

KENDALL COUNTY PLANNING, BUILDING & ZONING COMMITTEE

Kendall County Office Building

Rooms 209 & 210

111 W. Fox Street, Yorkville, Illinois

6:30 p.m.

Meeting Minutes of July 9, 2018

CALL TO ORDER

The meeting was called to order by Vice-Chairman Matt Kellogg at 6:35 p.m.

ROLL CALL

Committee Members Present: Lynn Cullick, Bob Davidson (Chairman) (Arrived at 6:36 p.m.), Judy Gilmour, Scott Gryder, and Matt Kellogg (Vice Chairman)

Committee Members Absent: None

Also Present: Matt Asselmeier (Senior Planner), Tom Bromeland, Mary Bromeland, Andrew Bromeland, Stevie DuPont, Judy DuPont, Patrick Kinnally, Maurice Ormiston, Brian Barnwell, Zach Barnwell, Alex Farkes, Melissa Samaroo, Jim Coyle, Margaret Blum, Mike Massie, Mark Perle, Nancy Harazin, Mike Saar, Jim Williams, Greg Stromberg, and David Lombardo

APPROVAL OF AGENDA

Motion by Member Cullick, seconded by Member Gilmour, to approve the agenda as presented. With a voice vote of four (4) ayes, the motion carried.

Chairman Davidson arrived at this time (6:36 p.m.).

APPROVAL OF MINUTES

Motion by Member Cullick, seconded by Member Gryder, to approve the minutes of the June 11, 2018, meeting. With a voice vote of five (5) ayes, the motion carried.

EXPENDITURE REPORT

The Committee reviewed the claims report. Motion by Member Kellogg, seconded by Member Gryder, to forward the claims to the Finance Committee. With a voice vote of five (5) ayes, the motion carried.

PUBLIC COMMENT

Stevie DuPont, Sleezer Road, provided a history of his work in the energy industry. He explained how the national grid worked. He stated that Illinois has an energy reserve. Energy usage is decreasing nationwide. He does not believe demand exists. He does not believe that many homes would benefit from the solar panels. He stated that the developer has installed solar panels for specific cases and, in some instances, are not near homes. Mr. DuPont stated that greenhouse gas is generated to make the solar panels and the solar panels could contaminate the soil if the solar panels break. He submitted an abstract on a book regarding solar panel safety and other websites. He advocated that training for the Newark Fire Protection District should occur annually and that the Newark Fire Protection District should have a HAZMAT team. He also advocated for a leak proof container below the solar farm. He also discussed people being sensitive to electromagnetic waves.

Patrick Kinnally, attorney for Tom and Mary Bromeland, presented a packet of information. Big Grove Township is largely agricultural and solar farms are not mentioned in the Land Resource Management Plan or Kendall County Zoning Ordinance. He would like to see the County develop a solar panel zoning ordinance with standards for a solar farm. He expressed concerns that subsequent requests for solar farms will follow the regulations approved in the proposed solar panel special use. He argued that the farmland should not be taken out of agricultural protection. No information was provided regarding comparable sale of land in Kendall County. He expressed concerns regarding water draining onto his clients' property. He also expressed concerns regarding hazardous substances on the property. Mr. Kinnally favored a bond in the amount at least one point five (1.5) times the projected decommissioning costs.

Tom and Mary Bromeland, Newark Road, discussed the wetlands on the property. He brought a flash drive with pictures; Mr. Asselmeier will send pictures to Committee members. They also submitted a petition from neighbors opposed the special use permit.

Nancy Harazin, owner of 16400 Newark Road, provided a history of living in Kendall County. She would like to use the land to generate solar energy. She said that solar energy is a safe, renewable energy source.

Maurice Ormiston, Newark Road, said the he farmed the property several years ago. He believes that solar panels are continuation of other changes in the County like wind turbines; he is in favor of the proposal.

Judy DuPont, Sleezer Road, said that the area receives less than one hundred (100) sunny days per year. Ms. Harazin does not live on her farm.

PETITIONS

Petition 18-15-Nancy Harazin on Behalf of Nancy L. Harazin Trust Number 101-Request for a Special Use Permit for a Public or Private Utility-Other (Solar Panels) at 16400 Newark Road, Approximately 0.2 Miles East of Route 71 on the South Side of Newark Road (PIN: 07-05-400-003) in Big Grove Township; Property is Zoned A-1

Alex Farkas, Borrego Solar, said that they shrunk the system. The system has been moved further west. Trees will also be planted north of the solar array. None of the hazardous materials stated previous are inside the solar panels. The panels contain mono-crystal silicon. He stated this project has received one (1) of the best reports for interconnection costs. The environmental study was previously included in the application packet. They will upgrade the drain tile. Low mow turf will be planted under the panels. They are open to a decommissioning bond.

Margaret Blum, GreenbergFarrow, explained what would happen to the project if they needed to go through wetland permitting. They also provided a picture of the Bromeland residence taken from the corner of the site. She also discussed the project in relations to the wetlands. Member Gilmour asked about the materials inside the solar panels. The key material is mono-crystal silicon which is not hazardous. The panels are manufactured in China.

Mike Massie, attorney for Borrego, discussed the comparisons used for appraisals. There was no negative impact caused by solar panels from the sites examined. He argued that above ground drainage should be improved. The environmental impacts are part of the record.

Jim Coyle, GreenbergFarrow, noted that the proposed turf would provide less runoff than the current crops. Fifteen feet (15') will be dedicated to the County for erosion control. The wetland buffers is the distance that Borrego is maintaining from the wetlands. Discussion occurred regarding the definition of farmed wetland.

Patrick Kinnally said that he did not hear information about water displacement. He also expressed concerns about the composition of the solar panels. He would like the property to stay as farmland.

Jim Coyle stated that Borrego did submit drainage calculations to Greg Chismark.

Margaret Blum noted that environmental reports were submitted.

The consensus of the Committee was to amend 2.C of the proposed ordinance by setting the measurement of the tree height from the top of the root ball.

Discussion occurred regarding bonding. The consensus of the Committee was to create a bond at Two Hundred Thirty Thousand Dollars (\$230,000) for decommissioning of the site. This would be included in 2.F of the proposed ordinance.

The consensus of the Committee was to amend 2.G of the proposed ordinance by stating that the decommissioning plan shall be voted on by the County Board and requires a simple majority to pass. The second sentence regarding maintenance shall be deleted.

The consensus of the Committee was to amend 2.H of the proposed ordinance by stating that the six (6) months for completing decommissioning starts with the approval of the County Board.

The consensus of the Committee was to amend 2.O of the proposed ordinance so that the decommissioning plan may be initiated within ninety (90) days if no timetable was reached. The timetable must be approved the by Planning, Building and Zoning Committee.

Member Kellogg asked what would be planted between the trees and road where sheet erosion is occurring. The response was that the right-of-way would be dedicated to address the concerns and grass would be planted. The consensus of the Committee was to amend 2.P of the proposed ordinance to amend the site plan to have a waterway or place a solid tile under the trees to address sheet erosion to the property north of the subject property.

The consensus of the Committee was to amend 2.R of the proposed ordinance to initiating the decommissioning plan to the revocation or amendment to the special use permit.

The Committee expressed a need to verify that the panel materials are not hazardous.

Motion by Member Kellogg, seconded by Member Gryder, to recommend approval of the special use permit ordinance as amended and that the proposal be forwarded to the July Committee of the Whole meeting with additional discussion at the August Committee of the Whole meeting.

Yeas (5): Cullick, Davidson, Gilmour, Gryder, and Kellogg
Nays (0): None

Abstain (0): None
Absent (0): None

The motion carried. This matter will go to the Committee of the Whole on July 12th.

Petition 18-14-Michael and Dayle Saar-Request for a Map Amendment Rezoning Their Property Located on the East Side of Route 71 Approximately 0.06 Miles Southwest of Timbercreek Drive (PIN: 05-07-328-003) in Kendall Township from A-1 to R-1

Mr. Asselmeier summarized the request.

Michael and Dayle Saar are requesting a map amendment rezoning the majority of the subject property from A-1 to R-1 in order to have the ability to sell the property and market the property as a single-family home site.

The petitioners own one (1) of the houses northeast of the subject parcel. They would like to divide a portion of the northeast corner off of the subject property and merge it with their property in the Timber Creek Subdivision and rezone the northeast corner to R-3 at some point in the future.

Staff recommends approval of the proposed map amendment because the proposal is consistent with the Land Resource Management Plan.

Petition information was sent to Kendall Township on April 20, 2018. Kendall Township did not submit a formal objection to this request.

Petition information was sent to the United City of Yorkville on April 20, 2018. The proposal went to the Yorkville Economic Development Commission on June 5th, the Yorkville Planning Commission on June 13th, and the Yorkville City Council on June 26th. The United City of Yorkville did not submit a formal objection to this request.

ZPAC met on this proposal on May 1, 2018. They unanimously recommended approval of the request.

The Kendall County Regional Planning Commission met on this proposal on May 23, 2018. They unanimously recommended approval of the request.

The Kendall County Zoning Board of Appeals met on this proposal on June 4, 2018. They unanimously recommended approval of the request.

EcoCAT Report submitted and consultation was terminated.

The application for NRI was submitted on April 12, 2018. LESA score was 178 indicating a low level of protection.

Motion by Member Kellogg, seconded by Member Gryder, to recommend approval of the requested map amendment.

Yeas (5): Cullick, Davidson, Gilmour, Gryder, and Kellogg
Nays (0): None
Abstain (0): None
Absent (0): None

The motion carried. This matter will go to the County Board on July 17th.

Petition 18-22-Robert M. Eby on Behalf of Southwest Community Church and Geraldine A. Mann on Behalf of Geraldine Declaration of Trust-Request for a Revocation of a Special Use Permit for a Place Worship at 4405 Van Dyke Road and the Property Immediately to the East of 4405 Van Dyke Road (PINs: 09-05-400-021 and 09-05-400-020) in Seward Township; Both Properties are Zoned A-1

Mr. Asselmeier summarized the request.

The Southwest Community Church owns the property at 4405 Van Dyke Road. They received a special use permit in 2008 to have a place of worship on the property. Later in 2008, the County Board approved an amendment to the Southwest Community Church special use permit to allow the house on the property to be used as office space. The Southwest Community Church desires to sell the property for residential use and no longer wishes to have a special use permit on the property.

Based on the legal descriptions provided in the ordinances granting the special use permit at 4405 Van Dyke Road and amending the special use at the same address, the property immediately to the east of 4405 Van Dyke Road was inadvertently added to the special use permit. The owner of that property, Geraldine Declaration of Trust, would like the zoning of their property corrected by also having the special use permit revoked on their property.

If the proposed revocation is approved, both properties would be zoned A-1 Agricultural.

Motion by Member Kellogg, seconded by Member Gryder, to recommend approval of the requested special use permit revocation.

Yeas (5): Cullick, Davidson, Gilmour, Gryder, and Kellogg
Nays (0): None
Abstain (0): None
Absent (0): None

The motion carried. This matter will go to the County Board on July 17th.

NEW BUSINESS

Discussion of Zoning Ordinance Consolidation Project-Project Would Unify the Zoning Ordinance into One Searchable Document, Correct Typographical Errors, and Correct Citation Errors

Mr. Asselmeier summarized the request.

The Kendall County Zoning Ordinance is currently nineteen (19) separate documents. None of these documents are directly connected. As such, unlike many municipalities and counties, the Kendall County Zoning Ordinance is not a searchable document. In addition, several typographical and citation errors exist within the Kendall County Zoning Ordinance.

At the direction of County Administrator Koeppel, Staff asked Teska Associates, Inc. for a price quote to unify the Kendall County Zoning Ordinance into one (1) searchable document and correct typographical errors and citation errors.

As of the date of this memo, adequate funds exist in the Planning, Building and Zoning Department's budget in the current fiscal year for this project. The project could also be postponed into the next fiscal year, if the Committee deems appropriate.

Motion by Member Kellogg, seconded by Member Gryder, to recommend advance the project in the current fiscal year as proposed.

Yeas (5): Cullick, Davidson, Gilmour, Gryder, and Kellogg
Nays (0): None
Abstain (0): None
Absent (0): None

The motion carried. Mr. Asselmeier will inform Teska Associates, Inc. of the Committee's decision.

Discussion of NPDES Related Survey to Townships and Residents

Mr. Asselmeier summarized the request.

According to Kendall County's NPDES Permit, the County is supposed to survey residents and townships annually on stormwater related topics. WBK provided a list of questions.

Staff was wondering if the Committee had any suggested questions they would like included on the survey.

Staff is considering using SurveyMonkey to gather information from residents. The cost of the survey depends on the length of time the survey is available. The cost is Thirty-Seven Dollars (\$37) per month. Surveys will be mailed to the townships.

The consensus of the Committee was to move forward with the surveys with no additional questions.

OLD BUSINESS

Update on 45 Cheyenne Court-Committee Could Approve Forwarding Violation to Either State's Attorney's Office or Hearing Officer

Greg Stromberg, owner of 45 Cheyenne Court, provided a timeline for completing the project. Based on the timeline, he will have everything complete expect the placement of stone by October 30th. The Committee did not express opposition to his proposal.

Update on Removal of the Culvert Crossing of Aux Sable Creek near 13360 McKanna Road; Property is Owned by Mark Antos

Mr. Asselmeier provided a picture of Mark Antos' bridge. Mr. Antos intends to pour concrete on July 13th.

Request from the Kendall County Regional Planning Commission to Amend Petition 17-28 Pertaining to Outdoor Target Practice and Shooting Zoning Regulations by Creating Separate Regulations for Shotguns, Pistols, and Rifles and Removing the Exemption of State Owned Property and Forest Preserve Owned Property from the Proposal

Mr. Asselmeier summarized the request.

At their meeting on June 27, 2018, the Kendall County Regional Planning Commission requested that the Planning, Building and Zoning Committee consider the following amendments to the proposed outdoor shooting range zoning regulations:

The exemption for the Forest Preserve District and lands owned by the State of Illinois and used for parks should be removed. The public health, safety, and welfare issues that the proposal seeks to address are the same for publicly owned lands and privately owned lands.

The Commission would like the proposal divided into three (3) parts: shotgun, rifle, and pistol. The Commission believes that this division would resolve issues related to minimum lot size and distance to neighboring structures. In talking with PBZ Chairman Davidson, Staff believes that the resulting division would simply cause petitioners to request three (3) special use permits.

Commissioners were concerned regarding the removal of the five (5) acre minimum lot size requirement; ranges would simply have to meet the setbacks of the zoning district. PBZ Chairman Davidson would like the setbacks to be determined on a case-by-case basis.

Commissioners were concerned regarding the removal of the one thousand foot (1,000') buffer between ranges and churches, schools, and neighboring houses. PBZ Chairman Davidson would like the distances to be determined on a case-by-case basis.

Commissioners were concerned about the noise requirement. Unlike other noise regulations, the sixty-five (65) dBa requirement would be constant instead of lowering to fifty-five (55) dBa at 10:00 p.m. PBZ Chairman Davidson would like the noise regulations to be evaluated on a case-by-case basis.

David Lombardo stated that the Commission had valid concerns. He stated that ranges should be regulated by length of range instead of by weapon. A range should also be evaluated based on the proximity of neighbors.

Member Kellogg was not concerned about the five (5) acre requirement because of the berm calculations, setbacks, and noise provisions.

The Forest Preserve is exempt from zoning if it is engaged in activities allowed by the Downstate Forest Preserve Act.

The concern about dividing the proposal into three (3) parts would be handled on a case-by-case basis.

Mark Perle, Old Ridge Road, would like to see commercial businesses to be subject to commercial gun range regulations. He would like to see a maximum number of shooters on private commercial property. Discussion occurred about shooting coming from one property and hitting nearby houses.

The consensus of the Committee was not to make any changes to the proposal.

This matter will go to the Planning Commission on July 25th.

Update on Filling Part-Time Office Assistant (Zoning) Position

Mr. Asselmeier reported that Jasmine Brown Watkins started as the Part-Time Office Assistant Zoning position on July 9th.

REVIEW VIOLATION REPORT

The Committee reviewed the Violation Report.

Approval to Forward Violation of the Kendall County Zoning Ordinance (Trailer Parked in Front Yard) at 7686 Audrey Avenue, Yorkville to the State's Attorney's Office

Mr. Asselmeier summarized the alleged violation.

Motion by Member Cullick, seconded by Member Gryder, to forward the violation to the State's Attorney's Office.

Yeas (5): Cullick, Davidson, Gilmour, Gryder, and Kellogg
Nays (0): None
Abstain (0): None
Absent (0): None

The motion carried.

Approval to Forward Violation of Inoperable Vehicle Ordinance and Junk and Debris Ordinance at 29 Aldon Road, Montgomery to the State's Attorney's Office

Mr. Asselmeier summarized the alleged violation.

Motion by Member Cullick, seconded by Member Kellogg, to forward the violation to the State's Attorney's Office.

Yeas (5): Cullick, Davidson, Gilmour, Gryder, and Kellogg
Nays (0): None
Abstain (0): None
Absent (0): None

The motion carried.

REVIEW NON-VIOLATION REPORT

The Committee reviewed the Non-Violation Report.

UPDATE FOR HISTORIC PRESERVATION COMMISSION

None.

REVIEW PERMIT REPORT

The Committee reviewed the permit report.

REVIEW REVENUE REPORT

The Committee reviewed the revenue report. Revenue is up compared to the same period in the previous fiscal year.

CORRESPONDENCE

None

PUBLIC COMMENT

Member Gryder requested an update on the process for updating County ordinances. Mr. Asselmeier reported that the Department is working with the State's Attorney's Office to update the Inoperable Vehicle Ordinance, Junk and Debris Ordinance, and Zoning Ordinance in that order. Once these regulations are updated, the intent is to allow the Inspector to have ticket writing ability.

Jim Williams, Boulder Hill, expressed his support for the Inspector to have authority to make citations on sight. Mr. Holdiman will attend a future meeting in Boulder Hill. Discussion occurred regarding the definition of "business" and "home occupation." He also requested clarification of parking trailers in the street.

COMMENTS FROM THE PRESS

None

EXECUTIVE SESSION

None



ADJOURNMENT

Member Cullick motioned to adjourn, seconded by Member Gryder. With a voice vote of five (5) ayes, Chairman Davidson adjourned the meeting at 9:35 p.m.

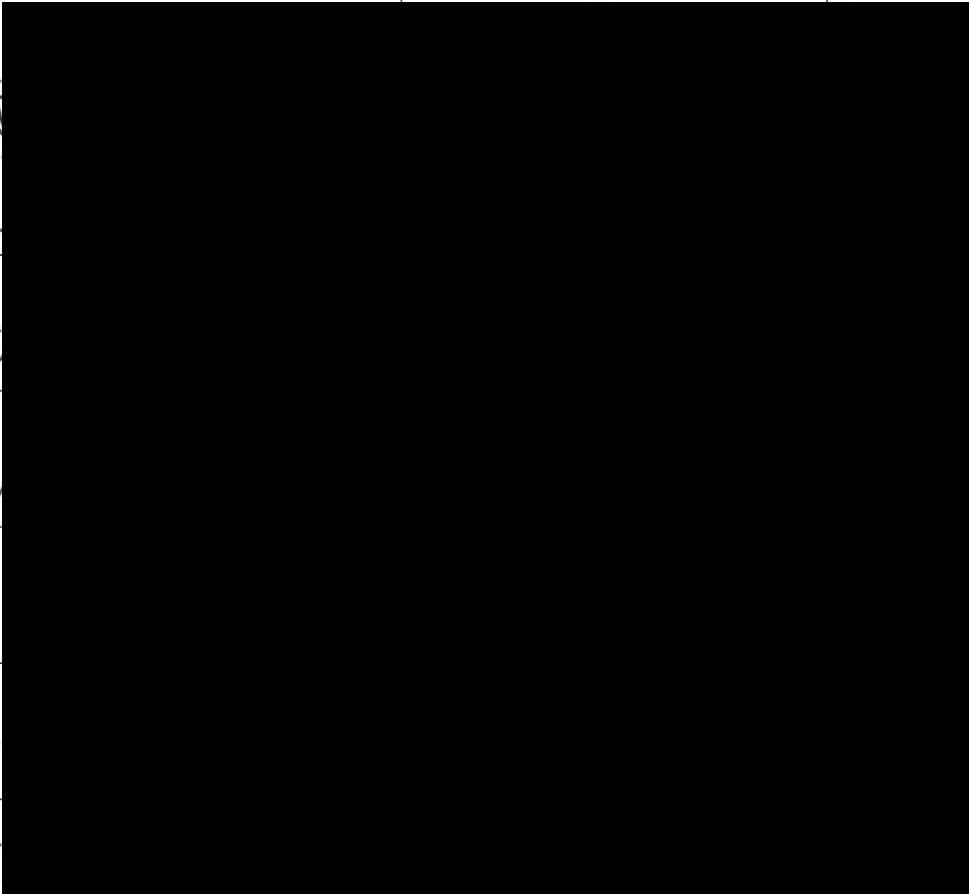

Minutes prepared by Matthew H. Asselmeier, AICP, Senior Planner

Encs.

