Exhibit A

Sound Level Assessment Report

August 31, 2021

Horus Kentucky 1 LLC
110 Front Street, Suite #330
Juniper, Florida 33477

Attn: Braden Houston, Senior Director - Solar Development
P: (617) 530-0029

Email: bhouston@opdenergy.com

Re: Sound Level Assessment
Horus Kentucky 1 Project
Tyree Chapel Road
Simpson County, Ky
Terracon Project No. 5720P073

Dear Mr. Houston:

Skelly and Loy, A Terracon Company (Terracon) is pleased to summarize the results of the sound level assessment completed for the above referenced project. After reviewing the construction and operation activities associated with the proposed 69.3MW solar farm, Terracon expects that the offsite sound influence from the operation of the proposed solar farm will be minimal.

A. PROJECT INFORMATION

The Horus Kentucky 1 Project will consist of approximately 550 acres of solar photovoltaic panels and associated racking (approximately 69.3MW), 22 inverters, and a project substation transformer which will connect to the Tennessee Valley Authority's L5402 – 161kv transmission line near the City of Franklin in Simpson County, Kentucky. The following local set-back requirements are applicable to this site:

- 50 feet from public road right-of-way.
- 100 feet from any abutting agricultural properties.
- 250 feet from any residential-zoned properties, churches, cemeteries, nursing homes, and schools.

B. EXISTING CONDITIONS

The proposed solar farm development site consists of multiple agricultural land use parcels approximately 4 miles southeast of the center of the City of Franklin in the northeast quadrant of the I-65 and US Route 31W interchange. Approximately 1,900 feet of the northwest perimeter of the site is immediately adjacent to the northbound lanes of I-65. Approximately 3,700 feet of the

western perimeter of the site is immediately adjacent to the CSX Transportation rail line. The remaining perimeter of the development site is adjacent to mostly other agricultural land use parcels. 56 residential parcels, the Tyree Chapel Church of Christ, and five hotels with outdoor usage areas are located within 2,400 feet of the development site, with 10 of these residential sites and the five hotels located west of I-65 and the remaining 46 residential sites and Tyree Chapel Church of Christ located east of I-65. These residential dwelling sites, church, and hotels with outdoor usage areas can be considered noise-sensitive receptors. Noise sensitive receptors are defined as locations where people reside or where the presence of unwanted sound may adversely affect the existing land use. Noise sensitive receptors can include residences, places of worship, hotels, auditoriums, athletic fields, day care centers, hospitals, offices, schools, parks, and recreational areas.

Environmental sound levels are generally presented in terms of A-weighted decibels (dBA). The decibel (dB) scale is used to measure sound level. However, because the human ear does not respond equally to all frequencies, the A-weighted scale has been developed to place an emphasis on those frequencies which are more detectable to the human ear. This is an adjusted measurement of noise that takes into account the sensitivity of the human ear to the various sound frequencies which we can hear.

The metric frequently used when evaluating environmental sound levels is the equivalent continuous sound pressure level, or L_{eq}. The L_{eq} represents the average sound level for a given time period that would have the same total sound energy as the fluctuating sound levels over the measured time period. Along with the L_{eq}, another frequently used metric when considering environmental sound levels and their effect on people is the day-night average sound level, the L_{dn}. The L_{dn} does not represent the sound level heard at any particular time but represents the average noise level over a 24-hour period, with sound levels between 10 PM and 7 AM artificially increased by 10 dB before averaging. The L_{dn} considers that household sound levels are typically lower during the evening and night than in the daytime and any exterior sound levels occurring between 10 PM and 7 AM are perceived to be louder and are more noticeable than the same exterior sound levels would be perceived during the daytime.

The Acoustical Society of America (ASA) through the American National Standards Institute (ANSI) has published a standard with estimates of general ambient sound levels (L_{eq} and L_{dn}) for six different land use categories, ranging from very noisy urban residential to very quiet suburban and rural residential. The six land use categories and their corresponding daytime, nighttime, and day-night average estimated sound levels are presented in Table 1.

Table 1: Representative Existing Conditions Based on Land Use[1]

Land Use Category	Typical L_{dn} (dBA)	Day Level L_d (dBA)	Night Level L_n (dBA)
1, Very noisy urban residential	67	66	58
2, Noisy urban residential	62	61	54
3, Urban and noisy suburban residential	57	55	49
4, Quiet urban and normal suburban residential	52	50	44
5, Quiet suburban residential	47	45	39
6, Very quiet suburban and rural residential	42	40	34

The existing acoustic environment for the proposed development site and the 62 noise sensitive receptors within 2,400 feet of the site can be estimated using the sound level data presented in Table 1. For the development site, existing sound levels can range from Land Use Category 1 for the region adjacent to I-65 to Land Use Category 6 for the region furthest to the southeast, approximately 8,500 feet, or 1.6 miles, away from I-65. Although the land use adjacent to I-65 would be considered rural agricultural (and not very noisy urban residential), the influence of traffic noise from I-65 dominates for several hundred feet past the edge of pavement of the highway causing elevated noise levels associated with Land Use Category 1. Traffic noise levels in the range from 60 to 70 dBA could be expected depending on proximity to the highway. As proximity to the highway decreases, the dominance of I-65 traffic noise lessens and a combination of traffic noise and typical rural farming and agricultural noise make up the ambient background conditions. As the distance away from I-65 continues to increase, farming and agricultural noise sources, such as tractors, backhoes, balers, plows, harrows, and seed drills (when in operation) become the more dominant noise sources. When farm equipment is not operating, ambient background noise levels for the southeastern portion of the proposed development site would range from 35 to 45 dBA, consistent with the sound levels presented for Land Use Category 6 in Table 1.

Table 2 presents a list of the 62 noise sensitive receptors located within 2,400 feet of the perimeter of the proposed development site, along with their estimated L_{dn} based on ASA data and their distances from the nearest proposed inverter location, the nearest proposed solar panel and substation location. Locations of these noise sensitive receptors are presented on Figure 2 and can be referenced by their receptor ID number. Additional data related to the number and category of all structures (shed, residence, etc.) within 2,400 feet of the site can be found in Attachment 1.

[1] Source: ANSI S12.902013/Part 3.

Table 2: Noise Sensitive Receptors Within 2,400 Feet of Development Site

Noise Sensitive Receptor ID	Noise Receptor Address	Estimated L_{dn} (dBA)	Closest Facility Component		
			Solar Panel Distance (ft)	Inverter Distance (ft)	Substation Distance (ft)
1	292 Tyree Chapel Road	57	158	1,259	3,414
2	141 Tyree Chapel Road	62	901	1,437	4,220
3	727 Peden Mill Road	67	703	695	4,490
4	155 Old County Farm Road	67	394	381	4,342
5	111 Old County Farm Road	67	377	444	4,381
6	139 Old County Farm Road	67	304	462	4,283
7	123 Old County Farm Road	62	559	679	4,538
8	583 Peden Mill Road	57	963	1,037	4,963
9	712 Peden Mill Road	57	1,283	1,247	5,173
10	570 Peden Mill Road	52	1,355	1,363	5,318
11	515 Peden Mill Road	52	1,246	1,337	5,223
12	491 Peden Mill Road	52	1,322	1,393	5,308
13	Super 8	62	2,339	2,696	6,196
14	Quality Inn	62	2,047	2,415	5,914
15	Baymont	62	1,843	2,142	5,648
16	Econo Lodge	62	2,065	2,210	5,726
17	Hampton Inn	62	1,721	1,784	5,250
18	4709 Nashville Road	67	2,156	2,797	5,934
19	4785 Nashville Road	67	2,268	2,870	6,019
20	4761 Nashville Road	67	2,393	2,974	6,130
21	4779 Nashville Road	67	2,485	3,036	6,199
22	4783 Nashville Road	67	2,564	3,091	6,259
23	4806 Nashville Road	67	2,497	2,934	6,110
24	262 Geddes Road	52	1,640	1,710	4,861
25	275 Geddes Road	52	1,788	1,843	4,971
26	716 Geddes Road	47	1,207	1,680	4,212
27	2180 Tyree Chapel Road	42	1,003	2,279	4,916
28	Tyree Chapel Church of Christ	42	1,418	2,720	5,303
29	2394 Tyree Chapel Road	42	1,671	2,899	5,615
30	2391 Tyree Chapel Road	42	2,063	3,308	5,937

Noise Sensitive Receptor ID	Noise Receptor Address	Estimated L_{dn} (dBA)	Closest Facility Component		
			Solar Panel Distance (ft)	Inverter Distance (ft)	Substation Distance (ft)
31	2404 Tyree Chapel Road	42	1,894	3,207	6,052
32	2480 Tyree Chapel Road	42	2,115	3,440	6,277
33	90 Blue Door Church Road	42	2,167	3,527	6,490
34	112 Blue Door Church Road	42	2,103	3,474	6,498
35	136 Blue Door Church Road	42	2,056	3,437	6,530
36	172 Blue Door Church Road	42	1,999	3,386	6,541
37	394 Blue Door Church Road	42	1,625	2,981	6,465
38	478 Blue Door Church Road	42	1,058	2,269	5,955
39	514 Blue Door Church Road	42	1,472	2,685	6,375
40	536 Blue Door Church Road	42	1,483	2,688	6,405
41	554 Blue Door Church Road	42	1,499	2,692	6,437
42	582 Blue Door Church Road	42	1,536	2,714	6,480
43	602 Blue Door Church Road	42	1,565	2,727	6,509
44	60 Blue Door Church Road	42	1,979	2,957	6,783
45	3965 Peden Mill Road	42	1,518	2,431	6,233
46	3880 Peden Mill Road	42	1,543	2,584	6,326
47	3835 Peden Mill Road	42	836	1,880	5,610
48	3735 Peden Mill Road	42	1,133	2,302	5,854
49	3070 Peden Mill Road	42	2,104	2,901	4,097
50	2892 Peden Mill Road	42	2,401	2,750	4,009
51	2792 Peden Mill Road	47	1,751	1,968	3,333
52	2703 Peden Mill Road	47	1,238	1,454	2,832
53	2651 Peden Mill Road	47	1,162	1,371	2,749
54	2622 Peden Mill Road	47	1,232	1,424	2,766
55	2598 Peden Mill Road	47	1,283	1,465	2,783
56	2538 Peden Mill Road	47	1,358	1,517	2,772
57	2445 Peden Mill Road	47	1,769	1,860	2,861
58	1743 Peden Mill Road	52	2,530	3,594	3,613
59	1595 Peden Mill Road	52	2,546	3,630	4,193
60	1325 Peden Mill Road	57	1,707	2,697	4,189
61	1319 Peden Mill Road	57	1,577	2,573	4,052
62	1271 Tyree Chapel Road	47	312	269	1,945

Ten noise sensitive receptor locations with estimated existing ambient noise levels consistent with Land Use Category 1 include four residential parcels adjacent or in close proximity to I-65 and six residential parcels adjacent to US Route 31W (Nashville Road). These include 727 Peden Mill Road, 155 Old County Farm Road, 111 Old County Farm Road, 139 Old County Farm Road, 4709 Nashville Road, 4785 Nashville Road, 4761 Nashville Road, 4779 Nashville Road, 4783 Nashville Road, and 4806 Nashville Road. For these noise sensitive receptors, I-65 traffic noise and Nashville Road, respectively, dominates the existing acoustic environment with occasional audible railroad noise from the CSX Transportation line.

Seven noise sensitive receptor locations slightly further from I-65 consistent with estimated existing ambient noise levels consistent with Land Use Category 2 include the two residential properties located at 141 Tyree Chapel Road and 123 Old County Farm Road and the five hotels west of I-65 along US Route 31W. Although 141 Tyree Chapel Road is located only approximately 200 feet from the northbound lanes of I-65, the topography between the highway and this residence provides a degree of traffic noise attenuation. Traffic noise from I-65 and US Route 31W dominates the existing acoustic environment for these noise sensitive receptors, but at less of a magnitude then the previously listed residential properties. Occasional railroad noise from the CSX Transportation line is also audible at these receptors.

Five noise sensitive receptor locations at a greater distance from I-65 (between 775 and 1,000 feet) with estimated existing ambient noise levels consistent with Land Use Category 3 would include the residential properties located at 292 Tyree Chapel Road, 583 Peden Mill Road, 712 Peden Mill Road, 1325 Peden Mill Road, and 1319 Peden Mill Road. I-65 traffic noise is still the dominant component of the existing acoustic environment for these noise sensitive receptors, although occasional railroad noise from the CSX Transportation line, and noise from farming or other agricultural activities all contribute to the overall background noise levels. In the absence of noise from agricultural operations, other audible components in the ambient environment would be noise from insects, birds, dogs, and other wildlife and livestock, along with infrequent traffic noise from vehicles on rural roadways such as Peden Mill Road and Tyree Chapel Road.

Seven noise sensitive receptor locations at a greater distance from I-65 (between 1,000 and 3,000 feet) with estimated existing ambient noise levels consistent with Land Use Category 4 would include the residential properties located at 570 Peden Mill Road, 515 Peden Mill Road, 491 Peden Mill Road, 262 Geddes Road, 275 Geddes Road, 1743 Peden Mill Road, and 1595 Peden Mill Road. I-65 traffic noise is still the dominant component of the existing acoustic environment for these noise sensitive receptors, although occasional railroad noise from the CSX Transportation line, and noise from farming or other agricultural activities all contribute to the overall background noise levels. In the absence of noise from agricultural operations, other audible components in the ambient environment would be noise from insects, birds, dogs, and other wildlife and livestock, along with infrequent traffic noise from vehicles on rural roadways such as Peden Mill Road and Tyree Chapel Road.

Nine noise sensitive receptor locations at a greater distance from I-65 (between 3,000 and 7,000 feet) with estimated existing ambient noise levels consistent with Land Use Category 5 would include the residential properties located at 716 Geddes Road, 2792 Peden Mill Road, 2703 Peden Mill Road, 2651 Peden Mill Road, 2622 Peden Mill Road, 2598 Peden Mill Road, 2538 Peden Mill Road, 2445 Peden Mill Road, and 1271 Tyree Chapel Road. I-65 traffic noise is still an audible component of the existing acoustic environment for these noise sensitive receptors when no farming or other agricultural activities are occurring, along with traffic noise from US Route 31W and occasional railroad noise from the CSX Transportation rail line. In the absence of noise from agricultural operations, other audible components in the ambient environment would be noise from insects, birds, dogs, other wildlife and livestock, and infrequent traffic noise from vehicles on Peden Mill Road, Geddes Road, and Tyree Chapel Road.

24 noise sensitive receptor locations at a considerable distance from I-65 (greater than 7,000 feet) with estimated existing ambient noise levels consistent with Land Use Category 6 would include 23 residential properties and the Tyree Chapel Church of Christ. For these 24 noise sensitive receptors, identified as receptors 27 through 50 in Table 2 and on Figure 2, I-65 traffic noise is a much-diminished component of the existing acoustic environment. In the absence of noise from agricultural operations, the existing acoustic environment for noise sensitive receptors at a considerable distance from I-65 would include slightly audible traffic noise from I-65 and US Route 31W, along with other noise from insects, birds, dogs, other wildlife and livestock, and infrequent railroad noise from the CSX Transportation rail line and infrequent traffic noise from vehicles on Tyree Chapel Road, Blue Door Church Road, and Peden Mill Road.

C. CONSTRUCTION NOISE

Construction of the solar farm is expected to start in October 2021 and last for 12 months. It is anticipated that the weekly construction schedule will occur during typical work hours, Monday through Friday between 7:00 AM and 7:00 PM, however some construction activities could also occur on weekends if necessary. Construction noise is expected to cause temporary and short-term adverse impacts to the ambient sound environment within the development site and for noise sensitive receptors near the site. To predict the magnitude of construction noise that will temporarily affect noise sensitive receptors, modeling of construction noise levels was performed.

The U.S. Department of Transportation Federal Highway Administration (FHWA) has developed a model for the prediction of construction noise that is based on actual sound level measurements of various equipment types. The FHWA Roadway Construction Noise Model (RCNM) has noise levels for various types of equipment pre-programmed into the software. Therefore, the noise level associated with the equipment is typical for the equipment type and not based on any specific make or model. Some examples of common construction equipment and their measured maximum noise levels at a distance of 50 feet that are used in the RCNM construction noise level predictions are presented in Table 3.

Table 3: Common Construction Equipment Noise Levels[2]

Equipment Description	Actual Measured L_{max} @ 50 feet (dBA, slow) (Samples Averaged)
Backhoe	78
Compressor (air)	78
Crane	81
Dozer	82
Drill Rig Truck	79
Dump Truck	76
Excavator	81
Front End Loader	79
Grader	85
Jackhammer	89
Man Lift	75
Pickup Truck	75
Rock Drill	81
Scraper	84
Tractor	84
Vibratory Pile Driver	101

Most of the construction equipment would not be operating for the entire construction period but would be phased in and out and moved to different areas within the development site as construction activities progress. Based on the RCNM measured noise levels of the equipment to be used during construction, the equipment most likely to make the most noise would be the pile driving activities that will occur during the installation of the solar panel arrays. To predict the worst-case construction noise scenario for each noise sensitive receptor, equipment associated with solar panel array installation was modeled for the nearest solar array to that receptor. The equipment used for the RCNM construction noise calculations include a backhoe, crane, dozer, pickup truck, tractor, and vibratory pile driver. Results of the RCNM construction noise calculations for noise sensitive receptors within 1,000 feet of the development site are presented in Table 4. Data from RCNM calculations is located in Attachment 2.

The estimated construction noise levels presented above are representative of piledriving activities to construct the solar panel array closest to each noise sensitive receptor. As this is anticipated to be the loudest construction activity that would be experienced at each noise sensitive receptor, this is a worst-case scenario. These worst-case loudest construction noise

[2] Knauer, H., & Pederson, S. U.S. Dept. of Transportation, Federal Highway Administration, *Highway Construction Noise Handbook*. Jan. 2006.

levels would be temporary and intermittent, as it would not be expected to take more than a day or two to construct the nearest solar panel array. As construction noise generating activities will progressively move across the development site during the duration of the construction phase, the highest noise levels would not be expected to be experienced at a single receptor for more than a day or two, as construction equipment and activities would only be in a single area for a short period of time. All other construction activities that occur would be at greater distances away from the receptor, resulting in construction noise levels that would be lower in magnitude than the estimates presented in Table 4.

Table 4: Estimated Construction Noise Levels for Receptors Within 1,000 Feet

Noise Receptor Address	Noise Receptor ID	Distance from Perimeter (ft)	Distance from Nearest Solar Panel (ft)	Estimated Construction Noise Level L_{eq} (dBA)	Estimated Construction Noise Level L_{max} (dBA)
292 Tyree Chapel Road	1	140	158	84	91
141 Tyree Chapel Road	2	440	901	69	76
727 Peden Mill Road	3	370	703	71	78
155 Old County Farm Road	4	290	394	76	83
111 Old County Farm Road	5	350	377	77	83
139 Old County Farm Road	6	270	304	79	85
123 Old County Farm Road	7	520	559	73	80
583 Peden Mill Road	8	950	963	69	75
712 Peden Mill Road	9	1,020	1,283	66	73
2180 Tyree Chapel Road	27	970	1,003	68	75
478 Blue Door Church Road	38	1,000	1,058	68	74
3835 Peden Mill Road	47	570	836	70	76
3735 Peden Mill Road	48	860	1,133	67	74
1271 Tyree Chapel Road	62	170	312	78	85

Construction noise can be minimized by implementing specific measures to help mitigate the noise at the source. Best practices to minimize construction equipment noise require for regular and thorough maintenance procedures for all construction equipment. Replacement of failing or ineffective muffling and exhaust systems, periodic lubrication of moving parts, and properly tuned engines are necessary in order to keep construction equipment noise emissions to a minimum. Proper scheduling and implementing duration limits for the noisiest construction events can reduce the severity of noise impacts during the construction phase.

D. SOLAR FARM OPERATIONAL NOISE

The solar facilities primarily generate noise from three main sources: tracking motors, inverters and transformers. Sound emission data for the tracking motors, inverters and transformer are outlined in Table 5 (refer to Attachment 3 for factory rated noise emissions).

Table 5: Sound Source Emissions

Source	Sound Pressure Level (dBA)	Distance (Meters)	Sound Power Level (dB)
Inverter	79	1	100
Transformer	76	3	97
Tracking Motors	50	10	78

The solar array for this project will use motorized tracking panels distributed across the site in order to keep the panels facing the sun and optimize output during different times of the day and year. The motors used to move the panels are small, brushless DC motors and are a potential source of noise included in this assessment. These motors produce relatively insignificant contributions to the sound emitted onsite and are often inaudible at close range, equating to less than 50 dBA at 10 meters. The facility will have 22 inverters distributed around on the property, as outlined on Figure 2. The sound produced by an inverter can be described as a low hum and has roughly the same acoustical output of a household air conditioning unit. According to the manufacturer's specifications, the noise emission produced by the inverter is rated at 79 dBA at 1 meter. The transformer to be used is a 55 MVA ONAF2 located within the planned substation, which is anticipated to cover approximately 1/2 acre along Hendricks Road. The transformer noise emissions are rated at 76 dBA at 3 meters. The nearest sensitive receptor to the transformer is a residence approximately 1,900 feet west.

Site Operations and Maintenance

Anticipated operational maintenance operations will include grass mowing and general solar panel maintenance. The upkeep and small fixes are not anticipated to generate any loud or distinguishable noise from off the site. The site will have the grass mowed three to four times a year; this will be done during the day. Riding lawn mowers typically operate around 90 dBA. Due to the large area being mowed, the distance from the mower to anywhere offsite would create an environment where the sound generated from mowing would largely go unnoticed. Secondly, the mowing of grass already takes place at each resident's household and is generally accepted as a common noise. Finally, the last potential for increasing the ambient noise level of the site would be an increase in traffic into and around the site. The estimated number of vehicles needed to service the solar farm amounts to 10 vehicles on days when the panels are serviced.

Noise Modeling Methodology

The future operating acoustical environment for the proposed sources was simulated using the SoundPLAN v.4.1 software. SoundPLAN implements International Organization for Standardization (ISO) ISO-9613-2 1996 (Attenuation of sound during propagation outdoors – Part 2: General method of

calculation), which is an international standard method for calculating sound during propagation outdoors in order to predict the levels of environmental noise at a distance from a variety of sources. A three-dimensional topographical model was created to assess the sound propagation of the proposed facility. A digital terrain model was created using existing ground elevations and contours obtained from topographic mapping derived from USGS mapping at 1-meter intervals.

SoundPLAN is capable of either predicting A-weighted sound levels at discrete receptors (single locations) or calculating sound contours given the three-dimensional terrain. Sound level projections were calculated for all sensitive receptor locations (62 receptors) within 2400' radius around the project boundaries. In addition, sound contour modeling was used for the proposed site to graphically display the future acoustical environment and illustrate the influence of the facility on adjoining properties.

Since no local, county, or state noise thresholds were identified for the study area, the U.S. EPA "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin on Safety" was used as an impact threshold. In this publication, the U.S. EPA evaluated the effects of environmental noise with respect to health and safety and determined a L_{dn} of 55 dBA (equivalent to a continuous noise level of 48.6 dBA) to be the maximum sound level that will not adversely affect public health and welfare by interfering with speech or other activities in outdoor areas. Since no other local, county, or state thresholds were identified, a L_{dn} of 55 dBA (~49 L_{eq}) has been used to determine if the project would adversely affect public health and welfare.

Noise Modeling Results

The sensitive receptor locations, source locations and calculation area are located on Figure 2. The combined operational sound level projections for each of the sensitive receptors outlined on Figure 2 are found in Table 6 (see Attachment 1). Sound level contributions associated with the project at the sensitive receptor locations ranged from 32 to 52 dBA. Several receptors (R-3 through R-7) were predicted to range from 43-45 dBA, though are located across I-65 and background traffic noise emitted from the highway will dominate the acoustical environment in this area. Receptor 62 (1271 Tyree Chapel Road) was predicted at 52 dBA and is the owned by the landowners of the project and is within the boundaries of the project. The remainder of the receptors analyzed are below 40 dBA and the facility will not be audible at these discrete locations.

The visual results (isopleth) of the sound dispersion model results for the maximum worst-case operating condition scenario is depicted on Figure 3. The inverter array and substation sound dispersion are contained within the agricultural buffer areas. Based on the results of the SoundPLAN analysis, the solar project is not anticipated to have a significant impact on surrounding community noise levels or sensitive receptors and will comply with EPA's recommended value (55 dBA L_{dn}/49 dBA L_{eq}).

E. CONCLUSION

Based on the data presented in Section C, construction noise may elevate sound levels temporarily. The worst-case loudest construction noise levels outlined in this document would be temporary and

intermittent, as it would not be expected to take more than a day or two to construct the nearest solar panel array. As construction noise generating activities will progressively move across the development site during the duration of the construction phase, the highest noise levels would not be expected to be experienced at a single receptor for more than a day or two, as construction equipment and activities would only be in a single area for a short period of time.

The results of the modeling presented in Section D, Operating Conditions, indicate noise generated by the equipment proposed on the development site (tracker motors, inverters and transformers) is primarily contained within the property, off site noise at the sensitive receptor locations would be minimal and the solar project is not anticipated to have a significant impact on surrounding community noise levels or sensitive receptors.

Sincerely,
Terracon Consultants, Inc.

