From:	Kurt M. Schneider
To:	Birkholz, David (COMM); staff, cao (PUC)
Cc:	Kenneth H. Roberts
Subject:	Chisago County North Star Solar Contact and Comment
Date:	Tuesday, April 14, 2015 4:34:21 PM
Attachments:	Solar Energy Systems and Farms Ordinance.pdf

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David and Tracy,

I appreciate your work concerning the North Star solar project here in Chisago County and am contacting you directly to provide very preliminary comment and ensure we have a direct line of communication as the project proceeds.

The Chisago County Department of Environmental Services encompasses county Land Use / Planning & Zoning; Solid Waste and Household Hazardous Waste Administration; Building Codes and Inspections; Wetlands Administration; county wide Water Management; the Chisago Lakes Lake Improvement District; and County Parks. I welcome your inquiries and request that you share the North Star Solar project process, any environmental findings or issues, and site planning process directly with the Department. I can be contacted directly with any such matters at this email address and the mailing and phone listed below. I have copied the County Planner who should also be made part of your direct contact list.

We have previously adopted a solar farm ordinance and request its active consideration as the project proceeds. Please see attached. I welcome your active consultation with the Department and am happy to make myself and the expertise of county staff available to review the development with you.

As a preliminary comment, I would like to stress the importance of the project impacts to immediately surrounding land and homeowners. Appropriate and scalable buffer screening and landscape measures along with the recognition and planning of wildlife corridors should be actively discussed in the site planning and approval process. Section F. of our solar farm ordinance contains discussion on required landscaping and corridor preservation elements.

We look forward to hearing from you as the project proceeds.

Kurt Schneider, Environmental Services Director
Chisago County Environmental Services and Zoning
313 N Main St. #243
Center City, MN 55012
651-213-8374
kurt.schneider@chisagocounty.us

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CHISAGO COUNTY

Housing and Redevelopment Authority
Economic Development Authority

April 28, 2015

Mr. David Birkholz, Environmental Review Manager
Minnesota Department of Commerce
85 – 7th Place East, Suite #500
St. Paul, MN 55101

RE: PUC Docket Number IP-6943 / GS-15-33

Dear Mr. Birkholz:

This letter is written in support of the Community Energy Solar Project. The Chisago County HRA/EDA's mission is to improve the commercial and industrial tax base and support job creation within the County. Therefore, we are in support of the jobs that will be created due to the Community Energy Solar project, both for the construction phase and the permanent jobs. We support the increase in the tax base from real estate taxes as well as the production taxes that this project will generate.

The Chisago County HRA/EDA also supports keeping the energy dollars here in Minnesota making this a sustainable project. The local solar energy will provide a viable alternative energy that is not intrusive on the environment. We also support the public input process as Community Energy Solar makes land use decisions within the county.

On behalf of the Chisago County HRA/EDA, thank you for the opportunity to express our support for this project. We look forward to seeing this project move forward.

Sincerely,

Nancy Hoffman

Nancy Hoffman
EXECUTIVE DIRECTOR

cc: Chase Whitney, Community Energy Solar, LLC

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May 11, 2015

Mr. David Birkholz, Environmental Review Manager

Minnesota Department of Commerce

85 7th Place East, Suite 500

St. Paul, MN 55101

NORTH STAR SOLAR PROJECT – PUC DOCKET NUMBER IP-6943/GS-15-33

The City of North Branch thanks the PUC for the opportunity to comment on the solar energy project (noted above) as proposed by Community Energy Solar. At their April 28, 2015 meeting, it was the consensus of the North Branch City Council to direct city staff to offer the following comments to the PUC about the proposed solar energy project:

1. The State should require the developer of the project to meet or exceed all the standards for solar energy systems (including setbacks and screening) in the ordinances of the local jurisdictions. I have attached a copy of the current North Branch Solar Energy ordinance for your reference.

