SOLAR ELECTRIC SYSTEM
PERMIT APPLICATION

Before approval and issuance of permit(s) for Solar Panel/Photovoltaic systems, applicant shall submit a building permit and the following minimum information. Required drawings shall be scaled and dimensioned, readable, and legible. Additional information may be requested.

Application Submittal. **Email**: neil.schlagel@winsted.mn.us
In-person: Winsted City Hall, 201-1st Street N., Winsted, MN 55395
Fax: (320) 485-2858

1. Fully completed application for a building permit. ☐ Yes ☐ No

2. Installation company information:

   Name:_____
   Address:_____
   Phone:_____ Email:_____

3. What is the system KW rating (DC)? _____

4. Type of system: ☐ Inter-tie ☐ Stand alone

5. Does the system include battery backup or an uninterrupted power supply (UPS)?
   ☐ No ☐ Yes

   a. If yes, give the number, size and location of the batteries below:

   _____

   _____

6. If rooftop mounted, identify the following:
   a. Roof type ☐ Flat roof ☐ Sloped

   b. If sloped roof, identify pitch _____

   c. The type of existing roofing (shingles, tile, metal, ballasted, membrane, etc.).

   _____

   d. The number of roofing layers that will be under the panels: _____

   No more than 2 layers of roof shingles are allowed.

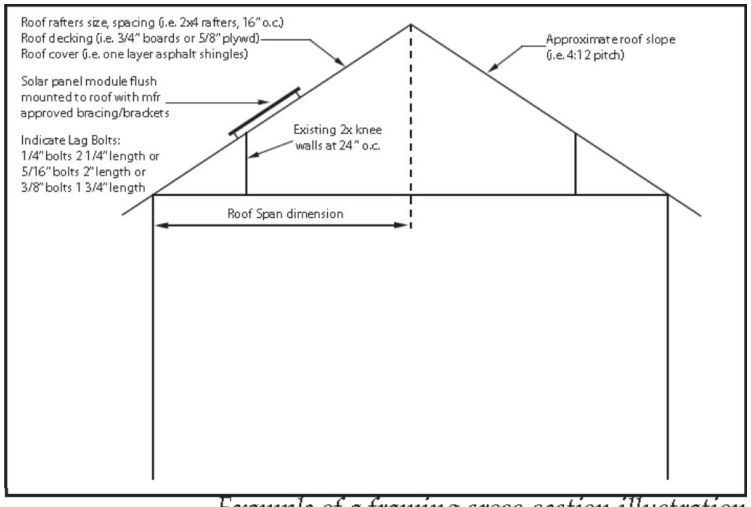
   e. Describe the condition of the roofing material and approximate age below:

   _____

   _____

Required Drawings and Plans

7. Provide construction drawings that include a building section detail and complete notation of method of fastening equipment to the roof of the subject property, including the following details:



Example of a framing cross-section illustration

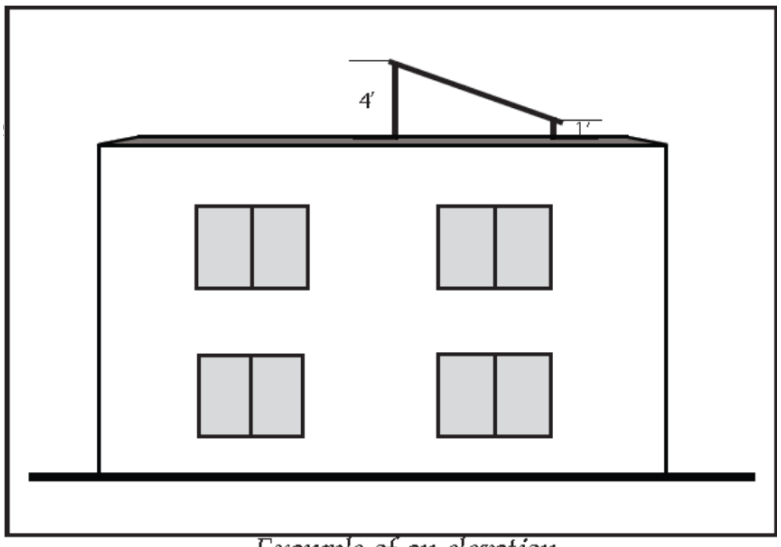
   a. Cross section that identifies rafter size, spacing and span dimension and approximate roof slope (see example to the right).

