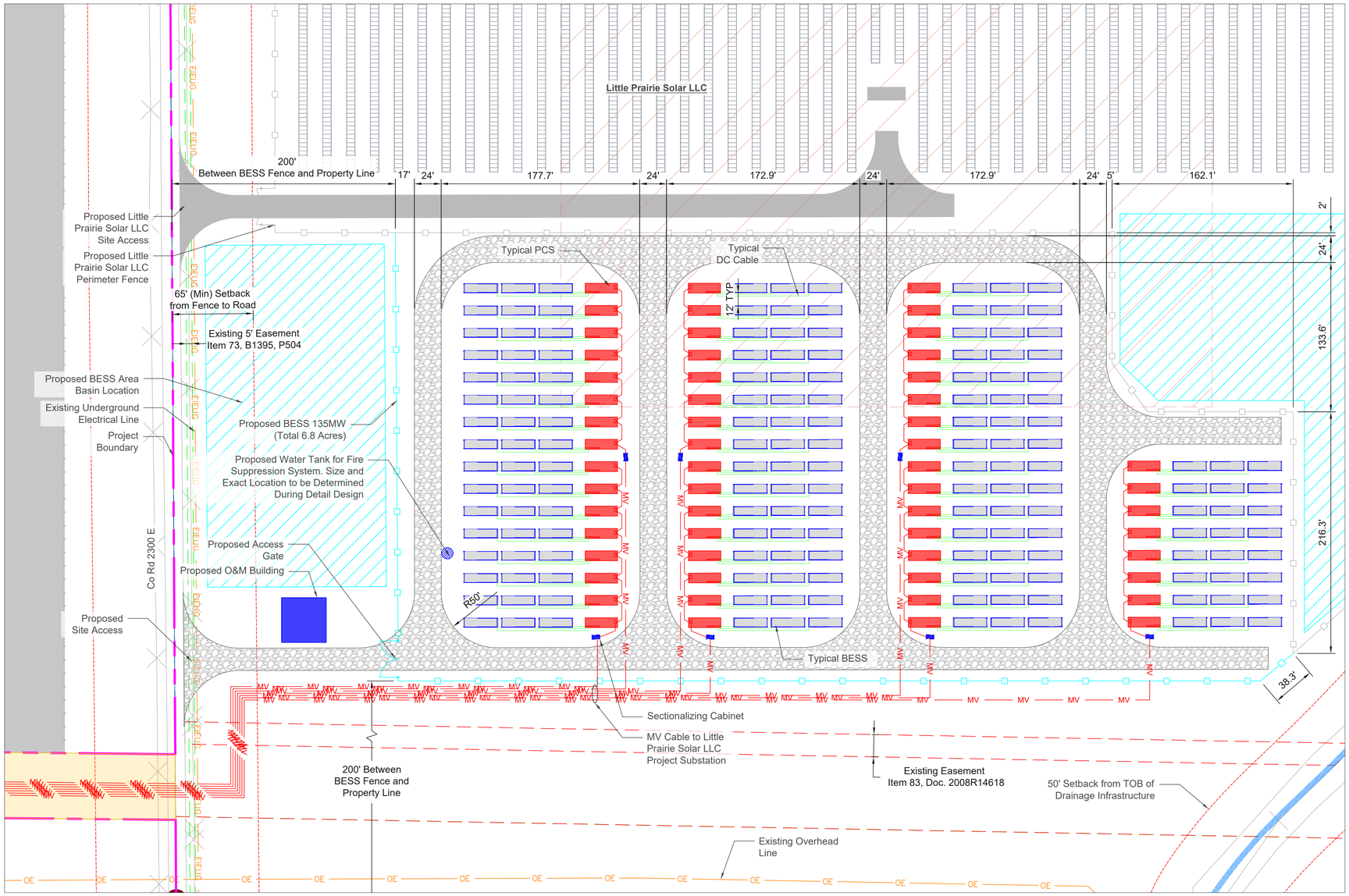
TITLE:

DETAILS

PROJECT NO.:	ES-2024-01.002
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

SDP-110

SHEET 11 OF 11



LEGEND

- Project Boundary
- Existing Overhead Line
- Existing Easement
- Setback
- Existing Contours
- Proposed Fence
- Proposed MV Cable
- Access Roads
- Project Substation
- PCS Station (Inverter &Transformer)
- BESS (Battery Energy Storage System)
- BESS Basin Location

NORTH

BESS SITE IMPROVEMENT PLAN

SCALE: 1" = 50'

50 25 0 50 100 150

Scale: 1" = 50'

Information used to prepare this drawing		
Item	**Source**	**Date, Revision**
Boundary Information	CAD file provided by BayWa r.e.: ACAD-418736-Boundary-20240412.dwg	4/16/2024
CUP/SUP	None	N/A
Site Constraints	CAD file provided by BayWa r.e.: ACAD-418736-Boundary-20240412.dwg	4/16/2024
Geotechnical Report	None	N/A
FEMA Panel	Panel: 17019C0475D	10/1/2013
Topographic Survey	USGS	N/A
Hydrology Information	None	N/A
Wetlands Information	National Wetland Database	N/A
Point of Interconnection	Little Prairie Solar Project Site Plan	2/27/24, A
Aerial Imagery	Bing Map	N/A
ASHRAE Data	http://ashrae-meteo.info/index.php	ASHRAE 2021
Wind Load Source	https://asce7hazardtool.online/	(ASCE 7-21)
Snow Load Source	https://asce7hazardtool.online/	(ASCE 7-21)
Seismic Load Source	https://asce7hazardtool.online/	(ASCE 7-21)

*Files are based on State Plane Coordinate System NAD83

Little Prairie Solar LLC

Sidney, Champaign County, Illinois

Owner/Developer	BayWa r.e.
Latitude:	40.012334
Longitude:	-88.028735
Min Elevation:	658
Max Elevation:	698
Total Fenced Acres:	6.8
Total BESS Acres:	4.05
Annual Cooling Design Temp:	91.3° F
Extreme Annual Min DB Mean Temp:	-9.4° F
Wind Load:	100 mph
Snow Load:	27 psf
Seismic	
Ss:	0.28
S1:	0.11

BESS Energy Data

Inverter Type	**Power Electronics***
Quantity in Inverters	**58***
Bettery Supplier	**BYD***
Quantity of BESS Units	**174***
Design Duration (hr)	**4***
MWh	**540***
MWac	**135***

*Project Vendor and Quantities are subject to change based on market conditions prior to the submission of the building permit.

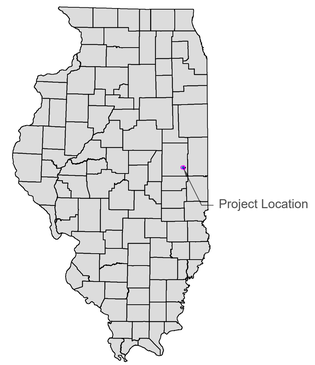
Notes:

This is a Preliminary BESS Site Improvement Plan and subject to revisions. Preliminary BESS Site Improvement Plan was placed using AutoCAD files provided by BayWa r.e. Aerial map is shown for reference only.

All on-site utility lines shall be placed underground to the extent feasible and as permitted by the serving utility, with the exception of the main service connection at the utility company right-of-way and any new interconnection equipment, including without limitation any poles, with new easements and right-of-way.

Areas within 10 feet on each side of the BESS shall be cleared of combustible vegetation and other combustible growth.

BESS equipment and structures shall be fully enclosed and secured by a fence with a minimum height of 7 feet.



KEY MAP

SCALE: NTS

NOT FOR CONSTRUCTION

EnerSol Design
WWW.ENERSOLDESIGN.COM

BayWa r.e.

LITTLE PRAIRIE SOLAR LLC
SIDNEY, CHAMPAING COUNTY, ILLINOIS

REV	DATE	DESCRIPTION	DWN	CHK	APV
C	3/25/24	ADDED ACCESS ROAD TO O&M	MP	MP	MP
D	3/27/24	ISSUED FOR REVIEW	MP	MP	MP
E	4/22/24	REVISED BOUNDARY AND BESS CAPACITY	MP	MP	MP
F	4/24/24	ADDED CAPACITY	MP	MP	MP
G	7/15/24	ADDED BASIN LOCATION	MP	MP	MP
H	7/31/24	REVISED ACCESS ROAD AND BESS SPACING	MP	MP	MP
I	1/24/25	REVISED DITCH SETBACK NOTE	MP	MP	MP

TITLE:

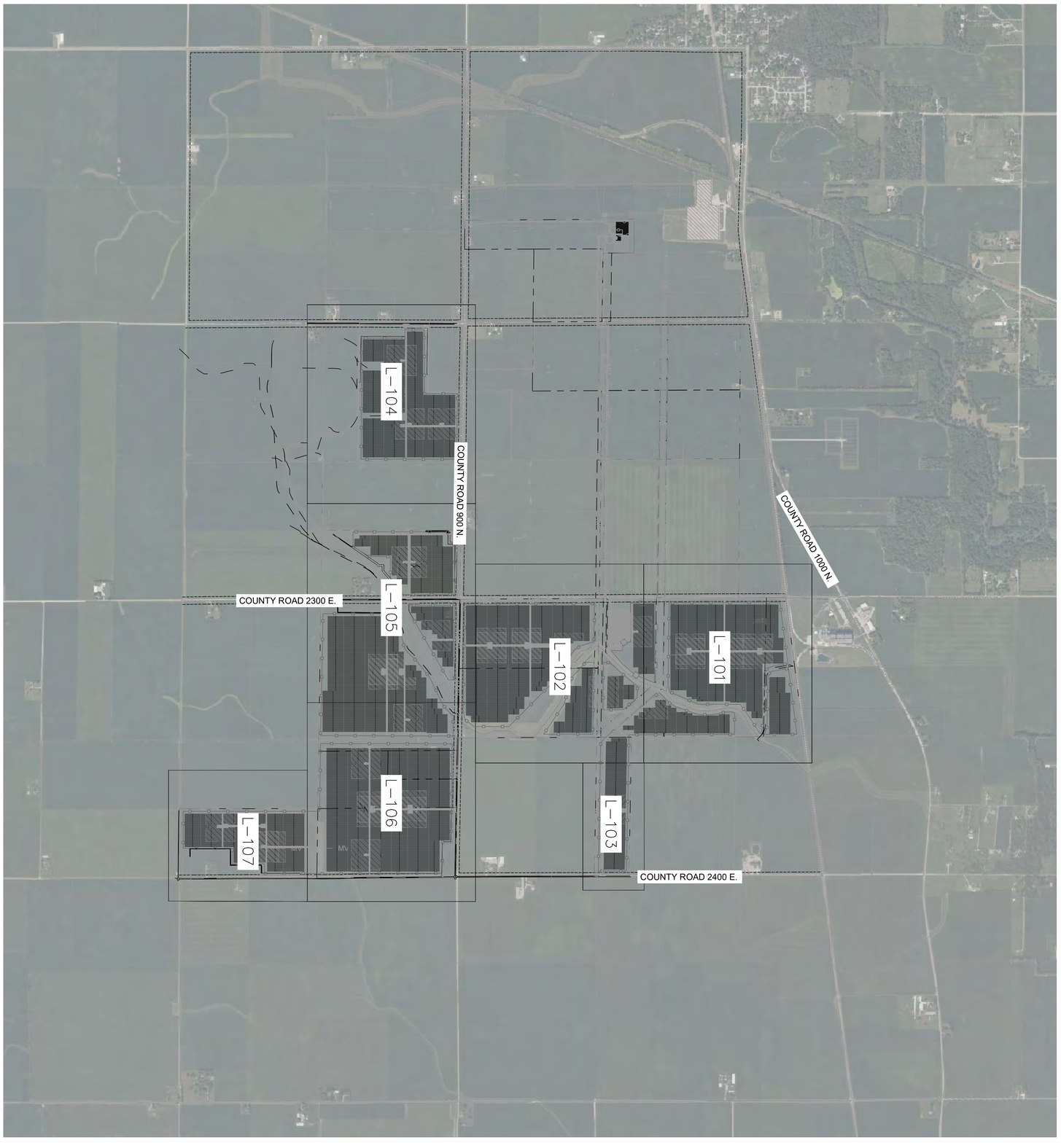
BESS SITE IMPROVEMENT PLAN

PROJECT NO.:	ES-2024-01.003
DRAWN BY:	MP
REVIEWED BY:	MP
SCALE:	AS NOTED

BSDP-100

SHEET 1 OF 1

C:\Users\Mike Perez\DOCS\ACCDocs\EnerSol Design\Little Prairie Solar LLC\Project Files\04_WIP\01_Active Drawings\Site Plans\Prairie bSDP-100.dwg January 24, 2025



NORTH

0 500 1000 2000
GRAPHIC SCALE IN FEET

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L-100
SHEET NUMBER

LITTLE PRAIRIE SOLAR, LLC

CHAMPAIGN COUNTY, IL

OVERALL LANDSCAPE PLAN

KHA PROJECT	268634000
DATE	05/13/2024
SCALE	AS SHOWN
DESIGNED BY	JCC
DRAWN BY	ANG
CHECKED BY	JCC

Kimley»Horn

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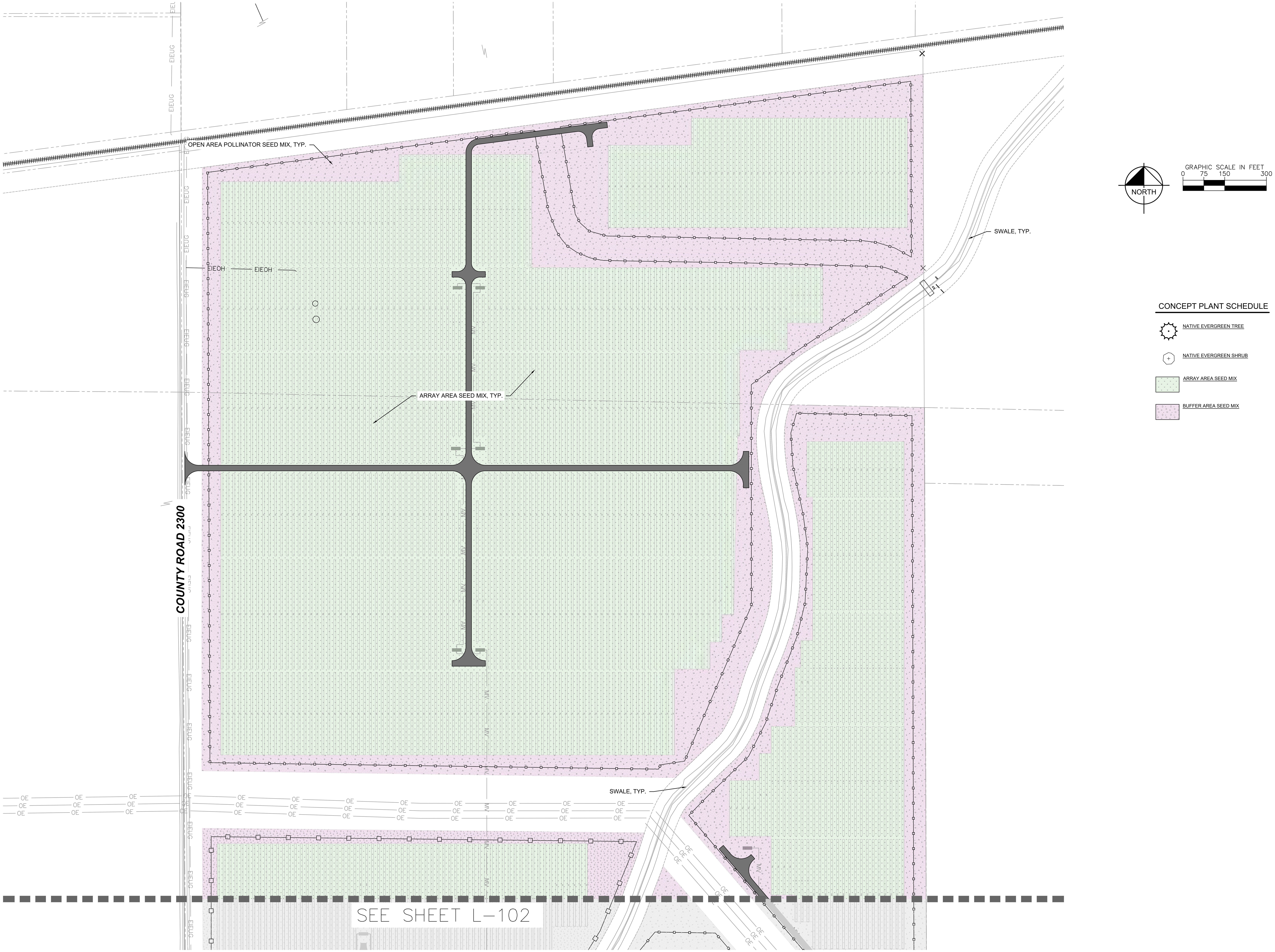

SEE SHEET L-102

CONCEPT PLANT SCHEDULE

- NATIVE EVERGREEN TREE
- NATIVE EVERGREEN SHRUB
- ARRAY AREA SEED MIX
- BUFFER AREA SEED MIX

No.	REVISIONS	DATE

BayWa r.e.

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KHA PROJECT 268634000
DATE 05/13/2024
SCALE AS SHOWN
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PRELIMINARY LANDSCAPE PLAN

LITTLE PRAIRIE SOLAR, LLC

CHAMPAIGN COUNTY, IL

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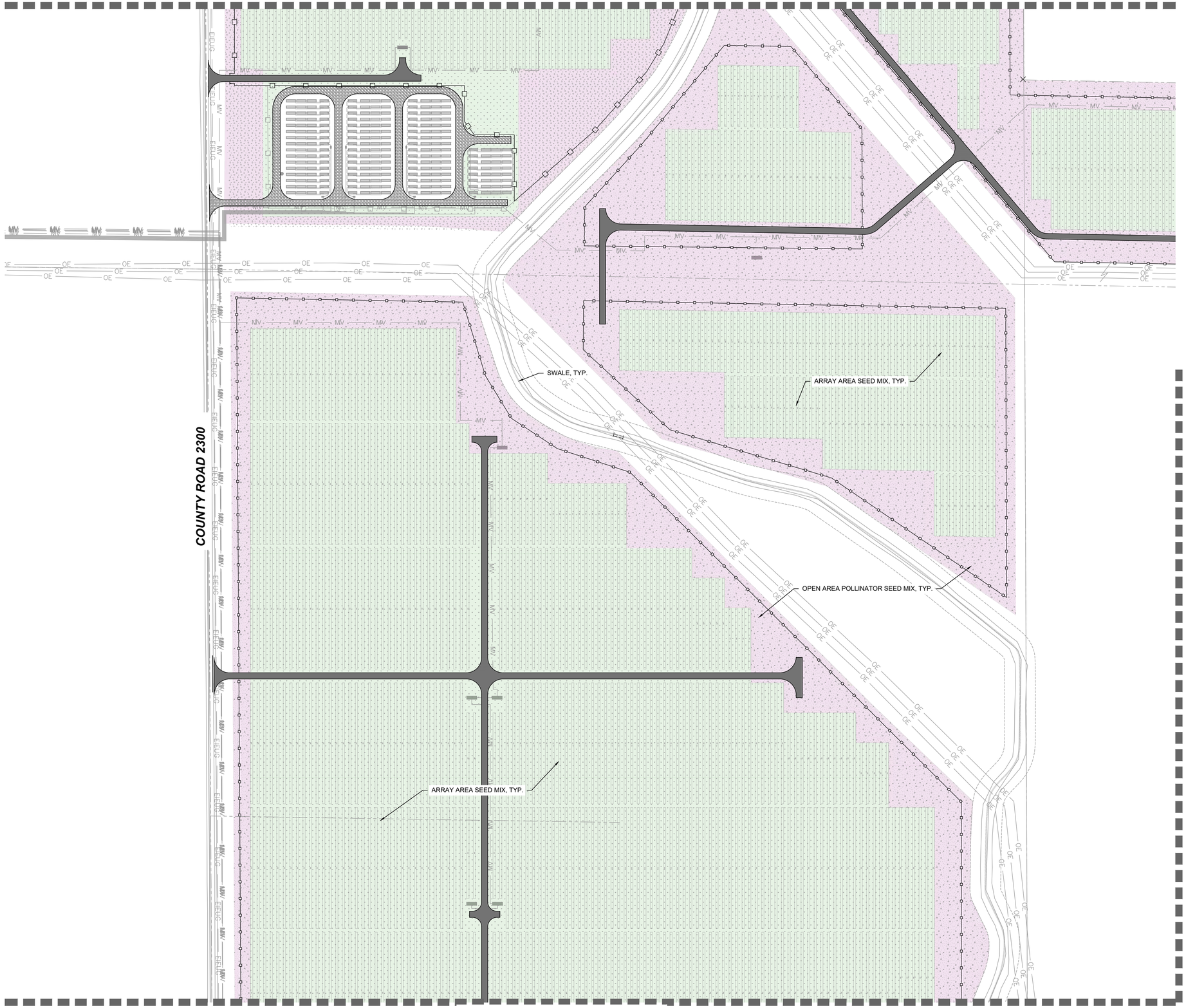
SHEET NUMBER
L-101

SEE SHEET L-101



SEE SHEET L-104

NORTH

GRAPHIC SCALE IN FEET
0 75 150 300

CONCEPT PLANT SCHEDULE

- NATIVE EVERGREEN TREE
- NATIVE EVERGREEN SHRUB
- ARRAY AREA SEED MIX
- BUFFER AREA SEED MIX

No.	REVISIONS	DATE

BayWa r.e.

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PRELIMINARY LANDSCAPE PLAN

LITTLE PRAIRIE SOLAR, LLC

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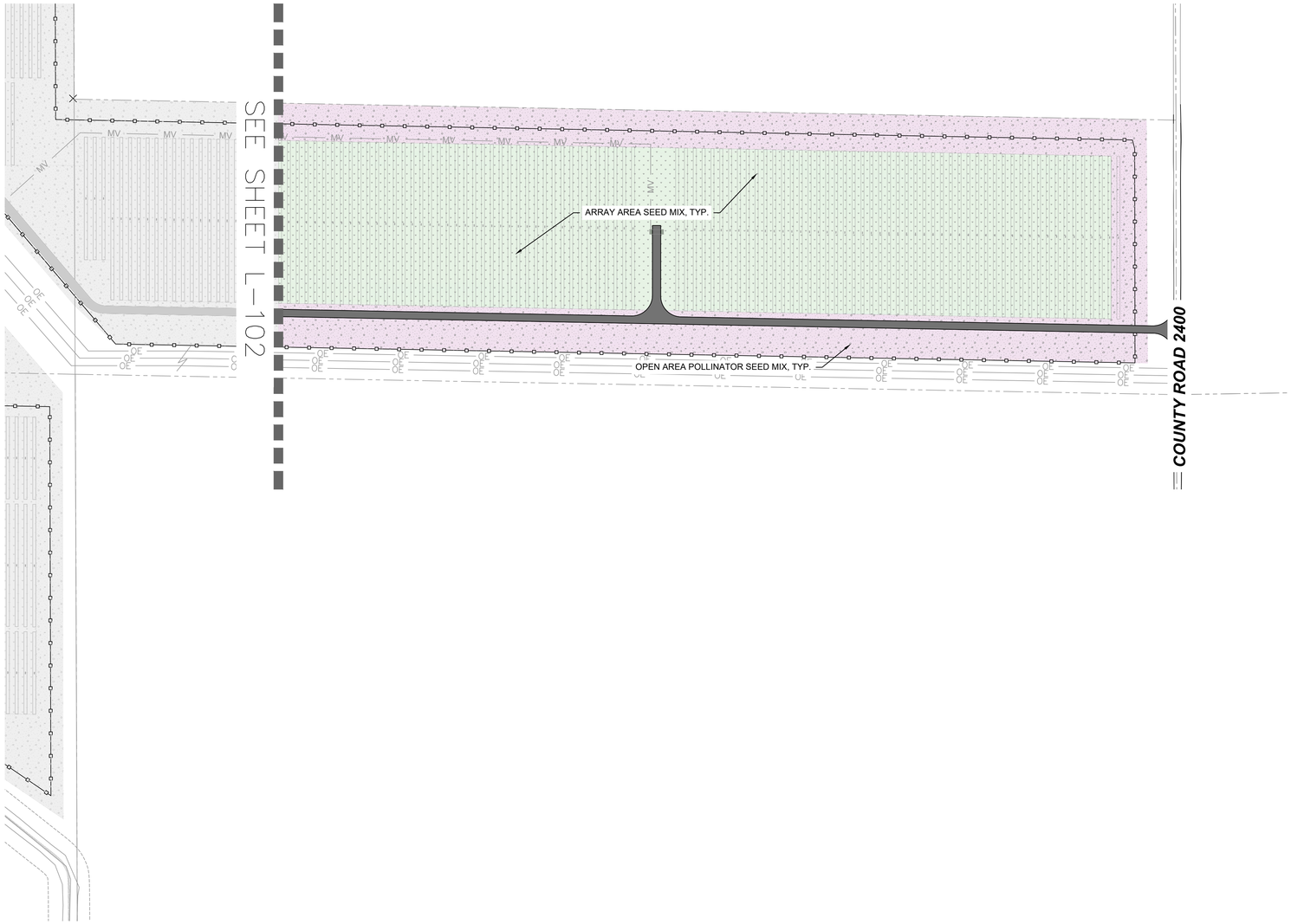

NORTH

GRAPHIC SCALE IN FEET
0 75 150 300

CONCEPT PLANT SCHEDULE

- NATIVE EVERGREEN TREE
- NATIVE EVERGREEN SHRUB
- ARRAY AREA SEED MIX
- BUFFER AREA SEED MIX

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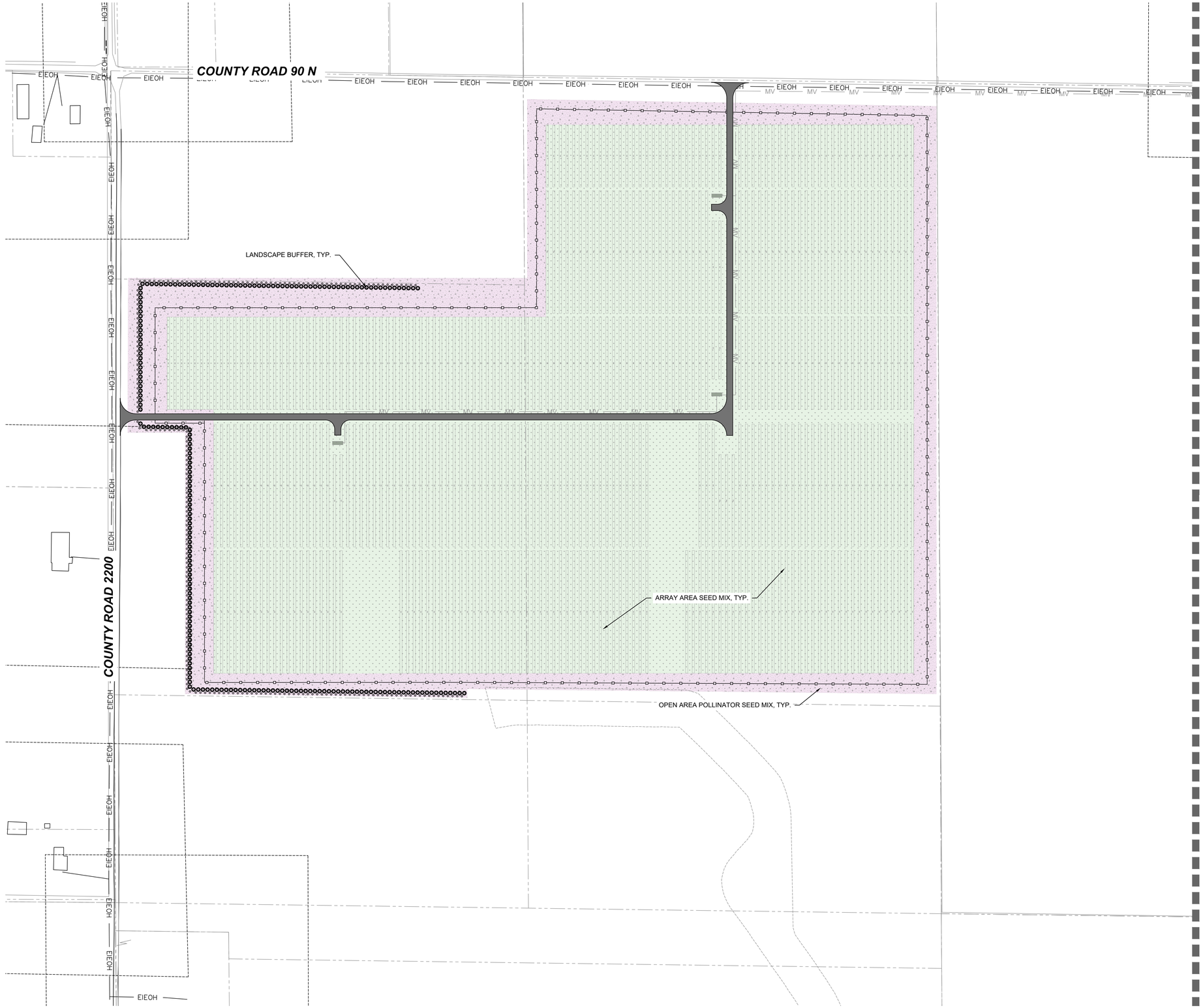

NORTH

GRAPHIC SCALE IN FEET
0 75 150 300

CONCEPT PLANT SCHEDULE

- NATIVE EVERGREEN TREE
- NATIVE EVERGREEN SHRUB
- ARRAY AREA SEED MIX
- BUFFER AREA SEED MIX

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PRELIMINARY LANDSCAPE PLAN

LITTLE PRAIRIE SOLAR, LLC

CHAMPAIGN COUNTY, IL

SHEET NUMBER
L-104

SEE SHEET L-102

LANDSCAPE BUFFER, TYP.
LANDSCAPE BUFFERS IN THIS AREA TO UTILIZE ARBORVITAE AND WILL NOT INCLUDE EASTERN RED CEDAR

COUNTY ROAD 90 N

OPEN AREA POLLINATOR SEED MIX, TYP.

LITTLE PRAIRIE LANDSCAPE BUFFER TO MEET THE LIMITS OF PRAIRIE SOLAR 1 LANDSCAPE BUFFER

COUNTY ROAD 2300

OPEN AREA POLLINATOR SEED MIX, TYP.

ARRAY AREA SEED MIX, TYP.

LANDSCAPE BUFFER, TYP.

LANDSCAPE BUFFER, TYP.

SEE SHEET L-106

NORTH

GRAPHIC SCALE IN FEET
0 75 150 300

CONCEPT PLANT SCHEDULE

- NATIVE EVERGREEN TREE
- NATIVE EVERGREEN SHRUB
- ARRAY AREA SEED MIX
- BUFFER AREA SEED MIX
- REDCEDAR EXCLUSION ZONE

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PRELIMINARY LANDSCAPE PLAN

LITTLE PRAIRIE SOLAR, LLC
CHAMPAIGN COUNTY, IL

SHEET NUMBER
L-105

SWALE, TYP.

COUNTY ROAD 90 N

LANDSCAPE BUFFER, TYP.

COUNTY ROAD 2400

ARRAY AREA SEED MIX, TYP.

OPEN AREA POLLINATOR SEED MIX, TYP.

SEE SHEET L-105

SEE SHEET L-107

NORTH

GRAPHIC SCALE IN FEET
0 75 150 300

CONCEPT PLANT SCHEDULE

- NATIVE EVERGREEN TREE
- NATIVE EVERGREEN SHRUB
- ARRAY AREA SEED MIX
- BUFFER AREA SEED MIX

No.	REVISIONS	DATE

BayWa r.e.

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LITTLE PRAIRIE SOLAR, LLC

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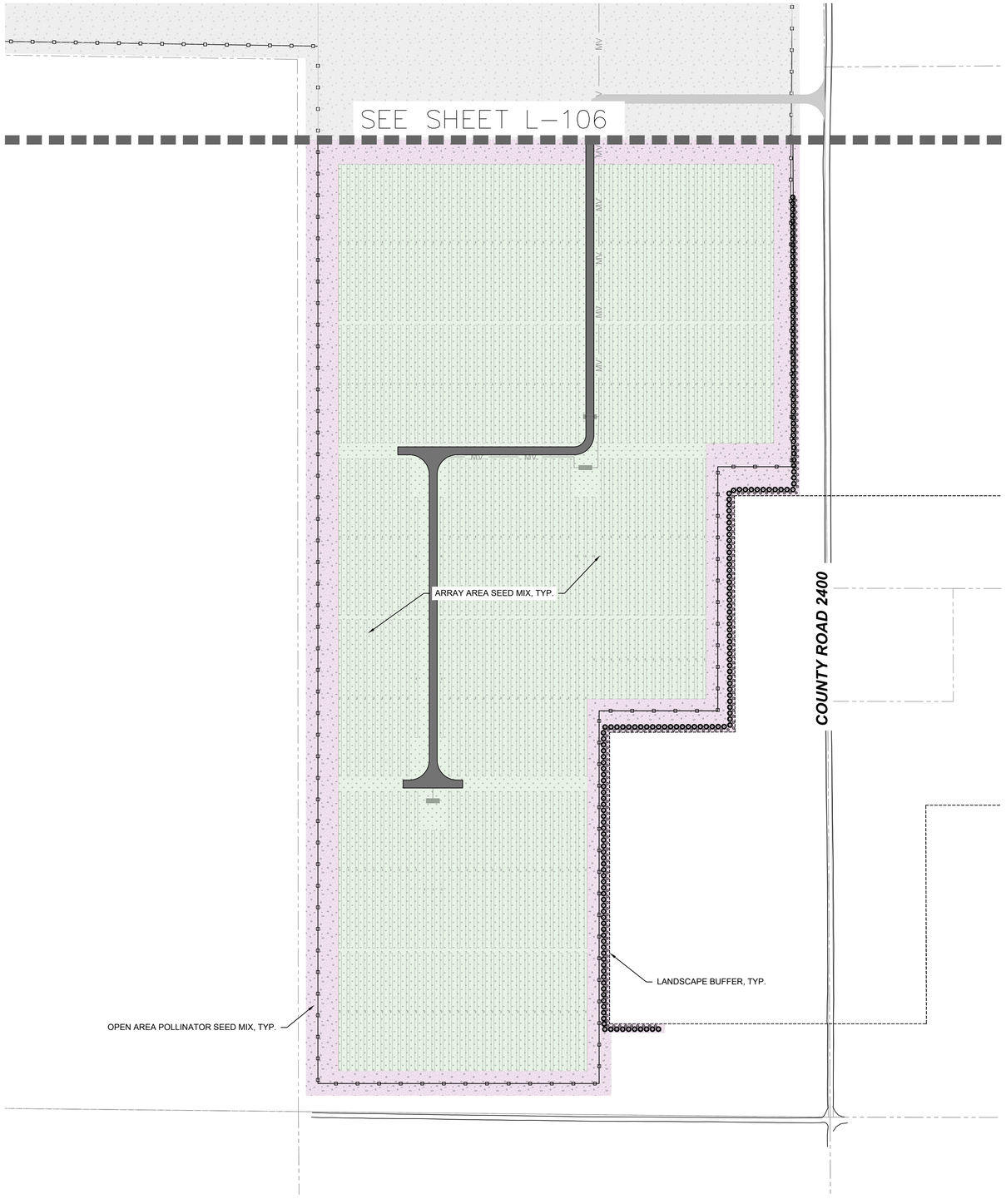

NORTH

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CONCEPT PLANT SCHEDULE

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- NATIVE EVERGREEN SHRUB
- ARRAY AREA SEED MIX
- BUFFER AREA SEED MIX

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PRELIMINARY LANDSCAPE PLAN

LITTLE PRAIRIE SOLAR, LLC

CHAMPAIGN COUNTY, IL

SHEET NUMBER
L-107

BUFFER AREA SEED MIX

Species	Scientific Name	PLS lbs per acre	Seeds per sq ft	% of Mixture	Bloom Period	Pollinator Value
Big Bluestem	*Andropogon gerardii*	0.500	1.66	3.55%	--	--
Canada Blue Jointgrass	*Calamagrostis canadensis*	0.020	1.76	3.78%	--	--
Canada Wildrye	*Elymus canadensis*	0.700	1.83	3.93%	--	--
Little Bluestem	*Schizachyrium scoparium*	0.500	2.76	5.93%	--	--
Path Rush	*Juncus tenuis*	0.010	3.67	7.88%	--	--
Plains Oval Sedge	*Carex brevior*	0.060	0.89	1.92%	--	--
Porcupine Grass, Native Source	*Hesperostipa spartea*	0.100	0.08	0.17%	--	--
Prairie Dropseed	*Sporobolus heterolepis*	0.050	0.29	0.63%	--	--
Prairie Junegrass	*Koeleria macrantha*	0.050	2.66	5.70%	--	--
Rough Dropseed	*Sporobolus clandestinus*	0.200	2.20	4.73%	--	--
Sideoats Grama	*Bouteloua curtipendula*	0.600	2.19	4.70%	--	--
American Germander	*Teucrium canadense*	0.010	0.22	0.48%	2	4
Arkansas Rose	*Rosa arkansana*	0.040	0.04	0.08%	1	4
Aromatic Aster	*Symphyotrichum oblongifolius*	0.005	0.59	1.27%	3	5
Ashy Sunflower	*Helianthus mollis*	0.040	0.19	0.40%	3	5
Baldwin's Ironweed	*Vernonia baldwinii*	0.010	0.16	0.34%	2	5
Blackeyed Susan	*Rudbeckia hirta*	0.040	1.45	3.10%	2	1
Blanketflower - *G. aristata*	*Gaillardia aristata*	0.200	0.86	1.84%	1	4
Blue Vervain	*Verbena hastata*	0.030	1.04	2.22%	2	5
Butterfly Milkweed	*Asclepias tuberosa*	0.020	0.03	0.07%	2	5
Canada Milkvetch	*Astragalus canadensis*	0.060	0.37	0.80%	2	4
Canada Tick-trefoil	*Desmodium canadense*	0.050	0.10	0.22%	2	5
Clasping Coneflower	*Dracopis amplexicaulis*	0.030	1.10	2.36%	1	2
Common Evening Primrose	*Oenothera biennis*	0.025	0.79	1.69%	2	4
Common Milkweed	*Asclepias syriaca*	0.040	0.08	0.16%	2	5
Compass Plant	*Silphium laciniatum*	0.030	0.01	0.02%	2	5
Culver's Root	*Veronicastrum virginicum*	0.002	0.55	1.18%	3	4
Cup Plant	*Silphium perfoliatum*	0.025	0.04	0.08%	2	5
Dotted Mint	*Monarda punctata*	0.008	0.27	0.58%	2	4
Entire-leaved Rosinweed, Native Source	*Silphium integrifolium*	0.020	0.02	0.03%	2	5
False or Oxeye Sunflower	*Heliopsis helianthoides*	0.100	0.24	0.51%	2	5
Foxglove Beardstongue	*Penstemon digitalis*	0.015	0.14	0.30%	1	5
Golden Alexander	*Zizia aurea*	0.060	0.24	0.52%	1	5
Gray Goldenrod	*Solidago nemoralis*	0.007	0.16	0.35%	3	4
Grayhead Coneflower	*Ratibida pinnata*	0.040	0.39	0.84%	2	4
Great Plains Goldenrod, Native Source	*Euthamia gymnospermoides*	0.002	0.37	0.79%	3	4
Heal All	*Prunella vulgaris*	0.030	0.45	0.96%	1	4
Heath Aster	*Symphyotrichum ericoides*	0.004	0.46	0.99%	3	5
Hoary Vervain	*Verbena stricta*	0.035	0.47	1.01%	2	5
Illinois Bundleflower	*Desmanthus illinoensis*	0.200	0.39	0.84%	2	5
Ironweed	*Vernonia fasciculata*	0.025	0.22	0.47%	2	5
Lanceleaf Coreopsis	*Coreopsis lanceolata*	0.200	1.01	2.18%	2	4
Late or Giant Goldenrod, Native Source	*Solidago gigantea*	0.006	1.04	2.24%	3	5
Maximillian Sunflower	*Helianthus maximiliani*	0.050	0.23	0.48%	3	5
Missouri Goldenrod, Native Source	*Solidago missouriensis*	0.006	0.87	1.86%	2	5
New England Aster	*Symphyotrichum novae-angliae*	0.015	0.36	0.78%	3	5
Oats	*Avena sativa*	6.000	2.67	5.73%	--	--
Ohio Spiderwort	*Tradescantia ohiensis*	0.015	0.04	0.09%	1	4
Pale Purple Coneflower	*Echinacea pallida*	0.090	0.22	0.47%	2	5
Plains Coreopsis	*Coreopsis tinctoria*	0.015	1.11	2.38%	2	2
Plains Sunflower	*Helianthus petiolaris*	0.030	0.08	0.17%	3	5
Prairie Aster	*Aster ptarmicoides*	0.050	0.47	1.01%	3	5
Purple Prairieclover	*Dalea purpurea*	0.080	0.58	1.25%	2	5
Rattlesnake Master	*Eryngium yuccifolium*	0.020	0.08	0.18%	3	4
Rough Gayfeather	*Liatris aspera*	0.015	0.09	0.20%	3	5
Roundhead Lespedeza	*Lespedeza capitata*	0.030	0.12	0.26%	3	4
Sawtooth Sunflower	*Helianthus grosseserratus*	0.010	0.14	0.31%	3	5
Shell-leaf Penstemon	*Penstemon grandiflorus*	0.020	0.10	0.21%	1	5
Showy Partridgepea	*Chamaecrista fasciculata*	0.300	0.45	0.96%	2	5
Showy-wand Goldenrod	*Solidago speciosa*	0.005	0.49	1.05%	3	5
Smooth Blue Aster	*Symphyotrichum laeve*	0.020	0.47	1.00%	3	5
Stiff Goldenrod	*Solidago rigida*	0.020	0.31	0.66%	3	5
Stiff Sunflower	*Helianthus pauciflorus*	0.025	0.42	0.91%	2	4
Swamp Milkweed	*Asclepias incarnata*	0.015	0.05	0.11%	2	5
Tall Boneset	*Eupatorium altissimum*	0.010	0.18	0.39%	3	4
Tall Coreopsis	*Coreopsis tripteris*	0.015	0.57	1.22%	2	3
Thickspike Gayfeather	*Liatris pycnostachya*	0.015	0.04	0.09%	3	5
Tube Penstemon, Native Source	*Penstemon tubaeflorus*	0.010	0.29	0.63%	2	5
Virginia Mountain Mint	*Pycnanthemum virginianum*	0.006	0.22	0.47%	2	4
Western Yarrow	*Achillea millefolium*	0.020	1.31	2.81%	1	2
White Prairieclover	*Dalea pandidum*	0.055	0.38	0.82%	2	5
Wild Bergamot	*Monarda fistulosa*	0.025	0.73	1.57%	2	5
Wild Four-O'clock	*Mirabilis nyctaginea*	0.015	0.02	0.04%	1	3
Willow-leaf Sunflower, Native Source	*Helianthus salicifolius*	0.015	0.02	0.05%	3	5
Rice Hulls - Filler for low planting rate mixtures		3.000	0.00	0.00%	--	--
	Grasses Total:	2.790	20.005	42.91%		
	Wildflower/Forb/Legume Total:	8.426	26.615	57.09%		
	Filler Total:	3.000	0.000	0.00%		
	Total Mixture:	**14.216**	**46.620**	**100.00%**		

SEED MIX PROVIDED BY THE BEE & BUTTERFLY HABITAT FUND; MIX IS FOR REFERENCE ONLY AND SHOULD BE CONFIRMED BY THE OWNER / OWNER'S REPRESENTATIVE BEFORE FINAL PROCUREMENT. INDIVIDUAL SPECIES ARE SUBJECT TO CHANGE BASED ON SITE DESIGN AND SEASONAL AVAILABILITY. ALL SUBSTITUTIONS SHOULD BE APPROVED BY THE OWNER / OWNER'S REPRESENTATIVE OR THE BEE & BUTTERFLY HABITAT FUND.

ARRAY AREA SEED MIX

Species	Scientific Name	PLS lbs per acre	Seeds per sq ft	% of Mixture	Bloom Period	Pollinator Value
Autumn Bentgrass	*Agrostis perennans*	0.300	55.10	8.98%	--	--
Chewings Fescue	*Festuca rubra*	6.000	55.10	8.98%	--	--
Creeping Red Fescue - Boreal	*Festuca rubra*	6.000	55.10	8.98%	--	--
Hard Fescue	*Festuca ovina*	6.000	68.87	11.23%	--	--
Kentucky Bluegrass	*Poa pratensis*	3.000	95.72	15.61%	--	--
Path Rush	*Juncus tenuis*	0.300	110.19	17.96%	--	--
Sheep Fescue	*Festuca ovinia sp.*	6.000	68.87	11.23%	--	--
Heal All	*Prunella vulgaris*	0.300	4.48	0.73%	1	4
Ladino or White Clover	*Trifolium repens*	2.000	32.68	5.33%	2	5
Western Yarrow, native source	*Achillea millefolium occidentalis*	0.100	6.55	1.07%	1	3
White Dutch Clover	*Trifolium repens*	3.000	60.03	9.79%	2	5
Woolly Plantain, Native Source	*Plantago patagonica*	0.050	0.70	0.11%	1	2
	Grasses Total:	27.600	508.942	82.97%		
	Wildflower/Forb/Legume Total:	5.450	104.440	17.03%		
	Filler Total:	0.000	0.000	0.00%		
	Total Mixture:	**33.050**	**613.382**	**100.00%**		

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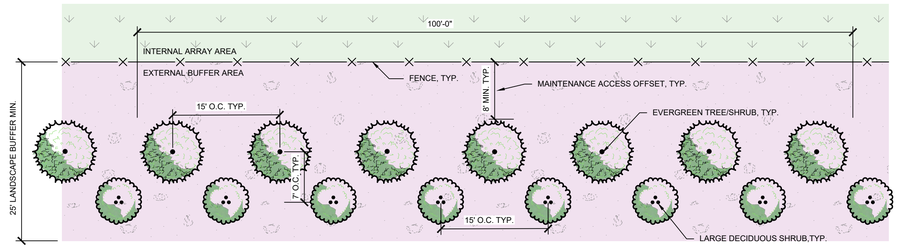
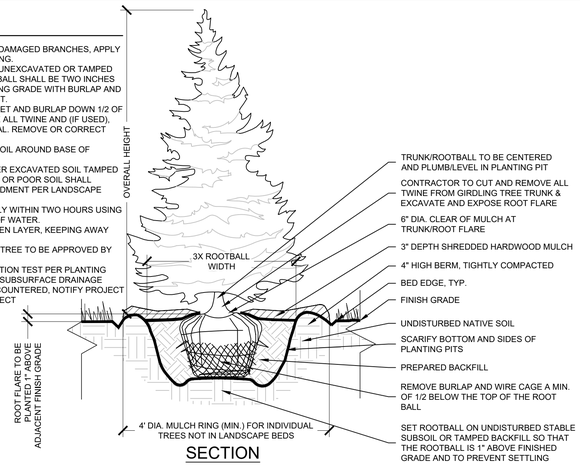
VEGETATIVE BUFFER



PLANTING DETAILS

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 1/2 OF ROOTBALL. 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.
9. PERFORM PERCOLATION TEST PER PLANTING SPECIFICATIONS. IF SUBSURFACE DRAINAGE PROBLEMS ARE ENCOUNTERED, NOTIFY PROJECT LANDSCAPE ARCHITECT



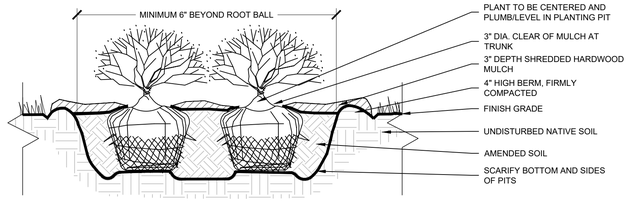
SECTION

1 EVERGREEN TREE PLANTING

N.T.S.

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.



SECTION

2 SHRUB PLANTING

N.T.S.

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No.	REVISIONS	DATE

BayWa r.e.