2. In addition, the City is now in the process of considering amendments to its existing solar energy ordinance. These changes might increase the required setbacks for solar energy systems from adjacent residential land uses (up to a distance of 400 feet) and may require the developer to add screening or other types of buffering between solar energy gardens and solar farms and adjacent residential properties. I expect the City to complete any changes or additions to its solar energy ordinance by June 26, 2015. The City asks that the State to take into consideration any such changes to local ordinances before setting the final conditions of approval and before issuing any permits for this project.

Thank you again for the chance to comment on this project. Please call me at 651-277-5227 if you have any questions.

KENNETH ROBERTS – CITY PLANNER

Enclosure – North Branch Solar Energy Ordinance

CITY OF NORTH BRANCH

STATE OF MINNESOTA

COUNTY OF CHISAGO

ORDINANCE NO. 211-14

AN ORDINANCE AMENDING THE NORTH BRANCH ZONING ORDINANCE BY ADDING STANDARDS AND DEFINITIONS FOR SOLAR ENERGY SYSTEMS, SOLAR ENERGY FARMS AND FORTHEIR INSTALLATION AND USE IN NORTH BRANCH

THE NORTH BRANCH, MINNESOTA CITY COUNCIL ORDAINS:

SECTION 1. AMEND

The following language is hereby added to the North Branch Zoning Ordinance:

ARTICLE XI. SOLAR ENERGY SYSTEMS

Sec. 66-980. General Provisions.

(a) Purpose and Intent.

North Branch finds that it is in the public interest to encourage the use and development of renewable energy systems (including solar energy systems) that have a positive impact on energy conservation with limited adverse impact on nearby properties. As such, the City supports the use of solar collection systems and the development of solar energy farms. North Branch also finds that the development of solar energy farms should be balanced with the protection of the public health, safety and welfare. The City intends the following standards to ensure that solar energy farms can be constructed within North Branch while also protecting public safety and the natural resources of the City. Consistent with the North Branch Comprehensive Plan, it is the intent of the City with this Section to create standards for the reasonable capture and use, by households, businesses and property owners, of their solar energy resource and encourage the development and use of solar energy.

(b) Severability

The provisions of this Section shall be severable and the invalidity of any paragraph, subparagraph or subdivision thereof shall not make void any other paragraph, subparagraph or subdivision of this section.

(c) Applicability

These regulations are for all solar energy systems and solar energy farms on properties and structures under the jurisdiction of the North Branch Zoning ordinance except that North Branch requires the owner or operator of solar farms that would generate more than 50 megawatts of power to get approval for such a system from the Minnesota Public Utilities Commission (PUC).

(d) Definitions

The following words, terms and phrases, when used in this Article and Section, shall have the meaning provided herein, except where the context clearly indicates otherwise:

Building-Integrated Solar System. An active solar system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or thermal solar systems that are contained within roofing materials, windows, skylights and awnings.

Community Solar Energy System: A solar-electric (photovoltaic) array that provides retail electric power (or a financial proxy for retail power) to multiple community members or businesses residing or located off-site from the location of the solar energy system.

Ground Mounted Panels. Freestanding solar panels mounted to the ground by use of stabilizers or similar apparatus.

Photovoltaic System. An active solar energy system that converts solar energy directly into electricity.

Roof or Building Mounted SES. Solar energy system (panels) that are mounted to the roof or building using brackets, stands or other apparatus.

Roof Pitch. The final exterior slope of a building roof calculated by the rise over the run, typically, but not exclusively, expressed in twelfths such as 3/12, 9/12, 12/12.

Solar Access. A view of the sun, from any point on the collector surface that is not obscured by any vegetation, building, or object located on parcels of land other than the parcel upon which the solar collector is located, between the hours of 9:00 AM and 3:00 PM Standard time on any day of the year.

Solar Collector. A device, structure or a part of a device or structure that the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical or electrical energy.

Solar Energy. Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

Solar Energy System (SES). An active solar energy system that collects or stores solar energy and transforms solar energy into another form of energy or transfers heat from a collector to another medium using mechanical, electrical, thermal or chemical means.