   b. Identify style, diameter, length of embedment of bolts (i.e., 5/16" lags with minimum 3" embedment into framing, blocking, or bracing).

   c. Construction drawings included? ☐ Yes ☐ No

8. Provide an elevation of the structure indicating the appearance of the proposed solar installation. Note the finished height of the system above the roof or, if ground - mounted, above the ground.

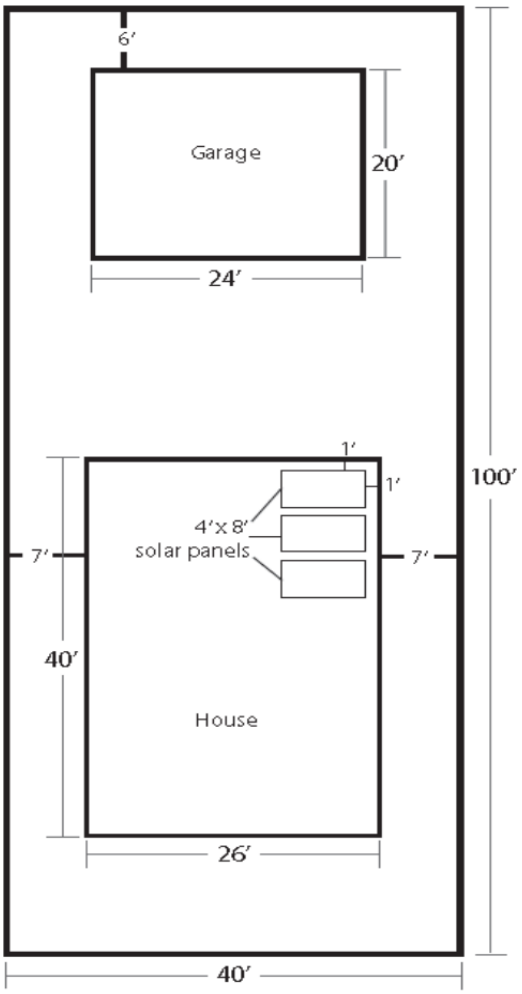
   Elevation included? ☐ Yes ☐ No



Example of an elevation

9. Provide a site plan indicating the buildings and features of the property. The site plan shall show property line locations, approximate location of all structures, the location(s) of the panel installations, setback from property lines, the main service location, and, if applicable, the solar easement across adjoining properties. For roof-mounted systems identify the setback dimension from the peak and from all edges of the roof.

   Site Plan included? ☐ Yes ☐ No



Example of a site plan

10. Is the equipment to be flush mounted to the roof (mounted such that the collector surface is parallel to the roof)?

    ☐ Yes ☐ No

11. The minimum structural threshold for installing a flush- mounted PV system is a roof structure with at least 2 x 4 rafters no more than 24" on-center spacing. Does the roof structure use 2x4 or larger rafters, spaced no wider than 24 inches on center?

    ☐ Yes ☐ No

12. For roof installations, roof decking and structural supports should all be in good condition without visible roof sag/deflection. Is the roof structure in good condition, having no visible sag, cracking or splintering of rafters, or other potential structural defect? If roof structure is accessible, please provide a photo showing the condition of the roof. If roof structure is not accessible, please provide an exterior photo, side view, of the roof.