Kimley»Horn
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KHA PROJECT 26863400
DATE 05/13/2024
SCALE AS SHOWN
DESIGNED BY JCC
DRAWN BY ANG
CHECKED BY JCC

LANDSCAPE NOTES DETAILS

LITTLE PRAIRIE SOLAR, LLC
CHAMPAIGN COUNTY, IL

SHEET NUMBER
L-200

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 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. 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 ARE RECOMMENDED TO BE MECHANICALLY DRILLED. BROADCAST APPLICATION MAY BE PERFORMED DEPENDENT ON SEASON AND SITE CONDITIONS AT TIME OF APPLICATION, AND FOLLOWING CLIENT APPROVAL.
-IF SEED IS APPLIED BY MECHANICAL DRILL, 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.

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No.	REVISIONS	DATE

BayWa r.e.

Kimley»Horn

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KHA PROJECT 26863400
DATE 05/13/2024
SCALE AS SHOWN
DESIGNED BY JCC
DRAWN BY ANG
CHECKED BY JCC

MAINTENANCE AND MONITORING PLAN

LITTLE PRAIRIE SOLAR, LLC
CHAMPAIGN COUNTY, IL

SHEET NUMBER
L-201

BYD MC Cube ESS

Little Prairie Project
HAZARD MITIGATION ANALYSIS

February 25, 2025 | Rev. 0

SUMMARY

This document serves as a site-specific Hazard Mitigation Analysis (HMA) performed for the Little Prairie BESS Project to be located in Champaign County, Illinois.

Prepared For:

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PROJECT DESCRIPTION

Project Name	Little Prairie BESS Project HMA
Project No.	24-20412
Prepared For	**Baywa-r.e.** 1999 Bryan St., Suite 900 Dallas, TX 75201
Revision No.	Rev. 0
Date of Issue	02/25/2025

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Revision History

Revision No.	Date of Issue	Substance of Change	Prepared By	Reviewed By
Rev. 0	02/25/2025	Draft issue	E. Wood	N. Petrakis

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1 INTRODUCTION

1.1 Background

Energy Safety Response Group (ESRG) has been retained by Baywa-r.e. Storage Holdings to provide permitting support services to advance the development of the Little Prairie Battery Energy Storage System (ESS or BESS) project to be located in Champaign County, Illinois. This report summarizes findings from a site-specific Hazard Mitigation Analysis (HMA) performed in accordance with *2018 International Fire Code (IFC) §1206.2.3 Hazard Mitigation Analysis and NFPA 855, Standard for the Installation of Stationary Energy Storage Systems (2023 Edition)*. This HMA can be utilized to assess the anticipated overall effectiveness of protective barriers in place to mitigate the consequences of a battery-related failure. The analysis was performed based on the current documentation available at the time of the report.

1.2 Applicable Codes and Standards

This hazard mitigation analysis is conducted in accordance with *2018 IFC §1206.2.3 Hazard Mitigation Analysis and* evaluates the consequences of the following failure modes noted in *§1206.2.3.1*[1]:

1. *A thermal runaway condition in a single ESS rack, module, or unit.*
2. *Failure of any battery (energy) management system.*
3. *Failure of any required ventilation or exhaust system.*
4. *Voltage surges on the primary electric supply.*
5. *Short circuits on the load side of the ESS.*
6. *Failure of the smoke detection, fire detection, fire suppression, or gas detection system.*
7. *Failure of temperature control.*

For the purposes of this report, only single failures modes shall be considered for each mode given above.

Per *IFC §1206.2.3.2,* the AHJ shall be permitted to approve the hazard mitigation analysis as documentation of the safety of the ESS installation if the consequences of the analysis demonstrate the following:

(1) Fires or explosions will be contained within unoccupied battery storage rooms for the minimum duration of the fire-resistance-rated walls identified in Table 509.1 of the International Building Code

(2) Fires and Explosions in battery cabinets in occupied work centers will be detected in time to allow occupants within the room to evacuate safely.

[1] Fault condition per *§1206.2.3.1, "7. Spill neutralization not being provided or failure of the secondary containment system"* is not assessed, as lithium-ion batteries do not contain spillable electrolyte and is therefore not applicable.

(3) *Toxic and highly toxic gases released during fires and other fault conditions shall not reach concentrations in excess of Immediately Dangerous to Life or Health (IDLH) levels in the building or adjacent means of egress routes during the time deemed necessary to evacuate from that area.*

(4) *Flammable gases released from batteries during charging, discharging and normal operation shall not exceed 10 percent of their lower flammability limit (LFL).*

(5) *Flammable gases released from batteries during fire, overcharging and other abnormal conditions shall not create an explosion hazard that will injure occupants or emergency responders.*

The following key codes, standards, and local requirements are referenced throughout the report:

- *International Fire Code §1206 Electrical Energy Storage Systems*, 2018 Edition
- *NFPA 855 Standard for the Installation of Stationary Energy Storage Systems*, 2023 Edition
- *UL 9540A Standard for Test Method for Evaluation Thermal Runaway Fire Propagation in Battery Energy Storage Systems,* 4th Edition
- *UL 9540 Standard for Energy Storage Systems and Equipment,* 2nd Edition

1.3 Summary of Findings

Based on review of documentation provided by Baywa-r.e. at the time of this writing, ESRG finds that adequate protections are provided for the fault conditions listed per *IFC §1206.2.3.1,* as well as for analysis approval requirements per *§1206.2.3.2.* Additional key findings include:

- The BYD MC Cube ESS is equipped with several protection systems (e.g., NFPA 69 explosion prevention system, BMS control, independent HVAC units for thermal management, electrical shutdowns and disconnects, an optional hot aerosol suppression system, etc.) that are anticipated to effectively manage fault conditions required per *NFPA 855 §4.4.2*.
- The BYD MC Cube ESS is compliant with all applicable analysis approval requirements per *IFC §1206.2.3.2*.
- The proposed BYD MC Cube ESS has been listed to UL 9540, *Standard for Energy Storage Systems and Equipment* (2nd Edition).
- UL 9540A fire testing was conducted on a representative BYD MC Cube ESS and confirmed that thermal runaway propagation was isolated to the initiating module with cell-to-cell propagation observed.
- The BYD MC Cube ESS is equipped with explosion mitigation in the form of an explosion prevention system designed in accordance with *NFPA 69*. A computational fluid dynamics (CFD) analysis was performed by Hazard Dynamics to demonstrate the effectiveness of the explosion prevention system.

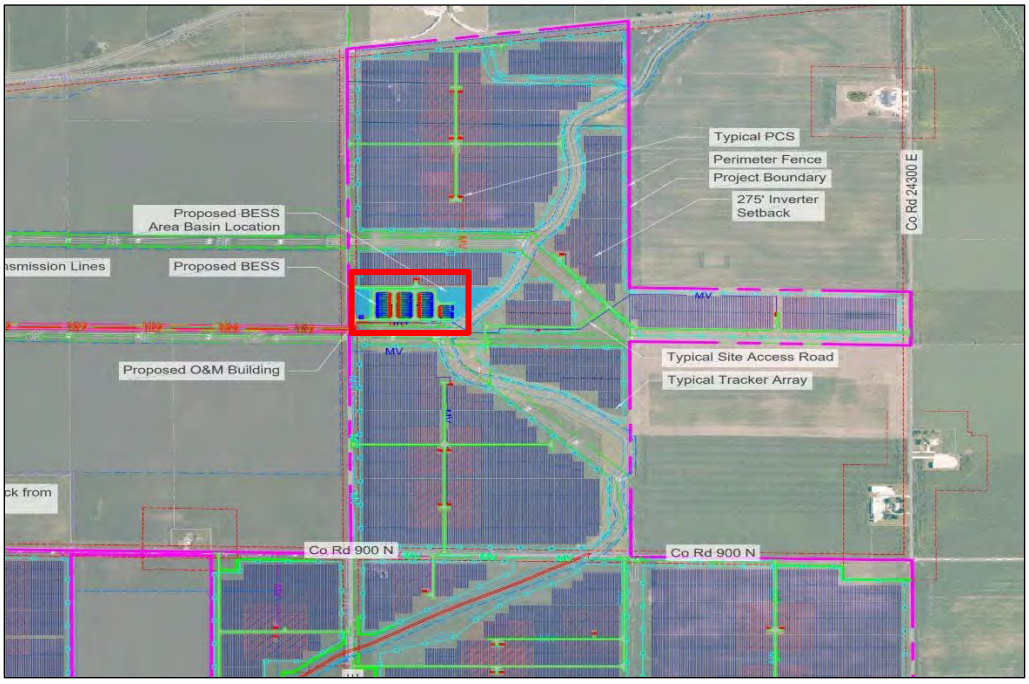
- The facility poses minimal risk to public or life safety and property by way of being on a secured site away from public spaces or roadways with no public access to the site.
- Additional site-specific protections including the availability of BMS data from a remote monitoring facility and a site-specific Emergency Response Plan (ERP) may offer additional layers of safety.

2 SITE DESCRIPTION

2.1 Site Overview

The proposed Little Prairie BESS facility will be located at CR 2300 E, Champaign County, IL 61849 (Figure 2-1). Zoning classification for this site is rural. The project will consist of 174 BYD MC Cube Energy Storage Systems (ESS), for a total system capacity of approximately 135 MW/540 MWh (Figure 2-2).

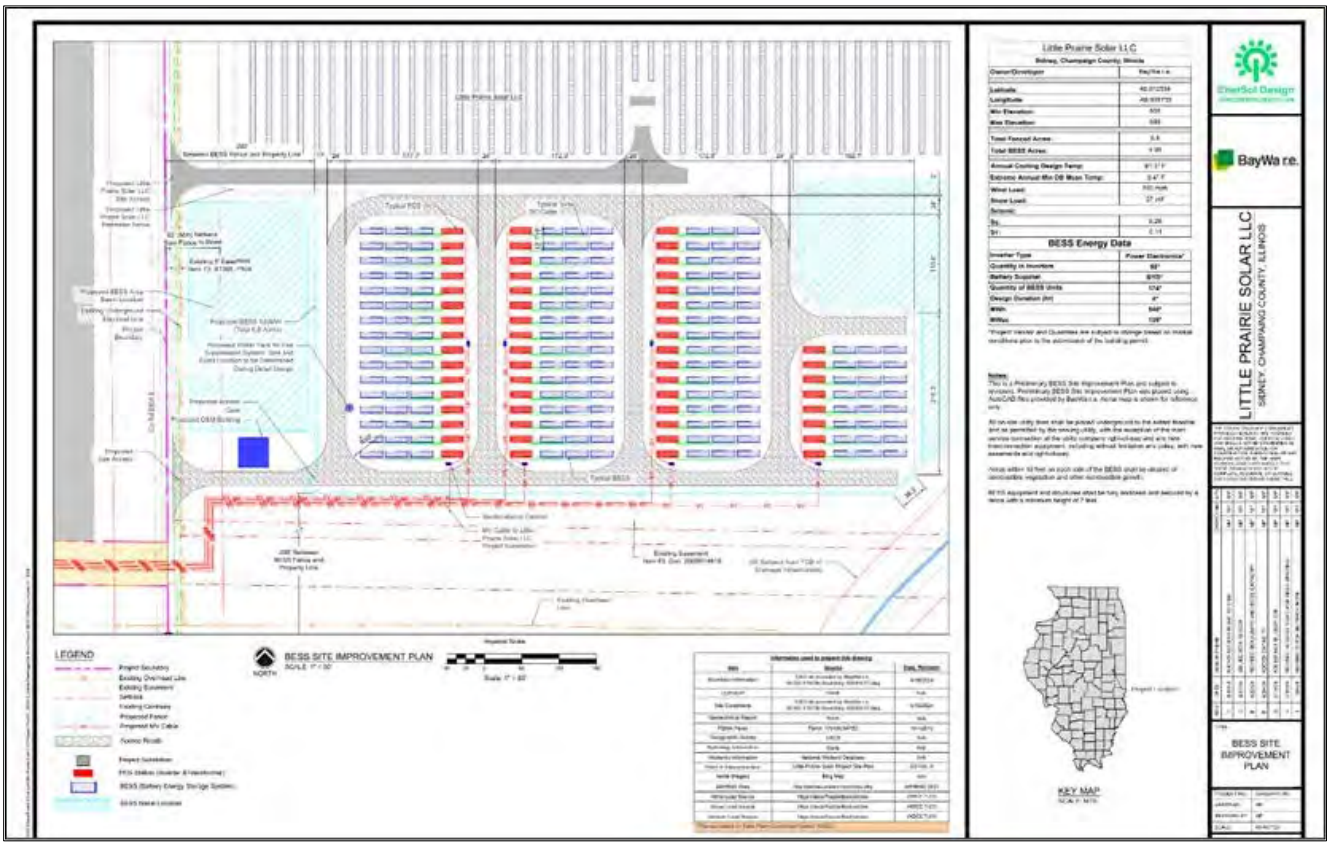
Figure 0–1 – Site Location



Fire department access to the proposed Little Prairie site is provided via Co. Rd. 2300 E, as a fire apparatus accessible entrance. Access to the secured facility is provided by one, 20-foot-wide, double-swing gate. The gate has a setback of approximately 200 feet from Co. Rd. 2300 E.

The site will be bound along all exposures by various elements to screen the view of proposed equipment and prevent unauthorized access.

Figure 0–2 – Site Layout and Access



2.2 Nearby Exposures

The BYD MC Cube ESS units will be sited outdoors at grade level and the separation distances between enclosures within the secured facility meet or exceed the manufacturer's recommended separation distances. The nearest structural exposure(s) will be the solar arrays. The closest lot line is approximately 2405 ft from the nearest BESS enclosure. There are no observable stored combustible materials, hazardous materials, or high-piled stock exposures.

2.3 Fire Department Response and Water Supply

The proposed Little Prairie BESS facility is within the response area of the Sidney Fire Protection District. The Sidney Fire Protection District provides fire protection to the Sidney Township area with a single organizational management team through a cooperative fire services agreement with other area fire departments (MABAS). The closest fire station to the proposed facility is the Sidney Fire Protection District Station (302 S. David St., Sidney, IL 61877), approximately 5 miles away. Responders from the Sidney Fire Protection District are anticipated to arrive on scene expeditiously after receiving an emergency alert from the remote operations center (ROC) communicating with the fire department.

3 ENERGY STORAGE SYSTEM DESCRIPTION

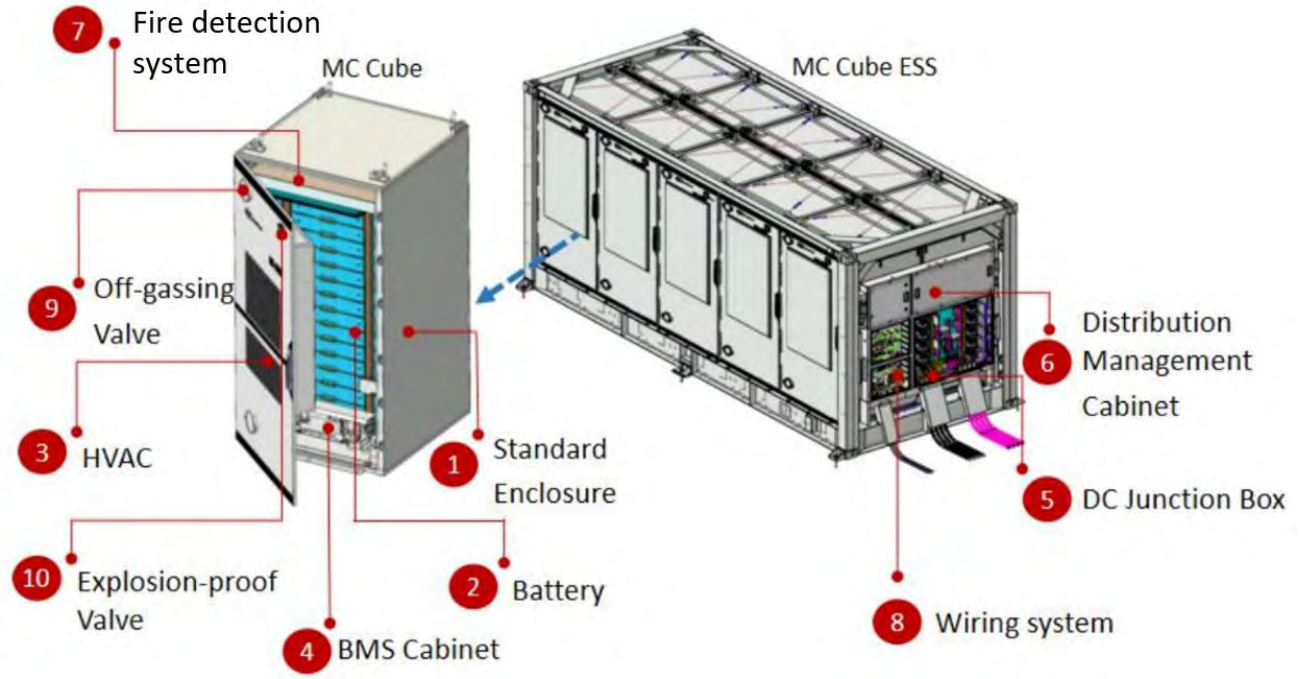
3.1 Energy Storage System Overview

The BYD MC Cube ESS (Model MC10C-B5365-U-R4M01) is a modular, cabinetized (or non-enterable), four-hour stationary storage battery system (Figure 3-1). The MC Cube ESS contains 10 individual MC Cube compartments, each containing 416 lithium iron phosphate (LFP) battery cells wired in series, providing a total energy capacity of 5,365 kWh at beginning of life (BOL).

Figure 0–1 – BYD MC Cube ESS

Each MC Cube ESS incorporates all power electronics, controls, and safety features required to support the DC side of a BESS (Figure 3-2). The enclosure and all components within are factory installed and commissioned, requiring only limited field integration upon delivery. All components are integrated into a standard IP-55 rated container measuring 19.9 ft wide x 8 ft deep x 9.5 ft high. All cabinet bays are only accessible from the exterior and cannot be physically entered at any time. The MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube, to ensure optimal battery functionality. The BMS constantly monitors and controls battery voltages, temperatures, state of charge (SOC), and other key operating parameters. Cell-level and cabinet temperatures are managed through individual MC Cube HVAC systems.

Figure 0–2 – Layout and Features of the MC Cube & MC Cube ESS



The MC Cube ESS has a variety of integrated fire safety features including automatic smoke detection, heat detection, combustible gas detection within each MC Cube compartment, and an optional hot aerosol fire suppression system. Audible (alarm bell) and audible/visual (horn/strobe) notification devices are provided on the exterior of the MC Cube ESS. An explosion prevention system, in compliance with NFPA 69, is provided in each MC Cube compartment for emergency exhaust of flammable gases from within the enclosure in the event of a thermal runaway event. These fire safety features are detailed in Section 3.2.

3.2 Fire Protection Features

The BYD MC Cube and MC Cube ESS are equipped with several fire safety features designed to mitigate the propagation of a battery failure or prevent the failure from occurring altogether (Figure 3-4).

3.2.1 Fire and Gas Detection

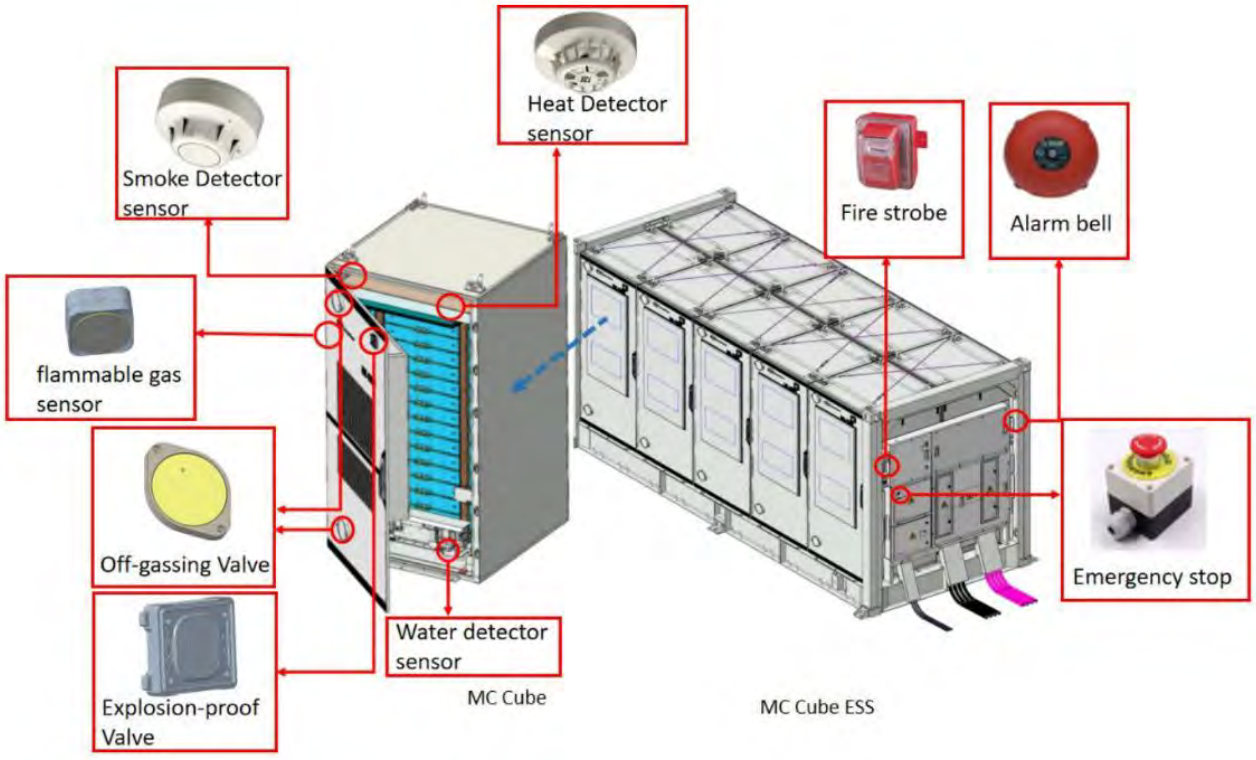
Each individual MC Cube in the ESS is equipped with one (1) smoke detector, one (1) heat detector, and one (1) flammable gas detector. Alarm setpoints for each initiating device are listed in Table 3-1. Signals from these devices are monitored through the battery management system (BMS) and energy management system (EMS). The BMS/EMS is monitored 24 hours per day, seven days per week by a remote operations center (ROC). Audible (alarm bell) and audible/visual (horn/strobe) notification devices are installed on the distribution management side of the container.

Table 0-1 – Initiating Device Alarm Setpoints

Device	Alarm Setpoint
Smoke Detector	2.5 %/ft smoke obscuration
Heat Detector	57.2°C (135°F)
Gas Detector (Li-ion Tamer)	100 ppm

If the gas detector in an MC Cube is triggered, the MC Cube ESS will communicate a Level 1 alarm condition to the site EMS. A Level 1 alarm condition will activate the alarm bell, stop HVAC operation, shut down the system, and activate the explosion prevention system (Section 3.2.2). If the smoke and heat detector in any single MC Cube compartment are triggered, the MC Cube ESS will communicate a Level 2 alarm condition to the site EMS. A Level 2 alarm condition will activate the horn/strobe device, stop HVAC operations, shut down the system, and shut down the explosion prevention system.

Figure 0–3 – Fire Protection Features



3.2.2 Explosion Prevention

Each individual MC Cube is equipped with an active explosion prevention system, designed in accordance with *NFPA 69* to maintain the concentration of flammable gases released during abnormal conditions to below 25% LFL within the enclosure. The explosion prevention system consists of two fans which push outdoor air into the enclosure

and two louvers (off-gassing valves) to allow gas to escape from the compartment. The two fans provide a combined maximum airflow of 815 cubic feet per minute (CFM).

The mechanical fans and exhaust louvers in each MC Cube compartment are activated by the Li-ion Tamer gas detector. The Li-ion Tamer differs from a conventional gas detector and is specifically designed to detect early signs of battery failure through gas detection. The detector has a response time of five seconds and is capable of single-cell fault detection with a minimum detection threshold of less than 1 ppm/sec. The explosion prevention system is set to activate when the Li-ion Tamer detects 100 ppm of flammable gas from a battery failure.

A computational fluid dynamics (CFD) analysis of the explosion prevention system was performed by Hazard Dynamics (Section 5.2). The analysis determined that the system can maintain flammable gas concentrations within the Cube below 25% LFL, provided the fans and louvers are operational within 12 seconds and the fan system can deliver a volumetric flow rate of 540 CFM.

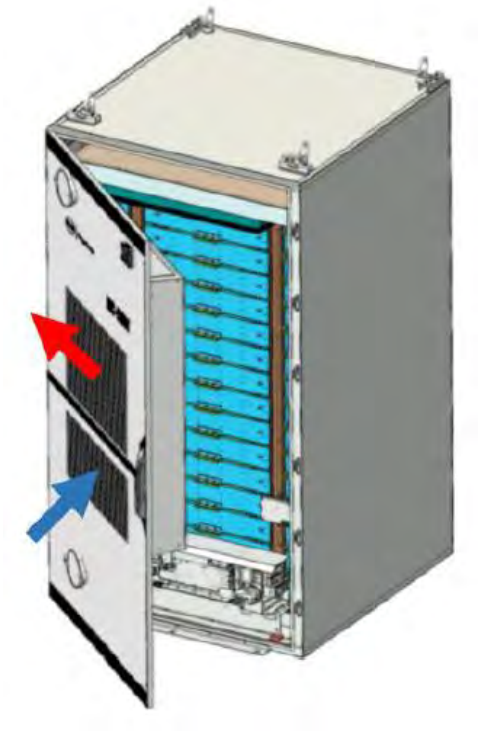
3.2.3 Battery Management System

The MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube. The BMS works in concert with the Battery Information Collector (BIC) to ensure optimal battery functionality, lifespan, and safety. The BMS continuously monitors battery parameters such as voltage, temperature, state of charge (SOC), insulation, and other parameters to ensure early detection of pre-fault conditions and immediate detection of fault events. The BMS also performs maintenance functions such as cell balancing. In the event the BMS detects a fault condition, or if an operational parameter exceeds an acceptable range, the BMS will isolate the impacted battery string by opening integrated DC contactors.

3.2.4 Thermal Management System

One HVAC unit is installed in each MC Cube to adjust the internal temperature of the battery cabinet automatically. The HVAC system efficiently dissipates heat from the battery cells when charging and discharging, maintaining cell temperatures between 20–35°C (68–95°F). The HVAC also provides necessary cell heating during periods of cold weather.

Figure 0–4 – Thermal Management System



3.2.5 Site Controller and Monitoring

The MC Cube ESS is monitored and controlled by a site energy management system (EMS) or local plant controller (LPC) during normal operations. The EMS or LPC will communicate with, and be controlled by, an offsite fleet controller, SCADA operations center, or other third-party dispatch and monitoring entity. The remote operations center will receive alarms from the ESS and personnel can shut down the system remotely, if necessary.

3.2.6 Electrical Fault Protection Devices

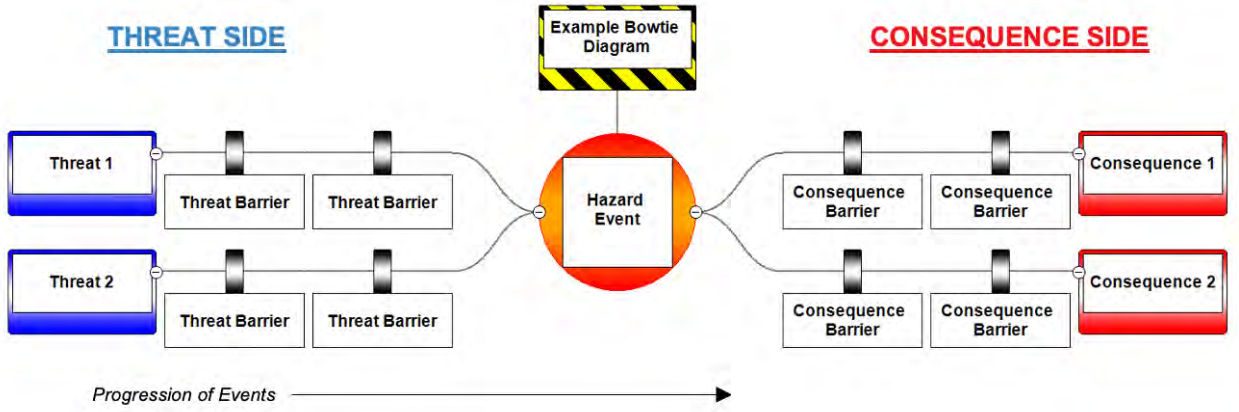
In addition to BMS protections (Section 3.2.3), electrical fault protection devices are provided for the MC Cube ESS and the power conversion system (PCS). The DC junction box contains all primary DC busbars, fusing, surge protection devices (SPD), disconnects, and power monitoring required to safely exchange power between the MC Cube ESS and the PCS. All MC Cube electrical circuits are protected by properly sized overcurrent protection devices (OCPD). Site-level electrical fault protection devices are provided by the UL 1741 listed inverter including AC/DC disconnects and AC/DC surge protection. Additional inverter safety features include fast stop, AC/DC overvoltage, overcurrent, and overtemperature protections. The medium voltage (MV) switchgear typically includes protection and switching equipment required to sufficiently protect both the ESS facility and the grid from faults: relays, meters, breakers, fuses, and other distribution gear.

4 HAZARD MITIGATION ANALYSIS

4.1 HMA Methodology

ESRG utilizes the bowtie methodology for hazard and risk assessments, as described in *NFPA 855 (2023 Ed.) Appendix G.3.6*, as it allows for in-depth analysis of individual mitigative **barriers** and serves as a strong tool for visualizing the chronological pathway of **threats** leading to critical hazard events, and ultimately to greater potential **consequences** (*Figure 4-1*). This diagrammatic method of describing and analyzing the pathways of a risk from hazards to outcomes can be considered a combination of the logic of a fault tree analyzing the cause of an event and an event tree analyzing the consequences.

Figure 0–1 – Bowtie Diagram Structure



Each fault condition per *IFC* and *NFPA 855*, assessed in Sections 4.3.1 – 4.3.6, is accompanied by a corresponding bowtie diagram indicating critical *threat* and *consequence* pathways and the mitigative barriers between them. As the most critical risk posed by lithium-ion battery cells comes from the propagation of thermal runaway from a failing cell (or multiple cells) to surrounding cells, this serves as the primary critical hazard for the subsequent failure scenarios.

In addition to main barriers for fault conditions on the *threat* side of the diagram, the *consequence* barriers on the right side of the diagram (e.g., explosion protection and emergency response plan) **also** contribute added layers of safety on top of the main threat barriers shown. It is important to note that the barriers on the left side, along a threat path, are intended to keep the threat from becoming a thermal runaway, while the barriers on the right side, along the consequence pathway, are intended to keep that single thermal runaway from evolving into one of the more severe consequences such as fire spread beyond containment or off-gassing leading to explosion. For more on the methodology and relevant terminology, see Appendix B of this report.

4.2 Primary Consequences of ESS Failure and Mitigative Barriers

The dynamics of lithium-ion ESS failures are extremely complex, and the pathway of failure events may vary widely based on system design, mitigative approaches utilized, and even small changes in environmental or situational conditions. However, the primary consequences stemming from a propagating lithium-ion battery failure largely fall into several specific hazard scenarios, as depicted in Figure 4-3 (though other scenarios not listed may certainly also occur). These primary consequences serve as the basis for the consequence side of most of the fault condition diagrams in the following sections of this report.

While not explicitly detailed in the simplified diagram in Figure 4-3, the criticality and effectiveness of the barriers may vary based on associated threat or consequence pathway. For example, a water-based suppression system may be more *critical* to prevent cell or module combustion from spreading and ultimately leading to fire spread beyond containment, than it is for preventing off-gassing within the enclosure, potentially leading to explosion. Similarly, the same water-based suppression system may be more *effective* for mitigating spread of fire throughout the system than it is for reducing risk of explosion.

Figure 0–2 – Bowtie Diagram

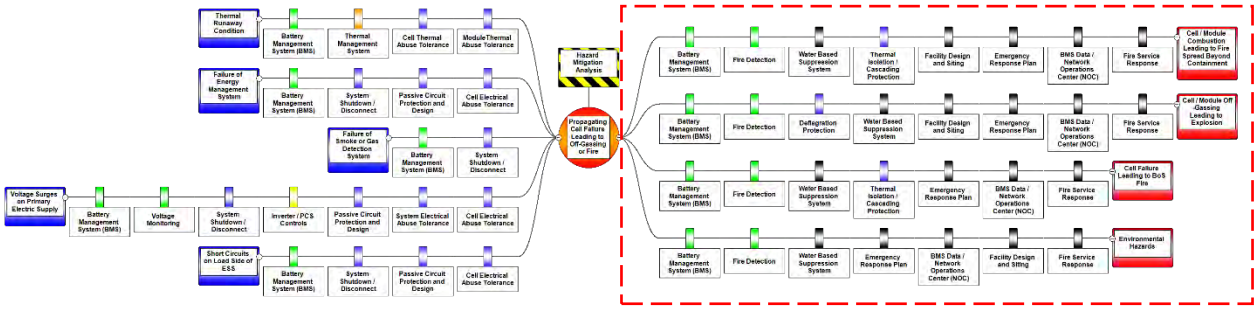


Figure 0–3 – Primary Consequence Barriers Diagram

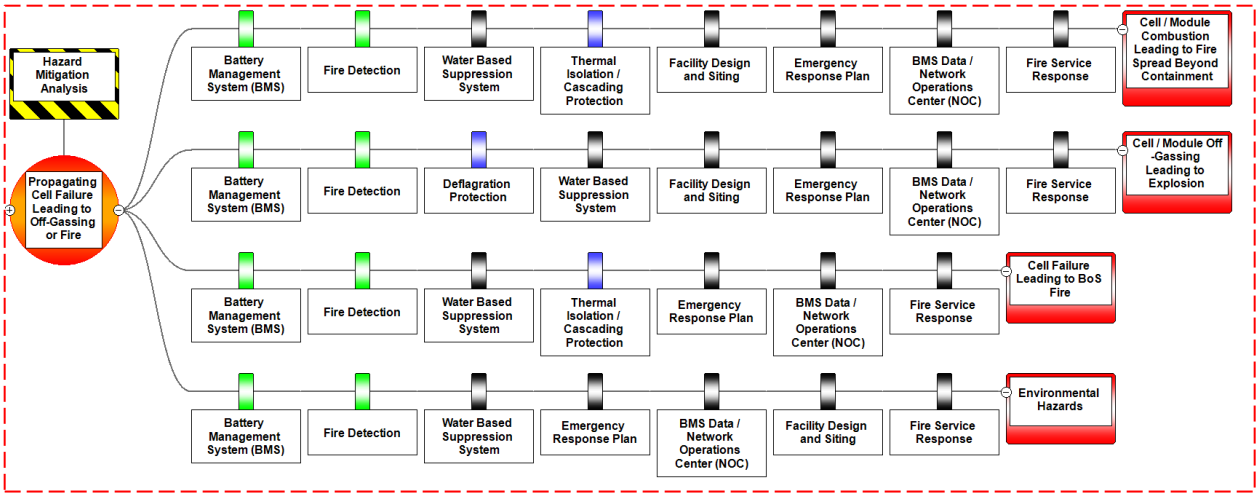


Table 0-1 – Primary Consequence Barriers

PRIMARY CONSEQUENCE BARRIERS	
Detection Systems / FACP	Smoke, heat, and gas detectors in each MC Cube compartment are monitored 24/7 by a remote operations center (ROC), triggering alarm signals and respective safety responses.
BMS Data Availability	BMS data is transmitted to a remote operations center (ROC) for monitoring via redundant communications pathways (hardline and cellular signal). BMS data may also be made available locally for a subject matter expert (SME).
Explosion Protection	An NFPA 69-compliant explosion prevention system is provided in each MC Cube compartment, consisting of a Li-ion Tamer gas detector, mechanical inlet fans, and off-gassing valves (exhaust louvers).
Thermal Isolation / Cascading Protection	Passive and active thermal isolation barriers are provided, including physically separate MC Cube compartments and individual HVAC units for thermal management, though limited effectiveness is anticipated in the case of large-scale fire. UL 9540A unit level testing indicated no module-to-module propagation, external flaming, flying debris, or explosive discharge of gases during testing. Therefore, limited to no fire spread across units is anticipated.
Site Electrical Protections	The DC junction box contains all primary DC busbars, fusing, SPDs, disconnects, and power monitoring to safely exchange power between the ESS and the PCS. UL 1741 listed inverter / PCS controls are provided including AC/DC disconnects, AC/DC surge protection, and additional safeties. The MV switchgear typically includes relays, meters, breakers, fuses, and other distribution gear.
Facility Design and Siting	The facility is away from public ways and is bounded along all exposures to prevent unauthorized access. The separation distances between MC Cube ESS enclosures within the facility meet or exceed the manufacturer's recommended separation distances and the installation meets the minimum required separation distances from nearby exposures.
Emergency Response Plan	A site-specific Emergency Response Plan (ERP) – in development by ESRG – provides an additional level of safety for the BYD MC Cube ESS installation. Furthermore, adequate familiarization with the installation for the designated subject matter experts (SMEs) and corporate first responders will greatly improve the strength of this barrier.
Fire Service Response	It is anticipated that water will be available from tankers/shuttle operations and that fire department response, equipment, and capabilities will be strong. Site-specific training and installation familiarization for Sidney Fire Protection District will further increase the strength of this barrier.

4.3 Fault Condition Analysis

Per *IFC §1206.2.3.1*, the analysis shall evaluate the consequences of the following failure modes and others deemed necessary by the AHJ:

1) *Thermal runaway condition in a single-battery storage rack, module or array.*
2) *Failure of any energy management system.*
3) *Failure of any required ventilation system.*
4) *Voltage surges on the primary electric supply.*
5) *Short circuits on the load side of the stationary battery storage system.*
6) *Failure of the smoke detection, fire-extinguishing or gas detection system.*
7) *Failure of temperature control.*

For the purposes of this report, only single failures modes shall be considered for each mode given above. Additionally, it shall be assumed that all construction, equipment, and systems that are required for the ESS shall be installed, tested, and maintained in accordance with local codes and the manufacturer's instructions. The assessment is based on the most recent information provided at the time of this writing.

The following table provides a summary of findings from the hazard mitigation analysis performed in fulfillment of *IFC §1206.2.3.1.* A bowtie diagram providing an overall depiction of primary threats and consequences associated with the project is provided in Figure 14. Additionally, detailed descriptions of fault conditions specified per *IFC* are provided in the following sections, with enlarged bowtie diagrams and barrier descriptions provided in Appendix A.

Table 0-2 – Summary of Fault Condition Analysis

Compliance Requirement	Comments
1. A thermal runaway condition in a single ESS rack, module, or unit.	Several passive and active measures are implemented to reduce the potential of a thermal runaway event from occurring including BMS control and active cooling to internal components. System subcomponents have been listed to UL 1973. Should a thermal runaway event occur, additional mitigative measures are provided to prevent further propagation of failure throughout the system (see Section 4.2 for a list of all consequence barriers).
2. Failure of any battery (energy) management system.	The BYD MC Cube ESS houses ten battery management systems (BMS) – one for each MC Cube – each working with a Battery Information Collector (BIC). This design promotes redundant failure detection for continuous monitoring of battery parameters including voltage,

	temperature, insulation, etc., and triggers corrective actions if a fault condition is detected. To further isolate any failure stemming from a failure of the energy storage management system, passive and active electrical fault protections are provided at multiple levels, along with all additional consequence barriers listed in Section 4.2.
3. Failure of any required ventilation or exhaust system.	In the event of a single MC Cube explosion prevention system failure, the remaining MC Cube systems are not expected to be impacted. If a complete failure of the exhaust ventilation system occurs, flammable gas accumulation may present the potential for an explosion within the enclosure. Fire and gas detection, proper facility siting, emergency response planning, and fire department response shall be critical to mitigate the potential consequences stemming from a complete failure of the explosion prevention system.
4. Voltage surges on the primary electric supply.	Voltage surges on the primary electric supply are mitigated by inverter / PCS controls, voltage monitoring, and automatic disconnects provided by the BMS, as well as several passive circuit protections.
5. Short circuits on the load side of the ESS.	Short circuits on the load side of the ESS are mitigated by BMS control and subsequent safety actions as well as by passive circuit protection and design.
6. Failure of the smoke detection, fire detection, fire suppression, or gas detection system.	Failure of the provided heat, smoke, or gas detectors may prevent timely activation of respective safety systems or transmission of notification signals to the site energy management system (EMS). Failure to transmit a signal to the EMS may delay fire department notification by the remote operations center (ROC). If any detector fails, the system is anticipated to send a fault signal to the site EMS. Single detector failures may not constitute a complete detection system failure as each MC Cube compartment includes independent detection devices. It is anticipated that the BMS shall still be capable of triggering the respective safety actions in the event of detector failure, depending on the nature of the battery failure. Redundant failure detection is provided by the upper controller. Proper emergency response procedures and a site-specific emergency response plan provide additional layers of protection.

7. **Required spill neutralization not being provided or failure of a required secondary containment system.**	**Not applicable**. No spillable liquid electrolyte present.

4.3.1 Thermal Runaway Condition in a Single ESS Rack, Module, or Unit

Thermal runaway, as defined in NFPA 855, is the self-heating of an electrochemical system in an uncontrollable fashion. The cause of a thermal runaway event can range from a manufacturer defect in the cell, external impact, exposure to dangerously high temperatures, or a multitude of controls and electrical failures. Furthermore, a thermal runaway event in a single cell can propagate to nearby cells, thus creating a cascading runaway event across battery modules and racks, leading to more heat generation, fire, off-gassing, and increased potential for a deflagration event.

Several protections are provided to reduce the potential for thermal runaway at the cell level, most notably via monitoring and controls provided by the battery management system (BMS) which will trigger respective safety actions based on the fault signal received. Should a thermal runaway condition spread to a single module, rack, or unit, additional protections including BMS control and system shutdown and disconnects are anticipated to mitigate further propagation of failure throughout the system.

Should a thermal runaway event occur, the BYD MC Cube ESS is equipped with an explosion prevention system – consisting of a Li-ion Tamer gas detector, mechanical inlet fans, and exhaust valves in each compartment – to keep gas concentrations from reaching flammable limits. The anticipated effectiveness of the explosion prevention system was evaluated through CFD analysis by Hazard Dynamics (Section 5.2).

UL 9540A unit level testing indicated that thermal runaway propagated to only two adjacent cells, but no module-to-module propagation or flaming was observed (although flammable off-gases were released). If further propagation of failure occurs, additional site-specific items including facility siting, an emergency response plan (ERP), and fire service response will be crucial to mitigating further impact to the system, site, and nearby areas.

Figure 0–4 – Thermal Runaway Condition Bowtie Diagram

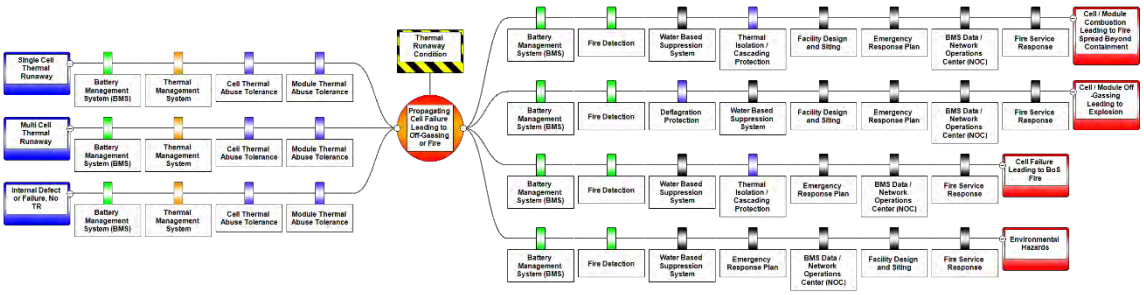


Table 0-3 – Thermal Runaway Condition Barriers

Barrier	Description
THREAT BARRIERS	
Battery Management System (BMS)	The BYD MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube. The BMS works with the Battery Information Collector (BIC) to continuously monitor battery parameters including voltage, temperature, state of charge (SOC), insulation, etc., and triggers corrective actions if a fault condition is detected.
Thermal Management System	An independent HVAC unit is provided in each MC Cube compartment to maintain optimal operating temperatures of the cells and components within the unit.
Cell Thermal Abuse Tolerance	Cell has been tested and listed to UL 1973 in which thermal abuse tolerance was tested.
Module Thermal Abuse Tolerance	System subcomponents have been tested and listed to UL 1973 in which thermal abuse tolerance was tested.
CONSEQUENCE BARRIERS	
See Section 4.2 above for list of primary consequence barriers.	

4.3.2 Failure of any Battery (Energy) Management System

The loss, failure, or abnormal operation of an energy storage control system (controllers, sensors, logic / software, actuators, and communications networks) will directly impact the proper function of the system. As the types, designs, and architectures of systems deployed and in development varies widely, so too do the control schemes and architectures. As such, the barriers in this section in many cases are condensed down to single concepts which may, in practice, encompass numerous barriers and barrier types and could be broken out as such.

While obvious examples of failure in the control system, such as the mechanical failure of a relay or the electrical failure of an electronics component may result in the inability of

the system to function properly, inadequate design of the control system may pose an even greater risk. As an example, a system of paralleled racks which contains no physical disconnects with which to isolate itself from the grid is not only dependent on the power electronics to isolate it, but also lacks an ability to isolate malfunctioning racks from their neighbors. As a result, not only is this system susceptible to a single point of failure in the power electronics, but it may also not adequately protect itself in case of an external short circuit. Therefore, it is important when assessing control system risks not only to look at the resiliency of the individual control hardware components and software, but the effectiveness of controls throughout the integrated systems.

In the event of an EMS or BMS failure, several system shutdown / disconnects and passive circuit protections provide a means of mitigating further failure throughout the system to potentially prevent a thermal runaway or other cell failure scenario. Should thermal runaway or propagating cell failure occur, consequence barriers listed in Section 4.2 shall provide additional means of protection.

Figure 0–5 – Failure of an Energy Storage Management System Bowtie Diagram

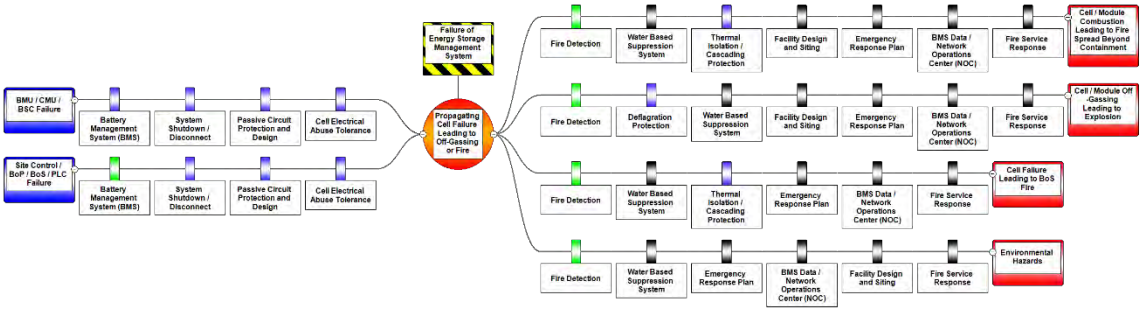


Table 0-4 – Failure of an Energy Storage Management System Barriers

Barrier	Description
THREAT BARRIERS	
Battery Management System (BMS)	The BYD MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube. The BMS works with the Battery Information Collector (BIC) to continuously monitor battery parameters including voltage, temperature, state of charge (SOC), insulation, etc., and triggers corrective actions if a fault condition is detected.
System Shutdown / Disconnect	Automatic disconnect in response to critical alarm notifications such as loss of communication with BMS, low SOC, ground fault detection, over- or under-voltage, etc.
Passive Circuit Protection / Design	Fused disconnects and DC disconnect switches, in addition to ground fault detection / interruption and over voltage protection are provided.

Cell Electrical Abuse Tolerance	Cell has been tested and listed to UL 1973 in which electrical abuse tolerance was tested.
CONSEQUENCE BARRIERS	
See Section 4.2 above for list of primary consequence barriers.	

4.3.3 Failure of any Required Ventilation or Exhaust System

Lithium-ion technologies do not release flammable gases during normal charging or discharging operations and are not required to be provided with exhaust ventilation. The MC Cube ESS, however, is equipped with an explosion prevention system in the unlikely event that flammable gases develop during a failure condition.

The MC Cube ESS design implements independent explosion prevention systems in each individual MC Cube compartment. In the event of a single MC Cube explosion prevention system failure, the remaining MC Cube systems are not expected to be impacted. Smoke, heat, and combustible gas detectors are also anticipated to send notifications to the site EMS, triggering alarm signals and respective safety systems.