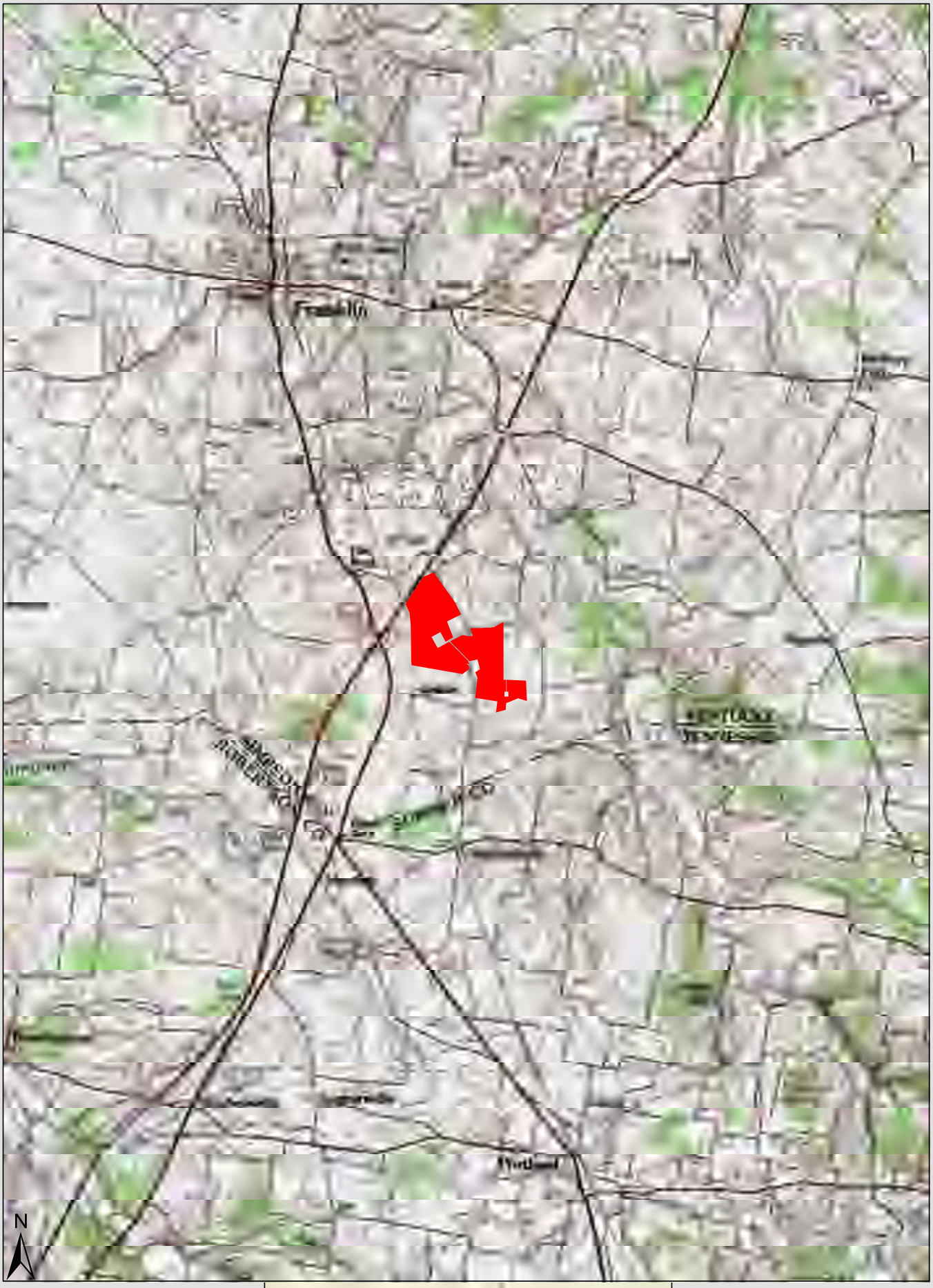
Bill Kaufell
Skelly and Loy, Inc., A Terracon Company
Acoustics Group Leader`

Woo Smith
Terracon Consultants, Inc.
Department Manager

Figures: Figure 1 Project Location Map
Figure 2 Sensitive Noise Receptors
Figure 3 Sound Contours

Attachments: Attachment 1: Table 5: Sensitive Receptor Noise Summary
Table 6: Structure Count
Attachment 2: RCNM Output
Attachment 3: Equipment Sound Emissions Data

FIGURES



Legend:

Project Limits

0 1,950 3,900 7,800 Feet

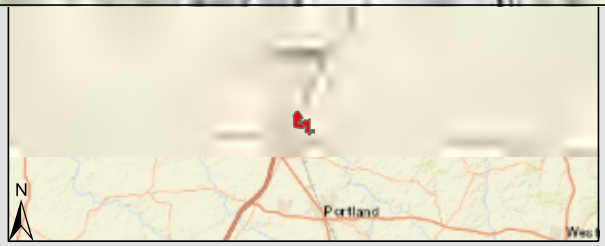


FIGURE 1
Project Location Map
Horus Renewables TVA
Tyree Chapel Road
Simpson County, Kentucky

SKELLY AND LOY

Legend:

- Receptors
- Inverter
- Substation
- Solar Tracker
- Project Limits
- 300ft Buffer
- 1000ft Buffer
- 2400ft Buffer

0 450 900 1,800 Feet

FIGURE 2
Sensitive Noise Receptors
Horus Renewables TVA
Tyree Chapel Road
Simpson County, Kentucky

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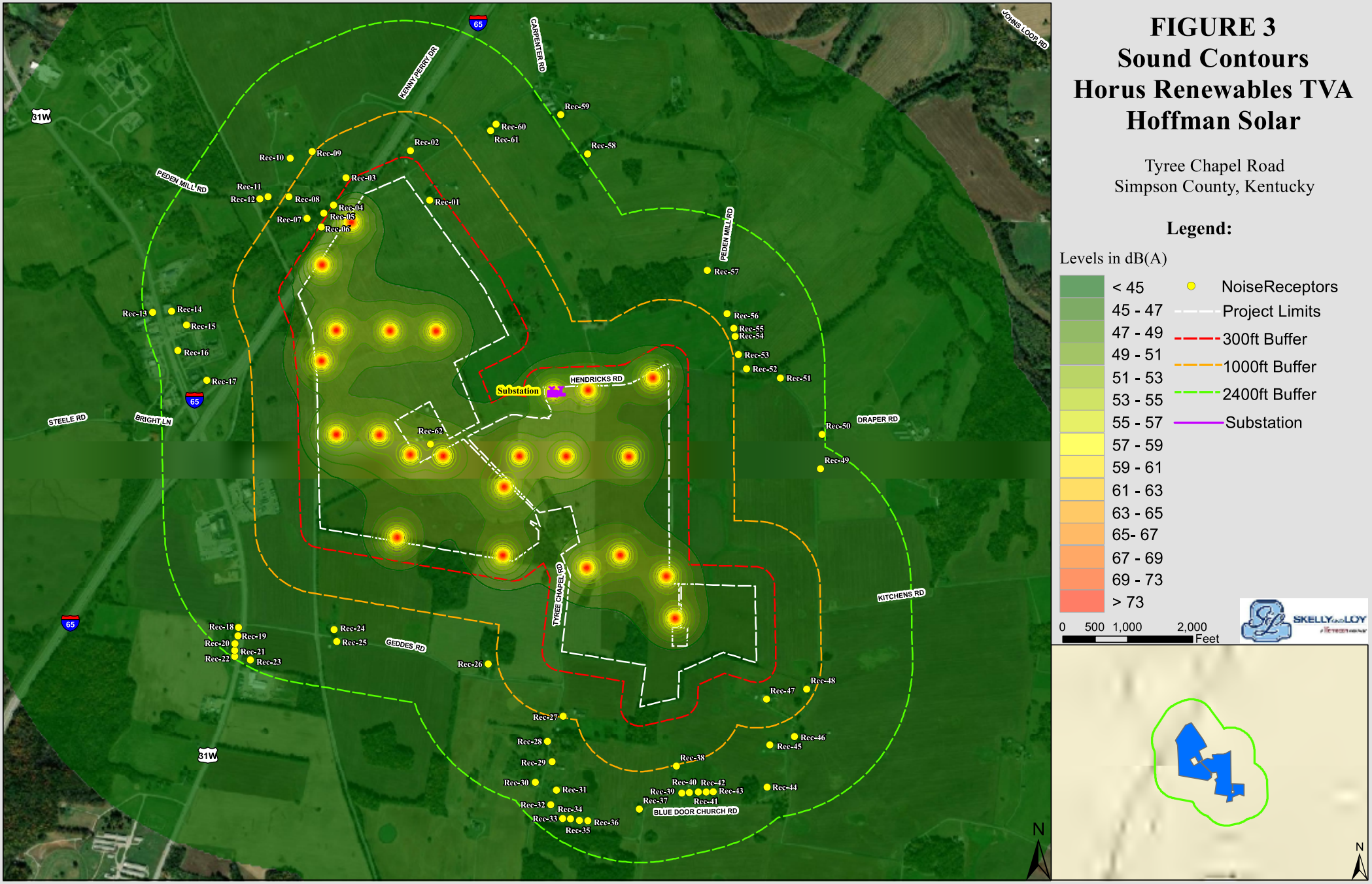
FIGURE 3
Sound Contours
Horus Renewables TVA
Hoffman Solar
Tyree Chapel Road
Simpson County, Kentucky
Legend:
Levels in dB(A)
< 45
45 - 47
47 - 49
49 - 51
51 - 53
53 - 55
55 - 57
57 - 59
59 - 61
61 - 63
63 - 65
65- 67
67 - 69
69 - 73
> 73
NoiseReceptors
Project Limits
300ft Buffer
1000ft Buffer
2400ft Buffer
Substation
0 500 1,000 2,000
Feet
SKELLY and LOY
Substation
HENDRICKS RD
TYREE CHAPEL RD
BLUE DOOR CHURCH RD
PEDEN MILL RD
KENNY PERRY DR
CARPENTER RD
JOHNS LOOP RD
DRAPER RD
KITCHENS RD
GEDDES RD
STEELE RD
BRIGHT LN
31W
65
N

ATTACHMENT 1

Table 5: Sensitive Receptor Noise Summary

Sensitive Receptor ID	Address	Description	Estimated Ambient L_{dn} (dBA)	Closest Facility Component (Feet)			Combined Operational Sound Level
				Inverter Distance	Panel Distance	Substation Distance	
Rec-01	292 Tyree Chapel Road	Residence	57	1,259	158	3,414	40
Rec-02	141 Tyree Chapel Road	Residence	62	1,437	901	4,220	38
Rec-03	727 Peden Mill Road	Residence	67	695	703	4,490	42
Rec-04	155 Old County Farm Road	Residence	67	381	394	4,342	45
Rec-05	111 Old County Farm Road	Residence	67	444	377	4,381	45
Rec-06	139 Old County Farm Road	Residence	67	462	304	4,283	46
Rec-07	123 Old County Farm Road	Residence	62	679	559	4,538	44
Rec-08	583 Peden Mill Road	Residence	57	1,037	963	4,963	41
Rec-09	712 Peden Mill Road	Residence	57	1,247	1,283	5,173	38
Rec-10	570 Peden Mill Road	Residence	52	1,363	1,355	5,318	38
Rec-11	515 Peden Mill Road	Residence	52	1,337	1,246	5,223	39
Rec-12	491 Peden Mill Road	Residence	52	1,393	1,322	5,308	39
Rec-13	Super 8	Hotel pool	62	2,696	2,339	6,196	35
Rec-14	Quality Inn	Hotel pool	62	2,415	2,047	5,914	36
Rec-15	Baymont	Hotel pool	62	2,142	1,843	5,648	37
Rec-16	Econo Lodge	Hotel pool	62	2,210	2,065	5,726	37
Rec-17	Hampton Inn	Hotel pool	62	1,784	1,721	5,250	38
Rec-18	4709 Nashville Road	Residence	67	2,797	2,156	5,934	35
Rec-19	4785 Nashville Road	Residence	67	2,870	2,268	6,019	35
Rec-20	4761 Nashville Road	Residence	67	2,974	2,393	6,130	34
Rec-21	4779 Nashville Road	Residence	67	3,036	2,485	6,199	34
Rec-22	4783 Nashville Road	Residence	67	3,091	2,564	6,259	34
Rec-23	4806 Nashville Road	Residence	67	2,934	2,497	6,110	34
Rec-24	262 Geddes Road	Residence	52	1,710	1,640	4,861	38
Rec-25	275 Geddes Road	Residence	52	1,843	1,788	4,971	37
Rec-26	716 Geddes Road	Residence	47	1,680	1,207	4,212	39
Rec-27	2180 Tyree Chapel Road	Residence	42	2,279	1,003	4,916	37
Rec-28	Tyree Chapel Church of Christ	Church	42	2,720	1,418	5,303	36
Rec-29	2394 Tyree Chapel Road	Residence	42	2,899	1,671	5,615	35
Rec-30	2391 Tyree Chapel Road	Residence	42	3,308	2,063	5,937	34
Rec-31	2404 Tyree Chapel Road	Residence	42	3,207	1,894	6,052	34
Rec-32	2480 Tyree Chapel Road	Residence	42	3,440	2,115	6,277	33
Rec-33	90 Blue Door Church Road	Residence	42	3,527	2,167	6,490	33
Rec-34	112 Blue Door Church Road	Residence	42	3,474	2,103	6,498	33
Rec-35	136 Blue Door Church Road	Residence	42	3,437	2,056	6,530	33
Rec-36	172 Blue Door Church Road	Residence	42	3,386	1,999	6,541	33
Rec-37	394 Blue Door Church Road	Residence	42	2,981	1,625	6,465	33
Rec-38	478 Blue Door Church Road	Residence	42	2,269	1,058	5,955	35
Rec-39	514 Blue Door Church Road	Residence	42	2,685	1,472	6,375	34
Rec-40	536 Blue Door Church Road	Residence	42	2,688	1,483	6,405	34
Rec-41	554 Blue Door Church Road	Residence	42	2,692	1,499	6,437	33
Rec-42	582 Blue Door Church Road	Residence	42	2,714	1,536	6,480	33
Rec-43	602 Blue Door Church Road	Residence	42	2,727	1,565	6,509	33
Rec-44	60 Blue Door Church Road	Residence	42	2,957	1,979	6,783	32
Rec-45	3965 Peden Mill Road	Residence	42	2,431	1,518	6,233	34
Rec-46	3880 Peden Mill Road	Residence	42	2,584	1,543	6,326	33
Rec-47	3835 Peden Mill Road	Residence	42	1,880	836	5,610	36
Rec-48	3735 Peden Mill Road	Residence	42	2,302	1,133	5,854	34
Rec-49	3070 Peden Mill Road	Residence	42	2,901	2,104	4,097	35
Rec-50	2892 Peden Mill Road	Residence	42	2,750	2,401	4,009	35
Rec-51	2792 Peden Mill Road	Residence	47	1,968	1,751	3,333	36
Rec-52	2703 Peden Mill Road	Residence	47	1,454	1,238	2,832	38
Rec-53	2651 Peden Mill Road	Residence	47	1,371	1,162	2,749	38
Rec-54	2622 Peden Mill Road	Residence	47	1,424	1,232	2,766	38
Rec-55	2598 Peden Mill Road	Residence	47	1,465	1,283	2,783	38
Rec-56	2538 Peden Mill Road	Residence	47	1,517	1,358	2,772	38
Rec-57	2445 Peden Mill Road	Residence	47	1,860	1,769	2,861	37
Rec-58	1743 Peden Mill Road	Residence	52	3,594	2,530	3,613	35
Rec-59	1595 Peden Mill Road	Residence	52	3,630	2,546	4,193	34
Rec-60	1325 Peden Mill Road	Residence	57	2,697	1,707	4,189	35
Rec-61	1319 Peden Mill Road	Residence	57	2,573	1,577	4,052	35
Rec-62	1271 Tyree Chapel Road	Residence	47	269	312	1,945	52

Table 6: Structure Count Varying Distances - Inverter, Substation and Panel Array

Structure Type	Distance to Inverter (Feet)							
	0-300	301-600	601-900	901-1200	1201-1500	1501-1800	1801-2100	2101-2400
Church	0	0	0	0	0	0	0	0
Commercial	0	0	0	0	0	1	1	4
Hotel	0	0	0	0	0	1	2	1
Residence	1	3	2	1	10	3	4	3
Shed/Barn	2	12	6	5	14	13	11	4

Structure Type	Distance to Substation (Feet)							
	0-300	301-600	601-900	901-1200	1201-1500	1501-1800	1801-2100	2101-2400
Church	0	0	0	0	0	0	0	0
Commercial	0	0	0	0	0	0	0	0
Hotel	0	0	0	0	0	0	0	0
Residence	0	0	0	0	0	0	1	0
Shed/Barn	0	0	0	4	0	1	7	9

Structure Type	Distance to Panel (Feet)							
	0-300	301-600	601-900	901-1200	1201-1500	1501-1800	1801-2100	2101-2400
Church	0	0	0	0	1	0	0	0
Commercial	0	0	0	1	0	3	2	2
Hotel	0	0	0	0	0	2	2	2
Residence	1	5	2	6	12	12	5	7
Shed/Barn	16	11	7	11	16	7	13	11

Receiver list

No.	Receiver name	Coordinates X in meter	Coordinates Y in meter	Building side	Floor	Height abv.grd. m	Limit Day dB(A)	Limit Night dB(A)	Level Day dB(A)	Level Night dB(A)	Conflict Day dB	Conflict Night dB
1	1	429013.99	538225.85	-	GF	66.48	-	-	39.7	39.7	-	-
2	2	428923.91	538458.36	-	GF	66.67	-	-	37.8	37.8	-	-
3	3	428621.41	538331.57	-	GF	67.04	-	-	42.1	42.1	-	-
4	4	428562.15	538202.46	-	GF	66.38	-	-	45.2	45.2	-	-
5	5	428516.64	538164.89	-	GF	66.24	-	-	44.5	44.5	-	-
6	6	428505.52	538099.80	-	GF	67.86	-	-	45.8	45.8	-	-
7	7	428438.85	538140.02	-	GF	66.61	-	-	43.5	43.5	-	-
8	8	428353.12	538242.67	-	GF	66.40	-	-	40.5	40.5	-	-
9	9	428462.01	538454.32	-	GF	65.97	-	-	38.4	38.4	-	-
10	10	428359.60	538422.95	-	GF	66.22	-	-	38.1	38.1	-	-
11	11	428255.62	538241.98	-	GF	66.56	-	-	39.2	39.2	-	-
12	12	428217.52	538231.40	-	GF	67.16	-	-	38.8	38.8	-	-
13	13	427714.95	537699.45	-	GF	67.27	-	-	35.4	35.4	-	-
14	14	427803.71	537704.35	-	GF	67.58	-	-	36.3	36.3	-	-
15	15	427873.56	537639.79	-	GF	68.86	-	-	37.1	37.1	-	-
16	16	427832.29	537520.19	-	GF	68.69	-	-	36.8	36.8	-	-
17	17	427967.76	537380.49	-	GF	69.47	-	-	38.3	38.3	-	-
18	18	428117.11	536221.75	-	GF	70.21	-	-	34.7	34.7	-	-
19	19	428114.73	536182.06	-	GF	70.21	-	-	34.5	34.5	-	-
20	20	428100.44	536145.55	-	GF	70.15	-	-	34.2	34.2	-	-
21	21	428099.65	536113.01	-	GF	70.35	-	-	34.0	34.0	-	-
22	22	428098.86	536085.22	-	GF	70.38	-	-	33.8	33.8	-	-
23	23	428172.68	536068.56	-	GF	71.08	-	-	34.1	34.1	-	-
24	24	428565.58	536211.43	-	GF	71.30	-	-	37.5	37.5	-	-
25	25	428577.49	536155.87	-	GF	71.53	-	-	37.1	37.1	-	-
26	26	429287.37	536050.30	-	GF	74.35	-	-	38.8	38.8	-	-
27	27	429640.05	535805.05	-	GF	72.50	-	-	37.1	37.1	-	-
28	28	429566.11	535686.89	-	GF	72.52	-	-	35.9	35.9	-	-
29	29	429587.54	535591.64	-	GF	71.60	-	-	35.0	35.0	-	-
30	30	429508.96	535494.81	-	GF	70.69	-	-	34.1	34.1	-	-
31	31	429607.38	535458.29	-	GF	71.07	-	-	33.9	33.9	-	-
32	32	429581.19	535390.03	-	GF	72.02	-	-	33.4	33.4	-	-
33	33	429636.75	535324.94	-	GF	73.15	-	-	32.9	32.9	-	-
34	34	429674.06	535323.35	-	GF	72.89	-	-	32.9	32.9	-	-
35	35	429715.33	535315.42	-	GF	73.11	-	-	32.9	32.9	-	-
36	36	429755.02	535314.62	-	GF	72.54	-	-	32.9	32.9	-	-
37	37	429996.32	535369.39	-	GF	72.44	-	-	33.2	33.2	-	-
38	38	430170.94	535571.01	-	GF	70.56	-	-	34.7	34.7	-	-
39	39	430195.55	535444.80	-	GF	70.99	-	-	33.5	33.5	-	-
40	40	430232.06	535446.39	-	GF	71.30	-	-	33.5	33.5	-	-
41	41	430273.34	535449.56	-	GF	71.09	-	-	33.4	33.4	-	-
42	42	430310.65	535448.77	-	GF	70.99	-	-	33.3	33.3	-	-
43	43	430343.19	535451.15	-	GF	70.95	-	-	33.2	33.2	-	-
44	44	430596.40	535472.58	-	GF	70.22	-	-	32.4	32.4	-	-
45	45	430608.57	535670.75	-	GF	69.47	-	-	33.8	33.8	-	-
46	46	430723.93	535709.91	-	GF	70.38	-	-	33.4	33.4	-	-
47	47	430593.81	535885.29	-	GF	71.30	-	-	35.7	35.7	-	-
48	48	430781.93	535932.51	-	GF	69.66	-	-	34.4	34.4	-	-
49	49	430846.69	536966.16	-	GF	68.86	-	-	35.4	35.4	-	-
50	50	430854.10	537127.02	-	GF	68.25	-	-	35.1	35.1	-	-
51	51	430658.31	537391.61	-	GF	65.03	-	-	36.4	36.4	-	-
52	52	430499.56	537435.00	-	GF	65.75	-	-	38.1	38.1	-	-
53	53	430461.46	537501.67	-	GF	66.38	-	-	38.3	38.3	-	-
54	54	430445.58	537587.40	-	GF	66.42	-	-	37.9	37.9	-	-
55	55	430439.23	537624.44	-	GF	66.02	-	-	37.7	37.7	-	-
56	56	430408.54	537693.23	-	GF	66.12	-	-	37.5	37.5	-	-
57	57	430315.41	537896.43	-	GF	67.18	-	-	36.5	36.5	-	-
58	58	429753.72	538443.25	-	GF	67.95	-	-	34.5	34.5	-	-
59	59	429628.83	538626.34	-	GF	66.73	-	-	33.7	33.7	-	-
60	60	429324.67	538582.74	-	GF	65.51	-	-	34.9	34.9	-	-
61	61	429299.69	538552.26	-	GF	65.81	-	-	35.2	35.2	-	-
62	62	429017.02	537081.47	-	GF	71.12	-	-	51.9	51.9	-	-

ATTACHMENT 2

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 08/31/2021
Case Description: Horus Renewables TVA, Hoffman Solar

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
292 Tyree Chapel Road	Residential	55.0	52.0	49.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	158.0	0.0	
Dozer	No	40	81.7	158.0	0.0	
Pickup Truck	No	40	75.0	158.0	0.0	
Tractor	No	40	84.0	158.0	0.0	
Vibratory Pile Driver	No	20	100.8	158.0	0.0	
Crane	No	16	80.6	158.0	0.0	

Results

Noise Limits (dBA)			Noise Limit Exceedance (dBA)		
Calculated (dBA)	Day	Evening	Night	Day	Evening	Night

Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	67.6	63.6	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Dozer	71.7	67.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Pickup Truck	65.0	61.0	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Tractor	74.0	70.0	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Vibratory Pile Driver	90.8	83.8	85.0	N/A	85.0	N/A	80.0	N/A	5.8	N/A	5.8	N/A
Crane	70.6	62.6	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Total	90.8	84.2	85.0	N/A	85.0	N/A	80.0	N/A	5.8	N/A	5.8	N/A

Equipment	10.8	N/A	10.8	N/A
Backhoe				
Dozer				
Pickup Truck				
Tractor				
Vibratory Pile Driver				
Crane				
Total				

**** Receptor #2 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
141 Tyree Chapel Road	Residential	61.0	57.0	54.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)

Backhoe No 40 77.6 901.0 0.0
Dozer No 40 81.7 901.0 0.0
Pickup Truck No 40 75.0 901.0 0.0
Tractor No 40 84.0 901.0 0.0
Vibratory Pile Driver No 20 100.8 901.0 0.0
Crane No 16 80.6 901.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

Backhoe 52.4 48.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Dozer 56.6 52.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Pickup Truck 49.9 45.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Tractor 58.9 54.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Vibratory Pile Driver 75.7 68.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Crane 55.4 47.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Total 75.7 69.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
727 Peden Mill Road	Residential	66.0	62.0	58.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	703.0	0.0	
Dozer	No	40	81.7	703.0	0.0	
Pickup Truck	No	40	75.0	703.0	0.0	
Tractor	No	40	84.0	703.0	0.0	
Vibratory Pile Driver	No	20	100.8	703.0	0.0	
Crane	No	16	80.6	703.0	0.0	

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

Backhoe 54.6 50.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Dozer 58.7 54.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Pickup Truck 52.0 48.1 85.0 N/A 85.0 N/A

A 80.0 N/A None N/A None N/A None N/A Tractor 61.0 57.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 77.9 70.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 57.6 49.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 77.9 71.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #4 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
155 Old County Farm Road	Residential	66.0	62.0	58.0

Equipment

Description	Spec Impact (%)	Actual Device Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	394.0	0.0	
Dozer	No	40	81.7	394.0	0.0	
Pickup Truck	No	40	75.0	394.0	0.0	
Tractor	No	40	84.0	394.0	0.0	
Vibratory Pile Driver	No	20	100.8	394.0	0.0	
Crane	No	16	80.6	394.0	0.0	

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day	Evening	Night	Day	Evening	Night

Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	59.6	55.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Dozer	63.7	59.8	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Pickup Truck	57.1	53.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Tractor	66.1	62.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Vibratory Pile Driver	82.9	75.9	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Crane	62.6	54.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Total	82.9	76.3	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A

Equipment	Day	Evening	Night
	2.9	N/A	2.9	N/A

**** Receptor #5 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
111 Old County Farm Road	Residential	66.0	62.0	58.0

Equipment

Description	Spec Impact (%)	Actual Device Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)