**KENDALL COUNTY
PLANNING, BUILDING, & ZONING COMMITTEE
JULY 9, 2018**

NAME	ADDRESS	EMAIL ADDRESS
ZACH BARNWELL		
JIM COYLE		
MIKE SAAR		
Margaret Blum	Greeneburg, Iowa 21 S. Evergreen, Ste 200 Arlington Hts. IL 60005	mblum@greeneburgiowa.com
MIKE MASSIE	115 NW 3rd Ave GALVIL 61434	mike@ massielaw.net
JIM WILLIAMS		
Mary Domela		
Greg Stronberg		

**KENDALL COUNTY
PLANNING, BUILDING, & ZONING COMMITTEE
JULY 9, 2018**

NAME	ADDRESS	EMAIL ADDRESS
Tom Bromeland		
Paul D. Dufort		
Stevie Dufort		
Patrick Kinnally		
NANCY HARAZIM		
MICRICE ORRISTIA		
Andy Bromeland		
BRIAN BARNEA		
Alex Fikes	1 N State St Chicago, IL	afikes@Borregosolar.com
Mark Peck		
Meissa Samaroo	1 N State St. #1500 Chicago, IL 60602	MSamaroo@borregosolar.com

KINNALLY FLAHERTY
KRENTZ LORAN HODGE & MASUR PC

ATTORNEYS AT LAW

July 6, 2018

Via E-Mail

Matthew Asselmeier, Senior Planner
Kendall County Planning, Building & Zoning Dept.
111 West Fox Street
Yorkville, IL 60560
E-mail: masselmeier@co.kendall.il.us

Re: Borrego Solar Systems

Dear Mr. Asselmeier:

In addition to the objections previously stated by my clients, Mr. and Mrs. Thomas Bromeland, the attached objections to the Borrego Solar Systems special use permit, are lodged.

My clients are requesting the opportunity to be heard at the meeting July 9, 2018. Thank you.

Sincerely,

KINNALLY FLAHERTY KRENTZ LORAN
HODGE & MASUR P.C.


Patrick M. Kinnally

PMK/vc

Property Impact Study

The applicant for a special use submitted a property impact value study. (Report). This document is not based on any property appraisal of Kendall County real estate. It states the northern 23 acres of the site will be used for "solar farm use". (p.15)

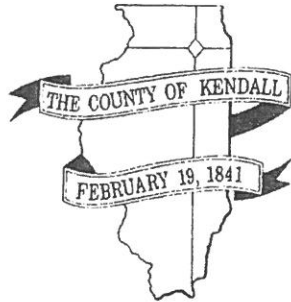
The report indicates it is comprised of wetlands (p.17). The report states the site has good quality agricultural soil (p.28). The report does not compare any sales of adjoining properties in Kendall County before or after the announcement of the solar farm's application (p.33)

There is nothing in the report which indicates the volume, rate, or amount of surface water drainage from the 23 acres where solar panels will be erected. No environmental impact studies were undertaken by the applicant or Kendall County (p.62). The applicant's consultant never undertook any wetland analysis and concludes no wetlands exist on the property (p.64).

Decommissioning of Use

Under the proposed special use as outlined by Staff (07/03/18) there is no provision for the developer or owner to post a bond to cover the costs of decommissioning of the use.

A bond in an amount 1.5 times the estimated cost (\$151,000) would ensure compliance by the owner as well as the operator, and would ensure the County would not have to undertake the costs of paying decommissioning.



DEPARTMENT OF PLANNING, BUILDING & ZONING

111 West Fox Street • Room 204

Yorkville, IL • 60560

(630) 553-4141

Fax (630) 553-4179

MEMORANDUM

To: Planning, Building and Zoning Committee
From: Matthew H. Asselmeier, AICP, Senior Planner
Date: July 3, 2018
Re: Petition 18-15 – Request from Nancy Harazin on Behalf of Nancy L. Harazin Trust Number 101 for a Special Use Permit for a Public or Private Utility-Other (Solar Panels) at 16400 Newark Road, Approximately 0.2 Mile East of Route 71 on the South Side of Newark Road, Big Grove Township (PIN 07-05-400-003); Property is Zoned A-1

Following the June Planning, Building and Zoning Committee meeting, Borrego amended their site plan in the following ways:

1. They agreed to plant arborvitaes along the northern portion of the property. Accordingly, condition 2.C of the special use permit ordinance was amended to read, "The landscaping shall occur in accordance with the Landscaping Plan attached hereto as Exhibit C. The owner and/or operation shall plant arborvitaes at least six feet (6') in height at the time of planting along the north side of the property to block the visibility of the solar panels from the property north of the subject property. The arborvitaes shall be planted in sufficient numbers to create a complete buffer within five (5) years of the approval of this special use permit. Damaged or dead arborvitaes shall be replaced on a timeframe approved by the Kendall County Planning, Building and Zoning Department."
2. The solar field was moved approximately one hundred thirty-seven (137') to the west to reduce the visibility of the solar array field from the neighbor's home. This was achieved by changing the modules to the Hanwha 390's which reduced the amount of racks required.
3. The fenced area was reduced from approximately twelve point one (12.1) acre to approximately eleven point two-five (11.25) acres.
4. Borrego provided insurance documentation.
5. They agreed to yearly reporting of data of energy production. Accordingly condition 2.I of the special use permit ordinance was added to read, "On or before February 1st of each year, the owner or operator shall provide the Kendall County Planning, Building and Zoning Department with a report outlining the amount of energy produced at the property during the previous year."
6. They agreed that lighting will not cross property lines. Accordingly, condition 2.B of the special use permit ordinance was amended to read, "Lighting will be installed in accordance with the Site Plan attached hereto as Exhibit C. Lighting shall not be visible from neighboring properties."
7. They agreed to training for the Newark Fire Protection District. Unfortunately, despite repeated emails and phone calls, Staff was unable to receive feedback from the Newark Fire Protection District on requested training. Condition 2.Q of the special use permit ordinance was added to read, "If requested by the Newark Fire Protection District, the owner and/or operator shall provide at their sole expense training to address any fire related or public health issues caused by the issuance of this special use permit. The training topics and the timeframe for the training shall be approved by the Newark Fire Protection District."=
8. The decommissioning costs decreased from One Hundred Fifty-Eight Thousand Eight Hundred Sixty-Four Dollars (\$158,864) to One Hundred Fifty-One Thousand Five Hundred Thirty-Three Dollars (\$151,533).

An updated ordinance, insurance information, response to questions from Member Gilmour, and a wetland recommendation letter are attached to this memo. The entire record of all of the documents related to this request can be found at https://www.co.kendall.il.us/wp-content/uploads/Petition_18-15.pdf.

If you have any questions regarding this proposal, please let me know.

Thanks,

MHA

ENC: Proposed Ordinance Revised
Insurance Information
July 2 Letter from GreenbergFarrow to Matthew Asselmeier, AICP
July 2 Letter from Susan Rowley to Margaret Blum

ORDINANCE NUMBER 2018-_____

GRANTING A SPECIAL USE PERMIT ON PROPERTY ZONED A-1 AGRICULTURAL FOR A PUBLIC OR PRIVATE UTILITY – OTHER (SOLAR PANELS) FOR A 60.0 ACRE +/- PARCEL LOCATED APPROXIMATELY 0.2 MILES EAST OF ILLINOIS ROUTE 71 ON THE SOUTH SIDE OF NEWARK ROAD AND IDENTIFIED BY PARCEL IDENTIFICATION NUMBER 07-05-400-003 AND ALSO KNOWN AS 16400 NEWARK ROAD IN BIG GROVE TOWNSHIP

WHEREAS, Section 13.08 of the Kendall County Zoning Ordinance permits the Kendall County Board to issue special use permits and place conditions on special use permits and provides the procedure through which special use permits are granted; and

WHEREAS, the property which is the subject of this Ordinance has been, at all relevant times, and remains currently located within the A-1 Agricultural Zoning District and consists of approximately 60.0 acres located on the south side of Newark Road approximately 0.2 miles east of Illinois Route 71 (PIN: 07-05-400-003) and is also known as 16400, Newark Road, in Big Grove Township. The legal description for the subject property is set forth in Exhibit A attached hereto and incorporated by reference, and this property shall hereinafter be referred to as “the subject property.”; and

WHEREAS, the subject property is currently owned by the Nancy L. Harazin Trust Number 101 and is represent by Nancy L. Harazin and shall hereinafter be referred to as “Petitioner”; and

WHEREAS, on or about April 17, 2018, Petitioner filed a petition for a Special Use Permit allowing the placement of a Public or Private Utility – Other (Solar Panels) on the subject property and the energy generated from the proposed use would be consumed offsite; and

WHEREAS, following due and proper notice by publication in the Kendall County Chronicle not less than fifteen days prior thereto, the Kendall County Zoning Board of Appeals conducted a public hearing on June 4, 2018, at 7:00 p.m., in the County Office Building at 111 W. Fox Street in Yorkville, at which the Petitioner and representatives from the solar company presented evidence, testimony, and exhibits in support of the requested special use permit and two members of the public testified in opposition to the request and one member of the public asked questions about the request; and

WHEREAS, based on the evidence, testimony, and exhibits, the Kendall County Zoning Board of Appeals has made their Findings of Fact and recommended denial of the Special Use Permit with conditions as set forth in the Findings of Fact and Recommendation of the Kendall County Zoning Board of Appeals, dated June 4, 2018, a true and correct copy of which is attached hereto as Exhibit B; and

WHEREAS, the Kendall County Planning, Building and Zoning Committee of the Kendall County Board has reviewed the testimony presented at the aforementioned public hearing and has considered the Findings of Fact and Recommendation of the Kendall County Zoning Board of Appeals, and has forwarded to the Kendall County Board a recommendation of **approval/denial** of the requested Special Use Permit with conditions; and

WHEREAS, the Kendall County Board has considered the recommendation of the Planning, Building and Zoning Committee and the Findings of Fact and Recommendation of the Kendall County Zoning Board of Appeals, and has determined that said petition is in conformance with the provisions and intent of the Kendall County Zoning Ordinance; and

WHEREAS, this Special Use Permit shall be treated as a covenant running with the land and is binding on the successors, heirs, and assigns as to the same special use conducted on the property; and

NOW, THEREFORE, BE IT ORDAINED, BY THE COUNTY BOARD OF KENDALL COUNTY, ILLINOIS, as follows:

1. The Findings of Fact and Recommendation of the Kendall County Zoning Board of Appeals attached hereto as Exhibit B is hereby accepted and the Findings of Fact set forth therein are hereby adopted as the Findings of Fact and Conclusions of this Kendall County Board.
2. The Kendall County Board hereby grants approval of Petitioner's petition for a Special Use Permit allowing the placement of a Public or Private Utility – Other (Solar Panels) to be placed on the subject property subject to the following conditions:
 - A. The site will be developed in accordance with the Site Plan attached hereto as Exhibit C.
 - B. Lighting will be installed in accordance with the Site Plan attached hereto as Exhibit C. Lighting shall not be visible from neighboring properties.
 - C. The landscaping shall occur in accordance with the Landscaping Plan attached hereto as Exhibit C. The owner and/or operation shall plant arborvitae at least six feet (6') in height at the time of planting along the north side of the property to block the visibility of the solar panels from the property north of the subject property. The arborvitae shall be planted in sufficient numbers to create a complete buffer within five (5) years of the approval of this special use permit. Damaged or dead arborvitae shall be replaced on a timeframe approved by the Kendall County Planning, Building and Zoning Department.
 - D. Replacement of dead and/or damaged vegetation shall occur on a timetable agreed to between the property owner and the Kendall County Planning, Building and Zoning Department.
 - E. Signage shall be installed as described in Exhibit C. In addition, at least one (1) sign shall be placed at the vehicle access gate stating emergency contact information.
 - F. The site shall be decommissioned in accordance with the Decommissioning Plan attached hereto as Exhibit C. In the event the Decommissioning Plan changes, the property owner shall supply the Kendall County Planning, Building and Zoning Department with revised plans as soon as they are available.
 - G. The Decommissioning Plan shall be initiated if the solar panels are not used for ninety (90) consecutive days. This condition shall not apply if maintenance on the impacted solar panel(s) is occurring.
 - H. The property owner or operator shall have six (6) months to complete the Decommissioning Plan and remove the solar panels and related equipment from the property.
 - I. On or before February 1st of each year, the owner or operator shall provide the Kendall County Planning, Building and Zoning Department with a report outlining the amount of energy produced at the property during the previous year.
 - J. In addition to other applicable fees, the following fees should be paid to the County prior to the installation of the solar panels:

Building Permit Fees

0-10 KW	\$150
51-100	\$300
101-500	\$600
501-1000	\$1200
1001-1500	\$2750
1501-2000	\$6000

Over 2000 KW \$200 for Each Additional 0-100 KW

Fees Double if Construction Commences before Obtaining Building Permit.

- K. The property owner or operator shall maintain current liability policy covering bodily injury and property damage at least Three Million Dollars per occurrence and Five Million Dollars in aggregate and must have policy for the duration of the special use permit, such insurance may be provided pursuant to a plan of self-insurance by a party with a net worth of Twenty Million Dollars or more and the County shall be named as additional insured to the extent that the County is entitled to indemnification.
- L. The property owner or operator shall indemnify, and hold harmless the County and its officials, employees, and agents (collectively and individually, the "Indemnified Parties") from and against any and all claims, demands, losses, suits, causes of actions, damages, injuries, costs, expenses, and liabilities whatsoever, including reasonable attorney's fees, except to the extent arising in whole or part out of negligence or intentional acts of such Indemnified Parties (such liabilities together known as "liability") arising out of Applicant, Owner, or Operators selection, construction, operation, and removal of the solar energy system and affiliated equipment including, without limitation, liability for property damage or personal injury (including death), whether said liability is premised on contract or on tort (including without limitation strict liability or negligence). This general indemnification shall not be construed as limited or qualifying the County's other indemnification rights available under the law.
- M. Within sixty (60) days of the approval of this special use permit ordinance, the owner shall dedicate a fifteen foot (15') wide strip along the northern portion of the property in accordance with the Site Plan attached hereto as Exhibit C to Kendall County to be used as Newark Road right-of-way.
- N. The property owner or operator shall be responsible for ensuring that the operations of the solar panels allowed by this special use permit comply with all applicable Federal, State, and Local laws.
- O. Damaged or non-functioning solar panels shall be replaced or repaired on a timetable agreed to between the property owner and the Kendall County Planning, Building and Zoning Department.
- P. The property owner or operator shall repair and if necessary re-route any drain tile damaged as a result of the installation, decommissioning, maintenance, or operation of the solar panels and related supporting infrastructure on a timeline approved by the Kendall County Planning, Building and Zoning Department.
- Q. If requested by the Newark Fire Protection District, the owner and/or operator shall provide at their sole expense training to address any fire related or public health issues caused by the

State of Illinois
County of Kendall

Zoning Petition
#18-15

issuance of this special use permit. The training topics and the timeframe for the training shall be approved by the Newark Fire Protection District.

- R. Failure to comply with above conditions or restrictions could result in the amendment or revocation of the special use permit.
 - S. If one or more of the above conditions is declared invalid by a court of competent jurisdiction, the remaining conditions shall remain valid.
3. The Zoning Administrator and other appropriate County Officials are hereby authorized and directed to amend the Official Zoning Map of Kendall County to reflect this Special Use Permit.

IN WITNESS OF, this ordinance has been enacted by a **majority** vote of the Kendall County Board and is effective this 17th day of July, 2018.

Attest:

Kendall County Clerk
Debbie Gillette

Kendall County Board Chairman
Scott R. Gryder

Exhibit A

K:\Psdata\2018 Projects\18.0028\18.0028-01 LTS\Legal Descriptions\2018-02-01 Project Area Legal.docx

THAT PART OF THE EAST HALF OF SECTION 5, TOWNSHIP 35 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 5; THENCE NORTH 00 DEGREES 30 MINUTES 06 SECONDS EAST, ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 5, A DISTANCE OF 588.72 FEET TO AN EXISTING FENCE LINE; THENCE SOUTH 89 DEGREES 18 MINUTES 45 SECONDS WEST, ALONG SAID FENCE LINE, 712.10 FEET; THENCE NORTH 00 DEGREES 56 MINUTES 36 SECONDS WEST, 1273.42 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, 1266.62 FEET; THENCE NORTH 00 DEGREES 56 MINUTES 50 SECONDS WEST, 774.88 FEET TO THE CENTER LINE OF NEWARK ROAD; THENCE NORTH 89 DEGREES 10 MINUTES 47 SECONDS EAST ALONG SAID CENTER LINE, 1266.50 FEET; THENCE SOUTH 00 DEGREES 56 MINUTES 36 SECONDS EAST, 793.01 FEET TO THE POINT OF BEGINNING; IN BIG GROVE TOWNSHIP, KENDALL COUNTY, ILLINOIS.

Exhibit B

Findings of Fact

*That the establishment, maintenance, or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare. **Provided that the site is developed in accordance with an approved site plan, provided that the landscaping plan and fencing as presented is implemented, provided the decommissioning plan is followed, and provided that the property owner or operation maintains, repairs, and or replaces damaged solar panels, the proposed use will not be detrimental to or endanger the public health, safety, or general welfare of the community. The proposed special use may be detrimental to the morals and comfort of the neighbors.***

*That the special use will not be substantially injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood. The Zoning classification of property within the general area of the property in question shall be considered in determining consistency with this standard. The proposed use shall make adequate provisions for appropriate buffers, landscaping, fencing, lighting, building materials, open space and other improvements necessary to insure that the proposed use does not adversely impact adjacent uses and is compatible with the surrounding area and/or the County as a whole. **The Petitioner provided evidence that the installation of solar panels does not negatively impact property values or harm the environment. Appropriate restrictions (including requiring an updated decommissioning plan, a landscaping plan, and fencing requirements) can ensure the proposed use does not adversely impact adjacent uses.***

*That adequate utilities, access roads and points of ingress and egress, drainage, and/or other necessary facilities have been or are being provided. **True, adequate utilities, access roads and points of ingress and egress are provided. Appropriate conditions (including the dedication of land for additional right-of-way and developing the site in accordance with the submitted site plans and landscaping plans) can ensure that adequate drainage infrastructure will be provided.***

*That the special use shall in all other respects conform to the applicable regulations of the district in which it is located, except as such regulations may in each instance be modified by the County Board pursuant to the recommendation of the Zoning Board of Appeals. **True, the proposed use conforms to the setback, height, and development requirements of the A-1 Agricultural Zoning District.***

*That the special use is consistent with the purpose and objectives of the Land Resource Management Plan and other adopted County or municipal plans and policies. **True, the proposed use is consistent with Section 3.3.G of the Kendall County Land Resource Management Plan which states as an objective: "support the public and private use of sustainable energy systems (examples include wind, solar, and geo-thermal)" (Page 3-4).***

16400 NEWARK ROAD, NEWARK, IL 60541
2516.670 kW DC STC RATED SOLAR ELECTRIC SYSTEM

NOT FOR
CONSTRUCTION



Small text at the bottom of the page, likely a page number or footer.

SITE USE PLANS
16400 NEWARK ROAD,
NEWARK, IL 60541

PROJECT NUMBER:
907-0142

PLAN SET

TITLE PAGE	T-1

DRAWING LIST	
Sheet Number	Sheet Title
1-1	TITLE PAGE
C-1.0	EXISTING CONDITIONS PLAN
C-2.0	LAYOUT AND MATERIALS PLAN
C-3.0	GRADING AND EROSION CONTROL PLAN
C-4.0	DRILL DETAILS
C-5.0	DECOMMISSIONING PLAN
C-6.0	LANDSCAPE PLAN
C-8.1	LANDSCAPE NOTES AND DETAILS
E-6.0	PLACEMARKS

An aerial photograph showing a coastal area with a small square marker and an arrow pointing to it, labeled 'SITE'. The marker is located on a narrow strip of land or a small island. The surrounding area appears to be water or a large body of water. The image is grainy and has a high-contrast, black-and-white appearance.

[illegible]

THIS PROJECT CONSISTS OF THE INSTALLATION OF SOLAR MODULES PER THE SYSTEM DESCRIPTION, BELOW. THE MODULES WILL BE INSTALLED ON A GROUND - SINGLE AXIS TRACKER MOUNTED RACKING SYSTEM. THE MODULES WILL BE WIRED IN SERIES STRINGS AND CONNECTED IN PARALLEL TO THE INVERTERS, WHICH CONVERT THE PHOTOVOLTAIC OUTPUT POWER FROM DC TO AC. THE SOLAR ELECTRIC SYSTEM WILL BE INTERCONNECTED WITH THE EXISTING SITE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE APPLICABLE ELECTRIC CODE AND AMERSON REQUIREMENTS.