If the explosion prevention system described in Section 3.2.2 should fail completely, flammable gases may accumulate within the enclosures, leading to potentially explosive atmosphere. Given a source of ignition (for example from fire, heat, or electrical arcing), a deflagration event may occur, posing a threat to the nearby area. In this worst-case scenario, consequences may be mitigated by proper emergency response procedures which are detailed in a site-specific emergency response plan developed by ESRG. Additional site-specific familiarization and training provided to Heartland Fire & Rescue may also serve to limit the impact of a potential failure of the explosion prevention system.

Figure 0–6 – Failure of a Required Ventilation or Exhaust System Bowtie Diagram

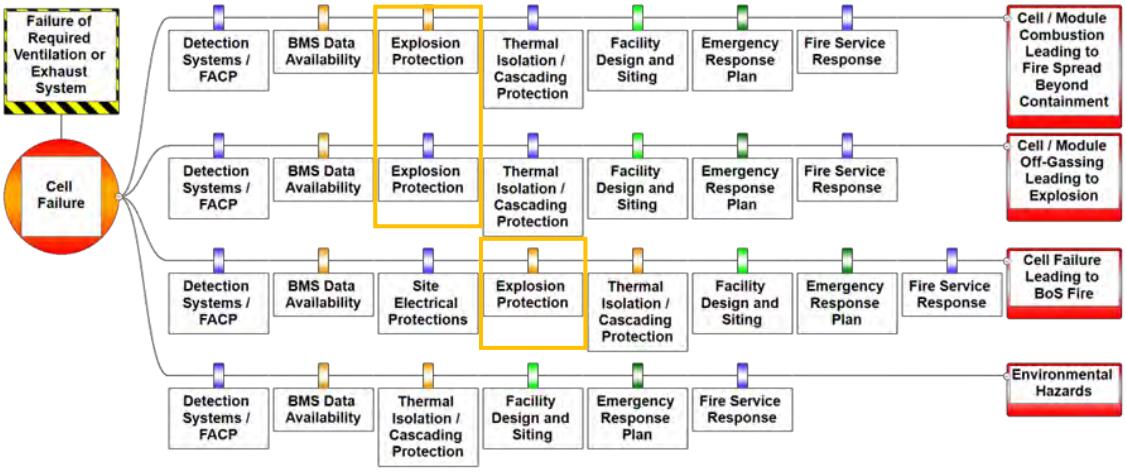


Table 0-5 – Failure of a Required Ventilation or Exhaust System Barriers

Barrier	Description
CONSEQUENCE BARRIERS	
Detection Systems / FACP	Smoke, heat, and gas detectors in each MC Cube compartment are monitored 24/7 by a remote operations center (ROC), triggering alarm signals and respective safety responses.
BMS Data Availability	BMS data is transmitted to a remote operations center (ROC) for monitoring via redundant communications pathways (hardline and cellular signal). BMS data may also be made available locally for a subject matter expert (SME).
Thermal Isolation / Cascading Protection	Passive and active thermal isolation barriers are provided, including physically separate MC Cube compartments and individual HVAC units for thermal management, though limited effectiveness is anticipated in the case of large-scale fire. UL 9540A unit level testing indicated no module-to-module propagation, external flaming, flying debris, or explosive discharge of gases during testing. Therefore, limited to no fire spread across units is anticipated.
Site Electrical Protections	The DC junction box contains all primary DC busbars, fusing, SPDs, disconnects, and power monitoring to safely exchange power between the ESS and the PCS. UL 1741 listed inverter / PCS controls are provided including AC/DC disconnects, AC/DC surge protection, and additional safeties. The MV switchgear typically includes relays, meters, breakers, fuses, and other distribution gear.
Facility Design and Siting	The facility is away from public ways and is bounded along all exposures to prevent unauthorized access. The separation distances between MC Cube ESS enclosures within the facility meet or exceed the manufacturer's recommended separation distances and the installation meets the minimum required separation distances from nearby exposures.
Emergency Response Plan	A site-specific Emergency Response Plan (ERP) – in development by ESRG – provides an additional level of safety for the BYD MC Cube ESS installation. Furthermore, adequate familiarization with the installation for the designated subject matter experts (SMEs) and corporate first responders will greatly improve the strength of this barrier.
Fire Service Response	It is anticipated that water will be available from tanker/shuttle operations and that fire department response, equipment, and capabilities will be strong. Site-specific training and installation familiarization for Sidney Fire Protection District will further increase the strength of this barrier.

4.3.4 Voltage Surges on the Primary Electric Supply

Voltage surges on the primary electric supply are managed by a series of electrical protections shown below. Inverter / PCS controls are provided including AC/DC disconnects, AC/DC surge protection, and protections for AC/DC overvoltage, overcurrent, and overtemperature. The site also possesses its own MV switchgear with relays, meters, breakers, and fuses. The inverter is tested and listed to UL 1741.

Voltage monitoring and related fault and alarm monitoring at the DC level is provided by the BMS. The BMS also provides temperature, current, and state of charge (SOC) measurements, cell balancing, and communication with higher level controls equipment and safety systems. Passive circuit protection consisting of fused disconnects, DC disconnect switches, ground fault detection, and overvoltage protection are also included.

The cells are certified to UL 1973 where electrical abuse tolerance was tested, and the ESS unit is fully certified to UL 9540.

Figure 0–7 – Voltage Surges on the Primary Electric Supply Bowtie Diagram

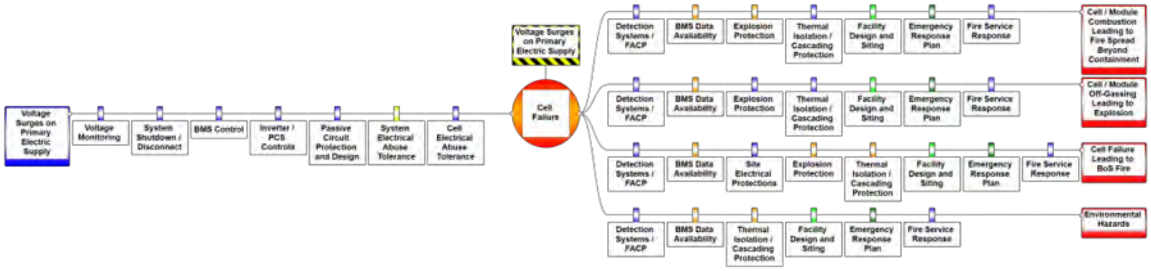


Table 0-6 – Voltage Surges on the Primary Electric Supply Barriers

Barrier	Description
THREAT BARRIERS	
Voltage Monitoring	Voltage is monitored by the battery management system (BMS), triggering fault and alarm monitoring indicators, and potential system disconnect if operating out of normal parameters.
System Shutdown / Disconnect	Automatic disconnect in response to critical alarm notifications such as loss of communication with BMS, low SOC, ground fault detection, over- or under-voltage, etc.
Battery Management System (BMS)	The BYD MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube. The BMS works with the Battery Information Collector (BIC) to continuously monitor battery parameters including voltage, temperature, state of charge (SOC), insulation, etc., and triggers corrective actions if a fault condition is detected.
Inverter / PCS Controls	The inverter is listed to UL 1741 and provides an AC contactor disconnect, motorized DC disconnect switch, AC/DC surge protection,

	and fast stop. Additional inverter protections for AC/DC overvoltage, overcurrent, overtemperature, and condensation.
Passive Circuit Protection / Design	Fused disconnects and DC disconnect switches, in addition to ground fault detection / interruption and over voltage protection are provided.
System Electrical Abuse Tolerance	MC Cube ESS is listed to UL 9540 in which system electrical abuse tolerance was assessed.
Cell Electrical Abuse Tolerance	Cell has been tested and listed to UL 1973 in which electrical abuse tolerance was tested.
CONSEQUENCE BARRIERS	
See Section 4.2 above for list of primary consequence barriers.	

4.3.5 Short Circuits on the Load Side of the ESS

Similar to the electrical mitigations for voltage surge on the primary electric supply described in Section 4.3.4, short circuits on the load side of the energy storage system are managed by the BMS and system shutdown, as well as passive circuit protections.

Figure 0–8 – Short Circuits on the Load Side of the ESS Bowtie Diagram

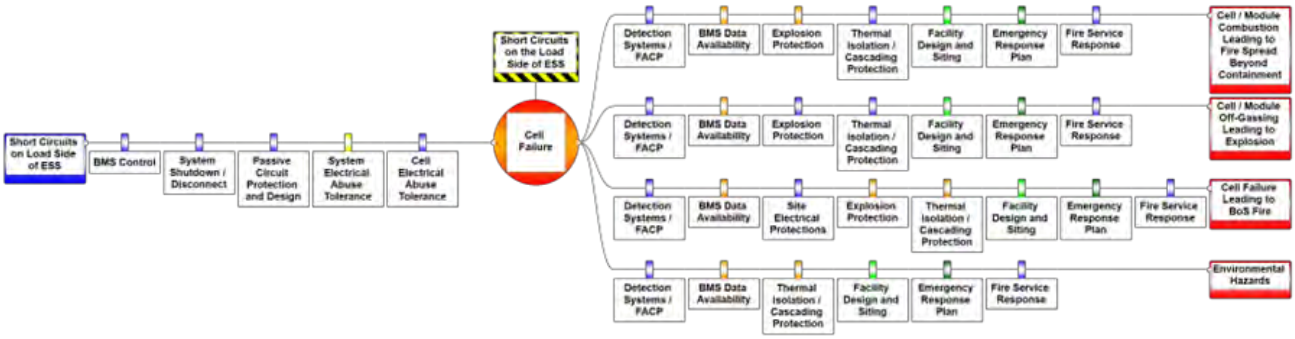


Table 0-7 – Short Circuits on the Load Side of the ESS Barriers

Barrier	Description
THREAT BARRIERS	
Battery Management System (BMS)	The BYD MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube. The BMS works with the Battery Information Collector (BIC) to continuously monitor battery parameters including voltage, temperature, state of charge (SOC), insulation, etc., and triggers corrective actions if a fault condition is detected.

System Shutdown / Disconnect	Automatic disconnect in response to critical alarm notifications such as loss of communication with BMS, low SOC, ground fault detection, over- or under-voltage, etc.
Passive Circuit Protection / Design	Fused disconnects and DC disconnect switches, in addition to ground fault detection / interruption and over voltage protection are provided.
System Electrical Abuse Tolerance	MC Cube ESS is listed to UL 9540 in which system electrical abuse tolerance was assessed.
Cell Electrical Abuse Tolerance	Cell has been tested and listed to UL 1973 in which electrical abuse tolerance was tested.
CONSEQUENCE BARRIERS	
See Section 4.2 above for list of primary consequence barriers.	

4.3.6 Failure of the Smoke Detection, Fire Detection, Fire Suppression, or Gas Detection System

The MC Cube ESS design incorporates smoke, heat, and gas detection in each individual MC Cube compartment. Accordingly, a failure of a single smoke, heat, or gas detector is not expected to impact the detection devices within the other MC Cube compartments. The failure of an individual heat, smoke, or gas detector in an MC Cube may result in failure to activate respective safety systems or provide notification signals to the site energy management system (EMS) and remote operations center (ROC). If an individual detector fails, the system is anticipated to send a fault signal to the site EMS.

Several active and passive barriers are provided to mitigate the effects of a failure of a smoke, heat, or gas detector within the MC Cube ESS. BMS and system shutdown / disconnects may prevent a cell failure from occurring, as described previously. It is anticipated that the BMS shall still be capable of triggering the respective safety actions should the provided smoke or heat detectors fail, depending on the nature of the battery failure event. Failure of the sensing equipment is also managed by the BMS which triggers relevant notifications and protection systems. Redundant failure detection is included in the form of checksums from the upper controller.

In the event of a failure of any one of these systems, proper response procedures from the site-specific emergency response plan should be employed. If BMS data is available via a remote operations center (ROC), a more detailed understanding of the failure event and required emergency response procedures may be established.

Figure 0–9 – Failure of the Smoke Detection, Fire Detection, Fire Suppression, or Gas Detection System Bowtie Diagram

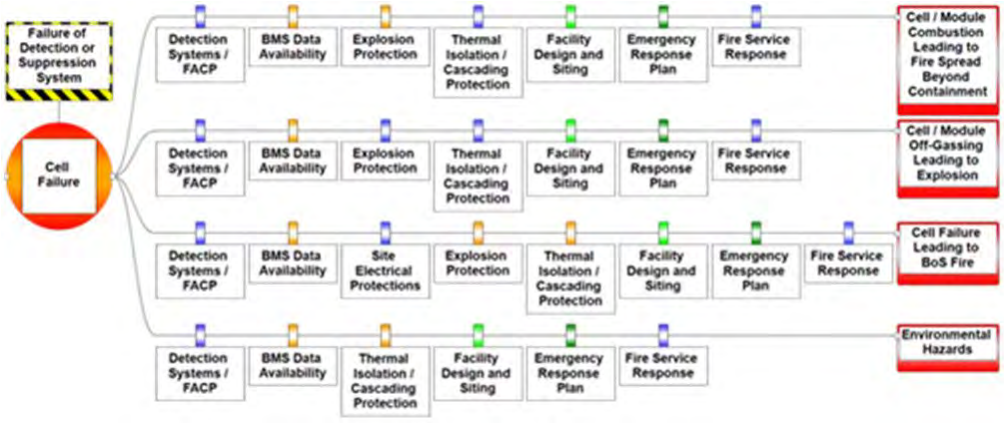


Table 0-8 – Failure of the Smoke Detection, Fire Detection, Fire Suppression, or Gas Detection System Barriers

Barrier	Description
CONSEQUENCE BARRIERS	
Detection Systems / FACP	Smoke, heat, and gas detectors in each MC Cube compartment are monitored 24/7 by a remote operations center (ROC), triggering alarm signals and respective safety responses.
BMS Data Availability	BMS data is transmitted to a remote operations center (ROC) for monitoring via redundant communications pathways (hardline and cellular signal). BMS data may also be made available locally for a subject matter expert (SME).
Explosion Protection	An NFPA 69-compliant explosion prevention system is provided in each MC Cube compartment, consisting of a Li-ion Tamer gas detector, mechanical inlet fans, and off-gassing valves (exhaust louvers).
Thermal Isolation / Cascading Protection	Passive and active thermal isolation barriers are provided, including physically separate MC Cube compartments and individual HVAC units for thermal management, though limited effectiveness is anticipated in the case of large-scale fire. UL 9540A unit level testing indicated no module-to-module propagation, external flaming, flying debris, or explosive discharge of gases during testing. Therefore, limited to no fire spread across units is anticipated.
Site Electrical Protections	The DC junction box contains all primary DC busbars, fusing, SPDs, disconnects, and power monitoring to safely exchange power between the ESS and the PCS. UL 1741 listed inverter / PCS controls are provided including AC/DC disconnects, AC/DC surge protection, and

	additional safeties. The MV switchgear typically includes relays, meters, breakers, fuses, and other distribution gear.
Facility Design and Siting	The facility is away from public ways and is bounded along all exposures to prevent unauthorized access. The separation distances between MC Cube ESS enclosures within the facility meet or exceed the manufacturer's recommended separation distances and the installation meets the minimum required separation distances from nearby exposures.
Emergency Response Plan	A site-specific Emergency Response Plan (ERP) – in development by ESRG – provides an additional level of safety for the BYD MC Cube ESS installation. Furthermore, adequate familiarization with the installation for the designated subject matter experts (SMEs) and corporate first responders will greatly improve the strength of this barrier.
Fire Service Response	It is anticipated that water will be shuttle/tanker operations, and that fire department response, equipment, and capabilities will be strong. Site-specific training and installation familiarization for Sidney Fire Protection District will further increase the strength of this barrier.

4.4 Analysis Approval

Per *IFC §1206.2.3.2,* the AHJ shall be permitted to approve the hazard mitigation analysis as documentation of the safety of the ESS installation if the consequences of the analysis demonstrate the following:

1) *Fires or explosions will be contained within unoccupied battery storage rooms for the minimum duration of the fire-resistance-rated walls identified in Table 509.1 of the International Building Code*
2) *Fires and Explosions in battery cabinets in occupied work centers will be detected in time to allow occupants within the room to evacuate safely.*
3) *Toxic and highly toxic gases released during fires and other fault conditions shall not reach concentrations in excess of Immediately Dangerous to Life or Health (IDLH) levels in the building or adjacent means of egress routes during the time deemed necessary to evacuate from that area.*
4) *Flammable gases released from batteries during charging, discharging and normal operation shall not exceed 10 percent of their lower flammability limit (LFL).*
5) *Flammable gases released from batteries during fire, overcharging and other abnormal conditions shall not create an explosion hazard that will injure occupants or emergency responders.*

The following table provides a summary of analysis approval requirements and commentary on each item.

Table 0-9 – Summary of Analysis Approval

Compliance Requirement	Comments
1. Fires will be contained within unoccupied ESS rooms or areas for the minimum duration of the fire-resistance rated separations identified in Section 1207.7.4.	**Not applicable.** The BYD MC Cube ESS is intended for outdoor ground-mounted installations only and shall not be installed within any ESS rooms or occupied structures.
2. Fires in occupied work centers will be detected in time to allow occupants within the room or area to safely evacuate.	**Not applicable.** The BYD MC Cube ESS is intended for outdoor ground-mounted installations only and shall not be installed within any occupied work centers.
3. Toxic and highly toxic gases released during fires will not reach concentrations in excess of the IDLH level in the building or adjacent means of egress routes during the time deemed necessary to evacuate occupants from any affected area.	The MC Cube ESS is a non-enterable enclosure and is not intended to be installed within any buildings. UL 9540A (4th Ed.) does not require the measurement of many toxic gases (only flammable gases) and limited information on toxic gases released for the specific battery system is available. In extensive experience performing large-scale fire testing of li-ion batteries, ESRG has found that measured proprietary gas data indicate that toxicity levels are much in line with that of typical structure fires.
4. Flammable gases released from ESS during charging, discharging and normal operation will not exceed 25 percent of their lower flammability limit (LFL).	**Not applicable.** Lithium-ion batteries do not release flammable gases during charging, discharging, or normal operation.
5. Flammable gases released from ESS during fire, overcharging and other abnormal conditions will be controlled through the use of ventilation of the gases, preventing accumulation, or by deflagration venting.	In the event of flammable off-gassing during fire, overcharging, or other abnormal conditions, each MC Cube compartment is equipped with an active explosion prevention system designed in accordance with *NFPA 69*. CFD analysis was performed by Hazard Dynamics to evaluate the effectiveness of the explosion prevention system.

5 SUPPORTING DOCUMENTATION

5.1 UL 9540A Large-Scale Fire Testing

5.1.1 Cell Level Test

UL 9540A (4th Edition) cell level testing was conducted for the Model CBFAD lithium iron phosphate (LFP) battery cell utilized in the BYD MC Cube ESS. The test was conducted by Shanghai Huahui Testing Co., Ltd. and witnessed by CSA Group. The report was issued in March 2023 [1].

The CBFAD is a prismatic LFP cell (Figure 5-1) with a nominal voltage of 3.2V and a nominal capacity of 403Ah. Thermal runaway was induced in the cell using two external film heaters, maintaining a heating ramp of 6.5°C/minute. Cell venting occurred at an average temperature of 148.7°C over five test samples, with the average onset of thermal runaway at 379.2°C, during which approximately 166.4 L of gas were released. Gas analysis was provided to determine lower flammability limit (LFL), burning velocity, and maximum pressure (Table 5-1). As the cell released flammable gases – as expected for lithium-ion battery chemistry – module level testing was required, in accordance with UL 9540A (4th Edition).

Table 0-1 – Cell Level Information

Avg. Cell Surface Temperature at Venting	148.7°C
Avg. Cell Surface Temperature at Thermal Runaway	379.2°C
Gas Volume	166.4 L
Lower Flammability Limit (LFL) at Ambient Temperature	4.8%
Lower Flammability Limit (LFL) at Venting Temperature	4.0%
Burning Velocity (S_u)	178.1 cm/s
Maximum Pressure (P_{max})	0.78 MPa

Table 0-2 – Cell Level Gas Measurements

Gas Component	Volume Released (%)
Hydrogen	74.737
Carbon Dioxide	11.212
Carbon Monoxide	6.082
Methane	5.497
Ethylene	0.748

Ethane	0.481
n-Butene	0.605
Propane	0.214
Other Hydrocarbons	0.424
Total	**100.0**

Figure 0–1 – CBFAD 3.2V, 403Ah Cell

Figure 0–2 – CBFAD Cell After Thermal Runaway

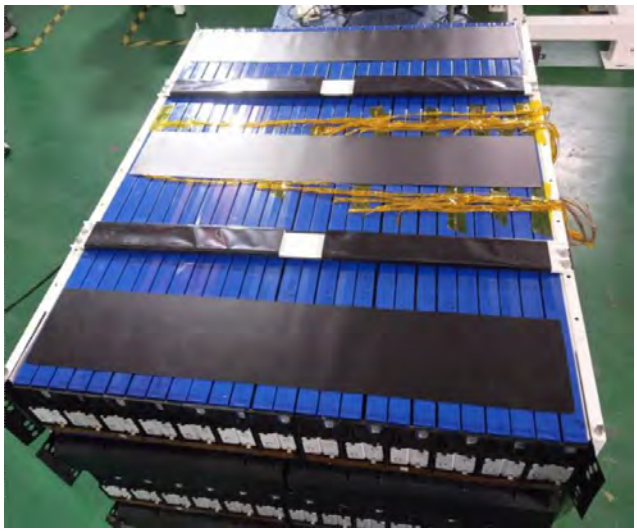
5.1.2 Module Level Test

For lithium-ion battery chemistry, the required UL 9540A (4th Edition) performance criteria typically necessitate cell, module, and unit level testing, at a minimum. The BYD MC Cube ESS incorporates a unique cabinet design that does not utilize a traditional module enclosure to house the battery cells. Instead, the module is a shelf-type design consisting of 26 CBFAD cells in series (Figure 5-3). The 83.2V, 403Ah module assembly is fastened together with end plates, plastic ribbons, and mounting brackets. Accordingly, formal module level testing to the UL 9540A (4th Edition) standard was not performed.

Though formal testing was not performed, CSA group performed module level testing to determine appropriate testing methods for the unit level testing to follow. Results obtained include a suitable trigger method to create cell-to-cell propagation, the location for heaters to be instrumented, and the heating ramp to be used. During module level testing, external film heaters were used to initiate thermal runaway in one cell. Thermal runaway

propagated to four additional cells. Heat release rate, smoke release rate, and gas composition measurements were not obtained during module level testing.

Figure 0–3 – MC Cube Module Assembly



5.1.3 Unit Level Test

UL 9540A (4th Edition) unit level testing for the BYD MC Cube ESS was conducted by Shanghai Huahui Testing Co., Ltd. and witnessed by CSA Group. The report was issued in April 2023 [2].

Unit level testing was performed by placing an initiating module near the center of an initiating unit rack (Figure 5-4). Five target units were positioned adjacent to the initiating unit, including to both sides and directly behind (Figure 5-5). Thermal runaway was initiated in one cell using external film heaters, maintaining a heating ramp of 6.5°C/min.

During unit level testing, cell-to-cell propagation to two additional cells was observed in the initiating module with white smoke released (Figure 5-6). Module-to-module propagation was not observed. No flying debris, explosive discharge of gases, or external flaming was observed during the test. No sparks, electrical arcs, or other electrical events were observed during the test. As unit level performance criteria were met, installation level testing was not required.

Table 0-3 – Unit Level Test Information

Maximum Wall Surface Temperature	22.2°C
Maximum Target BESS Temperature	24.0°C
Maximum Heat Flux on Target Wall Surfaces	0 kW/m^2
Maximum Heat Flux on Target BESS	0 kW/m^2
Maximum Heat Flux on Egress Path	0.03 kW/m^2

Figure 0–4 – Initiating Unit Modules (Left) and Initiating Module Location (Right)

Figure 0–5 – Unit Level Test Arrangement (Top View)

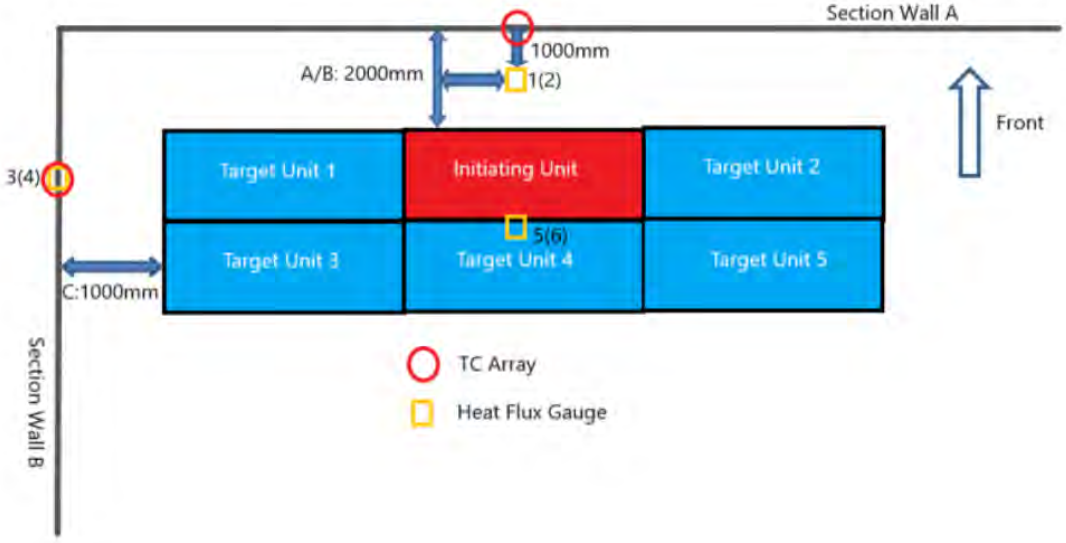
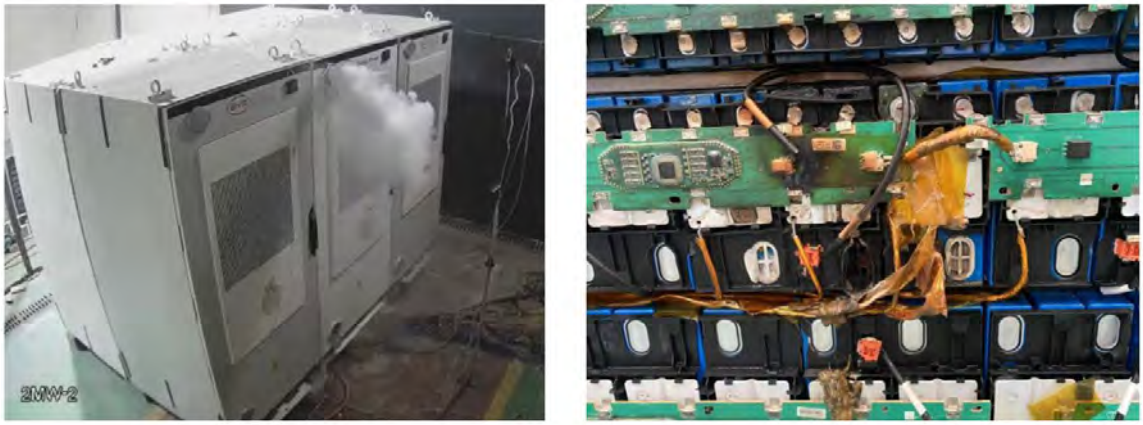


Figure 0–6 – Smoke Release During Test (Left) and Initiating Module After Test (Right)



5.2 NFPA 69 Analysis

A three-dimensional computational fluid dynamics (CFD) analysis was performed by Hazard Dynamics to evaluate the design and anticipated performance of the BYD MC Cube explosion prevention system. The analysis utilized UL 9540A test data to demonstrate that the system design can successfully reduce the concentration of combustible gases in the container to less than 25% of the gas mixture lower flammability limit (LFL) during a potential failure condition. In the issued report, Hazard Dynamics concluded that the MC Cube explosion prevention system can reduce the combustible concentration in a compartment with a single cell undergoing thermal runaway [3]. Accordingly, the CFD analysis found that the MC Cube explosion prevention system meets the intent of NFPA 69, Chapter 8: *Deflagration Prevention by Combustible Concentration Reduction*.

Key assumptions and observations from the Hazard Dynamics report are summarized below:

- UL 9540A module level data shows that a single-cell thermal runaway can propagate and lead to the thermal runaway of five total cells in a module. Data also shows that there is a significant delay between each cell failure allowing enough time for the average gas concentration to return to nearly zero before the subsequent gas release. Consequently, gas release from only a single cell was analyzed.
- Each compartment is equipped with two inlet fans with a combined maximum flow rate of 815 CFM, though the model assumes a total flow rate of 540 CFM as a conservative measure (Figure 5-7). The inlet fans and exhaust valves are activated when the gas concentration at the Li-ion Tamer gas detector reaches 100 ppm of battery off-gas.
- Once the gas detector is triggered, it will send a signal to turn on the inlet fans, open the exhaust valves (louvers), and turn off the HVAC system. The model accounts for a conservative 12-second delay for the gas detector to exceed the 100 ppm threshold and for the sensor to transmit data to the next pieces of equipment in the logic sequence. The fans are modeled with a one-second lag time to account for ramping up.

- The gas detection model was run for five different gas release locations to determine the worst-case gas detection times by modeling gas release from different cells throughout the system (Figure 5-8 and 5-9).
- The analysis found that, if the inlet fans activate within 12 seconds after the beginning of thermal runaway, the explosion prevention system can maintain average gas concentrations below 25% LFL as required by NFPA 69 8.3.1 (Figure 5-10).
- It is noted that flammable pockets of gas are seen to exceed 25% LFL throughout the gas release model, though the requirements for average enclosure concentrations per NFPA 69 are met (Figure 5-11).

Figure 0–7 – MC Cube Exhaust Airflow Model

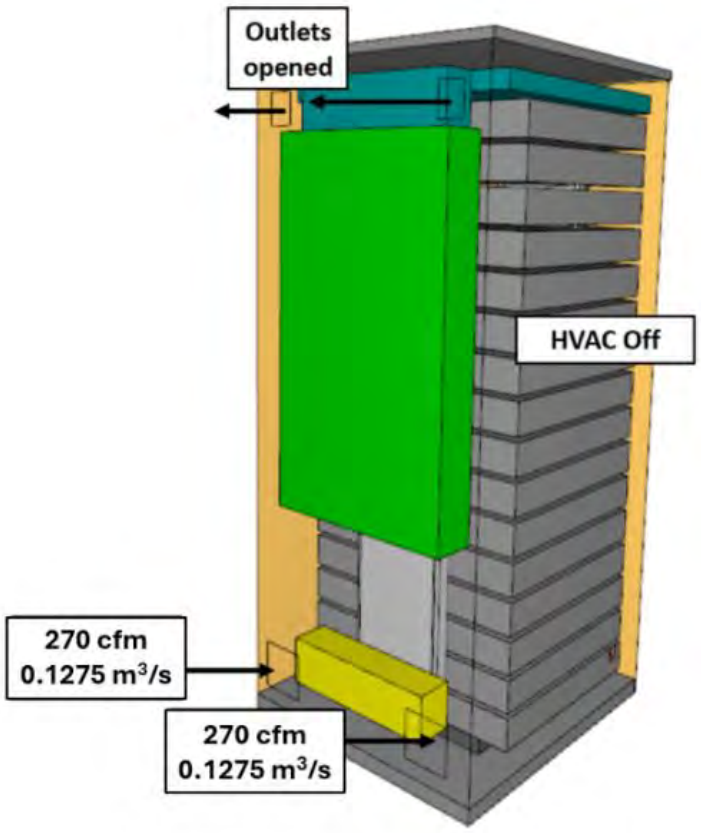


Figure 0–8 – MC Cube Single Cell Gas Release Locations

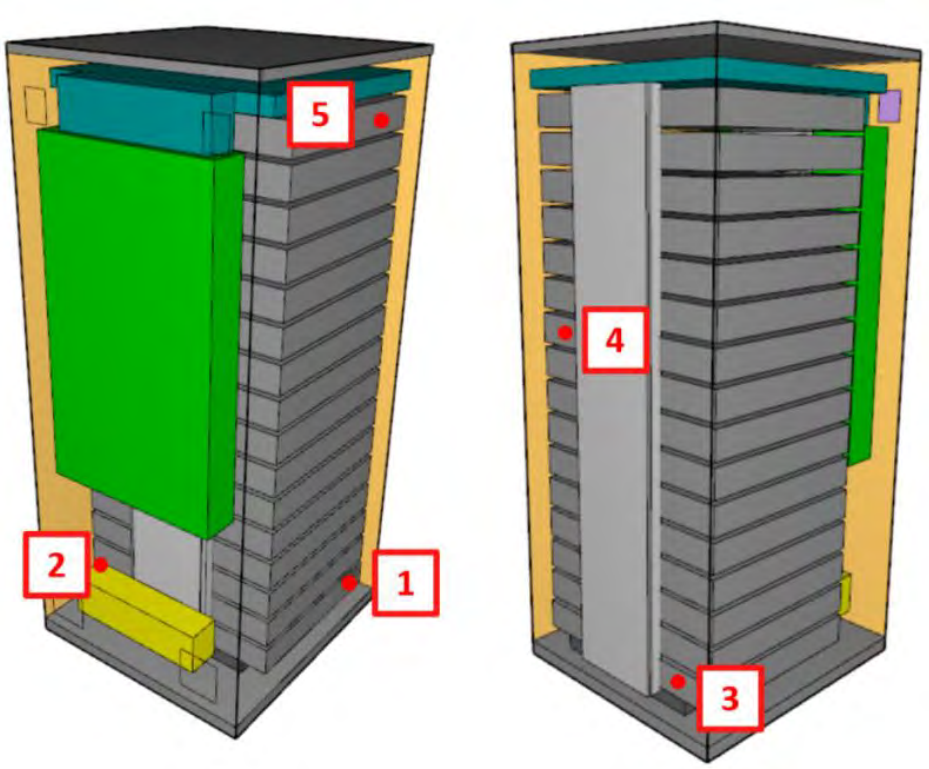


Figure 0–9 – Time History of Gas Concentrations at Detector Location

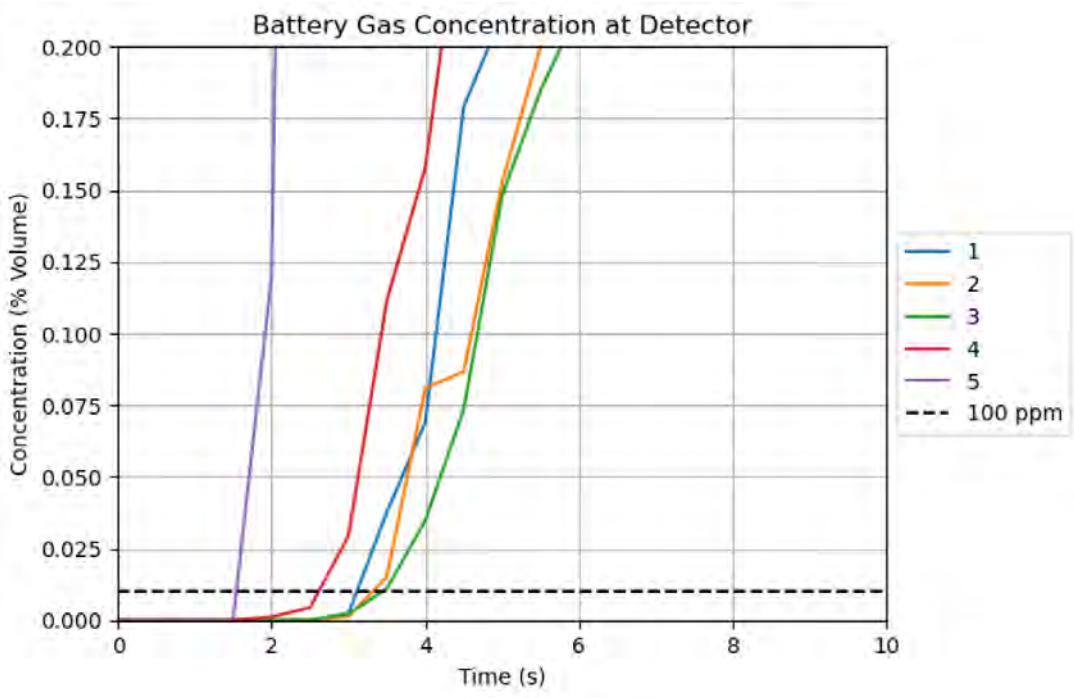


Figure 0–10 – MC Cube Gas Concentrations for Worst-Case Release Scenario

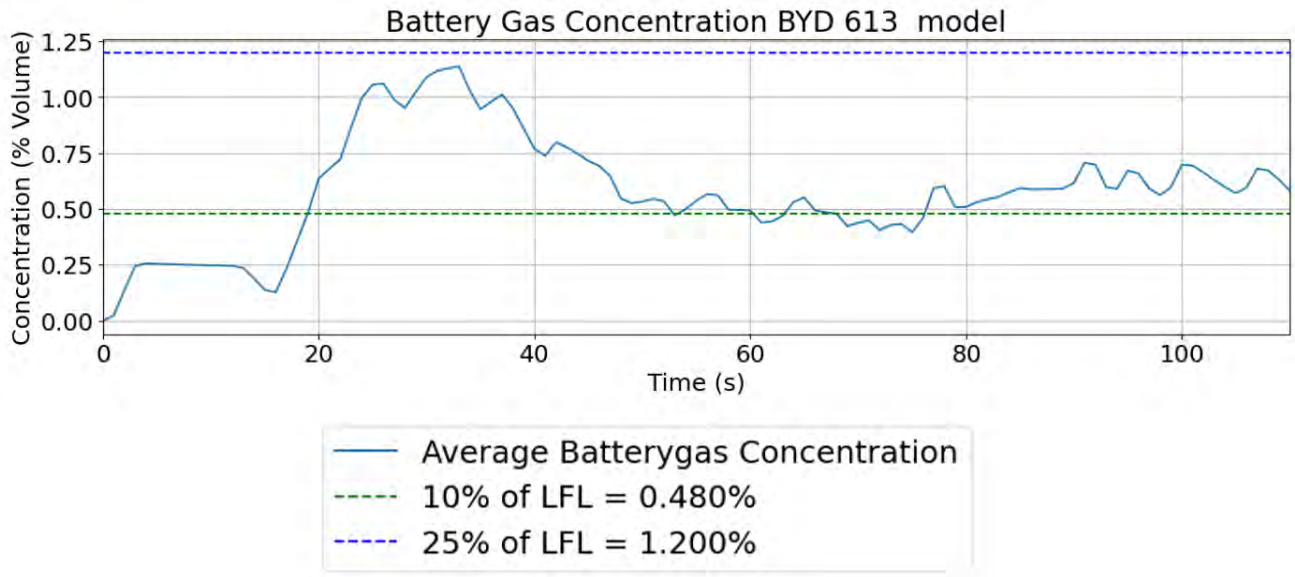
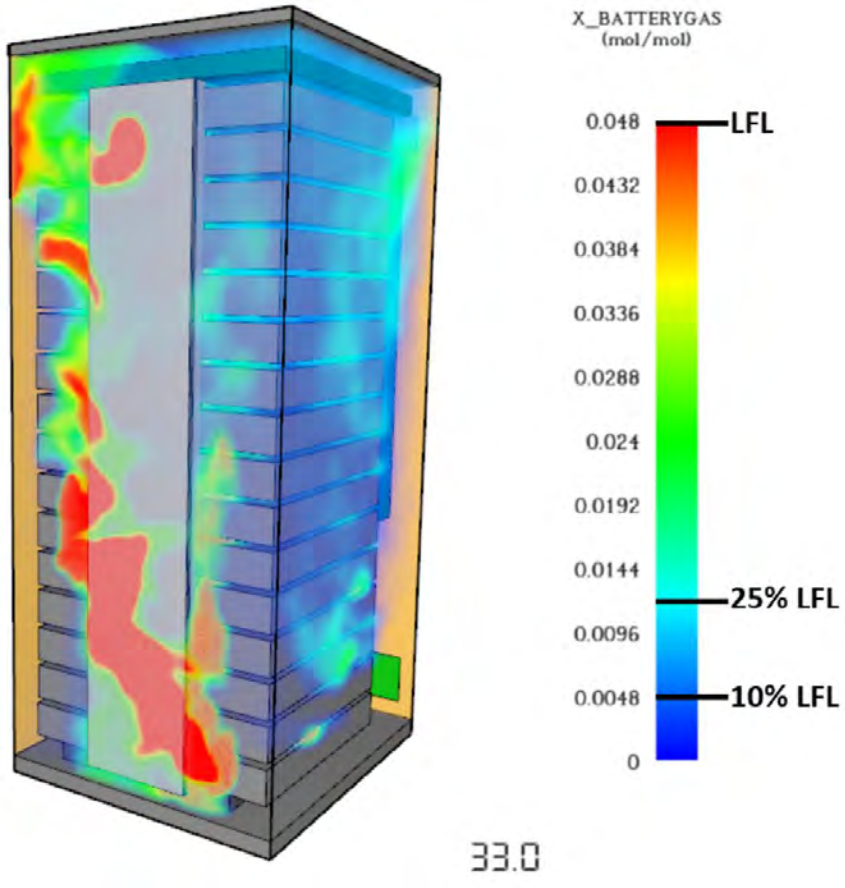
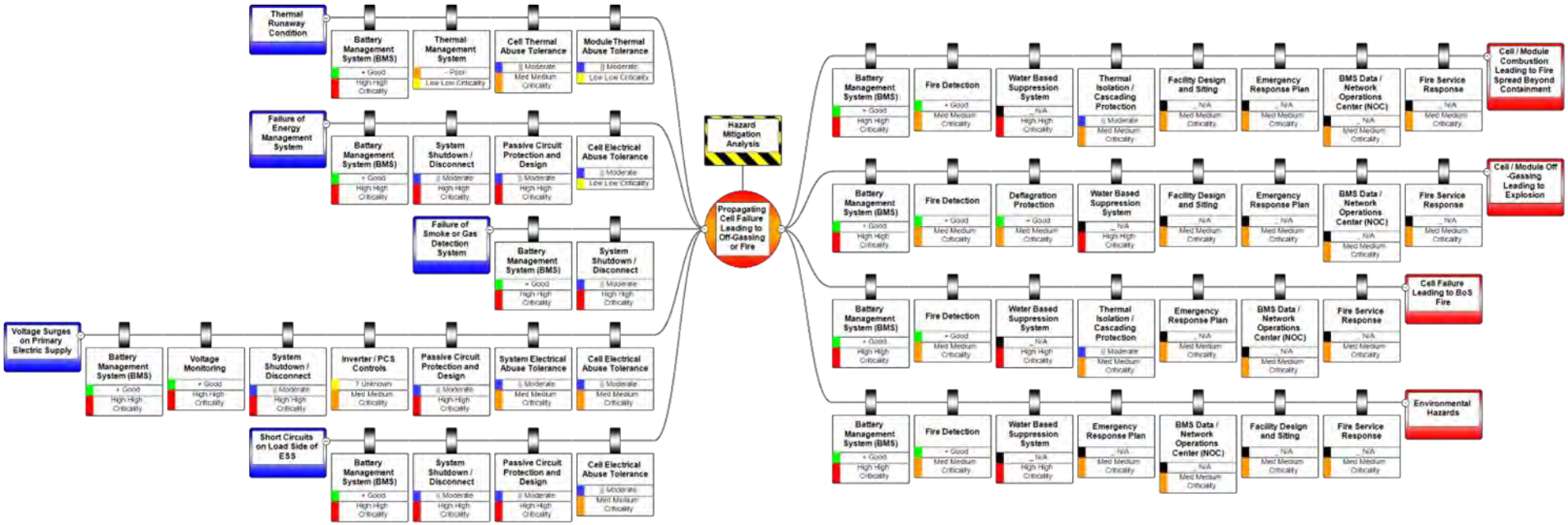


Figure 0–11 – Maximum Gas Concentrations (Observed at 33 Seconds)

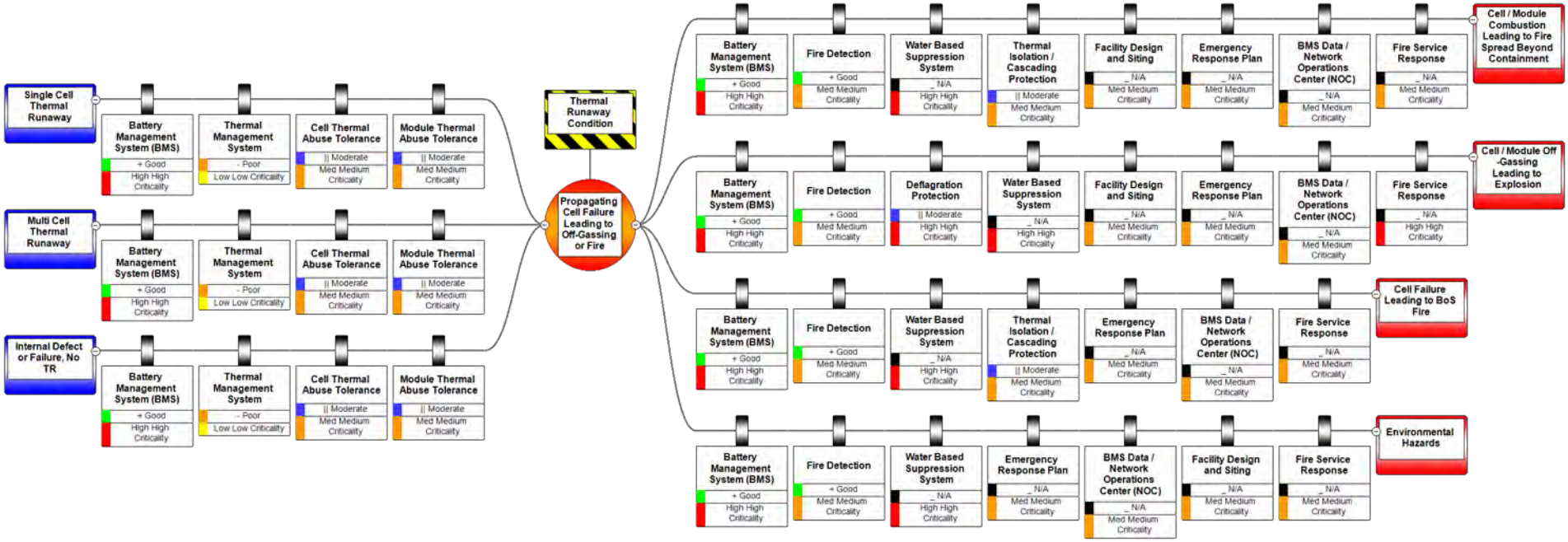


APPENDIX A – DETAILED HMA DIAGRAMS

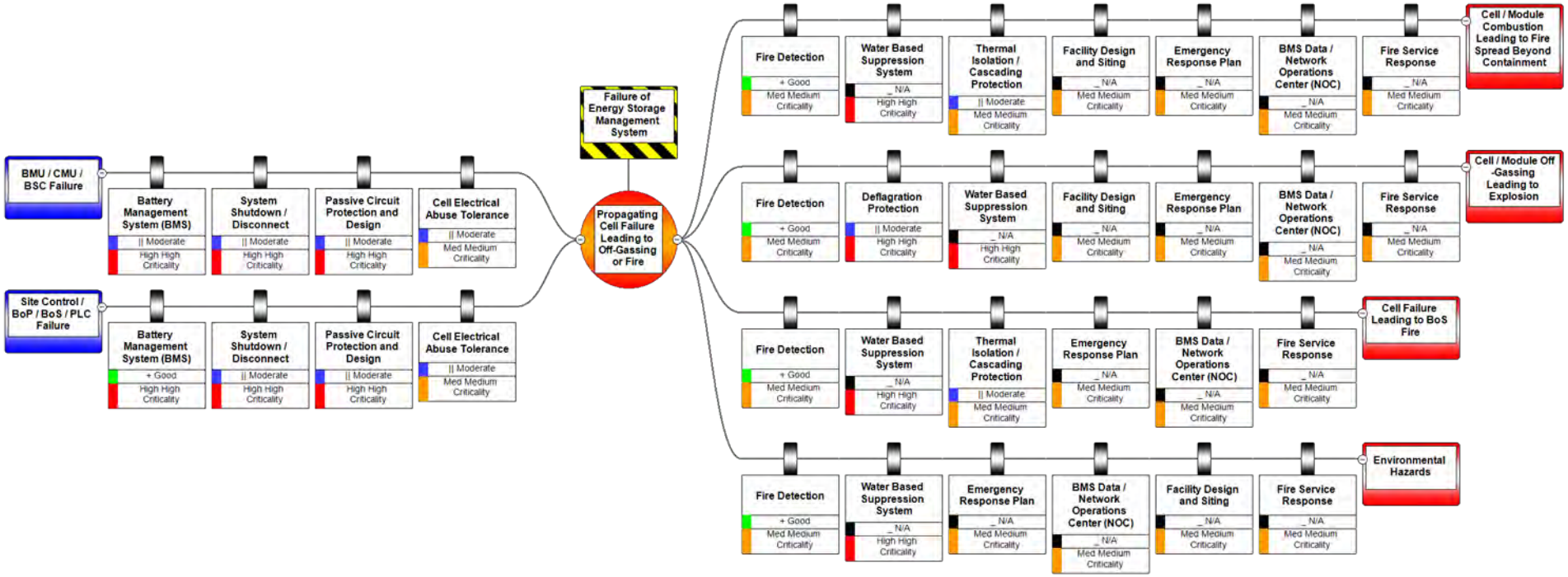
A.1 All Fault Conditions



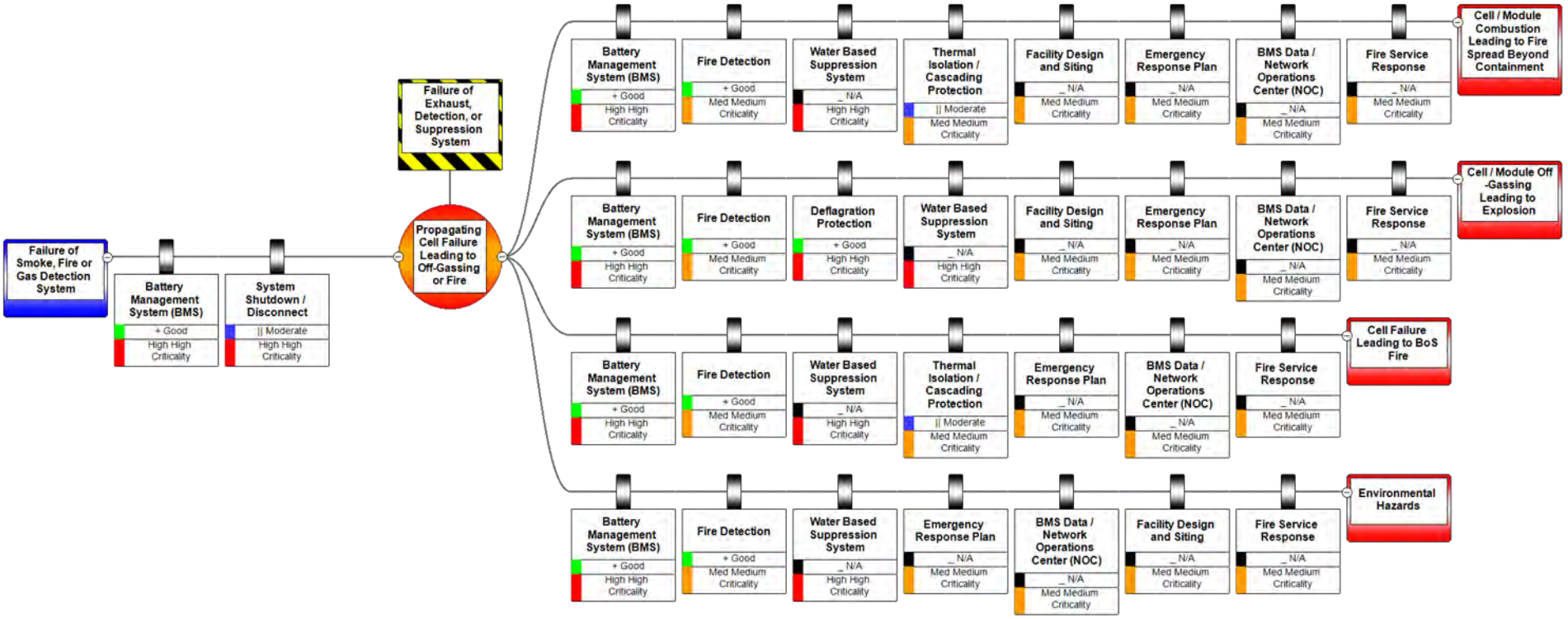
A.2 Thermal Runaway Condition



A.3 Failure of an Energy Storage Management System



A.4 Failure of a Required Protection System

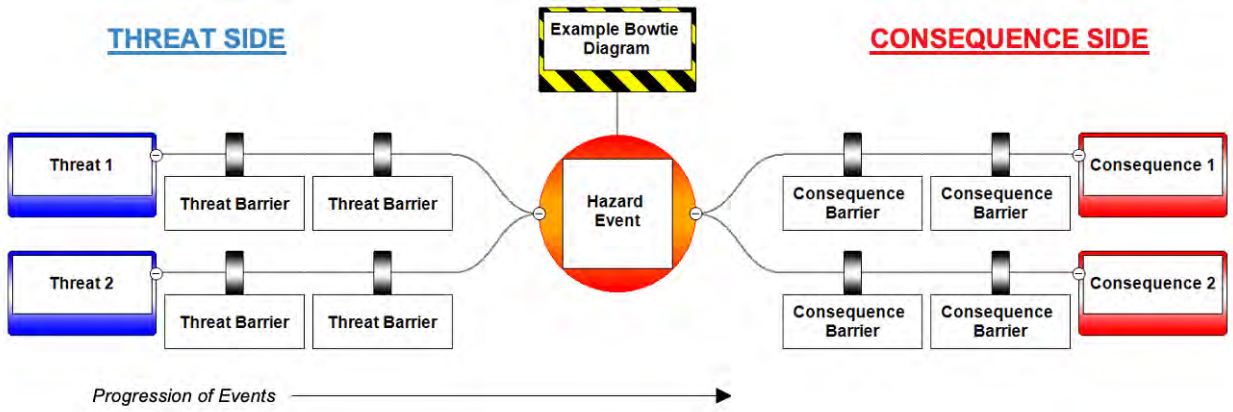


APPENDIX B – HMA METHODOLOGY

This appendix serves as a supplement to the overall Hazard Mitigation Analysis (HMA) and provides additional context on the bowtie methodology used, as well as key definitions and concepts.

