

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

GREENSKIES CLEAN ENERGY, LLC Petition for)
a Declaratory ruling, pursuant to Connecticut General) Petition No. 1410
Statutes §4-176 and §16-50k, for the Proposed)
construction, maintenance and operation of a 3.0)
megawatt AC solar photovoltaic electric generating)
facility on two parcels at the Elmridge Golf Course)
located to the east and west of North Anquilla Road)
at the intersection with Elmridge Road, Stonington,) SEPTEMBER 24 , 2020
Connecticut and associated electrical interconnection.)

PRE-FILED TESTIMONY OF DAVID F. TUSIA, Sr, EXPERT WITNESS

Q1. Please state your name for the record.

A1. David F. Tusia, Sr. I am the owner of Ion Imaging, LLC.

Q2. What is your involvement with this project?

A2. I was engaged by Douglas Hanson to take still photographs through the use of my drone. My understanding is that Mr. Hanson had questions as to the perspectives used in the petitioner, Greenskies Clean Energy, LLC’s (“Greenskies”) photos submitted to the Connecticut Siting Council (“CSC”), as they appeared to show what he considered to be questionable perspectives and angles that did not, in Mr. Hanson’s estimation, adequately capture a fair assessment of the views from his home at 6 Woodlawn Court, Pawcatuck, CT 06379 “(the “Hanson Residence”). I took several photos of both the Hanson residence and of the golf course from the perspective of the Hanson residence in order to represent what I consider to be a more accurate portrayal of what the difference in view will be for Mr. Hanson and his family if the Greenskies Solar Farm is approved.

Q3. What degrees and professional licenses do you hold?

A3. I hold a FAA Part 107 UAS Certification, a NAUI SCUBA Certification and a DHS Select Agent Security Clearance. A copy of my Curriculum Vitae can be found appended to this document as Exhibit A.

Q4. Please list the type of Photography Image Credits you have earned throughout your career.

A4. I have image credits with the following organizations and publications: American Chemical Society, Fortune Magazine, Connecticut College Magazine, New York Times, The Day Newspaper, Mystic River Press, Pfizer Inc. Annual Report, Connecticut Magazine, Connecticut Mirror, and the Daily Record.

I have also received a 1989 Telly award for my work in broadcast, commercial and marketing photography and video camera work. In addition to this, I have received a Cine award for proprietary drug discovery documentary work for Pfizer, Inc. in 2004.

Q5. Briefly describe your experience as a photographer, in particular your experience using drones for photographs?

A5. I have been a professional photographer for over 35 years. Through my various employers and clients, I have photographed everything from weddings to photographic documentation of structural defects through the use of mechanical and laser measurement tools. I have also worked as a videographer producing commercial video work and legal “Day in the Life” of videos showing the continuing long-term cognitive and physical impairment of a personal injury.

With specific regard to UAS or “Drone” work, I have videoed and photographed real estate listings, agriculture surveys, commercial and tourism footage, along with concert and live events through Foxwoods Resort and Casino.

Q6. What is the purpose of your testimony?

A6. This testimony describes my findings and opinions with respect to Greenskies Clean Energy's submission to the Council.

Q7. Explain your process of obtaining photographs for this project?

A7. I was initially provided with reference photographs that I believe were a part of Greenskies' petition currently under review. They were part of Appendix M-2.

I went out to the Hanson Residence on September 17th and 18th, 2020. At that time, I utilized both drone and handheld photography to attempt to duplicate the images I received. A compendium of these photographs are attached hereto as Exhibit B. The idea being that I would use a lens that, in my opinion, would demonstrate a more realistic view of the project area from the Hanson Residence as compared to what Greenskies submitted through their petition.

I captured images in reference positions at 6 foot, 12 foot and 21 foot heights to simulate what a subject would see at these positions.

A full frame 35mm camera with 50mm lens was used for all ground level photography at the property line at the approximate 6, 12, and 21 foot views facing the golf course. This camera/lens combination produces an image equivalent closely resembling what the human eye sees.

All aerial photography was captured with a UAS (drone) using a 1/2.3 sensor and a 20mm fixed lens.