SYSTEM SIZE (AC)	2,000 KW
SYSTEM SIZE (DC)	2,516.670 KW
COOLERS	(M43) HANNO O.PUMP DU 1-52.1-30A
COOLERS PER STRING	27
DOCKING	ARANT TECH - DURANTOIR -15
WINDMILLS	(14) SINGROW S012MW
TRAJECT	TRF (SOUTH - 180°)
	2.39
	-52 / 52
	94.58 %

LAWRENCE
32 SIDEROCK LANE
ORANGE, IL 62454
(618)-354-4222

MAINTENANCE ASSOCIATION
KOSCIUSKO COUNTY FIRE DEPARTMENT
1000 N. 1ST ST
111 WEST FOX STREET
YORVILLE, IL 62550
(309)-553-4111
KOSCIUSKO@GOS.DIGITAL.US

MILITARY
MILITARY

PROJECT MANAGER
BORRERO SOLAR
CONTACT: JIM WILKINS
PHONE: (919)-961-4526

FOR DISCOUNTS
FOR: GORDON'S FARM
CONTACT: MRS WILLIAMS, P.E.
PHONE: (781)-297-1851

STRUCTURAL ENGINEER
BORRERO SOLAR SYSTEMS, INC.
CONTACT: JIM WILKINS
PHONE: (919)-211-3979

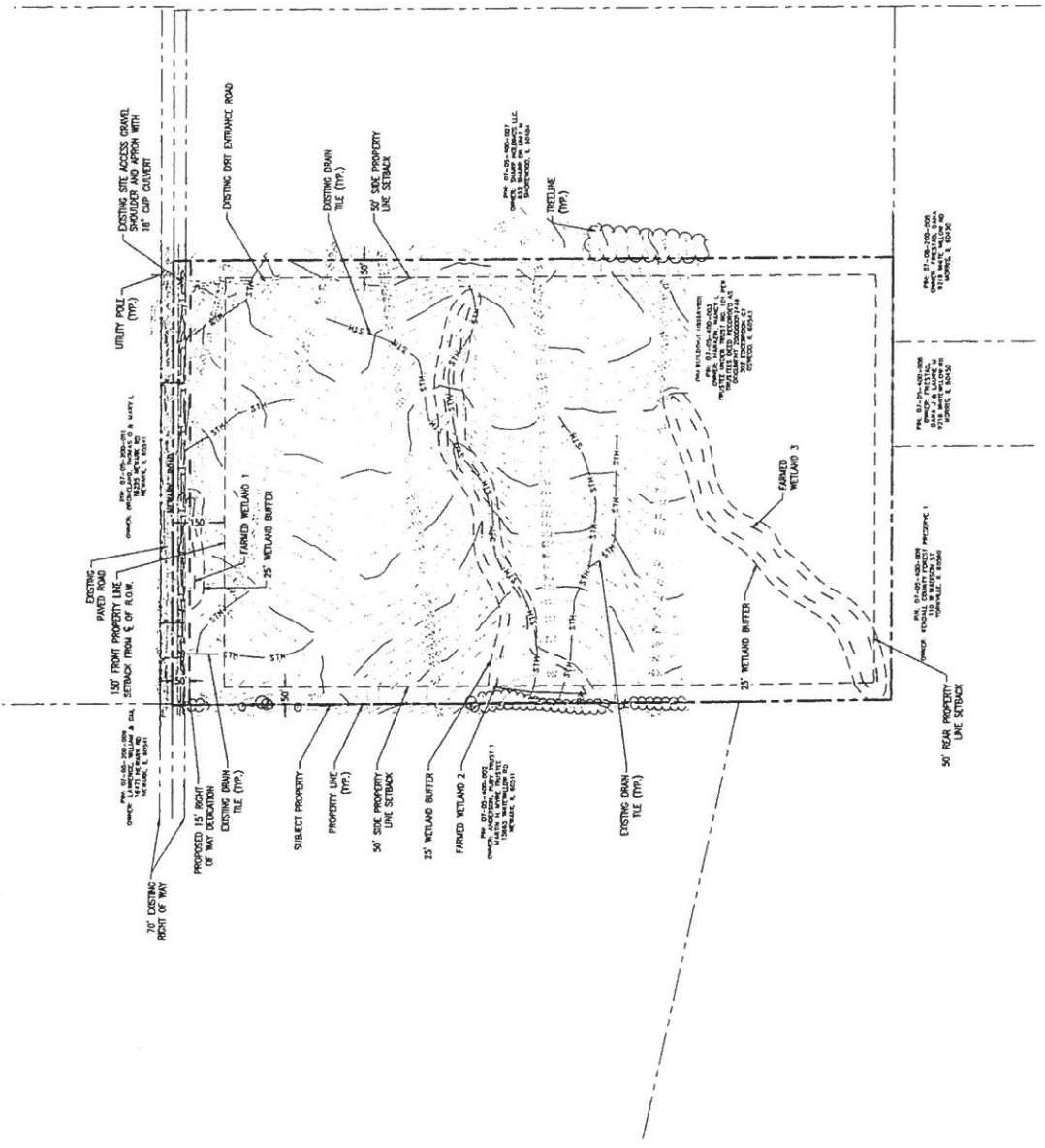
ELECTRICAL ENGINEER
BORRERO SOLAR SYSTEMS, INC.
CONTACT: JIM WILKINS, P.E.
PHONE: (919)-410-2984

ACROBAT ENGINEER
FOR: BORRERO SOLAR
CONTACT: JIM WILKINS
PHONE: (919)-473-5022

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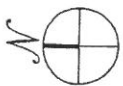
008 NATIONAL ELECTRICAL CODE
012 INTERNATIONAL BUILDING CODE
1-1703 - SOLAR MODULES
1-1741 - INVERTERS; COMBINED BOXES
1-2703 - BACKING MOUNTING SYSTEMS AND CLAMPING DEVICES FOR PV MODULES

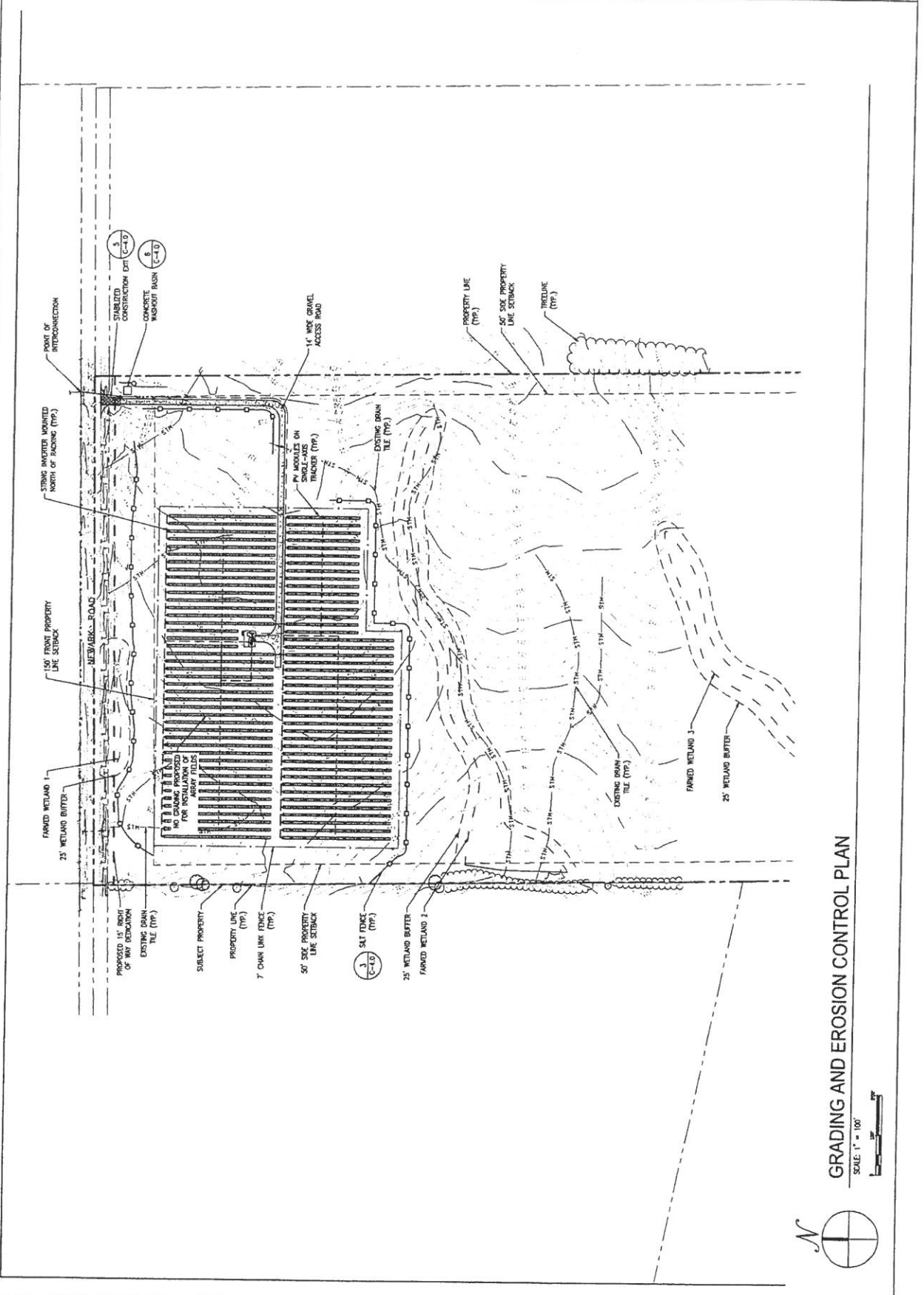
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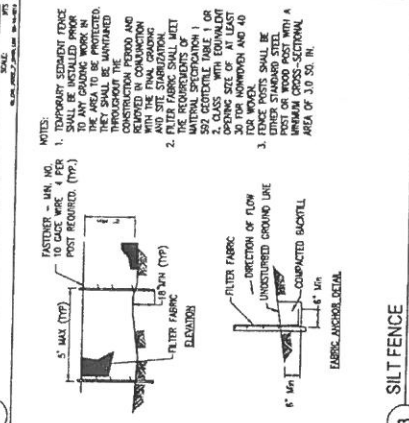
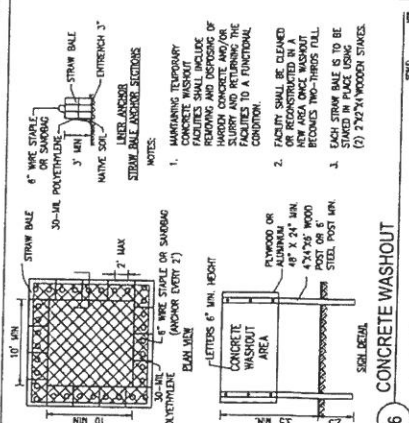
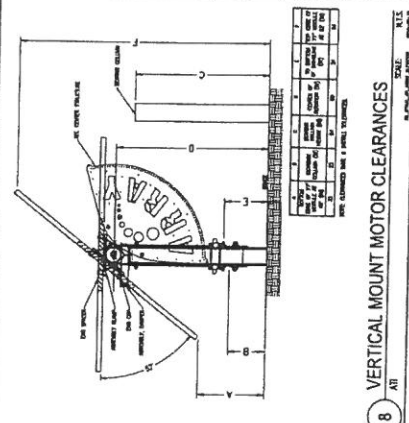
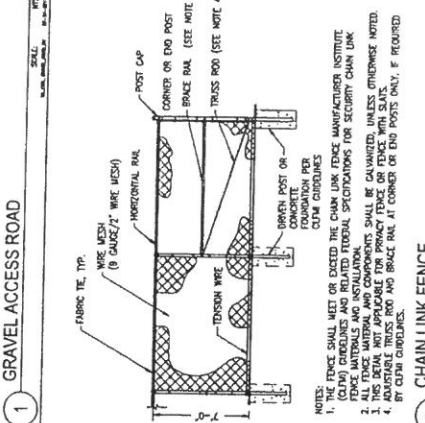
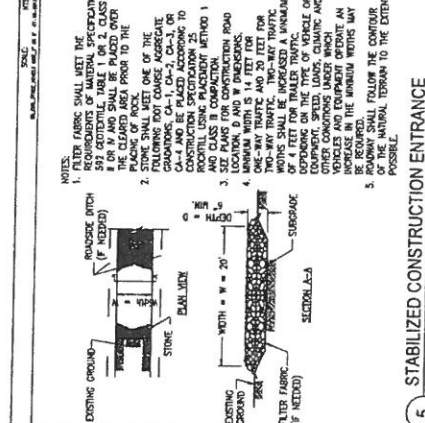
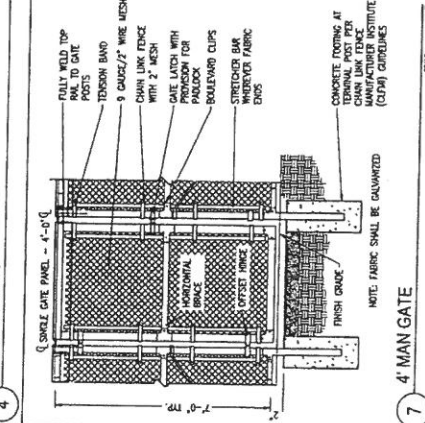
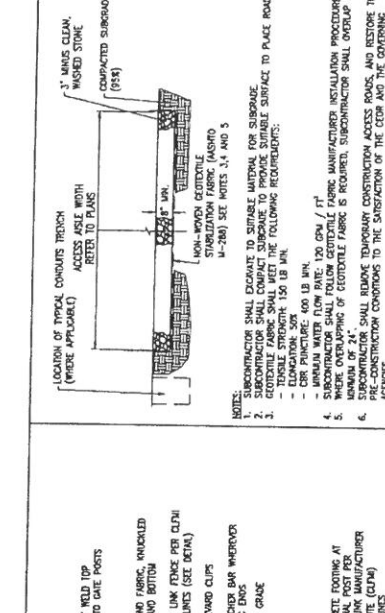
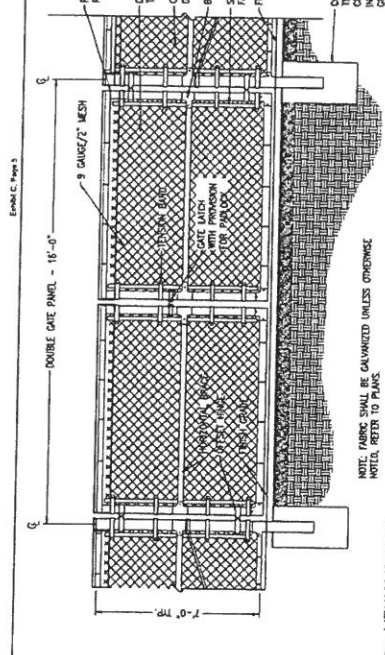
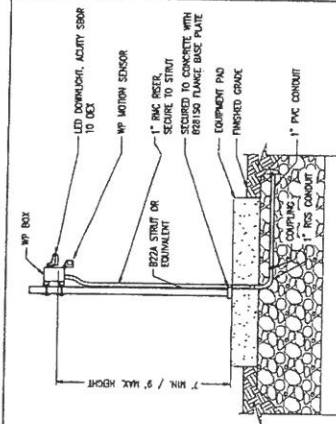


EXISTING CONDITIONS PLAN

SCALE: 1" = 150'





[illegible]



REFERENCE NOTES SCHEDULE

REFERENCE NOTES SCHEDULE

- [illegible]

PLANT SCHEDULE

SHRUBS	SCOUT	CITY	BOTANICAL NAME	COMMON NAME	COULT	HEIGHT
○	AUG	18	Amorpha canescens 'Humboldt'	Manitobian Cytisus Juniper	8 x 8	5' to 10'
○	THUG	20	Thalictrum occidentale 'Nemesis'	Norwegian Celand	8 x 8	6' to 10'
○	THUG	20	Thalictrum occidentale 'Fantasy'	Tenney Anemone	8 x 8	6' to 10'
○	THUG	20	Thalictrum occidentale 'Vivante'	Shelton Anemone	8 x 8	6' to 10'

SHRUB HEIGHT MEASUREMENTS ARE TO BE AS MEASURED FROM TOP OF FOOTBALL (TP.)

SEED LIST

- NO MOW LAWN SEED MIX WITH EROSION CONTROL BLANKET (412-61-00)
CONTACT INFORMATION FOR NO MOW LAWN SEED MIX ONLY:
PRAIRIE NURSERY, INC.
P.O. BOX 306
WESTFIELD, WI 53984
1-800-478-9453

Q. NOW I WANT DESCRIPTIONS.

- NO MOW LAWN IS A SUSTAINABLE ALTERNATIVE TO THE TRADITIONAL, HIGH RESOURCE—MOW LAWN. NO MOW LAWN IS A SPECIALLY DESIGNED BOND OF CHEERING FESCOES THAT INTERLOCK WITH SYNTHETIC FOSFONING FESCOES TO FORM A DENSE SOO THAT INHIBITS WEED GROWTH WITH ITS DENSE ROOT SYSTEM.
- NO MOW LAWN ESTABLISHES DENSITY AND ONCE ESTABLISHED, NO MOW GRASS IS A SLOW GROWING, LOW MAINTENANCE LAWN.
- NO MOW LAWN REQUIRES NO FERTILIZERS, CHEMICAL TREATMENT, OR HERBICIDES.

PERMANENT GRASS CHART

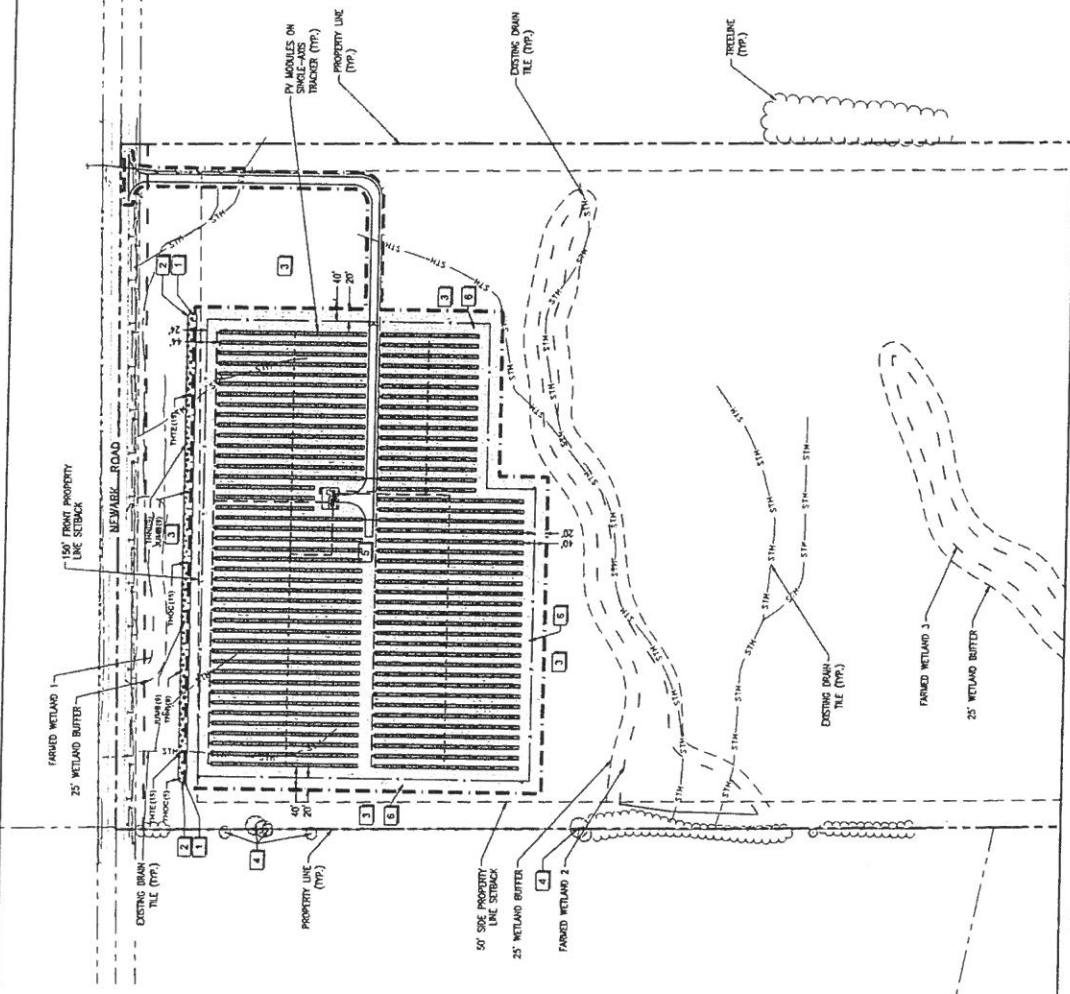
SPECIES		LIBS/ACRE	LIBS./1000 FT. ¹
NO MOWN LAWN	SEED MIX	110	2.5
		SEED MIX	
HARD FESCUE	(FESTUCA BROMIFERA)		
SWIFT FESCUE	(FESTUCA OVINA)		
CHARGES FESCUE	(FESTUCA RUBRA SUBC. FALLAX)		
RED FESCUE	(FESTUCA RUBRA)		
CHARGES RED FESCUE	(FESTUCA RUBRA SUB. RUBRA)		

TEMPORARY SEEDING

SPECIES		LIBS./ACRE	LIBS./1000 FT. ¹	SEEDING DATES	
ONTS	90	2	EARLY SPRING - JULY 30	1	2
CORAL MIX	90	2	EARLY SPRING - SEPT. 30	1	2
WHEAT	90	2	EARLY SPRING - SEPT. 30	1	2
PERENNIAL MIX	25	0.6	EARLY SPRING - SEPT. 30	1	2

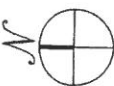
TEMPORARY SEEDING

SPECIES	LIBS./ACRE	LIBS./1000 FT. ¹	SEEDLING DATES
OATS	90	2	EARLY SPRING - JULY 1
CEREAL RYE	90	2	EARLY SPRING - SEPT. 30
WHEAT	90	2	EARLY SPRING - SEPT. 30
PERSONAL RIGRASS	25	0.6	EARLY SPRING - SEPT. 30



LANDSCAPE PLAN

SCALE 1' = 100'



1

C-6.0

LANDSCAPE PLAN

SITE USE PLANS
16400 NEWARK ROAD,
NEWARK, IL 60541

PROJECT NUMBER
907-0142

08/28/87	AM	LV	SITE USE PLAN SET
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THE UNIVERSITY OF CHICAGO

2010

CSC

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LANDSCAPE PLAN

LANDSCAPE PLAN GENERAL NOTES

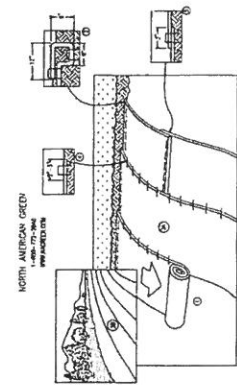
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SITE USE PLANS
16400 NEWARK ROAD,
NEWARK, IL 60541

PROJECT NUMBER:
907-0142

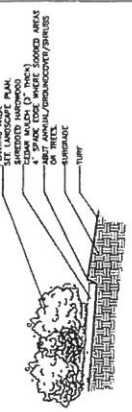
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C-6.1
LANDSCAPE NOTES AND
DETAILS

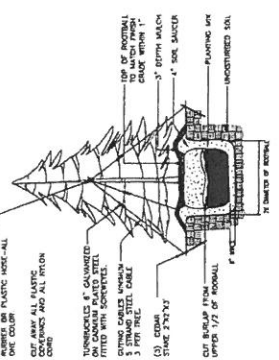


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2 EROSION CONTROL BLANKET (ONLY IF ALONG STEEP SLOPES)

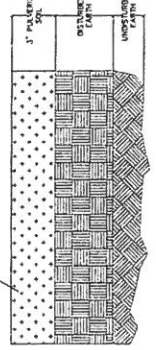


4 NATURAL SPADE EDGE



1 EVERGREEN TREE PLANTING DETAIL

SHALL BE HYDRO-SEEDED SEVEN TO EIGHT POUNDS PER 1000 SQ. FT. (300-250 LBS PER ACRE) PER SUPPLIER'S RECOMMENDATIONS.