ESRG utilizes the bowtie methodology for hazard and risk assessments, as is described in *ISO/IEC 31010 §B.21*, as it allows for in-depth analysis of individual mitigative **barriers** and serves as a strong tool for visualizing the chronological pathway of **threats** leading to critical hazard events, and ultimately to greater potential **consequences**, as depicted in the figure below. This simple, diagrammatic way of describing and analyzing the pathways of a risk from hazards to outcomes can be considered a combination of the logic of a fault tree analyzing the cause of an event and an event tree analyzing the consequences.

The strength of the bowtie approach comes from its visual nature which shows a single risk or consequence and all the barriers in place to stop it without the need for complex, numerical tables for threat pathways. On the left side are the threats, which are failures, events, or other actions which all result in a single, common hazard event in the center. For our model, many of these threats are the requirements of the fire code such as an unexpected thermal runaway.



- **Hazard Event / Top Event**

  The hazard (or "top") event – depicted as the center point in the middle of the bowtie diagram – represents a deviation from the desired state during normal operations (in this case, a thermal runaway or cell failure event), at which point control is lost over the hazard and more severe consequences ensue. This event happens before major damage has occurred, and while it is still possible to prevent further damage.

- **Threats**

  There may be several factors that cause a top event. In bowtie methodology, these are called threats. Each threat itself has the ability to cause the top event. Examples of threats are hazardous temperature conditions, BMS failure, and water damage from

condensation, each leading to cell failure (the top event for many of the bowtie diagrams for lithium-ion ESS failures).

Threats may not necessarily address a fully involved system fire or severe explosion, but rather smaller, precursor events which could lead to these catastrophic consequences. Some threats occur without any intervention, such as defect propagation or weather-related events, while others represent operational errors (either human or system-induced). At times, threats may also be consequences of even earlier-stage threats, spawning a new bowtie model that includes the threat at the center point or right side of the new bowtie. The diagrams in this analysis include careful selection and placement of each of the elements to best capture the perspective of system owners and operators responsible for ensuring safe operation.

- **Consequences**

  Consequences are the results of a threat pathway reaching and exceeding its top event. For the models included in this analysis, the top events were selected as the event in which proactive protections give way to reactive measures mostly related to fire protection systems and direct response. As the top event then is defined as either “cell failure” or propagating cell failure, the consequences in the models described assume a condition exists in which flammable gas is being released into the system or a fire is burning within the system.

  Consequence pathways include barriers that may help to manage or prevent the consequence event. Threat pathways are often consequence pathways from a separate hazard assessment, as is the case with thermal runaway. In other words, thermal runaway may result from many different threats at the end of a separate hazard pathway (if not properly mitigated) and may also be the threat that could result in several other consequences. The included models identify a set of common consequences representing areas of key concern to utilities, energy storage system operators, and first responders.

- **Barriers**

  To control risks, mitigative “barriers” are placed to prevent propagation of failure events across the system. A barrier can be any measure taken that acts against an undesirable force or intention to maintain a desired state. Barriers can be included as proactive threat barriers or reactive consequence barriers.

  Each barrier in these models is indicative of a concept that may include a single approach or may consist of a complex series of combined measures. Similarly, the analysis may not include barriers required to prevent the threats at the far left of the diagram (which would be placed even further left) to ensure the models do not extend infinitely. However, the incorporation of these variables into site-specific safety evaluations may provide additional benefit. This list does not contain all possible solutions and, in some designs, these barriers may not exist at all. Many of the same barriers apply to several threats.

Barriers may mitigate hazards or consequences in a variety of ways. For example, common barriers to thermal runaway include active electrical monitoring and controls, redundant failure detection, and even passive electrical safeties (such as over-current protection devices and inherent impedances). Should these systems fail to detect the threat, shutdown the system, or otherwise prevent thermal runaway from occurring, the hazard may persist.

APPENDIX D – REFERENCED DOCUMENTS

1. *CBFAD_C613S4_80146721 UL 9540A Checklist and Test Result (4th Edition)Cell Level Ver.6.1.pdf*
2. *80146723_UL_9540A_Checklist_and_Test_Result_(4th_Edition)Unit_Level_Ver.6.pdf*
3. *NFPA 69 Deflagration Prevention CFD Analysis.pdf*

APPENDIX E – REFERENCED CODES AND STANDARDS

- *NFPA 855 Standard for the Installation of Stationary Energy Storage Systems*, 2023 Edition
- *UL 9540A Standard for Test Method for Evaluation Thermal Runaway Fire Propagation in Battery Energy Storage Systems,* 4th Edition
- *UL 9540 Standard for Energy Storage Systems and Equipment,* 2nd Edition
- *NFPA 69 Standard on Explosion Prevention Systems,* 2019 Edition
- *NFPA 72 National Fire Alarm and Signaling Code,* 2022 Edition
- *UL 1973 Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications, 2022 Edition*

Little Prairie Battery Energy Storage System

EMERGENCY RESPONSE PLAN

Rev. 0 | February 25, 2025

Summary

This document serves as a site-specific Emergency Response Plan (ERP) for the Little Prairie BESS Project to be located in Champaign County, IL.

This ERP provides information and instructions to guide first responders in preparing for, and safely responding to, an incident, fire, or other emergency associated with the Little Prairie energy storage facility.

LIFE SAFETY SHALL BE THE HIGHEST PRIORITY DURING ANY TYPE OF EVENT

Prepared For:

Baywa-r.e.
1999 Bryan St., Suite 900
Dallas, TX 75201

Energy Safety Response Group
PO Box 12639
Columbus, OH 43212

www.energyresponsegroup.com
1-833-SAFE-ESS

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EMERGENCY CONTACT INFORMATION

IN CASE OF EMERGENCY CALL 911

FD DISPATCH / COMMUNICATIONS

Sidney Fire Protection District

Phone: **(217) 688-2617**

Address: 302 S. David St.
Sidney, IL 61877

LOCAL FIRE STATION

Sidney Fire Protection District

Phone: **(217) 688-2617**

Address: 302 S. David St.
Sidney, IL 61877

LOCAL POLICE DEPARTMENT

Homer Police Department

Phone: **(217) 896-2396 (non-emergency)**

Address: 500 E. 2nd St.
Homer, IL 61849

SYSTEM OWNER / OPERATOR

Baywa-r.e.

Phone: **[TBC]**

Address: 1999 Bryan St., Suite 900
Dallas, TX 75201

PROPERTY OWNER

[Unknown]

Phone: **[TBC]**

Address: **[TBC]**

SUBJECT MATTER EXPERT

[TBC]

Phone: **[TBC]**

Address: **[TBC]**

REMOTE OPERATIONS CENTER (24/7)

Remote Operations Center - TBC

Phone: **(###) ###-####**

Address: **TBD**

ESS MANUFACTURER

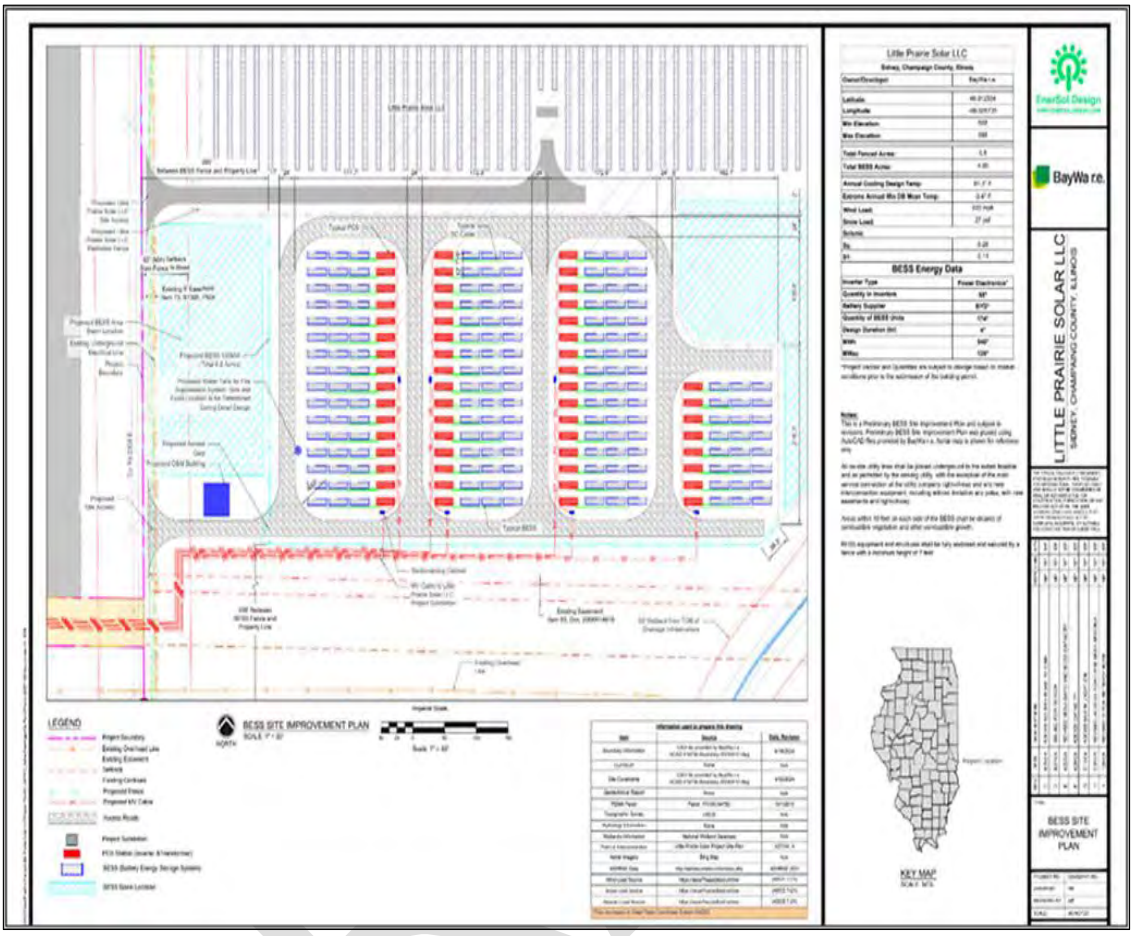
BYD

Phone: **(213) 748-3980**

Address: 888 E Walnut St
Pasadena, California 91101

ENERGY STORAGE SYSTEM INFORMATION

Little Prairie ENERGY STORAGE FACILITY



ENERGY STORAGE SYSTEM

Make / Model: BYD MC Cube ESS

(Model MC10C-B5365-U-R4M01)

Total MW / MWh: 135 MW / 540 MWh

kW / kWh per Unit: 135,000 kW / 540,000 kWh

 # Units: 174

FIRE DETECTION SYSTEM

Each MC Cube is equipped with one smoke detector, one heat detector, and one flammable gas detector.

Signals are monitored through the battery management system (BMS) and energy management system (EMS). The BMS/EMS is monitored 24 hours per day, seven days per week by a remote operations center (ROC). Audible (alarm bell) and audible/visual (horn/strobe) notification devices are installed on the distribution management side of the container.

FIRE SUPPRESSION SYSTEM

There is no external or internal fire suppression system provided (or required for an outdoor non-enterable installation).

EXPLOSION PROTECTION

Each MC Cube is equipped with an active explosion prevention system, designed in accordance with *NFPA 69* to maintain the concentration of flammable gases released during abnormal conditions to below 25% LFL. This consists of two fans which push outdoor air into the enclosure and two louvers to allow gas to escape from the compartment.

WATER SUPPLY

Water supply will be provided via fire department tankers/shuttle operations.

PROJECT INFORMATION

Project Name	**Little Prairie BESS Project ERP**
Project No.	24-20412
Prepared For	**Baywa-r.e.** 1999 Bryan St., Suite 900 Dallas, TX 75201
Revision No.	Rev. 0
Date of Issue	02/25/2025

REVISION HISTORY

Revision No.	Date of Issue	Substance of Change
Rev. 0	02/25/2025	Draft issue

Note 1: *The information in this document is subject to change while in DRAFT status and may be subject to change in the event of modifications to equipment or other factors affecting the design of the system or overall installation.*

Note 2: *During the operating life span of the project, it is expected that this document shall be reviewed annually, and that all pertinent information shall be appropriately updated as necessary. This ERP is compiled based upon current design and usage at the time of this writing.*

IMPORTANT NOTICE AND DISCLAIMER

Energy Safety Response Group LLC (ESRG) is providing an as-built final revision of this document based on an "as-built" system. This document should not be provided externally until agreed by all responsible parties.

The industry, related technology, and best practices are rapidly evolving and changing regularly. It has been observed that changes often occur to a project through the construction phase, be they to the battery itself or to the balance of system. As such, an "as-designed release" document should be considered final only if no changes are made to the system from design to construction to completion. If it is 100% accurate it will be released unchanged. However, should ESRG encounter deviations from the design, the document will be amended accordingly per the design changes and then released as a final document.

This document conveys the results of research, investigations, intellectual property development, experience, and analysis to provide opinions, recommendations, explanations, service offerings, and quotations from ESRG. This document is not meant to serve as professional and credentialed engineering, legal, technical, or emergency response judgment, and should not be used in place of consultation with such appropriate professionals. Appropriate professional advice should be obtained regarding such issues as required.

The contents of this document are in no way meant to address specific circumstances, and the contents are not meant to be exhaustive and do not address every potential scenario associated with the subject matter of the document. Site and circumstance-specific factors and real-time judgment and reason may significantly impact some of the subject matter conveyed in this document. Additional resources and actions, which may be beyond the scope of this document, may be required to address specific issues. Additionally, laws, ordinances, regulatory standards, and best practices related to the contents of this document are subject to change or modification.

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DEFINITIONS

ACRONYMS

AR	Arc-Rated
BMS	Battery Management System
COD	Commercial Operations Date
E-Stop / EPO	Emergency Stop / Emergency Power Off
ERP	Emergency Response Plan
EMS / ESMS	Energy Management System / Energy Storage Management System
ERG	Emergency Response Guide (generic, product-level emergency response guide)
ESRG	Energy Safety Response Group
ESS / BESS	Energy Storage System / Battery Energy Storage System
FACP	Fire Alarm Control Panel
FCC	Fire Command Center
FDC	Fire Department Connection
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
kW	Kilowatt(s)
kWh	Kilowatt-hour(s)
LFL / LEL	Lower Flammability Limit / Lower Explosive Limit
LFP	Lithium Iron Phosphate
LOCA	Letter of Conditional Acceptance
MW	Megawatt(s)
MWh	Megawatt-hour(s)
NCA	Nickel Cobalt Aluminum Oxide
NMC	Nickel Manganese Cobalt Oxide
O&M	Operations and Maintenance

PCS	Power Conversion System
PPE	Personal Protective Equipment
SCBA	Self-Contained Breathing Apparatus
SDS	Safety Data Sheet
SME	Subject Matter Expert
SOC	State of Charge
UC	Unified Command
UFL / UEL	Upper Flammability Limit / Upper Explosive Limit

ROLES AND RESPONSIBILITIES

Site Owner	The owner of the premises upon which the battery system is installed.
Site Operator	The entity responsible for site operations.
Incident Commander (IC)	The person responsible for the overall management of the incident and determines which Command or General Staff positions to staff to maintain a manageable span of control and ensure appropriate attention to the necessary incident management functions.
Subject Matter Expert (SME)	A person appointed by the site owner or operator to respond to the Fire Department technical requests or questions about the battery system.
Remote Monitoring Facility / Operations Center	Facility providing 24/7 remote monitoring of the battery Energy Storage Management System (ESMS) and provides notification to the System Owner and battery manufacturer.

TABLE OF CONTENTS

TABLE OF FIGURES

1 INTRODUCTION

1.1 Scope and Purpose

This Emergency Response Plan (ERP) is provided for the Little Prairie Battery Energy Storage System (ESS or BESS) facility located within Champaign County, IL. The purpose of this document is to provide guidance and pertinent information regarding the roles, responsibilities, and chain of communication and command for the System Owner / Operator, Property Owner, and other required Subject Matter Experts (SMEs) to prepare for, and safely respond to, a fire, explosion, or other battery-related incident requiring a public safety response at the energy storage facility.

During construction on-site personnel will be assigned by [**Name**] Construction. “On-site personnel” include all individuals on the facility property who are direct employees of the Owner / Operator or affiliated contractors. The Owner / Operator and contractors are similarly responsible for establishing and maintaining contractor-specific Emergency Response Plans and reporting procedures that will work in conjunction with the overall energy storage facility plan.

Life safety shall be the highest priority during any type of event.

1.2 Timeframe

This Emergency Response Plan covers the timeframe beginning at final approval of the local permitting Authority Having Jurisdiction to the finalization of decommissioning and removal of the energy storage system.

1.3 Activation

This Emergency Response Plan shall be activated during any emergency response to a battery-related incident on site.

1.4 Agency Jurisdiction

This plan has been strictly developed for the responding Fire Department(s) and does not cover multi-agency response.

1.5 Incident Command System (ICS)

The Subject Matter Expert shall integrate into the Incident Command System (ICS) for an emergency.

The SMEs, Remote Monitoring Facility staff, and all energy storage system related personnel shall comply with the orders of the Incident Commander (IC) and the Command Staff.

1.6 Operations and Maintenance (O&M)

Normal O&M procedures for the energy storage facility and associated equipment are outside the scope of this document. This ERP, however, is applicable to this facility during construction, commissioning, and throughout the project's lifespan.

Refer to manufacturer Operations and Maintenance manuals for all associated equipment related to the site prior to beginning any work on this installation.

1.7 ERP Update Process

1.7.1 Issuance and Revisions

Dates for draft issuance, revisions, and final issuance of this ERP are provided on page 5 of this document.

1.7.2 Updates and Document Maintenance

Updates to this ERP based on any major material changes to the installation are the responsibility of the System Owner / Operator and any other relevant entities. All revisions to this ERP shall be recorded in alignment with Section 1.7.1 above.

1.7.3 Annual Review

During the operating lifespan of this installation, it is expected that this document shall be reviewed annually, with all pertinent information updated as required. A log of regularly scheduled annual reviews is provided in Appendix C of this document.

1.7.4 Plan Retirement

All decommissioning procedures should be performed by trained and knowledgeable persons in alignment with the Decommissioning Plan provided for this installation. Decommissioning shall be performed under supervision of the System Owner / Operator responsible for this installation.

Notification of decommissioning shall be provided to the Fire Department by the System Owner / Operator and/or Subject Matter Expert responsible for this installation.

2 SITE DESCRIPTION

2.1 Site Location

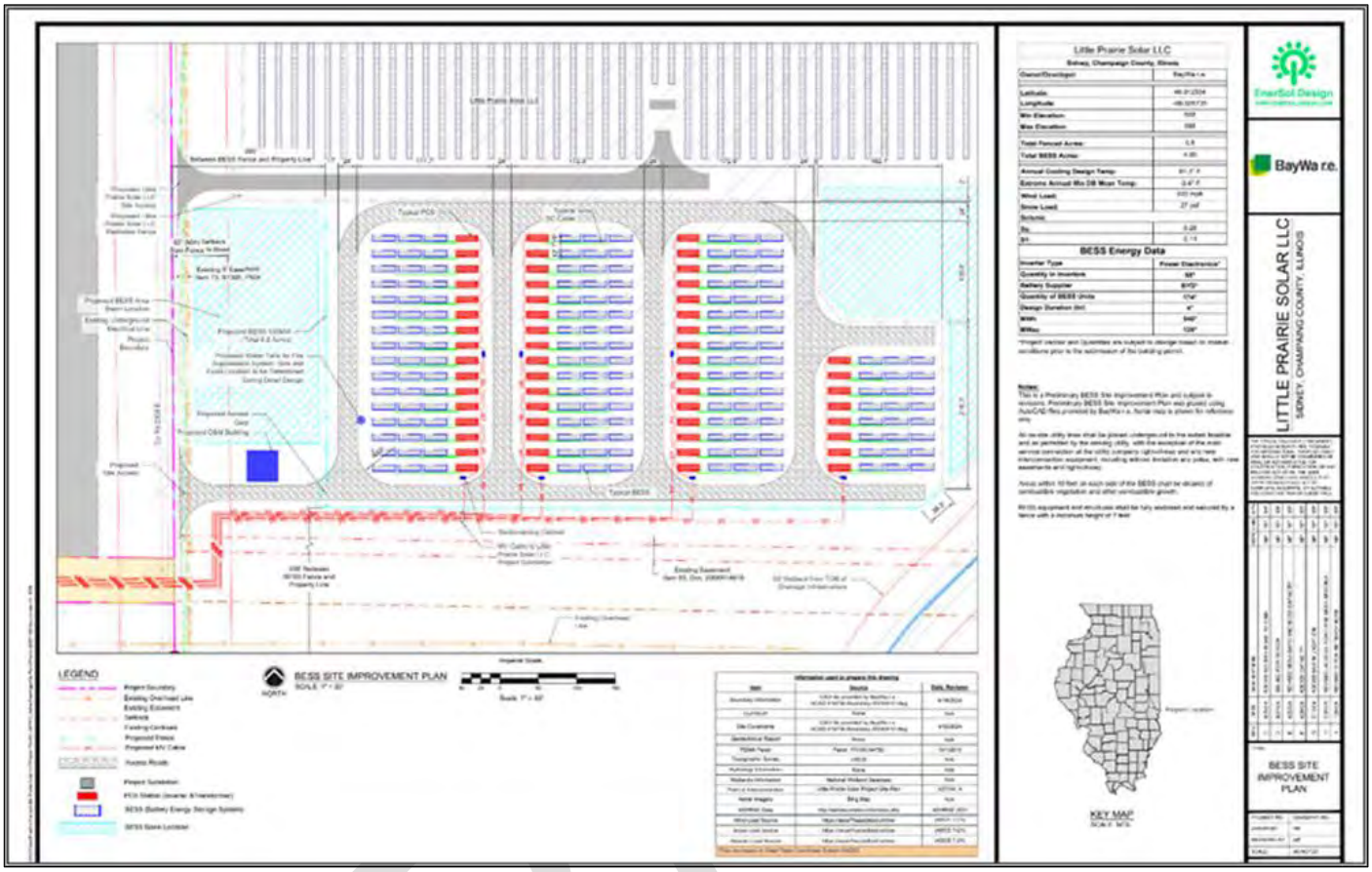
The Little Prairie BESS facility will be located at CR 2300 E, Champaign County, IL 61849 (Figure 1). Fire department access to the site is provided via County Road 2300 E, as a fire apparatus accessible entrance. Access to the secured facility is provided by one, 20-foot-wide, double-swing gate. The gate has a setback of approximately 200 feet from County Road 2300 E.

Figure 1 - Site Location

The site (Figure 2) will be bound along all exposures by various elements to screen the view of proposed equipment and prevent unauthorized access.

SITE INFORMATION	
Site Address: CR 2300 E, Champaign County, IL 61849	
GPS Coordinates: [40.019496, -88.027498]	**Special Flood Zone:** No

Figure 2 - Site Plan



2.2 Fire Department Access and Staging Area

The responding fire department(s) should begin staging approximately 100 feet from the facility until an assessment of incident severity demonstrates that such a separation distance can be reduced. If there is no visible flaming or smoking, responding units may proceed to the predetermined Fire Department Staging Area.

Fire Department access into the Little Prairie BESS facility is provided via a Fire Department approved Knox Box located at the entrance gate (Figure 3).

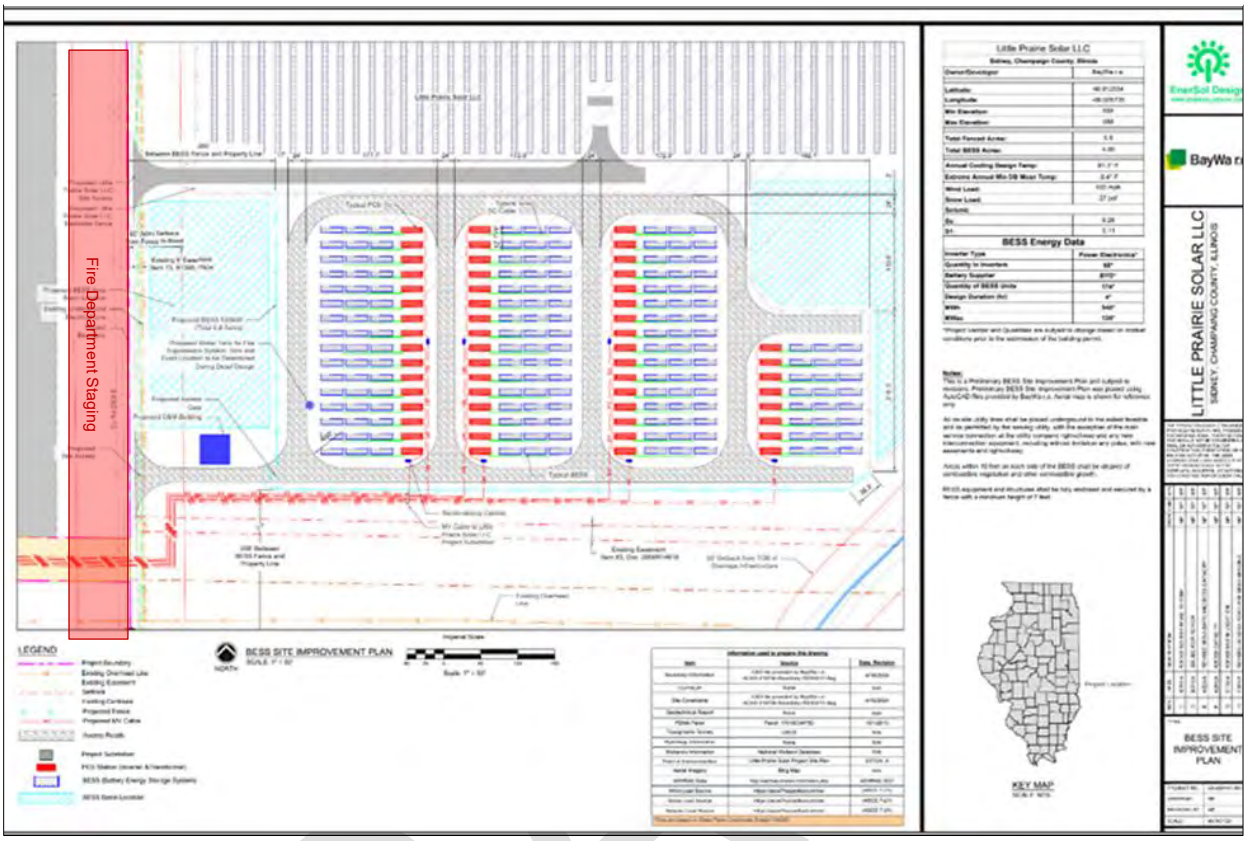
Figure 3 - FD Access and Knox Box

The Primary Fire Department Staging Area (Figure 4) is located on County Road 2300 E, immediately outside the entrance gate. It is recommended that Fire Department Staging Areas are established at angles relative to the sides of the ESS enclosures to reduce potential impact from flying projectiles or debris in the event of an explosion event.

A Secondary Fire Department Staging Area may be determined by the Incident Commander during a fire event if the prevailing winds and smoke negatively impact the location of the primary staging area.

The fire department should not attempt to approach the BESS enclosures unless there is a clear threat to life safety.

Figure 4 – Fire Department Staging



2.3 Site Security Perimeter

Fire department access to the Little Prairie site is provided via County Road 2300 E as a fire apparatus accessible entrance. Access to the secured facility is provided by one, 20-foot-wide, double-swing gate. The gate has a setback of approximately 200 feet from County Road 2300 E.

The site is bounded along all exposures by various elements to screen the view of proposed equipment and prevent unauthorized access.

2.4 Emergency Response Plan Access

Physical copies of the Emergency Response Plan (ERP), operational permits, O&M logs, product manuals, etc. will be provided to the Fire Department. Additional copies will be provided on site in a weatherproof enclosure – LOCATION TBD.

2.5 Equipment Access

The MC Cube enclosures are only accessible for maintenance purposes via cabinet-style enclosure doors and cannot be physically entered by personnel at any time.

The Fire Department should not attempt to open the enclosure doors at any time.

2.6 Fire Department Water Supply/Suppression System

The water supply for the site will be provided by responding apparatus utilizing water shuttle/tanker operations.

The proposed MC Cube system has an option for a hot aerosolized fire suppression system. Baywa-r.e. has stated that the conceptual design in utilizing the MC Cube will be equipped with this type of suppressant in each enclosure.

2.7 Nearby Exposures

The BYD MC Cube ESS units will be sited outdoors at grade level and the separation distances between enclosures within the secured facility meet or exceed the manufacturer's recommended separation distances. The nearest exposures to the BESS enclosures include:

1. PV arrays to the North of the site.

2.7.1 First Responder Staging Area

The First Responder Staging Area is located on [**location TBC**] immediately outside the entrance gate. It is recommended that First Responder Staging Areas are established at angles relative to the sides of the ESS enclosures to reduce potential impact from flying projectiles or debris in the event of an explosion event.

A Secondary Fire Department Staging Area may be determined by the Incident Commander during a fire event if the prevailing winds and smoke negatively impact the location of the primary staging area.

2.8 Site Maintenance

The facility's access gate and interior access pathways shall be maintained to guarantee accessibility to the site for emergency personnel, especially during inclement weather. The System Owner / Operator shall ensure that applicable, ongoing upkeep activities are in place prior to construction (e.g., snow removal, landscaping, etc.).

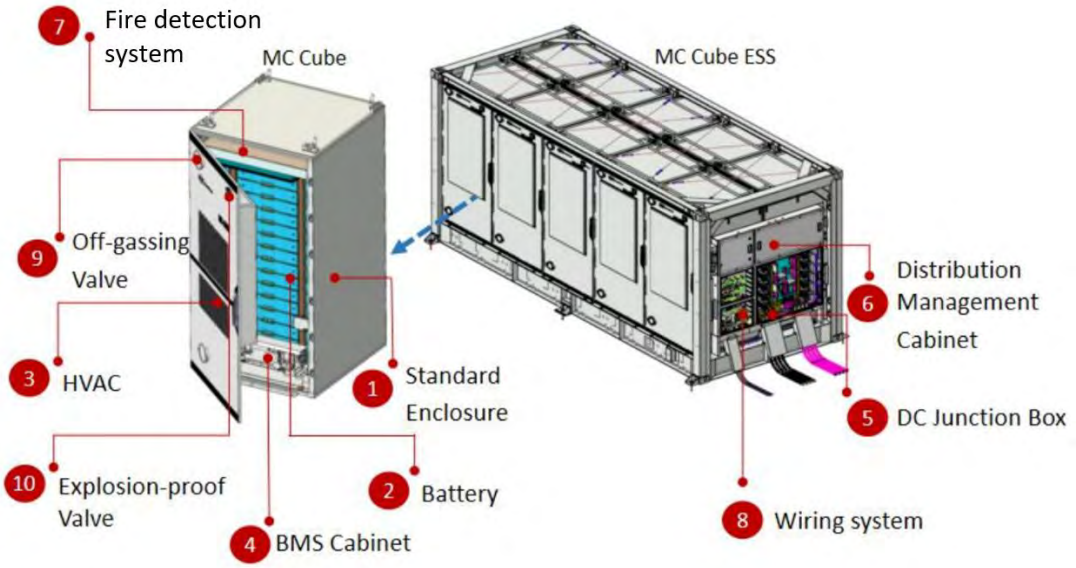
3 ENERGY STORAGE SYSTEM

The BYD MC Cube ESS (Model MC10C-B5365-U-R4M01) is a modular, cabinetized (or non-enterable), four-hour stationary storage battery system (Figure 5). The MC Cube ESS contains 10 individual MC Cube compartments, each containing 416 lithium iron phosphate (LFP) battery cells wired in series, providing a total energy capacity of 5,365 kWh at beginning of life (BOL).

Figure 5 – Typical BYD MC Cube ESS

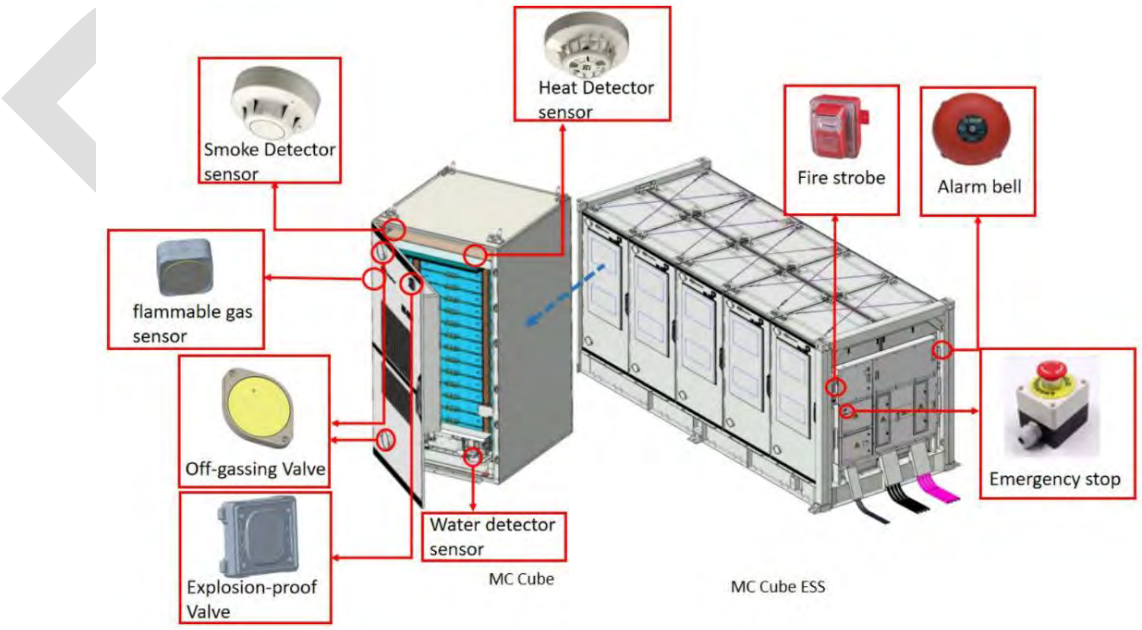
Each MC Cube ESS incorporates all power electronics, controls, and safety features required to support the DC side of a BESS (Figure 6). The enclosure and all components within are factory installed and commissioned, requiring only limited field integration upon delivery. All components are integrated into a standard IP-55 rated container measuring 19.9 ft wide x 8 ft deep x 9.5 ft high. All cabinet bays are only accessible from the exterior and cannot be physically entered at any time. The MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube, to ensure optimal battery functionality. The BMS constantly monitors and controls battery voltages, temperatures, state of charge (SOC), and other key operating parameters. Cell-level and cabinet temperatures are managed through individual MC Cube HVAC systems.

Figure 6 - Layout and Features of the MC Cube & MC Cube ESS



The MC Cube ESS has a variety of integrated fire safety features including automatic smoke detection, heat detection, and combustible gas detection within each MC Cube compartment. Audible (alarm bell) and audible/visual (horn/strobe) notification devices are provided on the exterior of the MC Cube ESS. An explosion prevention system, in compliance with NFPA 69, is provided in each MC Cube compartment for emergency exhaust of flammable gases from within the enclosure in the event of a thermal runaway event.

Figure 7- Fire Protection Features of the MC Cube & MC Cube ESS



4 FIRE PROTECTION FEATURES

4.1 Gas Detection and Explosion Protection

Each individual MC Cube in the ESS is equipped with one smoke detector, one heat detector, and one flammable gas detector. Alarm setpoints for each initiating device are listed in Figure 8. Signals from these devices are monitored through the battery management system (BMS) and energy management system (EMS). The BMS/EMS is monitored 24 hours per day, seven days per week by a remote operations center (ROC). Audible (alarm bell) and audible/visual (horn/strobe) notification devices are installed on the distribution management side of the container.

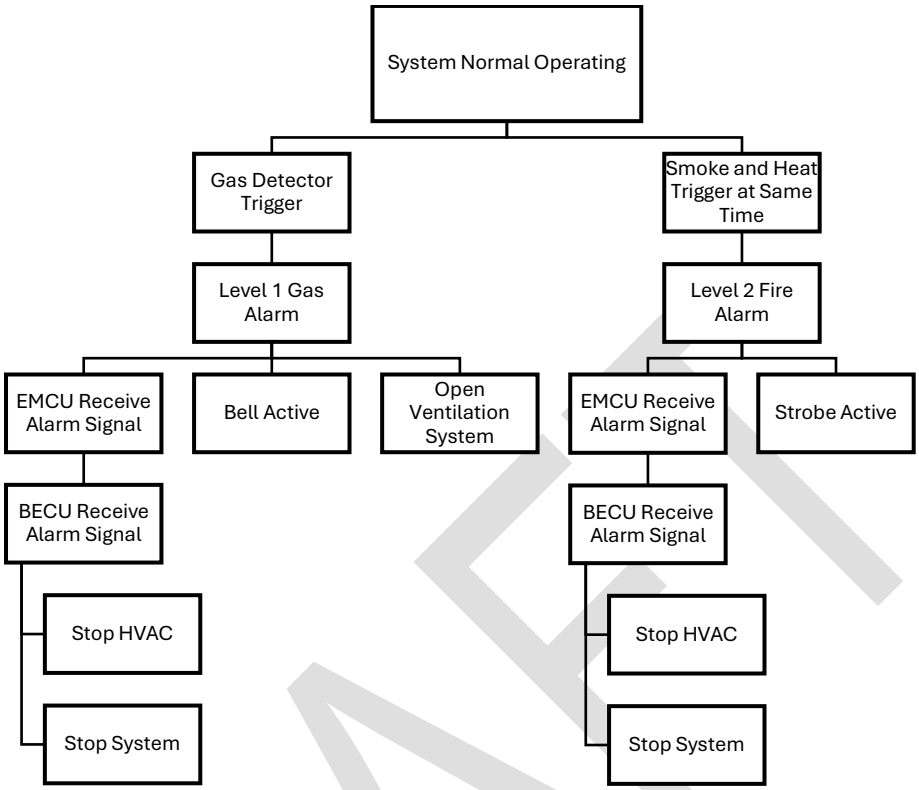
Figure 8 - Initiating Device Alarm Setpoints

Device	Alarm Setpoint
Smoke Detector	2.5 %/ft smoke obscuration
Heat Detector	57.2°C (135°F)
Gas Detector (Li-ion Tamer)	100 ppm

If the gas detector in an MC Cube is triggered, the MC Cube ESS will communicate a Level 1 alarm condition to the site EMS. A Level 1 alarm condition will activate the alarm bell, stop HVAC operation, shut down the system, and activate the explosion prevention system. If the smoke and heat detector in any single MC Cube compartment are triggered, the MC Cube ESS will communicate a Level 2 alarm condition to the site EMS. A Level 2 alarm condition will activate the horn/strobe device, stop HVAC operations, shut down the system, and shut down the explosion prevention system to avoid introducing additional oxygen to a potential thermal event.

Each individual MC Cube is equipped with an active explosion prevention system, designed in accordance with *NFPA 69* to maintain the concentration of flammable gases released during abnormal conditions to below 25% LFL within the enclosure. The explosion prevention system consists of two fans which push outdoor air into the enclosure and two louvers (off-gassing valves) to allow gas to escape from the compartment. The two fans provide a combined maximum airflow of 815 cubic feet per minute (CFM).

Figure 9 - Alarm Response Logic



The mechanical fans and exhaust louvers in each MC Cube compartment are activated by the Li-ion Tamer gas detector. The Li-ion Tamer differs from a conventional gas detector and is specifically designed to detect early signs of battery failure through gas detection. The detector has a response time of five seconds and is capable of single-cell fault detection with a minimum detection threshold of less than 1 ppm/sec. The explosion prevention system is set to activate when the Li-ion Tamer detects 100 ppm of flammable gas from a battery failure.

WARNING: Risk of Re-ignition	
	Do **NOT** assume the fire is out as the fire event unfolds. A lithium-ion battery fire, which has seemingly been extinguished, may flare up again if all cells within the enclosure have not been completely consumed. The risk of battery re-ignition can remain present for hours or even days after the smoke / flame is initially detected.
WARNING: Risk of Explosion / Deflagration	
	An explosion / deflagration / overpressure event is a critical hazard, and any emergency on site should always be addressed with full awareness of potential factors which may lead to such an event. **Any failure or alarm condition should result in the assumption of an explosion risk.**

WARNING: Electrical Shock Hazard

	In case of flooding, stay out of the water if any part of the BESS unit(s) or wiring is submerged.

4.2 Emergency Shutoffs

In the event of an emergency on site, the MC Cube ESS can be shut down locally or remotely. A system shut down will result in electrical isolation of the battery strings and cessation of battery charging or discharging. A system shutdown will not de-energize the battery bank, nor will it guarantee that a fault or thermal runaway event has been stopped.

The Fire Department should not engage with E-Stops, as an ESS shutdown may adversely affect the electrical grid. Any interaction with E-Stops should only be initiated in coordination with the System Owner / Operator and other SMEs, as deemed necessary.

4.2.1 Local Emergency Shutdown

Use of the Local Emergency Shutdown should only be initiated by the System Owner/Operator or other SME

If safe to approach the MC Cube ESS, the E-Stop button located on the front of the MC Cube ESS can be pushed. See Figure 7 for the location of the E-Stop button. When the E-Stop is pushed, the MC Cube's BMSs will disconnect all battery strings from the main system bus, thereby stopping all charging and discharging. Simultaneously the site's power conversion system (PCS) will shut down if property configured to do so.

If indications of a fire within the MC Cube exists, such as smoke, flame, or activation of the fire alarm strobe, remote system shutdown should be initiated. At no time should first responders attempt to open the MC Cube ESS access doors.

4.2.2 Remote System Shutdown

During normal operation, the MC Cube ESS will be under the control of a site Energy Management System (EMS) or Local Plant Controller (LPC). The EMS/LPC in turn will communicate with, and be controlled by, an offsite fleet controller, SCADA operations center, or other third-party dispatch and monitoring entity. MCC Cube ESS alarms will be forwarded to such remote operations, and in turn, remote operations personnel cand shut down the MC Cube ESS if determined to be necessary.