A focal length conversion calculation was made preflight to determine the distance correction needed to get an approximate match of field of view to the 50mm focal length on the 35mm camera.

Q8. Please explain why you chose to take photographs from the varying heights from the perspective of the Hanson Residence.

A8. The three heights I chose were 6 feet, 12 feet and 21 feet. I chose 6 feet for the purpose of demonstrating the perspective and viewpoint of a 6 foot person, a height close to what I believe the height of Mr. Hanson is. My selection of the other heights are best explained if you review the photograph at page 22 of Exhibit B. The deck of the residence is at 9 feet, and the home has windows at the other two heights. I chose these heights to accurately demonstrate what the Hanson Family is going to see from their real-life perspectives from their property line on to the project area.

As far as how the photographs are organized in Exhibit B, I focused on the three photographs from the petition that appear in closest proximity to the Hanson Residence. They can be found at Appendix M-2, Photos 1, 2, and 3 of the appendix. I attempted to match the perspectives as best I could.

Each of my photographs, found at Appendix pages 13 to 21 are the same perspective as the above petitioner photographs, but at the three varying heights, grouped by height, resulting in photos at pages 13 to 15 at the 6 foot height, pages 16 to 18 at the 12 foot height and pages 19 to 21 at the 21 foot height.

Q9. With regard to photographs at pages 13 to 21 , can you please explain the reference on the bottom left of the page?

A9. Yes. The references I placed on these photos are to the petition appendix pages that were submitted to me from the petition. This was done to aid the CSC in viewing my photograph with that of what was submitted by the Petitioner.

Q10. With regard to the photographs at pages 13, 16 and 19 explain what the photographs are of and compare it to the referenced photograph from the petition.

A10. The photos referenced can be found at Appendix M-2 Photo 1 of the petition. In that photograph, you can see both the tree on the right and the sand trap, which purports to look at the proposed east array. My photos, at the varying heights, match the perspective of the original photo as best as I could, with a field of view left of center. What is clear is that under the 50 mm lens, the items in the photo appear much closer than what was submitted to the CSC. This photo was taken at the property line facing towards the golf course, directly in line from the Hanson Residence.

Q11. With regard to the photographs at pages 14, 17 and 20, please explain what the photographs are of and compare it to the referenced photograph from the petition.

A11. The photos referenced can be found at Appendix M-2 Photo 2 of the petition. In that photograph, you can observe the tree with the sand trap looking towards the proposed east array. Through my photo process, which closely matches the human eye, my photographs here show a dramatic difference in the proximity of the proposed eastern array with that of the Hanson Residence. You need only to look at the difference in the sand trap in the petitioner's photo compared to mine to see that it is not nearly as far away as portrayed in the petitioner photograph. Again, these photos were taken from Mr. Hanson's property line.

Q12. With regard to the photographs at pages 15, 18 and 21, explain what the photographs are of and compare it to the referenced photograph from the petition.

A12. The photo referenced can be found at Appendix M-2 Photo 3 of the petition. In these photographs, which admittedly look different from the petitioner's photo at M-2, Photo 3, are an accurate portrayal of what you would see from Mr. Hanson's home. What the petitioner apparently did is take its photo from an angle that is not representative of what the view would be from Mr.

Hanson's property line from a perspective in front of the right side of the portion of the Hanson Residence that is facing the golf course.

Q13. You have a photograph at page 23 of a lone golfer next to a sand trap. What is the purpose of this photograph?

A13. It is important to establish a sense of scale when taking these types of photographs. Especially in a matter such as this, where Mr. Hanson finds the placement of solar arrays so close to his home offensive to look at under the current petition. In this photo, we have what appears to be an adult male at presumably normal height. This photo was taken from Mr. Hanson's property line. The proposed eastern array is to be placed in this area according to the petition. You can clearly see this golfer. Likewise, with solar panels that are considerably taller than this person, and given the array layout, this is clearly going to have a significant visual impact on Mr. Hanson's property, changing from that of a well-maintained golf course, to a solar farm so close to his home.

Q14. Please describe your final photograph on page 24?