Backhoe No 40 77.6 377.0 0.0
Dozer No 40 81.7 377.0 0.0
Pickup Truck No 40 75.0 377.0 0.0
Tractor No 40 84.0 377.0 0.0
Vibratory Pile Driver No 20 100.8 377.0 0.0
Crane No 16 80.6 377.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

Backhoe 60.0 56.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Dozer 64.1 60.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Pickup Truck 57.5 53.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Tractor 66.5 62.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Vibratory Pile Driver 83.3 76.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A 3.3 N/A
Crane 63.0 55.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Total 83.3 76.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A 3.3 N/A

**** Receptor #6 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
139 Old County Farm Road	Residential	66.0	62.0	58.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	304.0	0.0	
Dozer	No	40	81.7	304.0	0.0	
Pickup Truck	No	40	75.0	304.0	0.0	
Tractor	No	40	84.0	304.0	0.0	
Vibratory Pile Driver	No	20	100.8	304.0	0.0	
Crane	No	16	80.6	304.0	0.0	

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

Backhoe 61.9 57.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Dozer 66.0 62.0 85.0 N/A 85.0 N/

A 80.0 N/A None N/A None N/A None N/A Pickup Truck 59.3 55.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 68.3 64.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 85.1 78.2 85.0 N/A 85.0 N/A 80.0 N/A 0.1 N/A 0.1 N/A 5.1 N/A Crane 64.9 56.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 85.1 78.5 85.0 N/A 85.0 N/A 80.0 N/A 0.1 N/A 0.1 N/A 5.1 N/A

**** Receptor #7 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
123 Old County Farm Road	Residential	61.0	57.0	54.0

Equipment

Description	Spec Impact Device	Spec Impact Usage (%)	Actual Lmax (dBA)	Receptor Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	559.0	0.0	
Dozer	No	40	81.7	559.0	0.0	
Pickup Truck	No	40	75.0	559.0	0.0	
Tractor	No	40	84.0	559.0	0.0	
Vibratory Pile Driver	No	20	100.8	559.0	0.0	
Crane	No	16	80.6	559.0	0.0	

Results

Noise Limits (dBA)			Noise Limit Exceedance (dBA)								
Calculated (dBA)	Day		Evening		Night	Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	56.6	52.6	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Dozer	60.7	56.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Pickup Truck	54.0	50.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Tractor	63.0	59.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Vibratory Pile Driver	79.9	72.9	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Crane	59.6	51.6	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Total	79.9	73.2	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A

**** Receptor #8 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
583 Peden Mill Road	Residential	55.0	52.0	49.0

Equipment

Description	Spec Impact Device	Spec Impact Usage (%)	Actual Lmax (dBA)	Receptor Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)

- ----- -------- ---------
Backhoe No 40 77.6 963.0 0.0
Dozer No 40 81.7 963.0 0.0
Pickup Truck No 40 75.0 963.0 0.0
Tractor No 40 84.0 963.0 0.0
Vibratory Pile Driver No 20 100.8 963.0 0.0
Crane No 16 80.6 963.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
------------------ --
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ------------ ------------ ------------ ------------ --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 51.9 47.9 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 56.0 52.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 49.3 45.3 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 58.3 54.3 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 75.1 68.1 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 54.9 46.9 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 75.1 68.5 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #9 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
712 Peden Mill Road Residential 55.0 52.0 49.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 1283.0 0.0
Dozer No 40 81.7 1283.0 0.0
Pickup Truck No 40 75.0 1283.0 0.0
Tractor No 40 84.0 1283.0 0.0
Vibratory Pile Driver No 20 100.8 1283.0 0.0
Crane No 16 80.6 1283.0 0.0
Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
------------------ --
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ------------ ------------ ------------ ------------ --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 49.4 45.4 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 53.5 49.5 85.0 N/A 85.0 N/

A 80.0 N/A None N/A None N/A None N/A Pickup Truck 46.8 42.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 55.8 51.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 72.6 65.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 52.4 44.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 72.6 66.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #10 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
570 Peden Mill Road	Residential	61.0	57.0	54.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	1355.0	0.0	
Dozer	No	40	81.7	1355.0	0.0	
Pickup Truck	No	40	75.0	1355.0	0.0	
Tractor	No	40	84.0	1355.0	0.0	
Vibratory Pile Driver	No	20	100.8	1355.0	0.0	
Crane	No	16	80.6	1355.0	0.0	

Results

Noise Limits (dBA)			Noise Limit Exceedance (dBA)								
Calculated (dBA)	Day	Evening	Night	Day	Evening	Night					
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	48.9	44.9	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A	None	N/A
Dozer	53.0	49.0	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A	None	N/A
Pickup Truck	46.3	42.4	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A	None	N/A
Tractor	55.3	51.4	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A	None	N/A
Vibratory Pile Driver	72.2	65.2	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A	None	N/A
Crane	51.9	43.9	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A	None	N/A
Total	72.2	65.5	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A	None	N/A

**** Receptor #11 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
515 Peden Mill Road	Residential	61.0	57.0	54.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)			

- ----- -------- ---------
Backhoe No 40 77.6 1246.0 0.0
Dozer No 40 81.7 1246.0 0.0
Pickup Truck No 40 75.0 1246.0 0.0
Tractor No 40 84.0 1246.0 0.0
Vibratory Pile Driver No 20 100.8 1246.0 0.0
Crane No 16 80.6 1246.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ------------------------- ------------------ --
Calculated (dBA) Day Evening Night Day Evening Night ---------------- ----- --------- ------------ ------------- ------------- ------------- -------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------------------- ------ ------ ------ ------ ------ ------ ------ - ----- ------ ------ ------ ------ ------ ------ Backhoe 49.6 45.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 53.7 49.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 47.1 43.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 56.1 52.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 72.9 65.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 52.6 44.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 72.9 66.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #12 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 491 Peden Mill Road Residential 61.0 57.0 54.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 1322.0 0.0
Dozer No 40 81.7 1322.0 0.0
Pickup Truck No 40 75.0 1322.0 0.0
Tractor No 40 84.0 1322.0 0.0
Vibratory Pile Driver No 20 100.8 1322.0 0.0
Crane No 16 80.6 1322.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ------------------------- ------------------ --
Calculated (dBA) Day Evening Night Day Evening Night ---------------- ----- --------- ------------ ------------- ------------- ------------- -------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------------------- ------ ------ ------ ------ ------ ------ ------ - ----- ------ ------ ------ ------ ------ ------ Backhoe 49.1 45.1 85.0 N/A

85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 53.2 49.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 46.6 42.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 55.6 51.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 72.4 65.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 52.1 44.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 72.4 65.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #13 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Super 8	Commercial	66.0	62.0	58.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40		77.6	2339.0	0.0
Dozer	No	40		81.7	2339.0	0.0
Pickup Truck	No	40		75.0	2339.0	0.0
Tractor	No	40		84.0	2339.0	0.0
Vibratory Pile Driver	No	20		100.8	2339.0	0.0
Crane	No	16		80.6	2339.0	0.0

Results

Noise Limits (dBA)			Noise Limit Exceedance (dBA)								
Calculated (dBA)	Day	Evening	Night	Day	Evening	Night					
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	44.2	40.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.3	44.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	41.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.6	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vibratory Pile Driver	67.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	47.1	39.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.4	60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #14 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Quality Inn	Commercial	66.0	62.0	58.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)

---------- ------ ----- ----- ----- -------- --------- Backhoe No 40 77.6
2047.0 0.0
Dozer No 40 81.7 2047.0 0.0
Pickup Truck No 40 75.0 2047.0 0.0
Tractor No 40 84.0 2047.0 0.0
Vibratory Pile Driver No 20 100.8 2047.0 0.0
Crane No 16 80.6 2047.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
------------------ ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 45.3 41.3 N/A N/A N/A
N/A N/A N/A N/A N/A N/A N/A N/A N/A Dozer 49.4 45.4 N/A N/A N/A N/A N/A N/A
N/A N/A N/A N/A N/A N/A N/A N/A Pickup Truck 42.8 38.8 N/A N/A N/A N/A N/A N/A N/A N/
A N/A N/A N/A N/A Tractor 51.8 47.8 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
N/A N/A Vibratory Pile Driver 68.6 61.6 N/A N/A N/A N/A N/A N/A N/A N/A N/A
N/A N/A N/A Crane 48.3 40.3 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Total 68.6 62.0 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A

**** Receptor #15 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
Baymont Commercial 66.0 62.0 58.0

Equipment
--------- Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 1843.0 0.0
Dozer No 40 81.7 1843.0 0.0
Pickup Truck No 40 75.0 1843.0 0.0
Tractor No 40 84.0 1843.0 0.0
Vibratory Pile Driver No 20 100.8 1843.0 0.0
Crane No 16 80.6 1843.0 0.0

Results
------- Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 46.2 42.2 N/A N/A N/A
N/A N/A N/A N/A N/A N/A N/A N/A N/A Dozer 50.3 46.4 N/A N/A N/A N/A N/A N/A
N/A N/A N/A N/A N/A N/A N/A N/A Pickup Truck 43.7 39.7 N/A N/A N/A N/A N/A N/A N/A N/
A N/A N/A N/A N/A Tractor 52.7 48.7 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A

N/A N/A Vibratory Pile Driver 69.5 62.5 N/A N/A N/A N/A N/A N/A N/A N/A N/A
N/A N/A N/A Crane 49.2 41.3 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Total 69.5 62.9 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A

**** Receptor #16 ****

Baselines (dBA)
Description Land Use Daytime Evening Night ----------- -------- ------- -----
-- -----
Econo Lodge Commercial 66.0 62.0 58.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 2065.0 0.0
Dozer No 40 81.7 2065.0 0.0
Pickup Truck No 40 75.0 2065.0 0.0
Tractor No 40 84.0 2065.0 0.0
Vibratory Pile Driver No 20 100.8 2065.0 0.0 Crane No 16 80.6 2065.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 45.2 41.3 N/A N/A N/A
N/A N/A N/A N/A N/A N/A N/A N/A N/A Dozer 49.4 45.4 N/A N/A N/A N/A N/A N/A
N/A N/A N/A N/A N/A N/A N/A Pickup Truck 42.7 38.7 N/A N/A N/A N/A N/A N/A N/
A N/A N/A N/A N/A Tractor 51.7 47.7 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
N/A N/A Vibratory Pile Driver 68.5 61.5 N/A N/A N/A N/A N/A N/A N/A N/A N/A
N/A N/A N/A Crane 48.2 40.3 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Total 68.5 61.9 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A

**** Receptor #17 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
Hapton Inn Commercial 66.0 62.0 58.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 1721.0 0.0 Dozer No 40 81.7 1721.0 0.0
Pickup Truck No 40 75.0 1721.0 0.0

Tractor No 40 84.0 1721.0 0.0
Vibratory Pile Driver No 20 100.8 1721.0 0.0
Crane No 16 80.6 1721.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

Backhoe 46.8 42.8 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Dozer 50.9 47.0 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Pickup Truck 44.3 40.3 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Tractor 53.3 49.3 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Vibratory Pile Driver 70.1 63.1 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Crane 49.8 41.9 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Total 70.1 63.5 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A

**** Receptor #18 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
4709 Nashville Road	Residential	66.0	62.0	58.0

Equipment

Spec Impact	Actual Usage	Receptor Lmax	Estimated Lmax	Distance	Shielding	Description	Device	(%)	(dBA)	(dBA)	(feet)	(dBA)
Backhoe	No	40	77.6	2156.0	0.0							
Dozer	No	40	81.7	2156.0	0.0							
Pickup Truck	No	40	75.0	2156.0	0.0							
Tractor	No	40	84.0	2156.0	0.0							
Vibratory Pile Driver	No	20	100.8	2156.0	0.0							
Crane	No	16	80.6	2156.0	0.0							

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

Backhoe 44.9 40.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Dozer 49.0 45.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Pickup Truck 42.3 38.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Tractor 51.3 47.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Vibratory Pile Driver 68.1 61.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
Crane 47.9 39.9 85.0 N/A 85.0 N/A

A 80.0 N/A None N/A None N/A None N/A Total 68.1 61.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #19 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- ----- 4785 Nashville Road Residential 66.0 62.0 58.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 2268.0 0.0
Dozer No 40 81.7 2268.0 0.0
Pickup Truck No 40 75.0 2268.0 0.0
Tractor No 40 84.0 2268.0 0.0
Vibratory Pile Driver No 20 100.8 2268.0 0.0
Crane No 16 80.6 2268.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
---------- ---
Calculated (dBA) Day Evening Night Day Evening Night   ---
---------- ---
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq -
----- ------ ------ ------ ------ ------ ------ Backhoe 44.4 40.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 48.5 44.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 41.9 37.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 50.9 46.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 67.7 60.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 47.4 39.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 67.7 61.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #20 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
4761 Nashville Road Residential 66.0 62.0 58.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 2393.0 0.0
Dozer No 40 81.7 2393.0 0.0

Pickup Truck No 40 75.0 2393.0 0.0 Tractor No 40 84.0 2393.0 0.0
Vibratory Pile Driver No 20 100.8 2393.0 0.0
Crane No 16 80.6 2393.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- ----- --------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 44.0 40.0 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 48.1 44.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 41.4 37.4 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 50.4 46.4 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 67.2 60.2 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 47.0 39.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 67.2 60.6 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #21 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
4779 Nashville Road Residential 66.0 62.0 58.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ----
- ----- -------- ---------
Backhoe No 40 77.6 2485.0 0.0
Dozer No 40 81.7 2485.0 0.0
Pickup Truck No 40 75.0 2485.0 0.0
Tractor No 40 84.0 2485.0 0.0
Vibratory Pile Driver No 20 100.8 2485.0 0.0
Crane No 16 80.6 2485.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- ----- --------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 43.6 39.7 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 47.7 43.8 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 41.1 37.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 50.1 46.1 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 66.9 59.9 85.0 N/A

85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 46.6 38.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 66.9 60.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #22 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- ----- 4783 Nashville Road Residential 66.0 62.0 58.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 2564.0 0.0
Dozer No 40 81.7 2564.0 0.0
Pickup Truck No 40 75.0 2564.0 0.0
Tractor No 40 84.0 2564.0 0.0
Vibratory Pile Driver No 20 100.8 2564.0 0.0
Crane No 16 80.6 2564.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
---------- ---
Calculated (dBA) Day Evening Night Day Evening Night   ---
--- ---
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq -
--- ------ ------ ------ ------ ------ ------ Backhoe 43.4 39.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 47.5 43.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 40.8 36.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 49.8 45.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 66.6 59.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 46.4 38.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 66.6 60.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #23 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
4806 Nashville Road Residential 66.0 62.0 58.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 2497.0 0.0

Dozer No 40 81.7 2497.0 0.0
Pickup Truck No 40 75.0 2497.0 0.0 Tractor No 40 84.0 2497.0 0.0
Vibratory Pile Driver No 20 100.8 2497.0 0.0
Crane No 16 80.6 2497.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
--- ---
Calculated (dBA) Day Evening Night Day Evening Night --- ---
--- --- --- --- --- ---
--- Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq --- --- --- --- --- --- --- -
--- --- --- --- --- --- --- Backhoe 43.6 39.6 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 47.7 43.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 41.0 37.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 50.0 46.1 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 66.9 59.9 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 46.6 38.6 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 66.9 60.2 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #24 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
--- --- --- --- ---
262 Geddes Road Residential 50.0 47.0 44.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
--- --- --- --- --- --- --- Backhoe No 40 77.6
1640.0 0.0
Dozer No 40 81.7 1640.0 0.0
Pickup Truck No 40 75.0 1640.0 0.0
Tractor No 40 84.0 1640.0 0.0
Vibratory Pile Driver No 20 100.8 1640.0 0.0
Crane No 16 80.6 1640.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
--- ---
Calculated (dBA) Day Evening Night Day Evening Night --- ---
--- --- --- --- --- ---
--- Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq --- --- --- --- --- --- --- -
--- --- --- --- --- --- --- Backhoe 47.2 43.3 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 51.4 47.4 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 44.7 40.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 53.7 49.7 85.0 N/A 85.0 N/A

80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 70.5 63.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 50.2 42.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 70.5 63.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #25 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
275 Geddes Road	Residential	50.0	47.0	44.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	77.6	1788.0	0.0	
Dozer	No	40	81.7	1788.0	0.0	
Pickup Truck	No	40	75.0	1788.0	0.0	
Tractor	No	40	84.0	1788.0	0.0	
Vibratory Pile Driver	No	20	100.8	1788.0	0.0	
Crane	No	16	80.6	1788.0	0.0	

Results

Calculated (dBA)	Noise Limits (dBA) Day	Evening	Night	Noise Limit Exceedance (dBA) Day	Evening	Night
Equipment	Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq
Backhoe	46.5 42.5	85.0 N/A	85.0 N/A	80.0 N/A	None N/A	None N/A
Dozer	50.6 46.6	85.0 N/A	85.0 N/A	80.0 N/A	None N/A	None N/A
Pickup Truck	43.9 40.0	85.0 N/A	85.0 N/A	80.0 N/A	None N/A	None N/A
Tractor	52.9 49.0	85.0 N/A	85.0 N/A	80.0 N/A	None N/A	None N/A
Vibratory Pile Driver	69.8 62.8	85.0 N/A	85.0 N/A	80.0 N/A	None N/A	None N/A
Crane	49.5 41.5	85.0 N/A	85.0 N/A	80.0 N/A	None N/A	None N/A
Total	69.8 63.1	85.0 N/A	85.0 N/A	80.0 N/A	None N/A	None N/A

**** Receptor #26 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
716 Geddes Road	Residential	45.0	42.0	39.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	77.6	1207.0	0.0	

Dozer No 40 81.7 1207.0 0.0
Pickup Truck No 40 75.0 1207.0 0.0
Tractor No 40 84.0 1207.0 0.0
Vibratory Pile Driver No 20 100.8 1207.0 0.0 Crane No 16 80.6 1207.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
--- ---
Calculated (dBA) Day Evening Night Day Evening Night --- -----
--- --- --- --- --- ---
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq --- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 49.9 45.9 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 54.0 50.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 47.3 43.4 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 56.3 52.4 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 73.2 66.2 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 52.9 44.9 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 73.2 66.5 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #27 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
--- --- --- --- ---
2180 Tyree Chapel Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
--- --- --- --- --- --- ---
Backhoe No 40 77.6 1003.0 0.0 Dozer No 40 81.7 1003.0 0.0
Pickup Truck No 40 75.0 1003.0 0.0
Tractor No 40 84.0 1003.0 0.0
Vibratory Pile Driver No 20 100.8 1003.0 0.0
Crane No 16 80.6 1003.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
--- ---
Calculated (dBA) Day Evening Night Day Evening Night --- -----
--- --- --- --- --- ---
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq --- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 51.5 47.5 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 55.6 51.6 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 49.0 45.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 58.0 54.0 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 74.8 67.8 85.0 N/A

85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 54.5 46.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 74.8 68.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #28 ****

Baselines (dBA)
Description Land Use Daytime Evening Night

Tyree Chapel Church of Christ Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1418.0 0.0
Dozer No 40 81.7 1418.0 0.0
Pickup Truck No 40 75.0 1418.0 0.0
Tractor No 40 84.0 1418.0 0.0
Vibratory Pile Driver No 20 100.8 1418.0 0.0
Crane No 16 80.6 1418.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq
---
Backhoe 48.5 44.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 52.6 48.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.9 42.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 54.9 51.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 71.8 64.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 51.5 43.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 71.8 65.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #29 ****

Baselines (dBA) Description Land Use Daytime Evening Night

2394 Tyree Chapel Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1671.0 0.0
Dozer No 40 81.7 1671.0 0.0
Pickup Truck No 40 75.0 1671.0 0.0

Tractor No 40 84.0 1671.0 0.0 Vibratory Pile Driver No 20 100.8 1671.0 0.0
Crane No 16 80.6 1671.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA)	Day			Evening			Night		
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	47.1	43.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Dozer	51.2	47.2	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Pickup Truck	44.5	40.5	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Tractor	53.5	49.5	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Vibratory Pile Driver	70.3	63.4	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Crane	50.1	42.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Total	70.3	63.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A

**** Receptor #30 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
2391 Tyree Chapel Road	Residential	45.0	42.0	39.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No 40	77.6	2063.0	0.0		
Dozer	No 40	81.7	2063.0	0.0		
Pickup Truck	No 40	75.0	2063.0	0.0		
Tractor	No 40	84.0	2063.0	0.0		
Vibratory Pile Driver	No 20	100.8	2063.0	0.0		
Crane	No 16	80.6	2063.0	0.0		

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA)	Day			Evening			Night		
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	45.2	41.3	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Dozer	49.4	45.4	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Pickup Truck	42.7	38.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Tractor	51.7	47.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Vibratory Pile Driver	68.5	61.5	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Crane	48.2	40.3	85.0	N/A	85.0	N/

A 80.0 N/A None N/A None N/A None N/A Total 68.5 61.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #31 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
2404 Tyree Chapel Road	Residential	45.0	42.0	39.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	1894.0	0.0	
Dozer	No	40	81.7	1894.0	0.0	
Pickup Truck	No	40	75.0	1894.0	0.0	
Tractor	No	40	84.0	1894.0	0.0	
Vibratory Pile Driver	No	20	100.8	1894.0	0.0	
Crane	No	16	80.6	1894.0	0.0	

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day	Evening	Night	Day	Evening	Night

Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	46.0	42.0	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Dozer	50.1	46.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Pickup Truck	43.4	39.5	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Tractor	52.4	48.5	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Vibratory Pile Driver	69.3	62.3	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Crane	49.0	41.0	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Total	69.3	62.6	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A

**** Receptor #32 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
2480 Tyree Chapel Road	Residential	45.0	42.0	39.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	2115.0	0.0	
Dozer	No	40	81.7	2115.0	0.0	

Pickup Truck No 40 75.0 2115.0 0.0 Tractor No 40 84.0 2115.0 0.0
Vibratory Pile Driver No 20 100.8 2115.0 0.0
Crane No 16 80.6 2115.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 45.0 41.1 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 49.1 45.2 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 42.5 38.5 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 51.5 47.5 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 68.3 61.3 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 48.0 40.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 68.3 61.7 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #33 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
90 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ----
- ----- -------- ---------
Backhoe No 40 77.6 2167.0 0.0
Dozer No 40 81.7 2167.0 0.0
Pickup Truck No 40 75.0 2167.0 0.0
Tractor No 40 84.0 2167.0 0.0
Vibratory Pile Driver No 20 100.8 2167.0 0.0
Crane No 16 80.6 2167.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 44.8 40.8 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 48.9 45.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 42.3 38.3 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 51.3 47.3 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 68.1 61.1 85.0 N/A

85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 47.8 39.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 68.1 61.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #34 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- ----- 112 Blue Door Church Road
Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 2103.0 0.0
Dozer No 40 81.7 2103.0 0.0
Pickup Truck No 40 75.0 2103.0 0.0
Tractor No 40 84.0 2103.0 0.0
Vibratory Pile Driver No 20 100.8 2103.0 0.0
Crane No 16 80.6 2103.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
---------- ---
Calculated (dBA) Day Evening Night Day Evening Night   ---------- -----
--- ---------- ---------- ---------- ---------- ---
---- Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 45.1 41.1 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 49.2 45.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 42.5 38.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 51.5 47.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 68.3 61.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 48.1 40.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 68.3 61.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
**** Receptor #35 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
136 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 2056.0 0.0

Dozer No 40 81.7 2056.0 0.0
Pickup Truck No 40 75.0 2056.0 0.0 Tractor No 40 84.0 2056.0 0.0
Vibratory Pile Driver No 20 100.8 2056.0 0.0
Crane No 16 80.6 2056.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- ---------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 45.3 41.3 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 49.4 45.4 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 42.7 38.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 51.7 47.7 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 68.5 61.5 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 48.3 40.3 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 68.5 61.9 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #36 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
172 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ----
- ----- -------- ---------
Backhoe No 40 77.6 1999.0 0.0
Dozer No 40 81.7 1999.0 0.0
Pickup Truck No 40 75.0 1999.0 0.0
Tractor No 40 84.0 1999.0 0.0
Vibratory Pile Driver No 20 100.8 1999.0 0.0
Crane No 16 80.6 1999.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- ---------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 45.5 41.5 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 49.6 45.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 43.0 39.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 52.0 48.0 85.0 N/A 85.0 N/A

80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 68.8 61.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 48.5 40.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 68.8 62.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

 **** Receptor #37 ****

 Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 394 Blue Door Church Road Residential 40.0 37.0 34.0

 Equipment

 Spec Actual Receptor Estimated
 Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
----------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 1625.0 0.0
Dozer No 40 81.7 1625.0 0.0
Pickup Truck No 40 75.0 1625.0 0.0
Tractor No 40 84.0 1625.0 0.0
Vibratory Pile Driver No 20 100.8 1625.0 0.0
Crane No 16 80.6 1625.0 0.0

 Results

 Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ------------------ --- Calculated (dBA) Day Evening Night Day Evening Night   ---------- ----- --------- ------------ ------------- ------------- ------------- -------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ ----- ------ ------ ------ ------ ------ ------ Backhoe 47.3 43.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 51.4 47.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 44.8 40.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 53.8 49.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 70.6 63.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 50.3 42.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 70.6 64.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A
  **** Receptor #38 ****

 Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
478 Blue Door Church Road Residential 40.0 37.0 34.0

 Equipment

 Spec Actual Receptor Estimated
 Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
----------- ------ ----- ----- ----- -------- ---------

Backhoe No 40 77.6 1058.0 0.0
Dozer No 40 81.7 1058.0 0.0
Pickup Truck No 40 75.0 1058.0 0.0 Tractor No 40 84.0 1058.0 0.0
Vibratory Pile Driver No 20 100.8 1058.0 0.0
Crane No 16 80.6 1058.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ---------- Calculated (dBA) Day Evening Night Day Evening Night ---------- ---------- ----- ---------- ---------- ---------- ---------- ---------- ---------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ Backhoe 51.0 47.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 55.2 51.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 48.5 44.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 57.5 53.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 74.3 67.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 54.0 46.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 74.3 67.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #39 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
514 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ---- - ----- -------- ---------
Backhoe No 40 77.6 1472.0 0.0
Dozer No 40 81.7 1472.0 0.0
Pickup Truck No 40 75.0 1472.0 0.0
Tractor No 40 84.0 1472.0 0.0
Vibratory Pile Driver No 20 100.8 1472.0 0.0
Crane No 16 80.6 1472.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ---------- Calculated (dBA) Day Evening Night Day Evening Night ---------- ---------- ----- ---------- ---------- ---------- ---------- ---------- ---------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ Backhoe 48.2 44.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 52.3 48.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.6 41.6 85.0 N/A 85.0 N/