Solar Farm. A commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal devices (CST), or other conversion technology, for the primary purpose of wholesale sales of generated electricity. A solar farm is the primary land use for the parcel on which it is located.

Solar Hot Water System. A system that includes a solar collector and a heat exchanger that heats or preheats water for building heating systems or other hot water needs, including residential domestic hot water and hot water for commercial processes.

(e) Types of Solar Energy Systems.

(1) Rooftop solar energy systems: accessory to the primary land use, designed to supply energy for the primary use.

a. These systems are permitted accessory uses in all districts in which buildings are permitted.

b. No City land use or site permit is required.

c. The owner or contractor shall receive a building or mechanical permit before installing a rooftop solar energy system.

(2) Ground-mount solar energy systems: accessory to the primary land use, designed to supply energy for the primary use.

a. Ground-mount systems are permitted accessory uses in all districts in which buildings are permitted.

b. Ground-mount systems require a City land use or site permit and are subject to the accessory use standards for the district in which it is located, including setback, height and impervious surface coverage limits.

c. The City does not consider the collector surface of a ground-mount system that is not in a DNR designated Shoreland District as impervious surface. Any collector surface of a ground-mount system foundation that is in a DNR designated Shoreland District and compacted soil or other component of the solar installation that rests on the ground is considered impervious surface.

d. The height of a ground-mounted shall not exceed 10 feet.

e. No ground-mounted solar energy system shall cover or encompass more than 10 percent of the total property area or lot size.

(3) Community solar energy systems: Roof or ground-mount solar energy systems, may be either accessory or primary use, designed to supply energy for off-site uses on the distribution grid, but not for export to the wholesale market or connection to the electric transmission grid. These systems shall be subject to the following conditions:

a. Rooftop community solar energy systems are permitted in all districts in which buildings are permitted.

b. Ground-mount community solar energy systems are an accessory use in all districts.

c. Prohibitions: The City prohibits community solar energy systems within:

a) Shoreland Districts as designated by the Department of Natural resources (DNR) and the North Branch Zoning Ordinance

b) Six Hundred (600) feet of areas designated or protected from development by Federal, State or County agencies as wildlife habitat or wildlife management areas

c) Wetlands to the extent required by the Minnesota Wetland Conservation Act, North Branch Wetland regulations and the North Branch Shoreland Standards

d) All Floodplain Districts.

d. An interconnection agreement must be completed with the electric utility in whose service territory the system is located.

e. All structures must meet the setback, height and coverage limitations for the district in which the system is located.

f. Ground-mount systems must meet all required standards for structures in the district in which the system is located.

g. Site Plan Required: The owner or operator shall submit to the City a detailed site plan for both existing and proposed conditions. These plans shall show the location of all areas where solar arrays would be placed, the existing and proposed structures, property lines, access points, fencing, landscaping, surface water drainage patterns, floodplains, wetlands, the ordinary high water mark for all water bodies, any other protected resources, topography, electric equipment and all other characteristics requested by the City.

h. Power and communication lines. Power and communication lines running between banks of solar panels and to electric substations or interconnections with buildings shall be buried underground. The City Administrator or their designee may grant exemptions to this requirement in instances where shallow bedrock, water courses or other elements of the natural landscape interfere with the ability to bury lines.

i. Decommissioning Plan: The City requires the owner or operator to submit a decommissioning plan for ground-mounted systems to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. The disposal of structures and/or foundations shall meet all City requirements and the requirements of the Chisago County Solid Waste Ordinance. The City also may require the owner or operator to post a bond, letter of credit or establish and escrow account to ensure property decommissioning.

