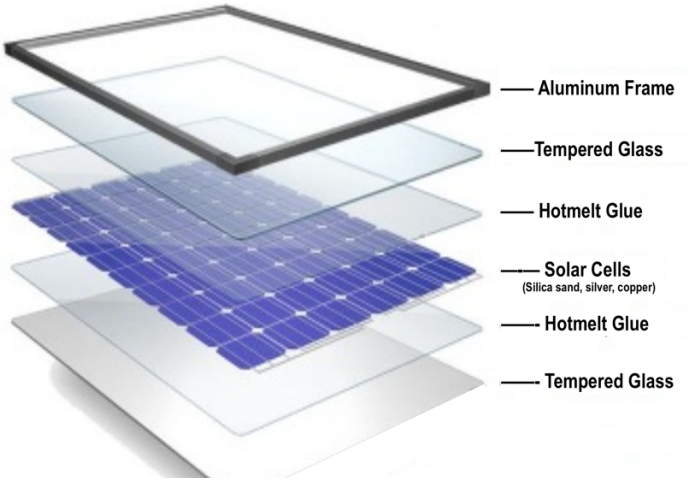
2. Special Use Permit Findings of Fact Worksheet – TNT Howard LLC – 8/12/26

A. Explain how 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.

Solar field components are non-toxic and comprised of glass, aluminum, hotmelt glue, silicon, silver, copper, iron, zinc, and vegetable oil. There is no possibility of affecting ground water, wells, or soil health. The four main components are ***1. solar panels, 2. galvanized steel piles, 3. inverters, and 4. transformers.***

1. Solar panels are composed as shown below left. Should the glass panes break, the hot melt glue holds the pieces together similar to safety glass in a car windshield.



2. Modern galvanized steel piles shown above right do not contain lead or other contaminants beyond trace amounts. Iron is the primary base metal with zinc formed in the coating. Both are nutrients for plants and human diets.

3. Inverters convert solar energy (direct current) to usable electricity (alternating current). Inverters are non-liquid and non-toxic, as so with electrical components used within homes.

4. Transformers raise the voltage coming out of the inverters to the ComEd power line voltage. A transformer is composed of a magnet wound by copper or aluminum windings and kept in a bath of vegetable oil to keep it cool. None of these components are toxic.

Other Concerns:

1. Sound is negligible during operation and produced by small cooling fans and DC/AC conversion in the inverters. Sound at a minimum 150' distance from homes would be 200x less than the sound of a home refrigerator.

2. Electromagnetic fields (EMFs) are only produced by the inverters. Inverters emit 0.1-0.2 mG at the required 150' distance from homes. Emissions from refrigerators at 6 Mg and microwave ovens at 50 mG are 60x to 500x higher.

3. Solar fires have primarily been associated with solar panel connectors not matching the wire connectors (similar to home fires caused by putting the wrong plug in an outlet). High quality connectors made from the same company are now specified throughout solar projects to prevent fire risk.

4. Heat islands are not an issue with 5mw systems in Illinois due to the vegetation and humidity that provide a cooling effect. Areas of desert without ground cover and humidity, like large solar fields in Arizona, can experience warming of the local environment. This site is surrounded by over 100 acres of mature trees and crops, mitigating any affect.

5. Regarding traffic, maintenance on solar fields is done on an as needed basis and should occur infrequently.

6. A microburst is a downdraft producing straight line winds generally at 100 mph and in rare cases up to 150 mph. Solar farms are built to withstand speeds up to 160 mph if local conditions demand. Danger from a microburst is more often from home windows breaking, roofs peeling, sheds and lawn items flying, and trees uprooting.

On a positive note, the solar project will create jobs and tax revenue without increasing burdens on infrastructure and schools. Please see additional environmental data attached.

B. Explain how the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity.

This farm site is unique as the land slopes South, down away from the homes. Additionally, a 50'-90' line of mature trees exists along the East border and part of the North border as shown below left. We will provide additional funds to homeowners as needed to add backyard screening. The thin panel visual profile is low with height at 5-6' when flat and 8-9' at maximum tilt. The addition of Fat Albert Spruce, Pink Weigelas, and native prairie provide a nice visual buffer and habitat for wildlife.

Studies by Loyola University, CohnReznick, and others, plus our discussions with realtors and the Elgin Township assessor show that solar fields can have a neutral or small positive affect on nearby property values with proper screening, are sized 5mw or less, and by stablizing land use, preventing other less desirable developments. This particular site, with a South facing slope falls into this category with the vegetative screening planned and shown below. The few negative studies only show a few percentage points detriment, nothing substantial.

C. Explain how the special use will not impede the normal, orderly development and improvement of the surrounding property.

This property is in the center of a section of land and has no roads, utilities, or major infrastructure passing through or around it. Therefore, it is not ideal for commercial development, and would also not impede development of the undeveloped land in the surrounding property. The city of Elgin and the Forest Preserve have also shown no interest.

D. Will adequate utilities, access roads, drainage and other necessary facilities be provided? Please explain:

The Elgin Township DOT has approved the use of Brookside Drive off of Randall Road as the entry point onto the farm solar site. An access road with a minimum width of 10 feet is required through the farm to the solar site by the local Pingree fire department. Site drainage will be addressed to meet Kane County requirements. Existing terraces and tile inlets control water drainage on the majority of the site. Drainage tile location is known and will be and repaired if damaged. No utilities other than the approved ComEd Interconnection Agreement is required.

E. Will adequate measures be provided for ingress and egress and so designed to minimize the traffic and congestion? Please explain:

Elgin Township DOT has approved the use of Brookside Drive off of Randall Road as the entry point onto the farm solar site. This access point can easily handle the traffic during construction. Post construction traffic should be one vehicle per week or less.

F. Will the special use will conform to the regulations of the district in which it is located? Please explain:

This solar project will comply with state and federal law and regulations, and with the standards of this zoning code including the factors listed in ARTICLE IV. ADMINISTRATION AND ENFORCEMENT Section 25-4-8: Special Uses, and particularly Section 25-5-4-9 Commercial Solar Energy Facilities. (Ord. 23-178, 5-9-2023)