CAUTION: Risk of Stranded Energy	
	Shutting off power to the MC Cube unit(s) does not de-energize the battery and shock hazard may still be present. Always treat the batteries as Energetic Hazardous Materials, as they may maintain their State of Charge (SOC) long after the removal of power to the overall ESS.

WARNING: Risk of Fire and Explosion	
	Risk of fire or explosion may be present in the event of a battery failure. The Fire Department should not attempt to engage with any site or enclosure E-stops. Assistance in shut down should be provided by the System Owner / Operator and any other required SMEs.

WARNING: Electrical Shock Hazard	
	In case of flooding, stay out of the water if any part of the MC Cube unit(s) or wiring is submerged.

4.3 Battery Management System (BMS)

The MC Cube ESS houses 10 battery management systems (BMS), one for each MC Cube. The BMS works in concert with the Battery Information Collector (BIC) to ensure optimal battery functionality, lifespan, and safety. The BMS continuously monitors battery parameters such as voltage, temperature, state of charge (SOC), insulation, and other parameters to ensure early detection of pre-fault conditions and immediate detection of fault events. The BMS also performs maintenance functions such as cell balancing. In the event the BMS detects a fault condition, or if an operational parameter exceeds an acceptable range, the BMS will isolate the impacted battery string by opening integrated DC contactors.

5 FIRE DETECTION, ALARMING, AND NOTIFICATION

5.1 Fire Detection

Each individual MC Cube in the ESS is equipped with one (1) smoke detector, one (1) heat detector, and one (1) flammable gas detector. Alarm setpoints for each initiating device are listed in Figure 8. Signals from these devices are monitored through the battery management system (BMS) and energy management system (EMS). The BMS/EMS is monitored 24 hours per day, seven days per week by a remote operations center (ROC). Audible (alarm bell) and audible/visual (horn/strobe) notification devices are installed on the distribution management side of the container.

5.2 Remote Monitoring Facility

Smoke, heat, and gas detectors in each MC Cube compartment are monitored 24/7 by a remote operations center (ROC), triggering alarm signals and respective safety responses.

BMS data is transmitted to a remote operations center (ROC) for monitoring via redundant communications pathways (hardline and cellular signal). BMS data may also be made available locally for a subject matter expert (SME).

Additionally, if more detailed information on the state of the MC Cube units is required, the Remote Operations Center should be contacted.

Remote Operations Center (for Emergency Use)

- **24/7 Emergency Contact:** TBD
- **Email Support:** TBD

6 HAZARDS ASSOCIATED WITH LI-ION BATTERY ESS

Lithium-ion battery failures pose several major risks, as are briefly described in the sections below. Specific response procedures for different incident scenarios are provided in Section 8 of this document.

6.1 Thermal Runaway

The defining characteristic of lithium-ion battery failures is an event known as thermal runaway. Thermal runaway is a chemical process where self-heating in a battery exceeds the rate of cooling causing high internal temperatures, melting, off-gassing / venting, and in some cases, fire or explosion. Thermal runaway can be caused by thermal, mechanical, and electrical abuse; an internal short circuit from manufacturing defects; or the development of metallic dendrites over time that form an internal short circuit.

Flammable and potentially explosive gases – generally white in color – typically evolve when an ESS goes into thermal runaway and may be released in large quantities from battery cells or modules. Fire and explosive incidents may result, and precautions described in the following sections should be observed.

6.2 Fire and Re-ignition

Lithium-ion battery fires burn extremely hot (upwards of 1,000 – 1,500°C) and are generally not easily extinguished. Fire growth may be slow, fast, or ultra-fast (e.g., during a deflagration event) in nature, and may last for several hours before the battery modules are completely consumed. Furthermore, even when a lithium-ion battery fire appears to be fully extinguished, the risk of re-ignition may still be present hours or even days after there are no visible signs of fire.

Application of water directly to affected battery modules is not recommended and may potentially prolong the incident. In the event of a non-battery related fire or incipient fire, the decision to apply water should be made in coordination with the System Owner / Operator and any other required SMEs.

NOTICE	
	Indicators which may provide insight into what is happening or about to happen during an incident may include: ▪ Smoke or flames ▪ Changes in smoke color ▪ Changes in velocity or volume of smoke production ▪ Sounds – popping and / or hissing ▪ Smell – sweet odor

WARNING: Risk of Re-ignition

	Do **NOT** assume the fire is out as the fire event unfolds. A lithium-ion battery fire, which has seemingly been extinguished, may flare up again if all cells within the enclosure have not been completely consumed. The risk of battery re-ignition can remain present for hours or even days after the smoke / flame is initially detected.

6.3 Explosion

Lithium-ion batteries release flammable off-gases during thermal runaway which, if allowed to accumulate within the enclosure, may create an explosive atmosphere, posing serious risk to first responders and nearby exposures. These gases may accumulate within the ESS enclosure at levels above the Lower Explosive Limit (LEL). At sufficiently high accumulations, gases can also exceed their Upper Explosive Limit (UEL), at which point ventilation may bring the environment back into flammable limits, creating a new explosion risk.

It may be difficult to discern conditions within the enclosure if smoke and gas are not visible outside of the enclosure. Furthermore, a single battery cell may release enough flammable off-gas to generate an explosive atmosphere within the enclosure. Therefore, any failure or alarm condition should always result in the assumption of a potential explosion risk.

WARNING: Risk of Explosion / Deflagration	
	An explosion / deflagration / overpressure event is a critical hazard, and any emergency on site should always be addressed with full awareness of potential factors which may lead to such an event. **Any failure or alarm condition should result in the assumption of an explosion risk.**

6.4 Electric Shock

Even if a battery may look to be destroyed by fire and / or other means, there is potential that the battery still contains stranded energy and remains energized. De-energization of the system or any removal of the battery or battery components shall only be performed by a trained and competent individual with appropriate PPE.

Normal overhaul of the ESS enclosure should not be attempted by the Fire Department under any circumstances, as there are considerations for handling damaged batteries requiring equipment and expertise not readily available. Once the scene is secured, these actions may be undertaken by trained experts under close supervision.

WARNING: Risk of Stranded Energy	
	Always treat the batteries as Energetic Hazardous Materials, as stranded energy is likely to remain present. Traditional Fire Department overhaul should not be conducted due to the potential for stranded energy.

6.5 Arc Flash

All ESS components and related electrical equipment shall always be treated as energized (Energetic Hazardous Material).

Appropriate PPE and training are required when working or accessing equipment within an Arc Flash Boundary. In general, when in direct proximity of the battery enclosure, wear a non-melting or untreated natural fiber long-sleeve shirt, long pants, safety glasses, hearing protection, and leather gloves. AR plant clothing is also acceptable. Maintain the Arc Flash Boundary until completion of any task.

6.6 Toxic Smoke and Gas Emission

Lithium-ion batteries may release large quantities of flammable and toxic gas when undergoing failure and pose an inhalation hazard. Materials and chemicals consumed during a thermal runaway event will produce copious amounts of smoke.

The ESS site perimeter should not be entered during a fire or off-gassing event unless there is an imminent threat to life safety, at which time only properly trained and equipped public safety personnel may enter. This entry shall be with full firefighter protective gear including a self-contained breathing apparatus (SCBA).

A fog pattern from a handline or monitor nozzle may be an effective way to control the off-gassing event on the exterior of the battery container from migrating to unwanted areas. However, if water is used in extinguishing flames, these gases can become acids which may cause skin irritation.

WARNING: Toxic Gases	
	Large quantities of toxic smoke and gas may be emitted from the ESS during battery off-gassing or fire situations. **Proper PPE including SCBA should be worn by first responders.**

NOTICE	
	Typical composition of a battery off-gassing event may include: ▪ High concentrations (>10%) of Hydrogen, Carbon Monoxide, and Carbon Dioxide ▪ Lower concentration (<10%) of Methane, Ethane, or other flammable hydrocarbons

6.7 Additional Hazards and Considerations

For additional hazards associated with leaked coolant; leaked refrigerant; leaked electrolyte; emergency considerations during storage, operation, or transportation; first aid measures; or disposal procedures, please see product-level MC Cube Safety Manual.

7 EMERGENCY RESPONSE CONSIDERATIONS

7.1 Emergency Contacts

A list of emergency contacts associated with this installation is provided on page 3.

7.2 Personal Protective Equipment (PPE)

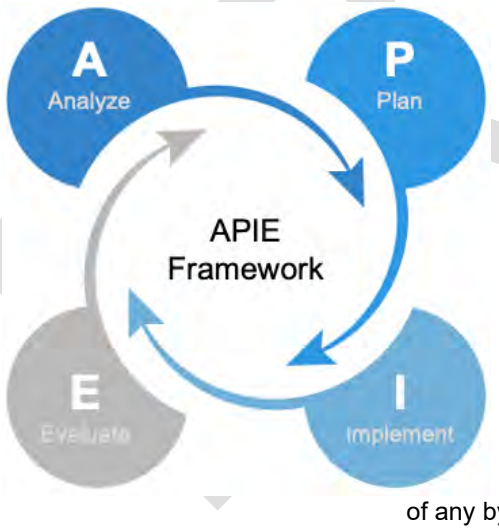
Full firefighter protective gear including SCBA shall be worn during response to any fire and / or explosion event or if there is any indication a fire may be present or likely to be present at any time during the event.

If there is no risk of fire or explosion present, arc-rated (AR) protective clothing to protect against arc flash and electrical shock shall be worn. Jewelry such as necklaces shall be removed to avoid contact with any electrical hazard.

Proper PPE shall include use of a Self-Contained Breathing Apparatus (SCBA).

7.3 APIE (Analyze, Plan, Implement, and Evaluate) Framework

APIE is a framework commonly used for emergency incidents to prepare and develop appropriate response protocol(s). The four elements of the framework are Analyze, Plan, Implement, and Evaluate. An example APIE framework with simplified sample details pertaining to an emergency incident is provided below:



Analyze: For first responder awareness, provide signs and monitoring signals that indicate incident escalation may take place (e.g., fire or explosion).

Plan: Delineate the danger zone to mitigate risks to first responders and bystanders (pedestrians, vehicular traffic, etc.).

Implement: Enforce evacuations; street closures; reduced pedestrian and first responder exposure; and other impact areas that have a life safety concern, as applicable.

Evaluate: Provide continuous incident monitoring and feedback and adjust accordingly to ensure ongoing safety of any bystander or responder in the impacted area.

7.4 General Size-Up

Initiation of emergency response shall be activated per current protocol. If there is any threat or potential threat to life or safety, 911 shall be called immediately to summon the aid of public safety responders. An initial scene assessment shall be conducted from all sides (360-degree scene size-up) if possible, and a clear, concise assessment shall be

given to incoming responders. Hazards and facility safety concerns such as high voltage areas or other electrical concerns shall be communicated to all responders.

The scene assessment shall include the following in plain language (no codes or terms):

- Incident location
- What has happened
- What is occurring
- Any injuries or unaccounted for individuals
- Additional needs or other resources that may be necessary

The Incident Command System (ICS) shall be established immediately and shall include designation of roles. The Incident Command Post (ICP) shall be located at the Fire Department Staging Area at the north entrance of the site. If Public Safety is summoned to the incident, the ICS shall incorporate a Unified Command (UC).

On-site staff (if applicable) shall immediately proceed to a designated muster point, which will be at the ICP location unless designated otherwise by the Incident Commander. Incident Command shall designate an individual to oversee personnel accountability. Accountability shall be reported as soon as possible. If available, another individual shall control any traffic and guide first responders to the scene.

At the same time as these activities are occurring, the designated SME shall immediately contact the Remote Operations Center to obtain available data from the BMS and communicate this to the Incident Commander or other appropriate individual.

WARNING: Risk of Explosion / Deflagration	
	An explosion / deflagration / overpressure event is a critical hazard, and any emergency on site should always be addressed with full awareness of potential factors which may lead to such an event. **Any failure or alarm condition should result in the assumption of an explosion risk.**

WARNING: Toxic Gases	
	Large quantities of toxic smoke and gas may be emitted from the ESS during battery off-gassing or fire situations. **Proper PPE including SCBA should be worn by first responders.**

7.5 Determine Fire Protection Approach

The decision to provide thermal cooling via hoselines should be made in coordination with the System Owner / Operator and any other required SMEs.

Caution should be exercised if water is applied directly to the exterior of an affected ESS enclosure, as this will not stop a thermal runaway event and may potentially delay eventual combustion of the entire ESS product. Defensive firefighting tactics are generally recommended, with water being applied to nearby exposures for cooling, as necessary. Any hoseline operations should be limited to hose and master stream application from outside of the construction perimeter, as far back as hose stream ranges allow.

A fog pattern from a handline or monitor nozzle may potentially be utilized to control smoke and gases released from the affected enclosure and prevent them from migrating to unwanted areas.

In all instances, power shutdown and isolation involving any high voltage feeder lines must be confirmed before any defensive measures are taken involving application of water to the site.

WARNING: Risk of Re-ignition	
	Do **NOT** assume the fire is out as the fire event unfolds. A lithium-ion battery fire, which has seemingly been extinguished, may flare up again if all cells within the enclosure have not been completely consumed. The risk of battery re-ignition can remain present for hours or even days after the smoke / flame is initially detected.

7.6 Incident Monitoring and Evaluation

Continuous incident monitoring and feedback should be provided as the situation evolves. Consultation with the System Owner / Operator, and any other required SMEs, should be ongoing to guide incident response and determine appropriate next steps.

If available, real-time BMS data from the Remote Operations Center should be utilized (e.g., temperature, voltage, or other critical measurements) to monitor the spread of failure and assess the health of adjacent ESS units. This data will help guide response procedures as the event unfolds.

8 INCIDENT SCENARIOS

8.1 Explosion Incident

Lithium-ion batteries release flammable off-gases during thermal runaway which, if allowed to accumulate within the enclosure, may create an explosive atmosphere, posing serious risk to first responders and nearby exposures. Furthermore, it may be difficult to discern conditions within the enclosure if smoke and gas are not visible outside of the unit.

In the case of a fire or thermal runaway event, an explosive or deflagration event may occur, potentially subjecting personnel to overpressure and projectile hazards. An initial exclusion zone should be established to guard against any blast overpressure, based on the discretion of the Incident Commander. Fire Department staging and operations should not be in direct alignment with the ESS units and should be established at angles relative to the sides of the enclosures, if possible. If available, shielding via the built environment should be utilized to protect against high temperatures, overpressure events, or projectile hazards.

A safe stand-off distance shall be maintained between individuals and the ESS enclosure(s) exhibiting fire conditions. Staging of personnel and equipment shall be located at angles relative to the ESS enclosure(s) to stay out of the potential blast radius of any enclosure doors or other possible projectiles.

WARNING: Risk of Explosion / Deflagration	
	An explosion / deflagration / overpressure event is a critical hazard, and any emergency on site should always be addressed with full awareness of potential factors which may lead to such an event. **Any failure or alarm condition should result in the assumption of an explosion risk.**

8.2 Fire Incident

Upon activation of smoke and/or heat detectors in an affected MC Cube enclosure – indicating a possible fire incident – a signal will be sent to the ROC and audible and/or visual notification devices on the exterior of the enclosure will alarm. Smoke and flames may be visible from the outside of the ESS enclosure. Fire growth may be slow, fast, or ultra-fast (e.g., during a deflagration event) in nature.

A safe stand-off distance of 100’ shall be maintained between individuals and the ESS enclosure(s) exhibiting fire conditions. Staging of personnel and equipment shall be located at angles relative to the ESS enclosure(s) to stay out of the potential blast radius of any enclosure doors or other possible projectiles. Attempt to extinguish the fire only if imminent threat to life safety exists.

If there is no immediate threat to life safety:

1. Allow the ESS to burn in a controlled fashion until all fuel sources inside are depleted.
2. A defensive approach should be considered, utilizing water to cool and protect adjacent exposures and to mitigate the spread of fire to areas outside of the fenced installation.
3. Manage the fire incident by utilizing the reach of the hose stream to protect exposures and control the off-gassing and smoke from the enclosure.
4. Remember that, even after the ESS is isolated from the electric grid, there may still be considerable stored energy in the batteries that poses a potential electric shock hazard to anyone in the nearby vicinity.

Additionally, chemicals released during a fire or explosion event will be in a gaseous form and primarily pose an inhalation hazard. A fog pattern from a handline or monitor nozzle may provide an effective means of controlling any off gases outside of the battery enclosure from migrating to unwanted areas such as public muster points, emergency responders, building intakes, etc.

Hose streams may be also applied to adjacent exposures for cooling purposes. BMS data for the adjacent system(s) – available via the Remote Operations Center – should be closely monitored for any indications of heat impact or water damage to any adjacent ESS units and relayed to the appropriate individual within the Incident Command System.

Following partial or complete consumption of the system by fire, batteries may continue to emit flammable and toxic gases for an extended period. Continuous monitoring of gas levels in and around the incident location is recommended. Full firefighter PPE and SCBA shall be utilized until gas levels are confirmed to be at a safe level. A fire watch shall be provided to ensure the continued safety of the site after the situation appears stable.

WARNING: Risk of Re-ignition	
	Do **NOT** assume the fire is out as the fire event unfolds. A lithium-ion battery fire, which has seemingly been extinguished, may flare up again if all cells within the enclosure have not been completely consumed. The risk of battery re-ignition can remain present for hours or even days after the smoke / flame is initially detected.

8.3 Thermal Runaway or Off-Gassing Incident

A thermal runaway incident, as described in Section 6.1, is the characteristic failure mode of lithium-ion batteries. A thermal runaway event may begin suddenly, and the nature of the situation may evolve rapidly depending on several different factors. Combustion of flammable gases may result in fire or explosion, and considerations in Section 8.1 and Section 8.2 should be implemented based on the nature of the event as it unfolds.

A thermal runaway event may result in large quantities of smoke and gas being released, which may or may not be visible outside of the ESS enclosure itself. Therefore, it is critical that any failure or alarm condition results in the assumption of an explosion or fire risk.

In the event of a thermal runaway or suspected off-gassing event, the following actions should be taken:

1. If the alarm system has not already signaled the Fire Department, immediately call 911.
2. Call the Subject Matter Expert (SME) designated for the site.
3. Call the Remote Operations Center listed on page 3.
4. Establish a safety perimeter around all sides of the ESS and remain outside the fenced area. Based on conditions, the safety perimeter may extend beyond the boundary of the fenced area. Stay upwind of any smoke or off-gassing. Do not allow personnel other than firefighters in proper PPE to enter the safety perimeter.
5. As the incident evolves, a fire or explosion event may occur. Procedures outlined in Section 8.1 and Section 8.2 should be followed based on the situation as it progresses.

WARNING: Risk of Explosion / Deflagration	
	An explosion / deflagration / overpressure event is a critical hazard, and any emergency on site should always be addressed with full awareness of potential factors which may lead to such an event. **Any failure or alarm condition should result in the assumption of an explosion risk.**

WARNING: Risk of Re-ignition	
	Do **NOT** assume the fire is out as the fire event unfolds. A lithium-ion battery fire, which has seemingly been extinguished, may flare up again if all cells within the enclosure have not been completely consumed. The risk of battery re-ignition can remain present for hours or even days after the smoke / flame is initially detected.

WARNING: Toxic Gases	
	Large quantities of toxic smoke and gas may be emitted from the ESS during battery off-gassing or fire situations. **Proper PPE including SCBA should be worn by first responders.**

NOTICE	
	Indicators which may provide insight into what is happening or about to happen during an incident may include: ▪ Smoke or flames ▪ Changes in smoke color

	▪ Changes in velocity or volume of smoke production ▪ Sounds – popping and / or hissing ▪ Smell – sweet odor

8.4 Alarm Incident

In the event of an alarm activation, the following actions should be taken:

1. If the alarm system has not already signaled the Fire Department, immediately call 911.
2. Call the Subject Matter Expert (SME) designated for the site.
3. Call the Remote Operations Center listed on page 3.
4. Establish a safety perimeter around all sides of the ESS and remain outside the fenced area. Based on conditions, the safety perimeter may extend beyond the boundary of the fenced area. Stay upwind of any smoke or off-gassing. Do not allow personnel other than firefighters in proper PPE to enter the safety perimeter.

8.5 External Fire / Thermal Exposure Incident

Any type of external heat source or fire impingement (i.e., not stemming from the battery system itself) should be treated as an ESS emergency. The Incident Commander should be advised to obtain information on ESS state of health from the BMS data (e.g., increasing temperature in exposed ESS units) – available from the ROC – to evaluate severity of the incident. All precautions previously noted for fire and explosion incidents should be followed.

8.6 Emergency Response During Construction, Commissioning, and Maintenance

The MC Cube system is shipped with battery modules installed and partially charged. This is not uncommon throughout industry but poses some challenges to emergency response which may not exist during normal operations. Once the batteries arrive, there will be some period of time until the fire protection system is commissioned.

During this period, fire service personnel should expect to interface with an SME, but no data regarding the conditions inside the enclosures may be available. As such, fire service personnel should take extreme caution when approaching any system which may be experiencing adverse conditions during this phase. Further, information regarding conditions in adjacent containers (relevant in the event of fire) may not be available. Fire service personnel should lean on their own experience and stakeholder expertise to determine risks to adjacent containers and assume direct fire impingement poses an enclosure-to-enclosure propagation risk.

Between delivery and commissioning of the fire protection system, the explosion prevention system may not be active. In cases where an adverse condition exists inside the system, it should be assumed an explosive condition exists until proven otherwise.

8.7 External Impact Incident

If an enclosure is severely impacted, causing crushing or puncturing of the outer shell of the enclosure, treat this as an emergency – notify 911 and any other required parties.

9 POST-INCIDENT / HANDOFF PROCEDURES

9.1 Handoff Procedures

When an energy storage site is deemed safe, upon determination by the Incident Commander (IC), the Subject Matter Expert (SME) shall ensure that the site is safeguarded until the damaged system is removed, repaired, or replaced based on the approved Decommissioning Plan filed with this installation.

9.2 Activation of Decommissioning Plan

Decommissioning of the system shall take place in accordance with the approved Decommissioning Plan filed with this installation. Deactivation, de-energizing, dismantling, and removal of the system shall be conducted by trained and knowledgeable persons in accordance with manufacturer's specifications.

APPENDICES

APPENDIX A – Additional Site Photos

Figure A1 – Additional Site Photos

APPENDIX B – Signage / Placarding / IO Matrix

Figure B1 – Facility Signage / Placarding

Figure B2 - I/O Matrix

APPENDIX C – Annual ERP Review Log

The following table provides a log of reviews to be conducted on an annual basis for this Emergency Response Plan (ERP).

Date Conducted	System Owner Sign-Off	SME Sign-Off	Notes / Comments

SIDNEY FIRE PROTECTION DISTRICT

Tim Maupin, President
Bruce Smith, Trustee
Rachael Paceley, Trustee

302 S. David St.
P.O. Box 380
Sidney, Illinois 61877
(217) 688-2617

March 5, 2025

Dear Mr. John Hall and Members of the Zoning Board,

The Sidney Fire Protection District confirms the receipt of an email from Mr. John Hall on January 14, 2025, containing the proposed special condition for Little Prairie Solar project associated with Zoning Use Case 144-S-24. The special conditions have also been reviewed in person with Mr. David Holly on Friday, January 17, 2025. Please utilize this letter as confirmation that Sidney Fire is supportive of the special conditions of approval that have been presented by Mr. Hall. These special conditions are adequate and satisfy commitments made from the project managers to continue coordination and working with Sidney Fire through the development process. In researching the BESS tech nuances and the location on the project and having consulted with Joe Jay, Industrial Training Program Manager at Illinois Fire Service Institute (IFSI), University of Illinois at Urbana-Champaign, we have no additional suggestions or revisions to offer. Additionally, we have toured the site and have met with BayWa r.e. to begin developing the training for this type of technology. We agree that the safety systems outlined by Bay.Wa meet NFPA 855 Standards and that SFPD has no further suggestions or revisions to offer.

The special conditions as written are satisfactory to include within the special use permit for the Little Prairie Solar project and we do not have any comments or revisions to include.

BayWa r.e. has been in communication with Sidney Fire throughout the development process of the project and continues to coordinate in good faith about design changes and about the details of the accessory battery storage facility.

Sincerely,

Tim Maupin,
President of the Board of Trustees of Sidney Fire Protection District

Bruce Smith
Vice-President of the Board of Trustees of Sidney Fire Protection District

Rachael Paceley,
Treasurer of the Board of Trustees of Sidney Fire Protection District

Don Happ,
Chief of Sidney Fire Protection District

Charles W. Campo

From: John Hall
Sent: Wednesday, March 19, 2025 1:54 PM
To: Charles W. Campo
Subject: FW: Sidney Fire Protection District review of Zoning Case 144-S-24 Little Prairie Solar Farm with accessory BESS

From: John Hall
Sent: Tuesday, January 14, 2025 3:11 PM
To: 'homerfire@yahoo.com' <homerfire@yahoo.com>
Subject: Sidney Fire Protection District review of Zoning Case 144-S-24 Little Prairie Solar Farm with accessory BESS

Dear Chief Don Happ Jr.:

Case 144-S-24 is the Zoning Case for the proposed 135 MW BayWa r.e. Little Prairie Solar Farm with an accessory 135 MW Battery Energy Storage System (BESS) in Sidney Township that is currently at the Champaign County Zoning Board of Appeals (ZBA).

Zoning Case 130-AT-24 to establish Champaign County Zoning Ordinance requirements for Battery Energy Storage Systems (BESS) is also in a public hearing at the ZBA.

The proposed accessory BESS in Case 144-S-24 at this time meets the requirements of proposed Zoning Case 130-AT-24.

Special conditions of approval have been proposed for the BESS in Case 144-S-24 to ensure compliance with NFPA 855. The ZBA would like to know if the Sidney Fire Protection District is supportive of these special conditions of approval. A copy of part of NFPA 855 is on the Champaign County website that can be accessed at the following link:

241212_130-AT-24 Supplemental Memo 2.pdf

The proposed special conditions of approval for the BESS in Case 144-S-24 are as follows (all references to the Sidney Fire Protection District are highlighted for convenience):

1. The Battery Energy Storage System (BESS) proposed as an accessory use is a 135-megawatt (MW) lithium-ion system that will occupy 6.8 acres (not including any required stormwater detention area).

2. The following submittals are required prior to the approval of any Zoning Use Permit for a PV SOLAR FARM in addition to any other required submittals:

    a. A Hazard Mitigation Analysis for the proposed BESS that meets the requirements of NFPA 855 and a written approval of the Hazard Mitigation Analysis by the Sidney Fire Protection District.

b. Documentation of any smoke and fire detection systems that are required by the Sidney Fire Protection District and a written approval of the smoke and fire detection systems by the Sidney Fire Protection District.

c. Documentation of any fire control and suppression systems that are required by the Sidney Fire Protection District and a written approval of the fire control and suppression systems by the Sidney Fire Protection District.

d. Documentation of explosion control per NFPA 69 or deflagration venting per NFPA 68 shall be provided if explosion control or deflagration venting is required by the approved Hazard Mitigation Analysis and a written approval of the explosion control or deflagration venting by the Sidney Fire Protection District.

e. The owner hereby commits to provide Authorized Service Personnel per NFPA 855 to be dispatched to assist emergency first responders to mitigate the hazard or remove damaged equipment from the premises within a response time approved by the Sidney Fire Protection District.

f. Documentation of a requirement of the owner to provide Hazard Support Personnel that may be required by the Sidney Fire Protection District per NFPA 855 and a written approval of the plan to provide Hazard Support Personnel by the Sidney Fire Protection District.

3. The following submittals are required prior to the approval of the Zoning Compliance Certificate that authorizes operation in addition to any other required submittals:

a. A Commissioning Report for the BESS that meets the requirements of NFPA 855 and documentation that a copy of the Commissioning Report has been provided to and accepted by the Sidney Fire Protection District.

Case 144-S-24 is on the ZBA Agenda for the meeting on Thursday, January 16, 2025.

I would be happy to pass along any comments you may have regarding these special conditions and the proposed BESS including a request for more time for your review.

Sincerely,

John Hall
Director
Zoning Administrator

Champaign County Department of Planning and Zoning
Brookens Administrative Center
1776 East Washington Street
Urbana IL 61802
Tel (217) 384-3708
Fax (217) (819-4021)

Charles W. Campo

From: John Hall
Sent: Friday, January 17, 2025 8:14 AM
To: Charles W. Campo
Subject: FW: EV Battery manufacturing expands coal power plant

FYI. This is to be shared.

From: Ted Hartke <tedhartke@hartke.pro>
Sent: Thursday, January 16, 2025 10:26 PM
To: John Hall <jhall@champaigncountyil.gov>
Subject: EV Battery manufacturing expands coal power plant

CAUTION: External email, be careful when opening.

John,

Read the irony and happens to support my discussion/presentation this evening. Please share with ZBA and ELUC members.

Ted

Panasonic is building a $4 billion EV battery factory in De Soto, Kansas. The lithium-ion battery manufacturing facility is expected to start mass production of EV batteries by the end of March 2025.

Here's were the irony kicks in... This factory will require so much energy that a coal fired power plant that was slated for closure, will now remain open, AND it will be expanded.

Me wonders why that there roof is not covered in solar panels...!?!

GO GREEN! Right?
For the planet! Right?

-credit to the original author -The Whiskey Cowboy with adaptations by yours truly.

📸 -unkown

#GreenEnergyIsNOTGreen
#justsaynotonewwokeodor
#TheDukeSpeaks

Sent from my iPhone

ILLINOIS PRESBYTERIAN HOME COMMUNITIES
Fair Hills Residence Fair Hills Apartments & Cottages DeCastro Apartments
Serving Seniors of all Faiths Since 1954

August 1, 2024

To Whom It May Concern,

As a landowner in Champaign County and a participant in the Little Prairie Solar project, I am writing to express my enthusiastic support for the Little Prairie Solar project.

This project has the potential to bring investment to our schools, significantly increased revenue to our community, like our schools and farming operations, to better prepare for the future and create more opportunities for growth. I wholeheartedly support the substantial increase in property tax revenue to aid essential community services and infrastructure improvements, ensuring our area continues to thrive.

As a Champaign County landowner, I also recognize the positive impact this project will have on farmers and their families in our area. It represents a relatively low-impact, sustainable land use opportunity while providing a reliable source of income for decades to come. This is something farmers cannot pass up these days, especially as prices increase and larger farms become the norm.

I strongly encourage the Champaign County officials to support the Little Prairie Solar project. The positive benefits it will bring to our community in terms of education, employment and economic growth are undeniable. This project exemplifies responsible development that keeps land locally owned while supporting our local economy and enhancing the quality of life for all residents.

Thank you for considering my perspective on this matter. I look forward to seeing the benefits of this project unfold for our community.

Sincerely,

Maryann Walker, Executive Director

Date:

To Whom It May Concern,

As a tax-payinglandowner in Champaign County and a participant in the Little Prairie Solar project, I am writing to express my enthusiastic support for the Little Prairie Solar project.

This project has the potential to bring investment to our schools, significantly increased revenue to our community through property taxes, and a boost for the job market. These benefits will help pillars of our community, like our schools and farming operations, to better prepare for the future and create more opportunities for growth. I wholeheartedly support the substantial increase in property tax revenue to aid essential community services and infrastructure improvements, ensuring our area continues to thrive.

As a Champaign County landowner, I also recognize the positive impact this project will have on farmers and their families in our area. It represents a sustainable use of our land while providing a reliable source of income for decades to come. This is something that farmers cannot pass up these days, especially as prices increase and larger farms become the norm.

I strongly encourage the Champaign County officials to support the Little Prairie Solar project. The positive benefits it will bring to our community in terms of education, employment, and economic growth are undeniable. This project exemplifies responsible development that keeps land locally owned while supporting our local economy and enhancing the quality of life for all residents.

Thank you for considering my perspective on this matter. I look forward to seeing the benefits of this project unfold for our community.

Sincerely,

Robert J. Rink

Name, Address

Robert J. Rink
24332 Stripmine Rd.
Wilmington, IL. 60481

Date:

To Whom It May Concern,

As a tax-payinglandowner in Champaign County and a participant in the Little Prairie Solar project, I am writing to express my enthusiastic support for the Little Prairie Solar project.

This project has the potential to bring investment to our schools, significantly increased revenue to our community through property taxes, and a boost for the job market. These benefits will help pillars of our community, like our schools and farming operations, to better prepare for the future and create more opportunities for growth. I wholeheartedly support the substantial increase in property tax revenue to aid essential community services and infrastructure improvements, ensuring our area continues to thrive.

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I strongly encourage the Champaign County officials to support the Little Prairie Solar project. The positive benefits it will bring to our community in terms of education, employment, and economic growth are undeniable. This project exemplifies responsible development that keeps land locally owned while supporting our local economy and enhancing the quality of life for all residents.

Thank you for considering my perspective on this matter. I look forward to seeing the benefits of this project unfold for our community.

Sincerely,

Susan & Don Akers

Name, Address

Susan & Don Akers
2705 Bayhill Dr.
Champaign, IL

Charles W. Campo

From: Tannie Justus <jojustus@yahoo.com>
Sent: Monday, January 13, 2025 9:16 AM
To: zoningdept
Subject: Baywa permit

Attached is email sent to Mr. David Holly with my concern about variance that I thought was the nook by our property. He explained it is not for that one, it is the one 900N and 2400 only and would not apply to the one near us, which I am thankful for. I do still have the concern about when landscaping is done not to have cedar trees too close to our property because of my apple trees and cedar scab that can spread to them. Thank you to the board for listening to my concerns through email as I can not attend the meeting.

Charles W. Campo

From: Janet Smith <jlsmith9166@gmail.com>
Sent: Tuesday, January 14, 2025 7:35 PM
To: zoningdept; Charles W. Campo
Subject: Concerns Regarding Little Prairie Solar Project Case 144-S-24 for Jan. 16, 2025

I hope it is not too late for the board members to see the below email for the next meeting January 16, 2025.

Dear Zoning Board Members:

My husband and our two boys purchased our current residence at 863 County Road 2300 E, Homer, IL (parcel 24-28-23-200-004) in 1999. We have lived here for nearly 25 years. We moved from Champaign, IL, to Homer, IL, for the country living and all that entails.

I have many concerns over the Little Prairie Solar Project which I spoke about at the November 16, 2024 meeting. One of which was the nature view. My understanding is some of the participating landowners own land that surrounds all 4 sides of my property. I did hear from David Holley, who said they would not construct on the south side of my property. However, it will still be surrounded on three sides obstructing our view of nature. Now, when we look out our windows or enjoy being outside, instead of seeing nature, we will see solar panel construction. This was one reason we left the city so we didn't have buildings, houses, etc next to us. We wanted the open land, and now we are going to be boxed in. It's going to change the whole meaning of living in the country and our way of life.

The other concerns were over glare from the solar panels, heat coming from them, and the noise level. All of which can cause sleep disturbances and lead to health issues. One of the biggest concerns is the lithium batteries being less than a mile from my property. The thought of them catching on fire and emitting hazardous materials is a scary prospect. And would we need to evacuate, and how soon would we be notified to do so? I am concerned for ourselves and my neighbors.

Another big concern that I did not mention at the November 16, 2024 meeting is how are these solar panels going to affect the value of my property. It's one thing if the solar farm is down the road it's another when practically your entire property is surrounded. I cannot fathom that it wouldn't leave a negative impact. Most people, us included, move to the country to get away from city life and structures.

Thank you for taking my concerns into consideration and the opportunity to express them.

Janet and Rick Smith

Charles W. Campo

From: John Hall
Sent: Wednesday, January 15, 2025 2:10 PM
To: Charles W. Campo
Subject: FW: Sidney Solar Farm

From: White, Mary A <Mwhite9@uillinois.edu>
Sent: Wednesday, January 15, 2025 1:38 PM
To: John Hall <jhall@champaigncountyil.gov>
Subject: Sidney Solar Farm

Due to a previously scheduled meeting, I will be unable to make the next zoning board meeting where the solar farms near Sidney are going to be discussed.

I STRONGLY urge you to think long and hard about allowing any more of our PRIME farmland to be destroyed by these out of towners. They have NO vested interest in our homeland.

The farm ground in reality can NEVER be back as good as it once was.

The promises and guarantees they make are only as solid as the company.

And since they have already sold the first solar farm after a very brief period, do we even know how long this company will be sticking around?

Also, did the zoning board even catch this tidbit of information at the last meeting? They ALREADY sold the first solar farm……

What about those promises/guarantees on that phase made to us from the original company? Is the "new" company being held to the same promises and guarantees as those that were made by the first company that stood before us citizens and the zoning board?

Once this is approved and out of our hands, we are at their mercy….

I would ask once again that we do not let that happen.

Thank you for your time.

Mary A. White
Sidney, IL

Charles W. Campo

From: Cindy Shepherd <cindy@faithinplace.org>
Sent: Thursday, January 16, 2025 4:25 PM
To: zoningdept
Subject: correspondence for the zoning board meeting Jan 16

I have these questions for Bay.wa's representative:

I'm Cindy Shepherd. I'm the Energy Builder Director for an interfaith environmental non-profit called Faith in Place. For years before I did that, I was a pastor, 5 miles down the road in Philo. While I lived there, I always found Sidney to be a very welcoming community. At Faith in Place, we empowered people of faith to take action on energy solutions that protect the planet and build thriving communities.

In spite of Illinois' leadership on clean energy, we are not meeting our goals:

Greenhouse gas emissions remain too high to slow our planet's warming. To reach our goals and protect our future, we must increase clean energy on the grid – everywhere, and fast.

Clean energy and battery storage hold incredible promise: they're less polluting, sustainable, and benefit farmers, local governments, and schools without raising tax rates. Our flat countryside is perfect for these projects but they must be developed thoughtfully, with respect for rural communities.

We need clean energy, but we need to be thoughtful about how we do that. I have some areas of concern.

I'd like to call your attention to the Community Engagement notes on page 161 in the lengthy memo of documents about this project. According to this,

the company has had one tailgate and one Open House to let people know about the project. According to friends in Sidney, there are a lot of questions and concerns which people haven't had the opportunity to ask. Will you offer people the opportunity to get good, reliable answers to their concerns?

Question #2: When we turn to page 172 – the Benefits of Solar Development, I see benefits to taxing entities – TWP, Rods, Fire Protection, and educational entities, both Heritage and Unit #7 schools, as well as Parkland. $19,000,000 over the life of the project is great!
Having more good paying construction jobs during construction is also good, though short lived.
And the benefits to land and land-owners of producing clean energy instead of polluting ethynol is certainly laudable.
A few pages on, I see that you are considering pollinator friendly plants underneath the panels is fine, too. And maybe honey bee hives? But I don't see that you are working with people who know and value this eco-system and our native pollinator populations. People like University Extension, American Farmland Trust and community naturalists could really help you as you develop that plan.

Question: Are you willing to work with people who know this land to heal and restore it during you stewardship of these acres?

Third question: Other clean energy developers strive to become good neighbors - a part of the communities that host them, by learning about the community's needs, partnering with local governments and service providers. There are often financial benefits beyond taxes for youth programs, food banks, park districts, neighbors who don't have leases. These initatives to can help the community become healthier and more resilient – which is what clean energy does – also on the local scale.
Will you consider some of these ways you might partner with folks in this area to build healthy community? Neighbors care about each other. And I want your new neighbors to get to know and value you.

Three questions—

1. When are you going to listen to concerns and answer questions people have about this project?
2. Who are you going to work with? Local people who know the ecology of this place and love this land?
3. Are you going to be a good neighbor in the extended community where you are asking to plant a very large footprint?

Thank you,
Cindy Shepherd

Cindy Shepherd
she/her
Energy Builder Director, Faith in Place

217-493-5046 | faithinplace.org | cindy@faithinplace.org

Our team works Monday through Thursday and I look forward to responding during that time.

Stay Updated: Sign up for Faith in Place's Newsletter

KRUKEWITT FARMS
J. KENT KRUKEWITT
116 Sunflower Street
Savoy, Illinois 61874
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Fax: (217) 896-2195
E-mail: kent@krukewittfarms.com

January 16, 2025

Champaign County Zoning Board Members and Zoning Staff,

RE: Proposed Little Prairie Solar Project

Item 1. A waver should be denied for Part C on BayWa's request to locate the PV solar farm 65 feet from a non-participating lot that is 10 acres or less in area in lieu of the minimum required separation of 240 feet between the solar farm fencing and the property line. Per Section 6.1.5 D. (3)a.

A. The owner of the lot objects to the wavier (J Kent Krukewitt)
B. By approving the waver, the ZBA is singling out this lot as it will not enjoy the same benefits other lots in the area enjoy like 240 feet separation.
C. By approving the waver, only the solar farm will benefit, and a non-participating lot will suffer negative consequences such as decreased value due to a closer proximity of the solar farm to the lot, unnecessary view obstruction, and possible increased noise and solar farm traffic.
D. Locating the solar farm closer to the lot also means the solar farm and fence will be closer to the intersection of road 2400 and 900 and possible traffic view obstruction.

Therefore, I hope and pray that the waver is denied for Part C of the petition.

Item 2. In tonight's packet there are letters from landowners who are participating in the Solar project that suggest pattern tiling is not required on their property. There is a landowner that is missing from the list, Rink Agricultural and Investment Partnership, that has over 300 acres in the proposed project and the largest landowner in the project. The Rink Partnership supports the project. The Rinks are full time farmers and understand the importance of drainage tile and the need for organization and maintenance between neighbors. Therefore, they are in support pattern tiling of the project and therefore did not sign on to BayWa's request to abandon a plan of pattern tiling the project.

J Kent Krukewitt

PRELIMINARY DRAFT

144-S-24

SUMMARY OF EVIDENCE, FINDING OF FACT AND FINAL DETERMINATION of Champaign County Zoning Board of Appeals

Final Determination: ***{RECOMMEND APPROVAL / RECOMMEND DENIAL}***

Date: ***{March 27, 2025}***

Petitioners: **Little Prairie Solar LLC, c/o BayWa r.e. Solar Projects LLC, 18575 Jamboree Road, Suite 850, Irvine CA 92612, via agent David Holly, Development Manager for BayWa r.e. Solar Projects LLC, and the participating landowners listed in Attachment A**

Request: **Authorize a Utility-Scale PV Solar Farm with a total nameplate capacity of 135 megawatts (MW), including access roads and wiring, and an accessory 135 MW Lithium-ion Battery Energy Storage System, in the AG-1 and AG-2 Agriculture Zoning Districts, and including the following waivers of standard conditions (other waivers may be necessary):**

Part A: A waiver for not entering into a Roadway Upgrade and Maintenance Agreement or waiver therefrom with the relevant local highway authority prior to consideration of the Special Use Permit by the Zoning Board of Appeals, per Section 6.1.5 G.(1)

Part B: A waiver for locating the PV Solar Farm less than one and one-half miles from an incorporated municipality per Section 6.1.5 B.(2)a.

Part C: A waiver for a separation distance of 225 feet between the solar inverters and the perimeter fence in lieu of the minimum required 275 feet, per Section 6.1.5 D.(6).

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SUMMARY OF EVIDENCE

From the documents of record and the testimony and exhibits received at the public hearing conducted on **November 14, 2024, January 16, 2025, and March 27, 2025,** the Zoning Board of Appeals of Champaign County finds that:

1. The Petitioners are Little Prairie Solar LLC, c/o BayWa r.e. Solar Projects LLC via agent David Holly, Development Manager for BayWa r.e. Solar Projects LLC, and the participating landowners listed in Attachment A and under Item 2 below. Regarding the petitioners:
   A. Little Prairie Solar is the name of the proposed solar farm, which is wholly owned by BayWa r.e. Development, LLC, with Chief Executive Officer, Fredrick Robinson; Chief Financial Officer, Patrick McConnell; and Chief Operating Officer, Geoff Fallon, all with offices at 18575 Jamboree Road, Suite 850, Irvine CA 92612.

   B. The participating landowners signed agreements on various dates or are in the process of negotiating agreements with BayWa r.e. Development, LLC for the use of their property for the proposed PV solar farm.

2. The subject properties total 1,047 acres, and are located as per the following descriptions:
   A. Section 12, T18N, R10E of the 3rd P.M., Sidney Township. The Special Use Permit includes that part of the Southwest Quarter of Section 12 that lies south of the railroad tracks and includes the following properties owned by the following participating landowners:
      1. 32.5 acres owned by Susan Akers, 2705 Bayhill Drive, Champaign IL 61822.
      2. 34.54 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.

   B. Section 13, T18N, R10E of the 3rd P.M., Sidney Township. The Special Use Permit includes part of Section 13 except the Southeast Quarter and includes the following properties owned by the following participating landowners:
      1. 160 acres owned by Wilmar Solar LLC, H Miller Winston, 3325 Stoneybrook Dr., Champaign IL 61822-5231.
      2. 40 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
      3. 53.33 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
      4. 26.67 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
      5. 80 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342

   C. Section 14, T18N, R10E of the 3rd P.M., Sidney Township. The Special Use Permit includes the North half and the Northwest Quarter of the Southwest Quarter of Section 14 and includes the following properties owned by the following participating landowners:
      1. 160 acres owned by AP Illinois, LLC, 3333 Lee Parkway, Suite 750, Dallas TX 75219.
      2. 80 acres owned by O'Neill Farms LLC, 3449 E Lincoln Trail, Fithian IL 61844.

3. 120 acres owned by Susan Akers, 2705 Bayhill Drive, Champaign IL 61822.

D. Section 15, T18N, R10E of the 3rd P.M., Sidney Township. The Special Use Permit includes part of the Southeast Quarter of Section 15 and includes the following properties owned by the following participating landowners:
1. 42.5 acres owned by John Grobe c/o Busey Ag Services, 3002 W. Windsor Rd, Champaign IL 61822-6106.
2. 42.76 acres owned by Shawn & Kara Walker, 407 W Diller Street, Broadlands IL 61816-9752.

E. Section 23, T18N, R10E of the 3rd P.M., Sidney Township. The Special Use Permit includes the North Half of Section 23 and includes the following properties owned by the following participating landowners:
1. 26.67 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
2. 50.18 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
3. 80 acres owned by David Owens, 15959 Inverrary Ln., Bloomington, IL 61705 West Windsor Road, Champaign IL 61822-6106.
4. 100 acres owned by Illinois Presbyterian Home c/o First Mid Ag Services, PO Box 1607, Bloomington IL 61702

F. Section 24, T18N, R10E of the 3rd P.M., Sidney Township. The Special Use Permit includes the following properties owned by the following participating landowners in Section 24 except the Southwest Quarter:
1. 16.33 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
2. 16.33 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
3. 32.65 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
4. 80 acres owned by Rink Agricultural & Investment Partnership LP, 24332 Stripmine Road, Wilmington IL 60481-9342.
5. 174.69 acres owned by Illinois Presbyterian Home c/o First Mid Ag Services, PO Box 1607, Bloomington IL 61702.
6. 80 acres owned by Matthew Fischer, Coffeen-Fischer Farm LLC, 858 San Juan Dr., Pagosa Springs CO 81147.

3. Regarding municipal extraterritorial jurisdiction and township planning jurisdiction:

A. Some of the subject properties are located within the one and one-half mile extraterritorial jurisdiction of the Village of Sidney, a municipality with zoning. Municipalities with zoning are notified of Special Use Permit cases, but do not have protest rights in these cases.

(1) Within the 1.5-mile ETJ, Champaign County has zoning jurisdiction, and the Village has subdivision and land use planning jurisdiction.

a. There are no subdivisions required for the proposed solar farm.

b. The Village of Sidney Comprehensive Plan adopted on June 5, 2000, shows all of Sidney Township Section 15 southeast of the railroad tracks with an "Industrial" land use.

B. The subject properties are located within Sidney Township, which does not have a Planning Commission. Townships with Planning Commissions are notified of Special Use Permit cases, but do not have protest rights in these cases.

GENERALLY REGARDING LAND USE AND ZONING IN THE IMMEDIATE VICINITY

4. Regarding land use and zoning on the subject property and in the vicinity of the subject property:
   A. The subject properties are zoned AG-1 Agriculture except for a small part of one property, which is zoned AG-2 Agriculture. PV SOLAR FARMS are allowed in both AG-1 and AG-2 zoning districts with a County Board Special Use Permit.

   B. The subject properties are generally in agricultural production, interspersed with farmsteads.

   C. All subject properties are south of the Norfolk Southern rail line and are east of the Union Pacific rail line.

   D. Lands surrounding the subject properties are generally in agricultural production, interspersed with farmsteads, with 2 exceptions:
      (1) The Ameren Electric substation located northwest of the subject properties; and

      (2) The Frito-Lay plant located to the northeast.

      (3) There is an approved Special Use Permit for a 5mw community solar farm on the south portion of the 51-acre parcel to the east of the Frito-Lay plant.