(4) Solar farms: ground-mount solar energy arrays that are the primary use on the lot or of a property, designed for providing energy to off-site uses or export to the wholesale market. These types of systems that are not permitted or regulated the State of Minnesota Public Utilities Commission (PUC) shall be subject to the following conditions:

a. Solar farms are a permitted use in the Agricultural (AG1), Agricultural Preserve (AG2) and the Rural Residential (RR) zoning districts. (See Sections 66-385(7), 66-416(7) and 66-448(6) of the Zoning Ordinance)

b. Shall be on properties of at least five acres in size

c. Stormwater management and erosion and sediment control shall meet the requirements of the City and best management practices.

d. Prohibitions: The City prohibits community solar farms within:

a) Shoreland Districts as designated by the Department of Natural Resources (DNR) and the North Branch Zoning Ordinance

b) Six Hundred (600) feet of areas designated or protected from development by Federal, State or County agencies as wildlife habitat or wildlife management areas

c) Wetlands to the extent required by the Minnesota Wetland Conservation Act, North Branch Wetland regulations and the North Branch Shoreland Standards.

d) All Floodplain Districts.

e. Foundations. The manufacturer's engineer or another qualified engineer shall certify that the foundation and design of the solar panels meets the accepted professional standards, given local soil and climate conditions.

f. Other standards and codes. All solar farms shall meet all applicable local, state and federal regulatory standards, including the State of Minnesota Building Code, as amended; and the National Electric Code, as amended.

g. Power and communication lines. Power and communication lines running between banks of solar panels and to electric substations or interconnections with buildings shall be buried underground. The County Administrator or their designee may grant exemptions to this requirement in instances where shallow bedrock, water courses or other elements of the natural landscape interfere with the ability to bury lines.

h. Interconnection. The owner or operator of the solar farm must complete an interconnection agreement with the electric utility in whose service territory the system is located.

i. Site Plan Required. The owner or operator of the solar farm must submit to the City a detailed site plan for both existing and proposed conditions. These plans shall show the location of all areas where solar arrays would be placed, the existing and proposed structures, property lines, access points to the site, fencing, landscaping, surface water drainage patterns, floodplains, wetlands, the ordinary high water mark for all water bodies, any other protected resources, topography, electric equipment and all other characteristics requested by the City.

j. The City allows the installation of small operations, security and equipment buildings on the site of solar farms as permitted accessory uses to the solar farm.

k. The owner or operator shall contain all unenclosed electrical conductors located above ground within structures that control access or they must be protected from entry by a six-foot-tall fence. All electrical connections to the utility system must meet or exceed the National Electrical Safety Code.

l. Solar farms that have panels that would cover more than 20 acres of land must meet the review and design standards of the Public Utilities Commission (PUC) for Solar Farms.

m. Decommissioning Plan: The City requires the owner or operator to submit a decommissioning plan for ground-mounted systems to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. The disposal of structures and/or foundations shall meet all City requirements and the requirements of the Chisago County Solid Waste Ordinance. The City also may require the owner or operator to post a bond, letter of credit or establish and escrow account to ensure property decommissioning.

(f) Additional standards.

In addition to the standards allowed above, all solar energy systems shall meet the following standards.

1. The owners or operators of electric solar energy systems that are connected to the electric distribution or transmission system, either directly or through the existing service of the primary use on the site, shall obtain an interconnection agreement with the electric utility in whose service territory the system is located. Off-grid systems are exempt from this requirement.
2. Electric solar system components that are connected to a building electric system must have an Underwriters Laboratory (UL) listing.
3. All solar energy systems shall meet the standards of the Minnesota and National Electric Code.
4. All rooftop solar systems shall meet the standards of the Minnesota Building Code.
5. All solar energy systems using a reflector to enhance solar production shall minimize glare from the reflector that affects adjacent or nearby properties. Steps to minimize glare nuisance may include selective placement of the system, screening on the north side of the solar array, reducing use of the reflector system or other remedies that limit glare.
6. Building- or roof- mounted solar systems shall not exceed the maximum allowed height in any zoning district. For purposes of height measurement, solar systems other than building-integrated systems shall be considered to be mechanical devices and are restricted consistent with other building-

mounted mechanical devices for the zoning district in which the system is being installed, except that solar energy systems shall not be required to be screened.