A 80.0 N/A None N/A None N/A None N/A Tractor 54.6 50.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 71.4 64.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 51.2 43.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 71.4 64.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #40 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 536 Blue Door Church Road
Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
----------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 1483.0 0.0
Dozer No 40 81.7 1483.0 0.0
Pickup Truck No 40 75.0 1483.0 0.0
Tractor No 40 84.0 1483.0 0.0
Vibratory Pile Driver No 20 100.8 1483.0 0.0
Crane No 16 80.6 1483.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night   ---
---------- ---
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---
----- ------ ------ ------ ------ ------ ------ Backhoe 48.1 44.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 52.2 48.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.6 41.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 54.6 50.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 71.4 64.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 51.1 43.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 71.4 64.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #41 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
554 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)

---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 1499.0 0.0
Dozer No 40 81.7 1499.0 0.0
Pickup Truck No 40 75.0 1499.0 0.0 Tractor No 40 84.0 1499.0 0.0
Vibratory Pile Driver No 20 100.8 1499.0 0.0
Crane No 16 80.6 1499.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 48.0 44.0 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 52.1 48.2 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.5 41.5 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 54.5 50.5 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 71.3 64.3 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 51.0 43.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 71.3 64.7 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #42 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
582 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ----
- ----- -------- ---------
Backhoe No 40 77.6 1536.0 0.0
Dozer No 40 81.7 1536.0 0.0
Pickup Truck No 40 75.0 1536.0 0.0
Tractor No 40 84.0 1536.0 0.0
Vibratory Pile Driver No 20 100.8 1536.0 0.0
Crane No 16 80.6 1536.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 47.8 43.8 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 51.9 47.9 85.0 N/A 85.0 N/

A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.3 41.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 54.3 50.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 71.1 64.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 50.8 42.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 71.1 64.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #43 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 602 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
----------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 1565.0 0.0
Dozer No 40 81.7 1565.0 0.0
Pickup Truck No 40 75.0 1565.0 0.0
Tractor No 40 84.0 1565.0 0.0
Vibratory Pile Driver No 20 100.8 1565.0 0.0
Crane No 16 80.6 1565.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night   ---
--- ---
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq -
----- ------ ------ ------ ------ ------ Backhoe 47.6 43.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 51.8 47.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.1 41.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 54.1 50.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 70.9 63.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 50.6 42.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 70.9 64.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #44 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
60 Blue Door Church Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding

Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 1979.0 0.0
Dozer No 40 81.7 1979.0 0.0
Pickup Truck No 40 75.0 1979.0 0.0 Tractor No 40 84.0 1979.0 0.0
Vibratory Pile Driver No 20 100.8 1979.0 0.0
Crane No 16 80.6 1979.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 45.6 41.6 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 49.7 45.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 43.1 39.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 52.1 48.1 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 68.9 61.9 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 48.6 40.6 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 68.9 62.2 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #45 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
3965 Peden Mill Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ----
- ----- -------- ---------
Backhoe No 40 77.6 1518.0 0.0
Dozer No 40 81.7 1518.0 0.0
Pickup Truck No 40 75.0 1518.0 0.0
Tractor No 40 84.0 1518.0 0.0
Vibratory Pile Driver No 20 100.8 1518.0 0.0
Crane No 16 80.6 1518.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 47.9 43.9 85.0 N/A

85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 52.0 48.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.4 41.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 54.4 50.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 71.2 64.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 50.9 42.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 71.2 64.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #46 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 3880 Peden Mill Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1543.0 0.0
Dozer No 40 81.7 1543.0 0.0
Pickup Truck No 40 75.0 1543.0 0.0
Tractor No 40 84.0 1543.0 0.0
Vibratory Pile Driver No 20 100.8 1543.0 0.0
Crane No 16 80.6 1543.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq
---
Backhoe 47.8 43.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 51.9 47.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.2 41.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 54.2 50.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 71.0 64.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 50.8 42.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 71.0 64.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #47 ****

Baselines (dBA)
Description Land Use Daytime Evening Night

3835 Peden Mill Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated

Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 836.0 0.0
Dozer No 40 81.7 836.0 0.0
Pickup Truck No 40 75.0 836.0 0.0 Tractor No 40 84.0 836.0 0.0
Vibratory Pile Driver No 20 100.8 836.0 0.0
Crane No 16 80.6 836.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 53.1 49.1 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 57.2 53.2 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 50.5 46.6 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 59.5 55.6 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 76.4 69.4 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 56.1 48.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 76.4 69.7 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #48 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
3735 Peden Mill Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ----
- ----- -------- ---------
Backhoe No 40 77.6 1133.0 0.0
Dozer No 40 81.7 1133.0 0.0
Pickup Truck No 40 75.0 1133.0 0.0
Tractor No 40 84.0 1133.0 0.0
Vibratory Pile Driver No 20 100.8 1133.0 0.0
Crane No 16 80.6 1133.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -

----- ------ ------ ------ ------ ------ ------ Backhoe 50.5 46.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 54.6 50.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 47.9 43.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 56.9 52.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 73.7 66.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 53.4 45.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 73.7 67.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #49 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 3070 Peden Mill Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 2104.0 0.0
Dozer No 40 81.7 2104.0 0.0
Pickup Truck No 40 75.0 2104.0 0.0
Tractor No 40 84.0 2104.0 0.0
Vibratory Pile Driver No 20 100.8 2104.0 0.0
Crane No 16 80.6 2104.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ---------- ---------- ---------- ---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night --------- ------ ---------- ---------- ---------- ---------- ---------- ---------- ---------- ---------- ---------- ---------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ Backhoe 45.1 41.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 49.2 45.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 42.5 38.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 51.5 47.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 68.3 61.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 48.1 40.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 68.3 61.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #50 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
2892 Peden Mill Road Residential 40.0 37.0 34.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 2401.0 0.0
Dozer No 40 81.7 2401.0 0.0
Pickup Truck No 40 75.0 2401.0 0.0 Tractor No 40 84.0 2401.0 0.0
Vibratory Pile Driver No 20 100.8 2401.0 0.0
Crane No 16 80.6 2401.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 43.9 40.0 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 48.0 44.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 41.4 37.4 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 50.4 46.4 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 67.2 60.2 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 46.9 39.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 67.2 60.6 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #51 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
2792 Peden Mill Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA) ---------- ------ ----- ----
- ----- -------- ---------
Backhoe No 40 77.6 1751.0 0.0
Dozer No 40 81.7 1751.0 0.0
Pickup Truck No 40 75.0 1751.0 0.0
Tractor No 40 84.0 1751.0 0.0
Vibratory Pile Driver No 20 100.8 1751.0 0.0
Crane No 16 80.6 1751.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ----------
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- -----
--------- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax

Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 46.7 42.7 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 50.8 46.8 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 44.1 40.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 53.1 49.1 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 69.9 62.9 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 49.7 41.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 69.9 63.3 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #52 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 2703 Peden Mill Road Residential
45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
----------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 1238.0 0.0
Dozer No 40 81.7 1238.0 0.0
Pickup Truck No 40 75.0 1238.0 0.0
Tractor No 40 84.0 1238.0 0.0
Vibratory Pile Driver No 20 100.8 1238.0 0.0
Crane No 16 80.6 1238.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---
---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night   ---------- -----
--- ---------- ---------- ---------- ---------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 49.7 45.7 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 53.8 49.8 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 47.1 43.1 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 56.1 52.1 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 72.9 66.0 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 52.7 44.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 72.9 66.3 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A
**** Receptor #53 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
2651 Peden Mill Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1162.0 0.0
Dozer No 40 81.7 1162.0 0.0
Pickup Truck No 40 75.0 1162.0 0.0 Tractor No 40 84.0 1162.0 0.0
Vibratory Pile Driver No 20 100.8 1162.0 0.0
Crane No 16 80.6 1162.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq -
---

Backhoe 50.2 46.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 54.3 50.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 47.7 43.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 56.7 52.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 73.5 66.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 53.2 45.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 73.5 66.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #54 ****

Baselines (dBA)
Description Land Use Daytime Evening Night

2622 Peden Mill Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1232.0 0.0
Dozer No 40 81.7 1232.0 0.0
Pickup Truck No 40 75.0 1232.0 0.0
Tractor No 40 84.0 1232.0 0.0
Vibratory Pile Driver No 20 100.8 1232.0 0.0
Crane No 16 80.6 1232.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ Backhoe 49.7 45.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 53.8 49.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 47.2 43.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 56.2 52.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 73.0 66.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 52.7 44.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 73.0 66.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #55 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- ----- 2598 Peden Mill Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 1283.0 0.0
Dozer No 40 81.7 1283.0 0.0
Pickup Truck No 40 75.0 1283.0 0.0
Tractor No 40 84.0 1283.0 0.0
Vibratory Pile Driver No 20 100.8 1283.0 0.0
Crane No 16 80.6 1283.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ---------- ---------- ---------- ---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night   ---------- ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ Backhoe 49.4 45.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 53.5 49.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 46.8 42.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 55.8 51.8 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 72.6 65.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 52.4 44.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 72.6 66.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #56 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
---------- -------- ------- ------- -----
2538 Peden Mill Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated

Impact Usage Lmax Lmax Distance Shielding

Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1358.0 0.0

Dozer No 40 81.7 1358.0 0.0

Pickup Truck No 40 75.0 1358.0 0.0 Tractor No 40 84.0 1358.0 0.0

Vibratory Pile Driver No 20 100.8 1358.0 0.0

Crane No 16 80.6 1358.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

---

Backhoe 48.9 44.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Dozer 53.0 49.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Pickup Truck 46.3 42.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Tractor 55.3 51.3 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Vibratory Pile Driver 72.1 65.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Crane 51.9 43.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Total 72.1 65.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #57 ****

Baselines (dBA)

Description Land Use Daytime Evening Night

2445 Peden Mill Road Residential 45.0 42.0 39.0

Equipment

Spec Actual Receptor Estimated

Impact Usage Lmax Lmax Distance Shielding

Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1769.0 0.0

Dozer No 40 81.7 1769.0 0.0

Pickup Truck No 40 75.0 1769.0 0.0

Tractor No 40 84.0 1769.0 0.0

Vibratory Pile Driver No 20 100.8 1769.0 0.0

Crane No 16 80.6 1769.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

--------- ------------ -------------- -------------- -------------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------------------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 46.6 42.6 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 50.7 46.7 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 44.0 40.0 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 53.0 49.0 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 69.8 62.9 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 49.6 41.6 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 69.8 63.2 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A

**** Receptor #58 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 1743 Peden Mill Road Residential
55.0 52.0 49.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
----------- ------ ----- ----- ----- -------- ---------
Backhoe No 40 77.6 2530.0 0.0
Dozer No 40 81.7 2530.0 0.0
Pickup Truck No 40 75.0 2530.0 0.0
Tractor No 40 84.0 2530.0 0.0
Vibratory Pile Driver No 20 100.8 2530.0 0.0
Crane No 16 80.6 2530.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) --------------------------
------------------- --
Calculated (dBA) Day Evening Night Day Evening Night   ---------------- -----
--------- ------------ -------------- -------------- -------------- --------
------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax
Leq ---------------------- ------ ------ ------ ------ ------ ------ ------ -
----- ------ ------ ------ ------ ------ ------ Backhoe 43.5 39.5 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 47.6 43.6 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Pickup Truck 40.9 36.9 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Tractor 49.9 45.9 85.0 N/A 85.0 N/A
80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 66.7 59.7 85.0 N/A
85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 46.5 38.5 85.0 N/A 85.0 N/
A 80.0 N/A None N/A None N/A None N/A Total 66.7 60.1 85.0 N/A 85.0 N/A 80.0
N/A None N/A None N/A None N/A
**** Receptor #59 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
1595 Peden Mill Road Residential 55.0 52.0 49.0

Equipment

Spec Actual Receptor Estimated

Impact Usage Lmax Lmax Distance Shielding

Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 2546.0 0.0

Dozer No 40 81.7 2546.0 0.0

Pickup Truck No 40 75.0 2546.0 0.0 Tractor No 40 84.0 2546.0 0.0

Vibratory Pile Driver No 20 100.8 2546.0 0.0

Crane No 16 80.6 2546.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq

---

Backhoe 43.4 39.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Dozer 47.5 43.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Pickup Truck 40.9 36.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Tractor 49.9 45.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Vibratory Pile Driver 66.7 59.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Crane 46.4 38.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

Total 66.7 60.1 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #60 ****

Baselines (dBA)

Description Land Use Daytime Evening Night

1325 Peden Mill Road Residential 55.0 52.0 49.0

Equipment

Spec Actual Receptor Estimated

Impact Usage Lmax Lmax Distance Shielding

Description Device (%) (dBA) (dBA) (feet) (dBA)

Backhoe No 40 77.6 1707.0 0.0

Dozer No 40 81.7 1707.0 0.0

Pickup Truck No 40 75.0 1707.0 0.0

Tractor No 40 84.0 1707.0 0.0

Vibratory Pile Driver No 20 100.8 1707.0 0.0

Crane No 16 80.6 1707.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night Day Evening Night

--------- ------------ -------------- -------------- -------------- -------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ Backhoe 46.9 42.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 51.0 47.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 44.3 40.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 53.3 49.4 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 70.2 63.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 49.9 41.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 70.2 63.5 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #61 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- ----- 1319 Peden Mill Road Residential 55.0 52.0 49.0

Equipment

Spec Actual Receptor Estimated
Impact Usage Lmax Lmax Distance Shielding
Description Device (%) (dBA) (dBA) (feet) (dBA)
---------- ------ ----- ----- ----- -------- ---
Backhoe No 40 77.6 1577.0 0.0
Dozer No 40 81.7 1577.0 0.0
Pickup Truck No 40 75.0 1577.0 0.0
Tractor No 40 84.0 1577.0 0.0
Vibratory Pile Driver No 20 100.8 1577.0 0.0
Crane No 16 80.6 1577.0 0.0

Results

Noise Limits (dBA) Noise Limit Exceedance (dBA) ---------- ---------- ---------- ---------- ---------- ----------
Calculated (dBA) Day Evening Night Day Evening Night ---------- ----- --------- ------------ -------------- -------------- -------------- -------- ------ Equipment Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq Lmax Leq ---------- ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ ------ Backhoe 47.6 43.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Dozer 51.7 47.7 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Pickup Truck 45.0 41.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Tractor 54.0 50.0 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Vibratory Pile Driver 70.8 63.9 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Crane 50.6 42.6 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A Total 70.8 64.2 85.0 N/A 85.0 N/A 80.0 N/A None N/A None N/A None N/A

**** Receptor #62 ****

Baselines (dBA)
Description Land Use Daytime Evening Night
----------- -------- ------- ------- -----
1271 Tyree Chapel Road Residential 45.0 42.0 39.0

Equipment

Description	Spec Impact Device	Actual Usage (%)	Receptor Lmax (dBA)	Estimated Lmax (dBA)	Distance (feet)	Shielding (dBA)
Backhoe	No	40	77.6	312.0	0.0	
Dozer	No	40	81.7	312.0	0.0	
Pickup Truck	No	40	75.0	312.0	0.0	
Tractor	No	40	84.0	312.0	0.0	
Vibratory Pile Driver	No	20	100.8	312.0	0.0	
Crane	No	16	80.6	312.0	0.0	

Results

Noise Limits (dBA)			Noise Limit Exceedance (dBA)		
Calculated (dBA)	Day	Evening	Night	Day	Evening	Night

Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	61.7	57.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Dozer	65.8	61.8	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Pickup Truck	59.1	55.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Tractor	68.1	64.1	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Vibratory Pile Driver	84.9	77.9	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Crane	64.6	56.7	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A
Total	84.9	78.3	85.0	N/A	85.0	N/A	80.0	N/A	None	N/A	None	N/A

Equipment	Lmax	Leq
Backhoe	4.9	N/A
Dozer	4.9	N/A
Pickup Truck	4.9	N/A
Tractor	4.9	N/A
Vibratory Pile Driver	4.9	N/A
Crane	4.9	N/A
Total	4.9	N/A

ATTACHMENT 3

Date: Jun/05/2016

TRANSFORMER
TEST REPORT

33.000 / 44.000 / 55.000 MVA

138.00Y - 34.50Y - 13.80 kV

ONAN / ONAF1 / ONAF2

Serial No: **G3529-01**

Purchaser: **SITE CONSTRUCTORS INC**

Test Engineer	Moisés Rodríguez C. Test Leader	Design Engineer

Purchaser: SITE CONSTRUCTORS INC **Serial No.:** G3529-01

Rating: 33.000/44.000/55.000 MVA **Date:** 06/09/2016

SOUND LEVEL TEST

Taps Positions: **HV:** 3 **LV:** NOM

Test Voltage: 34500 Volts

ONAF2

Test Performed according to IEEE C57.12.90

	2. Ambient + Transformer		5. Corrected Masurements	
POS	1/3 Height	2/3 Height	1/3 Height	2/3 Height
1	75.0	76.0	73.7	75.0
2	74.9	75.8	73.6	74.8
3	75.0	76.1	73.7	75.1
4	76.1	77.4	75.1	76.8
5	77.4	78.4	76.8	78.0
6	78.1	79.0	77.5	78.6
7	77.9	77.9	77.3	77.3
8	77.4	77.6	76.8	77.0
9	76.9	77.1	76.1	76.3
10	76.1	77.5	75.1	76.9
11	77.5	78.2	76.9	77.6
12	78.0	77.9	77.4	77.3
13	77.9	79.0	77.3	78.6
14	78.2	77.4	77.6	76.8
15	76.4	78.2	75.6	77.6
16	76.9	78.9	76.1	78.5
17	77.5	76.9	76.9	76.1
18	76.1	77.0	75.1	76.2
19	76.0	76.1	75.0	75.1
20	75.9	75.8	74.9	74.8
21	77.4	76.1	76.8	75.1
22	76.1	76.9	75.1	76.1
23	75.4	77.4	74.4	76.8
24	75.9	73.9	74.9	72.3
25	76.1	75.8	75.1	74.8
26	75.9	76.1	74.9	75.1
27	74.9	76.9	73.6	76.1
28	77.0	77.0	76.2	76.2
29	76.1	76.1	75.1	75.1

1. Before:		3. After:	
POS	Amb	POS	Amb
A	69.0	A	68.9
B	68.4	B	68.6
C	68.8	C	69.2
D	69.1	D	68.9

4. Avg. Ambient
69

6. Avg. Amb + Trans
77

Height (H): 3.63 m

Length (Lm): 29.9 m

Surface (S): 135.7 m^2

Guaranteed: **79** dB

Notes:
Test Performed at NO LOAD condition

Avg. Sound Pressure Level (Lp): 76 dB(A)

Sound Power Level (Lw): 97 dB(A)

Results: Accepted

Test Engineer

Design Engineer

POWER ELECTRONICS

FRONT VIEW

BACK VIEW

TECHNICAL CHARACTERISTICS HEM

REFERENCE		FS3510M
OUTPUT	AC Output Power (kVA/kW) @50°C [1]	3510
	AC Output Power (kVA/kW) @40°C [1]	3630
	Operating Grid Voltage (VAC)	34.5kV ±10%
	Operating Grid Frequency (Hz)	60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) [3]	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC)	934V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs [2]	Up to 36
	Number of Freemaq DC/DC inputs [4]	Up to 6
	Max. DC continuous current (A) [4]	3970
	Max. DC short circuit current (A) [4]	6000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	97.80% including MV transformer
	CEC (η)	97.51% including MV transformer
	Max. Power Consumption (KVA)	20
CABINET	Dimensions [WxDxH] (ft)	21.7 x 7 x 7
	Dimensions [WxDxH] (m)	6.6 x 2.2 x 2.2
	Weight (lb)	30865
	Weight (kg)	14000
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level) [5]	2000m
	Noise level [6]	< 79 dBA
CONTROL INTERFACE	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	MV Switchgear (configurable)
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL 1741, CSA 22.2 No.107.1-16
	Compliance	NEC 2017
	Utility interconnect	IEEE 1547.1-2005 / UL 1741 SA-Feb. 2018

[1] Values at 1.00•Vac nom and cos Φ= 1. Consult Power Electronics for derating curves.
[2] Consult Power Electronics for other configurations.
[3] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[4] Consult Power Electronics for Freemaq DC/DC connection configurations.
[5] Consult Power Electronics for altitudes above 1000m.
[6] Readings taken 1 meter from the back of the unit.

Exhibit B

Transportation Effect and Route Evaluation Study Report

TRANSPORTATION EFFECT AND ROUTE EVALUATION STUDY

FOR

Franklin Solar Generation & Storage Project

Simpson County, Kentucky

Final Report

Primary Consultant:

Terracon

Prepared by:

FISHER

September 2021

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Appendix A: Existing Conditions Peak Hour Segment LOS Calculations

Appendix B: Existing plus Project Conditions Peak Hour Segment LOS Calculations

1. Introduction

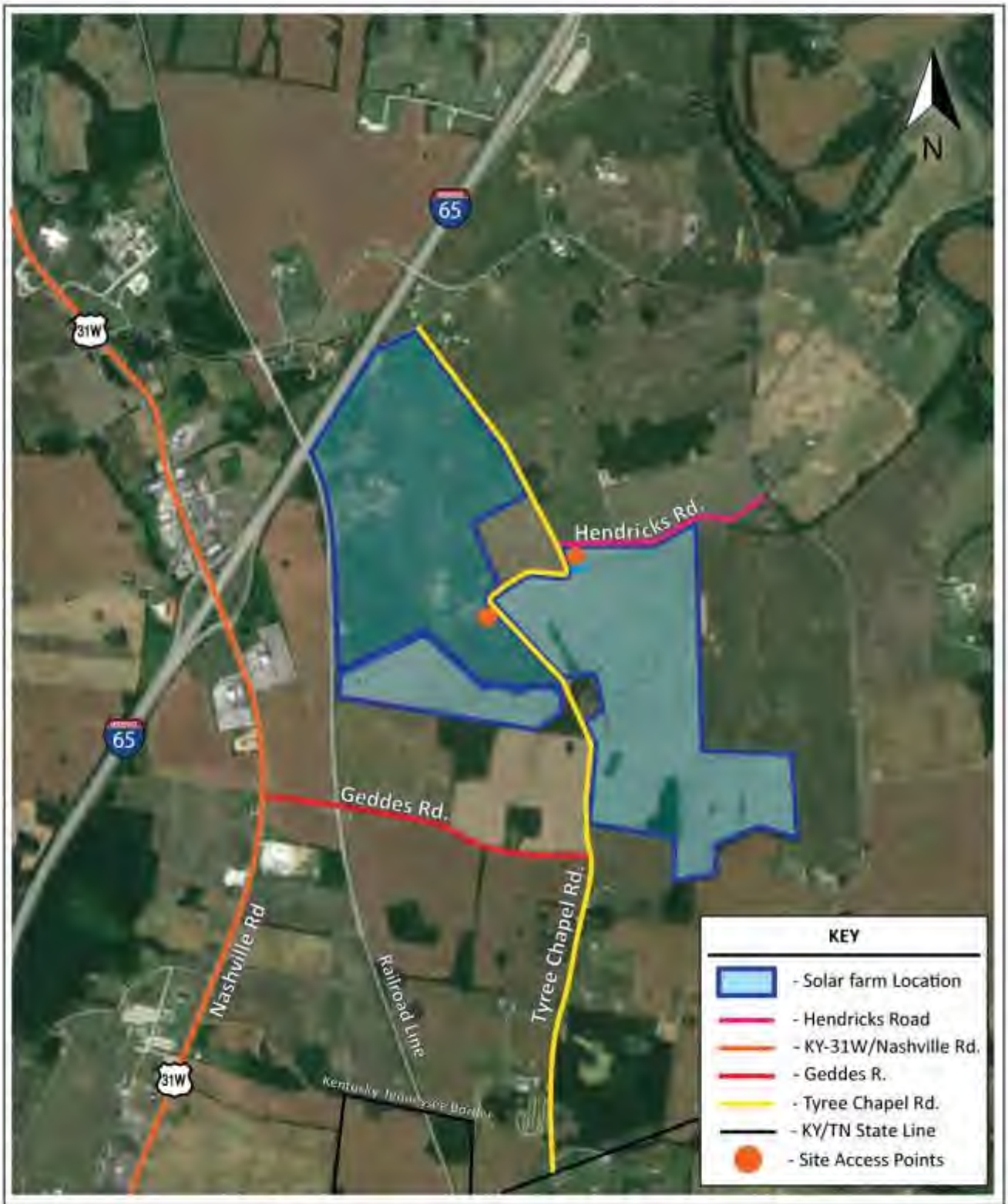
This study provides an evaluation of potential traffic and transportation impacts associated with the construction of the proposed Franklin Solar Generation and Storage Project (Project) in Simpson County, Kentucky. This analysis is based on Project plans, Project Sponsor construction data, and additional gathered data. The purpose of the transportation impact study is to inform the Project environmental review.

1.1 Project Location and Site

The Project site is located in Simpson County on three privately-owned parcels approximately 5 miles southeast of the City of Franklin and approximately 1.5 miles North of the Tennessee-Kentucky border.

Figure 1 shows the Project Location and Study Roadways.

Figure 1: Project Location & Study Roadways



Terracon Franklin Solar Generation and storage Project
Traffic Impact Study
Project Location and Study Roadway Segments

1.2 Study Scope and Approach

The scope of this transportation study includes analysis of impacts under the following two scenarios:

- Existing Conditions – this scenario represents current traffic and transportation conditions prior to commencement of Project construction.
- Existing plus Project Conditions – this scenario is identical to Existing Conditions, but with the addition of Project-generated construction traffic.