GENERALLY REGARDING THE PROPOSED SPECIAL USE

5. Regarding the site plan for the proposed Special Use:
   A. Sheet 1: Site Improvements Plan received March 7, 2025, shows the following proposed features:
      (1) A 135-megawatt (MW) utility-scale PV SOLAR FARM site covering 1,047 acres, including 765.5 fenced acres; and

      (2) An approximately 3-acre private substation site located south of the existing Ameren Substation and adjacent to the Prairie Solar 1 substation;

      (3) A 6.8 acre 135-megawatt (MW) battery energy storage system site located along the east side of 2300E, north of 900N.

      (4) 323,159 single axis tracker solar modules, proposed model Jinko Eagle 72 G6B CS3W-400 (subject to change prior to Zoning Use Permit Application); and

(5) 35 central solar inverters, proposed model Freesun HEM (subject to change prior to Zoning Use Permit Application); and

(6) 174 BESS modules, proposed model BYD MC Cube (subject to change prior to Zoning Use Permit Application); and

(7) 58 BESS PCS inverters (subject to change prior to Zoning Use Permit Application); and

(8) Approximately 86,117 linear feet of minimum 8-feet tall perimeter fence; and

(9) A series of 20 feet wide (solar) and 24 feet wide (BESS) compacted earth or gravel access roads.

(10) Security gates are 24 feet wide, with two 12-foot swinging gates; and

(11) Trenched power lines run to the central inverters.

(12) A minimum 240 feet separation from the PV SOLAR FARM fencing to all non-participating parcels less than 10 acres.

(13) 65 feet between the PV SOLAR FARM perimeter fence and the any public road.

(14) 200 feet between the BESS perimeter fence and any property line.

(15) The PV SOLAR FARM is proposed to be located on soils that are Best Prime Farmland.

B. Previous Zoning Use Permits for the subject properties and adjacent residences include:

(1) ZUPA #78-03-01 was approved on March 24, 2003, for Craig and Tannie Justus to construct their single-family home at 2268 CR 900N, Homer (non-participating).

(2) ZUPA #145-05-01 was approved on June 13, 2005, for Julian Stipp to construct an agricultural building with living quarters for the farmer at 877 CR 2200E, Sidney (participating).

(3) ZUPA #288-08-02 was approved on October 16, 2008, for Darrin and Jenny Stipp to construct their single-family home at 851 CR 2200E, Sidney (non-participating).

(4) ZUPA #244-16-01 was approved on September 9, 2016, for Allen Family Farms to construct a detached storage shed for agricultural equipment at 1009 CR 2400E Sidney (non-participating)

(5) ZUPA #195-95-02 was approved on July 13, 1995, for Kent Krukewitt to construct an addition to a single-family home at 911 CR 2400E. (non-participating)

(6) ZUPA #265-09-01 was approved on October 2, 2009, for Wienke to construct a detached storage shed for agricultural equipment on PIN 26-29-18-300-003. (non-participating)

(7) ZUPA #282-01-01 was approved October 15, 2001, for Mike and Maria Pulliam to construct two additions to an existing single-family home at 814 CR 2400E, Homer. (non-participating)

(8) ZUPA #77-86-01 was approved March 18, 1986, for Stanley Towner to place a manufactured home for a single-family residence at 2197 CR 900N, Sidney. (non-participating)

(9) ZUPA #123-79-03 was approved May 16, 1979, for Wilbur Toppe to construct a storage shed as accessory to a single-family residence at 2155 CR 900N, Sidney. (non-participating)

(10) ZUPA #356-20-01 was approved December 23, 2020, for Kevin Samson to construct a ground mounted solar array at 2148 CR 900N Sidney. (non-participating)

C. Zoning Case 898-S-18 was approved January 25, 2019, for a 150 MW solar farm that encompassed some of the current subject properties.

GENERALLY REGARDING SPECIFIC ORDINANCE REQUIREMENTS

6. Regarding authorization for a "PV SOLAR FARM" in the AG-1 and AG-2 Agriculture Zoning Districts in the *Zoning Ordinance*:
   A. The County Board amended the Zoning Ordinance by adopting PV SOLAR FARM requirements when it adopted Ordinance No. 2018-4 on August 23, 2018.
      (1) The County Board amended the Zoning Ordinance by amending PV SOLAR FARM requirements when it adopted Ordinance 2020-1 on February 24, 2020, Ordinance 2020-7 on May 22, 2020 and Ordinance 2020-8 on May 22, 2020.

   B. The following definitions from the *Zoning Ordinance* are especially relevant to the requested Special Use Permit (capitalized words are defined in the Ordinance):
      (1) "ACCESS" is the way MOTOR VEHICLES move between a STREET or ALLEY and the principal USE or STRUCTURE on a LOT abutting such STREET or ALLEY.
      (2) "BEST PRIME FARMLAND" is Prime Farmland Soils identified in the Champaign County Land Evaluation and Site Assessment (LESA) System that under optimum management have 91% to 100% of the highest soil productivities in Champaign County, on average, as reported in the *Bulletin 811 Optimum Crop Productivity Ratings for Illinois Soils*. Best Prime Farmland consists of the following:
         a. Soils identified as Agriculture Value Groups 1, 2, 3 and/or 4 in the Champaign County LESA system;
         b. Soils that, in combination on a subject site, have an average LE of 91 or higher, as determined by the Champaign County LESA system;

c. Any development site that includes a significant amount (10% or more of the area proposed to be developed) of Agriculture Value Groups 1, 2, 3 and/or 4 soils as determined by the Champaign County LESA system.

(3) "BUFFER STRIP" is an area, PROPERTY, LOT or tract of land or portion thereof, either vacant or landscaped with SCREEN PLANTING as herein specified, which shall serve as a separating space between dissimilar USES or DISTRICTS.

(4) "DWELLING OR PRINCIPAL BUILDING, PARTICIPATING" is a DWELLING on land that is leased to a WIND FARM or a PV SOLAR FARM.

(5) "DWELLING OR PRINCIPAL BUILDING, NON- PARTICIPATING" is a DWELLING on land that is not leased to a WIND FARM or a PV SOLAR FARM.

(6) "FRONTAGE" is that portion of a LOT abutting a STREET or ALLEY.

(7) "LOT" is a designated parcel, tract or area of land established by PLAT, SUBDIVISION or as otherwise permitted by law, to be used, developed or built upon as a unit.

(8) "LOT LINE, FRONT" is a line dividing a LOT from a STREET or easement of ACCESS. On a CORNER LOT or a LOT otherwise abutting more than one STREET or easement of ACCESS only one such LOT LINE shall be deemed the FRONT LOT LINE.

(9) "LOT LINE, REAR" is any LOT LINE which is generally opposite and parallel to the FRONT LOT LINE or to a tangent to the midpoint of the FRONT LOT LINE. In the case of a triangular or gore shaped LOT or where the LOT comes to a point opposite the FRONT LOT LINE it shall mean a line within the LOT 10 feet long and parallel to and at the maximum distance from the FRONT LOT LINE or said tangent.

(10) "LOT LINES" are the lines bounding a LOT.

(11) "NON-ADAPTABLE STRUCTURE" is any STRUCTURE or physical alteration to the land which requires a SPECIAL USE permit, and which is likely to become economically unfeasible to remove or put to an alternate USE allowable in the DISTRICT (by right or by SPECIAL USE).

(12) "NOXIOUS WEEDS" are any of several plants designated pursuant to the Illinois Noxious Weed Law (505 ILCS 100/1 et seq.) and that are identified in 8 Illinois Administrative Code 220.

(13) "PHOTOVOLTAIC (PV)" is a type of solar energy system that produces electricity by the use of photovoltaic cells that generate electricity when struck by light.

(14) "PV SOLAR FARM" is a unified development intended to convert sunlight into electricity by photovoltaic (PV) devices for the primary purpose of wholesale sales of generated electricity. A PV SOLAR FARM is under a common ownership and operating control even though parts of the PV SOLAR FARM may be located on land leased from different owners. A PV SOLAR FARM includes all necessary components including access driveways, solar devices, electrical inverter(s), electrical transformer(s), cabling, a common switching station, maintenance and management facilities, and waterwells. PV SOLAR FARM should be understood to include COMMUNITY PV SOLAR FARM unless specified otherwise in the relevant section or paragraph.

(15) "PRIVATE ACCESSWAY" is a service way providing ACCESS to one or more LOTS which has not been dedicated to the public.

(16) "PRIVATE WAIVER" is a written statement asserting that a landowner has agreed to waive a specific WIND FARM or PV SOLAR FARM standard condition and has knowingly agreed to accept the consequences of the waiver. A PRIVATE WAIVER must be signed by the landowner.

(17) "RIGHT-OF-WAY" is the entire dedicated tract or strip of land that is to be used by the public for circulation and service.

(18) "SCREEN" is a STRUCTURE or landscaping element of sufficient opaqueness or density and maintained such that it completely obscures from view throughout its height the PREMISES upon which the screen is located.

(19) "SCREEN PLANTING" is a vegetative material of sufficient height and density to filter adequately from view, in adjoining DISTRICTS, STRUCTURES, and USES on the PREMISES upon which the SCREEN PLANTING is located.

(20) "SETBACK LINE" is the BUILDING RESTRICTION LINE nearest the front of and across a LOT establishing the minimum distance to be provided between a line of a STRUCTURE located on said LOT and the nearest STREET RIGHT-OF-WAY line.

(21) "SPECIAL CONDITION" is a condition for the establishment of a SPECIAL USE.

(22) "SPECIAL USE" is a USE which may be permitted in a DISTRICT pursuant to, and in compliance with, procedures specified herein.

(23) "STREET" is a thoroughfare dedicated to the public within a RIGHT-OF-WAY which affords the principal means of ACCESS to abutting PROPERTY. A STREET may be designated as an avenue, a boulevard, a drive, a highway, a lane, a parkway, a place, a road, a thoroughfare, or by other appropriate names. STREETS are identified on the Official Zoning Map according to type of USE, and generally as follows:

(a) MAJOR STREET: Federal or State highways.

(b) COLLECTOR STREET: COUNTY highways and urban arterial STREETS.
(c) MINOR STREET: Township roads and other local roads.

(24) "SUITED OVERALL" is a discretionary review performance standard to describe the site on which a development is proposed. A site may be found to be SUITED OVERALL if the site meets these criteria:
a. The site features or site location will not detract from the proposed use;
b. The site will not create a risk to health, safety or property of the occupants, the neighbors or the general public;
c. The site is not clearly inadequate in one respect even if it is acceptable in other respects;
d. Necessary infrastructure is in place or provided by the proposed development; and
e. Available public services are adequate to support the proposed development effectively and safely.

(25) "VARIANCE" is a deviation from the regulations or standards adopted by this ordinance which the Hearing Officer or the Zoning BOARD of Appeals are permitted to grant.

(26) WELL SUITED OVERALL: A discretionary review performance standard to describe the site on which a development is proposed. A site may be found to be WELL SUITED OVERALL if the site meets these criteria:
a. The site is one on which the proposed development can be safely and soundly accommodated using simple engineering and common, easily maintained construction methods with no unacceptable negative effects on neighbors or the general public; and
b. The site is reasonably well-suited in all respects and has no major defects.

C. Section 5.2 only authorizes a "PV SOLAR FARM" in the AG-1 or AG-2 Zoning Districts and requires a Special Use Permit authorized by the County Board.

D. Paragraph 6.1.2 A. indicates that all Special Use Permits with exterior lighting shall be required to minimize glare on adjacent properties and roadways by the following means:
(1) All exterior light fixtures shall be full-cutoff type lighting fixtures and shall be located and installed so as to minimize glare and light trespass. Full cutoff means that the lighting fixture emits no light above the horizontal plane.
(2) No lamp shall be greater than 250 watts and the Board may require smaller lamps when necessary.

(3) Locations and numbers of fixtures shall be indicated on the site plan (including floor plans and building elevations) approved by the Board.

(4) The Board may also require conditions regarding the hours of operation and other conditions for outdoor recreational uses and other large outdoor lighting installations.

(5) The Zoning Administrator shall not approve a Zoning Use Permit without the manufacturer's documentation of the full-cutoff feature for all exterior light fixtures.

E. Section 6.1.5 contains the standard conditions for any PV SOLAR FARM which are as follows (capitalized words are defined in the Ordinance):

(1) Requirements for what must be included in the area of the PV SOLAR FARM are in 6.1.5 B.(1).

(2) Requirements for where a PV SOLAR FARM cannot be located are in 6.1.5 B.(2).

(3) Paragraph 6.1.5 C. eliminates LOT AREA, AVERAGE LOT WIDTH, SETBACK, YARD, and maximum LOT COVERAGE requirements from applying to a PV SOLAR FARM.

(4) Paragraph 6.1.5 D. contains minimum separations for PV SOLAR FARMS from adjacent USES and STRUCTURES.

(5) Paragraph 6.1.5 E. contains standard conditions for the design and installation of PV SOLAR FARMS.

(6) Paragraph 6.1.5 F. contains standard conditions to mitigate damage to farmland.

(7) Paragraph 6.1.5 G. contains standard conditions for use of public streets.

(8) Paragraph 6.1.5 H. contains standard conditions for coordination with local fire protection districts.

(9) Paragraph 6.1.5 I. contains standard conditions for the allowable noise level.

(10) Paragraph 6.1.5 J. contains standard conditions for endangered species consultation.

(11) Paragraph 6.1.5 K. contains standard conditions for historic and archaeological resources review.

(12) Paragraph 6.1.5 L. contains standard conditions for acceptable wildlife impacts from PV SOLAR FARM construction and ongoing operations.

(13) Paragraph 6.1.5 M. contains standard conditions for screening and fencing of PV SOLAR FARMS.

(14) Paragraph 6.1.5 N. contains standard conditions to minimize glare from PV SOLAR FARMS.

(15) Paragraph 6.1.5 O. contains standard conditions for liability insurance.

(16) Paragraph 6.1.5 P. contains other standard conditions for operation of PV SOLAR FARMS.

(17) Paragraph 6.1.5 Q. contains standard conditions for a decommissioning plan and site reclamation agreement for PV SOLAR FARMS and modifies the basic site reclamation requirements in paragraph 6.1.1 A.

(18) Paragraph 6.1.5 R. contains standard conditions for securing an Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture.

(19) Paragraph 6.1.5 S. contains standard conditions for a complaint hotline for complaints related to PV SOLAR FARM construction and ongoing operations.

(20) Paragraph 6.1.5 T. contains the standard condition for expiration of the PV SOLAR FARM County Board Special Use Permit.

(21) Paragraph 6.1.5 U. contains standard conditions establishing additional requirements for application for a PV SOLAR FARM County Board Special Use Permit that supplement the basic requirements for a special use permit application.

F. Section 9.1.11 requires that a Special Use Permit shall not be granted by the Zoning Board of Appeals unless the public hearing record and written application demonstrate the following:

(1) That the Special Use is necessary for the public convenience at that location;

(2) That the Special Use is so designed, located, and proposed as to be operated so that it will not be injurious to the DISTRICT in which it shall be located or otherwise detrimental to the public welfare except that in the CR, AG-1, and AG-2 DISTRICTS the following additional criteria shall apply:

a. The property is either BEST PRIME FARMLAND and the property with proposed improvements in WELL SUITED OVERALL or the property is not BEST PRIME FARMLAND and the property with proposed improvements is SUITED OVERALL.

b. The existing public services are available to support the proposed SPECIAL USE effectively and safely without undue public expense.

c. The existing public infrastructure together with proposed improvements is adequate to support the proposed development effectively and safely without undue public expense.

(3) That the Special Use conforms to the applicable regulations and standards of and preserves the essential character of the DISTRICT in which it shall be located, except where such regulations and standards are modified by Section 6.

(4) That the Special Use is in harmony with the general purpose and intent of this ordinance.

(5) That in the case of an existing NONCONFORMING USE, it will make such USE more compatible with its surroundings.

G. Paragraph 9.1.11.D.1. states that a proposed Special Use that does not conform to the standard conditions requires only a waiver of that particular condition and does not require a variance. Regarding standard conditions:

(1) The Ordinance requires that a waiver of a standard condition requires the following findings:

a. that the waiver is in accordance with the general purpose and intent of the ordinance; and

b. that the waiver will not be injurious to the neighborhood or to the public health, safety, and welfare.

(2) However, a waiver of a standard condition is the same thing as a variance and Illinois law (55ILCS/ 5-12009) requires that a variance can only be granted in accordance with general or specific rules contained in the Zoning Ordinance and the VARIANCE criteria in paragraph 9.1.9 C. include the following in addition to criteria that are identical to those required for a waiver:

a. Special conditions and circumstances exist which are peculiar to the land or structure involved, which are not applicable to other similarly situated land and structures elsewhere in the same district.

b. Practical difficulties or hardships created by carrying out the strict letter of the regulations sought to be varied will prevent reasonable or otherwise permitted use of the land or structure or construction

c. The special conditions, circumstances, hardships, or practical difficulties do not result from actions of the applicant.

(3) Including findings based on all of the criteria that are required for a VARIANCE for any waiver of a standard condition will eliminate any concern related to the adequacy of the required findings for a waiver of a standard condition and will still provide the efficiency of not requiring a public hearing for a VARIANCE, which was the original reason for adding waivers of standard conditions to the Ordinance.

H. Paragraph 9.1.11.D.2. states that in granting any SPECIAL USE permit, the BOARD may prescribe SPECIAL CONDITIONS as to appropriate conditions and safeguards in conformity with the Ordinance. Violation of such SPECIAL CONDITIONS when made a party of the terms under which the SPECIAL USE permit is granted, shall be deemed a violation of this Ordinance and punishable under this Ordinance.

GENERALLY REGARDING WHETHER THE SPECIAL USE IS NECESSARY FOR THE PUBLIC CONVENIENCE AT THIS LOCATION

7. Generally regarding the *Zoning Ordinance* requirement that the proposed Special Use is necessary for the public convenience at this location:

A. The Petitioner has testified on the application, **"Capturing and harnessing solar energy is a free renewable energy source that creates zero emissions during electricity generation. The facility will add renewable, electricity free of greenhouse gases into**

the regional Illinois electrical grid and thus improve electric grid resiliency through diversification of generation sources for the residents of the County and the State. The availability of flat, suitable land in Champaign County provides an opportunity to the County and its residents to generate additional sources of revenue through long-term lease payments to participating landowners and property tax payments which are significantly higher than taxes paid under existing agriculture use that benefit all the residents of the County."

B. The State of Illinois has adopted a Renewable Portfolio Standard that established a goal of 25% of the State's energy coming from renewable sources by the year 2025.

C. The Illinois Future Energy Jobs Act requires installation of 3,000 MW of new solar capacity by the year 2030.

D. There is an existing AMEREN substation located at the southeast corner of the intersection of CR 1000N (County Highway 15) and the Norfolk Southern railroad track.

E. Participating landowners have signed or are in the process of signing option agreements.

F. The project site is adjacent to a 135 MW solar farm (Zoning Case 898-S-18) that is currently under construction.

GENERALLY REGARDING WHETHER THE SPECIAL USE WILL BE INJURIOUS TO THE DISTRICT OR OTHERWISE INJURIOUS TO THE PUBLIC WELFARE

8. Generally regarding the *Zoning Ordinance* requirement that the proposed Special Use be designed, located, and operated so that it will not be injurious to the District in which it shall be located, or otherwise detrimental to the public welfare:
   A. The Petitioner has testified on the application, **"The project was designed in accordance with the requirements set forth in County zoning regulations. All setback requirements will be adhered to per the County ordinance, which exceeds the standards set forth at a state level through Illinois HB4412, passed in January of 2023. Per the conceptual site plans, the project will be fenced to prevent the potential for trespassing and accidents. No cabling or electrical units will be accessible to non-authorized persons. Operation of a solar plant is quiet and emission free with no impact to wildlife. The proposed facility is temporary in nature as it will be decommissioned at the end of operations following regulations in the County regulations and the executed AIMA (Agricultural Impact Mitigation Agreement) included in the application."**

   B. Regarding surface drainage:
      (1) The Natural Resource Report by the Champaign County Soil and Water Conservation District dated June 14, 2024, and received June 17, 2024, states: "Construction sites can experience 20 to 200 tons/acre/year of soil loss, which is greater than other land uses like agriculture averaging 4-5 tons/acre/year. Sediment entering creeks, rivers and lakes degrade water quality and reduce capacity, which increases the risk of flooding. Sediment also carries other possible pollutants such

as chemicals and metals by adhering to the sediment's surface. It is extremely important that the developer employ Best Management Practices such as silt fencing, construction road stabilization, and vegetative cover, to help reduce soil erosion and protect water quality during construction and after."

(2) A report titled "Agricultural Drainage Considerations Including modifications and maintenance recommendations for ground mounted solar projects within existing agricultural land use areas" was created for the petitioner by Tom Huddleston of Huddleston McBride Land Drainage on February 28, 2024, and received June 17, 2024. The report states: "During the planning phases of any land use change within agricultural areas, it is essential to understand drainage characteristics within the proposed local site and adjoining watershed. Agri drainage systems are generally considered to be regional designs that improve drainage efficiencies within an area wide or watershed basis. Therefore, drainage management within a single land tract must take in consideration the consequences and effects to the lands of others as indicated and required by Illinois Drainage Law and local ordinances."

(3) The revised decommissioning plan received on August 29, 2024, states:

The following activities will be undertaken to restore the site to substantially its previous condition:

a. PV equipment including PV modules, inverters, battery systems, cabling, racking and concrete will be removed and disposed of or recycled.
b. Gravel from access roads will be removed and compacted dirt shall be scarified a depth of 18 inches and blended.
c. Fencing materials including posts and footings shall be removed.
d. Landscaping will be removed at the request of the landowner and the area restored as noted in the site restoration plan.
e. Agricultural land shall be ripped at least 18 inches deep, and pasture will be ripped 12 inches deep as practical and seeded for the establishment of vegetative land cover.

C. Regarding traffic in the subject property area:

(1) The proposed solar farm would have a total of 17 new access points, each with a 20 feet wide (solar array area) or 24 feet wide (BESS area) access lane:

a. CR 2200E has 3 existing residential access points between CR 800N and CR 900N. The petitioner proposes 1 additional access points in this road segment:

(a) One access point is located on the east side of CR 2200E, approximately 0.2-mile south of CR 900N.

b. CR 2300E has 2 existing residential access points between the Norfolk Southern Railroad tracks and CR 800N. The petitioner proposes 6 additional access points in this road segment:

(a) One access point is located on the east side of CR 2300E, approximately 0.4-mile south of County Highway 15.

(b) One access point is located on the east side of CR 2300E, approximately 0.75-mile south of County Highway 15 on the north side of the BESS facility.

(c) One access point serves the BESS facility on the east side of 2300E, approximately 0.8-mile south of County Highway 15.

(d) One access point is located on the east side of CR 2300E, approximately 0.3-mile north of CR 900N.

(e) One access point is located on the west side of CR 2300E, approximately 0.15-mile south of CR 900N.

(f) One access point is located on the east side of CR 2300E approximately 0.3-mile south of CR 900N.

c. CR 2400E has 1 commercial and 4 residential access points between the Norfolk Southern railroad tracks and CR 800N. The petitioner proposes 3 additional access points in this road segment:

(a) One access point is located on the west side of CR 2400E, approximately 0.5-mile north of the CR 900N.

(b) One access point is located on the west side of CR 2400E, approximately 0.35-mile south of the CR 900N.

(c) One access point is located on the west side of CR 2400E, approximately 0. 5-mile north of CR 800N.

d. CR 900N has 5 residential access points between the Union Pacific Railroad tracks and CR 2400E. The petitioner proposes 7 additional access points along this road segment:

(a) One access point is located on the north side of CR 900N, approximately 0.55-mile east of the railroad tracks.

(b) One access point is located on the south side of CR 900N approximately 0.4-mile east of CR 2200E.

(c) One access point is located on the south side of CR 900N approximately 0.25-mile west of CR 2300E.

(d) Two access points are located on the north and south sides of CR 900N approximately 0.15-mile east of CR 2300E

(e) One access point is located on the south side of CR 900N approximately 0.5-mile west of CR 2400E.

(f) One access point is located on the south side of CR 900N approximately 0.25-mile west of CR 2400E

(2) Regarding proposed construction traffic for the solar farm, the petitioner submitted a Traffic and Haul Route for the proposed solar farm on June 17, 2024. The Haul Route map indicated the following:

a. The preferred haul route would use the Urbana trumpet interchange to US150/IL130 spur, travel south on IL130/High Cross Road to County Highway 15 (County Road 1000N), through the Village of Sidney to CR2200E, CR 2300E and CR2400E, then south to CR 900N to the site.

c. The petitioner expects approximately 5,000- 5,200 deliveries by truck during a 15-18 month construction period.

d. No significant increase in traffic is expected after construction.

e. The petitioner is working with Champaign County, Sidney Township and South Homer Township to develop a Roadway Upgrade and Maintenance Agreement. A waiver has been requested for not entering into an agreement prior to Special Use Permit Approval.

(3) The following are characteristics of existing roads within the proposed solar farm area:

a. CR 2200E is ranges from 14 to 16 feet wide and is comprised of oil and chip.

b. CR 2300E is approximately 18 feet wide and is comprised of oil and chip.

c. CR 2400E is approximately 14-20 feet wide and is comprised of oil and chip.

d. CR 900N is approximately 16-18 feet wide and is comprised of oil and chip.

(4) The following are characteristics of existing roads on the Traffic & Haul Route map received June 17, 2024.

a. IL Route 130 (CR 1600E / S High Cross Rd) is a paved two-lane highway that is approximately 32 feet wide plus 6 feet wide gravel shoulders.

b. County Highway 15 (CR 1000N) is a two-lane marked road that is approximately 24 feet wide plus 4 feet wide gravel shoulders.

c. US Route 150 (CR 1600N) is a two-lane marked road that is approximately 24 feet wide plus 6 feet wide gravel shoulders.

(5) The Illinois Department of Transportation measures traffic on various roads throughout the County and determines the annual average 24-hour traffic volume for those roads and reports it as Average Daily Traffic (ADT). The most recent ADT data is from 2021 near the subject properties unless noted otherwise.

a. CR 2200E had an ADT of 50 south of CR 1000N (2016).

b. CR 2300E had an ADT of 50 south of CR 1000N (2016).

c. CR 2400E had an ADT of 25 south of CR 1000N (2016).

d. CR 900N had an ADT of 75 in the area of the proposed solar farm.

e. CR 1000N (County Highway 15) had an ADT of 3,100 west of the Village of Sidney, 1,700 east of the Village of Sidney, and 1,400 east of CR 2400E.

f. IL Route 130 (CR 1600E/S High Cross Rd) had an ADT of 6,250 north of CR 1000N (County Highway 15).

(6) Champaign County Highway Engineer Jeff Blue has been notified of the hearing for this case and no comments have been received.

(7) The Sidney and South Homer Township Highway Commissioners have been notified of the hearing for this case and no comments have been received.

(8) The petitioner is working on a Road Use Agreement with the Sidney Township Highway Commissioner and with County Engineer Jeff Blue. The petitioner should also coordinate with the South Homer Township Highway Commissioner.
a. Waiver Part A was added because an Agreement was not likely to be finalized prior to the Special Use Permit determination.

b. A special condition has been added to ensure receipt of a complete Roadway Upgrade and Maintenance agreement from the County, Sidney, and South Homer Townships prior to Zoning Use Permit Approval.

D. Regarding fire protection:
(1) In a letter dated March 5, 2025, The Sidney Fire Protection District verified that the petitioner is working with the District, and the District is satisfied with the proposed special condition to develop an Emergency Response Plan in cooperation with the petitioner.

E. The subject properties are not located within a Special Flood Hazard Area, per FEMA Panel 17019CO475D, effective date October 2, 2013.

F. The subject properties are considered Best Prime Farmland. The soil consists of 152A Drummer silty clay loam, 154A Flanagan silt loam, 67A Harpster silty clay loam, 56B Dana silt loam, 171B Catlin silt loam, 481A Raub silt loam and, 153A Pella silty clay loam and has an average Land Evaluation Factor of 98.3 based on the Natural Resources Information Report by the Champaign County Soil and Water Conservation District received June 17, 2024.
(1) On the Special Use Permit Application received June 17, 2024, the petitioner stated that "During the decades of operations of the Project, soil amendments will not be applied to increase nutrient densities commonly desired to achieve modern crop yields. By alternating the land use of the soil at this location on favor of decades of

fallow activity of the soil underneath the PV solar arrays, the Project would reduce the quantity of common soil amendments applied to the soil, which could be interpreted as a net positive to public health."

G. Regarding outdoor lighting on the subject property, the application received June 17, 2024, does not indicate outdoor lighting, but states that all exterior light fixtures will comply with Section 6.1.2A.1. A special condition has been added to ensure compliance for any future outdoor lighting installation.

H. Regarding wastewater treatment and disposal on the subject property, there is no wastewater treatment and disposal facilities required or planned for the proposed PV SOLAR FARM.

I. Regarding neighborhood concerns:

(1) The following is a summary of testimony received for this zoning case:

a. Correspondence received prior to the November 14, 2024, public hearing:

(a) On September 1, 2024, an email was received from Philip Fiscella a nearby property owner in support of the project. The email was included in the meeting packet for the November 14, 2024, public hearing.

(b) On September 4, 2024, an email was received from E. Matthew Fischer a participating landowner in support of the project. The email was included in the meeting packet for the November 14, 2024, public hearing.

(c) On September 4, 2024, an email was received from Ted Hartke an area resident, in opposition to BESS in Champaign County. The email included a link to a news article about a battery storage facility fire. The email and the article were included as a handout for the Board at the November 14, 2024, public hearing, and included in the packet for the January 16, 2024, public hearing.

(d) On September 6, 2024, an email was received from Linda Jo Mazik an adjacent property owner, in opposition to the project. The email was included as a handout for the Board at the November 14, 2024, public hearing, and included in the packet for the January 16, 2024, public hearing.

(e) On September 9, 2024, an email was received from Kurt Fischer a participating landowner in support of the project. The email was included as a handout for the Board at the November 14, 2024, public hearing, and included in the packet for the January 16, 2024, public hearing.

(f) On September 6, 2024, an email was received from Steven Herriott a nearby property owner, in opposition to requested waivers for the project. The email was included as a handout for the Board at the

November 14, 2024, public hearing, and included in the packet for the January 16, 2024, public hearing.

b. At the November 14, 2024, ZBA public hearing, the following testimony was received:

(a) Ted Hartke, 1183 CR 2300E, Sidney noted that a 39dba noise limit at property lines was imposed by the Board for the first phase of the solar project and hoped they would impose a similar noise limit on this project. He expressed concerns regarding the replacement of topsoil and mixing fill dirt with topsoil at the project site as well as setback requirements for the BESS. The petitioner provided a response to these issues in a memo dated 12/30/24 included as Document of Record 11.1.

(b) Don Wauthier, 1831 Tahoe Ct. Champaign, serves as the engineer for Drainage District 1 of the Town of Sidney, asked the board to consider a requirement for a secondary agricultural use on the land such as vegetable crops or grazing for animals. He also noted that some of the proposed improvements were in the easement area for Drainage District ditches and explained that unless solar panels are properly spaced that they can increase stormwater runoff and asked the Board to consider panel spacing in their review of the project. The petitioner provided a response to these issues in a memo dated 12/30/24 included as Document of Record 11.1.

(c) Kent Krukewitt, 116 Sunflower St, Savoy, had concerns regarding drainage tiles that carry water from outside of the project area to the Drainage District ditch on the project site in addition to the proximity of the BESS site to the ditch and the possibility of chemicals making their way into the water. The petitioner provided a response to these issues in a memo dated 12/30/24 included as Document of Record 11.1.

(d) Daniel Herriot, 30 Dunlap Woods, Sidney, had concerns regarding changes to the topography of the project site. He asked the Board to encourage the developer to install pattern tiling on the project site and to consider holding off on approving this case until after the Prairie Solar 1 project was completed to see the impacts on surrounding properties. He expressed concerns regarding fire in the area of the solar arrays as well as the risk of fire in BESS area and stated that he believed that when fill dirt is brought in and it is mixed with topsoil the soil structure is destroyed. The petitioner provided a response to these issues in a memo dated 12/30/24 included as Document of Record 11.1.

(e) Justin Leerkamp, 548 CR 1900E Sidney, stated that fill dirt that was stockpiled on a property near his was being used at the Prairie

Solar 1 project site and that if the fill was mixed with the topsoil it would no longer be useful for agriculture and was concerned that this could happen on the Little Prairie solar project site. The petitioner provided a response to these issues in a memo dated 12/30/24 included as Document of Record 11.1.

(f) Janet Smith, 863 CR 2300E, Homer, stated that she lives less than 1 mile from the proposed BESS location and has concerns regarding fire and hazardous materials. She also stated that she will have solar panels surrounding three sides of her property and was concerned with the heat and noise from the panels in addition to the disturbance of the underlying soil. The petitioner provided a response to these issues in a memo dated 12/30/24 included as Document of Record 11.1.

c. Correspondence received after the November 14, 2024, public hearing:

(a) On November 15, 2024, an email was received from Ted Hartke an area resident, in opposition to the project that cited concerns with the proposed project as well as the Prairie Solar 1 project currently under construction. The email was included in the packet for the January 16, 2024, public hearing.

(b) On December 30, 2024, an email was received from Ted Hartke an area resident, in opposition to the project and included an article about a proposed wind farm in New York. The email was included in the packet for the January 16, 2024, public hearing.

(c) On January 13, 2025, an email was received from Tannie Justus with a request that cedar trees not be used for screening near her property due to having fruit trees. The email was included as a handout for the Board at the January 16, 2025, public hearing. The email was also forwarded to the Petitioner, and the Petitioner has provided a revised site plan showing no Eastern Red Cedar trees to be used within 1,000 feet of the property.

(d) On January 15, 2025, an email was received from Janet Smith a resident whose property is boarded on three sides by the proposed development, that expressed concerns about the project obstructing views, and causing glare, heat and noise on her property. The email was included as a handout for the Board at the January 16, 2025, public hearing.

(e) On January 15, 2025, an email was received from Mary White an area resident in opposition to the project that cited concerns with the destruction of farmland and the ownership of the project. The email was included as a handout for the Board at the January 16, 2025, public hearing.

(f) On January 16, 2025, a letter was received from Kent Krukewitt in opposition of waiver part C for a separation of 65 ft. from a property less than 10 acres, and with concerns regarding support of installing pattern tiling on the subject properties. The Petitioner has provided a revised site plan showing a 240 ft. setback from the property with PIN 24-28-13-400-002 which eliminated the need for the waiver.

d. At the January 16, 2025, ZBA public hearing, the following testimony was received:

(a) Cindy Shepherd, 2010 Burlison Dr. Urbana, testified that she solar and battery energy will help advance clean energy. She hopes that the developer can work with area residents to help improve energy efficiency and hopes that the developers can work with the area farming to further agrivoltaic innovations.

(b) Ted Hartke testified that he has requested a 40 dBA limit at the property line of the development parcels. He also testified on the inefficiency of solar energy and thinks that the costs outweigh the benefits. The petitioner provided a response to these issues in a memo dated 3/7/25 included as Document of Record 13.1.

(c) Daniel Herriott testified on the companies that he has seen doing work on the Prairie Solar 1 project as well as doing earthwork on the Little Prairie Solar project site. He also testified that while he is not an adjacent landowner to the project site his land is affected by the drainage on the project site. He also testified that during construction of the Prairie Solar 1 project vehicles caused ruts in land that he farms, and that there was earthwork being performed on the Prairie Solar 1 project site during wet weather on November 14, 2024, which is contrary to what the developer has stated. He also testified that the complaint hotline for the Prairie Solar 1 project doesn't always work and that he noticed that a semi was unloading vehicles along the side of County Highway 15 which could cause traffic problems, and he made the Department of Planning and Zoning aware of the issue. He also mentioned his concerns about the BESS facility being located near the Frito-Lay facility and if there was a fire, the smoke could impact the grain stored at Frito-Lay. He also testified that while jobs would be created as a result of the solar farm, jobs in farming would also be lost due to the area not being farmed. He also testified to the financial condition of BayWa r.e and stated that caused concerns with regard to the financial assurances that are required for decommissioning. He asked that the Board hold off on approval of 144-S-24 for 12 months to see the outcome of the Prairie Solar 1 project construction. The petitioner provided a response to these issues in a memo dated 3/7/25 included as Document of Record 13.1.

e. Correspondence received after the January 16, 2025, public hearing:

(a) On January 17, 2025, an email was received from Ted Hartke that contained information regarding the construction of a battery manufacturing facility in Kansas. The email was included in the packet for the January 16, 2024, public hearing. A second email was received that included information regarding the efficiency of renewable energy systems. The email and attachment were included in the packet for the March 27, 2025, public hearing.

(b) On January 29, 2025, an email was received from Tannie Justus with a request that cedar trees not be used for screening near her property due to having fruit trees. The email was provided to the Petitioner, and the Petitioner has provided a revised site plan showing no Eastern Red Cedar trees to be used within 1,000 feet of the property.

J. Regarding parking, there is no required parking for the proposed PV SOLAR FARM. The proposed operations and maintenance building at the BESS site will be required to have parking that meets State accessibility requirements.

K. Other than as reviewed elsewhere in this Summary of Evidence, there is no evidence to suggest that the proposed Special Use will generate either nuisance conditions such as odor, noise, vibration, glare, heat, dust, electromagnetic fields or public safety hazards such as fire, explosion, or toxic materials release, that are in excess of those lawfully permitted and customarily associated with other uses permitted in the zoning district.

GENERALLY REGARDING WHETHER THE SPECIAL USE CONFORMS TO APPLICABLE REGULATIONS AND STANDARDS AND PRESERVES THE ESSENTIAL CHARACTER OF THE DISTRICT

9. Generally regarding the *Zoning Ordinance* requirement that the proposed Special Use conforms to all applicable regulations and standards and preserves the essential character of the District in which it shall be located, except where such regulations and standards are modified by Section 6 of the Ordinance:

A. The Petitioner has testified on the application, **"The applicant has designed the project in accordance with the County Zoning Ordinance requirements regarding the PV component of the project. In addition, the applicant has utilized a draft version of the BESS ordinance provided by the County to inform the design of the supplemental battery energy storage component of the project. Any deviation from applicable regulations are detailed in the application narrative with regards to requests for waiver from the standard conditions due to project specific needs"**

B. Regarding compliance with the *Zoning Ordinance,* the following evidence was provided:

(1) Section 5.2 authorizes a PV SOLAR FARM only by a County Board Special Use Permit in the AG-1 and AG-2 Agriculture Zoning Districts. It is not permitted by right in any district.

(2) There is no required parking for the solar farm or accessory BESS, parking will be required for the proposed operations and maintenance building at the BESS site and will be required to meet State accessibility requirements.

(3) Requirements for what must be included in the area of the PV SOLAR FARM Special Use Permit are in subparagraph 6.1.5 B.(1).

a. The revised Site Plan received March 7, 2025, appears to conform with this requirement.

(4) Requirements which identify certain areas where a PV SOLAR FARM Special Use Permit shall not be located can be found in Subparagraph 6.1.5 B.(2).

a. Item 6.1.5 B.(2)a. requires a PV SOLAR FARM to be more than one- and one-half miles from an incorporated municipality with a zoning ordinance, unless the following is provided:

(a) No part of a PV SOLAR FARM shall be located within a contiguous urban growth area (CUGA) as indicated in the most recent update of the CUGA in the Champaign County Land Resource Management Plan, and there shall be a separation of one-half mile from a proposed PV SOLAR FARM to a municipal boundary at the time of application for the SPECIAL USE Permit, except for any power lines of 34.5 kVA or less and except for any proposed PV SOLAR FARM substation and related proposed connection to an existing substation.

i. The Village of Sidney does not have a Contiguous Urban Growth Area.

ii. A revised Site Plan received March 7, 2025, showed the PV solar farm private substation located on a participating property within one-half mile of the Village of Sidney. (Approximately 2500 feet away) The fenced solar farm area and accessory BESS area are outside one-half mile of the Village.

(b) The PV SOLAR FARM SPECIAL USE permit application shall include documentation that the applicant has provided a complete copy of the SPECIAL USE permit application to any municipality within one-and-one-half miles of the proposed PV SOLAR FARM.

i. The petitioner stated as part of the Special Use Permit Application that a complete copy of the application was submitted to the Village of Sidney.

ii. The petitioner has not received confirmation from the Village of Sidney that their Special Use Permit application has been received.

(c) If no municipal resolution regarding the PV SOLAR FARM is received from any municipality located within one-and-one-half miles of the PV SOLAR FARM prior to the consideration of the PV SOLAR FARM SPECIAL USE permit by the Champaign County Board, the

ZONING ADMINISTRATOR shall provide documentation to the County Board that any municipality within one-and-one-half miles of the PV SOLAR FARM was provided notice of the meeting dates for consideration of the proposed PV SOLAR FARM SPECIAL USE Permit for both the Environment and Land Use Committee and the County Board.

i. No resolution from the Village of Sidney has been received as of March 19, 2025.

ii. Notice of the ZBA public hearing was sent by P&Z Staff to the Village of Sidney on August 28, 2024, November 8, 2024, and January 10, 2025.

(5) Requirements regarding interconnection to the power grid can be found in Subparagraph 6.1.5 B.(3):

a. The PV SOLAR FARM SPECIAL USE permit application shall include documentation that the applicant or PV SOLAR FARM is in the queue to acquire an interconnection agreement to the power grid.

(a) In the application the petitioner provided an email from MISO dated September 28, 2023, that the petitioner's interconnection request has been validated and is included in the DPP 2022 cycle.

b. Documentation of an executed interconnection agreement with the appropriate electric utility shall be provided prior to issuance of a Zoning Compliance Certificate to authorize operation of the PV SOLAR FARM.

(a) A special condition has been added to ensure compliance.

(6) Requirements regarding Right to Farm can be found in Subparagraph 6.1.5 B.(4): "The owners of the subject property and the Applicant, its successors in interest, and all parties to the decommissioning plan and site reclamation plan hereby recognize and provide for the right of agricultural activities to continue on adjacent land consistent with the Right to Farm Resolution 3425."

(7) Requirements regarding minimum lot standards can be found in Subparagraph 6.1.5 C.:

Subparagraph 6.1.5 C. eliminates LOT AREA, AVERAGE LOT WIDTH, SETBACK, YARD, maximum LOT COVERAGE, or maximum LOT AREA requirements on BEST PRIME FARMLAND requirements for a PV SOLAR FARM or for LOTS for PV SOLAR FARM substations and/ or PV SOLAR FARM maintenance and management facilities.

(8) Requirements regarding minimum separations for PV SOLAR FARMS from other STRUCTURES, BUILDINGS, and USES can be found in Subparagraph 6.1.5 D.

a. The revised Site Plan received March 7, 2025, shows the separations between the solar farm fence and the nearest residences.

b. The proposed PV SOLAR FARM complies with all minimum separations in paragraph 6.1.5 D. in the following manner:

(a) Subparagraph 6.1.5 D.(1) requires PV SOLAR FARM fencing to be set back from the street centerline a minimum of 40 feet from a MINOR STREET and a minimum of 55 feet from a COLLECTOR STREET and a minimum of 60 feet from a MAJOR STREET unless a greater separation is required for screening pursuant to Section 6.1.5 M.(2)a., but in no case shall the perimeter fencing be less than 10 feet from the RIGHT OF WAY of any STREET.

i. The revised Site Plan received March 7, 2025, shows the solar farm fencing meeting the required street setbacks.

(b) Subparagraph 6.1.5 D.(2) states that for properties participating in the solar farm, there is no required separation from any existing DWELLING or existing PRINCIPAL BUILDING except as required to ensure that a minimum zoning lot is provided for the existing DWELLING or PRINCIPAL BUILDING.

i. The subject properties meet minimum zoning lot requirements.

(c) Subparagraph 6.1.5 D.(3)a. states that for any adjacent LOT that is 10 acres or less in area (not including the STREET RIGHT OF WAY):

i. For any adjacent LOT that is bordered (directly abutting and/or across the STREET) on no more than two sides by the PV SOLAR FARM, the separation shall be no less than 240 feet from the property line.

(i) P&Z Staff verified that the revised Site Plan received March 7, 2025, shows that all adjacent LOTS 10 acres or less in area bordered on no more than two sides by the PV SOLAR FARM have at least 240 feet of separation from the property line.

ii. For any adjacent LOT that is bordered (directly abutting and/or across the STREET) on more than two sides by the PV SOLAR FARM, the separation shall exceed 240 feet as deemed necessary by the BOARD.

(i) There is a 3.15-acre lot on the east side of CR 2300E that is bordered on three sides by participating properties. The closest distance between the property line and the PV SOLAR FARM fence is approximately 260 feet.

(d) Subparagraph 6.1.5 D.(3)b. states that for any adjacent LOT that is more than 10 acres in area (not including the STREET RIGHT OF WAY), the separation shall be no less than 255 feet from any existing DWELLING or existing PRINCIPAL BUILDING and otherwise the perimeter fencing shall be a minimum of 10 feet from a SIDE or

REAR LOT LINE. This separation distance applies to properties that are adjacent to or across a STREET from a PV SOLAR FARM.

i. There is an 88-acre lot on the east end of the proposed solar farm with a PRINCIPAL BUILDING, directly south of the Norfolk Southern railroad. The closest distance between the property line and the solar farm fence is 20 feet. The separation distance to the PRINCIPAL BUILDING is approximately 2,500 feet.

ii. There are numerous other lots greater than 10 acres surrounding the proposed PV SOLAR FARM, but none of them have existing DWELLINGS or existing PRINCIPAL BUILDINGS. The PV SOLAR FARM perimeter fencing is at least 10 feet from all SIDE and REAR LOT LINES.

(e) Subparagraph 6.1.5 D.(3)c. states that additional separation may be required to ensure that the noise level required by 35 Ill. Admin. Code Parts 900, 901 and 910 is not exceeded or for other purposes deemed necessary by the BOARD.

i. A sound study prepared for the petitioners by Kimley Horn, 570 Lake Cook Road, Suite 200, Deerfield, IL 60015, was received with the application on June 17, 2024. The report provides a range of noise levels, which can be summarized as follows:

(i) Existing (pre-development) ambient noise was measured on 3/18/24 to 3/19/24 at the following locations (indicated on the Measurement Site Location Map):

1. On the west side of CR 2300E, north of the residence at 863 CR 2300E (site indicated as LT1).

2. On the west side of CR 2400E, north of the residence at 811 CR 2300E (site indicated as LT2).

3. At the southwest corner of CR 900N and CR 2400E (site indicated as LT3)

(ii) The ambient noise survey identified the following ambient sound levels:

1. Average daytime noise level of 54.4 dBA L_{eq} at LT1 with nighttime noise level of 50.7 dBA L_{eq} with a resulting day-night average noise level of 53.3 dBA L_{dn} at LT1.

2. Average daytime noise level of 59.0 dBA L_{eq} at LT2 with nighttime noise level of 44.0 dBA L_{eq}

with a resulting day-night average noise level of 57.1 dBA L_{dn} at LT2.

3. Average daytime noise level of 64.7 dBA L_{eq} at LT3 with nighttime noise level of 44.6 dBA L_{eq} with a resulting day-night average noise level of 62.7 dBA L_{dn} at LT3.

4. Note that the Illinois Pollution Control Board (IPCB) maximum allowable noise emitted to Class A (residence) land, adjusted for A weighting, is 60.61 dBA for daytime and 51.13 for nighttime.

(iii) The proposed inverter is the Freesun HEM model which the manufacturer claims produces a sound pressure level of 79 dBA measured at 1 meter (3.3 feet).

(iv) The proposed BESS module is the BYD MC Cube with the manufacturer claims produces a sound pressure level of 75 dBA measured at 1 meter.

(v) Noise levels from the proposed step-up transformer at the substation were based on a reference sound level for a transformer of approximately 75 dBA at 1 meter.

(vi) Noise levels were modeled at 25 locations in the vicinity of the proposed solar farm where noise producing equipment is expected to be placed.

(vii) The sound study software predicted maximum operational sound levels at the property boundary of the closest Class A (residential) land uses around the site to be near or below 45 dBA, which is below the reference approximate overall equivalent IPCB (Illinois Pollution Control Board) permissible sound pressure level limits for Class A land uses.

(viii) After modeling it was determined by the study that noise mitigation measures are not needed since the predicted operational sound levels are anticipated to remain below the measured daytime noise level and near the measured nighttime noise levels around the project site.