7. Commercial rooftop systems shall be placed on the roof to limit visibility from the public right-of-way or to blend into the roof design, provided that minimizing visibility still allows the property owner to reasonably capture solar energy.
8. Setbacks. All equipment and structures shall meet the setback and coverage limitations for the zoning district in which the system is located.

SECTION 2 AMENDED

The following language is hereby amendments to the North Branch Zoning Ordinance:

Division 7. AG-1 Agricultural District is amended by adding (8):

Sec. 66-385. Permitted Uses.

(8) Solar Farms as a principal use, in accordance with the provisions of Article XI (Solar Energy Systems) of the Zoning Ordinance.

Division 8. AG-2 Agricultural District is amended by adding (8):

Sec. 66-416. Permitted Uses.

(8) Solar Farms as a principal use, in accordance with the provisions of Article XI (Solar Energy Systems) of the Zoning Ordinance.

Division 9. RR Rural Residential District is amended by adding (7):

Sec. 66-448. Permitted Uses.

(7) Solar Farms as a principal use, in accordance with the provisions of Article XI (Solar Energy Systems) of the Zoning Ordinance.

SECTION 3. EFFECTIVE DATE:

This ordinance shall take full effect and be in full force from and after passage and publication according to law.

Passed and adopted by the North Branch Minnesota City Council on July 28, 2014.

CITY OF NORTH BRANCH

BY:_____
Ronald Lindquist, Mayor

ATTEST:_____
Bridgitte Konrad, City Administrator

To: David Birkholz

Re: Comments for PUC Docket No. IP6943/GS-15-33

After hearing the concerns raised by the citizen and neighbors impacted by the proposed North Star Solar Farm, It's apparent that there are no long term studies identifying the real impact on real estate values, health & safety concerns, wildlife viewing and hunting, or on a rural residential community having to absorb the potential for 1300 plus contiguous acres of solar farms. We know this, because a project of this size has never been done before. This should require the PUC to take a cautious view and approach while considering the site permit for this project. All alternatives proposals should be considered which minimize the negative impact on the residents, their total quality of life and surrounding community.

For the reasons listed above, we are proposing a change (Alternative site) to the presently planned North Star Solar Farm. This proposal positively affects all three active solar farm proposals in Chisago County (North Star, Aurora and Sunrise), for which each company already has the land rights (though purchase or lease). (See maps below).

In our proposal we have consolidates part of the North Star site and the entire Sunrise site (presently under option by Geronimo Energy).
(See maps below)

This would open the surrounded homes in North Branch to the west and south. With appropriate setbacks on the south side of 367th St. this would improve, in our opinion the
Layout of the neighborhood.