Typically, most transportation studies focus on impacts after a project is constructed and in operation, as the expected traffic generation once in operation is usually higher than that generated under any construction phase or combination of phases. For this Project, however, the reverse is true. Once the Project is in operation, minimal workers (likely under 10) would be onsite each weekday which would result in daily vehicle volumes below any threshold of measurable or adverse effect. As such, this study focuses on construction-related impacts.

Given the minimal traffic that would be generated by the Project on a daily basis once in operation, the study focuses only on near-term impacts, and as such, no cumulative year analysis has been conducted. Study roadway segments were evaluated using the Highway Capacity Manual 6th Edition[1] operations methodology to determine potential Project effects on local traffic operations during construction. Project trips were estimated based on a Project Sponsor-provided construction program that estimates the maximum number of construction truck haul trips and worker trips.

US 31W – Nashville Road was the only roadway analyzed for this study based on its proximity to the Project site and being the only roadway in the study area anticipated to carry normal levels of existing traffic with the possibility to suffer congestion because of construction vehicle traffic. It is also the only roadway in the study area with existing traffic data.

The other roadway segments adjacent to the Project site that are expected to carry Project related trips, including Geddes Road, Tyree Chapel Road and Hendricks Road are small, very low volume local roads that primarily provide access to farmland and a small number of private residencies. There is no existing traffic data available for these roadways and the estimated traffic volumes are far below any criteria needed for traffic analysis. The estimated existing volumes plus the projected number of project related trips is anticipated to be far lower than the 1,700 passenger cars/hour single direction capacity and 3,200 passenger cars/hour total capacity of a two-lane roadway. Therefore, it is anticipated that these roadways will easily fall within the threshold of acceptable operations with no impacts anticipated and, therefore, no analysis will be required.

2.0 Existing Conditions

This section describes the existing transportation network included in this traffic study, as presented in Figure 1. The existing setting includes descriptions of the roadways and documentation of existing vehicular traffic.

2.1 Roadway Network

The following describes the existing roadways in the vicinity of the Project. The functional designation and Annual Average Daily Traffic (AADT) for the study roadways was obtained from the Kentucky Transportation Cabinet's (KYTC) online Interactive Statewide Traffic Counts Map.

The Kentucky roadway system is comprised of interstate, arterial, collector and local streets. Interstates are limited access, high speed, high-capacity, divided highways that facilitate regional/national travel; Principal Arterials provide a high level of traffic mobility for substantial statewide travel and/or serve major activity centers and the longest trip demands within urban areas; Minor Arterials are roadways that serve trips of moderate length to smaller geographic areas and at a slightly lower level of traffic mobility than Principal Arterials; Major Collectors are roadways that distribute and channel trips between the lower classifications and the arterial systems; Minor Collectors are roadways that distribute and channel trips between Local Roads and the higher classifications at a lower level of traffic mobility than Major Collectors; Local Roads are roadways that primarily provide direct access to adjacent land and are not intended for use in long distance travel.

2.1.1 Regional Access

Interstate 65 (I-65) is a north-south six lane highway located west of the Project area that regionally runs from Bowling Green, Kentucky to Nashville, Tennessee. Access to I-65 from the Project area is provided via US 31W (approximately 1 mile west of the Project site).

2.1.1 Local Access

Local access to the Project area is provided by the roadways described below:

US 31W (Nashville Road) – KY 31W is a north south travel route that is designated a rural major collector roadway. In the vicinity of the Project area, the roadway has 2 travel lanes 12' wide with a 4' shoulder, in each direction and a 14' wide center turn lane. The roadway's Annual Average Daily Traffic (AADT) is approximately 10,841 vehicles. The posted speed limit within the study limits is 55 mph north of Geddes Road and 65 mph south of Geddes Road.

Geddes Road – Geddes Road runs east-west and is designated a rural local roadway. The roadway is a two-way unstriped roadway that is approximately 18' wide with no shoulder within the vicinity of the project area. Current AADT data for Geddes Road is not available and the assumed speed limit is 30 mph due to the narrowness of the roadway.

Tyree Chapel Road – Tyree Chapel Road runs primarily north-south and is designated a rural local roadway. The roadway is a two-way unstriped roadway that is approximately 14' wide with no shoulder within the vicinity of the project area. Current AADT data for Tyree Chapel Road is not available and the assumed speed limit is 30 mph due to the narrowness of the roadway.

Hendricks Road – Hendricks Road runs east-west and is designated a rural local roadway. The roadway is a two-way unstriped road that is approximately 12' wide with no shoulder within the vicinity of the project area. Current AADT data for Hendricks Road is not available. The assumed speed limit for Hendricks Road is 30 mph due to the narrowness of the roadway.

There are no pedestrian or bicycle facilities on any of the above roadways.

2.2 Roadway Traffic Volumes

As stated in Section 1.2, US 31W – Nashville Road is the only roadway with available volume data and was analyzed for this study. Traffic volumes for this segment were developed using AADT data obtained from the Kentucky Transportation Cabinet's (KYTC) online Interactive Statewide Traffic Counts Map. Hourly volumes were developed using the "K factors" and "D factors" included in this data. The "K factor" is the percentage of the AADT that represents the Design Hour Volume (DHV) which is the highest hourly roadway volume of the day. The "D factor" is the factor reflecting the proportion of peak-hour traffic traveling in the peak direction. To be conservative, it was assumed that the DHV would be used for both the AM and PM peak hours with counter flowing directional traffic volumes. The "D factor"/peak direction was assumed to travel toward the City of Franklin during the AM peak and away from the City of Franklin during the PM peak.

Table 1 summarizes the Existing Roadway Traffic Volume Data.

Table 1: Existing Roadway Traffic Volume Data

Roadway Segment	Existing AADT	% HV	K Factor	DHV	D Factor	Morning Peak Hour		Evening Peak Hour	
						NB	SB	NB	SB
US 31W (Nashville Rd.)	10,841	28%	8	867	54	468	399	399	468

2.3 Level of Service Methodology – Segments

Vehicular traffic operational levels of service (LOS) were evaluated for the study segment. Segment capacity analysis was conducted using HCS7[2] software, which is based on methods presented in the Highway Capacity Manual 6th Edition describing the levels of operation for Two-Lane and Multilane highways. Using this analytical approach, a Level of Service is determined for traffic travelling along a highway segment.

For a Multilane Highway the Level of Service is defined or quantified in terms of roadway density (passenger cars/mile/lane), which is equated to the letters 'A' to 'F'. The following provides density descriptions for each level of service:

	Multilane Highway
A	< 11 pc/mi/ln
B	> 11 - 18 pc/mi/ln
C	> 18 - 26 pc/mi/ln
D	> 26 - 35 pc/mi/ln
E	>35 - 45 pc/mi/ln
F	Greater than 45 pc/mi/ln

This quantification applies to both rural and urban multilane highways. The upper value of LOS 'E' (45 pc/mi/ln) is the maximum density at which a sustainable flow will occur. With this methodology LOS 'F' occurs when the demand exceeds the capacity of the roadway segment being analyzed. This type of analysis does not allow for densities exceeding 45 pc/mi/ln and freeway methodology must be used to determine a more accurate density in these cases.

2.4 Operational Analysis – Existing Conditions

For conservative (worst-case) analysis purposes, the US 31W segment was analyzed using the 55 mph speed limit which provides lower capacities. **Table 2** presents the results of the operational analysis for the study segment

under Existing Conditions. Existing Conditions segment LOS calculations are provided in Appendix A. As shown in Table 2, all the study segments are currently operating at LOS A under Existing Conditions.

Table 2: Existing Conditions Peak Hour Segment LOS Results

Roadway Segment	Direction	Existing Conditions				Existing plus Project Conditions			
		Morning Peak Hour		Evening Peak Hour		Morning Peak Hour		Evening Peak Hour	
		LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
US - 31W (Nashville Road)	NB	A	5.8	A	4.9	A	6.2	A	8.5
	SB	A	5.1	A	6.0	A	8.8	A	6.4

3.0 Existing Plus Project Conditions

This section presents analysis results for Existing plus Project Conditions, which is identical to Existing Conditions but with added traffic from Project construction activities.

3.1 Project Trip Generation

Trip generation estimates for the proposed construction site were produced using data provided by the Project Sponsor. Construction of the facility is expected to take approximately 12 months. For conservative (worst-case) analysis purposes, it was assumed that construction would occur in one phase. Specific data used include the anticipated number of workers onsite during construction and truck haul trips required to complete construction. Worker vehicle trips and truck haul trips are estimated separately as they represent distinct trip types.

Construction workers are expected to commute to/from the construction site during the AM peak hour (inbound) and PM peak hour (outbound). A total of 300 workers are anticipated to work on-site each day. For conservative (worst-case) calculation purposes, it was assumed that all workers would drive alone.

An estimated 20 delivery trucks per day are anticipated at the Project site. For conservative (worst-case) calculation purposes, it was assumed that all trucks would be travelling to or from the construction site during both the AM and PM peak hours.

To estimate the maximum number of total Project trips, the worker and truck haul trips were combined to estimate the maximum number of total trips for use in the subsequent traffic analysis. **Table 3** summarizes the number of trips to/from the Project site.

Table 3: Trip Generation Summary

Trip Type	Morning Peak Hour			Evening Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Worker Trips	300	0	300	0	300	300
Truck Haul Trips	20	0	20	0	20	20
Total Project Trips	320	0	320	0	320	320

3.2 Project Trip Distribution and Assignment

Proposed access to the construction site will be on Tyree Chapel Road and Hendricks Road as seen in Figure 1 on page 2 in Section 1.1. It is assumed that the majority of the worker truck haul trips (90%) will generate from the City of Franklin and I-65 and the remaining trips will generate from locations to the south (10%).

It is also assumed that truck haul trips will generate from I-65 and US 31W; 90% from the north and 10% from the south.

All trips will utilize US 31W to Geddes Road to Tyree Chapel Road to get to the construction site access points.

The total volume of project trips on the US 31W segment were added to the Existing Conditions traffic volumes to produce Existing plus Project Conditions segment traffic volumes.

Table 4 summarizes the project trip data including trip distributions, new trips and Existing + Project Conditions volumes.

Table 4: Project Trip Data

Roadway Segment	Existing DHV	New Trips	New Trip Distribution		New Trips				Existing + Project Conditions			
			From South	From North	Morning Peak Hour		Evening Peak Hour		Morning Peak Hour		Evening Peak Hour	
					NB	SB	NB	SB	NB	SB	NB	SB
US 31W (Nashville Rd.)	867	320	10%	90%	32	288	288	32	500	687	687	500

3.3 Level of Service Analysis – Existing Plus Project Conditions

Table 5 presents the results of the operational analysis for the study segments under Existing plus Project Conditions. Existing plus Project Conditions segment LOS calculations are provided in Appendix B.

Table 5: Existing plus Project Conditions
Peak Hour Segment LOS Results

Roadway Segment	Direction	Existing Conditions				Existing plus Project Conditions			
		Morning Peak Hour		Evening Peak Hour		Morning Peak Hour		Evening Peak Hour	
		LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
US - 31W (Nashville Road)	NB	A	5.8	A	4.9	A	6.2	A	8.5
	SB	A	5.1	A	6.0	A	8.8	A	6.4

As shown in Table 5, with the addition of Project construction traffic, all study segments are projected to continue to operate acceptably at LOS A with only slight degradations in operations. Therefore, the Project is not expected to cause a significant impact with respect to traffic. It should be noted that this analysis assumes a worst-case-scenario in which all workers drive to/from the Project site alone and thus the Project could generate less impact if workers were encouraged to carpool.

3.4 Impact on Road Infrastructure

Construction of the facility is not expected to have any significant impact on road infrastructure other than increased wear due to increased traffic at the possible entrances. Any impact to the road due to construction of the facility will be repaired.

Access drives and internal roads will be constructed or improved as needed to accommodate appropriate vehicles and equipment to construct the proposed solar facility. Internal roads will be compacted gravel, which may result in an increase in airborne dust particles. During construction, water may be applied to internal road system to reduce dust generation.

3.5 Traffic Safety Precautions

Permanent road or lane closures are not anticipated for the construction of the solar facility. Construction of the facility is not expected to impact roads, but safety precautions including signage, signaling, flagmen, and temporary lane closures may be utilized as needed. For example, during a delivery, flagmen may be used to temporarily stop traffic to allow the delivery driver to turn into the facility safely, with signage used to warn oncoming traffic of the lane closure.

4.0 Conclusions

This section presents the conclusions for the Franklin Solar Generation and Storage Project Transportation Impact Study in Simpson County, Kentucky. Implementation of the Project would result in less than significant transportation impacts, and therefore, no mitigation measures are required.

- Under Existing Conditions, the study segment operates at LOS A.
- It should be noted that any transportation impacts will be temporary in nature as they will occur only during the construction phase of the project.
- Post Construction operation of the facility is not expected to cause a significant impact to local traffic as the expected traffic to be contributed to the area will be similar to that of a typical single-family home.
- The peak of Project construction activities is expected to generate up to 640 daily trips, including 600 worker vehicle trips and 40 truck haul trips. This includes up to 320 AM and 320 PM peak hour trips, with 300 peak hour worker vehicle trips and 20 truck haul trips each peak hour.
- Under Existing plus Project Conditions, the study segment is projected to operate acceptably at LOS A with only slight degradations in operations. Therefore, the Project is not expected to cause a significant impact with respect to traffic.
- The other roadway segments adjacent to the Project site that are expected to carry Project related trips are small, very low volume local roads that primarily provide access to farmland and a small number of private residencies. There is no existing traffic data available for these roadways and the estimated traffic volumes are far below any criteria needed for traffic analysis. The estimated existing volumes plus the projected number of project related trips is anticipated to be far lower than the 1,700 passenger cars/hour single direction capacity and 3,200 passenger cars/hour total capacity of a two-lane roadway. Therefore, it is anticipated that these roadways will easily fall within the threshold of acceptable operations with no impacts anticipated and, therefore, no analysis will be required.
- The Project would not substantially increase hazards due to a geometric design feature or incompatible uses and thus, the Project would result in less-than-significant transportation impacts.
- It is not anticipated that there will be any damages to the existing road infrastructure.
- The Project would not permanently alter any roadways nor create any traffic conditions that would impede emergency access and thus, the Project would result in less-than-significant impacts related to emergency access.
- All necessary safety precautions, including use signage and flagmen, will be taken to best ensure collisions are prevented on the surrounding roads.
- Although no traffic impacts have been identified, it is recommended that the contractor encourage carpooling/vanpooling during construction to reduce the vehicular footprint at the site.

References:

1. Transportation Research Board. Highway Capacity Manual 6th Edition, Washington, DC, 2016.
2. McTrans, HCS7 Software.

Exhibit C

Property Value Impact Study Response Letter

Kirkland Appraisals

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9408 Northfield Court
Raleigh, North Carolina 27603
Phone (919) 414-8142
rkirkland2@gmail.com
www.kirklandappraisals.com

September 2, 2021

Ms. Wendy Parker
Nelson Mullins
151 Meeting Street, Sixth Floor
Charleston, SC 29401-2239

RE: Horus KY 1, LLC Solar Project – Property Value Impact Study

Ms. Parker

The purpose of this letter is to address question from the Kentucky Siting Board related to the market impact analysis that I completed on this project on March 10, 2021 for Nelson Mullins.

For simplicity, I have the following responses to the questions forwarded to me and this letter should be attached to the original impact analysis.

37 - I was also asked to provide the value of adjoining parcels. I have included the current assessed values from Simpson County PVA without providing any opinion on the current market value of these properties.

37a - I was also asked to provide information on improved property values in the general vicinity of the property along with prices per square foot of improved area. To derive market values in that manner would be an extensive undertaking. I have attempted to answer the direction of that question by providing the demographic information on homes within a 1-mile, 3-mile and 5-mile radius around the subject site. The ring map and the demographic data is attached to this letter.

38a - The area identified on the map includes the entirety of participating parcels so that I can accurately capture adjoining parcels to the project. So the area considered in the parent parcels is necessarily larger than the area of the proposed solar farm, but I needed to look at the larger parent tract to identify adjoining parcels. That was the only reason the area mapped in my report may show a larger area than the request. The Kirkland Report considers the total area of the parent parcels as that is how I determine what parcels are adjoining the property. The estimate of 547.6 acres was the area estimated as inside the fence which is consistent with "about 550 acres" and the area under panels around 500 acres.

38b - The data on the adjoining parcels as updated in this letter are from the Simpson County PVA. The original chart in the original appraisal was either from Simpson County PVA or a third-party software that pulled data from the Simpson County PVA. I have confirmed the data on the chart with Simpson County PVA as shown attached to this letter.

38c - The N/A “Not Applicable” indicates that there is no measurement to an adjoining residential structure as there is no adjoining residential structure.

38d - I have identified Parcel 15 owned by SAV, LLC as commercial in my analysis. This is currently a vacant tract off Anand Drive with frontage on I-65 and the Simpson County PVA identifies this as Commercial property and is assessed as such. The property is located near

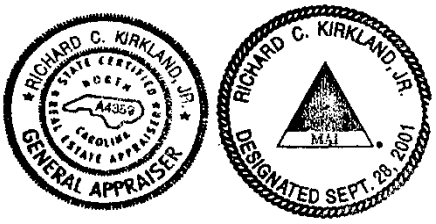
just off the interchange of I-65 and Nashville Road and is located adjoining the Best Western Inn at 162 Anand Drive which is behind the Old Cracker Barrel at 3820 Nashville Road.

38e- I have looked at a wide range of vegetated buffers and broken them down differently in subsequent analysis to this original report. I have found very few instances with no landscaping buffer, but most solar farms include some form of light landscaping buffer between residential uses and the solar panels. There are often areas where agricultural land or adjoining industrial uses are not buffered, but typically existing landscaping or landscape screening is employed to minimize visual impacts.

Rural properties are sometimes not screened but without sales of adjoining farms to consider then there is no specific data to answer the question on property value impacts. There is a project called Alamo 2 in Texas where I have many matched pairs on three different sides of the same solar farm that has no landscaping buffer and they are showing no impact on property value. However, this is an atypical situation and one of only a few locations where there wasn't some form of landscaping buffer. Many projects have included minimal landscaping as a buffer with smaller bushes intended to grow into a hedge over the course of 5 or more years, though buffers with 3 foot or smaller plants are not typically adjoining residential homes.

If you have any further questions please call me any time.

Sincerely,

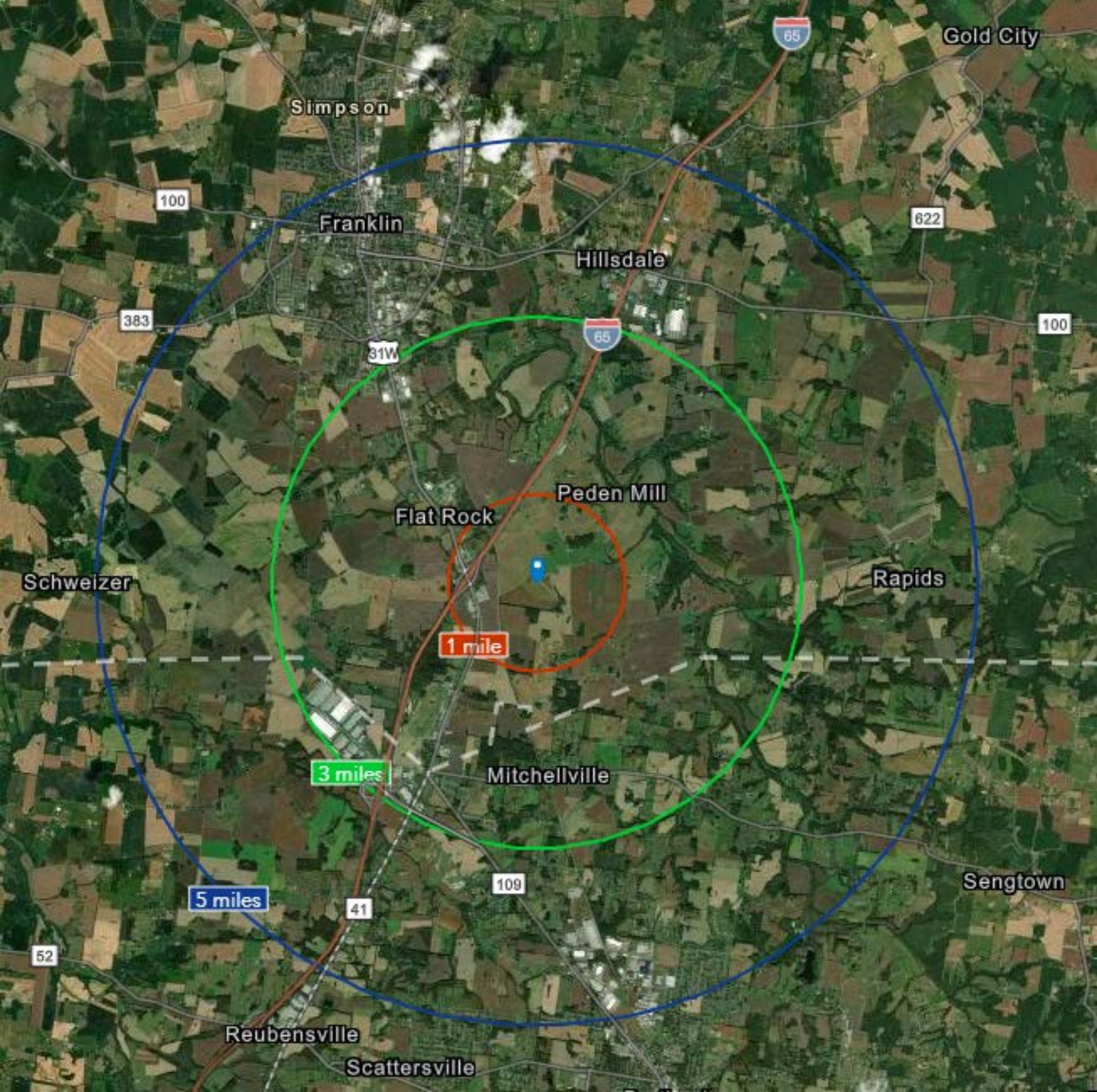


Richard C. Kirkland, Jr., MAI
Kirkland Appraisals, LLC

Surrounding Uses

#	MAP ID	Owner	GIS Data Acres	Present Use	Adjoin Acres	Adjoin Parcels	Distance (ft) Home/Panel	Assessed Value
1	10175	Simpson	0.09	Residential	0.01%	5.26%	N/A	N/A
2	6907	Ratliff	6.85	Residential	0.75%	5.26%	695	$115,000
3	7282	Summers	23.64	Agri/Res	2.59%	5.26%	140	$448,250
4	24	Caudill	153.95	Agricultural	16.88%	5.26%	N/A	$929,000
5	3262	Baldwin	154.00	Agri/Res	16.88%	5.26%	165	$1,049,500
6	8690	Hinton	189.00	Agri/Res	20.72%	5.26%	140	$941,000
7	Unknown	Unknown	11.20	Residential	1.23%	5.26%	N/A	N/A
8	4874	Rediker	24.86	Agricultural	2.73%	5.26%	N/A	$130,000
9	1582	Rediker	26.55	Agri/Res	2.91%	5.26%	1525	$349,750
10	7171	Crafton	35.62	Agri/Res	3.91%	5.26%	1020	$232,500
11	9971	Tyree	83.00	Agricultural	9.10%	5.26%	N/A	$417,000
12	9003	Glenn	1.79	Residential	0.20%	5.26%	210	$10,750
13	9359	Crafton	64.00	Agricultural	7.02%	5.26%	N/A	$322,000
14	9076	Key LLC	95.79	Agricultural	10.50%	5.26%	N/A	$1,623,500
15	7240	SAV LLC	24.03	Commercial	2.63%	5.26%	N/A	$515,000
16	1284	Barnhill	5.00	Residential	0.55%	5.26%	360	$104,000
17	6502	Johns	2.00	Residential	0.22%	5.26%	510	$86,500
18	9197	Johns	0.76	Residential	0.08%	5.26%	400	$80,000
19	8762	Webb	10.00	Residential	1.10%	5.26%	550	$105,000
		Total	**912.128**		**100.00%**	**100.00%**	520	

N/A means there is no adjoining home to which I can measure.


Gold City
Simpson
Franklin
Hillsdale
Peden Mill
Flat Rock
Schweizer
Rapids
1 mile
3 miles
Mitchellville
5 miles
Sengtown
Reubensville
Scattersville
65
100
622
383
31W
109
41
52

Housing Profile

1001-1699 Tyree Chapel Rd, Franklin, Kentucky, 42134
Ring: 1 mile radius

Prepared by Esri
Latitude: 36.66443
Longitude: -86.54191

Population		Households	
2010 Total Population	98	2021 Median Household Income	$56,451
2021 Total Population	107	2026 Median Household Income	$62,393
2026 Total Population	109	2021-2026 Annual Rate	2.02%
2021-2026 Annual Rate	0.37%		

	Census 2010		2021		2026	
Housing Units by Occupancy Status and Tenure	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Total Housing Units	38	100.0%	41	100.0%	42	100.0%
Occupied	37	97.4%	40	97.6%	41	97.6%
Owner	28	73.7%	29	70.7%	30	71.4%
Renter	9	23.7%	11	26.8%	11	26.2%
Vacant	1	2.6%	1	2.4%	1	2.4%

	2021		2026	
Owner Occupied Housing Units by Value	**Number**	**Percent**	**Number**	**Percent**
Total	28	100.0%	30	100.0%
<$50,000	3	10.7%	2	6.7%
$50,000-$99,999	5	17.9%	4	13.3%
$100,000-$149,999	5	17.9%	5	16.7%
$150,000-$199,999	6	21.4%	7	23.3%
$200,000-$249,999	3	10.7%	3	10.0%
$250,000-$299,999	1	3.6%	2	6.7%
$300,000-$399,999	2	7.1%	3	10.0%
$400,000-$499,999	0	0.0%	0	0.0%
$500,000-$749,999	3	10.7%	4	13.3%
$750,000-$999,999	0	0.0%	0	0.0%
$1,000,000-$1,499,999	0	0.0%	0	0.0%
$1,500,000-$1,999,999	0	0.0%	0	0.0%
$2,000,000+	0	0.0%	0	0.0%
Median Value	$158,333		$178,571	
Average Value	$201,786		$232,500	

Census 2010 Housing Units	**Number**	**Percent**
Total	38	100.0%
In Urbanized Areas	0	0.0%
In Urban Clusters	3	7.9%
Rural Housing Units	35	92.1%

Data Note: Persons of Hispanic Origin may be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2021 and 2026.