3 SEED INSTALLATION



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/31/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Arthur J. Gallagher & Co. Insurance Brokers of CA, Inc. LIC #0726293 1255 Battery Street #450 San Francisco CA 94111		CONTACT NAME: Lily Liang PHONE (A/C, No, Ext): 415-536-8622 E-MAIL: Lily_liang@AJG.com ADDRESS:		FAX (A/C, No):
INSURED BORRSOL-01 Borrego Solar Systems, Inc. and HGS Solar 1, LLC 5005 Texas Street #400 San Diego, CA 92108		INSURER(S) AFFORDING COVERAGE		NAIC #
		INSURER A: Berkley Regional Insurance Company		29580
		INSURER B: StarNet Insurance Company		40045
		INSURER C: Tri-State Insurance Company of Minnesota		31003
		INSURER D: Berkley National Insurance Company		38911
		INSURER E:		
		INSURER F:		

COVERAGES**CERTIFICATE NUMBER:** 682463872**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Empty Bnft Liab <input checked="" type="checkbox"/> \$1M Ea Claim/Agg GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:				4/1/2018	4/1/2019	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 Per Project Agg. \$6,000,000
A D	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY				4/1/2018 4/1/2018	4/1/2019 4/1/2019	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$0				4/1/2018	4/1/2019	EACH OCCURRENCE \$10,000,000 AGGREGATE \$10,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below				4/1/2018	4/1/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Evidence of coverage only.

CERTIFICATE HOLDER**CANCELLATION**

Evidence of coverage ...	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

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1400 Goodale Boulevard
Suite 105
Grandview Heights, OH 43212
614.653.7193
www.greenbergfarrow.com
We Are Global

July 2, 2018

To Matthew Asselmeier, AICP
Senior Planner
Kendall County Planning, Building and Zoning
111 West Fox Street
Yorkville, IL 60560-1498
T: 630.553.4139

Project Borrego Solar – 16400 Newark
Road, Kendall County, IL
Project # 20180117.0
Re SUP 18-15

Dear Mr. Asselmeier:

Please find the requested revisions and documentation in this email for the Solar Farm project to be located at 16400 Newark Road in Kendall County – SUP 15-18. Below is a list of responses to your recent questions list:

1. Planting Arborvitae along the northern portion of the property. Regarding the wetlands on the south portion of the property – the neighbors indicated they would be glad to see the project moved to the south, which is understandable, although the solar company said they could not do this. Can we find out if it is legal or possible to do it? Could you outline the costs of obtaining the Corps of Engineers approval to move the solar panels closer to the wetlands. Please include additional costs associated with moving the solar panels further south.

Potential for Project Cancellation: Altering the project's current location would change the entitlement timeline materially removing any chance it has in being able to participate in the Illinois community solar program.

Wetlands:

- The project had submitted a Letter of No Objection request to the Army Corp of Engineers (ACOE) on June 8th, based upon the assumption that the project will NOT impact wetlands. We are still awaiting response from ACOE. If the current layout were to change and include impacts to wetland features, a permit from either the ACOE or Kendall County would need to be obtained prior to development.
 - i. The resubmission process can take 3 to 4 months (Per the Rock Island ACOE District) which alone would result in this project not being able to participate in the program.
 - ii. Once jurisdiction is determined and IF the wetlands are found to be under ACOE authority, the wetland permitting process (for impacts) could take an additional 3 to 6 months for processing and approval of a Nationwide Permit (impacts <0.5 acres, +/- \$5,500 for the permit and +/- \$80,000.00 per acre in mitigation costs) and approval is not guaranteed.

Matt Asselmeier, AICP
16400 Newark Road, Kendall County, IL – Special Use

- iii. If wetlands are determined to be County regulated, per our understanding of the Kendall Co. ordinance, wetlands are to be protected (25 ft. buffer) and not filled – the ordinance does not allow damage, modification or adverse changes in run-off quality/quantity associated with land development.
- As is Borrego's standard practice and approach to stewardship, care is always taken to avoid impacting wetlands and/or other natural systems.
 - i. Although the existing wetlands appear to be farmed wetlands, farmed wetlands provide functional values for overland stormwater infiltration into local groundwater resources, filtration of pollutants, and soil microbe habitat benefits. Due to the values these farmed wetlands provide, both the U.S. Army Corps of Engineers (ACOE) and Kendall County enforce regulations over these wetland features.
 - ii. It is the recommendation of our certified wetland consultant, ENCAP, Inc. to avoid impacts to on-site wetland features as much as practicable to preserve valuable aquatic features. Please see the attached letter from ENCAP, Inc.

Interconnection Agreement Cancellation:

- The additional timing necessary to get ACOE approvals (not guaranteed) will outpace our interconnection agreement timing with the utility and therefore would force us to cancel our existing application and agreement with Ameren, thus canceling this project.
- Ameren will require full payment of the interconnection upgrade cost to update local grid infrastructure this fall which would not be possible given our uncertainty with respect to the system's siting.
- Borrego fully intends to make that investment to upgrade the local infrastructure in the coming months once the project is approved.

Unknown Risks:

- Borrego has completed full diligence including but not limited to a Drain Tile Survey, Wetland Delineation, Archeological Survey Phase I ESA Survey, Threatened and Endangered Species Identification, and an NRI Report on the northern half of the property which has significantly de-risked the project. By moving to the south, there are several unknowns may not allow us to build our project in that portion of the site (environmental risks, endangered species, etc.). These would not be fully vetted until after the 2018 growing season - forcing a delay to the project and thus canceling our agreement with the utility and not allowing this project to participate in the IL Adjustable Block Program.

Neighbor Accommodation 1:

- Borrego has submitted revised plans to the county to show additional Arborvitae to the north of the array to accommodate the concerns of the Village of Newark and neighboring residents. The installation spacing between plants has been reduced and the installation size of the proposed evergreen plants has been increased to a minimum 6 ft. in height. Further, the viewshed from the Bromeland home is primarily blocked due to existing trees - this additional screening will further restrict views from their location to the proposed system.

Matt Asselmeier, AICP
16400 Newark Road, Kendall County, IL – Special Use

Neighbor Accommodation 2:

- Additionally, Borrego has moved the solar array system approximately 137' west from its initial location as to still abide by county setback requirements and further reduce visibility of the system from the Bromeland home. This was achieved by using an alternate panel (Hanwha 390 modules) which reduces the number of racks required. This updated system location is reflected in the revised plans that were submitted to the County.
2. Will Ameren customers in Newark have to pay a fee of any kind to "subscribe" to get their electricity from the solar project once it is up and running. Additionally, what will be the process for people who may want to opt in to participate. Will there be any guaranteed savings for them if they do? Could you outline the subscription process?
- There are no fees associated with subscribing to projects typically in community solar markets and we do not anticipate this being any different in Illinois.
 - Subscribers should see electric bill savings between 15-20% (depending on the final project economics).
 - Details of how the subscription process will work as well as consumer protections are currently being developed by the Illinois Power Agency and the Illinois Commerce Commission. Once those are finished, community solar project owners will find subscribers through direct mail, online advertisements, community outreach, etc.
3. Can you provide more information regarding Fire Department Training?
- Borrego Solar will perform a walk-thru of the system with the FPD to address questions and show them the location of all utility disconnects and other equipment on-site. If desired, BSSI can also provide site plans with emergency contact information.

Should you have any questions or need anything additional do not hesitate to contact me or Margaret Blum at [847.828.4272](tel:847.828.4272) / mblum@greenbergfarrow.com.

Sincerely,

Jason Bolling
Due Diligence Coordinator




2585 Wagner Ct.
DeKalb, IL 60115
Phone: 815.748.4500
Fax: 815.748.4255
www.encapinc.net

July 2, 2018

Ms. Margaret Blum
GreenbergFarrow
21 South Evergreen Avenue, Suite 200
Arlington Heights, IL 60005

RE: No Wetland Impact Review Letter
16400 Newark Road, Newark, Kendall County, Illinois
Sec. 5, T35N R6E; Lat 41.534736N, Long -88.565952W
ENCAP Project #: 18-0115B

Dear Ms. Blum,

This letter has been prepared in order to review on-site wetland field conditions and wetland regulations for the above referenced property. The project area is generally bounded by Newark Road to the north, Clear Creek to the south, agricultural fields to the east, and agricultural fields, an off-site wetland, and upland prairie area to the west. The project area primarily consists of tilled and tilled agricultural field, recently utilized for the production of Corn (*Zea mays*).

Three low-quality farmed wetlands were identified on the project area and total 2.50 acres on-site. Although these wetlands are considered low-quality for vegetation purposes, this is due to their current farmed condition. A farmed wetland provides functional values for overland stormwater infiltration into local groundwater resources, filtration of pollutants, and soil microbe habitat benefits. Due to the values these farmed wetlands provide, both the U.S. Army Corps of Engineers (USACE) and Kendall County enforce regulations over these wetland features.

The deposition of dredged or fill materials into federally jurisdictional wetlands, farmed wetlands, or Waters of the United States is regulated by the USACE under Section 404 of the Clean Water Act. Under this section of the Federal Law, wetlands, farmed wetlands, or Waters of the U.S. are to be avoided and preserved by construction, grading, filling, dredging, or destruction to every extent possible. If such areas cannot be avoided by the proposed development, the applicant must provide justification as to why the areas cannot be avoided. This includes an analysis of site conditions and constraints, an alternatives site analysis, alternative layout analysis for the project, and other factors influencing the current layout of the project. **IF** alternative layouts are possible that would avoid impacts to wetland features on the site, then the USACE will require that project layout to be implemented for the project.

Kendall County enforces a similar regulation over isolated, non-federally jurisdictional wetlands, farmed wetlands, and waterways through their Stormwater Management Ordinance. The Ordinance provides for the protection of wetlands and other depressional storage areas from damaging modifications and adverse changes in runoff quality and quantity associated with land developments.

July 2, 2018

In both federal and local wetland regulations, the purpose is to preserve, avoid and minimize disturbance, fill, or destruction of wetland features as much as practicable. In addition, such regulations also require buffer strips to be placed around wetland features to aid in stormwater filtration, infiltration, and other beneficial functions to wetlands.

The proposed solar project for this site includes the construction of 256 strings of 27 solar modules, access roads, fencing and utility corridors. None of these modules or infrastructure will be located within any portion of the project area containing wetland resources. If the current layout were to change and include impacts to wetland features, a permit from either the USACE or Kendall County would need to be obtained prior to development.

It is the recommendation of ENCAP, Inc. to avoid impacts to on-site wetland features as much as practicable to preserve valuable aquatic features. If you should have any questions or would like to discuss these items further, please contact me at 815-748-4500 or srowley@encapinc.net.

Sincerely,
ENCAP, Inc.

A handwritten signature in black ink, appearing to read "S Rowley", written in a cursive style.

Susan Rowley, PWS, CWS, LEED AP
Ecological Consulting Director

Big Grove Township

The Land Resource Management Plan for Big Grove Township indicates the predominant use is Agriculture with some mining. There is nothing in the County's Plan or its ordinances for that matter, which permits the siting of a use such as a solar facility. The proposed use is not a private utility. It is a business which collects solar energy for transmission and sells it to a utility company.

There is no specific use for a solar collection facility under the Kendall County Zoning Code. The policy of whether there should be, is perhaps a matter the County Board would want to consider by way of a provision for such a use in its Zoning Ordinance.

Proceeding with a special use permit is an ad hoc procedure. It is based on a supposed exception to those uses which are specifically not denominated in the Zoning Ordinance.

TOWNSHIP SUMMARY

SECTION EIGHT

BIG GROVE TOWNSHIP

Land Resource Management Plan **Big Grove Township - Kendall County**

Introduction

Purpose

In March 1994, Kendall County adopted a Land Resource Management Plan (LRMP), which helps guide the County's future development and outlines specific strategies to address key growth issues. Since the LRMP only provides general guidelines regarding land use, the County agreed to develop individual land resource management plans for each township. The first township plan was prepared for the southeastern portion of the County, which includes Seward and Na-Au-Say Townships. This plan was adopted on October 20, 1998. The County selected Big Grove Township as the next township for which to develop an individual land resource management plan based on local interest.

Planning Process

Intergovernmental cooperation was one of the primary reasons for the County's adoption of the LRMP. To facilitate this intergovernmental cooperation, an advisory committee was established to guide the development of the Land Resource Management Plan for Big Grove Township. The committee was comprised of key staff members and/or representatives from Kendall County, Big Grove Township, and the Villages of Newark and Lisbon.

Key elements of the planning process included:

- A kickoff meeting was held on October 25, 2001, to mark the beginning of the planning effort aimed at developing a land use plan for Big Grove Township. Community leaders and members were provided with the opportunity to express their concerns and observations relating to the future development of the township.
- An advisory committee meeting was held on January 9, 2002, to review the future land use plan for two different population projections (20% growth and 60% growth in the next 20 years). The committee also discussed other issues such as the proposed Prairie Parkway and the adequacy of municipal sewer capacity in Newark.
- A public hearing was held at the annual County Planning Workshop on February 23, 2002.
- Additional revisions were also incorporated to reflect changes to the plan affecting the Village of Lisbon resulting from the 2005 update of the Lisbon and Seward Township LRMP.

A majority of the information provided within this section was originally collected as part of the 2001-2002 update. However, portions of the Big Grove Township LRMP were revised in 2008 to reflect land use recommendations from the Newark Comprehensive Plan and relevant revisions to the township LRMP's for Fox and Kendall Townships and Lisbon and Seward Townships.

Situation Audit

Overview

In order to prepare a comprehensive plan for Big Grove Township, local planning issues in the township need to be clearly understood. Particularly, the land use structure, environmental features, transportation network, and population trends of the township all have an impact on planning for future growth and development in the township. This situation audit addresses these planning issues based on the analysis of information gathered from a land use survey, the kickoff planning meeting in late October, and various other sources.

The situation audit is organized as follows:

- Initial opinions & observations of planning issues (kickoff meeting)
- Summary of planning issues
 - Existing land use (Existing Land Use Map)
 - Environmental issues (Planning Issues Map)
 - Transportation issues (Planning Issues Map)
 - Population trends
 - Utilities/infrastructure
- Draft goals and objectives

In addition to the two Planning Issues Maps, a Location Map is included.

Initial Opinions & Observations of Planning Issues

A kickoff meeting held on October 25, 2001, marked the beginning of the planning effort aimed at the establishment of a comprehensive plan for Big Grove Township. The following list summarizes the initial opinions and observations expressed by community leaders and members during the meeting. The issues are not listed in any particular order, but they are categorized for ease of presentation.

Land Use/Development

- Newark Community High School is filled to capacity and is dealing with space issues
- Significant unplatted land exists within the incorporated area of Newark
- Quarry proposed (located 2.5 miles east of Big Grove Township)
- Economic development is important
- Owner of existing tree farm wants to subdivide land when sewer infrastructure is available
- 25-30 new homes built in Newark in last 10 years
- 10 new homes built in Lisbon in last 10 years
- Industrial uses are lacking but important (Village Board expresses little interest in actively pursuing industrial development)

- Most residents drive northeast to neighboring communities (e.g. Aurora, Montgomery, etc.) for work
- Grocery store needed
- Small manufacturing uses possible
- Call for controlled growth to minimize impact on farms
- Joliet residents move out to Lisbon to get away from traffic congestion
- Clients of local banker expressed interest to use local areas for development
- Good jobs needed in the area
- Good to encourage residents to remain in area
- Central location to attract people from 20/25-minute drive
- Small town atmosphere should be maintained in both villages

Transportation

- High traffic volume on State Route 71 occurs during the morning and evening rush hours
- Speed on State Route 71 is typically 65-70 mph or more
- Traffic on Federal Highway 52 is also increasing

Agriculture

- Agricultural character should be maintained
- Township envisioned as being mostly agricultural
- Agricultural uses should be kept contiguous

Infrastructure

- Newark may need a new water tower to increase the capacity of the water system
 - Septic problems on small lots in Lisbon
 - Communications infrastructure has improved
 - Ameren, ComEd, and REA satisfactorily provide electricity service to area residents
 - 36" gas line located south of Lisbon
 - Are municipal impact fees at appropriate levels?
 - Underground water (Newark fault 400-feet deep)
 - Fire Department equipment in Newark and Lisbon are kept separate
-

Planning Issues

Existing Land Use

In order to assess past and present development patterns in the township, an existing land use survey was conducted on September 27, 2001. During the survey, existing land uses, notable environmental features, and other local characteristics were identified within the township as well as in the villages of Newark and Lisbon. In addition to the survey, land uses were also identified by interpreting aerial photographs. The existing land use data collected from the two identification methods are indicated on the Existing Land Use Map. Figure 1 summarizes the acreage and composition of existing land uses in Big Grove Township.

Approximately 95% of the land within Big Grove Township is used for agricultural purposes. The second highest land use composition is residential uses, which comprises only 3.34% of the land. The remaining 1.63% of land uses are split among commercial, institutional, parks/open space, and communication and utility uses. In addition to these land uses, a set of electrical transmission power lines runs in a north-south direction on the east side of the township. An extension of power lines runs from the center of the main lines in an easterly direction.

Figure 1 Existing Land Uses Big Grove Township		
Land Use	Area (acres)	Percent of Total Area
Residential		
* Single family homes	219	1.00%
* Farmsteads	497	2.26%
Total	716	3.25%
Commercial		
Total	23	0.11%
Institutional		
* Churches	2	0.01%
* Cemeteries	8	0.03%
* School district property	17	0.08%
Total	26	0.12%
Communication & Utilities		
* Electricity lines	245	1.11%
* Communication tower	4	0.02%
Total	249	1.13%
Industrial		
* Private airstrips	19	0.09%
* Industrial storage	2	0.01%
Total	21	0.10%
Public Park/Open Space		
* County-owned property	39	0.18%
* Old quarry	19	0.09%
Total	57	0.26%
Agricultural		
* General farmland	17,317	78.72%
* Non-productive farmland	3,590	16.32%
Total	20,907	95.03%
Total (Big Grove Township) *	22,000	100.00%
Notes		
* Land use areas for Big Grove Township include the figures for Helmar but exclude the figures for Newark and Lisbon		

Environmental & Transportation Characteristics

The Planning Issues Map depicts the environmental features and transportation network of Big Grove Township. Local features such as an old quarry, an apple orchard, and a bridge over Roods Creek are also represented on this map.

Environmental Features: The environmental features represented on the Planning Issues Map include non-productive farmland, wetlands, floodplain, wooded areas, steep slopes, and the watershed boundary. Most of these features were identified from a Kendall County Environmental Factors Map, which was produced in December 1992. Some features, particularly steep slopes, were verified via observations from the land use survey. Creeks were identified from a GIS map provided by the Illinois Watershed Management Clearinghouse¹. Key issues relating to these environmental features are noted below:

- **Floodplain:** Most of the floodplain in Kendall County is situated in the northern and eastern portions of the county. The only section of mapped floodplain that runs through Big Grove Township is situated within the municipal boundaries of the Village of Newark.
- **Wetlands:** Wetlands were identified from the National Wetlands Inventory. Site-specific wetland surveys should be conducted as development activity warrants in order to more accurately identify the shape and location of wetlands.
- **Non-productive farmland:** Although 95% of the township is covered by agricultural uses, approximately 17% of agricultural land is considered non-productive farmland. Much of this area was forested and farmed for lumber. Despite the non-productive identification, some of these areas are still used for agriculture. A large section of the non-productive farmland was subdivided into parcels that were sold as wood lots. If any development is slated to occur on non-productive farmland, the non-productive soil in these areas would be an influential factor in determining the feasibility of development.
- **Wooded areas:** The wooded areas depicted on the Planning Issues Map only represent wooded areas that cover 1 acre or more. There were several other patches of trees scattered throughout the township, but each patch covered less than an acre of land. Similar to wetlands, all wooded areas, regardless of size, should be identified as development activity warrants.
- **Creeks and watersheds:** The location of creeks and watershed boundaries (i.e. ridge lines) are critical for stormwater management. Big Grove Township is intersected by a set of three watershed boundaries. In particular, the township covers the Aux Sable Creek, Lower Fox River/Illinois River, and Nettle Creek watersheds.