(f) Subparagraph 6.1.5 D.(4) states that there must be a separation of at least 500 feet from specific types of airport and restricted landing

area facilities unless the SPECIAL USE permit application includes results provided from an analysis using the Solar Glare Hazard Analysis Tool (SGHAT) for the Airport Traffic Control Tower cab and final approach paths, consistent with the Interim Policy, Federal Aviation Administration (FAA) Review of Solar Energy Projects on Federally Obligated Airports, or the most recent version adopted by the FAA, and the SGHAT results show no detrimental affect with less than a 500 feet separation.

i. The Solar Glare and Glint Analysis Report prepared for Little Prairie Solar by Kimley Horn and received with the application on June 17, 2024, states: "The project is not anticipated to produce any red or yellow glare, however green flare was identified for all observation paints except points 5, 6, 12, 15 and 20. Both flight approaches at Justus Airport are not anticipated to receive any glare. The highest amount of green glare during any singular occurrence is nine minutes for observation points 2, 9, 13, 16 and 17. Green glare is similar to natural occurring glare produced from bodies of water, soil and glass façade buildings; therefore, the project is not expected to impact the surrounding area. Panel specifications should resemble those shown in Appendix A to aim for the same results shown in this report."

(g) Subparagraph 6.1.5 D.(5) requires a separation of at least 500 feet between substations and transmission lines of greater than 34.5 kVA to adjacent dwellings and residential DISTRICTS.

i. There are no new substations or transmission lines of greater than 34.5 kVA within 500 feet of adjacent dwellings or residential DISTRICTS.

(h) Subparagraph 6.1.5 D.(6) states that electrical inverters shall be located as far as possible from property lines and adjacent DWELLINGS consistent with good engineering practice. Inverter locations that are less than 275 feet from the perimeter fence shall require specific approval and may require special sound deadening construction and noise analysis.

i. P&Z Staff has verified that 29 of the 35 inverters shown on the revised Site Plan received December 30, 2024, are at least 275 feet away from the PV SOLAR FARM perimeter fence.

ii. 5 of the 35 inverters are less than 275 feet from internal fences that separate areas of the project and separate the project areas from drainage ways.

iii. One inverter is approximately 225 feet from a perimeter fence but is over 2,000 feet from the nearest building. The petitioner has requested a waiver for a separation of 225 feet between the

solar inverter and the perimeter fence in lieu of the required 275 feet per Section 6.1.5 D.(6).

ii. Regarding the distance between the inverters and nearby lots with dwellings, based on the revised Site Plan received March 7, 2025:

(i) There are 5 residential properties along 2200E on the western end of the solar farm. The property line of the closest residential property and any inverter is approximately 710 feet.

(ii) There is a 2.35-acre residential lot on the north side of CR 900N, west of 2300E. The closest distance between the property line and any inverter is approximately 800 feet.

(iii) There are 2 residential properties along 2400E, south of 900N. The property line of the closest residential property (a participating property) and any inverter is approximately 720 feet. The other property (non-participating) is also approximately 720 feet from the nearest inverter.

(iv) There are 2 residential properties along 2400E north of 900N. The property line of the closest residential property and any inverter is approximately 1000 feet.

(v) All other residential properties have at least 1000 feet of separation from the property line to the nearest inverter.

(i) Subparagraph 6.1.5 D.(7) states that separation distances for any PV SOLAR FARM with solar equipment exceeding 8 feet in height, with the exception of transmission lines which may be taller, shall be determined by the BOARD on a case-by-case basis.

i. Sheet SDP-110 Details, of the revised Site Development Plan received March 7, 2025, indicates that the solar array at its tallest orientation will have a height of 10 feet, and the BESS PCS inverters have a height of 12 feet.

(j) Subparagraph 6.1.5 D.(8) states that PV SOLAR FARM solar equipment other than inverters shall be no less than 26 feet from the property line of any lot more than 10 acres in area.

i. The applicant states in the application received on June 17, 2024, that the project is in compliance with the 26 feet setback requirement.

(9) Paragraph 6.1.5 E. contains standard conditions for the design and installation of PV SOLAR FARMS. Compliance with paragraph 6.1.5 E. can be summarized as follows:

a. Subparagraph 6.1.5 E.(1) requires certification by an Illinois Professional Engineer or Illinois Licensed Structural Engineer or other qualified professional that that the constructed building conforms to Public Act 96-704 regarding building code compliance and conforms to the Illinois Accessibility Code.

(a) the revised Site Development Plan received March 7, 2025, shows one 40x40 foot operation and maintenance building along 2300E near the entrance to the BESS facility. The applicant has stated that all final engineering documents shall be designed in accordance with State and County standards.

b. Subparagraph 6.1.5 E.(2) establishes minimum requirements for electrical components.

(a) Part 6.1.5 E.(2)a. states that all electrical components of the PV SOLAR FARM shall conform to the National Electrical Code as amended and shall comply with Federal Communications Commission (FCC) requirements.

i. The applicant has stated that all final engineering documents shall be designed in accordance with National and State Electric Code and State and County standards.

(b) Part 6.1.5 E.(2)b. states that burying power and communication wiring underground shall be minimized consistent with best management practice regarding PV solar farm construction and minimizing impacts on agricultural drainage tile.

i. In the Special Use Permit Application received June 17, 2024, the developer stated: "Per Champaign County Zoning Ordinance Section 6.1.5E. (2)b., all underground wiring will be buried with best management practices regarding PV solar farm construction to minimize impacts on agricultural drainage tile."

c. Subparagraph 6.1.5 E.(3) states that the height limitation established in Section 5.3 shall not apply to a PV SOLAR FARM, and requires the maximum height of all above ground STRUCTURES to be identified in the application and as approved in the SPECIAL USE permit.

(a) Sheet SDP-110: Details, received March 7, 2025, indicates that the solar array and BESS module height will be 10 feet.

(b) BESS PCS inverters height will be 12 feet.

(c) No information was provided regarding the substation equipment height, but it is assumed that the height will be approximately 53 feet similar to the equipment approved in Case 898-S-18.

d. Subparagraph 6.1.5 E.(4) requires that a reasonably visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

(a) Information submitted with the Special Use Permit application indicates that the NEC requires appropriate levels of warning signage on all electrical components, and the developer has stated in the application that appropriate signage containing necessary contact and safety information for the solar farm will be displayed in accordance with local code and as identified in the permit conditions.

e. Subparagraph 6.1.5 E.(5) requires that no PV SOLAR FARM construction may intrude on any easement or right of way for a GAS PIPELINE or HAZARDOUS LIQUID PIPELINE, an underground water main or sanitary sewer, a drainage district ditch or tile, or any other public utility facility unless specifically authorized by a crossing agreement that has been entered into with the relevant party.

(a) No information was required or submitted for the Special Use Permit application.

(b) The subject property does not have a connection to public sewer or water.

(c) Champaign County Geographic Information Systems data does not show any gas or hazardous liquid lines on the subject property.

(10) Paragraph 6.1.5 F. contains standard conditions to mitigate damage to farmland.

a. The subject properties are considered Best Prime Farmland. The soil consists of 152A Drummer silty clay loam, 154A Flanagan silt loam, 67A Harpster silty clay loam, 56B Dana silt loam, 171B Catlin silt loam, 481A Raub silt loam and, 153A Pella silty clay loam and has an average Land Evaluation Factor of 98.3 based on the Natural Resources Information Report by the Champaign County Soil and Water Conservation District received June 17, 2024.

b. The Applicant has signed an Agricultural Impact Mitigation Agreement, with the Illinois Department of Agriculture which would include requirements to mitigate damage to farmland per 505 ILCS 147, effective March 26, 2024. A copy of the Agreement was provided with the application received June 17, 2024.

c. Regarding pollinator friendly ground cover in the mitigation of damage to farmland, the applicant states in the Special Use Permit Application:

(a) "The Applicant has teamed with the Bee and Butterfly Fund, which designed a seed mixture to improve soil health, and promote pollinator species. As part of this partnership, the Bee and Butterfly Fund will monitor the soils health while the facility is in

operation, document wildlife identified, and connect the Applicant with local beekeepers in order to promote local honey production adjacent to the facility. The classification of best prime farmland can remain with the properties through the useful life of the project, will not be impacted by the proposed use of the land for a solar facility, and can be returned to agricultural use by the landowners at that time if desired to continue historic farming operations."

d. Subparagraph 6.1.5 F.(1) establishes a minimum depth of 5 feet for underground wiring or cabling below grade or deeper if required to maintain a minimum one foot of clearance between the wire or cable and any agricultural drainage tile or a lesser depth if so authorized by the Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture as required by paragraph 6.1.5 R.

(a) The Agricultural Impact Mitigation Agreement specifies depths for burying underground cables

e. Subparagraph 6.1.5 F.(2) establishes requirements for protection of agricultural drainage tile.

(a) The Agricultural Impact Mitigation Agreement details standards for rerouting and repair of agricultural drainage tiles.

(b) A cover letter from Tom Huddleston of Huddleston McBride Land Drainage of Rochelle, Illinois, was received June 17, 2024. The letter states that Huddleston McBride Land Drainage Company has been retained by Little Prairie Solar, LLC for the purpose of maintaining local and regional agricultural drainage systems within and related to the proposed Little Prairie Solar LLC, Champaign County solar project and the intent is to work with the Little Prairie Solar, LLC professional design team to identify, locate, map and recommend drainage improvements for the Little Prairie Solar project. The letter from Huddleston McBride Land Drainage has attached to it a brief report titled "Agricultural Drainage Considerations Including modifications and maintenance recommendations for ground mounted solar projects within existing agricultural land use areas". The brief report is intended to clarify the basics of subsurface agricultural drainage tile systems including onsite evaluation and recommendations for maintenance, modification, and repair. The brief report can be summarized as follows:

i. Onsite drainage investigations and evaluations are critical to comprehend onsite conditions and significance to other tracts. Drainage investigation map reports should include agricultural drainage modeling, field reconnaissance and record research work in effort to identify existing drainage features including slit trenching to verify existence of drain

tile. All drain tile encountered during investigation should be logged on field mapping and repaired to their original state following NRCS practices. Drain tile routes should be located by surface probing or electronic detection and field staked at <20 feet intervals. It is critical that mutual drainage tiles and surface flow systems that benefit the lands of others be carefully identified and protected. The final drain tile base map should locate all existing drain tile routes and include an attached field report containing the size, flow, system effectiveness, restriction siltation, pipe invert to ground surface depth, pipe type/ quality, system classification and specific field notes.

ii. Depending on the project site and existing drainage conditions, it will be mandatory to maintain the existing agricultural mutual drainage system which is necessary to maintain the drainage rights of the lands of others. It will be recommended to maintain local (onsite) drainage systems which will assure a stable water table and preserve the ability for continued farming after the duration of the project. It shall also be noted that poorly maintained local drainage systems during the solar project existence may cause jurisdictional wetland conditions which will alter future farm practices and the ability for correction or improvement." The two basic methods of preserving farm drainage within the solar project are "complete avoidance and protection" and "replacement by like kind procedures".

iii. The "complete avoidance and protection" method of preserving farm drainage would require that all existing drainage systems be carefully evaluated for obvious failures and repair splices be implemented. Existing drain tiles which conflict with specific solar support column locations will need to be rerouted by "warp section" repair and be delineated by surface staking and protected from heavy intense surface traffic. Wide track low compaction construction equipment is necessary during construction. It will also be necessary to create contingency plans for access and drain tile repair during operation of the solar facility.

iv. The "replacement by like kind procedures" method of preserving farm drainage are more intensive than avoidance and protection and requires existing clay drain tile systems to be removed and replaced with polyethylene perforated or solid dual wall pipe of same size at same depth grade and location. "Like kind" replacement drain tile which conflict with specific solar support column locations will need to be

rerouted by "warp section" repair and maintain a separation at least four-feet from the support columns. All drain tiles that egress or ingress the project site shall include a six-inch online riser pipe within two-feet of the project boundary, to be used for flow verification, system identification, and pipe ventilation. All additional existing drain tile feeder laterals encountered during the "like kind" replacement process shall be evaluated and considered for replacement by the same "like kind" procedure. All replacement tile systems shall be located by GPS at state plane coordinates and included on record maps.

(c) A special condition has been added to ensure compliance.

f. Subparagraph 6.1.5 F.(3) requires restoration for any damage to soil conservation practices.

(a) The Agricultural Impact Mitigation Agreement requires the petitioner to consult with the Champaign County Soil and Water District to determine if there are soil conservation practices that will be damaged by the construction or deconstruction of the facility. Those conservation practices shall be restored to their preconstruction condition.

g. Subparagraph 6.1.5 F.(4) establishes requirements for topsoil replacement pursuant to any open trenching.

(a) The Agricultural Impact Mitigation Agreement establishes requirements for topsoil removal, storage and replacement.

h. Subparagraph 6.1.5 F.(5) establishes requirements for mitigation of soil compaction and rutting.

(a) The Agricultural Impact Mitigation Agreement establishes requirements for construction during wet weather and the repair of soil compaction and rutting.

(b) The decommissioning plan states that all areas of the project site that were traversed by vehicles and equipment that exhibit compaction and rutting will be restored. Agricultural land shall be ripped at least 18 inches deep, and pasture will be ripped 12 inches deep as practical and seeded for the establishment of vegetative land cover."

i. Subparagraph 6.1.5 F.(6) establishes requirements for land leveling.

(a) No information was required or submitted for the Special Use Permit application.

j. Subparagraph 6.1.5 F.(7) establishes requirements for a permanent Erosion and Sedimentation Control Plan.

(a) The applicant has stated in the Special Use Permit Application that prior to construction a Storm Water Pollution Prevention Plan and

sediment and erosion control plans will be submitted in compliance with the Champaign County Storm Water Management and Erosion Control Ordinance.

(b) The revised Preliminary Landscape Plan Submitted March 7, 2025, identifies seeding procedures to prevent erosion.

k. Subparagraph 6.1.5 F.(8) establishes requirements for retention of all topsoil.

(a) The Agricultural Impact Mitigation Agreement establishes requirements for topsoil removal and replacement.

l. Subparagraph 6.1.5 F.(9) establishes requirements for minimizing the disturbance to BEST PRIME FARMLAND by establishing a specific type of vegetative ground cover.

(a) The applicant has stated in the Special Use Permit Application:

i. The Applicant has teamed with the Bee and Butterfly Fund, which designed a seed mixture to improve soil health, and promote pollinator species. As part of this partnership, the Bee and Butterfly Fund will monitor the soils health while the facility is in operation."

ii. Regarding species selection serving a secondary habitat purpose: The proposed seed mixtures should provide pollinator habitat as well as habitat for small animals."

iii. Regarding use of a combination of management approaches: The array seed mixture is designed to grow to the appropriate height based on the projects lower panel height and is fast establishing and mowing friendly. The revised Preliminary Landscape Plan Submitted March 7, 2025, identifies seasonal planting and maintenance standards for the first five years of the project and for the remainder of the project life.

(11) Paragraph 6.1.5 G. contains standard conditions for use of public streets.

a. Paragraph 6.1.5 G.(1) requires the Applicant to enter into a signed Roadway Upgrade and Maintenance agreement approved by the County Engineer and State's Attorney and/or any relevant Township Highway Commissioner prior to the close of the public hearing for the use of public streets, except for any COMMUNITY PV SOLAR FARM for which the relevant highway authority has agreed in writing to waive the requirements, and the signed and executed Roadway Upgrade and Maintenance agreements must provide for certain conditions.

(a) Waiver Part A was added because an Agreement was not likely to be finalized prior to the Special Use Permit determination.

(b) A special condition has been added to ensure receipt of a complete Roadway Upgrade and Maintenance agreement from Champaign County, Sidney Township and South Homer Township.

b. Paragraph 6.1.5 G.(2) requires that the Zoning Administrator shall not authorize a Zoning Use Permit for the PV SOLAR FARM until the County Engineer and State's Attorney, or Township Highway Commissioner, or municipality where relevant, has approved a Transportation Impact Analysis provided by the Applicant and prepared by an independent engineer that is mutually acceptable to the Applicant and the County Engineer and State's Attorney, or Township Highway Commissioner, or municipality.

(a) No information was required or submitted for the Special Use Permit application.

c. Paragraph 6.1.5 G.(3) requires the Applicant or its successors in interest to enter into a Roadway Use and Repair Agreement with the appropriate highway authority for decommissioning the PV SOLAR FARM.

(a) The Revised Decommissioning Plan submitted August 29, 2024, states that the Project Company acknowledges financial responsibility to repair any public street damaged during the reclamation of the solar farm.

(12) Paragraph 6.1.5 H. contains standard conditions for coordination with local fire protection districts.

a. In a letter dated March 5, 2025, The Sidney Fire Protection District verified that the petitioner is working with the District, and the District is satisfied with the proposed special condition to develop an Emergency Response Plan in cooperation with the petitioner.

(13) Paragraph 6.1.5 I. contains standard conditions for the allowable noise level.

a. Subparagraph 6.1.5 I.(1) requires the noise level from each PV SOLAR FARM to be in compliance with the applicable Illinois Pollution Control Board (IPCB) regulations (35 *Illinois Administrative Code* Subtitle H: Noise Parts 900, 901, 910).

(a) The application received June 17, 2024, identified the proposed solar inverters, as the Freesun HEM model and the BESS PCS inverters as Power Electronics inverters. The project would use 35 solar inverters and 58 BESS inverters.

(b) Distances from adjacent residences were provided in the Revised Site Plan received March 7, 2025.

(c) Page 12 of the Noise Assessment received with the application on June 17, 2024, states: "the SoundPLAN-predicted maximum operational sound levels at the property boundary of the closest Class A land uses around the site are anticipated to be near or below approximately 45 db(A), which is below the reference approximate overall equivalent

IPCB permissible sound pressure level limits for Class A land uses. Since the SoundPLAN-predicted maximum noise levels at surrounding Class A property boundaries, are not anticipated to exceed the limits established by IPCB, noise mitigation measures do not need to be included in the project design at this time."

(14) Paragraph 6.1.5 J. contains standard conditions for endangered species consultation. Regarding compliance with 6.1.5 J.:

a. A Threatened and Endangered Species Report was received with the application on June17, 2024. The report appears to be in compliance.

(15) Paragraph 6.1.5 K. contains standard conditions for historic and archaeological resources review. Regarding compliance with 6.1.5 K.:

a. In a letter dated April 3, 2024, and received June 17, 2024, from the Illinois Department of Natural Resources-Historic Preservation Office (IHPO) the project area is not within the high probability area for archeological resources and is exempt pursuant to Section 6 of the Illinois State Agency Historic Resources Preservation Act.

(16) Paragraph 6.1.5 L. states: "The PV SOLAR FARM shall be located, designed, constructed, and operated so as to avoid and if necessary, mitigate the impacts to wildlife to a sustainable level of mortality."

a. The Protected Species and Habitat Assessment received June 17, 2024, identified 7 species covered under the Endangered Species Act with potential to occur within the most current property boundary. Pages 2-3 of the assessment notes that there is no critical habitat for any of the 7 identified species within the project area.

b. Page 5 of the report states: "Kimley-Horn submitted an Illinois Department of Natural Resources (ILDNR) Ecological Compliance Assessment Tool (EcoCAT) request to evaluate record of known state listed species or protected lands in the project vicinity. Two species the Bigeye Chub (Hybopsis amblops) and the Wavy-rayed Lampmussel (Lampsilis fasciola) were identified by EcoCAT with potential to occur. The IDNR determined that adverse effects are unlikely and provided a termination letter dated March 1, 2024, which was submitted on June 17, 2024

(17) Paragraph 6.1.5 M. contains standard conditions for screening and fencing.

a. Subparagraph 6.1.5 M.(1) requires the PV SOLAR FARM to have perimeter fencing that is at least 7 feet tall, with Knox boxes and keys provided at locked entrances, and a vegetation management plan included in the application to control NOXIOUS WEEDS.

(a) The revised Site Plan received March 7, 2025, shows an 8-feet tall fence. There is no information regarding Knox boxes.

(b) Regarding weed control, the Revised Landscape Plan received March 7, 2025, demonstrates compliance with this requirement.

b. Subparagraph 6.1.5 M.(2) requires a visual screen around the perimeter of the PV SOLAR FARM.

(a) Subparagraph 6.1.5 M.(2)a.(a) requires that a visual screen be provided for any part of the PV SOLAR FARM that is visible to and located within 1,000 feet of an existing DWELLING or residential DISTRICT.

(b) The Revised Site Plan received March 7, 2025, identifies areas where a landscaping buffer would be installed.

(c) The Revised Landscape Plan received March 7, 2025, illustrates a 25 feet wide landscape buffer for areas near existing dwellings.

(d) The Revised Landscape Plan received March 7, 2025, identifies the species of plantings used in proximity to the property at 2268 CR 900N will exclude Cedar trees.

(18) Paragraph 6.1.5 N. contains standard conditions to minimize glare from the PV SOLAR FARM. Subparagraph 6.1.5 N.(1) requires that the design and construction of the PV SOLAR FARM shall minimize glare that may affect adjacent properties and the application shall include an explanation of how glare will be minimized.

a. The Solar Glare and Glint Analysis Report by Kimley-Horn, provided with the application received June 17, 2024, concluded that the project would have no glare impact on nearby residences or airports. Green glare was found to occur; however, it is common for solar panels, similar to common reflective occurrences, and the applicant believes this presents no risk to the community. In addition, the solar panels utilized will be coated with anti-reflective material to minimize the potential for concentrated reflection and glint/glare.

(19) Paragraph 6.1.5 O. contains standard conditions for the minimum liability insurance for the PV SOLAR FARM.

a. No information was required or submitted in the Special Use Permit application received June 17, 2024. Insurance information will be required prior to the approval of a Zoning Use permit.

(20) Paragraph 6.1.5 P. contains other standard conditions for operation of the PV SOLAR FARM.

a. Subparagraph 6.1.5 P.(1)c. states: "The Application shall explain methods and materials used to clean the PV SOLAR FARM equipment including an estimation of the daily and annual gallons of water used and the source of the water and the management of wastewater. The BOARD may request copies of well records from the Illinois State Water Survey and may require an estimate by a qualified hydrogeologist of the likely impact on adjacent waterwells."

(a) A copy of an approved well construction permit application dated September 9, 2024, was submitted to the department on January 23, 2025, for a water well located on the property with PIN 24-28-15-400-002.

(b) No information regarding the cleaning of the panels has been submitted. The panels are not expected to require regular cleaning.

b. Subparagraph 6.1.5 P.(3) states: "The PV SOLAR FARM SPECIAL USE permit application shall include a weed control plan for the total area of the SPECIAL USE permit including areas both inside of and outside of the perimeter fencing. The weed control plan shall ensure the control and/or eradication of NOXIOUS WEEDS consistent with the Illinois Noxious Weed Law (505 ILCS 100/1 et seq.). The weed control plan shall be explained in the application.

(a) Revised Landscape Plan received March 7, 2025, demonstrates compliance with this requirement for weed control, and appears to be consistent with 505 ILCS 100/1 et seq.

c. All other requirements in Paragraph 6.1.5 P. do not have to be submitted as part of the Special Use Permit application; rather, they will be required during construction, operations, and/or decommissioning phases of the project.

(21) Paragraph 6.1.5 Q. contains standard conditions for a Decommissioning and Site Reclamation Plan for the PV SOLAR FARM and modifies the basic site reclamation requirements in paragraph 6.1.1 A. Compliance with paragraph 6.1.5 Q. can be summarized as follows:

a. Subparagraph 6.1.5 Q.(1) of the Ordinance requires a signed Decommissioning and Site Reclamation Plan conforming to the requirements of paragraph 6.1.1 A. of the Ordinance and the remainder of 6.1.5 Q. of the Ordinance. Compliance with the requirements of paragraph 6.1.1 A. of the Ordinance can be summarized as follows:

(a) Subparagraph 6.1.1 A.1. of the Ordinance requires the petitioner to submit a Decommissioning and Site Reclamation Plan for consideration by the Board.

i. A revised Decommissioning Plan for the proposed PV SOLAR FARM was received on August 29, 2024.

(b) Subparagraph 6.1.1 A.2. of the Ordinance requires that the decommissioning and site reclamation plan shall be binding upon all successors of title, lessees, to any operator and/or owner of a NON-ADAPTABLE STRUCTURE, and to all parties to the decommissioning and site reclamation plan. Prior to the issuance of a SPECIAL USE Permit for such NON-ADAPTABLE STRUCTURES, the landowner or applicant shall also record a covenant incorporating the provisions of the decommissioning and site reclamation plan on the deed subject to the LOT, requiring that

the reclamation work be performed and that a letter of credit be provided for financial assurance.

i. The revised Decommissioning Plan received August 29, 2024, appears to conform with this requirement.

(c) Subparagraph 6.1.1 A.3. of the Ordinance requires that separate cost estimates for Section 6.1.1 A.4.a., 6.1.1 A.4.b., and 6.1.1 A.4.c. shall be provided by an Illinois Licensed Professional Engineer and are subject to approval of the BOARD.

i. The revised Decommissioning Plan received August 29, 2024, was prepared by an Illinois Licensed Professional Engineer and was developed in compliance with the AIMA and Champaign County Zoning Ordinance.

(d) Subparagraph 6.1.1 A.4.d. of the Ordinance requires the Decommissioning and Site Reclamation Plan to provide for provision and maintenance of a letter of credit, as set forth in Section 6.1.1 A.5.

i. The Special Use Permit Application received June 17, 2024, includes language regarding this requirement.

ii The revised Decommissioning Plan received August 29, 2024, acknowledges the requirements for the letter of credit.

(e) Subparagraph 6.1.1 A.5. of the Ordinance requires submission of an irrevocable letter of credit in the amount of 150% of the cost estimate required by 6.1.1 A.3 prior to issuance of a Zoning Use Permit.

i. No specifics were required or submitted regarding the Letter of Credit.

(f) Subparagraph 6.1.1 A.6. of the Ordinance establishes a time period prior to the expiration of the irrevocable letter of credit during which the Zoning Administrator shall contact the landowner regarding the intent to renew the letter of credit and the landowner shall reply within a certain amount of time.

i. No specifics were required or submitted for the Special Use Permit application regarding this requirement.

(g) Subparagraph 6.1.1 A.7. of the Ordinance establishes 5 factors to be considered in determining if a NON-ADAPTABLE structure (PV SOLAR FARM in this instance) is abandoned in place and 6.1.1 A.9. of the Ordinance establishes 7 conditions when the Zoning Administrator may draw upon the letter of credit and jointly these 12 circumstances comprise when the Zoning Administrator may draw upon the letter of credit.

i. No specifics were required or submitted for the Special Use Permit application regarding this requirement.

(h) All other requirements in Paragraph 6.1.5 Q.(1) do not have to be submitted as part of the Special Use Permit application; rather, they will be required during construction, operations, and/or decommissioning phases of the project.

b. Subparagraph 6.1.5 Q.(2) of the Ordinance requires that in addition to the costs listed in subparagraph 6.1.1 A.4. of the Ordinance, the decommissioning and site reclamation plan shall also include provisions for anticipated repairs to any public STREET used for the purpose of reclamation of the PV SOLAR FARM and all costs related to removal of access driveways.

(a) The Decommissioning Plan received August 29, 2024, acknowledges that the owner will enter into a Roadway Use and Repair Agreement with the relevant highway authority at the time of decommissioning.

c. Subparagraph 6.1.5 Q.(3) of the Ordinance requires the Decommissioning and Site Reclamation Plan to include additional information.

(a) The Decommissioning Plan received August 29, 2024, acknowledges the requirements of Section 6.1.5 Q.(3).

d. Subparagraph 6.1.5 Q.(4) of the Ordinance requires that the Applicant shall provide financial assurance in the form of an irrevocable letter of credit as required in paragraph 6.1.1 A.5. of the Ordinance. Regarding compliance with this subparagraph:

(a) The draft Decommissioning Plan received August 29, 2024, states: "The Decommissioning Security will be in the form of an irrevocable letter of credit and an escrow account with the governing body as the beneficiary per section 6.1.5 Q(4) of the Solar Ordinance. The governing body has the right to require multiple letters of credit based on the regulations governing federal insurance for deposits, and the Applicant, its successors in interests, and all parties to decommissioning shall adjust the amount of financial assurance in escrow to ensure that it reflects current and accurate information. Unless the Governing Body states otherwise, the Champaign County State's Attorney's Office shall review and approve every Letter of Credit prior to Zoning Administrator Acceptance. Decommissioning estimates will be updated once every three (3) years for the first twelve (12) years of operation, and every other year, thereafter. Estimates will be created by an Independent Illinois Licensed Professional Engineer. Payment of the Decommissioning Security is to be made in equal installments over the first thirteen (13) years of the facility's life."

e. Subparagraph 6.1.5 Q.(5) of the Ordinance states that in addition to the conditions listed in subparagraph 6.1.1 A.9. the Zoning Administrator may also draw on the funds for a myriad of reasons.

(a) The Decommissioning Plan received August 29, 2024, acknowledges the requirements of Section 6.1.5 Q.(5).

f. Subparagraph 6.1.5 Q.(6) of the Ordinance states that the Zoning Administrator may, but is not required to, deem the PV SOLAR FARM abandoned, or the standards set forth in Section 6.1.5 Q.(5) met, with respect to some, but not all, of the PV SOLAR FARM. In that event, the Zoning Administrator may draw upon the financial assurance to perform the reclamation work as to that portion of the PV SOLAR FARM only. Upon completion of that reclamation work, the salvage value and reclamation costs shall be recalculated as to the remaining PV SOLAR FARM.

(a) The Decommissioning Plan received August 29, 2024, acknowledges the requirements of Section 6.1.5 Q.(6).

g. Subparagraph 6.1.5 Q.(7) of the Ordinance states that the Decommissioning and Site Reclamation Plan shall be included as a condition of approval by the BOARD and the signed and executed irrevocable letter of credit must be submitted to the Zoning Administrator prior to any Zoning Use Permit approval.

(a) A special condition has been added to ensure compliance.

(22) Paragraph 6.1.5 R. contains standard conditions for securing an Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture.

a. The Applicant has signed an Agricultural Impact Mitigation Agreement, with the Illinois Department of Agriculture. A copy of the Agreement was provided with the application received June 17, 2024.

(23) Paragraph 6.1.5 S. contains standard conditions for a complaint hotline for complaints related to PV SOLAR FARM construction and ongoing operations.

a. No information regarding this standard condition is required as part of the Special Use Permit application unless the Petitioner seeks a waiver of any part or all of this standard condition, and no waiver request has been received. A special condition has been added to ensure compliance.

(24) Paragraph 6.1.5 T. contains a standard condition stating that the PV SOLAR FARM County Board SPECIAL USE Permit designation shall expire in 10 years if no Zoning Use Permit is granted.

a. A special condition has been added to ensure compliance.

(25) Paragraph 6.1.5 U. contains standard conditions establishing additional requirements for application for a PV SOLAR FARM County Board Special Use Permit that supplement the basic requirements for a special use permit application.

a. Subparagraph 6.1.5 U.(1)a. requires a PV SOLAR FARM Project Summary.

(a) A Project Description was included as part of the Special Use Permit Application received June 17, 2024.

b. Subparagraph 6.1.5 U.(1)b. requires the name(s), address(es), and phone number(s) of the Applicant(s), Owner and Operator, and all property owner(s) for the PV SOLAR FARM County Board SPECIAL USE permit.

(a) The Special Use Permit Application received June 17, 2024, complies with this requirement.

c. Subparagraph 6.1.5 U.(1)c. requires a site plan for the SOLAR FARM which includes the following:

(a) The approximate planned location of all PV SOLAR FARM STRUCTURES, property lines (including identification of adjoining properties), required separations, public access roads and turnout locations, access driveways, solar devices, electrical inverter(s), electrical transformer(s), cabling, switching station, electrical cabling from the PV SOLAR FARM to the Substations(s), ancillary equipment, screening and fencing, third party transmission lines, meteorological station, maintenance and management facilities, and layout of all structures within the geographical boundaries of any applicable setback.

i. The revised Site Plan received March 7, 2025, complies with this requirement.

(b) The site plan shall clearly indicate the area of the proposed PV SOLAR FARM County Board SPECIAL USE Permit as required by subparagraph 6.1.5 B.(1).

i. The revised Site Plan received March 7, 2025, appears to conform with this requirement.

(c) The location of all below-ground wiring.

i. The revised Site Plan received March 7, 2025, complies with this requirement.

(d) The location, height, and appearance of all above-ground wiring and wiring structures.

i. No specifics were submitted for the Special Use Permit application regarding this requirement.

(e) The separation of all PV SOLAR FARM structures from adjacent DWELLINGS and/or PRINCIPAL BUILDINGS or uses shall be dimensioned on the approved site plan and that dimension shall establish the effective minimum separation that shall be required for any Zoning Use Permit. Greater separation and somewhat different locations may be provided in the approved site plan for the Zoning Use Permit provided that that the greater separation does not increase the noise impacts and/or glare that were approved in the PV SOLAR FARM County Board SPECIAL USE Permit. PV SOLAR FARM structures includes substations, third party transmission lines, maintenance and management facilities, or other significant structures.

i. The revised Site Plan received March 7, 2025, demonstrates compliance with this requirement.

d. Subparagraph 6.1.5 U.(1)d. requires submittal of all other required studies, reports, certifications, and approvals demonstrating compliance with the provisions of this Ordinance.

(a) Compliance with this subparagraph has been shown in previous sections of this Summary of Evidence.

e. Subparagraph 6.1.5 U.(1)e. requires that the PV SOLAR FARM SPECIAL USE permit application shall include documentation that the applicant has provided a complete copy of the SPECIAL USE permit application to any municipality within one-and-one-half miles of the proposed PV SOLAR FARM as required by Section 6.1.5 B.(2)a.(b).

(a) The petitioner has not received confirmation from the Village of Sidney that their Special Use Permit application has been received.

f. Subparagraph 6.1.5 U.(1)f. requires that a municipal resolution regarding the PV SOLAR FARM by any municipality located within one-and-one-half miles of the PV SOLAR FARM must be submitted to the ZONING ADMINISTRATOR prior to the consideration of the PV SOLAR FARM SPECIAL USE permit by the Champaign County Board or, in the absence of such a resolution, the ZONING ADMINISTRATOR shall provide documentation to the County Board that any municipality within one-and-one-half miles of the PV SOLAR FARM was provided notice of the meeting dates for consideration of the proposed PV SOLAR FARM SPECIAL USE Permit for both the Environment and Land Use Committee and the County Board as required by Section 6.1.5 B.(2)a.(c).

(a) No resolution from the Village of Sidney has been received as of March 19, 2025.

(b) A letter with information regarding the project application and the upcoming public hearing was sent to the Village of Sidney on August 2, 2024.

(c) Notice of the September 12, 2024, public hearing was sent by P&Z staff to the Village of Sidney on August 28, 2024. (Public hearing cancelled September 12, 2024).

(d) Notice of the November 14, 2024, public hearing was sent by P&Z Staff to the Village of Sidney on November 8, 2024.

(e) Notice of the January 16, 2025, public hearing was sent by P&Z Staff to the Village of Sidney on January 10, 2025

g. Subparagraph 6.1.5 U.(1)g. requires that documentation of an executed interconnection agreement with the appropriate electric utility shall be provided prior to issuance of a Zoning Compliance Certificate to authorize operation of the PV SOLAR FARM as required by Section 6.1.5 B.(3)b.

(a) A copy of an email dated September 28, 2023, from The MISO Generation Interconnection Team to BayWa r.e. stated that the interconnection request had been validated and was included in the DPP-2022-Cycle for study.

(b) A special condition has been added to ensure that an executed agreement has been provided prior to issuance of a Zoning Compliance Certificate.

h. Subparagraph 6.1.5 U.(2) requires that the Applicant shall notify the COUNTY of any changes to the information provided above that occurs while the County Board SPECIAL USE permit application is pending.
(a) The P&Z Department received a Special Use Permit application and associated documents including a preliminary Site Plan on June 17, 2024.

(b) Revised documents and plans have been submitted to the Department and the latest versions provided to the Board prior to each public hearing.

i. Subparagraph 6.1.5 U.(2) requires that the Applicant shall include a copy of the signed Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture with the Zoning Use Permit Application to authorize construction.
(a) An approved Agricultural Impact Mitigation was received on June 17, 2024, as part of the Special Use Permit Application.

C. Regarding compliance with the *Stormwater Management and Erosion Control Ordinance*:
(1) The proposed PV SOLAR FARM is not exempt from the SWMEC Ordinance.

(2) Regarding the SWMEC requirement for a Storm Water Drainage Plan, the subject property is not exempt from the Storm Water Drainage Plan requirement.
a. A Storm Water Drainage Plan will be required as part of the construction permitting process. A special condition has been added to ensure compliance.

(3) Regarding the SWMEC requirement to protect agricultural field tile, see the review of compliance with paragraph 6.1.5 F. that contains standard conditions to mitigate damage to farmland.

D. Regarding the Special Flood Hazard Areas Ordinance, the subject properties are not located within a Special Flood Hazard Area, per FEMA Panel 17019CO475D, effective date October 2, 2013.

E. Regarding the Subdivision Regulations, the subject properties located in the County's subdivision jurisdiction appear to be in compliance.

F. Regarding the requirement that the Special Use preserve the essential character of the AG-1 and AG-2 Agriculture Zoning districts:
(1) The proposed use is a PV SOLAR FARM that is consistent with the essential character of the AG-1 and AG-2 Agriculture districts because it is only authorized in the AG-1 and AG-2 Districts.

G. The proposed Special Use must comply with the Illinois Accessibility Code which is not a County ordinance or policy and the County cannot provide any flexibility regarding that Code. A Zoning Use Permit cannot be issued for any part of the proposed Special Use until full compliance with the Illinois Accessibility Code has been indicated in drawings.
(1) A special condition has been added to ensure that the project meets the Illinois Accessibility Code prior to issuance of a Zoning Compliance Certificate

H. Regarding the proposed 135-MW lithium-ion Battery Energy Storage System (BESS) that is included as and accessory use in the proposed solar farm Special Use Permit:
(1) The Zoning Ordinance does not currently have any requirements for BESS, but Zoning Case 130-AT-24 is a pending text amendment that is proposed to add zoning requirements for BESS.

(2) The Zoning Administrator has allowed the accessory BESS to be proposed as part of the proposed solar farm Special Use Permit.

(3) The petitioner has been helpful in providing comments for Zoning Case 130-AT-24.

(4) The proposed accessory BESS complies with the most recent version of Zoning Case 130-AT-24 and special conditions of approval have been included in this Special Use Permit to ensure compliance with the most recent version of Zoning Case 130-AT-24.

GENERALLY REGARDING WHETHER THE SPECIAL USE IS IN HARMONY WITH THE GENERAL PURPOSE AND INTENT OF THE ORDINANCE

10. Regarding the *Zoning Ordinance* requirement that the proposed Special Use is in harmony with the general intent and purpose of the Ordinance:
A. A PV SOLAR FARM may be authorized by the County Board in the AG-1 and AG-2 Agriculture Zoning Districts as a Special Use provided all other zoning requirements and standard conditions are met or waived.
(1) A proposed Special Use that does not conform to the standard conditions requires only a waiver of that particular condition and does not require a variance. Waivers of standard conditions are subject to the following findings:
a. that the waiver is in accordance with the general purpose and intent of the ordinance; and

b. that the waiver will not be injurious to the neighborhood or to the public health, safety, and welfare.

B. See Section 15 for a summary of evidence regarding whether any requested waiver of standard conditions will be in harmony with the general intent and purpose of the Ordinance.

C. Regarding whether the proposed Special Use Permit is in harmony with the general intent of the Zoning Ordinance:

(1) Subsection 5.1.1 of the Ordinance states the general intent of the AG-1 and AG-2 districts and states as follows (capitalized words are defined in the Ordinance):

The AG-1, Agriculture DISTRICT is intended to protect the areas of the COUNTY where soil and topographic conditions are best adapted to the pursuit of AGRICULTURAL USES and to prevent the admixture of urban and rural USES which would contribute to the premature termination of AGRICULTURAL pursuits.

The AG-2, Agriculture DISTRICT is intended to prevent scattered indiscriminate urban development and to preserve the AGRICULTURAL nature within areas which are predominately vacant and which presently do not demonstrate any significant potential for development. This DISTRICT is intended generally for application to areas within one and one-half miles of existing communities in the COUNTY.

(2) The types of uses authorized in the AG-1 and AG-2 districts are in fact the types of uses that have been determined to be acceptable in the AG-1 and AG-2 districts. Uses authorized by Special Use Permit are acceptable uses in the districts provided that they are determined by the ZBA to meet the criteria for Special Use Permits established in paragraph 9.1.11 B. of the Ordinance.

(3) Paragraph 2.0(a) of the Ordinance states that one purpose of the Ordinance is securing adequate light, pure air, and safety from fire and other dangers.

This purpose is directly related to the limits on building coverage and the minimum yard requirements in the Ordinance and the proposed site plan appears to be in compliance with those requirements.

(4) Paragraph 2.0(b) of the Ordinance states that one purpose of the Ordinance is conserving the value of land, BUILDINGS, and STRUCTURES throughout the COUNTY.

a. Regarding the value of nearby properties, the petitioner has stated as part of the Special Use Permit Application that the proposed project will minimize visual and noise impacts on neighboring properties.

b. Regarding the value of the subject property, the petitioner has stated as part of the Special Use Permit Application that the landowner will receive a long-term lease payment from the PV SOLAR FARM operator.

c. Section 6.1.5 Q. of the Ordinance includes a standard condition requiring a Decommissioning and Site Reclamation Plan that is intended to ensure there is adequate financial assurance for removal of a PV SOLAR FARM at the

end of its useful life. Ensuring adequate site reclamation is one method of protecting surrounding property values.

d. The Petitioner submitted a revised Economic Impact Analysis on December 30, 2024, that details the increased tax revenue expected as a result of the project.

(5) Paragraph 2.0(c) of the Ordinance states that one purpose of the Ordinance is lessening and avoiding congestion in the public STREETS.

Other than additional traffic during construction and/or decommissioning of the PV SOLAR FARM, no significant increase in traffic is anticipated.

(6) Paragraph 2.0(d) of the Ordinance states that one purpose of the Ordinance is lessening and avoiding the hazards to persons and damage to PROPERTY resulting from the accumulation of runoff from storm or flood waters.

a. The requested Special Use Permit is outside of the Special Flood Hazard Area, per FEMA Panel 17019CO475D, effective date October 2, 2013.

b. A Storm Water Management Plan is required as part of the construction permitting process, and a special condition has been added to ensure compliance.

c. The Special Use Permit Application received June17, 2024, states: "The decommissioning plan outlines a strategy for the removal of project components such as panels, roads, fences, and racking including any applicable recyclable items…and also includes the removal of landscape and restoration of soil and vegetation."

(7) Paragraph 2.0(e) of the Ordinance states that one purpose of the Ordinance is promoting the public health, safety, comfort, morals, and general welfare.

a. In regards to public safety, this purpose is similar to the purpose established in paragraph 2.0 (a) and is in harmony to the same degree.

b. In regards to public comfort and general welfare, this purpose is similar to the purpose of conserving property values established in paragraph 2.0 (b) and is in harmony to the same degree.

c. Public comments related to the proposed solar farm received during the solar farm text amendment process are summarized in Item 8 of this summary of evidence.

(8) Paragraph 2.0 (f) states that one purpose of the Ordinance is regulating and limiting the height and bulk of BUILDINGS and STRUCTURES hereafter to be erected; and paragraph 2.0 (g) states that one purpose is establishing, regulating, and limiting the BUILDING or SETBACK lines on or along any STREET, trafficway, drive or parkway; and paragraph 2.0 (h) states that one purpose is regulating and limiting the

intensity of the USE of LOT AREAS, and regulating and determining the area of OPEN SPACES within and surrounding BUILDINGS and STRUCTURES.

These three purposes are directly related to the limits on building height and building coverage and the minimum setback and yard requirements in the Ordinance and the proposed site plan appears to be in compliance with those limits except for two instances where the petitioner has requested waivers.

(9) Paragraph 2.0(i) of the Ordinance states that one purpose of the Ordinance is classifying, regulating, and restricting the location of trades and industries and the location of BUILDINGS, STRUCTURES, and land designed for specified industrial, residential, and other land USES; and paragraph 2.0(j.) states that one purpose is dividing the entire COUNTY into DISTRICTS of such number, shape, area, and such different classes according to the USE of land, BUILDINGS, and STRUCTURES, intensity of the USE of LOT AREA, area of OPEN SPACES, and other classification as may be deemed best suited to carry out the purpose of the ordinance; and paragraph 2.0(k) states that one purpose is fixing regulations and standards to which BUILDINGS, STRUCTURES, or USES therein shall conform; and paragraph 2.0(l) states that one purpose is prohibiting USES, BUILDINGS, OR STRUCTURES incompatible with the character of such DISTRICT.

Harmony with these four purposes requires that the special conditions of approval sufficiently mitigate or minimize any incompatibilities between the proposed Special Use Permit and adjacent uses, and that the special conditions adequately mitigate nonconforming conditions.

(10) Paragraph 2.0(m) of the Ordinance states that one purpose of the Ordinance is preventing additions to and alteration or remodeling of existing BUILDINGS, STRUCTURES, or USES in such a way as to avoid the restrictions and limitations lawfully imposed under this ordinance.

This purpose is not relevant to the proposed Special Use Permit because it relates to nonconforming buildings, structures, or uses that existed on the date of the adoption of the Ordinance and none of the proposed structures or the proposed use existed on the date of adoption.

(11) Paragraph 2.0(n) of the Ordinance states that one purpose of the Ordinance is protecting the most productive AGRICULTURAL lands from haphazard and unplanned intrusions of urban USES.

The subject property is located in the AG-1 and AG-2 Agriculture districts and is a rural use.

(12) Paragraph 2.0(o) of the Ordinance states that one purpose of the Ordinance is protecting natural features such as forested areas and watercourses.

The subject property does not contain any natural features and there are no natural features in the vicinity of the subject property.

(13) Paragraph 2.0(p) of the Ordinance states that one purpose of the Ordinance is encouraging the compact development of urban areas to minimize the cost of development of public utilities and public transportation facilities.

The subject property is located in the AG-1 and AG-2 Agriculture districts and is a rural use.

(14) Paragraph 2.0(q) of the Ordinance states that one purpose of the Ordinance is encouraging the preservation of AGRICULTURAL belts surrounding urban areas, to retain the AGRICULTURAL nature of the COUNTY, and the individual character of existing communities.

The entire subject property is located in the AG-1 and AG-2 Agriculture districts and is a rural use.

(15) Paragraph 2.0(r) of the Ordinance states that one purpose of the Ordinance is to provide for the safe and efficient development of renewable energy sources in those parts of the COUNTY that are most suited to their development.

The entire project area is located in the AG-1 and AG-2 districts, which are the only zoning DISTRICTs in which a PV SOLAR FARM is authorized.

GENERALLY REGARDING WHETHER THE SPECIAL USE IS AN EXISTING NONCONFORMING USE

11. The proposed Special Use is not an existing NONCONFORMING USE.

RELATED TO THE WAIVERS, GENERALLY REGARDING SPECIAL CONDITIONS THAT MAY BE PRESENT

12. Generally regarding the Zoning Ordinance requirement of a finding that special conditions and circumstances exist which are peculiar to the land or structure involved which are not applicable to other similarly situated land or structures elsewhere in the same district:
    A. Regarding Part A of the proposed waivers, for not entering into a Roadway Upgrade and Maintenance Agreement or waiver therefrom with the relevant local highway authority prior to consideration of the Special Use Permit by the Zoning Board of Appeals:
        (1) The petitioner is working with Champaign County, Sidney Township and South Homer Township on either a waiver or a Roadway Upgrade and Maintenance Agreement.

        (2) The petitioner expects to use the previously executed Roadway Upgrade and Maintenance Agreement for the adjacent Prairie Solar 1 project as a template.

        (3) A special condition has been added requiring the applicant to submit a Roadway Upgrade and Maintenance Agreement approved by ELUC at the time of application for a Zoning Use Permit.

    B. Regarding Part B of the proposed waivers, for locating the PV Solar Farm less than one and one-half miles from an incorporated municipality:

(1) The proposed development is adjacent to the Prairie Solar 1 development which is the first phase of the development and is closer to the Village of Sidney than this project.

(2) The proposed development is ideally located near to an existing Ameren substation which minimizes the distance that electricity must be transmitted.

C. Regarding Part C of the proposed waivers, for a separation distance of 225 feet between the solar inverters and the perimeter fence in lieu of the minimum required 275 feet.