A14. This is a satellite capture, which shows a site layout, that was taken from the petition that demonstrates not just the proximity of the solar panels to Mr. Hanson's home, but also the photo capture positions. I believe it also assists in demonstrating that the petitioner's photos make an attempt to show the panels further away from the Hanson Residence than they actually are to the human eye, which is why I used a 50 mm lens.

Q15. Do you have an opinion as to what type of lenses that were used by the petitioner in the photographs you referenced??

A15. Based upon my review and professional experience they appear to have been captured using an 18-24 mm lens.

Q16. What is the effect of the difference in using that type of lens compared to your 50 mm lens, which you indicate replicates the vision of the human eye?

A16. It is widely recognized in the photography industry that a 35 mm full frame camera with a 50 mm lens attached is the approximate field of view of the average person. By using a wider angle lens, a photograph has a distorted field of view (wider). This would have the effect of objects in the photograph appearing further away than they actually are. It also makes the objects look smaller than they appear in person.

Q17. Do you have an opinion as to where the petitioner's capture positions were from for its photographs you referenced?

A17. Yes, their capture points were taken from positions that the Hanson family would be less likely to actually view the project from. My photographs are more centered upon the perspective of the home and deck, which presumably is where the Hanson Family will be view the project from.

Q18. What is your opinion as to what the referenced photos from the petition demonstrate to the reader as to how close the eastern array will be to the Hanson Residence?

A18. With specific regard to the Hanson Residence, I do not believe they depict an accurate portrayal of what the Hanson family will see from their property line. That is to say, the photos that the Petitioner submitted, and I have referenced above, have objects that appear further away than the photos I have submitted, which I believe to be more accurate.

The statements above are true and accurate to the best of my knowledge.

David F. Tusia, Sr

9/23/20
Date

ATTACHMENTS

Exhibit A – CV of David F. Tusia, Sr.
Exhibit B- Compendium of Photographs

EXHIBIT A

David F. Tusia Sr.
Ion Imaging, LLC
80 Spicer Hill Rd., Ledyard, Connecticut 06339
Phone: +1-860- 367-3979
Website: <http://www.tusiaphotography.com>
Email: david06360@yahoo.com

Qualifications	Over thirty years experience in the national and international still and video photography industry for government, corporate, and commercial clients.
Licenses/Certifications	FAA Part 107 UAS Certification NAUI SCUBA Certification DHS Select Agent Security Clearance
Professional Awards	1989 Telly award winner for broadcast, commercial and marketing 2004 Cine award winner for proprietary drug discovery documentary for Pfizer, Inc.

Personal Injury Photography/Video

- Photographic documentation of structural defects using mechanical and laser measurement tools.
- Photographic and video documentation of motor vehicle accidents, property damage and accident reconstruction.
- Photographic documentation of product safety defects.
- Photography and video in hospital, and residential environments, documenting physical trauma disfigurement, scarring, and physical impairment.
- Production of “Day in the Life” videos illustrating continuing long-term cognitive and physical impairment.

UAS (Drone) Aerial Photography/Video

- Real estate listings and property management.
- Agricultural Survey
- Litigation
- Concert and live event aerial support for Foxwoods Resort Casino.
- Commercial television and tourism industry in the New England market.
 - Pfizer, Inc.
 - Foxwoods Casino
 - WTNH Channel 8 New Haven, CT

360 Degree Virtual Reality Photography

- Virtual reality tour for the Foxwoods Resort Casino Entertainment Division.
- 360 degree virtual walk through tour for Pfizer, Inc. New Haven Clinical Research Unit.
- Residential and commercial real estate 360 degree virtual walkthrough tours.

Scientific Photography/Video

- Photographic and video documentation of necropsy and animal disease study at Plum Island Animal Disease Center.
- Photographic and video documentation of animal research studies in vivarium settings at Pfizer Research and Development, Groton, Connecticut.
- Photographic documentation of chemical compound procedures for Pfizer, Sandwich, United Kingdom.
- Photographic support for Pfizer Exubera inhaled insulin product team at Pfizer Research and Development, Groton, Connecticut.
- Director of Photography, Promotional video for Chantix smoking cessation medication for Pfizer, Inc.
- Director of Photography, Pfizer World Wide Research, Development Supply Chain video, Sandwich, United Kingdom.
- Director of Photography, Pfizer World Wide Research, Portfolio Management video. Pfizer Research and Development, Groton, Connecticut.
- Director of Photography, Pfizer's Flexible API Supply Technologies rollout video. Pfizer Research and Development, Groton, Connecticut.