¹Internet source: <http://web.aces.uiuc.edu/watershed/maps.html>

- **Indian boundary line**: Aside from a few roadside signs, the Indian Boundary Line is not physically marked on the landscape. The line runs slightly diagonally through the center of Big Grove Township. Despite its lack of physical visibility, future development around the Indian Boundary Line should be cognizant of the location and historical significance of the line.

Transportation Network: The transportation network shown on the Planning Issues Map includes arterial roads, major and minor collector roads, and a depiction of the scenic driving routes currently identified on the Kendall County Transportation Plan. Scenic driving routes provide passing motorists with attractive views of Big Grove Township's rural character. The features of the network were primarily identified from the Kendall County Transportation Plan, which was produced in August 1999. A few of the features of the network, particularly the identification of County Route 7 (Sheridan Road) as a minor collector road, were identified during the land use survey.

Each level of the four-level transportation network that traverses Big Grove Township is described in greater detail below:

- **Arterials**: State and federal routes typically act as the arterial roads which provide regional roadway access to, from, and within an area. In Big Grove Township, State Route 71 and Federal Highway 52 not only provide access within the township but also connect the township to the rest of Kendall County as well as LaSalle County on the west. Highway 52 currently takes two very sharp turns north of Lisbon. A realignment of this roadway to smooth out these curves is proposed as part of the future transportation system.
- **Major collectors**: Major collector roads, which typically are county roads, are intended to collect traffic from local roads and feed this traffic onto the arterial roads. Newark Road (County Route 4), Canal Street/Lisbon Road (County Route 5), and Townhouse Road (County Road 6) are identified as the township's major collectors.
- **Minor collectors**: A minor collector road is similar to a major collector road such that they are both generally used to collect traffic from local roads and feed this traffic onto arterial roads. However, minor collectors differ from their counterparts in the sense that major collectors assume a greater regional significance and connectivity. In addition, minor collectors are typically township roads. Woodman St/Apakesha Grove Road as well as Sheridan Road (County Route 7, located west of the Village of Newark) are identified as the township's minor collectors.
- **Local roads**: Local roads are typically residential streets or rural routes that provide direct access to homes and farms. Local residential roads are generally located in the Villages of Newark and Lisbon. Local rural roads such as Lisbon Center Road, White Willow Road, Fennel Road, Roods Road, and Scott School Road run throughout the township.

In addition to the Existing Land Use and Planning Issues Maps, the Location Map depicts Big Grove Township in the context of the larger regional transportation network as well as various neighboring communities in adjacent counties.

The Illinois Department of Transportation (IDOT) conducts periodic traffic counts on roadways throughout the state.

Figure 2 summarizes traffic counts in 1994 and 1998 for State Route 71, Federal Highway 52, and Townhouse Road. During the 5-year time period, all three roads experienced increases in traffic

volume. Traffic counts on Highway 52 experienced the most significant increases in traffic volume. The effects of future developments on traffic counts on all three roads should be kept under consideration in order to minimize traffic issues. While current traffic volumes do not warrant major changes to the roadway capacity at this time, any new development should take into consideration future transportation needs and reserve appropriate right-of-way for future roadway improvements.

Based on Kendall County's 5-year capital improvement plan, the only capital road improvement project currently planned for Big Grove Township is the resurfacing of the portion of Lisbon Road located between Joliet Road and the south county line (Kendall-Grundy Counties). Completion is planned for 2002.

Figure 2
Traffic Volumes on Major Roads
Big Grove Township

Segment	Traffic Volume		Change in Traffic Volume	
	1994	1998	Change	Percent
Route 71 (north of Newark)	5,600	6,700	1,100	19.6%
Route 71 (south of Newark)	4,600	5,700	1,100	23.9%
Route 52 (west of Townhouse Road)	1,100	2,050	950	86.4%
Route 52 (east of Townhouse Road)	1,000	1,750	750	75.0%
Route 52 (north of Lisbon)	1,500	1,800	300	20.0%
Townhouse Road (south of Route 52)	250	400	150	60.0%
Townhouse Road (north of Route 52)	450	500	50	11.1%

Population Trends & Projections

Over 96% of Big Grove Township is unincorporated land. The small portion of the township that is incorporated is part of the Village of Newark in the northwest or the Village of Lisbon in the southeast. The rural character of the township is clearly evident by the low population levels and the vast majority of land occupied by agricultural uses. Figure 3² summarizes the changes in population between 1990 and 2000 for Big Grove Township and the other eight townships in Kendall County. Figure 4³ summarizes the changes in population between 1990 and 2000 for Big Grove Township and eight neighboring communities in Kendall and Will Counties.

Population trends within Kendall County:

Aside from Seward Township which decreased in population between 1990 and 2000, Big Grove Township had the second smallest net change in population (88 new residents) but had the smallest percentage change in population (6.1%) and smallest growth rate (0.60%). These trends are not too surprising in light of the overwhelming rural character of Big Grove Township. Over the 1990-2000 time period, Big Grove Township remained as the fourth smallest township in Kendall County.

Population trends in neighboring communities: In comparison to neighboring communities around Kendall and Will Counties, Big Grove Township experienced the smallest net and percentage changes in population (88 new residents and 6.1%, respectively) as well as the smallest growth rate (0.60%) over the 1990-2000 time period. Given the rural character of the township, its 2000 population (1,526 residents) was less than half the population of the second smallest community (Minooka at 3,971 residents).

Figure 3
Population Trends of Neighboring Townships
in Kendall County

Township	Population		Change in Population, 1990-2000		Growth Rate 1990-2000
	1990	2000	Net	Percent	
Big Grove	1,438	1,526	88	6.1%	0.60%
Bristol	5,619	7,677	2,058	36.6%	3.17%
Fox	1,140	1,257	117	10.3%	0.98%
Kendall	3,399	4,636	1,237	36.4%	3.15%
Lisbon	786	851	65	8.3%	0.80%
Little Rock	7,083	7,662	579	8.2%	0.79%
Na-Au-Say	1,006	1,672	666	66.2%	5.21%
Oswego	18,095	28,417	10,322	57.0%	4.62%
Seward	847	846	-1	-0.1%	-0.01%
Kendall County	39,413	54,544	15,131	38.4%	3.30%

Figure 4
Population Trends of Neighboring Communities

Community	Population		Change in Population, 1990-2000		Growth Rate 1990-2000
	1990	2000	Net	Percent	
Big Grove Twp.	1,438	1,526	88	6.1%	0.60%
Minooka	2,605	3,971	1,366	52.4%	4.31%
Montgomery	4,614	5,471	857	18.6%	1.72%
Oswego	4,224	13,326	9,102	215.5%	12.18%
Plainfield	5,254	13,038	7,784	148.2%	9.51%
Plano	5,137	5,633	496	9.7%	0.93%
Sandwich	5,633	6,509	876	15.6%	1.46%
Shorewood	6,300	7,686	1,386	22.0%	2.01%
Yorkville	4,055	6,189	2,134	52.6%	4.32%

²Source: U.S. Census Bureau: Profiles of Demographic Characteristics, Illinois 2000 and Population Estimates for Minor Civil Divisions.

³Source: U.S. Census Bureau: Profiles of Demographic Characteristics, Illinois 2000 and Population Estimates for Places.

It is important to note that Figures 3 and 4 are based on an overall county and regional perspective in which the rural townships (Big Grove, Lisbon, and Seward Townships) in southern Kendall County are compared with the moderately populous northern townships (Little Rock, Bristol, and Oswego Townships) and communities in northern Kendall County and Will County. Communities such as Yorkville, Oswego, and Plano in northern Kendall County are clearly more developed and populous than the southern section of the county, so relatively high population growth is expected in the former. However, the southern townships are not expected to experience large increases in population.

Building permits for single-family homes: Despite its rural character, the population growth of Big Grove Township can be assessed by determining the number of building permits issued over a certain period of time. In particular, annual counts for building permits for single-family homes reveal the number of new homes that are constructed. Figure 5⁴ summarizes the number of building permits for single-family homes issued since 1996 for Big Grove Township⁵ and ten neighboring communities. Although portions of the Villages of Newark and Lisbon are part of Big Grove Township, their building permit counts are kept separate from the building permit counts issued by Kendall County.⁶

Figure 5
Building Permits for Single Family Homes Since 1996

Community	2000 Population	Single Family Home Building Permits						Total
		1996	1997	1998	1999	2000	2001	
Big Grove Twp.	1,526	3	2	1	6	8	1	21
Lisbon	248	1	1	0	0	2	0	4
Minooka	3,971	27	33	30	47	44	32	213
Montgomery	5,471	66	19	36	17	20	376	534
Newark	887	6	2	5	4	5	5	27
Oswego	13,326	257	308	391	401	513	314	2,184
Plainfield	13,038	287	229	528	772	602	470	2,888
Plano	5,633	19	8	7	5	10	6	55
Sandwich	6,509	39	25	42	46	38	30	220
Shorewood	7,686	78	107	99	93	101	43	521
Yorkville	6,189	93	54	50	82	127	116	522

Since November 1996, twenty-one single-family home building permits have been issued in Big Grove Township. Of those 21 permits issued, 8 were issued in 2000, which was the highest annual total between 1996 and 2000. However, only 1 permit has been issued all of this year. In comparison to moderately populated neighboring communities such as Montgomery and Plainfield, Big Grove Township has seen relatively

⁴Building permit figures for 2001 include the number of permits issued through October 2001. The number of permits for Big Grove Township is based on figures collected up to October 26, 2001. Sources: U.S. Census Bureau: Building Permits; Kendall County Department of Planning, Building, and Zoning: Single Family Home Permits in Big Grove Township.

⁵In Figure 5, the 2000 population for Big Grove Township includes Newark and Lisbon residents who reside within the township boundaries. However, building permit counts for Newark and Lisbon are kept separate from the permit counts for the parts of the township located outside the municipal boundaries of the two villages.

⁶Based on building permit counts provided by the Kendall County Department of Planning, Building, and Zoning, all 21 single-family home permits issued since November 1, 1996, were issued to properties outside the Newark and Lisbon municipal boundaries.

little issuance of building permits for single-family homes. This discrepancy can be partly attributed to the rural character of the township. However, when Big Grove Township is compared with other rural places such as Newark and Lisbon, the township has been issued a moderate amount of building permits over the past five years. In fact, unincorporated Big Grove Township has experienced over 5 times as many permits as incorporated Lisbon and only 6 less permits as the Village of Newark.

Utilities/Infrastructure

In addition to the transportation network, the township's utilities infrastructure is composed of the electricity service and the water and sewer systems. A communication tower is also located within the township. The tower is situated northeast of the intersection of Stephen Road and Highway 52 in the western portion of the township.

Electricity service: Electrical power lines provided by Ameren, ComEd, and REA run in a north-south direction along the eastern edge of the township. A minor extension of power lines, which is located at the center of the township, runs eastward into neighboring Lisbon Township. Future development should be cognizant of the location of the power lines.

Water system: The Newark Village Water Department is the primary supplier of water. Based on figures compiled in May 2000⁷, the storage and treatment capacities of water for the department are 60,000 gallons/day and 30,000 gallons/day, respectively. Average daily water demand is 90,000 gallons/day. Currently, the water department does not have any excess capacity. An infiltration study may help improve the capacity of the water system by finding and fixing water leakages within the system. Expansion of the water system would require the construction of a new water tower.

Sewer system: The Newark Sanitary Plant is the primary handler of local sanitation. The plant currently handles a sewage load of 105,000 gallons/day, which comprises a bulk of the plant's treatment capacity of 110,000 gallons/day. The unutilized capacity of 5,000 gallons/day qualifies as excess capacity. Expansion of the sewer system would require a study of the types and sizes of new developments. In lieu of the overall sewer system, septic systems serve smaller lots in Lisbon.

⁷Figures based on a community profile of Newark compiled in May 2000 by the Illinois Department of Commerce and Community Affairs.

Location Map

Big Grove Township

Legend



Township



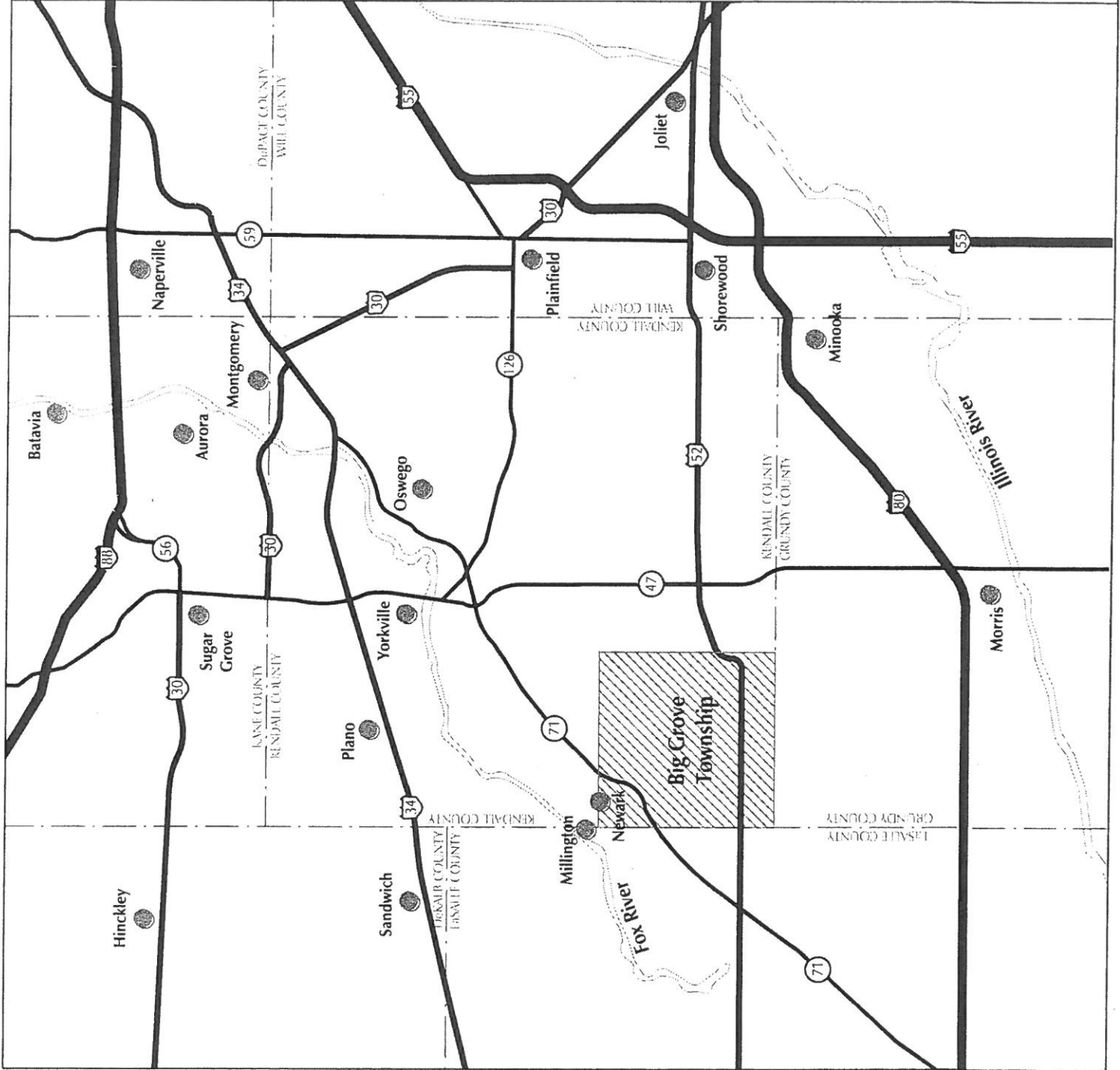
Neighboring Community



County Line

Townships in Kendall County

Little Rock	Bristol	Oswego
Fox	Kendall	Na-Au-Say
Big Grove	Lisbon	Seward

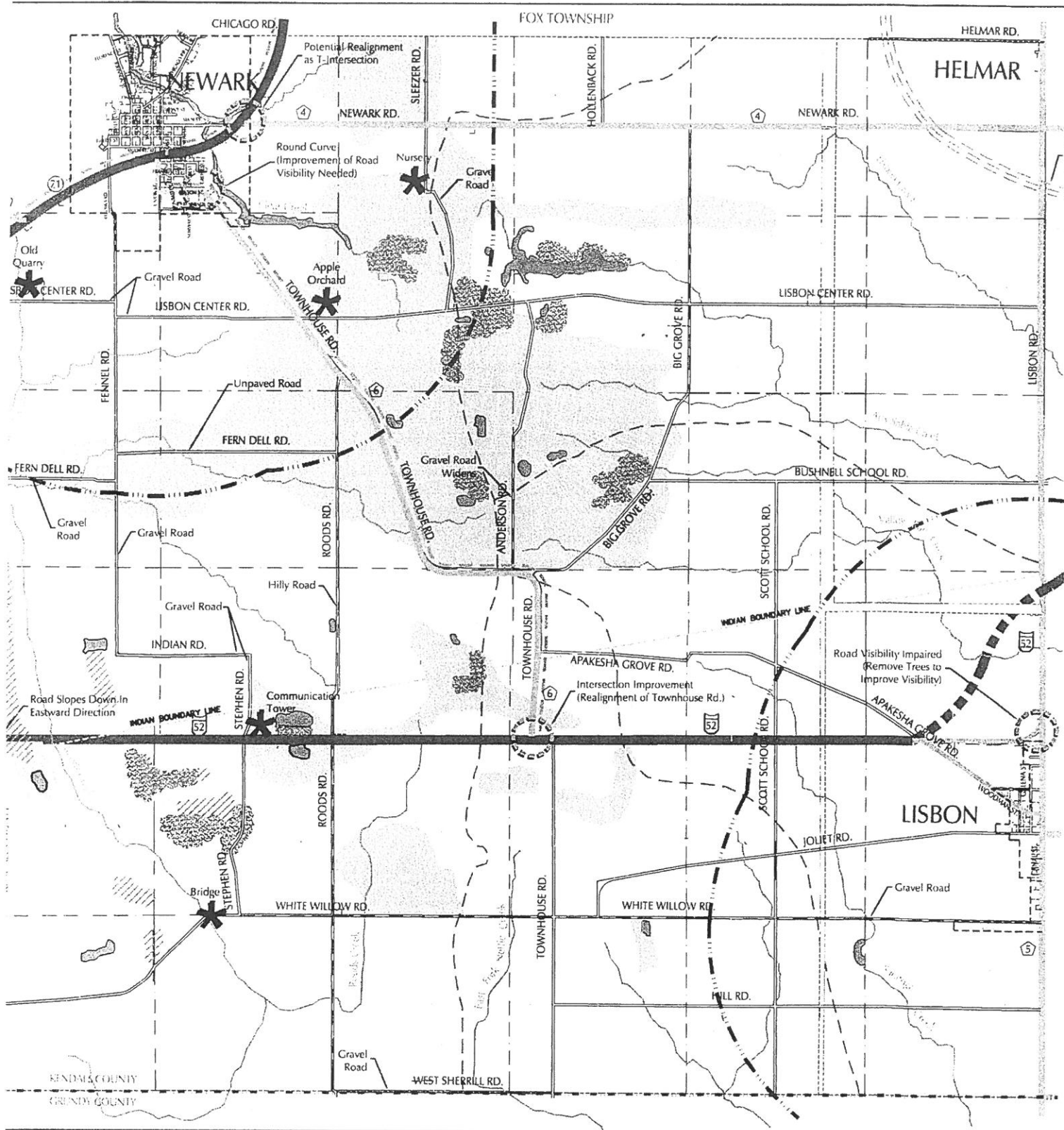


March 2002



Scale in Miles





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- Existing Arterial
- Proposed Arterial

- Non-Productive Farmland
- Wetland

- Municipal Boundary
- Municipal Planning Boundary



Goals and Objectives

The following goals and objectives have been developed to guide the planning efforts towards the preparation of a comprehensive plan for Big Grove Township. Many of the goals reflect the general management goals outlined in Section 4 of the Kendall County Land Resource Management Plan (LRMP). The objectives listed under each goal address specific issues concerning the township.

Goal 1: Establish a mutually supportive, non-adversarial team of county, township, municipal, school, park, and other governmental bodies working towards the benefit of all residents in Big Grove Township.

Objectives:

- A. Collaborate with county, municipal, and township officials to determine future land use patterns.
- B. Work with the Newark Village Water Department and the Newark Sanitary Plant to determine the need for potential expansion of water and sewer capacities to accommodate future developments.
- C. Ensure that future developments avoid the potential for conflicts between agricultural and non-agricultural uses.
- D. Conduct joint transportation project planning and development review to implement policies established in the Kendall County LRMP.
- E. Work with municipalities to develop boundary agreements based on logical service areas and compatibility with county, township, and municipal goals and objectives to avoid competitive annexations and pre-mature development.
- F. Adopt a comprehensive plan for Big Grove Township based on the Kendall County LRMP.

Goal 2: Use land resources in a manner sensitive to inherent environmental limitations.