September 02, 2021

Census 2010 Owner Occupied Housing Units by Mortgage Status	Number	Percent
Total	27	100.0%
Owned with a Mortgage/Loan	16	59.3%
Owned Free and Clear	11	40.7%

Census 2010 Vacant Housing Units by Status	Number	Percent
Total	3	100.0%
For Rent	1	33.3%
Rented- Not Occupied	0	0.0%
For Sale Only	0	0.0%
Sold - Not Occupied	0	0.0%
Seasonal/Recreational/Occasional Use	0	0.0%
For Migrant Workers	0	0.0%
Other Vacant	2	66.7%

Census 2010 Occupied Housing Units by Age of Householder and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	37	28	75.7%
15-24	1	0	0.0%
25-34	4	2	50.0%
35-44	8	5	62.5%
45-54	9	7	77.8%
55-64	6	5	83.3%
65-74	5	5	100.0%
75-84	3	3	100.0%
85+	1	1	100.0%

Census 2010 Occupied Housing Units by Race/Ethnicity of Householder and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	37	27	73.0%
White Alone	36	27	75.0%
Black/African American Alone	1	0	0.0%
American Indian/Alaska Native	0	0	0.0%
Asian Alone	0	0	0.0%
Pacific Islander Alone	0	0	0.0%
Other Race Alone	0	0	0.0%
Two or More Races	0	0	0.0%
Hispanic Origin	0	0	0.0%

Census 2010 Occupied Housing Units by Size and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	36	27	75.0%
1-Person	8	6	75.0%
2-Person	14	11	78.6%
3-Person	6	4	66.7%
4-Person	5	4	80.0%
5-Person	2	1	50.0%
6-Person	1	1	100.0%
7+ Person	0	0	0.0%

2021 Housing Affordability	
Housing Affordability Index	0
Percent of Income for Mortgage	0.0%

Data Note: Persons of Hispanic Origin may be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2021 and 2026.

September 02, 2021

Housing Profile

1001-1699 Tyree Chapel Rd, Franklin, Kentucky, 42134
Ring: 3 mile radius

Prepared by Esri
Latitude: 36.66443
Longitude: -86.54191

Population		Households	
2010 Total Population	1,425	2021 Median Household Income	$59,319
2021 Total Population	1,741	2026 Median Household Income	$68,301
2026 Total Population	1,871	2021-2026 Annual Rate	2.86%
2021-2026 Annual Rate	1.45%		

	Census 2010		2021		2026	
Housing Units by Occupancy Status and Tenure	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Total Housing Units	595	100.0%	725	100.0%	780	100.0%
Occupied	545	91.6%	671	92.6%	721	92.4%
Owner	419	70.4%	518	71.4%	567	72.7%
Renter	126	21.2%	153	21.1%	154	19.7%
Vacant	50	8.4%	54	7.4%	60	7.7%

	2021		2026	
Owner Occupied Housing Units by Value	**Number**	**Percent**	**Number**	**Percent**
Total	517	100.0%	567	100.0%
<$50,000	19	3.7%	13	2.3%
$50,000-$99,999	62	12.0%	43	7.6%
$100,000-$149,999	71	13.7%	57	10.1%
$150,000-$199,999	101	19.5%	90	15.9%
$200,000-$249,999	63	12.2%	67	11.8%
$250,000-$299,999	63	12.2%	80	14.1%
$300,000-$399,999	45	8.7%	65	11.5%
$400,000-$499,999	27	5.2%	44	7.8%
$500,000-$749,999	26	5.0%	40	7.1%
$750,000-$999,999	25	4.8%	43	7.6%
$1,000,000-$1,499,999	0	0.0%	0	0.0%
$1,500,000-$1,999,999	15	2.9%	25	4.4%
$2,000,000+	0	0.0%	0	0.0%
Median Value	$204,365		$258,438	
Average Value	$300,677		$374,647	

Census 2010 Housing Units	**Number**	**Percent**
Total	595	100.0%
In Urbanized Areas	0	0.0%
In Urban Clusters	147	24.7%
Rural Housing Units	448	75.3%

Data Note: Persons of Hispanic Origin may be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2021 and 2026.

September 02, 2021

Census 2010 Owner Occupied Housing Units by Mortgage Status	Number	Percent
Total	419	100.0%
Owned with a Mortgage/Loan	280	66.8%
Owned Free and Clear	139	33.2%

Census 2010 Vacant Housing Units by Status	Number	Percent
Total	54	100.0%
For Rent	15	27.8%
Rented- Not Occupied	1	1.9%
For Sale Only	8	14.8%
Sold - Not Occupied	1	1.9%
Seasonal/Recreational/Occasional Use	5	9.3%
For Migrant Workers	0	0.0%
Other Vacant	24	44.4%

Census 2010 Occupied Housing Units by Age of Householder and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	545	418	76.7%
15-24	23	7	30.4%
25-34	76	44	57.9%
35-44	101	74	73.3%
45-54	130	106	81.5%
55-64	95	81	85.3%
65-74	71	63	88.7%
75-84	35	32	91.4%
85+	14	11	78.6%

Census 2010 Occupied Housing Units by Race/Ethnicity of Householder and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	544	419	77.0%
White Alone	522	407	78.0%
Black/African American Alone	17	8	47.1%
American Indian/Alaska Native	0	0	0.0%
Asian Alone	2	1	50.0%
Pacific Islander Alone	0	0	0.0%
Other Race Alone	1	1	100.0%
Two or More Races	2	2	100.0%
Hispanic Origin	6	3	50.0%

Census 2010 Occupied Housing Units by Size and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	545	419	76.9%
1-Person	115	82	71.3%
2-Person	201	165	82.1%
3-Person	97	74	76.3%
4-Person	77	60	77.9%
5-Person	38	24	63.2%
6-Person	9	7	77.8%
7+ Person	8	7	87.5%

2021 Housing Affordability	
Housing Affordability Index	166
Percent of Income for Mortgage	14.5%

Data Note: Persons of Hispanic Origin may be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2021 and 2026.

September 02, 2021

Housing Profile

1001-1699 Tyree Chapel Rd, Franklin, Kentucky, 42134
Ring: 5 mile radius

Prepared by Esri
Latitude: 36.66443
Longitude: -86.54191

Population		Households	
2010 Total Population	11,737	2021 Median Household Income	$52,049
2021 Total Population	13,537	2026 Median Household Income	$54,956
2026 Total Population	14,158	2021-2026 Annual Rate	1.09%
2021-2026 Annual Rate	0.90%		

	Census 2010		2021		2026	
Housing Units by Occupancy Status and Tenure	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	4,984	100.0%	5,750	100.0%	6,033	100.0%
Occupied	4,497	90.2%	5,192	90.3%	5,429	90.0%
Owner	2,930	58.8%	3,305	57.5%	3,555	58.9%
Renter	1,567	31.4%	1,887	32.8%	1,874	31.1%
Vacant	487	9.8%	558	9.7%	604	10.0%

	2021		2026	
Owner Occupied Housing Units by Value	Number	Percent	Number	Percent
Total	3,306	100.0%	3,555	100.0%
<$50,000	139	4.2%	114	3.2%
$50,000-$99,999	766	23.2%	660	18.6%
$100,000-$149,999	706	21.4%	634	17.8%
$150,000-$199,999	462	14.0%	449	12.6%
$200,000-$249,999	383	11.6%	452	12.7%
$250,000-$299,999	354	10.7%	468	13.2%
$300,000-$399,999	218	6.6%	338	9.5%
$400,000-$499,999	85	2.6%	131	3.7%
$500,000-$749,999	110	3.3%	170	4.8%
$750,000-$999,999	53	1.6%	89	2.5%
$1,000,000-$1,499,999	1	0.0%	2	0.1%
$1,500,000-$1,999,999	29	0.9%	48	1.4%
$2,000,000+	0	0.0%	0	0.0%
Median Value	$154,545		$191,147	
Average Value	$210,292		$249,916	

Census 2010 Housing Units	Number	Percent
Total	4,984	100.0%
In Urbanized Areas	0	0.0%
In Urban Clusters	3,473	69.7%
Rural Housing Units	1,511	30.3%

Data Note: Persons of Hispanic Origin may be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2021 and 2026.

September 02, 2021

Census 2010 Owner Occupied Housing Units by Mortgage Status	Number	Percent
Total	2,930	100.0%
Owned with a Mortgage/Loan	2,039	69.6%
Owned Free and Clear	891	30.4%

Census 2010 Vacant Housing Units by Status	Number	Percent
Total	483	100.0%
For Rent	153	31.7%
Rented- Not Occupied	9	1.9%
For Sale Only	100	20.7%
Sold - Not Occupied	11	2.3%
Seasonal/Recreational/Occasional Use	23	4.8%
For Migrant Workers	0	0.0%
Other Vacant	187	38.7%

Census 2010 Occupied Housing Units by Age of Householder and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	4,497	2,930	65.2%
15-24	210	65	31.0%
25-34	729	365	50.1%
35-44	833	506	60.7%
45-54	955	634	66.4%
55-64	767	577	75.2%
65-74	548	439	80.1%
75-84	319	253	79.3%
85+	136	91	66.9%

Census 2010 Occupied Housing Units by Race/Ethnicity of Householder and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	4,497	2,930	65.2%
White Alone	3,977	2,686	67.5%
Black/African American Alone	414	208	50.2%
American Indian/Alaska Native	10	3	30.0%
Asian Alone	28	7	25.0%
Pacific Islander Alone	1	0	0.0%
Other Race Alone	24	8	33.3%
Two or More Races	43	18	41.9%
Hispanic Origin	64	23	35.9%

Census 2010 Occupied Housing Units by Size and Home Ownership		Owner Occupied Units	
	Occupied Units	Number	% of Occupied
Total	4,497	2,930	65.2%
1-Person	1,158	667	57.6%
2-Person	1,484	1,113	75.0%
3-Person	793	517	65.2%
4-Person	605	371	61.3%
5-Person	287	164	57.1%
6-Person	105	58	55.2%
7+ Person	65	40	61.5%

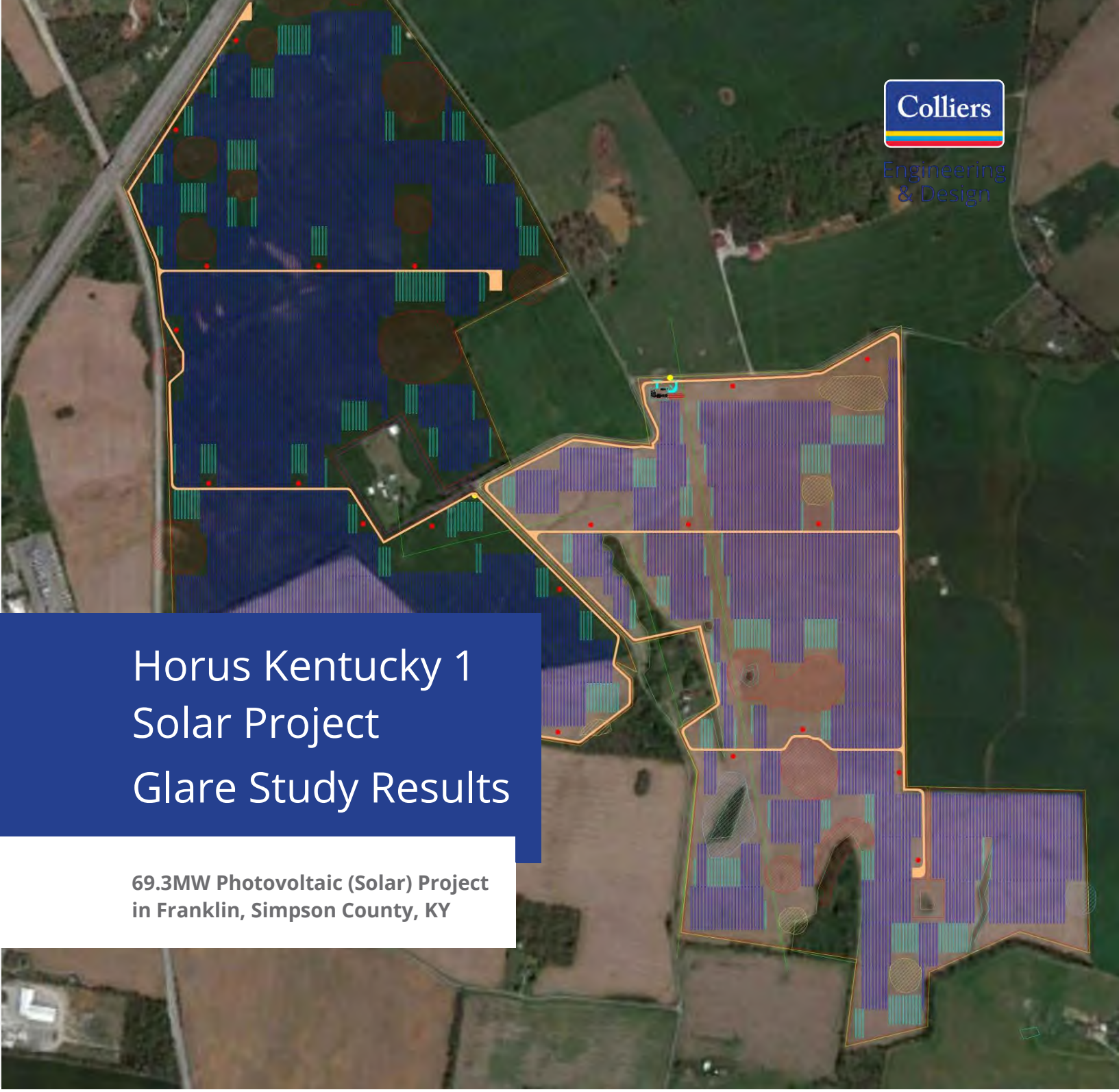
2021 Housing Affordability	
Housing Affordability Index	191
Percent of Income for Mortgage	12.5%

Data Note: Persons of Hispanic Origin may be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2021 and 2026.

September 02, 2021

Exhibit D

Glare Study Results Memo



Horus Kentucky 1 Solar Project Glare Study Results

69.3MW Photovoltaic (Solar) Project in Franklin, Simpson County, KY

August 31, 2021

Prepared for:

Terracon Consultants, Inc.
13050 Eastgate Parkway
Suite 101
Louisville, KY 40223

Prepared by:

Elizabeth C. Myers, PMP
Certified Glare Analyst

Colliers Engineering & Design CT, P.C. (DBA Maser Consulting Engineering & Land Surveying)
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Albany New York 12205
Main: 518 807 6164
Colliersengineering.com

Colliers Engineering & Design

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Colliers Engineering & Design

Results of Glare Study

Background Information

Glint is typically defined as a momentary flash of bright light, often caused by a reflection off a moving source. A typical example of glint is a momentary solar reflection from a moving car. Glare is defined as a continuous source of bright light. Glare is generally associated with stationary objects, which, due to the slow relative movement of the sun, reflect sunlight for a longer duration.

The difference between glint and glare is duration. Industry-standard glare analysis tools evaluate the occurrence of glare on a minute-by-minute basis; accordingly, they generally refer to solar hazards as 'glare.'

The ocular impact of solar glare is quantified into three categories (Ho, 2011[1]):

- Green - Low potential to cause after-image (flash blindness).
- Yellow - Potential to cause temporary after-image.
- Red - Potential to cause retinal burn (permanent eye damage).

These categories assume a typical blink response in the observer.

Note that retinal burn is typically not possible for PV glare since PV modules do not focus reflected sunlight.

The ocular impact of glare is visualized with the Glare Hazard Plot. This chart displays the ocular impact as a function of glare subtended source angle and retinal irradiance. Each minute of glare is displayed on the chart as a small circle in its respective hazard zone.

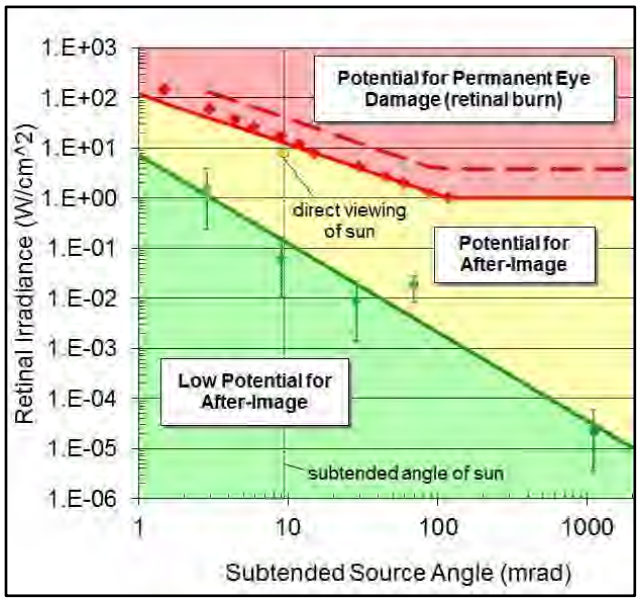


Figure 1 – From *ForgeSolar* website (sample glare hazard plot defining ocular impact as function of retinal irradiance and subtended source angle *(Ho, 2011)*)

Methodology

(Source Information: https://forgesolar.com/help/#intro)

Collier's Engineering & Design (CED) offers staff specifically trained on glare analyses utilizing *ForgeSolar*, a web-based interactive software that provides a quantified assessment of (1) when and where glare is predicted to occur throughout the year for a prescribed solar installation, (2) potential effects on the human eye at locations where glare is predicted to occur, and (3) an estimate of the maximum annual energy production. *ForgeSolar* includes GlareGauge, a standard solar glare hazard analysis software used in the industry. *ForgeSolar* is based on the Solar Glare Hazard Analysis Tool ("SGHAT") licensed from Sandia National Laboratories. These tools meet the FAA standards for glare analysis.

Determination of glare occurrence requires knowledge of the following: sun position, observer location, and the tilt, orientation, location, extent, and optical properties of the modules in the solar array. Vector algebra is then used to determine if glare is likely to be visible from the prescribed observation points.

If glare is predicted, the software calculates the retinal irradiance and subtended angle (size/distance) of the glare source to predict potential ocular hazards ranging from temporary after-image to more severe possible retinal damage. These results are presented in a simple, easy-to-interpret plot that specifies when glare is predicted to occur throughout the year, with color codes indicating the potential ocular hazard.

It is important to note that within this analysis, the PV array panels are approximated with simplified geometry and that blocking and shading (via buildings, elevation changes, and foliage, etc.) are not considered.

Additionally, *ForgeSolar* presently reverts immediately to the resting angle and does not account for the programmed pace that tracker panels move from their maximum tracking angle back to their resting angle.

Executive Summary

The purpose of the glare study requested by Terracon Consultant's Inc. (Terracon) was to analyze a proposed 69.3MW solar array area in Franklin, Simpson County, KY and provide cursory feedback regarding areas that may warrant closer examination in order to mitigate possible problematic predicted glare to businesses, residences, and roads surrounding the project area.

PV modules do not focus reflected sunlight and therefore retinal burn is typically not possible.

ForgeSolar seeks to identify two levels of glare—GREEN and YELLOW. Green glare can effectively be compared to a person noticing something shiny within their field of vision but is not visually bothered by it. An example of yellow glare would be the amount of light and visual disruption that causes the need, when driving, to adjust a visor so that the driver can continue to drive without interruption of a clear sightline. Ultimately, when performing glare studies, it is the risk and level of yellow glare that an analyst is trying to identify.

In general, photovoltaic panel systems of any size produce some glare predominately during early sunrise and sunset throughout the Spring through Fall months—although glare is possible throughout each day as well as throughout the entire year. While it is impossible to study every possible point and/or angle surrounding a photovoltaic (solar) project, Collier's Engineering & Design (CED) has modeled the project and surrounding areas as best as possible with the most likely points of concern.

Ground scenarios that were programmed for each area include:

- The eye-line of a 5 and a half-foot person.
- The eye-line of a 5 and a half-foot person standing in a second floor window of a buiding with 8-foot ceilings and a 1.5 foot plenum space between floors (15 feet).
- An average-height person sitting in a car (4.5 feet).
- An average-height person sitting in the cab of an 18-wheeler truck (8.5 feet).

It is noted again here that the *ForgeSolar* program does not factor obstructions (buildings, foliage and elevation changes) or atmospheric attenutation* into the results, and reverts immediately to the resting angle of the system and does not account for the programmed pace that tracker panels move from their maximum tracking angle back to their resting angle—thus providing a worst-case scenario.

After examining each point and then factoring in buildings, foliage and elevation changes, points where predicted glare is blocked by natural obstructions are removed from the listing of points to be examined more closely. Finally, where glare was predicted and no natural obstructions were present and/or glare is predicted at a 0 resting angle but not at the 55 degree resting angle, this analyst has addressed the areas that presented the most possibility for likely glare.

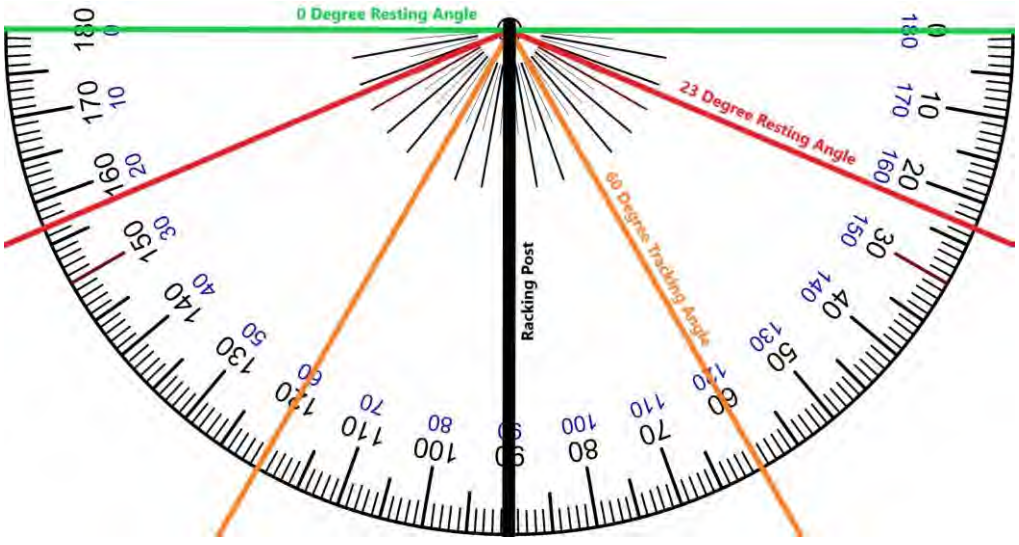
Information was provided by Terracon and their representatives in order to complete this study. The project's single-axis tracker panels were programmed to a 0-degree tracking tilt axis facing south at 180° with a maximum tracking angle of 55-degrees, a resting angle of 0 degrees, and an assumed midpoint height of 7.5 feet from the ground. It was further assumed that these panels are constructed of Smooth Glass with an Anti-Reflective coating.

Thirty (30) Observation Points were placed at different points around the site and programmed to an average height of 5 and a half (5.5) feet to model someone standing in these spots; and to a height of 15 feet to model a 5.5-foot person standing on the second floor of a home/business with 8-foot ceilings and a 1.5-foot plenum space.

Thirteen (13) Route Receptors were programmed for two-way traffic to heights of 4.5 feet and 8.5 feet, effectively representing the eyeline of an average person sitting on/in any vehicle from a bike to a motorcycle, a standard car or SUV, through to the approximated seated height in the cab of an 18-wheeler truck.

To crosscheck results of the tracking panel system, the resting angle was also programmed at 55 degrees thus removing any immediate backtracking, as mentioned previously, that might predict glare.

Resting angles for the tracker panel system were set to 0 degrees and 50 degrees to crosscheck results and determine at what resting settings the least amount of overall project glare would be predicted for both ground views.



Lower resting angles typically cause more glare because receptors are often at a similar elevation, and the lower resting angle yields shallower reflections. As such, the resting angle of the tracker panel system is key to the amount of predicted glare.

Higher resting angle is on the left, and the 0 resting angle is on the right.

ASSUMPTIONS

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.

