

Principals:

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Founder:

Archie D. Fellenzer, Jr., P.E.
(1924 - 2014)

February 23, 2016

Town of Chester Planning Board
1786 Kings Highway
Chester, NY 10918

Attention: Mr. Donald Serotta, Chairman

Subject: Johnson Farm Photovoltaic Array
121 Johnson Road, Chester, NY
Fellenzer Engineering Project 15-255

Dear Mr. Serotta,

Please find attached the following documents regarding the Johnson Farm Photovoltaic Array for consideration at the March 2, 2016 Public Hearing:

- Twelve (12) Johnson Farm Photovoltaic Array Site Plans
- Twelve (12) Cover Letter
- Twelve (12) SunEdison Antireflective Glass Tech Note
- Twelve (12) Spaven Consulting SPV Facilities: Assessment of Potential Impact to Aviation

At the previous planning board meeting, a revised array layout was presented based on restrictions due to topography, requirements from Johnson Farm, and other existing site conditions which requires that solar panels be added to the south end of the array.

To maximize the distance between the array and the existing residential homes, the layout has been further revised to eliminate solar panels from the south end of the array.

The closest house on Arthur Road is now 906.6 feet from the closest part of the array. This area is screened by existing trees along the back property lines and by existing trees near the array.

The closest house on Brennan Court is now 998.7 feet from the closest part of the array. This house is screened by existing trees in the back yard and by existing trees between the house and the array.

Following up on the question of glare, we have included in this submission documents from SunEdison and Spaven Consulting. The SunEdison Tech Note states that AntiReflective Coating (ARC) glass reflects approximately 4% of incoming light while glass used in other applications typically reflects 8%.

The Spaven Consulting paper assessed the potential impact of Solar PhotoVoltaic (SPV) arrays on pilots. The study concluded that:

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- Solar panels are designed to absorb rather than reflect light, typical panels are designed to reflect only some 2% of incoming light and reflected light from solar panels will have a significantly lower intensity than glare from direct sunlight.
- Solar facilities away from airfields are unlikely to present problems of glare to pilots.
- No evidence has been found around the world of solar array glare affecting pilots.
- The United Kingdom and United States aircraft accident databases contain no cases of accidents in which glare from solar panels was cited as a factor.

In addition to reflecting only 4% of the sunlight, the panels are designed to face due south at a fixed elevation angle to allow for the photovoltaic effect for both the higher Sun in the Summer months and for the lower Sun in the Winter months. The ideal elevation angle is when the face of the solar panel faces directly toward the Sun, which would then reflect light back toward the Sun.

We do not believe glare is an issue due to the fact that:

- Only 4% of the light is being reflected
- The closest residential home is 906 feet away and
- Existing trees screen much, if not all, of the array

We look forward to discussing this further at the March 2 Public Hearing.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Amador C. Laput', followed by a long horizontal line extending to the right.

Amador C. Laput
Project Manager