    ☐ Yes ☐ No

13. If the answer is no to any of questions 10 - 12, please provide the following additional documentation.
    a. If not a flush mount system, provide a side elevation identifying the pitch and height of the collector and mounting system relative to the roof.
    b. Provide a study or statement regarding the proposed solar installation and all proposed structural modifications stamped by a Minnesota licensed/certified structural engineer. Approval can come in the following forms:
        i. Construction plans denoting the roof structure and any modifications to the structure if required, as well as the method of installation of solar collector on the subject property.
        ii. Letter from engineer accomplishing the same as above if the engineer feels that letter format will provide the necessary information.

1501.018 Alternative Energy Systems

F. Solar Energy Systems (SES)

1. *Purpose and Intent. Winsted finds that other communities are being requested to address the use and development of renewable energy systems, believing them to enhance energy conservation efforts with limited adverse impact on nearby properties. The City finds that it may be in the public interest to encourage the use and development of such renewable energy systems; to support the use of solar energy systems; and that the development of solar energy systems could be balanced with the protection of the public health, safety and welfare. While it wishes time to study the issue, it also wishes to have a process in place to address the issue while it is being studied. Accordingly, the City resolves that the following standards shall be adopted to address applications for solar energy systems to be constructed within the City of Winsted.*

2. *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.*

3. *Applicability. These regulations shall apply to all solar energy systems on properties and structures under the jurisdiction of the City of Winsted zoning ordinance. Winsted shall refer any application for a large electric power generating plant (LEPGP) to the Minnesota Public Utilities Commission (MN PUC) for approval.*

4. *Types of SES.*

    a. *Roof or Building Mounted SES. Systems which are accessory to the principal land use and designed to supply energy for the principal use. Roof or Building Mounted SES shall be regulated as follows:*

        I. *Roof or Building Mounted SES are permitted accessory uses in all districts in which buildings are permitted;*

        II. *All Roof or Building Mounted SES shall meet the standards of the Minnesota Building Code and the owner or contractor shall receive a building or mechanical permit before installing a Roof or Building Mounted SES. Roof or Building Mounted SES are subject to the accessory use standards for the district in which it is located, including setback, height and impervious surface coverage limits;*

        III. *Color. All Roof or Building Mounted SES shall use colors that are the same or similar with the color of the building or roof material of the building on which the system is mounted;*

        IV. *Roof or Building Mounted SES shall not exceed the maximum allowed height in any zoning district and shall not extend beyond the perimeter of the roof line of the building on which it is mounted. For purposes of height measurement, Roof or Building Mounted SES 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; and

V. *Roof Mounted SES 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.*

b. *Ground Mounted SES. Accessory to the principal land use and designed to supply energy for the principal use. Ground Mounted SES shall be regulated as follows:*

I. *Ground Mounted SES are permitted accessory uses in all districts in which buildings are permitted and shall be limited to a maximum area of two hundred (200) square feet in residential districts and shall not encompass more than ten percent (10%) of the total property area or lot size in all other districts;*

II. *All Ground Mounted SES shall meet the standards of the Minnesota Building Code and the owner or contractor shall receive a building or mechanical permit before installing a Ground Mounted SES. Ground Mounted SES are subject to the accessory 15:1-88 use standards for the district in which it is located, including setback, height and impervious surface coverage limits;*

III. *The City does not consider the collector surface of a Ground Mounted SES that is not in a DNR designated Shoreland District as impervious surface;*

IV. *The height of a Ground Mounted SES shall not exceed ten feet (10') at maximum tilt;*

V. *Ground Mounted SES shall only be located in the rear yard as defined by this section; and*

VI. *Ground Mounted SES shall not encroach upon drainage and utility easements.*

c. *Community SES (Solar Garden). Community SES shall be designed to supply energy for on and off-site uses on the distribution grid or for export to the wholesale market or connection to the electric transmission grid. Community SES are allowed as an accessory or principal use in the I-1 Industrial District, unless otherwise regulated or prohibited in this section. Community SES shall be regulated as follows:*