Commercial Photography/Video

- Director of Photography, Instructional videos of weapons of mass destruction personal protective equipment underwater training exercises for the U.S. Coast Guard Research and Development Center.
- Macro photography documentation of wear and degradation of landing gear assemblies and parts detailing for U.S. Navy.
- Director of Photography, Habitat for Humanity Annual Appeal video
- Director of Photography, New London Science and Technology Magnet School concept video.
- Product line and lifestyle photography, King Koil.
- Video assist, A1 audio tech, A/C Pro refrigerant television commercial and DIY video series.
- Video assist and A1 audio tech. Richard Petty, STP additive commercial.

Event Photography/Video

- Robotic camera rigging and operation, Foxwoods Grand Theater.
- Video rigging, Mohegan Sun Arena
- Video technical assistant and A2 audio assist, Versus Network.
- Live Concert stage and venue photographer, Foxwoods Resort

Photography Image Credits

- American Chemical Society
- Fortune Magazine
- Connecticut College Magazine
- New York Times
- The Day Newspaper
- Mystic River Press
- Pfizer Inc. Annual Report
- Connecticut Magazine
- Connecticut Mirror
- Daily Record

Technical Skills

- Adobe After Effects
- Adobe Lightroom
- Adobe Photoshop
- Adobe Premier
- Apple Final Cut Pro
- Apple Motion
- Helicon Focus
- Panotour Pro
- Phase One Capture One
- Photomax Pro 5
- PTGui Pro
- Steinberg Cubase
- Live event camera crane operator
- Stedicam camera operator