** Atmospheric attenuation and the distance to programmed receptors will also help to screen down any predicted glare result. Attenuation is the reduction in intensity of a light beam with respect to distance travelled through a transmission medium. Thus, it can be safely assumed that glare predicated would be additionally screened down by optical characteristics of the atmosphere and real-world circumstances such as, but not limited to, dust, haze, and clouds.*

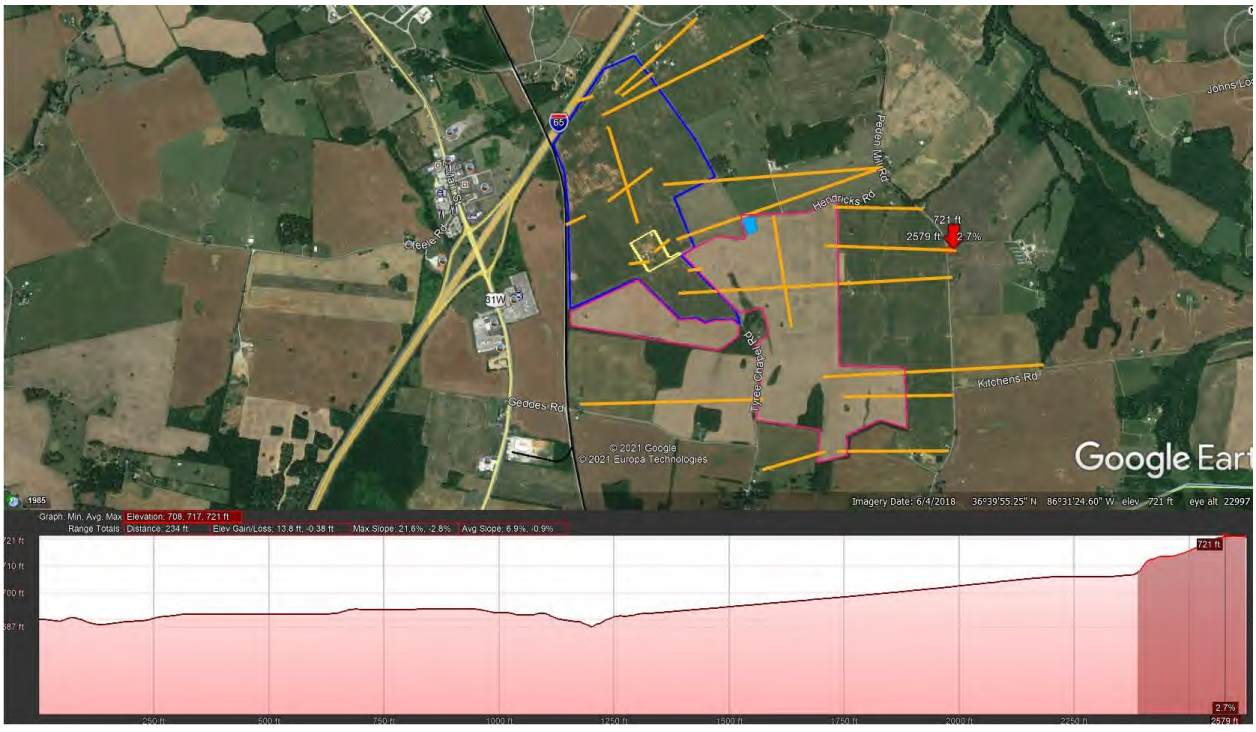
Results & Recommendations

In the analysis that Collier's Engineering & Design performed on the proposed 69.3MW solar array area in Franklin, Simpson County, KY, atmospheric attenuation* in tandem with distances from PV Arrays to observation and route receptors, project-beneficial elevation changes and existing line(s) of vegetation contribute to the natural screening of this project throughout the majority of the site.

> ** Atmospheric attenuation and the distance to programmed receptors will also help to screen down any predicted glare result. Attenuation is the reduction in intensity of a light beam with respect to distance travelled through a transmission medium. Thus, it can be safely assumed that glare predicated would be additionally screened down by optical characteristics of the atmosphere and real-world circumstances such as, but not limited to, dust, haze, and clouds.*

To more closely examine the thirty (30) Observation Points and thirteen (13) Route Receptors mentioned previously in this report, twenty-one (21) elevation profiles throughout the proposed project area were programmed and reviewed.

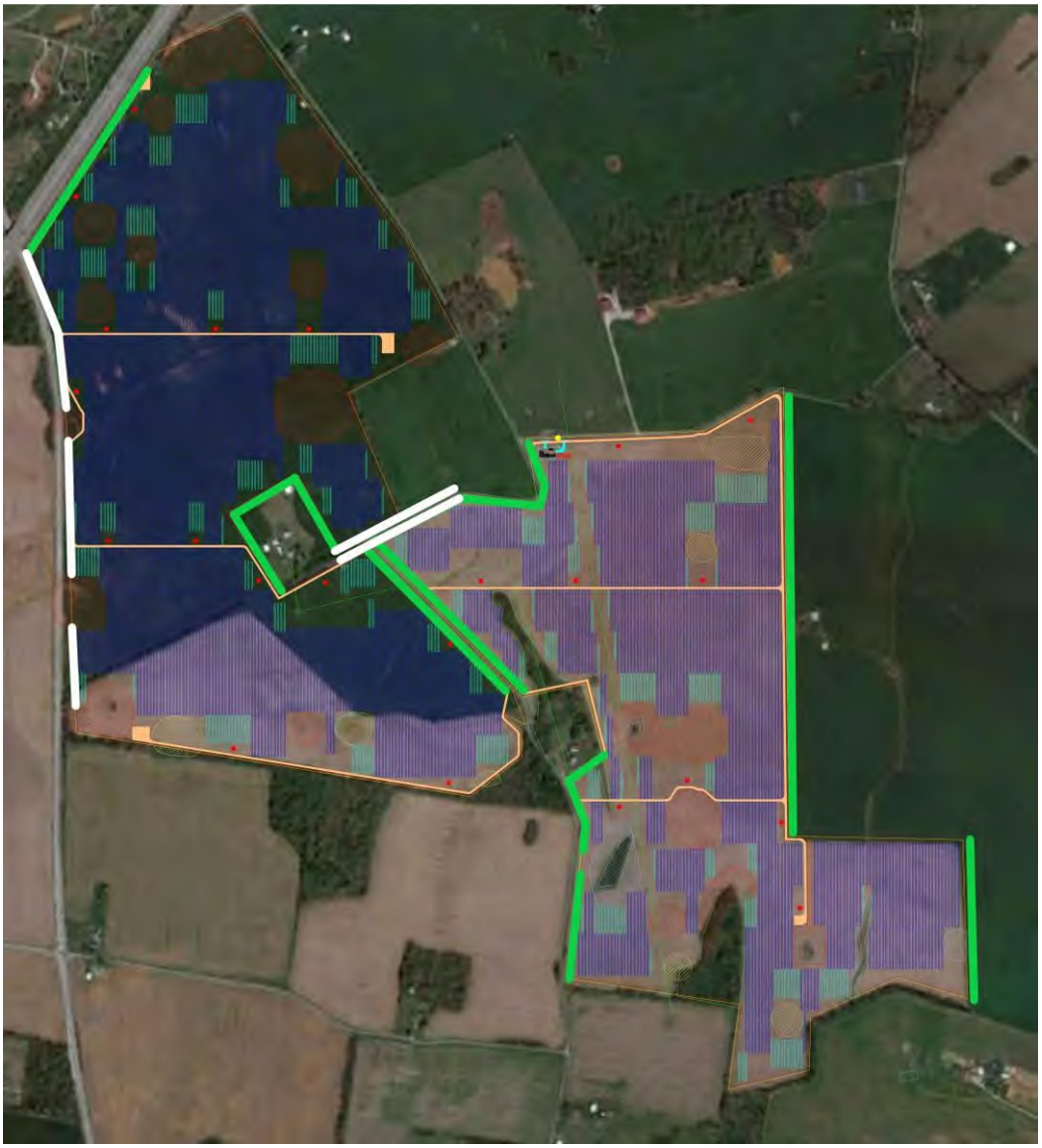
In all but a few instances, the proposed solar array sits HIGHER than routes and/or observation points. As such, any predicted glare would be thrown over these points once the elevation changes are factored into results.



Without knowledge of the amount of traffic that traverses the roads in between the panel arrays, or the occupation or lack of in the farm buildings and/or residences closest to the proposed project area, the graphic on the next page presents areas where consideration and/or planning of additional screening is recommended.

Scenarios did predict glare along the western border of the array areas near the railroad tracks that function, to our knowledge, with freight only and along Tyree Chapel Road and what appears to be a driveway and residence. These are represented by thick white lines on the graphic on the following page. It is recommended that the owner/developer consider a screening plan appropriate to the local environment/climate in these areas.

Additionally, the thick bright green lines represent areas where it is recommended that the owner/developer perform a boots-on-the-ground examination. While notable amounts of glare are **NOT** predicted, and distance, naturally occurring lines of foliage and elevation changes look to be enough to screen the proposed project from view, further inspection on-site would be beneficial to the owner/developer and the surrounding community.



Conclusion

In the analysis that Collier's Engineering & Design performed on the proposed 69.3MW solar array area in Franklin, Simpson County, KY, atmospheric attenuation* in tandem with distances from PV Arrays to observation and route receptors, project beneficial elevation changes and existing line(s) of vegetation contribute to the natural screening of this project throughout the majority of the site. As such, no problematic glare is predicted.

Detailed recommendations for screening and closer examination are presented previously in this report.

Sincerely,

Colliers Engineering & Design Inc.
(DBA Maser Consulting)

Elizabeth Claire Myers, PMP
Project Manager, Electrical Engineering
Certified Glare Analyst through Sims Industries

ECM
cc: Craig Zeidman, Colliers Engineering & Design (via email)

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** Atmospheric attenuation and the distance to programmed receptors will also help to screen down any predicted glare result. Attenuation is the reduction in intensity of a light beam with respect to distance travelled through a transmission medium. Thus, it can be safely assumed that glare predicated would be additionally screened down by optical characteristics of the atmosphere and real-world circumstances such as, but not limited to, dust, haze, and clouds.*

Additional Resources and Information

[1] Ho, C. K., Ghanbari, C. M., and Diver, R. B., 2011, Methodology to Assess Potential Glint and Glare Hazards From Concentrating Solar Power Plants: Analytical Models and Experimental Validation, *ASME J. Sol. Energy Eng., 133*.

Solar Glare Hazard Analysis Tool (SGHAT) Technical Reference Manual
https://forgesolar.com/static/docs/SGHAT_Technical_Reference-v6.pdf

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Appendix

Appendix A | Detailed Glare Study Result Reports

The following pages are the full reporting results delivered directly from *ForgeSolar*.

ForgeSolar

Franklin KY

Franklin_KY_FULL_Scenario_0DegreeRestingAngle

Client: Terracon Consultants

Created Sept. 1, 2021
Updated Sept. 1, 2021
Time-step 1 minute
Timezone offset UTC-6
Site ID 58206.10327

Project type Advanced
Project status: active
Category 10 MW to 100 MW

Misc. Analysis Settings

DNI: **varies (1,000.0 W/m^2 peak)**
Ocular transmission coefficient: **0.5**
Pupil diameter: **0.002 m**
Eye focal length: **0.017 m**
Sun subtended angle: **9.3 mrad**

Analysis Methodologies:
- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results Glare with potential for temporary after-image predicted

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
PV array 1a	SA tracking	SA tracking	110,644	176,367	-
PV array 1b	SA tracking	SA tracking	194,121	206,428	-
PV array 2	SA tracking	SA tracking	395	39,902	-
PV array 3	SA tracking	SA tracking	931	54,431	-
PV array 4	SA tracking	SA tracking	2,214	66,938	-

Component Data

PV Array(s)

Total PV footprint area: 416.3 acres

Name: PV array 1a
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 55.0 deg
Resting angle: 0.0 deg
Footprint area: 169.1 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.664978	-86.549814	732.25	7.50	739.75
2	36.665038	-86.545265	737.05	7.50	744.55
3	36.666088	-86.545834	733.30	7.50	740.80
4	36.666880	-86.543817	731.88	7.50	739.38
5	36.665185	-86.542862	737.65	7.50	745.15
6	36.665709	-86.541413	718.24	7.50	725.74
7	36.668377	-86.542765	709.44	7.50	716.94
8	36.669487	-86.540008	709.58	7.50	717.08
9	36.671845	-86.541607	700.24	7.50	707.74
10	36.673325	-86.542873	708.37	7.50	715.87
11	36.672732	-86.543903	698.55	7.50	706.05
12	36.673704	-86.544418	720.24	7.50	727.74
13	36.673988	-86.544117	713.94	7.50	721.44
14	36.674625	-86.544031	708.86	7.50	716.36
15	36.674564	-86.547690	708.87	7.50	716.37
16	36.671019	-86.550726	735.41	7.50	742.91
17	36.669427	-86.550136	722.89	7.50	730.39
18	36.667999	-86.549814	723.96	7.50	731.46
19	36.667887	-86.549417	725.96	7.50	733.46
20	36.666820	-86.549396	732.42	7.50	739.92
21	36.666699	-86.549846	737.71	7.50	745.21

Name: PV array 1b
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 55.0 deg
Resting angle: 0.0 deg
Footprint area: 86.9 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.664191	-86.544357	743.55	7.50	751.05
2	36.664122	-86.545279	736.67	7.50	744.17
3	36.664965	-86.545258	734.97	7.50	742.47
4	36.664870	-86.549807	731.90	7.50	739.40
5	36.664251	-86.549796	729.32	7.50	736.82
6	36.664242	-86.549024	729.93	7.50	737.43
7	36.663425	-86.549013	730.64	7.50	738.14
8	36.663399	-86.549764	733.37	7.50	740.87
9	36.661617	-86.549700	731.07	7.50	738.57
10	36.661609	-86.549506	729.44	7.50	736.94
11	36.662306	-86.549453	738.01	7.50	745.51
12	36.662246	-86.547940	733.64	7.50	741.14
13	36.661454	-86.547983	739.87	7.50	747.37
14	36.661402	-86.546460	739.13	7.50	746.63
15	36.660955	-86.546502	742.17	7.50	749.67
16	36.661006	-86.544936	745.44	7.50	752.94
17	36.660774	-86.544957	746.11	7.50	753.61
18	36.660722	-86.544282	744.64	7.50	752.14
19	36.661497	-86.544217	756.85	7.50	764.35
20	36.661505	-86.543134	755.07	7.50	762.58
21	36.660782	-86.543176	759.77	7.50	767.27
22	36.660782	-86.542973	761.56	7.50	769.06
23	36.661540	-86.542930	753.59	7.50	761.09
24	36.661634	-86.542007	752.18	7.50	759.68
25	36.660722	-86.541932	751.66	7.50	759.17
26	36.660722	-86.542543	753.88	7.50	761.38
27	36.660283	-86.542522	758.48	7.50	765.98
28	36.660102	-86.539443	731.01	7.50	738.51
29	36.660507	-86.539078	730.06	7.50	737.56
30	36.660671	-86.538359	723.55	7.50	731.05
31	36.662108	-86.538660	722.54	7.50	730.04
32	36.664104	-86.541149	729.45	7.50	736.95
33	36.664965	-86.542189	737.08	7.50	744.58

Name: PV array 2
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 55.0 deg
Resting angle: 0.0 deg
Footprint area: 67.8 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.653906	-86.532737	749.73	7.50	757.23
2	36.654250	-86.531096	744.31	7.50	751.81
3	36.655326	-86.530999	734.03	7.50	741.53
4	36.655756	-86.529905	719.43	7.50	726.93
5	36.656488	-86.529594	715.86	7.50	723.36
6	36.657099	-86.529680	713.15	7.50	720.65
7	36.657770	-86.529444	708.62	7.50	716.12
8	36.657925	-86.529100	709.68	7.50	717.18
9	36.657193	-86.529186	712.56	7.50	720.06
10	36.656161	-86.529326	716.88	7.50	724.38
11	36.656083	-86.527126	737.42	7.50	744.92
12	36.656987	-86.527169	731.82	7.50	739.32
13	36.657004	-86.526858	730.43	7.50	737.93
14	36.658820	-86.527008	710.98	7.50	718.48
15	36.658889	-86.531664	712.11	7.50	719.61
16	36.659577	-86.531622	718.02	7.50	725.52
17	36.659517	-86.533102	725.73	7.50	733.23
18	36.659973	-86.533188	716.63	7.50	724.13
19	36.659999	-86.534154	719.17	7.50	726.67
20	36.659526	-86.534390	723.74	7.50	731.24
21	36.659517	-86.536053	729.37	7.50	736.87
22	36.660292	-86.536203	715.98	7.50	723.48
23	36.660300	-86.536407	722.94	7.50	730.44
24	36.659552	-86.536417	733.10	7.50	740.60
25	36.659337	-86.536600	736.58	7.50	744.08
26	36.658906	-86.536664	738.30	7.50	745.80
27	36.658898	-86.535902	728.72	7.50	736.22
28	36.659199	-86.535323	713.77	7.50	721.27
29	36.658949	-86.535076	724.44	7.50	731.94
30	36.658269	-86.535216	738.71	7.50	746.21
31	36.657925	-86.535398	737.48	7.50	744.98
32	36.657727	-86.535935	735.32	7.50	742.82
33	36.657779	-86.536836	737.48	7.50	744.98
34	36.656229	-86.536932	748.18	7.50	755.68
35	36.655937	-86.534765	731.80	7.50	739.30
36	36.657434	-86.534626	736.27	7.50	743.77
37	36.657460	-86.533864	736.72	7.50	744.22
38	36.656660	-86.533928	731.63	7.50	739.13
39	36.656668	-86.533724	730.24	7.50	737.74
40	36.657469	-86.533681	734.00	7.50	741.50
41	36.658338	-86.532995	724.49	7.50	731.99
42	36.658175	-86.531900	709.52	7.50	717.02

Name: PV array 3
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 55.0 deg
Resting angle: 0.0 deg
Footprint area: 49.5 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.664195	-86.540662	723.76	7.50	731.27
2	36.664170	-86.531467	697.92	7.50	705.42
3	36.659617	-86.531435	716.86	7.50	724.36
4	36.659582	-86.533012	725.14	7.50	732.64
5	36.660133	-86.533151	711.92	7.50	719.42
6	36.660546	-86.532465	706.35	7.50	713.85
7	36.661459	-86.532400	700.16	7.50	707.66
8	36.661355	-86.534568	701.52	7.50	709.02
9	36.661708	-86.535640	701.95	7.50	709.46
10	36.660426	-86.535673	703.25	7.50	710.75
11	36.660374	-86.535952	707.07	7.50	714.57
12	36.662371	-86.536585	701.17	7.50	708.67
13	36.664135	-86.538484	704.27	7.50	711.77
14	36.664127	-86.539041	716.63	7.50	724.13
15	36.662087	-86.537958	716.57	7.50	724.07
16	36.662018	-86.538108	718.57	7.50	726.07

Name: PV array 4
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 55.0 deg
Resting angle: 0.0 deg
Footprint area: 43.1 acres
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.667556	-86.531585	696.84	7.50	704.34
2	36.667556	-86.531821	693.85	7.50	701.35
3	36.666360	-86.531810	687.24	7.50	694.74
4	36.666360	-86.533280	689.51	7.50	697.01
5	36.666936	-86.533269	687.57	7.50	695.07
6	36.666910	-86.537228	701.31	7.50	708.81
7	36.665809	-86.537271	707.66	7.50	715.16
8	36.665731	-86.540125	714.30	7.50	721.80
9	36.665163	-86.541681	732.73	7.50	740.23
10	36.664243	-86.540726	724.24	7.50	731.74
11	36.664535	-86.540286	722.96	7.50	730.46
12	36.664862	-86.540071	722.12	7.50	729.62
13	36.664948	-86.537271	702.88	7.50	710.38
14	36.664225	-86.537250	698.52	7.50	706.02
15	36.664191	-86.533763	696.67	7.50	704.17
16	36.665508	-86.533806	691.10	7.50	698.60
17	36.665534	-86.532905	691.73	7.50	699.23
18	36.664208	-86.532883	697.83	7.50	705.33
19	36.664208	-86.531424	696.71	7.50	704.21
20	36.667556	-86.531499	695.44	7.50	702.94

Route Receptor(s)

Name: Route 1
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.675911	-86.547593	705.46	4.50	709.96
2	36.669801	-86.552700	751.30	4.50	755.80

Name: Route 10
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.655254	-86.523445	729.97	8.50	738.47
2	36.659489	-86.523584	731.01	8.50	739.51

Name: Route 11
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.659449	-86.536780	736.30	4.50	740.80
2	36.656334	-86.537252	753.10	4.50	757.60

Name: Route 12
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.659441	-86.536709	736.31	8.50	744.81
2	36.656299	-86.537165	751.99	8.50	760.49

Name: Route 13
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.670978	-86.551006	731.64	8.50	740.14
2	36.670135	-86.550599	725.04	8.50	733.54
3	36.668844	-86.550191	729.35	8.50	737.85
4	36.667071	-86.550041	731.34	8.50	739.84
5	36.665230	-86.549998	731.14	8.50	739.64
6	36.661305	-86.550062	731.53	8.50	740.03
7	36.658844	-86.549998	734.93	8.50	743.43

Name: Route 2
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.669647	-86.552421	751.43	8.50	759.93
2	36.675945	-86.547250	704.57	8.50	713.07

Name: Route 3
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.664481	-86.543759	751.01	4.50	755.51
2	36.665578	-86.541173	719.78	4.50	724.28

Name: Route 4
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.665617	-86.541190	719.24	8.50	727.74
2	36.664519	-86.543791	751.37	8.50	759.87

Name: Route 5
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.665156	-86.542134	736.64	4.50	741.14
2	36.663246	-86.539870	726.12	4.50	730.62

Name: Route 6
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.665225	-86.542080	736.04	8.50	744.54
2	36.663297	-86.539773	725.24	8.50	733.74

Name: Route 7
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.667245	-86.538132	706.05	4.50	710.55
2	36.667392	-86.533787	695.47	4.50	699.97
3	36.668200	-86.531780	694.15	4.50	698.65

Name: Route 8
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.668278	-86.531802	695.74	8.50	704.24
2	36.667452	-86.533808	698.09	8.50	706.59
3	36.667297	-86.538175	704.58	8.50	713.08

Name: Route 9
Route type Two-way
View angle: 50.0 deg

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	36.659480	-86.523670	730.48	4.50	734.98
2	36.655246	-86.523552	729.66	4.50	734.16

Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
OP 1	36.675112	-86.544064	698.89	5.50	704.39
OP 2	36.675129	-86.544026	698.90	15.00	713.90
OP 3	36.664792	-86.544279	750.52	5.50	756.02
OP 4	36.664775	-86.543823	754.57	15.00	769.57
OP 5	36.664504	-86.543888	751.39	5.50	756.89
OP 6	36.654086	-86.526273	750.93	5.50	756.43
OP 7	36.654612	-86.524358	728.08	5.50	733.58
OP 8	36.654482	-86.524170	735.00	15.00	750.00
OP 9	36.654164	-86.526444	750.12	15.00	765.12
OP 10	36.653355	-86.536567	761.30	5.50	766.80
OP 11	36.653514	-86.536749	762.31	15.00	777.31
OP 12	36.655322	-86.540676	782.65	5.50	788.15
OP 13	36.655408	-86.540601	783.08	15.00	798.08
OP 14	36.656814	-86.548975	750.64	5.50	756.14
OP 15	36.656887	-86.549104	751.72	15.00	766.72
OP 16	36.678073	-86.541179	693.27	8.00	701.27
OP 17	36.677083	-86.536448	712.09	8.00	720.09
OP 18	36.669907	-86.536072	706.58	8.00	714.58
OP 19	36.667996	-86.529431	693.07	5.50	698.57
OP 20	36.667588	-86.525601	684.73	5.50	690.23
OP 21	36.667652	-86.525537	685.25	15.00	700.25
OP 22	36.668014	-86.529345	694.83	15.00	709.83
OP 23	36.668044	-86.527538	689.60	5.50	695.10
OP 24	36.668125	-86.527441	694.40	15.00	709.41
OP 25	36.669941	-86.528423	692.96	5.50	698.46
OP 26	36.669984	-86.528299	692.56	15.00	707.56
OP 27	36.663904	-86.523565	722.02	5.50	727.52
OP 28	36.663926	-86.523457	722.68	15.00	737.68
OP 29	36.659042	-86.517442	731.13	5.50	736.63
OP 30	36.659128	-86.517303	731.57	15.00	746.57

Summary of PV Glare Analysis

PV configuration and total predicted glare

PV Name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced	Data File
	deg	deg	min	min	kWh	
PV array 1a	SA tracking	SA tracking	110,644	176,367	-	-
PV array 1b	SA tracking	SA tracking	194,121	206,428	-	-
PV array 2	SA tracking	SA tracking	395	39,902	-	-
PV array 3	SA tracking	SA tracking	931	54,431	-	-
PV array 4	SA tracking	SA tracking	2,214	66,938	-	-

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

PV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
pv-array-1a (green)	9061	9382	11590	9930	7650	6098	6938	9233	11125	10968	9045	8684
pv-array-1a (yellow)	7793	5415	2825	2995	3845	3936	3965	3565	2266	4902	7184	8271
pv-array-1b (green)	3513	3901	6405	10040	13553	14541	14347	11684	7483	4839	3569	3283
pv-array-1b (yellow)	6281	5865	7922	7679	8066	7385	7961	7954	7792	6985	6049	6314
pv-array-2 (green)	2	1	5	11	0	0	0	2	11	0	12	0
pv-array-2 (yellow)	1069	714	1056	1118	1343	1401	1384	1245	1022	849	995	1075
pv-array-3 (green)	0	0	10	69	84	36	64	96	22	0	0	0
pv-array-3 (yellow)	1545	1533	1935	1130	465	377	460	640	1898	1773	1526	1487
pv-array-4 (green)	0	0	8	126	201	271	187	218	11	0	0	0
pv-array-4 (yellow)	1811	1873	2368	2342	1219	882	1142	1856	2472	2172	1822	1705

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1a potential temporary after-image

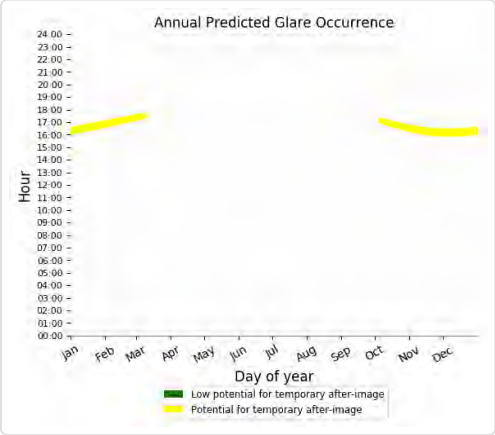
Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	2903
OP: OP 2	0	4038
OP: OP 3	0	9919
OP: OP 4	0	8342
OP: OP 5	0	4508
OP: OP 6	43	297
OP: OP 7	80	690
OP: OP 8	87	762
OP: OP 9	41	311
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	33

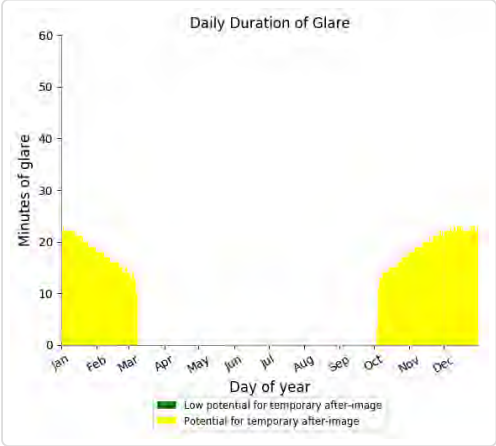
OP: OP 17	0	2353
OP: OP 18	0	6127
OP: OP 19	0	3332
OP: OP 20	0	2667
OP: OP 21	0	2741
OP: OP 22	0	3585
OP: OP 23	0	3224
OP: OP 24	0	3453
OP: OP 25	0	2911
OP: OP 26	0	2997
OP: OP 27	5	2682
OP: OP 28	11	2735
OP: OP 29	333	1716
OP: OP 30	340	1765
Route: Route 1	0	5097
Route: Route 10	0	0
Route: Route 11	0	0
Route: Route 12	0	0
Route: Route 13	109704	33231
Route: Route 2	0	7471
Route: Route 3	0	9514
Route: Route 4	0	12484
Route: Route 5	0	9956
Route: Route 6	0	12995
Route: Route 7	0	5556
Route: Route 8	0	5972
Route: Route 9	0	0

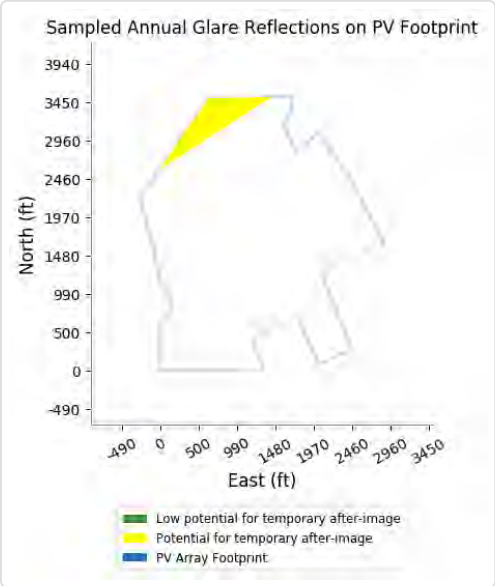
PV array 1a - OP Receptor (OP 1)

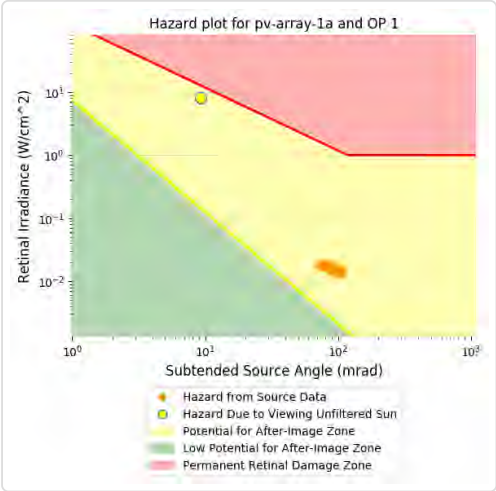
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,903 minutes of "yellow" glare with potential to cause temporary after-image.