Objectives:

- A. Minimize negative impacts on productive farmland by directing development to farmland areas that are considered non-productive as well as areas immediately adjacent to existing communities.
- B. Maintain a continuous collection of agricultural uses by preventing the separation of agricultural uses by intermittent non-agricultural uses
- C. Reduce flooding and prevent development within flood plain and wetland areas.

- D. Provide vegetative buffers to enhance flood plain and wetland areas as well as to filter pollutants and sediments out of these environmental features.
- E. Conduct a Natural Resource Inventory (NRI) for all proposed single family homes and other larger developments located outside Newark and Lisbon.
- F. Continue to utilize the Land Evaluation Site Assessment (LESA) system as a tool to help evaluate all new development proposals.

Goal 3: Maintain a strong base of agriculture, commerce, and industry to provide a broad range of quality job opportunities, a solid tax base, and improved quality of services to township residents.

Objectives:

- A. Maintain the agricultural character of the township by supporting existing and attracting new farms and agricultural businesses.
- B. Enhance the quality of services provided by local businesses by catering to the needs and concerns of local business owners and local entrepreneurs.
- C. Work with the County Economic Development Commission to establish a campaign that helps attract potential businesses to locate within Newark. The size and focus of attracted businesses should be appropriate for the rural lifestyle of the township.
- D. Research the need for additional industrial uses in Newark to complement existing and potential agricultural and commercial uses.
- E. Consider the expansion of the schools in Newark and Lisbon in order to accommodate the need for additional space for their growing student bodies.

Goal 4: Establish an equally balanced pattern of compact, contiguous urban development, countryside residential, and agricultural environments to enhance the quality of personal and community life.

Objectives:

- A. Maintain the viability of agriculture in the township by promoting compact residential development and providing open space buffers between agricultural and residential uses. Such buffers will typically be established along natural drainage ways or existing roadways.
- B. Locate new developments near existing developed areas in order to minimize the loss of local environmental assets such as wetlands, productive soils, and the rural character of contiguous agricultural areas.

- C. Encourage development to occur within or near Newark and Lisbon where adequate infrastructure and support services can most easily be provided.
- D. Maintain the small town atmosphere in Newark and Lisbon by controlling the rate of growth and the size of developments.
- E. Create a serene residential environment to which residents from larger neighboring communities would like to live in order to escape the hustle-and-bustle of highly-urbanized areas.
- F. Preserve scenic routes and vistas by maintaining contiguous stretches of farmland and open space, requiring thoughtful design and placement of landscape features, and requiring appropriately scaled building setbacks from the ultimate road right-of-way.

Goal 5: Ensure careful management of the quantity, quality, placement, and rate of housing development to provide for the efficient use and conservation of the township's natural and public resources.

Objectives:

- A. Encourage residential growth where development can be adequately served by public roads, utilities, and other services.
- B. Encourage cluster development which integrates the natural character of the land with creative planning and design to blend new development into the existing environment.

Goal 6: Improve major transportation routes to facilitate travel within the township as well as travel to and throughout the surrounding region.

Objectives:

- A. Monitor the size and peaks of traffic along major routes (e.g. Route 71 and Highway 52) as development around the township increases in order to control traffic issues in a prudent and efficient manner.
- B. Realign Highway 52 north of Lisbon to eliminate dangerous curves.
- C. Continue to plan for the proposed Crimmins Road extension.

Future Land Use & Transportation Plan

Transportation Issues

As mentioned in the Situation Audit, the only short-term road improvement project planned for Big Grove Township is the resurfacing of the segment of Lisbon Road located between Joliet Road and the south county line (Kendall-Grundy Counties). According to Kendall County's 5-year capital improvement plan, completion of this resurfacing project is slated for later this year.

Although they are not planned in the county's 5-year capital improvement plan, the following road improvements have been proposed:

- Improvement of road visibility along Townhouse Road at the curved intersection with Benton Street (southeast Newark). *[A sharp curve currently reduces road visibility.]*
- Realignment of the intersection of Newark Road with Route 71 as a T-intersection (eastern section of Newark). *[A T-intersection would create a safer driving environment at this key intersection, especially if development occurs around it.]*
- Realignment of two separated segments of Townhouse Road presently intersected by Route 52 (center of the township). *[Route 52 currently offsets the northern and southern segments of Townhouse Road.]*
- Improvement of road visibility along the curved transition between Route 52 and Lisbon Road (north of Lisbon). *[A patch of trees currently obscures road visibility.]*

In addition to these road improvements, the following major road construction projects are currently under consideration:

- Smoothing of Route 52 at the eastern section of the township (north of Lisbon) to eliminate existing tight curves.
 - Potential Crimmins Road extension extending south to Route 71 on the west side of Newark.
-

Land Use Issues

Future Land Use Plan

The Future Land Use Plan represents the allotment of land uses that would accommodate projected population growth as well as potential development that may occur in Big Grove Township over the next 20 years. The plan was the product of the following three-step process:

1. **Existing land use plan**: An existing land use plan was produced based on a land use survey conducted on September 27, 2001. Interpretation of aerial photographs contributed to the production of the existing land use plan. In October 2001, the plan was submitted to the advisory committee for review. The existing land use plan was then revised based on comments and observations from the advisory committee.
2. **Conceptual future land use plans**: Two conceptual future land use plans were developed to reflect the amount of land needed to accommodate projected populations at two different rates of population growth (20% and 60%) by the year 2022. The two population projections were based on the following factors:
 - The 20% population growth projection reflects the likely growth scenario for Big Grove Township, given its past growth trend.
 - The 60% population growth projection reflects a pattern of growth that Big Grove Township would experience if it develops at a similar rate as larger neighboring communities such as Plainfield.
 - For both growth projections, the residential land uses depicted on the maps were placed in general areas to demonstrate the amount of land needed to accommodate anticipated population growth. Thus, the residential land uses do not reflect the exact locations of future developments, only land densities. Furthermore, some residential uses will most likely be in-fill developments in existing neighborhoods, which is difficult to clearly depict on a general land use map.
 - In addition, the locations of commercial and industrial land uses for both growth projections are more specific due to the layout of the local road network, the locations of existing commercial and industrial sites, and Newark's Comprehensive Plan.

The two conceptual future land use plans were presented to the advisory committee in January 2002. Overall, the advisory committee seemed more receptive to the 60% population growth scenario than the 20% scenario. Comments and revisions from the advisory committee were then used to shape the recommended future land use plan.

3. **Future land use plan**: The future land use plan reflects anticipated population growth projection and incorporates the comments and revisions from the January advisory committee review. Although a majority of the advisory committee stated that they would

prefer most development to remain within the municipal boundaries of Newark and Lisbon, the future land use plan displays the potential for some development outside Lisbon at the Village's request. The advisory committee has voiced the following concerns and observations:

- The adequacy of sewer capacity within Newark and Lisbon is the primary issue facing future developments within and near the two villages.
- Locating most developments depends greatly on the accessibility of water and sewer service.
- Impact fees on schools and parks.
- Residential developments located outside the two communities should be minimized to prevent the construction of isolated subdivisions that have no link to either of the two municipalities.

Land Use Categories

All recommended residential densities described below are based upon the gross buildable acreage of a given parcel of land. The gross buildable portion of the land is determined by subtracting those areas of the property that are not suitable for development. These areas include floodplains, wetlands, and land in permanent easements or right-of-ways.

The land use categories described below are illustrated on the Future Land Use Plan.

Agricultural. Intended primarily to encourage farming and agricultural businesses and to protect the existing open space character of rural areas, the Agricultural land use category is designed to provide for continued agricultural use. Residential use shall generally not be permitted unless it is directly associated with the operation of a local firm.

Planned Rural Residential. *(Not to exceed .65 dwelling units per gross buildable acre; a density bonus to increase the maximum density up to .85 du/ac may also be granted.)* The Planned Rural Residential land use category promotes large-lot, low-density detached single-family residential development. This land use category is generally consistent with the County's RPD-2 zoning district, permitting a base density of 0.45 du/ac and a maximum density of 0.65 du/ac. Planned development and clustering are strongly encouraged within this category to preserve the natural features of the land such as topography and vegetation. Lot size may be varied with a planned development, but the overall density should be within the guidelines established in this plan. An additional density bonus up to 0.85 du/ac may be granted if a proposed development: (1) is partially or entirely located within 100 ft of a Class A Stream (as defined by IDNR) or its tributaries, or (2) utilizes both community septic and community water services. The district provides a semi-rural or countryside setting, retaining a greater amount of open space. Compatible governmental, educational, religious, and recreational uses also may be permitted in these areas. Public water should be provided where practical. Planned Rural Residential uses are

primarily proposed at the outer fringe of municipalities. The only areas planned for Planned Rural Residential use in Big Grove Township are areas bordering outside Newark's municipal boundary.

Suburban Residential/Contiguous Growth Area. (Not to exceed 1.00 dwelling unit per gross buildable acre.) This land use category promotes a residential character of low density residences consistent with the character of the adjacent community. Higher municipal densities are appropriate near Newark on lots where adequate public sewer and water systems exist or can be made available. While anticipated to contain primarily single family detached housing, some attached housing units may be considered, particularly within a planned development. Compatible governmental, educational, religious, and recreational uses also may be permitted in these areas. If developed under County zoning authority, development should occur under the RPD-3 zoning regulation. The overall County LRMP also classifies the suburban residential use category as Contiguous Growth Area, which are areas surrounding existing urbanized communities that provide opportunities for growth with access to municipal services.

Commercial. The Commercial land use category provides for office and retail establishments that offer goods and services in easily accessible locations. The purpose is to provide for commercial uses which are oriented to the automobile. These uses are mainly concentrated along Route 71. Some commercial uses are located near the residential neighborhoods and a few are even located outside municipal boundaries.

Public/Institutional. The Public/Institutional land use category applies to those lands where existing or proposed federal, state, or local governmental activities are conducted. Also included are public and private educational and other non-profit organization facilities. A church or a nursing home are two examples of institutional uses. The only major new public use depicted on the Future Land Use Plan is the property at the northeast corner of Newark which is owned by the Newark School District.

Public Open Space. The Public Open Space land use category includes all Forest Preserve and Park District public open space and recreation facilities such as parks, nature preserves, bike trails, picnic areas and other recreation facilities. The land use category also recognizes land that act as a landscaped buffer between incompatible uses. For example, the Future Land Use Plan shows a landscaped open space between the suburban residential use and industrial use along the western edge of Newark.

Private Open Space. The Private Open Space land use category identifies lands that are sensitive to development containing unique environmental characteristics that should be preserved. These characteristics include: wetlands, floodplains, significant tree coverage, and prairies. These areas also provide the County with such natural functions as flood storage and conveyance, pollution control, and wildlife habitats. Conservation easements, land trusts and other preservation techniques are encouraged to protect these valuable open space assets.

Land Use/Population Projections

Figure 6 summarizes the Future Land Use Plan and the resulting population projections⁸ under the presumption that all land designated for residential use is developed. To calculate the population projections at the selected 60% population growth scenario, an average of 2.85 persons per household was assumed based on 2000 U.S. Census statistics for Big Grove Township. Big Grove Township is comprised of approximately 22,123 acres of land⁹. The County envisions limited opportunities for any new residential development within its zoning authority. One particular opportunity is potential development of a section of land located northwest of the Village of Lisbon and bounded by Apakesha Grove Road and Route 52. New residential developments located within the respective planning areas of Newark and Lisbon will likely be annexed into those municipalities.

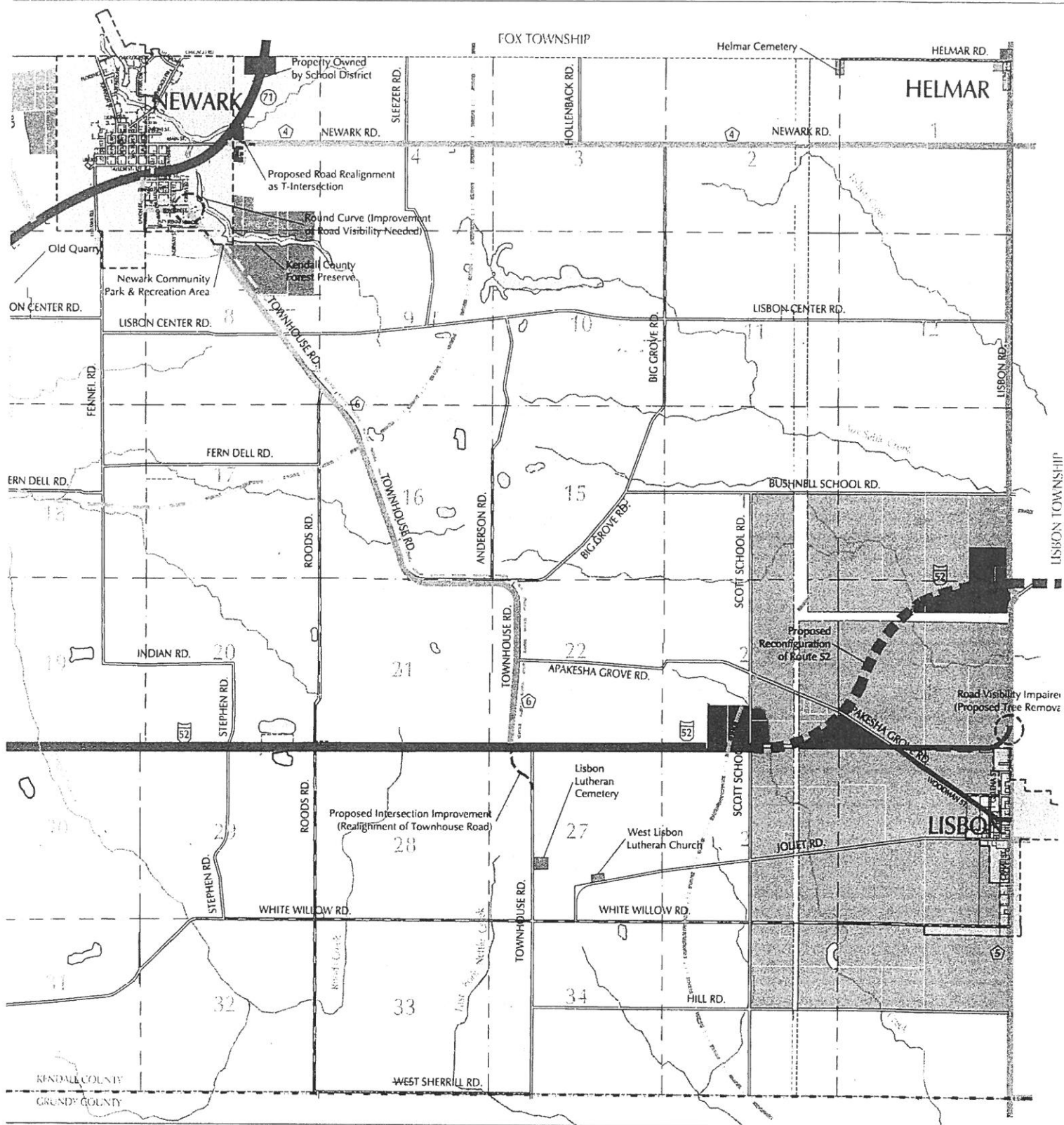
The bottom portion of Figure 6 summarizes the projected holding capacities of the township. Holding capacity measures the population that land is able to support if all land that *can be* developed for residential uses is developed as such. The County's holding capacity of 2,687 acres can accommodate 7,654 residents. In addition, Newark and Lisbon have 794 acres of land available, which can support approximately 6,784 residents. The entire township has the potential hold capacity of 14,438 residents, provided that the Future Land Use Plan develops as depicted on the map.

Figure 6 Future Land Use Areas/Population Estimates Big Grove Township			
Land Use Category	Acres	Percent of Total	Estimated Population
Agriculture	18,649.4	81.4%	197
Planned Rural Residential	200.8	0.9%	372
Suburban Residential/Contiguous Growth Area	2,485.8	10.8%	7,085
Commercial	179.9	0.8%	-
Public/Institutional	65.0	0.3%	-
Public Open Space	183.1	0.8%	-
Private Open Space	114.6	0.5%	-
Municipalities (Newark & Lisbon)	793.4	3.5%	-
Utility Right-Of-Way	244.1	1.1%	-
TOTAL, County Zoning Control	22,916.1	100.0%	-
TOTAL Projected Holding Capacity			
County Zoning Control	2,686.6	-	7,654
Municipal Control (Newark & Lisbon)	793.4	-	6,784
TOTAL Capacity (Big Grove Township)	3,480.0	-	14,438

⁸Based on 60% population growth in the next 20 years.

⁹Not including land within Newark and Lisbon.

Residential densities varied as illustrated on the Future Land Use Plan and outlined in the previous section (land use categories). The Future Land Use Plan was developed to provide sufficient land area to accommodate the amount of population growth projected for the year 2022. Since the population projection is based on the type of growth experienced by larger neighboring communities, the amount of residential use depicted on the plan is most likely greater than the amount that would realistically be built.



D

Planned Rural Residential
max 0.65 du/ac

Suburban Residential/Contiguous Growth Area
max 1.00-3.00 du/ac

Commercial

Utility Right-Of-Way

Arterial Road

Main Collector Road

County Line

Municipal Boundary

Municipal Planning Boundary



Implementation Strategy

In order to successfully implement transportation and land use strategies outlined in this plan, Kendall County must work alongside with Newark, Lisbon, and the rest of the township. Although each entity is responsible for carrying out its own implementation steps, the implementation must still be guided by intergovernmental cooperation to ensure that different steps either complement each other or avoid conflicts with each other. Implementation action steps are divided into steps completed by the county and steps carried out by the township and its municipalities. In addition, guidelines for the production of effective transition spaces between residential and agricultural uses are outlined.

County Action Steps

- Replace the Big Grove Township Summary in the Kendall County LRMP with this Land Resource Management Plan.
- Amend the County Transportation Plan to include the Prairie Parkway corridor protection area after IDOT records a centerline.
- Reserve appropriate right-of-way during plat review for proposed road improvements depicted on the Future Land Use Plan.
- Install roadside pull-off stops and interpretive signs along the scenic routes of Route 71 and Townhouse Road.
- Implement a notification and recognition program to identify and acknowledge landowners who have protected the County's environmental and scenic assets. Recognition should only be made with the landowner's permission, but can create a sense of pride and renewed commitment to resource protection.
- Work with property owners and IDOT along the proposed Prairie Parkway and other proposed road improvements throughout the township to coordinate land use and roadway design standards.
- Encourage new residential developments to locate within municipal boundaries to prevent the construction of isolated subdivisions that have no link to any local municipality.

Municipal/Township Action Steps

- Maintain an intergovernmental agreement with Kendall County to promote continued joint planning and cooperation.
- Encourage new residential developments to locate within municipal boundaries to prevent the construction of isolated subdivisions that have no link to any local municipality.

- Pursue a major private development and grant to expand sewer capacity in Newark to maintain a sufficient supply of sanitation service for future developments.

Residential/Agricultural Transition Guideline

The following guidelines are appropriate for both County and municipal adoption to promote a more effective transition between residential and agricultural uses.

- Utilize existing streams, roadways, hedgerows, and other physical barriers to provide a separation between agricultural uses and new residential developments.
- Continue or expand the practice of notifying new homeowners that they are moving into an agricultural area where they can expect some inconveniences (e.g. late/early operation of farm machinery, slow-moving vehicles on the road, etc.).
- Promote the use of cluster subdivisions which provide open space buffers between homes and agricultural land.
- Consider requiring all residential dwellings to be set back at least 150 feet from the property line of land that is actively used for agriculture prior to issuance of a building permit.

August 21, 2017 at 2:53 pm

Why did you skip the toxic heavy metals? Yeah, genetic mutations for all when they have to dispose of them. Source is IEEE, you may have heard of them.

Today's dominant thin-film technologies are cadmium telluride and a more recent competitor, copper indium gallium selenide (CIGS). In the former, one semiconductor layer is made of cadmium telluride; the second is cadmium sulfide. In the latter, the primary semiconductor material is CIGS, but the second layer is typically cadmium sulfide. So each of these technologies uses compounds containing the heavy metal cadmium, which is both a carcinogen and a genotoxin, meaning that it can cause inheritable mutations.

Br

October 13, 2017 at 5:25 am

Silicon solar panels are about 95% of the world market.

Rick Vann

December 2, 2017 at 7:15 am


Surely you have heard of recycling!

Finally, **amorphous** silicon cells create flexible panel materials that are often used in thin film solar panels. Amorphous silicon cells are non-crystalline and instead are attached to a substrate like glass, plastic or metal. For this reason, thin film solar panels are true to their name: they are lean and bendable, unlike a standard panel. Though an ideal use case for versatility, amorphous solar cells are very inefficient compared to mono or polycrystalline cells. First Solar is best known for manufacturing thin film panels in the U.S.

Solar panels are made with high quality materials

See what an installation would cost you today

Try Solar Calculator



List of solar panel materials

The materials used to manufacture the cells for solar panels are only one part of the solar panel itself. The solar panel manufacturing process brings together six different components. If you are DIY-minded and curious about solar panel materials, it may even be a question of wanting a hypothetical "ingredients" list to produce one on your own. Here are the common materials required for a standard PV panel:

- Silicon solar cells
- Metal frame (typically aluminum)
- Glass sheet for casing
- Standard 12V Wire
- Bus wire
- Plexiglas

In addition to the solar cells themselves, a standard solar panel includes a glass casing at the front of the panel to add durability and protection for the silicon PV. Under the glass exterior, the panel has a casing for insulation and a protective back sheet, which helps to limit heat dissipation and humidity inside the panel. The insulation is particularly important because temperature increases will lead to a decrease in efficiency, resulting in a lower solar panel output. Thus, PV manufacturers must go extra lengths to ensure that light is being captured without the technology being overheated.