(1) One solar inverter is approximately 225 feet from a perimeter fence but is over 2,000 feet from the nearest building.

(2) The parcel on which the inverter is located has a narrow shape with an existing Ameren transmission easement on the south portion. The proposed inverter is located centrally to the proposed solar arrays on the parcel and will be approximately 275 from the north property line.

RELATED TO THE WAIVERS, GENERALLY REGARDING ANY PRACTICAL DIFFICULTIES OR HARDSHIPS RELATED TO CARRYING OUT THE STRICT LETTER OF THE ORDINANCE

13. Generally regarding the Zoning Ordinance requirement of a finding that practical difficulties or hardships related to carrying out the strict letter of the regulations sought to be varied prevent reasonable and otherwise permitted use of the land or structures or construction on the lot:

A. Without Part A of the proposed waivers, the Special Use Permit process might have to be extended in order to have sufficient time to acquire a signed Agreement or waiver from Champaign County, Sidney Township, and South Homer Township.

B. Without Part B of the proposed waivers, the western 1.500 feet (approximately) of the proposed solar farm could not be constructed.

C. Without Part C of the proposed waivers, it would not be possible to place solar arrays on the parcel.

RELATED TO THE WAIVERS, GENERALLY PERTAINING TO WHETHER OR NOT THE PRACTICAL DIFFICULTIES OR HARDSHIPS RESULT FROM THE ACTIONS OF THE APPLICANT

14. Generally regarding the Zoning Ordinance requirement for a finding that the special conditions, circumstances, hardships, or practical difficulties do not result from the actions of the Applicant:

A. Regarding Part A of the proposed waivers, for not entering into a Roadway Upgrade and Maintenance Agreement or waiver therefrom with the relevant local highway authority prior to consideration of the Special Use Permit by the Zoning Board of Appeals:

(1) A Roadway Upgrade and Maintenance Agreement is in place for the Prairie Solar 1 development. The Highway Authorities involved indicated that monitoring the relevant issues during construction of Prairie Solar 1 would lead to better protections being integrated into the agreement for this development (Little Prairie Solar).

B. Regarding Part B of the proposed waivers, for locating the PV Solar Farm less than one and one-half miles from an incorporated municipality.
   (1) The proposed development is ideally situated adjacent to the Prairie Solar 1 development which is the first phase of the development and is in close proximity to an existing Ameren substation and high-voltage utility lines.

C. Regarding Part C of the proposed waivers, for a separation distance of 225 feet between the solar inverters and the perimeter fence in lieu of the minimum required 275 feet.
   (1) The one inverter requiring a waiver is located on a narrow property that has a useable area that is further narrowed by an easement along the south side for existing high-voltage power lines.

GENERALLY PERTAINING TO WHETHER OR NOT THE WAIVERS ARE IN HARMONY WITH THE GENERAL PURPOSE AND INTENT OF THE ORDINANCE

15. Regarding the *Zoning Ordinance* requirement that the waivers of standard conditions of the Special Use will be in harmony with the general purpose and intent of the ordinance:
   A. Regarding Part A of the proposed waivers, for not entering into a Roadway Upgrade and Maintenance Agreement or waiver therefrom with the relevant local highway authority prior to consideration of the Special Use Permit by the Zoning Board of Appeals, the requested waiver (variance) is 0% of the minimum required, for a variance of 100%.

   B. Regarding Part B of the proposed waivers, for locating the PV Solar Farm less than one and one-half miles from an incorporated municipality:
      (1) The nearest area of the solar farm is approximately 1.25 miles from the Village of Sidney, the requested waiver (variance) is 84% of the minimum required distance, for a variance of 16%.

   C. Regarding Part C of the proposed waivers, for a separation distance of 225 feet between the solar inverters and the perimeter fence in lieu of the minimum required 275 feet, the requested waiver (variance) is 82% of the minimum required distance for a variance of 18%.

RELATED TO THE WAIVERS, GENERALLY PERTAINING TO THE EFFECTS OF THE REQUESTED WAIVERS ON THE NEIGHBORHOOD AND THE PUBLIC HEALTH, SAFETY, AND WELFARE

16. Regarding the Zoning Ordinance requirement for a finding that the granting of the waiver (variance) will not be injurious to the neighborhood, or otherwise detrimental to the public health, safety, or welfare:
   A. The Champaign County Highway Department, the Sidney Township Highway Commissioner and the South Homer Highway Commissioner have been notified of this case, and no comments have been received.

   B. The Sidney Fire Protection District has been notified of this case, and no comments have been received.

   C. The Drainage Districts for the subject property have been notified of this case, and no comments have been received.

D. Considerations of public health, safety, and welfare for the proposed special use are discussed under Item 8 and are also applicable to the proposed waivers.

GENERALLY REGARDING PROPOSED SPECIAL CONDITIONS OF APPROVAL

17. Regarding proposed special conditions of approval:

A. **The approved site plan consists of the following documents:**
- **Sheet SDP 100 of the Site Plan received March 7, 2025.**
- **Sheets SDP 101-110 of the Site Plan received March 7, 2025.**
- **Sheet BSDP 100 of the Site Plan received March 7, 2025.**
- **Sheets L 101-107 of the Landscape Plan, sheet L-200 Landscape Notes Details and sheet L-201 of the Maintenance and Monitoring plan received March 7, 2025**

The above special condition is required to ensure that:
The constructed PV SOLAR FARM is consistent with the special use permit approval.

B**. The Zoning Administrator shall not authorize a Zoning Use Permit Application or issue a Zoning Compliance Certificate on the subject property until the lighting specifications in Paragraph 6.1.2.A. of the Zoning Ordinance have been met.**

The special condition stated above is required to ensure the following:
That exterior lighting for the proposed Special Use meets the requirements established for Special Uses in the Zoning Ordinance.

C. **The Zoning Administrator shall not issue a Zoning Compliance Certificate for the proposed PV SOLAR FARM until the petitioner has demonstrated that the proposed Special Use complies with the Illinois Accessibility Code, if necessary.**

The special condition stated above is necessary to ensure the following:
That the proposed Special Use meets applicable state requirements for accessibility.

D. **A signed Decommissioning and Site Reclamation Plan that has been approved by ELUC is required at the time of application for a Zoning Use Permit that complies with Section 6.1.1 A. and Section 6.1.5 Q. of the Zoning Ordinance, including a decommissioning cost estimate prepared by an Illinois Professional Engineer.**

The special condition stated above is required to ensure the following:
That the Special Use Permit complies with Ordinance requirements and as authorized by waiver.

E. **A Roadway Upgrade and Maintenance Agreements or waiver therefrom signed by the County Highway Engineer, Sidney Township Highway Commissioner and any**

other relevant highway jurisdiction, and approved by the Environment and Land Use Committee, shall be submitted at the time of application for a Zoning Use Permit.

The special condition stated above is required to ensure the following:

To ensure full compliance with the intent of the Zoning Ordinance in a timely manner that meets the needs of the applicant.

F. **Underground drainage tile shall be investigated and identified with any necessary changes made to the solar array as follows:**

1. **A qualified drain tile contractor with experience in Illinois shall be employed to investigate, repair, and install any underground drain tile.**

2. **Desktop mapping and field reconnaissance shall identify all areas where drain tile are expected to be located based on soils, topographic elevations, ground surface channels and/or depressions, wetlands, natural drainage ingress and egress locations, and knowledge of current owners and/or current farmers.**

3. **Slit trenching shall be used to investigate the presence of mutual drainage tiles that serve upland areas under different ownership. All existing drain tiles encountered shall be logged on field mapping and repaired to the original state according to Illinois Department of Agriculture Impact Mitigation Agreement (AIMA) standards.**

4. **Drain tile routes shall be located by surface probing or electronic detection and field staked at 20 feet intervals.**

5. **All existing drain tile that are found shall be located in the field using GPS location systems and recorded on as-built plans. Record mapping shall be completed according to typical civil engineering mapping and AIMA standards.**

6. **Any tile found shall be protected from disturbance or repaired and/ or relocated in a manner consistent with AIMA and Zoning Ordinance.**

7. **All mutual drain tiles shall be protected from construction disturbance and a 40-feet wide no construction area shall be centered on all mutual drain tiles.**

8. **A Drain Tile Investigation Survey including a map of all identified drain tile and a revised site plan to reflect any changes to the layout of the solar array shall be submitted to the Zoning Administrator prior to Zoning Use Permit Approval.**

9. **Future access shall be guaranteed for maintenance of all mutual drain tiles.**

The special condition stated above is required to ensure the following:

The identification and protection of existing underground drainage tile and to allow ongoing maintenance of mutual drain tiles.

G. **The following submittals are required prior to the approval of any Zoning Use Permit for a PV SOLAR FARM:**

1. **Documentation of the solar module's unlimited 10-year warranty and the 25-year limited power warranty.**

2. **A Storm Water Management Plan which conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

3. **Certification by an Illinois Professional Engineer that any relocation of drainage district tile conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

4. **An irrevocable letter of credit to be drawn upon a federally insured financial institution with a minimum acceptable long term corporate debt (credit) rating of the proposed financial institution shall be a rating of "A" by S&P or a rating of "A2" by Moody's within 200 miles of Urbana or reasonable anticipated travel costs shall be added to the amount of the letter of credit.**

5. **A permanent soil erosion and sedimentation plan for the PV SOLAR FARM including any access road that conforms to the relevant Natural Resources Conservation Service guidelines and that is prepared by an Illinois Licensed Professional Engineer**.

6. **Documentation regarding the seed to be used for the pollinator planting, per 6.1.5 F.(9).**

7. **A Transportation Impact Analysis provided by the applicant that is mutually acceptable to the Applicant and the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, as required by 6.1.5 G. 2.**

8. **The telephone number for the complaint hotline required by 6.1.5 S.**

9. **Any updates to the approved Site Plan from Case 144-S-24 per the Site Plan requirements provided in Section 6.1.5 U.1.c.**

The special condition stated above is required to ensure the following:

That the PV SOLAR FARM is constructed consistent with the Special Use Permit approval and in compliance with the Ordinance requirements.

H. **A Zoning Compliance Certificate shall be required for the PV SOLAR FARM prior to going into commercial production of energy. Approval of a Zoning Compliance Certificate shall require the following:**

1. **An as-built site plan of the PV SOLAR FARM including structures, property lines (including identification of adjoining properties), as-built separations, public access road and turnout locations, substation(s), electrical cabling from**

the PV SOLAR FARM to the substations(s), and layout of all structures within the geographical boundaries of any applicable setback.

2. **As-built documentation of all permanent soil erosion and sedimentation improvements for all PV SOLAR FARM including any access road prepared by an Illinois Licensed Professional Engineer.**

3. **An executed interconnection agreement with the appropriate electric utility as required by Section 6.1.5 B. (3)b.**

The special condition stated above is required to ensure the following:

The PV SOLAR FARM is constructed consistent with the Special Use Permit approval and in compliance with the Ordinance requirements.

I. **The Applicant or Owner or Operator of the PV SOLAR FARM shall comply with the following specific requirements that apply even after the PV SOLAR FARM goes into commercial operation:**

1. **Maintain the pollinator plantings and required visual screening in perpetuity.**

2. **Cooperate with local Fire Protection District to develop the District's emergency response plan as required by 6.1.5 H.(2).**

3. **Cooperate fully with Champaign County and in resolving any noise complaints including reimbursing Champaign County any costs for the services of a qualified noise consultant pursuant to any proven violation of the I.P.C.B. noise regulations as required by 6.1.5 I.(4).**

4. **Maintain a current general liability policy as required by 6.1.5 O.**

5. **Submit annual summary of operation and maintenance reports to the Environment and Land Use Committee as required by 6.1.5 P.(1)a.**

6. **Maintain compliance with the approved Decommissioning and Site Reclamation Plan including financial assurances.**

7. **Submit to the Zoning Administrator copies of all complaints to the telephone hotline on a monthly basis and take all necessary actions to resolve all legitimate complaints as required by 6.1.5 S.**

The above special condition is required to ensure that:

That future requirements are clearly identified for all successors of title, lessees, any operator and/or owner of the PV SOLAR FARM.

J. **Regarding the proposed BESS that is included as an accessory use:**

1. **The Battery Energy Storage System (BESS) proposed as an accessory use is a 135-megawatt (MW) lithium-ion system that will occupy 6.8 acres (not including any required stormwater detention area.**

2. **The following submittals are required prior to the approval of any Zoning Use Permit for the PV SOLAR FARM in addition to any other required submittals:**

    a. **A Hazard Mitigation Analysis for the proposed BESS that meets the requirements of NFPA 855 and a written approval of the Hazard Mitigation Analysis by the Sidney Fire Protection District.**

    b. **Documentation of any smoke and fire detection systems that are required by the Sidney Fire Protection District and a written approval of the smoke and fire detection systems by the Sidney Fire Protection District.**

    c. **Documentation of any fire control and suppression systems that are required by the Sidney Fire Protection District and a written approval of the fire control and suppression systems by the Sidney Fire Protection District.**

    d. **Documentation of explosion control per NFPA 69 or deflagration venting per NFP68 shall be provided if explosion control or deflagration venting is required by the approved Hazard Mitigation Analysis and a written approval of the explosion control or deflagration venting by the Sidney Fire Protection District.**

    e. **The owner hereby commits to provide Authorized Service Personnel per NFPA 855 to be dispatched to assist emergency first responders to mitigate the hazard or remove damaged equipment from the premises within a response time approved by the Sidney Fire Protection District.**

    f. **Documentation of a requirement of the owner to provide Hazard Support Personnel that may be required by the Sidney Fire Protection District per NFPA 855 and a written approval of the plan to provide Hazard Support Personnel by the Sidney Fire Protection District.**

3. **The following BESS submittals are required prior to the approval of the Zoning Compliance Certificate that authorizes operation in addition to any other required submittals:**

    a. **A Commissioning Report for the BESS that meets the requirements of NFPA 855 and documentation that a copy of the Commissioning Report has been provided to and accepted by the Sidney Fire Protection District**

4. **The accessory BESS shall be allowed subject to these special conditions regardless of the outcome of Zoning Case 130-AT-24.**

The special condition stated above is required to ensure the following:

That future requirements are clearly identified for all successors of title, lessees, any operator and/or owner of the PV SOLAR FARM and to ensure consistency with Zoning Case 130-AT-24.

K. **The owners of the subject property hereby recognize and provide for the right of agricultural activities to continue on adjacent land consistent with the Right to Farm Resolution 3425.**

The special condition stated above is required to ensure the following:

Conformance with Policy 4.2.3 of the Land Resource Management Plan.

L. **The PV SOLAR FARM COUNTY Board SPECIAL USE Permit designation shall expire in 10 years if no Zoning Use Permit is granted.**

The special condition stated above is required to ensure the following:

The PV SOLAR FARM is constructed in compliance with the Ordinance requirements.

M. **A 5 feet deep open trench shall extend for 30 feet on either side of any drainageway that is crossed with underground wiring and the relevant drainage district shall be provided 48 hours in which to inspect for tile and the positions of any tile lines that are discovered shall be recorded using Global Positioning System (GPS) technology.**

The special condition stated above is required to ensure the following:

That drainage district tiles are protected.

N. **The terms of approval are the requirements of the current Section 6.1.5 of the Zoning Ordinance as amended February 23, 2023.**

The special condition stated above is required to ensure the following:

That the current version of the Zoning Ordinance has been referenced.

DOCUMENTS OF RECORD

1. Preliminary Special Use Permit Application received June 17, 2024, with attachments:
    1. Site Plan
    2. Participating Parcel Data
    3. Stakeholder Outreach Log
    4. Transportation and Access Plan
    5. Drain Tile Support Documentation
    6. Health and Safety Studies
    7. Protected Species and Habitat Assessment
    8. Economic Impact Study
    9. Interconnection Documentation
    10. Equipment Specification Sheets
    11. Sidney Fire District Letter
    12. Preliminary Landscape Plan
    13. Cultural Resource Desktop Assessment
    14. Agricultural Impact Mitigation Agreement (AIMA)
    15. Noise Analysis
    16. Glare Study
    17. Natural Resource Inventory (NRI) Report
    18. Decommissioning Plan
    19. Hydrologic Response to Solar Farms

2. Revised Site Plan received July 16, 2024

3. Notice to Village of Sidney regarding Case 144-S-24 sent August 2, 2024

4. Revised Site Plan received August 5, 2024

5. Revised Economic Impact Study received August 22, 2024

6. Revised Site Plan received August 26, 2024

7. Revised Decommissioning Plan received August 29, 2024

8. Revised Site Plan received November 4, 2024

9. BayWa Public Hearing Presentation received November 14, 2024

10. Response to grading concerns at Prairie Solar 1 and Grading Heat Map received December 6, 2024

11. Public Hearing Response Memo from BayWa received December 30, 2024, with attachments:
    1. Q&A Responses from 11/14/24 ZBA Public Hearing
    2. Farmland Drainage Plan
    3. Letters from Participating Property Owners regarding pattern tiling
    4. Revised Site Plan
    5. Revised Economic Impact Study

6. Sound Contour Map supporting information

12. Revised Site Plan received January 10, 2024

13. Public Hearing Response Memo from BayWa received March 7, 2025, with attachments:
    1. Q&A Responses from 1/16/25 ZBA Public Hearing
    2. Revised Site Plan
    3. Revised Landscape Plan
    4. Draft Hazard Mitigation Analysis (HMA) for Accessory BESS
    5. Draft Emergency Response Plan (ERP) for the Accessory BESS
    6. Sidney Fire Protection District Letter
    7. Copy of Little Prairie Solar project notification letters sent to adjacent properties on two separate notifications

13. Preliminary Memorandum dated September 5, 2024, with attachments:
    1. Legal Description/Participating Landowners
    2. Case Maps (Location Map, Land Use, and Zoning, Annotated Aerial, Participating Parcels, Prairie Solar 1 898-S-18 Project Comparison
    3. Revised Site Plan received August 26, 2024
    4. Revised BESS Site Plan received August 5, 2024
    5. Select application exhibits received June 17, 2024
    6. Email from Philip Fiscella received September 1, 2024
    7. Email from E. Matthew Fischer received September 4, 2024
    8. Special Use Permit Application (bound copy on file at P&Z Department

14. Supplemental Memorandum dated January 8, 2025, with attachments:
    1. Letter from Tim Richardson and Grading Heat Map received 12/6/24
    2. Memo from David Holly received 12/30/24
    3. Farmland Drainage received 12/30/2024
    4. Revised Site Plan received 12/30/24
    5. Updated Economic Impact Analysis received 12/30/24
    6. Letters from participating landowners regarding pattern tile received 12/30/24
    7. Email and news article from Ted Hartke received 9/6/24
    8. Email from Linda Jo Mazik received 9/6/24
    9. Email from Kurt Fischer received 9/9/24
    10. Email from Steven Herriott received 9/12/24
    11. Email from Ted Hartke received 11/15/24
    12. Email and news article from Ted Hartke received 12/30/25
    13. PowerPoint Presentation by BayWa r.e. from Public Hearing on 11/14/24
    14. Specification Sheet for BESS Inverters received 1/9/24
    15. Revised Decommissioning Plan received 8/29/24

15. Public Comments received after January 8, 2025, included as handouts at the 1/16/25 ZBA Public Hearing:
    1. Three Letters from Participating Properties in support received January 13, 2025
    2. Email from Tannie Justus received January 13, 2025
    3. Email from Janet Smith received January 13, 2025

4. Email from Mary White received January 15, 2025
5. Letter from Kent Krukewitt received January 16, 2025
6. Email from Cindy Shephard received January 16, 2025

16. Supplemental Memorandum dated March 20, 2025, with attachments:
    1. Memo from David Holly received 3/7/25 with responses to questions from 1/16/25 ZBA Public Hearing
    2. Revised Site Plan received 3/7/25
    3. Revised Landscape Plan received 3/7/25
    4. Draft Hazard Mitigation Analysis for the accessory BESS received 3/7/25
    5. Draft Emergency Response Plan (ERP) for the accessory BESS received 3/7/25
    6. Letter from Sidney Fire Protection District dated March 5, 2025 with email from John Hall
    7. Email from Ted Hartke received 1/17/25 with attachment
    8. Handouts to the ZBA at the 1/16/25 Public Hearing:
        a. Three Letters from Participating Properties in support received January 13, 2025
        b. Email from Tannie Justus received January 13, 2025
        c. Email from Janet Smith received January 13, 2025
        d. Email from Mary White received January 15, 2025
        e. Letter from Kent Krukewitt received January 16, 2025
        f. Email from Cindy Shephard received January 16, 2025

FINDINGS OF FACT

From the documents of record and the testimony and exhibits received at the public hearing for zoning case **144-S-24** held on **November 14, 2024, January 16, 2025, and March 27, 2025,** the Zoning Board of Appeals of Champaign County finds that:

1. The requested Special Use Permit ***{IS / IS NOT}*** necessary for the public convenience at this location because: it helps achieve the purposes of the State of Illinois Renewable Energy Portfolio requirements and the Champaign County Land Resource Management Plan; it is important for this use to have close proximity to a substation with adequate capacity, and the Sidney substation is one of only two in the county; this site is adjacent to the Prairie Solar 1 development which is the first phase of the project, and the project will make significant contributions to the tax base of county, school districts, and other taxing bodies while imposing no new public service demands.

2. The requested Special Use Permit ***{SUBJECT TO THE SPECIAL CONDITIONS IMPOSED HEREIN}*** is so designed, located, and proposed to be operated so that it ***{WILL NOT / WILL}*** be injurious to the district in which it shall be located or otherwise detrimental to the public health, safety, and welfare because:
   a. The street has ***{ADEQUATE / INADEQUATE}*** traffic capacity and the entrance location has ***{ADEQUATE / INADEQUATE}*** visibility.
   b. Emergency services availability is ***{ADEQUATE / INADEQUATE} {because*}***: the petitioner developed a Hazard Mitigation Analysis (HMA)and coordinated with the Sidney Fire Protection District to develop an Emergency Response Plan (ERP) for the BESS facility.
   c. The Special Use ***{WILL / WILL NOT}*** be compatible with adjacent uses ***{because*}***:
   d. Surface and subsurface drainage will be ***{ADEQUATE / INADEQUATE} {because*}:*** existing drainage infrastructure will be avoided or repaired if damaged in accordance with the Agricultural Impact Mitigation Agreement (AIMA).
   e. Public safety will be ***{ADEQUATE / INADEQUATE} {because*}***: ****}***: the petitioner developed a Hazard Mitigation Analysis (HMA)and coordinated with the Sidney Fire Protection District to develop an Emergency Response Plan (ERP) for the BESS facility.
   f. The provisions for parking will be ***{ADEQUATE / INADEQUATE} {because*}***:
   g. The property ***{IS/IS NOT}*** WELL SUITED OVERALL for the proposed improvements ***{because*}:***
   h. Existing public services ***{ARE/ARE NOT}*** available to support the proposed SPECIAL USE without undue public expense ***{because*}:*** the petitioner developed a Hazard Mitigation Analysis (HMA)and coordinated with the Sidney Fire Protection District to develop an Emergency Response Plan (ERP) for the BESS facility.
   i. Existing public infrastructure together with the proposed development ***{IS/IS NOT}*** adequate to support the proposed development effectively and safely without undue public expense ***{because*}:***

   (Note the Board may include other relevant considerations as necessary or desirable in each case.)

*The Board may include additional justification if desired, but it is not required.

3a. The requested Special Use Permit ***{SUBJECT TO THE SPECIAL CONDITIONS IMPOSED HEREIN} {DOES / DOES NOT}*** conform to the applicable regulations and standards of the DISTRICT in which it is located because: with the exception of Waivers B and C it meets all of the physical requirements of the Zoning Ordinance.

3b. The requested Special Use Permit ***{SUBJECT TO THE SPECIAL CONDITIONS IMPOSED HEREIN} {DOES / DOES NOT}*** preserve the essential character of the DISTRICT in which it is located because:

a. The Special Use will be designed to ***{CONFORM / NOT CONFORM}*** to all relevant County ordinances and codes.
b. The Special Use ***{WILL / WILL NOT}*** be compatible with adjacent uses.
c. Public safety will be ***{ADEQUATE / INADEQUATE}***.

4. The requested Special Use Permit ***{SUBJECT TO THE SPECIAL CONDITIONS IMPOSED HEREIN} {IS / IS NOT}*** in harmony with the general purpose and intent of the Ordinance because:

a. The Special Use is authorized in the District.
b. The requested Special Use Permit ***{IS/ IS NOT}*** necessary for the public convenience at this location.
c. The requested Special Use Permit ***{SUBJECT TO THE SPECIAL CONDITIONS IMPOSED HEREIN}*** is so designed, located, and proposed to be operated so that it ***{WILL / WILL NOT}*** be injurious to the district in which it shall be located or otherwise detrimental to the public health, safety, and welfare because: with the exception of waivers B and C, it is in compliance with all physical requirements of the Zoning Ordinance; the projected noise levels are below the IPCB standards; and overall drainage in the area will not be affected.
d. The requested Special Use Permit ***{SUBJECT TO THE SPECIAL CONDITIONS IMPOSED HEREIN} {DOES / DOES NOT}*** preserve the essential character of the DISTRICT in which it is located.

5. The requested Special Use **IS NOT** an existing nonconforming use.

6. Regarding necessary waivers of standard conditions:

Per Section 7.15 of the Champaign County ZBA Bylaws, "waivers may be approved individually or *en masse* by the affirmative vote of a majority of those members voting on the issue, and shall be incorporated into the Findings of Fact with the reason for granting each waiver described".

A. Regarding Part A of the proposed waivers, for not entering into a Roadway Upgrade and Maintenance Agreement or waiver therefrom with the relevant local highway authority prior to consideration of the Special Use Permit by the Zoning Board of Appeals:
   (1) The waiver ***{IS/ IS NOT}*** in accordance with the general purpose and intent of the Zoning Ordinance and ***{WILL/ WILL NOT}*** be injurious to the neighborhood or to the public health, safety, and welfare because: the Agreement will have to be in place and is subject to ELUC approval prior to the issuance of any Zoning Use Permit.

(2) Special conditions and circumstances ***{DO / DO NOT}*** exist which are peculiar to the land or structure involved, which are not applicable to other similarly situated land and structures elsewhere in the same district because of the magnitude of the project, this kind of commitment requires resources of both parties, such that it serves the interests of the petitioner and highway authorities to not invest those resources until some preliminary level of approval has been obtained.

(3) Practical difficulties or hardships created by carrying out the strict letter of the regulations sought to be varied ***{WILL / WILL NOT}*** prevent reasonable or otherwise permitted use of the land or structure or construction because: without the proposed waiver, the Special Use Permit process might have to be extended in order to have sufficient time to prepare this document.

(4) The special conditions, circumstances, hardships, or practical difficulties ***{DO / DO NOT}*** result from actions of the applicant because: the petitioner is working with the relevant highway authorities to receive either an agreement or a waiver from this requirement

(5) The requested waiver {***SUBJECT TO THE PROPOSED SPECIAL CONDITION} {IS / IS NOT}*** the minimum variation that will make possible the reasonable use of the land/structure.

B. Regarding Part B of the proposed waivers, locating the PV Solar Farm less than one and one-half miles from an incorporated municipality:

(1) The waiver ***{IS/ IS NOT}*** in accordance with the general purpose and intent of the Zoning Ordinance and ***{WILL/ WILL NOT}*** be injurious to the neighborhood or to the public health, safety, and welfare because: the nearest area of the solar farm is approximately 1.25 miles from the Village of Sidney and the requested waiver (variance) is 84% of the minimum required distance, for a variance of 16%, and relevant jurisdiction have been notified of this case, and no comments have been received.

(2) Special conditions and circumstances ***{DO / DO NOT}*** exist which are peculiar to the land or structure involved, which are not applicable to other similarly situated land and structures elsewhere in the same district because: the Village of Sidney is aware of the proposed project and has not expressed any objection. The project is situated near an existing substation and the first phase of the project.

(3) Practical difficulties or hardships created by carrying out the strict letter of the regulations sought to be varied ***{WILL / WILL NOT}*** prevent reasonable or otherwise permitted use of the land or structure or construction because: without the proposed waiver the project layout would have to be altered and could not include some of the participating properties.

(4) The special conditions, circumstances, hardships, or practical difficulties ***{DO / DO NOT}*** result from actions of the applicant because: the proposed development is ideally situated adjacent to the Prairie Solar 1 development which is the first phase

of the development and is in close proximity to an existing Ameren substation and high-voltage utility lines

(5) The requested waiver {***SUBJECT TO THE PROPOSED SPECIAL CONDITION} {IS / IS NOT}*** the minimum variation that will make possible the reasonable use of the land/structure because: without the proposed waiver project layout would have to be altered and could not include some of the participating properties.

C. Regarding Part C of the proposed waivers, for a separation distance of 225 feet between the solar inverters and the perimeter fence in lieu of the minimum required 275 feet:

(1) The waiver ***{IS/ IS NOT}*** in accordance with the general purpose and intent of the Zoning Ordinance and ***{WILL/ WILL NOT}*** be injurious to the neighborhood or to the public health, safety, and welfare because: the requested waiver (variance) is 82% of the minimum required distance for a variance of 18%, and the solar inverter is approximately 225 feet from a perimeter fence and is over 2,000 feet from the nearest building.

(2) Special conditions and circumstances ***{DO / DO NOT}*** exist which are peculiar to the land or structure involved, which are not applicable to other similarly situated land and structures elsewhere in the same district because: parcel on which the inverter is located has a narrow shape with an existing Ameren transmission easement on the south portion.

(3) Practical difficulties or hardships created by carrying out the strict letter of the regulations sought to be varied ***{WILL / WILL NOT}*** prevent reasonable or otherwise permitted use of the land or structure or construction because: Without Part C of the proposed waivers, it would not be possible to place solar arrays and the necessary inverter on the parcel.

(4) The special conditions, circumstances, hardships, or practical difficulties ***{DO / DO NOT}*** result from actions of the applicant because: the property is narrow and has a utility easement to the south and the inverter is located centrally to the arrays on the property.

(5) The requested waiver {***SUBJECT TO THE PROPOSED SPECIAL CONDITION} {IS / IS NOT}*** the minimum variation that will make possible the reasonable use of the land/structure because: the property is not wide enough to meet the required setback and would not be able to participate in the development.

7. **THE SPECIAL CONDITIONS IMPOSED HEREIN ARE REQUIRED TO ENSURE COMPLIANCE WITH THE CRITERIA FOR SPECIAL USE PERMITS AND FOR THE PARTICULAR PURPOSES DESCRIBED BELOW:**

A. **The approved site plan consists of the following documents:**

- **Sheet SDP 100 of the Site Plan received March 7, 2025.**
- **Sheets SDP 101-110 of the Site Plan received March 7, 2025.**

- **Sheet BSDP 100 of the Site Plan received March 7, 2025.**
- **Sheets L 101-107 of the Landscape Plan and sheets L 200-201 of the Maintenance and Monitoring plan received March 7, 2025**

The above special condition is required to ensure that:

The constructed PV SOLAR FARM is consistent with the special use permit approval.

B. **The Zoning Administrator shall not authorize a Zoning Use Permit Application or issue a Zoning Compliance Certificate on the subject property until the lighting specifications in Paragraph 6.1.2.A. of the Zoning Ordinance have been met.**

The special condition stated above is required to ensure the following:

That exterior lighting for the proposed Special Use meets the requirements established for Special Uses in the Zoning Ordinance.

C. **The Zoning Administrator shall not issue a Zoning Compliance Certificate for the proposed PV SOLAR FARM until the petitioner has demonstrated that the proposed Special Use complies with the Illinois Accessibility Code, if necessary.**

The special condition stated above is necessary to ensure the following:

That the proposed Special Use meets applicable state requirements for accessibility.

D. **A signed Decommissioning and Site Reclamation Plan that has been approved by ELUC is required at the time of application for a Zoning Use Permit that complies with Section 6.1.1 A. and Section 6.1.5 Q. of the Zoning Ordinance, including a decommissioning cost estimate prepared by an Illinois Professional Engineer.**

The special condition stated above is required to ensure the following:

That the Special Use Permit complies with Ordinance requirements and as authorized by waiver.

E. **A Roadway Upgrade and Maintenance Agreements or waiver therefrom signed by the County Highway Engineer, Sidney Township Highway Commissioner and any other relevant highway jurisdiction, and approved by the Environment and Land Use Committee, shall be submitted at the time of application for a Zoning Use Permit.**

The special condition stated above is required to ensure the following:

To ensure full compliance with the intent of the Zoning Ordinance in a timely manner that meets the needs of the applicant.

F. **Underground drainage tile shall be investigated and identified with any necessary changes made to the solar array as follows:**

1. **A qualified drain tile contractor with experience in Illinois shall be employed to investigate, repair, and install any underground drain tile.**

2. **Desktop mapping and field reconnaissance shall identify all areas where drain tile are expected to be located based on soils, topographic elevations, ground surface channels and/or depressions, wetlands, natural drainage ingress and egress locations, and knowledge of current owners and/or current farmers.**

3. **Slit trenching shall be used to investigate the presence of mutual drainage tiles that serve upland areas under different ownership. All existing drain tiles encountered shall be logged on field mapping and repaired to the original state according to Illinois Department of Agriculture Impact Mitigation Agreement (AIMA) standards.**

4. **Drain tile routes shall be located by surface probing or electronic detection and field staked at 20 feet intervals.**

5. **All existing drain tile that are found shall be located in the field using GPS location systems and recorded on as-built plans. Record mapping shall be completed according to typical civil engineering mapping and AIMA standards.**

6. **Any tile found shall be protected from disturbance or repaired and/ or relocated in a manner consistent with AIMA and Zoning Ordinance.**

7. **All mutual drain tiles shall be protected from construction disturbance and a 40-feet wide no construction area shall be centered on all mutual drain tiles.**

8. **A Drain Tile Investigation Survey including a map of all identified drain tile and a revised site plan to reflect any changes to the layout of the solar array shall be submitted to the Zoning Administrator prior to Zoning Use Permit Approval.**

9. **Future access shall be guaranteed for maintenance of all mutual drain tiles.**

The special condition stated above is required to ensure the following:

The identification and protection of existing underground drainage tile and to allow ongoing maintenance of mutual drain tiles.

G. **The following submittals are required prior to the approval of any Zoning Use Permit for a PV SOLAR FARM:**

10. **Documentation of the solar module's unlimited 10-year warranty and the 25-year limited power warranty.**

11. **A Storm Water Management Plan which conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

12. **Certification by an Illinois Professional Engineer that any relocation of drainage district tile conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

13. **An irrevocable letter of credit to be drawn upon a federally insured financial institution with a minimum acceptable long term corporate debt (credit) rating of the proposed financial institution shall be a rating of "A" by S&P or a rating of "A2" by Moody's within 200 miles of Urbana or reasonable anticipated travel costs shall be added to the amount of the letter of credit.**

14. **A permanent soil erosion and sedimentation plan for the PV SOLAR FARM including any access road that conforms to the relevant Natural Resources Conservation Service guidelines and that is prepared by an Illinois Licensed Professional Engineer**.

15. **Documentation regarding the seed to be used for the pollinator planting, per 6.1.5 F.(9).**

16. **A Transportation Impact Analysis provided by the applicant that is mutually acceptable to the Applicant and the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, as required by 6.1.5 G. 2.**

17. **The telephone number for the complaint hotline required by 6.1.5 S.**

18. **Any updates to the approved Site Plan from Case 144-S-24 per the Site Plan requirements provided in Section 6.1.5 U.1.c.**

The special condition stated above is required to ensure the following:

That the PV SOLAR FARM is constructed consistent with the Special Use Permit approval and in compliance with the Ordinance requirements.

H. **A Zoning Compliance Certificate shall be required for the PV SOLAR FARM prior to going into commercial production of energy. Approval of a Zoning Compliance Certificate shall require the following:**

1. **An as-built site plan of the PV SOLAR FARM including structures, property lines (including identification of adjoining properties), as-built separations, public access road and turnout locations, substation(s), electrical cabling from the PV SOLAR FARM to the substations(s), and layout of all structures within the geographical boundaries of any applicable setback.**

2. **As-built documentation of all permanent soil erosion and sedimentation improvements for all PV SOLAR FARM including any access road prepared by an Illinois Licensed Professional Engineer.**

3. **An executed interconnection agreement with the appropriate electric utility as required by Section 6.1.5 B.(3)b..**

The special condition stated above is required to ensure the following:

The PV SOLAR FARM is constructed consistent with the Special Use Permit approval and in compliance with the Ordinance requirements.

I. **The Applicant or Owner or Operator of the PV SOLAR FARM shall comply with the following specific requirements that apply even after the PV SOLAR FARM goes into commercial operation:**

1. **Maintain the pollinator plantings and required visual screening in perpetuity.**

2. **Cooperate with local Fire Protection District to develop the District's emergency response plan as required by 6.1.5 H.(2).**

3. **Cooperate fully with Champaign County and in resolving any noise complaints including reimbursing Champaign County any costs for the services of a qualified noise consultant pursuant to any proven violation of the I.P.C.B. noise regulations as required by 6.1.5 I.(4).**

4. **Maintain a current general liability policy as required by 6.1.5 O.**

5. **Submit annual summary of operation and maintenance reports to the Environment and Land Use Committee as required by 6.1.5 P.(1)a.**

6. **Maintain compliance with the approved Decommissioning and Site Reclamation Plan including financial assurances.**

7. **Submit to the Zoning Administrator copies of all complaints to the telephone hotline on a monthly basis and take all necessary actions to resolve all legitimate complaints as required by 6.1.5 S.**

The above special condition is required to ensure that:

That future requirements are clearly identified for all successors of title, lessees, any operator and/or owner of the PV SOLAR FARM.

J. **Regarding the proposed BESS that is included as an accessory use:**

1. **The Battery Energy Storage System (BESS) proposed as an accessory use is a 135-megawatt (MW) lithium-ion system that will occupy 6.8 acres (not including any required stormwater detention area.**

2. **The following submittals are required prior to the approval of any Zoning Use Permit for the PV SOLAR FARM in addition to any other required submittals:**

    a. **A Hazard Mitigation Analysis for the proposed BESS that meets the requirements of NFPA 855 and a written approval of the Hazard Mitigation Analysis by the Sidney Fire Protection District.**

    b. **Documentation of any smoke and fire detection systems that are required by the Sidney Fire Protection District and a written approval of the smoke and fire detection systems by the Sidney Fire Protection District.**

c. **Documentation of any fire control and suppression systems that are required by the Sidney Fire Protection District and a written approval of the fire control and suppression systems by the Sidney Fire Protection District.**

d. **Documentation of explosion control per NFPA 69 or deflagration venting per NFP68 shall be provided if explosion control or deflagration venting is required by the approved Hazard Mitigation Analysis and a written approval of the explosion control or deflagration venting by the Sidney Fire Protection District.**

e. **The owner hereby commits to provide Authorized Service Personnel per NFPA 855 to be dispatched to assist emergency first responders to mitigate the hazard or remove damaged equipment from the premises within a response time approved by the Sidney Fire Protection District.**

f. **Documentation of a requirement of the owner to provide Hazard Support Personnel that may be required by the Sidney Fire Protection District per NFPA 855 and a written approval of the plan to provide Hazard Support Personnel by the Sidney Fire Protection District.**

3. **The following BESS submittals are required prior to the approval of the Zoning Compliance Certificate that authorizes operation in addition to any other required submittals:**

a. **A Commissioning Report for the BESS that meets the requirements of NFPA 855 and documentation that a copy of the Commissioning Report has been provided to and accepted by the Sidney Fire Protection District**

4. **The accessory BESS shall be allowed subject to these special conditions regardless of the outcome of Zoning Case 130-AT-24.**

The special condition stated above is required to ensure the following:

That future requirements are clearly identified for all successors of title, lessees, any operator and/or owner of the PV SOLAR FARM and to ensure consistency with Zoning Case 130-AT-24.

K. **The owners of the subject property hereby recognize and provide for the right of agricultural activities to continue on adjacent land consistent with the Right to Farm Resolution 3425.**

The special condition stated above is required to ensure the following:

Conformance with Policy 4.2.3 of the Land Resource Management Plan.

L. **The PV SOLAR FARM COUNTY Board SPECIAL USE Permit designation shall expire in 10 years if no Zoning Use Permit is granted.**

The special condition stated above is required to ensure the following:

The PV SOLAR FARM is constructed in compliance with the Ordinance requirements.

M. **A 5 feet deep open trench shall extend for 30 feet on either side of any drainageway that is crossed with underground wiring and the relevant drainage district shall be provided 48 hours in which to inspect for tile and the positions of any tile lines that are discovered shall be recorded using Global Positioning System (GPS) technology.**

The special condition stated above is required to ensure the following:

That drainage district tiles are protected.

N. **The terms of approval are the requirements of the current Section 6.1.5 of the Zoning Ordinance as amended February 23, 2023.**

The special condition stated above is required to ensure the following:

That the current version of the Zoning Ordinance has been referenced

FINAL DETERMINATION

The Champaign County Zoning Board of Appeals finds that, based upon the application, testimony, and other evidence received in this case, that the requirements for approval of Section 9.1.11B. {***HAVE / HAVE NOT***} been met, and pursuant to the authority granted by Section 9.1.6 B. of the Champaign County Zoning Ordinance, recommends that:

The Special Use requested in Case **144-S-24** be ***{GRANTED/ GRANTED WITH SPECIAL CONDITIONS / DENIED}*** to the applicant, **Little Prairie Solar LLC, c/o BayWa r.e. Solar Projects LLC,** to authorize the following as a Special Use on land in the AG-1 Agriculture Zoning district:

Authorize a Utility-Scale PV Solar Farm with a total nameplate capacity of 135 megawatts (MW), including access roads and wiring, and an accessory 135 MW Lithium-ion Battery Energy Storage System, and

{SUBJECT TO THE FOLLOWING WAIVERS OF STANDARD CONDITIONS:}

Part A: A waiver for not entering into a Roadway Upgrade and Maintenance Agreement or waiver therefrom with the relevant local highway authority prior to consideration of the Special Use Permit by the Zoning Board of Appeals, per Section 6.1.5 G.(1).

Part B: A waiver for locating the PV Solar Farm less than one and one-half miles from an incorporated municipality per Section 6.1.5 B.(2)a.

Part C: A waiver for a separation distance of 225 feet between the solar inverters and the perimeter fence in lieu of the minimum required 275 feet, per Section 6.1.5 D.(6).

{SUBJECT TO THE FOLLOWING SPECIAL CONDITIONS:}

A. **The approved site plan consists of the following documents:**
- **Sheet SDP 100 of the Site Plan received March 7, 2025.**
- **Sheets SDP 101-110 of the Site Plan received March 7, 2025.**
- **Sheet BSDP 100 of the Site Plan received March 7, 2025.**
- **Sheets L 101-107 of the Landscape Plan and sheets L 200-201 of the Maintenance and Monitoring plan received March 7, 2025**

B. **The Zoning Administrator shall not authorize a Zoning Use Permit Application or issue a Zoning Compliance Certificate on the subject property until the lighting specifications in Paragraph 6.1.2.A. of the Zoning Ordinance have been met.**

C. **The Zoning Administrator shall not issue a Zoning Compliance Certificate for the proposed PV SOLAR FARM until the petitioner has demonstrated that the proposed Special Use complies with the Illinois Accessibility Code, if necessary.**

D. **A signed Decommissioning and Site Reclamation Plan that has been approved by ELUC is required at the time of application for a Zoning Use Permit that complies with Section 6.1.1 A. and Section 6.1.5 Q. of the Zoning Ordinance, including a decommissioning cost estimate prepared by an Illinois Professional Engineer.**

E. **A Roadway Upgrade and Maintenance Agreements or waiver therefrom signed by the County Highway Engineer, Sidney Township Highway Commissioner and any other relevant highway jurisdiction, and approved by the Environment and Land Use Committee, shall be submitted at the time of application for a Zoning Use Permit.**

F. **Underground drainage tile shall be investigated and identified with any necessary changes made to the solar array as follows:**

1. **A qualified drain tile contractor with experience in Illinois shall be employed to investigate, repair, and install any underground drain tile.**

2. **Desktop mapping and field reconnaissance shall identify all areas where drain tile are expected to be located based on soils, topographic elevations, ground surface channels and/or depressions, wetlands, natural drainage ingress and egress locations, and knowledge of current owners and/or current farmers.**

3. **Slit trenching shall be used to investigate the presence of mutual drainage tiles that serve upland areas under different ownership. All existing drain tiles encountered shall be logged on field mapping and repaired to the original state according to Illinois Department of Agriculture Impact Mitigation Agreement (AIMA) standards.**

4. **Drain tile routes shall be located by surface probing or electronic detection and field staked at 20 feet intervals.**

5. **All existing drain tile that are found shall be located in the field using GPS location systems and recorded on as-built plans. Record mapping shall be completed according to typical civil engineering mapping and AIMA standards.**

6. **Any tile found shall be protected from disturbance or repaired and/ or relocated in a manner consistent with AIMA and Zoning Ordinance.**

7. **All mutual drain tiles shall be protected from construction disturbance and a 40-feet wide no construction area shall be centered on all mutual drain tiles.**

8. **A Drain Tile Investigation Survey including a map of all identified drain tile and a revised site plan to reflect any changes to the layout of the solar array shall be submitted to the Zoning Administrator prior to Zoning Use Permit Approval.**

9. **Future access shall be guaranteed for maintenance of all mutual drain tiles.**

G. **The following submittals are required prior to the approval of any Zoning Use Permit for a PV SOLAR FARM:**

1. **Documentation of the solar module's unlimited 10-year warranty and the 25-year limited power warranty.**

2. **A Storm Water Management Plan which conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

3. **Certification by an Illinois Professional Engineer that any relocation of drainage district tile conforms to the Champaign County Storm Water Management and Erosion Control Ordinance.**

4. **An irrevocable letter of credit to be drawn upon a federally insured financial institution with a minimum acceptable long term corporate debt (credit) rating of the proposed financial institution shall be a rating of "A" by S&P or a rating of "A2" by Moody's within 200 miles of Urbana or reasonable anticipated travel costs shall be added to the amount of the letter of credit.**

5. **A permanent soil erosion and sedimentation plan for the PV SOLAR FARM including any access road that conforms to the relevant Natural Resources Conservation Service guidelines and that is prepared by an Illinois Licensed Professional Engineer**.

6. **Documentation regarding the seed to be used for the pollinator planting, per 6.1.5 F.(9).**

7. **A Transportation Impact Analysis provided by the applicant that is mutually acceptable to the Applicant and the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, as required by 6.1.5 G. 2.**

8. **The telephone number for the complaint hotline required by 6.1.5 S.**

9. **Any updates to the approved Site Plan from Case 144-S-24 per the Site Plan requirements provided in Section 6.1.5 U.1.c.**

H. **A Zoning Compliance Certificate shall be required for the PV SOLAR FARM prior to going into commercial production of energy. Approval of a Zoning Compliance Certificate shall require the following:**

1. **An as-built site plan of the PV SOLAR FARM including structures, property lines (including identification of adjoining properties), as-built separations, public access road and turnout locations, substation(s), electrical cabling from the PV SOLAR FARM to the substations(s), and layout of all structures within the geographical boundaries of any applicable setback.**

2. **As-built documentation of all permanent soil erosion and sedimentation improvements for all PV SOLAR FARM including any access road prepared by an Illinois Licensed Professional Engineer.**

3. **An executed interconnection agreement with the appropriate electric utility as required by Section 6.1.5 B.(3)b..**

I. **The Applicant or Owner or Operator of the PV SOLAR FARM shall comply with the following specific requirements that apply even after the PV SOLAR FARM goes into commercial operation:**

1. **Maintain the pollinator plantings and required visual screening in perpetuity.**

2. **Cooperate with local Fire Protection District to develop the District's emergency response plan as required by 6.1.5 H.(2).**

3. **Cooperate fully with Champaign County and in resolving any noise complaints including reimbursing Champaign County any costs for the services of a qualified noise consultant pursuant to any proven violation of the I.P.C.B. noise regulations as required by 6.1.5 I.(4).**

4. **Maintain a current general liability policy as required by 6.1.5 O.**

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N. **The terms of approval are the requirements of the current Section 6.1.5 of the Zoning Ordinance as amended February 23, 2023.**

The foregoing is an accurate and complete record of the Findings and Determination of the Zoning Board of Appeals of Champaign County.

SIGNED:

Ryan Elwell, Chair
Champaign County Zoning Board of Appeals

ATTEST:

Secretary to the Zoning Board of Appeals

Date