I. *Community SES shall be permitted as an interim use in the AG Agricultural District and the I-1 Industrial District, and shall be processed according to the standards of Section 1501.007.;*

II. *Community SES shall be on properties of at least five (5) acres in size but shall not have a generating capacity of more than one (1) megawatt per SES or five (5) megawatts per site;*

III. *Density. Community SES shall not be located within one-half (0.5) mile of another SES;*

IV. *Prohibitions: The City prohibits all Community SES within:*

a) *Shoreland Districts as designated by the Department of Natural*

resources (DNR) and the Winsted Zoning Map;

b) *Wetlands to the extent required by the Minnesota Wetland Conservation Act;*

c) *Within one thousand feet (1,000') of areas designated or formally protected from development by Federal, State or County agencies as wildlife habitat, wildlife management areas or designated as National Wild and Scenic land or corridor;*

d) *The Floodplain Management Overlay District;*

e) *Residential Districts, Commercial Districts, Special Districts and Environmental Districts; and*

f) *All drainage and utility easements.*

V. *An interconnection agreement must be submitted to the utility company and proof be provided to the City that the utility company has deemed the agreement "complete";*

VI. *All structures must meet either the principal or accessory structure setbacks, height and coverage limitations for the zoning district in which the system is located, except as otherwise stated in this section;*

VII. *The owner or operator shall be required to submit to the City, a detailed site plan as regulated under Section 1501.010., showing 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;*

VIII. *All Community SES shall meet the standards of the Minnesota Building Code and all applicable local, state and federal regulatory standards. The owner or contractor shall receive a building or mechanical permit before installing a Community SES. Community SES are subject to the accessory use standards if it is an accessory use or principal use standards if it is a principal use for the district in which it is located, including setback, height and impervious surface coverage limits;*

IX. *The owner or operator of the Community SES must submit to the City a detailed emergency shutdown plan as part of the review process;*

X. *Signage shall be posted at all entrance points to the property the Community SES is located on that includes at a minimum, the owner and operator's name, contact information and emergency phone numbers. All signage shall meet the requirements of Section 1501.020.;*

XI. *Screening. Community SES shall be screened from adjacent residential uses in accordance with Section 1501.022.A.;*

XII. *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;*

XIII. *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 on premise. The City 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; and*

XIV. *Decommissioning Plan. The City requires the owner or operator to submit a decommissioning plan for Community SES 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 or foundations shall meet all applicant, federal, state and local requirements. The City may require the owner or operator to provide a current day decommissioning cost estimate and shall post a bond, letter of credit or establish an escrow account, including an inflationary escalator, in an amount determined by the City Council, to ensure proper decommissioning.*

d. *Solar Farms. Solar Farms are Ground Mounted SES arrays that are the principal use on parcel on which it is located. Solar Farms are designed for providing energy to off-site uses or export to the wholesale market. Solar Farms, including those that are not permitted or regulated by the State of Minnesota Public Utilities Commission (PUC), shall be regulated as following:*

    I. *Solar Farms shall be prohibited in all zoning districts within the City.*

e. *Additional Standards. In addition to the standards allowed above, all SES shall meet the following standards:*

    I. *The owners or operators of SES 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;*

    II. *Electric SES components that are connected to a building electric system must have an Underwriters Laboratory (UL) listing;*

    III. *All SES shall meet the standards of the Minnesota and National Electric Code;*

    IV. *All SES 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;

V. *Setbacks. All SES structures and equipment shall meet the setback and coverage limitations for the zoning district in which the system is located;*

VI. *Abandonment. Any SES which is inoperable for twelve (12) successive months shall be deemed to be abandoned and shall be deemed a public nuisance. The owner shall remove the abandoned system at their expense after obtaining a demolition permit;*

VII. *Building Permit. A building permit shall be obtained for any SES prior to installation; and*

VIII. *All SES shall meet all federal and state requirements including the Public Utilities Commission (PUC) requirement and size requirements.*