Should you make your own solar panels?

For anyone wanting to install solar who is considering a do-it-yourself route, there are a number of factors to consider such as warranties, longevity of output, efficiency and overall cost. To get a full sense of this breakdown, check out our article on the pros and cons of DIY solar. If you're looking for a personalized estimate for what a solar installation would cost based on your specific location and roof type, try our Solar Calculator. For homeowners interested in receiving quotes from local, pre-screened installers, check out the EnergySage Solar Marketplace.

Get an instant estimate of your solar savings potential!

Based on your roof + actual offers in your area

Try Solar Calculator

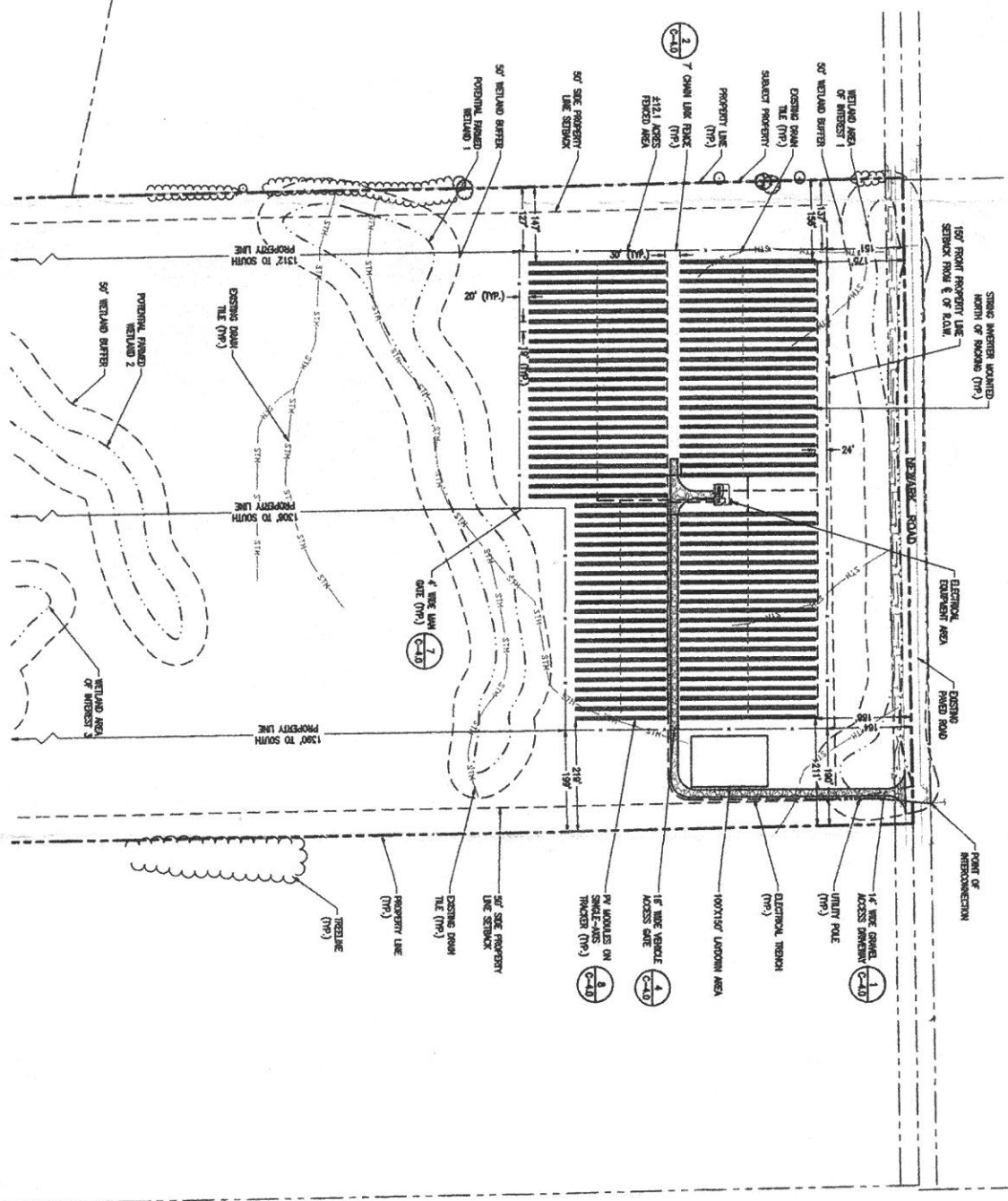


This entry was posted in **BUYER'S GUIDE** on **MARCH 16, 2018** [[HTTPS://NEWS.ENERGYSAGE.COM/WHAT-ARE-SOLAR-PANELS-MADE-OF-LIST-OF-SOLAR-PV-MATERIALS/](https://news.energysage.com/what-are-solar-panels-made-of-list-of-solar-pv-materials/)] by **LUKE RICHARDSON**.

3 thoughts on "How are solar panels made and what are they made of? List of solar PV materials and cell types"

Joseph dagostino

LAYOUT AND MATERIALS PLAN

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SITE USE PLANS
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16400 NEWARK ROAD, NEWARK, IL 60541

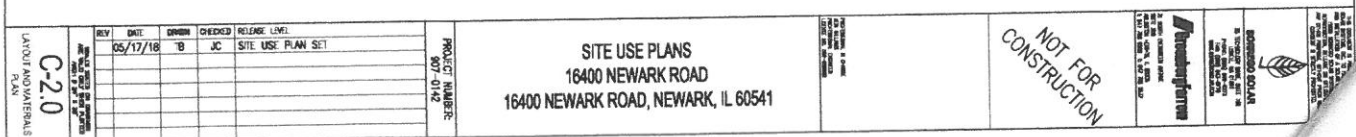


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SCALE: 1" = 100'



Solar Cells

Volume 29, Issue 1, June 1990, Pages 63-71

Toxic materials released from photovoltaic modules during fires: Health risks

Paul D. Moskowitz, Vasilis M. Fthenakis

 Show more[https://doi.org/10.1016/0379-6787\(90\)90015-W](https://doi.org/10.1016/0379-6787(90)90015-W)[Get rights and content](#)

Abstract

Concern exists about potential health hazards associated with toxic materials released during fires from cadmium telluride, copper indium diselenide and gallium arsenide photovoltaic modules. In response to this concern, this report characterizes: scenarios specifying quantities of materials present in residential (5 kWp), commercial (100 kWp) and substation-level (500 kWp) photovoltaic installations; rates of release of these materials from such arrays during a fire; atmospheric transport of combustion by-products from point of release to point of intake by nearby human populations; sensitivity and response of exposed human populations to these chemicals; and incidence of such fires. Analyses presented in this report suggest that the risks from combustion by-products emitted during a fire should not be large, especially from residential and substation-level array fields. **In commercial-scale applications, the risk may be larger because of the quantities of materials present and the increased probability of a fire occurring. For these applications, it would be prudent to develop simple mitigation strategies to protect public health, e.g. alerting all residents within about 1–2 km of a fire to remain in their homes and to close all windows.**

May 2003

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NREL/CP-520-33561

CdTe PV: Real and Perceived EHS Risks

V. Fthenakis

National PV EHS Assistance Program

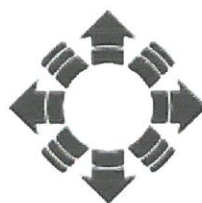
K. Zweibel

National Renewable Energy Laboratory

*Presented at the National Center for Photovoltaics and
Solar Program Review Meeting*

Denver, Colorado

March 24-26, 2003



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CdTe PV: Real and Perceived EHS Risks

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ABSTRACT

As CdTe photovoltaics reached commercialization, questions were raised about potential cadmium emissions from CdTe PV modules. Some have attacked the CdTe PV technology as unavoidably polluting the environment, and made comparisons of hypothetical emissions from PV modules to cadmium emissions from coal-fired power plants. This paper gives an overview of the technical issues pertinent to these questions and further explores the potential of environmental, health, and safety (EHS) risks during production, use, and decommissioning of CdTe PV modules. The following issues are discussed: (a) the physical and toxicological properties of CdTe, (b) comparisons of Cd use in CdTe PV with its use in other technologies and products, and (c) the possibility of CdTe releases from PV modules.

1. Toxicology of CdTe

Elemental cadmium, which forms CdTe when reacted with tellurium (Te), is a lung carcinogen, and long-term exposures can cause detrimental effects on kidney and bone. Very limited data exist on CdTe toxicology, and no comparisons with the element Cd have been made [1]. However, CdTe is a more stable and less soluble compound than Cd and, therefore, is probably less toxic than Cd. However, OSHA groups all Cd compounds together, and as a general guidance, all facilities working with any such compounds should control the indoor concentrations of CdTe dust or fumes to below the Permissible Exposure Level-Time Weighted Average (PEL-TWA) Cd concentration of 0.005 mg/m³.

The U.S. CdTe PV industry is vigilant in preventing health risks and has established proactive programs in industrial hygiene and environmental control. Workers' exposure to cadmium compounds in PV manufacturing facilities is controlled by rigorous industrial hygiene practices and is monitored by frequent medical tests. Results of years of biomonitoring have shown that there are no significant observed increases in levels of worker exposure [2].

2. Amount of Cd Compounds Encapsulated in CdTe Modules and NiCd Batteries

The amount of Cd compounds in PV modules is proportional to the area of the module and the thickness of the CdTe and CdS layers. Most CdTe layers are about 1-3 microns thick, and most CdS layers are about 0.2 microns thick. Therefore, about 3-9 g/m² Cd is contained in CdTe, and less than 1 g/m² is contained in CdS. A reasonable average amount would be about 7 g/m² Cd in CdTe modules. Layer thickness

is expected to be reduced as research and development efforts continue, further reducing the amount of Cd compounds in the cells [3].

A CdTe module of 10% sunlight-to-electricity conversion efficiency produces about 100 W of output under standard sunlight conditions. So, there is an average of 7 g/100 W = 70 g per kW of electric power produced. In an average solar location in the United States, such as Kansas, a one-square-meter, 10%-efficient CdTe module containing 7 g of Cd would produce about 5400 kWh over its expected service life of 30 years. That is about 770 kWh per gram of Cd, or 0.001 g/kWh. (Note, this amount is in the module and is not an emission. It can be completely recycled.)

Table 1 shows a comparison of the Cd content in CdTe PV and in NiCd batteries. CdTe modules occupying 1 m² contain less Cd than one C-size flashlight battery. A 1-kW system would contain as much Cd as seven C-size batteries. On a per kWh basis, assuming that a NiCd battery can be recharged 700 to 1200 times over its life [4], it would produce an average of 0.046 kWh per g of its weight, which corresponds to 0.306 kWh per g of Cd contained in the battery. This is 2,500 times less than a CdTe PV module. Thus the value of using Cd in PV is much greater than its value elsewhere in the marketplace.

Table 1. Cd Content in CdTe PV and NiCd Batteries

	g/unit	g/kW (ton/GW)	mg/kWh (kg/GWh)
PV CdTe	7 g/m ²	70	1.3
NiCd battery -C size	10		3265.

3. EHS Risks during Cadmium Mining

CdTe is manufactured from pure Cd and Te, both of which are by-products of smelting prime metals (e.g., Cu, Zn, Pb, and Au). About 80% of the world's production of cadmium is generated as a by-product of smelting zinc ores. Its major feedstock, sphalerite (ZnS), contains about 0.25% Cd. Secondary cadmium is produced from recycling spent NiCd batteries and other scrap. The demand of zinc has been steadily increasing for decades as driven by economic growth. Therefore, cadmium (in impure form) is produced regardless of its use. Cadmium is used primarily (~65%) in nickel-cadmium rechargeable batteries, paint pigments (~17%), plastic stabilizers (~10%), metal plating (~5%), and metal solders (~2%). When there is no cost-effective market for the metal, raw Cd is disposed of [5].

The total Cd use in the United States was 2,600 tons in 1997; globally, the total use is 19,000 to 20,000 tons. Using only 3% of the U.S. consumption of cadmium (i.e., 78 tons) in the manufacture of CdTe solar cells would generate over 1 GW of new PV per year. **Note that the total current PV capacity in the United States is only 0.3 GW and is projected to grow (under optimistic assumptions) to about 3.2 GW/yr by 2020.** Even if we envision PV production that is an order of magnitude higher, it would require only about a third of the current U.S. Cd consumption. Yet to change the world's energy infrastructure with CdTe PV, much less Cd would be needed, and it would not impact the overall smelting of Cd at all. In fact, it would provide a beneficial use of Cd that could otherwise be cemented or end up in a waste dump.

4. EHS Risks in CdTe PV Manufacture

In production facilities, workers may be exposed to Cd compounds through the air if contaminated, and by ingestion from hand-to-mouth contact. Inhalation is probably the most important pathway, because of the larger potential for exposure and higher absorption efficiency of Cd compounds through the lung than through the gastrointestinal tract. Processes in which Cd compounds are used or produced in the form of fine particulates or vapor present larger hazards to health. Hazards to workers may arise from feedstock preparation, fume/vapor leaks, etching of excess materials from panels, maintenance operations (e.g., scraping and cleaning), and during waste handling. Caution must be exercised when working with this material, and several layers of control must be implemented to prevent exposure of the employees. In general, the hierarchy of controls includes engineering controls, personal protective equipment, and work practices. The U.S. industry is vigilant in preventing health risks, and has established proactive programs in industrial hygiene and environmental control. Workers' exposure to cadmium in PV manufacturing facilities is controlled by rigorous industrial hygiene practices and is continuously monitored by medical tests, thus preventing health risks [2].

5. Can CdTe from PV Modules Harm Our Health or the Environment?

Toxic compounds cannot cause any adverse health effects unless they enter the human body in harmful doses. The only pathways by which people might be exposed to PV compounds from a finished module are by accidentally ingesting flakes or dust particles, or inhaling dust and fumes. The thin CdTe/CdS layers are stable and solid and are encapsulated between thick layers of glass. Unless the module is purposely ground to a fine dust, dust particles cannot be generated. The vapor pressure of CdTe at ambient conditions is zero. Therefore, it is impossible for any vapors or dust to be generated when using PV modules.

The only issue of some concern is the disposal of the well-encapsulated, relatively immobile CdTe at the end of the modules' useful life. Thin CdTe PV end-of-life or broken

modules pass Federal (TCLP-RCRA) leaching criteria for non-hazardous waste [6]. Therefore, according to current laws, such modules could be disposed of in landfills. However, recycling PV modules offers an important marketing advantage, and the industry is considering it as they move toward large and cost-effective production [7,8]. This issue of recycling is not unique to CdTe. The disposal of current x-Si modules, most of which incorporate Pb-based solder, presents similar concerns. Recycling the modules at the end of their useful life completely resolves any environmental concerns.

6. Do CdTe Modules Present Additional Health Risks during a Fire?

The flame temperatures in typical U.S. residential fires are not high enough to vaporize CdTe; flame temperatures in roof fires are in the 800°–900°C range, and, in basement rooms, in the 900°–1000°C range [9]. The melting point of CdTe is 1041°C, and evaporation starts at 1050°C. Sublimation occurs at lower temperatures, but the vapor pressure of CdTe at 800°C is only 2.5 torr (0.003 atm). The melting point of CdS is 1750°C, and its vapor pressure due to sublimation is only 0.1 torr at 800°C. Preliminary studies at Brookhaven [10] and at the GSF Institute of Chemical Ecology in Germany [11] showed that CdTe releases are unlikely to occur during residential fires or during accidental breakage. The thin layers of CdTe and CdS are sandwiched between glass plates; at typical flame temperatures (800°–1000°C), these compounds would be encapsulated inside the molten glass so that any Cd vapor emissions would be unlikely. In any case, the fire itself and other sources of emissions within the burning structure are expected to pose an incomparably greater hazard than any potential Cd emissions from PV systems.

7. CdTe PV Can Prevent Cd Emissions from Coal-Burning Power Plants

Coal-burning routinely generates Cd, because Cd is contained in the coal. A typical U.S. coal-power plant will generate waste in the form of fine dust or cake, containing about 140 g of Cd, for every GWh of electricity produced. In addition, a minimum of 2 g of Cd will be emitted from the stack (for plants with perfectly maintained electrostatic precipitators or bag-houses operating at 98.6% efficiency, and median concentration of Cd in U.S. coal of 0.5 ppm) [12]. Power plants with less efficient pollution controls will produce more Cd in gaseous form. Furthermore, a typical U.S. coal-power plant emits about 1000 tons of CO₂, 8 tons of SO₂, 3 tons of NO_x, and 0.4 tons of particulates per GWh of electricity produced. All these emissions will be avoided when PV replaces coal-burning for some fraction of electricity generation.

8. Conclusion

The potential EHS risks related to the cadmium content of CdTe PV modules were highlighted for all the different phases of a large-scale implementation of the technology. The basic conclusions are:

Cd Mining: Cadmium is produced primarily as a by-product of zinc production. Because Zn is produced in large quantities, substantial quantities of cadmium is generated as a by-product, no matter how much Cd is used in PV, and can either be put to *beneficial* uses or *discharged* into the environment. When the market does not absorb the Cd generated by metal smelters/refiners, it is cemented and buried, stored for future use, or disposed of to landfills as hazardous waste. Arguably, encapsulating cadmium as CdTe in PV modules presents a safer use than its current uses and is much preferred to disposing it off.

CdTe PV Manufacture: In CdTe PV production facilities, workers may be exposed to Cd compounds through the air they breathe and by ingestion from hand-to-mouth contact. These are real risks and continuing vigilance is required. However, current industrial practice suggests that these risks can be managed and controlled successfully.

CdTe PV Use: No emissions of any kind can be generated when using PV modules under normal conditions. Any comparisons made with cadmium emissions from coal fired power plants are erroneous, because they compare potential accidental emissions from PV systems to routine (unavoidable) emissions from modern coal-fired plants. In reality, PV, when it replaces coal-burning for electricity generation, will prevent Cd emissions in addition to preventing large quantities of CO₂, SO₂, NO_x, and particulate emissions.

Related to NiCd batteries, a CdTe PV module uses Cd about 2500 times more efficiently in producing electricity. A 1-kW CdTe PV system contains as little cadmium as seven size-C NiCd batteries. Thus the incremental risk to the house occupants or firefighters from roof fires is negligible. In addition, it is unlikely that CdTe will vaporize during residential fires because the flames are not hot enough. In any case, the fire itself would pose a much greater hazard than any potential Cd emissions from PV systems.

CdTe PV Decommissioning: The only environmental issue is what to do with the modules about 30 years later, if they are no longer useful. Although cadmium telluride is encapsulated between sheets of glass and is unlikely to leach out, the PV industry is considering recycling of these modules at the end of their useful life. Recycling will completely resolve any environmental concerns.

In conclusion, the environmental risks from CdTe PV are minimal. Every energy source or product may present some

environmental, health, and safety hazards, and those of CdTe are by no means barriers to scaling-up the technology.

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Days of Sunshine Per Year in Illinois



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Number of Sunny Days

In the table below, the average number of **Sunny Days** for a city in Illinois is the total days in a year when the sky is mostly clear. This includes the days when cloud covers up to 30% of the sky during daylight hours.

Partly Sunny Days have cloud covering from 40% to 70% of the sky during the daytime.

Total Days With Sun is a sum of the Sunny plus Partly Sunny days. The rest of the days are mainly overcast, with at least 80% cloud cover. All the numbers are annual averages, made from years of weather watching.

Annual days of sunshine

City	Sunny Days	Partly Sunny Days	Total Days With Sun
Cairo	113	104	217
Chicago	84	105	189
Moline	101	100	201
Peoria	95	97	192
Rockford	93	98	191
Springfield	104	94	198

Amount of Sun

Here's another way to look at how much sunshine a city gets. The **% Sun** number measures the percentage of time between sunrise and sunset that sunshine reaches the ground. Again, these amounts are yearly averages based on many years of weather observations.

Percent sunshine
yearly

City	% Sun
Cairo	61
Chicago	54
Moline	55
Peoria	56
Springfield	59



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Reference

National Climatic Data Center. [Comparative Climatic Data](#).

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Weather Averages

Petition to County Board of Kendall County

We (the undersigned) residents of Kendall County, Illinois, oppose the building of a solar farm located on the property at 16400 Newark Road.

Name	Signature	Address	Date
Thomas Bromeland	Thomas Bromeland	16295 Newark Rd.	6-2
Mary Bromeland	Mary Bromeland	16395 Newark Rd Newark, IL	6-2-18
Bill Lawrence	Bill Lawrence	16475 Newark Rd Newark IL	6/2/18
Andrew Bromeland	Andrew Bromeland	15375 Roads Rd, Newark, IL	6/3/18
Jennifer Bromeland	Jennifer Bromeland	15375 Roads Rd, Newark, IL	6/3/18
Heidi Severson	Heidi Severson	305 S. Center St Newark IL	6/3/18
Joseph Severson	Joseph Severson	305 S. Center St Newark, IL	6/3/18
John David	John David	12360 Alanya Rd Newark	6-4-18
Monica A. D. O'Neil	Monica A. D. O'Neil	104 West Jay Ave STREET	6-7-18
Karen M. Verda	Karen M. Verda	104 West Taylor Street	6-7-18
Karen Reile	Karen Reile	12 Bay Park Newark	7-7-18
James J. Johnson	James J. Johnson	224 N. Johnson St Newark	7-8-18
Robert L. Johnson	Robert L. Johnson	224 N. Johnson St Newark	7-8-18
Robert L. Johnson	Robert L. Johnson	301 E. Bourbon St Newark	7-9-18

Petition to County Board of Kendall County

We (the undersigned) residents of Kendall County, Illinois, oppose the building of a solar farm located on the property at 16400 Newark Road.