EXHIBIT B



13

6 Foot Ground Level Property Line
Left View Facing Golf Course
Reference M-2 Photo 1

14



6 Foot Ground Level Property Line
Center View Facing Golf Course
Reference M-2 Photo 2



6 Foot Ground Level Property Line
Right View Facing Golf Course
Reference M-2 Page 2 Photo 3

16



12 Foot Level Property Line
Left View Facing Golf Course
Reference M-2 Photo 1



17

12 Foot Level Property Line
Center View Facing Golf Course
Reference M-2 Photo 2



18

12 Foot Level Property Line
Right View Facing Golf Course
Reference M-2 Page 2 / Photo 3

19



21 Foot Level Property Line
Left View Facing Golf Course
Reference M-2 Photo 1



20

21 Foot Level Property Line
Center View Facing Golf Course
Reference M-2 Photo 2



21

21 Foot Level Property Line
Right View Facing Golf Course
Reference M-2 Page 2 / Photo 3

22



Side Profile Reference

Course Scale Reference



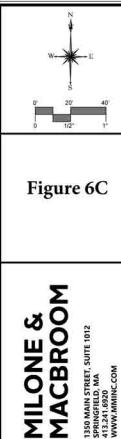


Figure 6C



155 MAIN STREET, SUITE 1012
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24

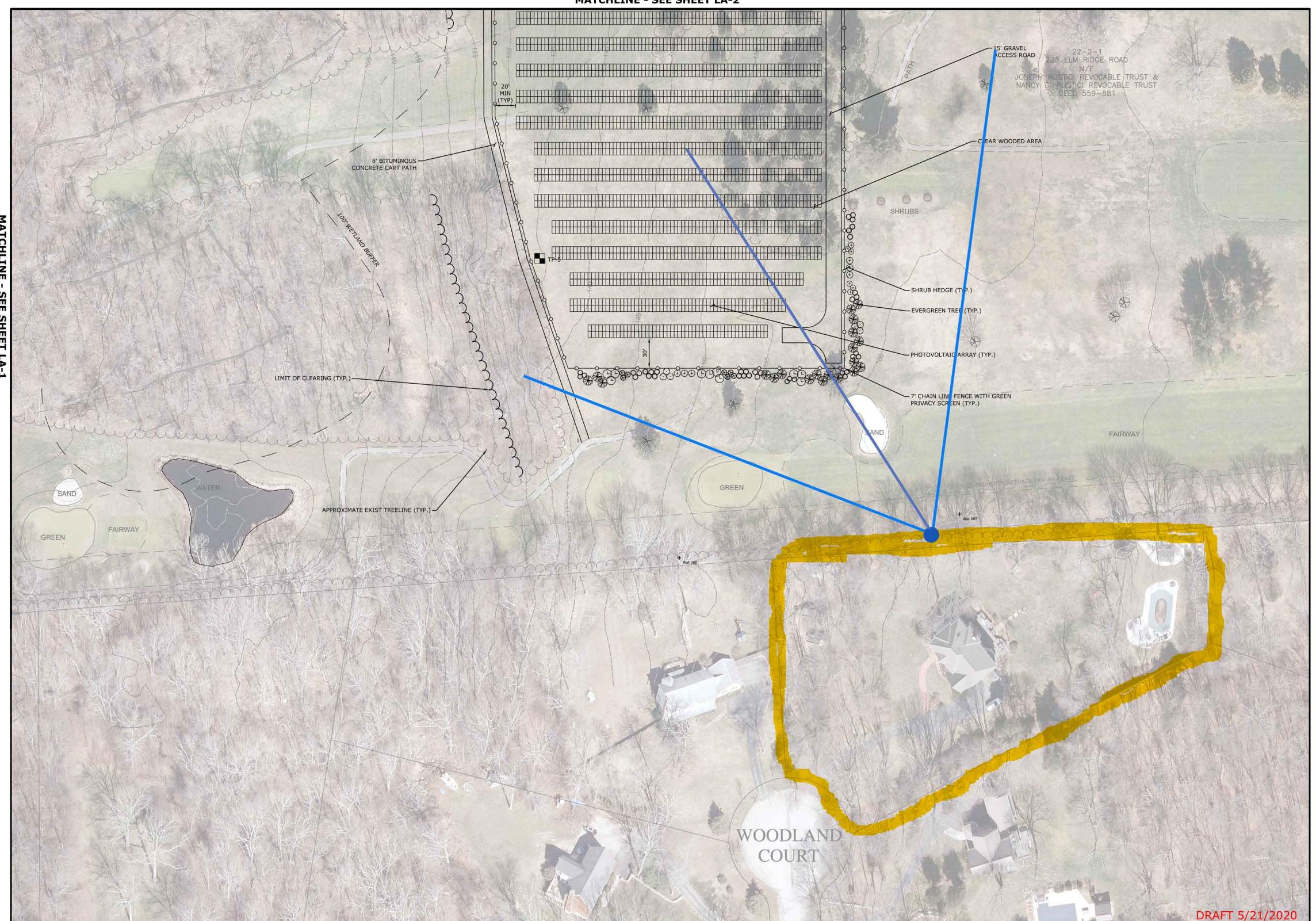
NOT FOR CONSTRUCTION

SITE LAYOUT & GRADING PLAN - EAST SITE
ELM RIDGE GOLF COURSE PV SOLAR FACILITY
GREENSKIES CLEAN ENERGY LLC
226 ELM RIDGE ROAD
STONINGTON, CONNECTICUT

MRG	HMM	MRA
DESIGNED	DRAWN	CHECKED
1"=40'		
SCALE		
MAY 19, 2020		
DATE		
6763-10		
PROJECT NO.		
09 OF 15		
SHEET NO.		

LA-3

DRAFT 5/21/2020



CERTIFICATION

I hereby certify that on this 24th day of September, 2020 that the foregoing was delivered by electronic mail and regular mail, postage prepaid, in accordance with § 16-50j-12 of the Regulations of Connecticut State Agencies, to all parties and intervenors of record, as follows:

The Citing Council siting.council@ct.gov
with paper copy to

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State of Connecticut
Ten Franklin Square
New Britain, CT 06051*

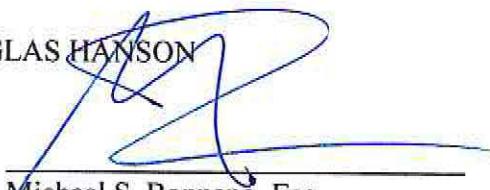
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