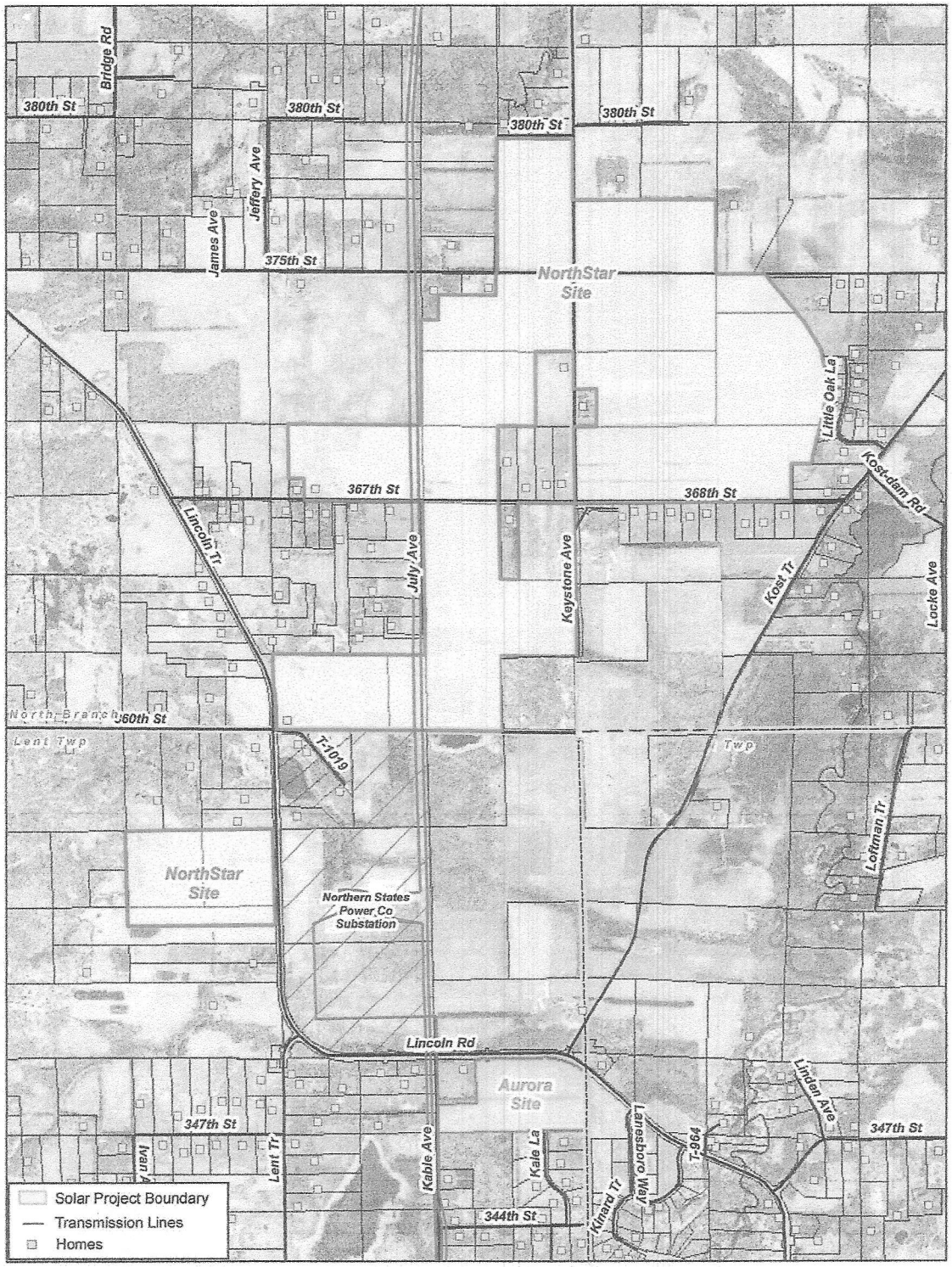
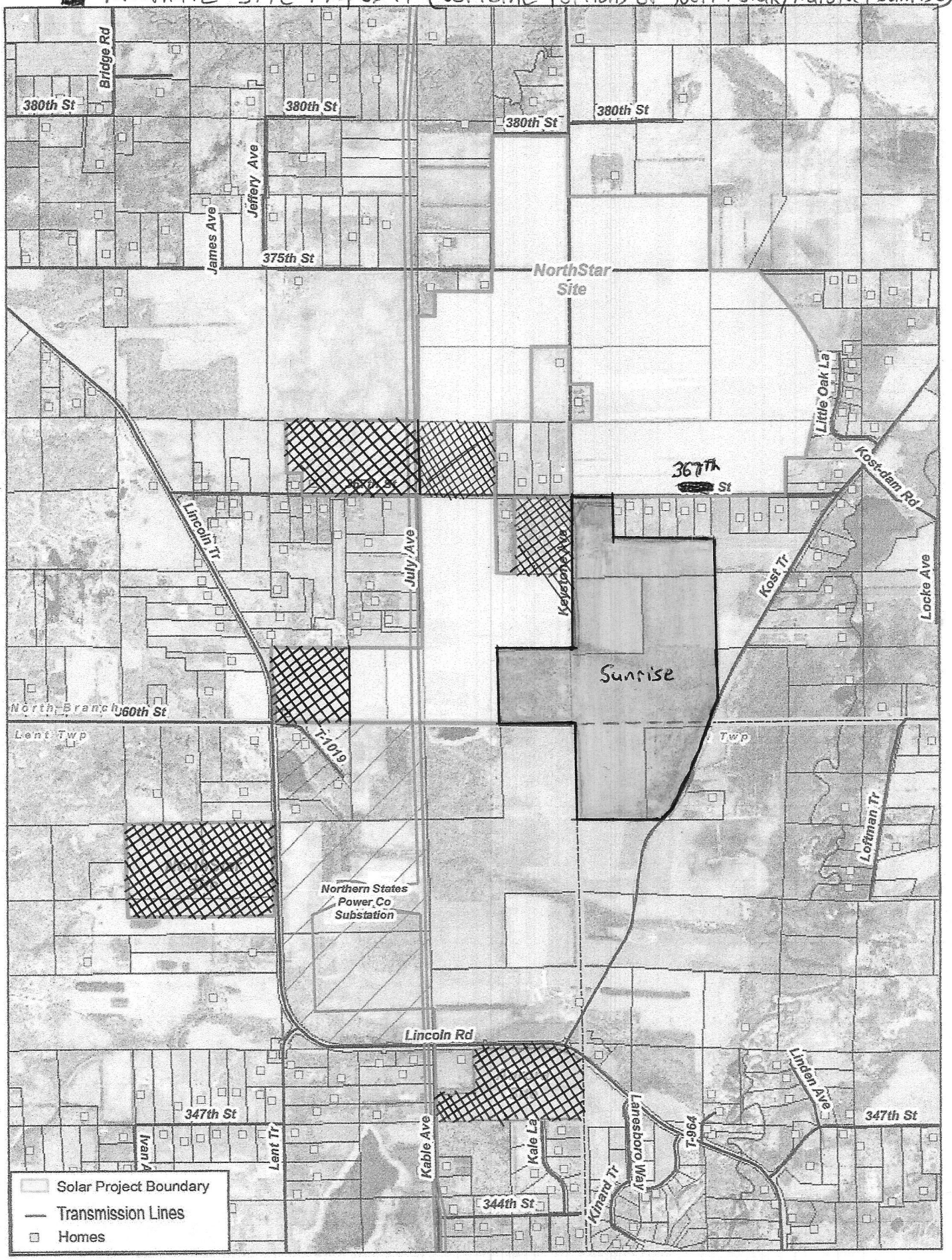
- The site change would positively affect 45 home plus additional lots. (Lent and north branch).
- One home would be negatively affected. (Chisago Lakes Township).
- Site consolation would improve future growth potential for the surrounding communities.
- There will be enough space left over to accommodate the Aurora Wyoming solar site.
    - That would free up another 22 homes from the visual blight of the solar factory. This restores the future development possibility (Wyoming).
    - Combining Wyoming and Lent sites also reduce both companies overall project cost. (Screening, substation, drive ways, power line hookup, maintenance time and travel, Reduce government interface, etc.).
- Reduce required perimeter fencing by approximately 3 miles.
    - Minimizing the impact on wildlife.

We are encouraging the PUC, as a requirement of the permitting process, to bring all proposals together to meet the states renewable energy requirement of 1.5%, consolidating the projects and greatly reducing the foot print, visual pollution, industrialization and negative impacts on our community.

This type of action is necessary to preserve the high quality of life for our residents, many who moved to this rural residential/agriculture community to escape this type of very intrusive commercial development.

Phil Carlson (Representative for the entire Lent Township Planning and Zoning Commission
651-674-2042

Current North Star Solar Site Map



Alternate site Proposal (Combine Portions of North STAR, Aurora + Sunrise)