Name	Signature	Address	Date
MARMI VAILAND	Marmi Vailand	15419 Hughes Rd. Newark, IL 60541	6/21/18
MARZEN Schmidt	[Signature]	107-ESTER 71, Newark IL	6-3-18
Lisa Begovic	[Signature]	12320 Sleeper Rd Newark IL 60541	6-8-18
Stevie DuPont	STEVE	12300 Sleeper Rd Newark IL 60541	6/5/18
Judith A DuPont	Judith A DuPont	12300 Sleeper Rd Newark, IL 60541	6/15/18
Meredith Hughes	[Signature]		
Maude Hale	Maude Hale	78 Jackson St Newark 911	6/7/18
Forst Jones	[Signature]	78 Jackson St Newark 911	6/7/18
DOUGLAS	DOUGLAS		
Tom Davidson	Tom Davidson		
Jacqui Berenyi	Jacqui Berenyi	4 Burton St Millbrook	6/7/18
Chad Berenyi	Chad Berenyi	4 Burton St Millbrook	6/7/18
Chad Berenyi	Chad Berenyi	7 W. Cusick St Newark	6/7/18
Abe Begovic	[Signature]	12320 Sleeper Rd Newark	6/9/18





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July 2, 2018

To Matthew Asselmeier, AICP
Senior Planner
Kendall County Planning, Building and Zoning
111 West Fox Street
Yorkville, IL 60560-1498
T: 630.653.4139

Project Borrego Solar – 16400 Newark
Road, Kendall County, IL
Project # 20180117.0
Re SUP 18-15

Dear Mr. Asselmeier:

Please find the requested revisions and documentation in this email for the Solar Farm project to be located at 16400 Newark Road in Kendall County – SUP 15-18. Below is a list of responses to your recent questions list:

1. **Planting Arborvitaes along the northern portion of the property. Regarding the wetlands on the south portion of the property – the neighbors indicated they would be glad to see the project moved to the south, which is understandable, although the solar company said they could not do this. Can we find out if it is legal or possible to do it? Could you outline the costs of obtaining the Corps of Engineers approval to move the solar panels closer to the wetlands. Please include additional costs associated with moving the solar panels further south.**

Potential for Project Cancellation: Altering the project's current location would change the entitlement timeline materially removing any chance it has in being able to participate in the Illinois community solar program.

Wetlands:

- The project had submitted a Letter of No Objection request to the Army Corp of Engineers (ACOE) on June 8th, based upon the assumption that the project will NOT impact wetlands. We are still awaiting response from ACOE. If the current layout were to change and include impacts to wetland features, a permit from either the ACOE or r Kendall County would need to be obtained prior to development.
 - i. The resubmission process can take 3 to 4 months (Per the Rock Island ACOE District) which alone would result in this project not being able to participate in the program.
 - ii. Once jurisdiction is determined and IF the wetlands are found to be under ACOE authority, the wetland permitting process (for impacts) could take an additional 3 to 6 months for processing and approval of a Nationwide Permit (impacts <0.5 acres, +/- \$5,500 for the permit and +/- \$80,000.00 per acre in mitigation costs) and approval is not guaranteed.

- iii. If wetlands are determined to be County regulated, per our understanding of the Kendall Co. ordinance, wetlands are to be protected (25 ft. buffer) and not filled – the ordinance does not allow damage, modification or adverse changes in run-off quality/quantity associated with land development.
- As is Borrego's standard practice and approach to stewardship, care is always taken to avoid impacting wetlands and/or other natural systems.
 - i. Although the existing wetlands appear to be farmed wetlands, farmed wetlands provide functional values for overland stormwater infiltration into local groundwater resources, filtration of pollutants, and soil microbe habitat benefits. Due to the values these farmed wetlands provide, both the U.S. Army Corps of Engineers (ACOE) and Kendall County enforce regulations over these wetland features.
 - ii. It is the recommendation of our certified wetland consultant, ENCAP, Inc. to avoid impacts to on-site wetland features as much as practicable to preserve valuable aquatic features. Please see the attached letter from ENCAP, Inc.

Interconnection Agreement Cancellation:

- The additional timing necessary to get ACOE approvals (not guaranteed) will outpace our interconnection agreement timing with the utility and therefore would force us to cancel our existing application and agreement with Ameren, thus canceling this project.
- Ameren will require full payment of the interconnection upgrade cost to update local grid infrastructure this fall which would not be possible given our uncertainty with respect to the system's siting.
- Borrego fully intends to make that investment to upgrade the local infrastructure in the coming months once the project is approved.

Unknown Risks:

- Borrego has completed full diligence including but not limited to a Drain Tile Survey, Wetland Delineation, Archeological Survey Phase I ESA Survey, Threatened and Endangered Species Identification, and an NRI Report on the northern half of the property which has significantly de-risked the project. By moving to the south, there are several unknowns may not allow us to build our project in that portion of the site (environmental risks, endangered species, etc.). These would not be fully vetted until after the 2018 growing season - forcing a delay to the project and thus canceling our agreement with the utility and not allowing this project to participate in the IL Adjustable Block Program.

Neighbor Accommodation 1:

- Borrego has submitted revised plans to the county to show additional Arborvitae to the north of the array to accommodate the concerns of the Village of Newark and neighboring residents. The installation spacing between plants has been reduced and the installation size of the proposed evergreen plants has been increased to a minimum 6 ft. in height. Further, the viewshed from the Bromeland home is primarily blocked due to existing trees - this additional screening will further restrict views from their location to the proposed system.

Matt Asselmeier, AICP
16400 Newark Road, Kendall County, IL – Special Use

Neighbor Accommodation 2:

- Additionally, Borrego has moved the solar array system approximately 137' west from its initial location as to still abide by county setback requirements and further reduce visibility of the system from the Bromeland home. This was achieved by using an alternate panel (Hanwha 390 modules) which reduces the number of racks required. This updated system location is reflected in the revised plans that were submitted to the County.
2. Will Ameren customers in Newark have to pay a fee of any kind to "subscribe" to get their electricity from the solar project once it is up and running. Additionally, what will be the process for people who may want to opt in to participate. Will there be any guaranteed savings for them if they do? Could you outline the subscription process?
- There are no fees associated with subscribing to projects typically in community solar markets and we do not anticipate this being any different in Illinois.
 - Subscribers should see electric bill savings between 15-20% (depending on the final project economics).
 - Details of how the subscription process will work as well as consumer protections are currently being developed by the Illinois Power Agency and the Illinois Commerce Commission. Once those are finished, community solar project owners will find subscribers through direct mail, online advertisements, community outreach, etc.
3. Can you provide more information regarding Fire Department Training?
- Borrego Solar will perform a walk-thru of the system with the FPD to address questions and show them the location of all utility disconnects and other equipment on-site. If desired, BSSI can also provide site plans with emergency contact information.

Should you have any questions or need anything additional do not hesitate to contact me or Margaret Blum at [847.828.4272](tel:847.828.4272) / mblum@greenbergfarrow.com.

Sincerely,



Jason Bolling
Due Diligence Coordinator
214.534.8191

July 2, 2018

Ms. Margaret Blum
GreenbergFarrow
21 South Evergreen Avenue, Suite 200
Arlington Heights, IL 60005

**RE: No Wetland Impact Review Letter
16400 Newark Road, Newark, Kendall County, Illinois
Sec. 5, T35N R6E; Lat 41.534736N, Long -88.565952W
ENCAP Project #: 18-0115B**

Dear Ms. Blum,

This letter has been prepared in order to review on-site wetland field conditions and wetland regulations for the above referenced property. The project area is generally bounded by Newark Road to the north, Clear Creek to the south, agricultural fields to the east, and agricultural fields, an off-site wetland, and upland prairie area to the west. The project area primarily consists of tilled and tilled agricultural field, recently utilized for the production of Corn (*Zea mays*).

Three low-quality farmed wetlands were identified on the project area and total 2.50 acres on-site. Although these wetlands are considered low-quality for vegetation purposes, this is due to their current farmed condition. A farmed wetland provides functional values for overland stormwater infiltration into local groundwater resources, filtration of pollutants, and soil microbe habitat benefits. Due to the values these farmed wetlands provide, both the U.S. Army Corps of Engineers (USACE) and Kendall County enforce regulations over these wetland features.

The deposition of dredged or fill materials into federally jurisdictional wetlands, farmed wetlands, or Waters of the United States is regulated by the USACE under Section 404 of the Clean Water Act. Under this section of the Federal Law, wetlands, farmed wetlands, or Waters of the U.S. are to be avoided and preserved by construction, grading, filling, dredging, or destruction to every extent possible. If such areas cannot be avoided by the proposed development, the applicant must provide justification as to why the areas cannot be avoided. This includes an analysis of site conditions and constraints, an alternatives site analysis, alternative layout analysis for the project, and other factors influencing the current layout of the project. IF alternative layouts are possible that would avoid impacts to wetland features on the site, then the USACE will require that project layout to be implemented for the project.

Kendall County enforces a similar regulation over isolated, non-federally jurisdictional wetlands, farmed wetlands, and waterways through their Stormwater Management Ordinance. The Ordinance provides for the protection of wetlands and other depressional storage areas from damaging modifications and adverse changes in runoff quality and quantity associated with land developments.

July 2, 2018

In both federal and local wetland regulations, the purpose is to preserve, avoid and minimize disturbance, fill, or destruction of wetland features as much as practicable. In addition, such regulations also require buffer strips to be placed around wetland features to aid in stormwater filtration, infiltration, and other beneficial functions to wetlands.

The proposed solar project for this site includes the construction of 256 strings of 27 solar modules, access roads, fencing and utility corridors. None of these modules or infrastructure will be located within any portion of the project area containing wetland resources. If the current layout were to change and include impacts to wetland features, a permit from either the USACE or Kendall County would need to be obtained prior to development.

It is the recommendation of ENCAP, Inc. to avoid impacts to on-site wetland features as much as practicable to preserve valuable aquatic features. If you should have any questions or would like to discuss these items further, please contact me at 815-748-4500 or srowley@encapinc.net.

Sincerely,
ENCAP, Inc.

A handwritten signature in black ink, appearing to read 'S Rowley', written in a cursive style.

Susan Rowley, PWS, CWS, LEED AP
Ecological Consulting Director

July 9, 2018

Re: Newark Road Proposed Solar Use, Kendall County

To whom it may concern:

CohnReznick previously prepared an impact study on real estate values for property located adjacent to existing solar farms in Illinois and Indiana. Our study focuses on observable sales data for properties located in areas that are generally rural or in exurbs where there has been slow residential growth. The solar farms we studied were located in the central and northern counties in Illinois as well as similar counties in Indiana that were determined to have relatively comparable topography, sales prices, demographics and trends of development. As noted in the report, the amount of existing solar farms in the state of Illinois are few; however, we were able to identify meaningful information in Winnebago County and LaSalle County in Illinois, and feel the empirical data from the Indiana counties studied is equally germane.

We did not utilize sales data from Kendall County as there were no existing solar farms to study. It is impossible to garner meaningful evidence in proving there may or may not be an impact to adjacent property values unless the presupposed deleterious use is actually near the observable data. Further, there are very few sales (if any) since the first solar farm applications were submitted to the County for review; only a few months of data might indicate a brief blip and not a permanent trend. What we can say without a doubt is that marketing periods and unit sale prices for homes and farm sites located next to existing solar arrays were consistent with marketing periods and unit sales prices for comparable properties located farther away from solar farms (i.e. – homes without any possible influence from a solar farm).

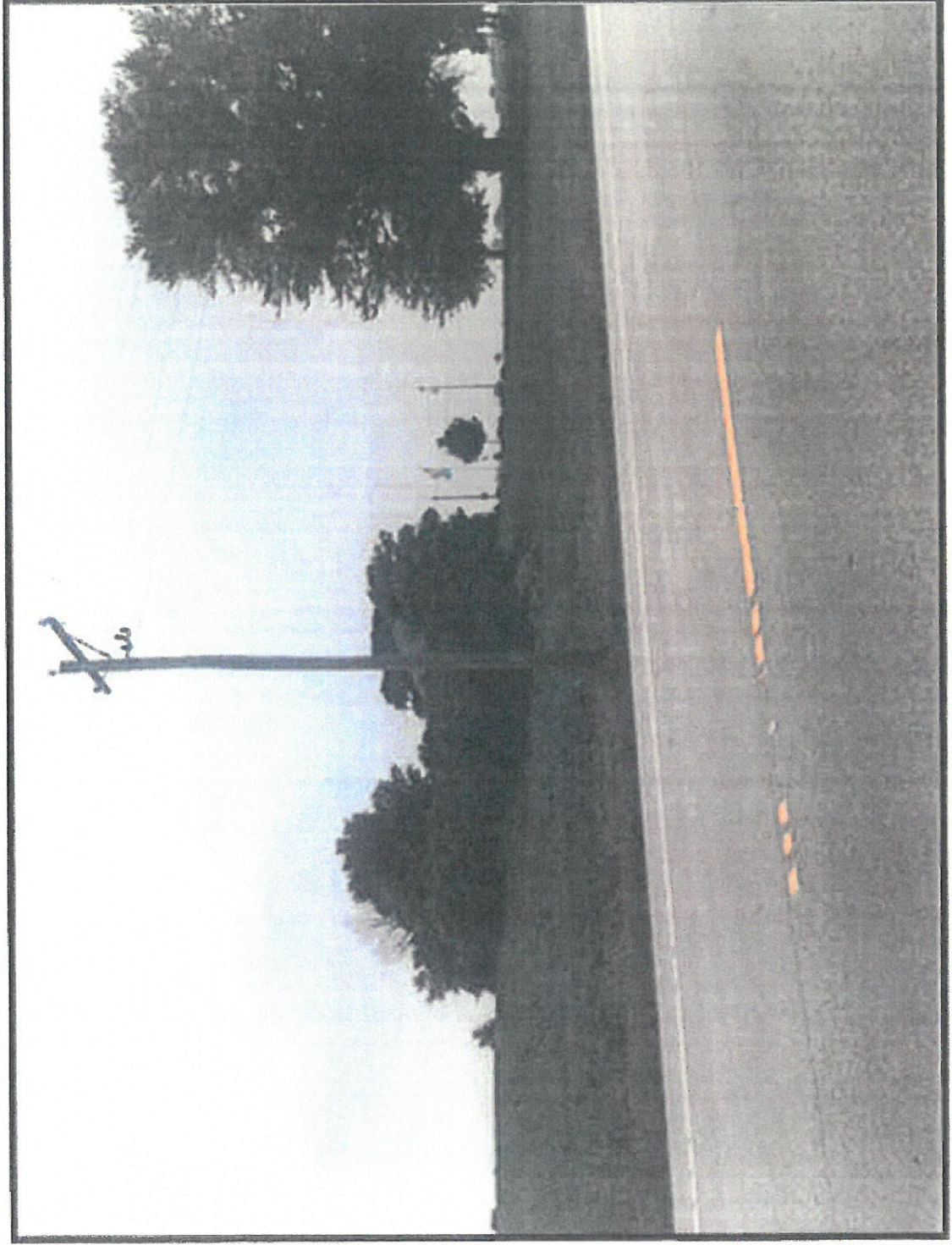
In addition, our report does not study environmental impacts or provide a wetland analysis with regards to the proposed use. Our study included a brief description of the soil quality and Surety maps in order to understand how the existing characteristics of the proposed site might compare to the solar farms identified in our various studies. Our understanding is that Borrego Solar has hired an environmental (or civil) engineer to comment on these elements; however, information we have read and engineering consultants we have interviewed indicate that newly developed solar arrays will typically reduce on- and off-site flooding given a change to native pollinating plantings from existing row-crop fields.

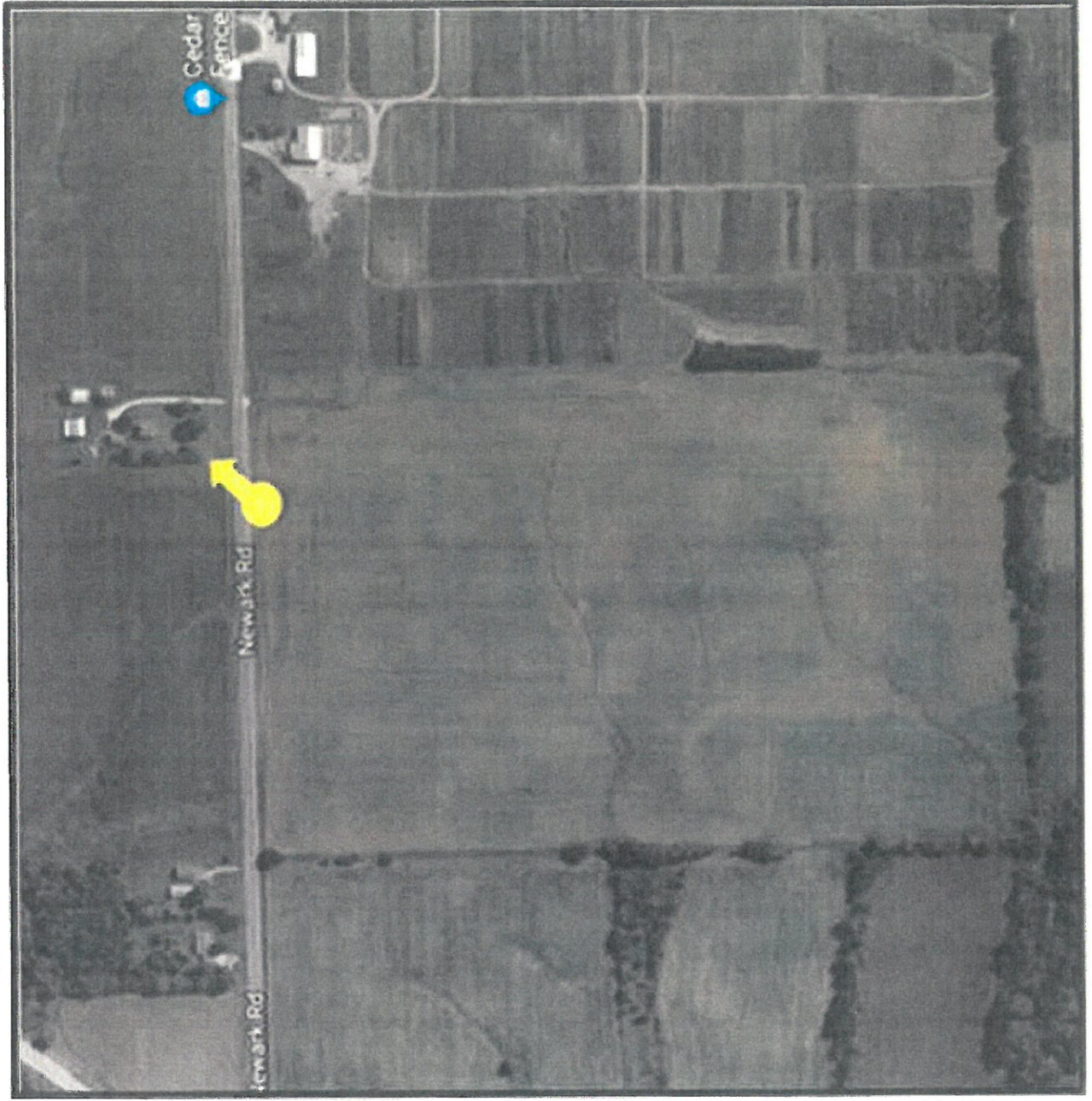
Sincerely,
CohnReznick, LLP



Andrew R. Lines, MAI
Principal
Certified General Real Estate Appraiser
IL License 553.001841

View from NEC of Proposed Solar Farm to NE Bromeland Residence







Google Earth
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NOV 7/8-7/28

PAPER, SOFFIT LITES,

INSTALL 3 new windows

RESEAL OTHERS,

7/28 SOFFIT, FASCIA START

8/1-9/31 FINISH SOFFIT, fascia

PAPER 2ND HALF, CUTTERS

9/1-9/30 INSTALL LOG

WINDOW TRIM + LOG

SIDING - POSSIBLY STONE
STARTING AS WELL

INSTALL WALKWAY POSTS &
LEDGERS AS WELL

10-1-10-30 WORK ON
FINISH EXTERIOR WALKWAYS
& FRONT PORCH?















Matt Asselmeier

From: Brian Holdiman
Sent: Monday, July 09, 2018 7:13 AM
To: Matt Asselmeier
Subject: Antos Bridge
Attachments: IMG_3385.jpg

Mark sent me this pic this morning. He is scheduled to pour concrete with help on Friday.

Respectfully,

Brian Holdiman

*Code Official - The County of Kendall - Planning, Building & Zoning -111 West Fox Street room 203 Yorkville IL 60560
Office: (630) 553-4134 Cell: (630) 774-1161 Fax: (630) 553-4179*



Mark

iMessage
Today 7:09 AM



Pouring on Friday three to four weeks
cure time and converts will also be
removed