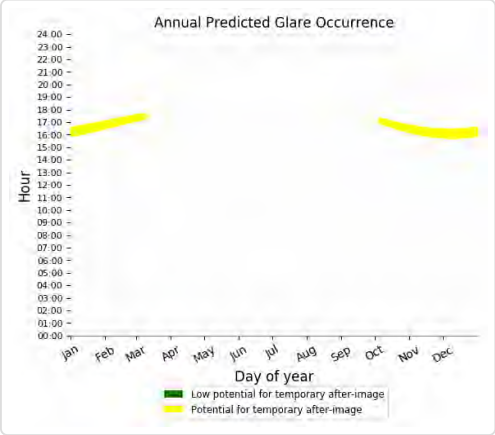


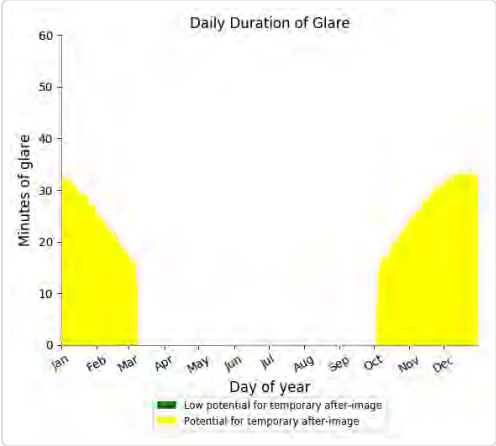


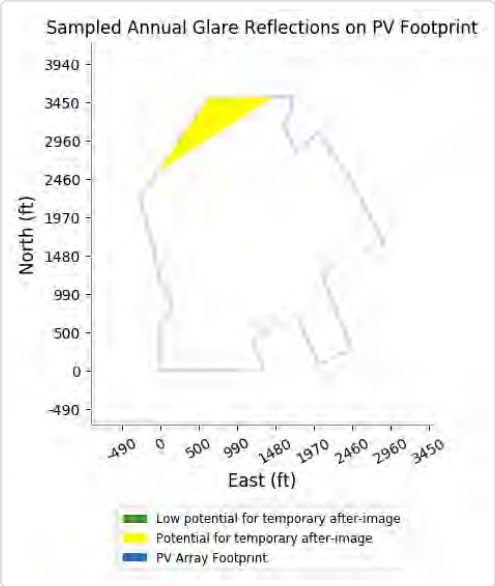
PV array 1a - OP Receptor (OP 2)

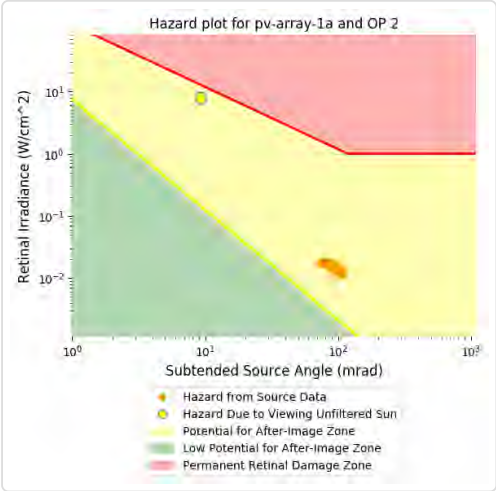
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,038 minutes of "yellow" glare with potential to cause temporary after-image.





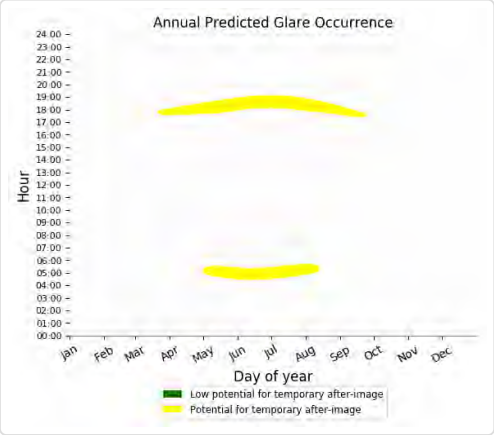


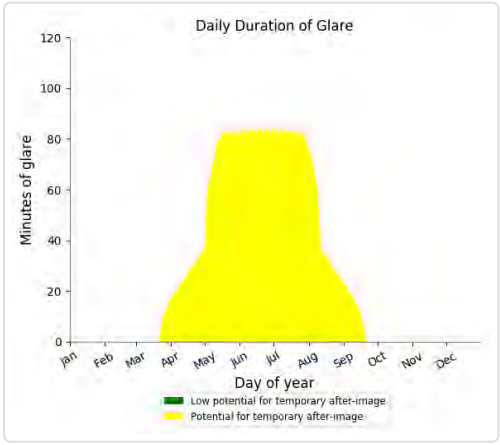


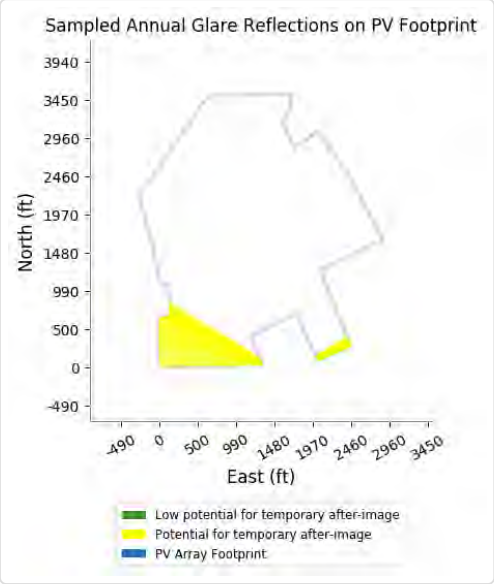
PV array 1a - OP Receptor (OP 3)

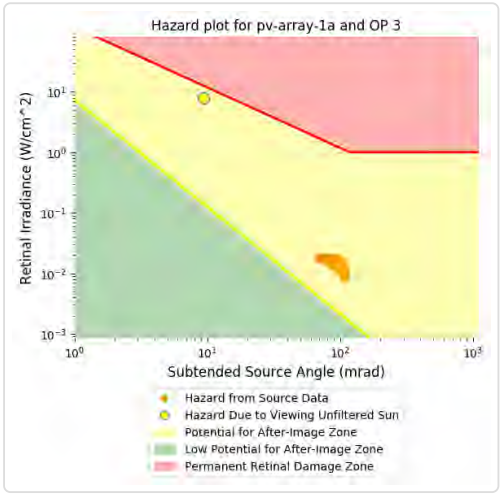
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 9,919 minutes of "yellow" glare with potential to cause temporary after-image.





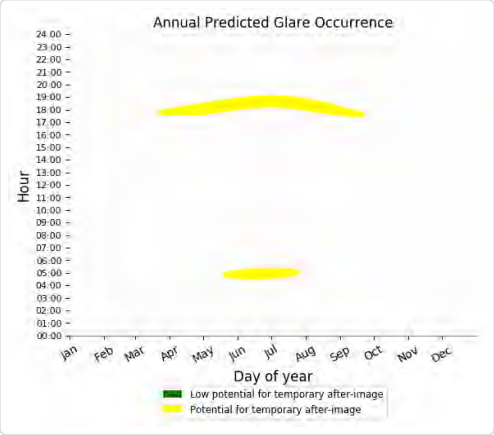


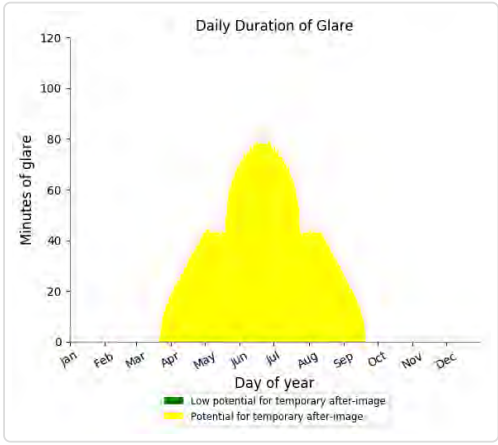


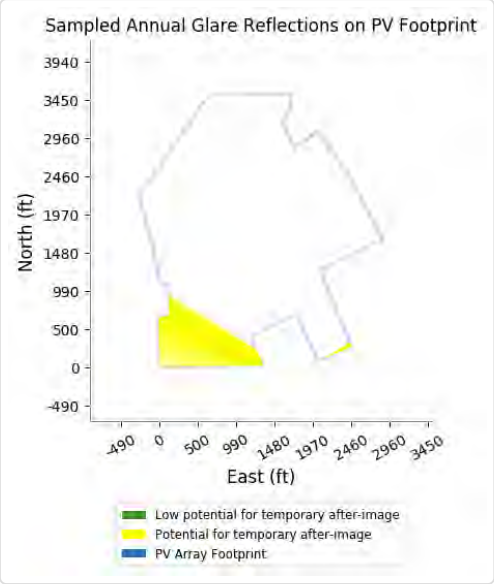
PV array 1a - OP Receptor (OP 4)

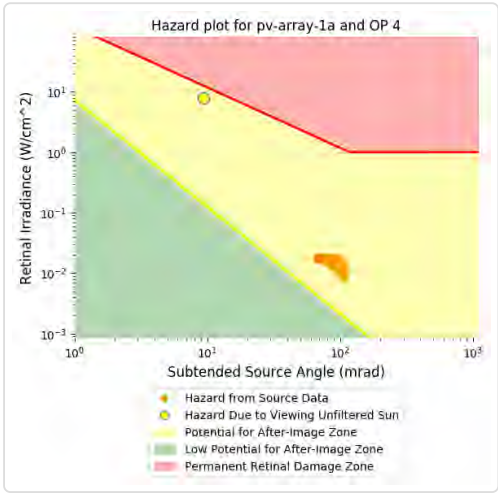
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 8,342 minutes of "yellow" glare with potential to cause temporary after-image.





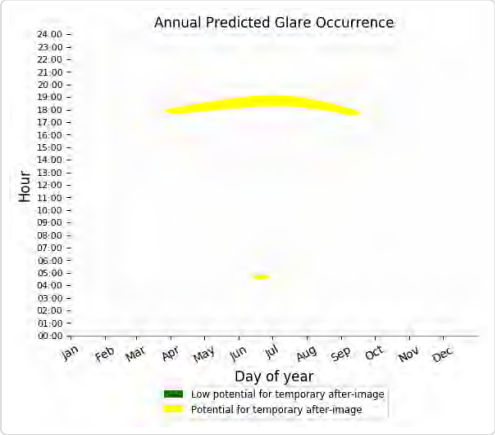


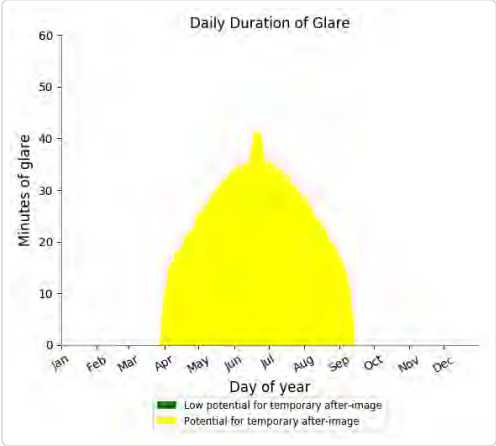


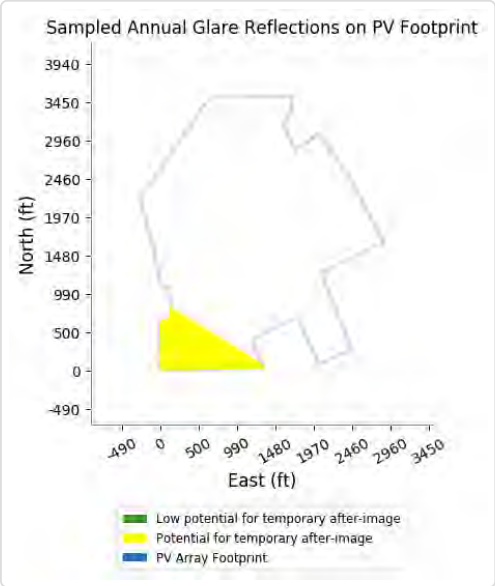
PV array 1a - OP Receptor (OP 5)

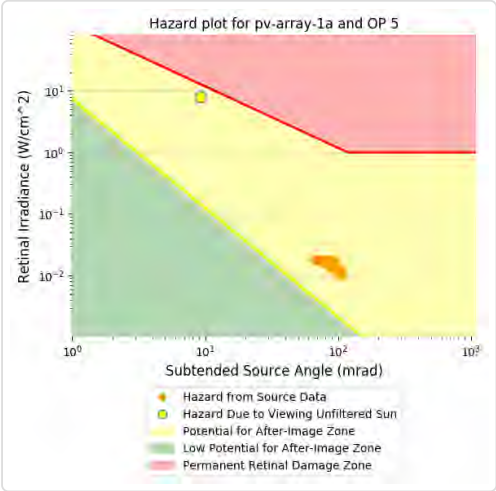
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,508 minutes of "yellow" glare with potential to cause temporary after-image.





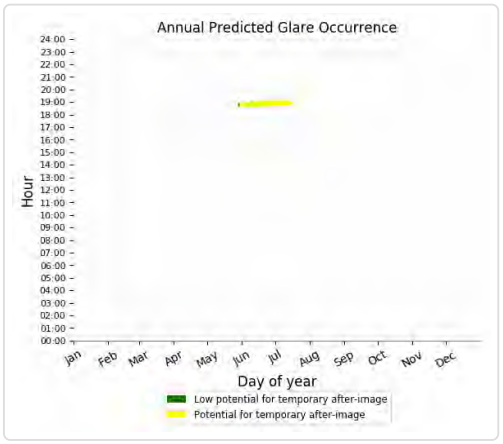


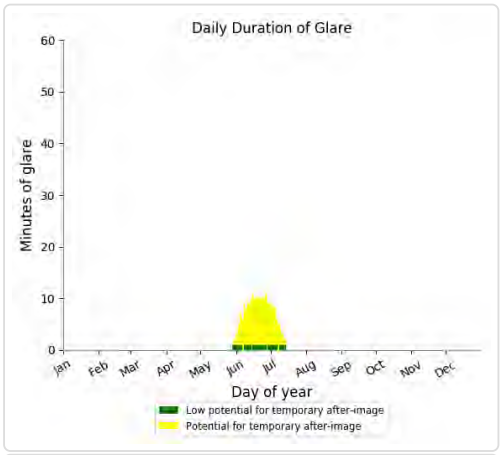


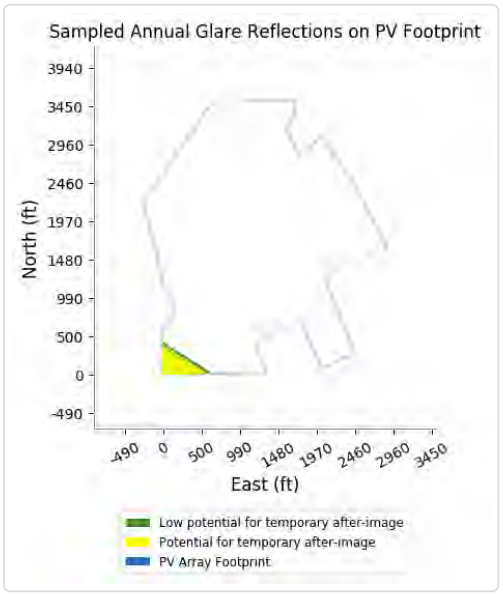
PV array 1a - OP Receptor (OP 6)

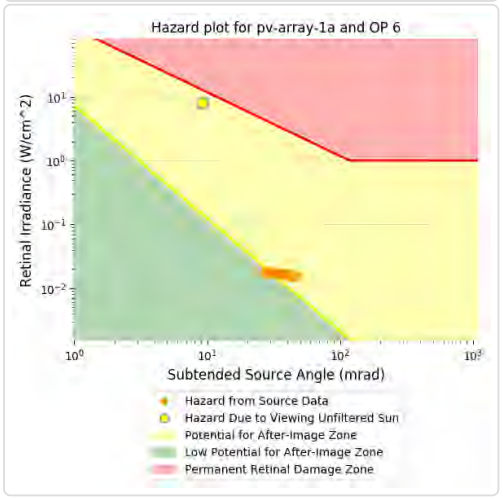
PV array is expected to produce the following glare for receptors at this location:

- 43 minutes of "green" glare with low potential to cause temporary after-image.
- 297 minutes of "yellow" glare with potential to cause temporary after-image.





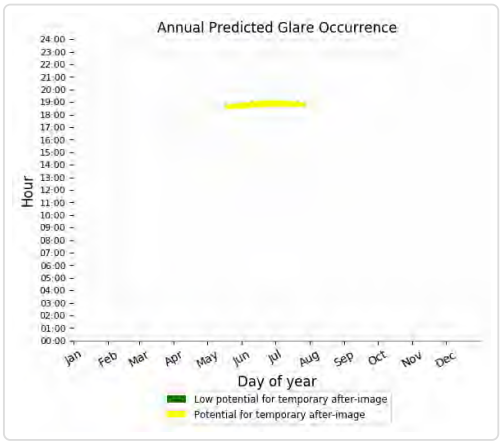


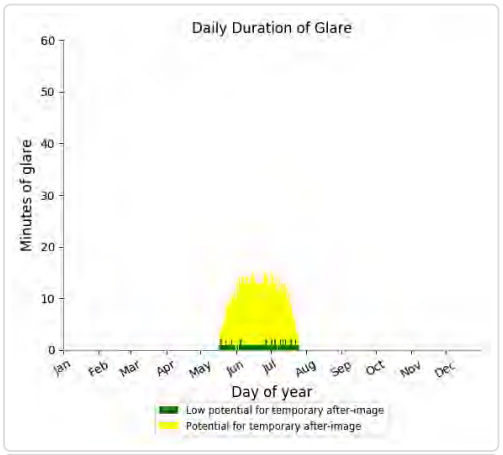


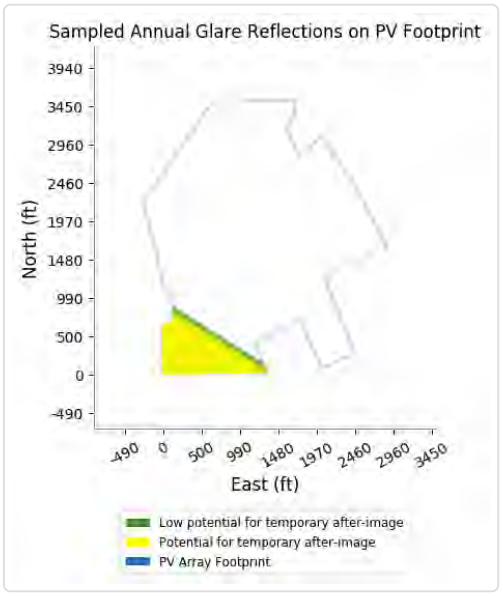
PV array 1a - OP Receptor (OP 7)

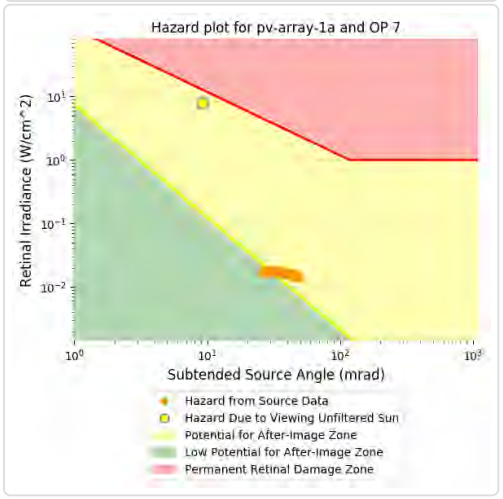
PV array is expected to produce the following glare for receptors at this location:

- 80 minutes of "green" glare with low potential to cause temporary after-image.
- 690 minutes of "yellow" glare with potential to cause temporary after-image.





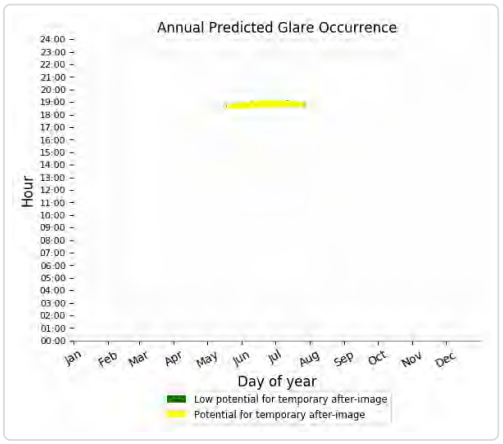


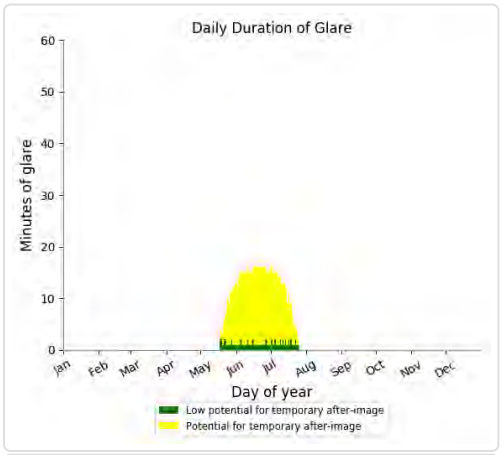


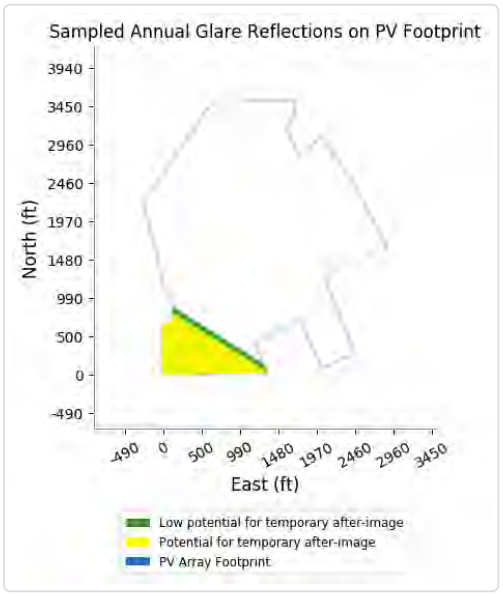
PV array 1a - OP Receptor (OP 8)

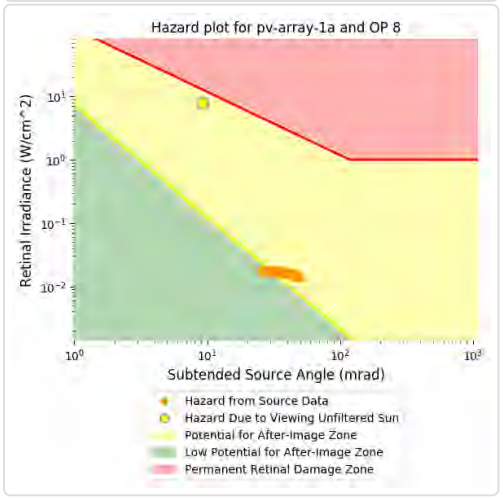
PV array is expected to produce the following glare for receptors at this location:

- 87 minutes of "green" glare with low potential to cause temporary after-image.
- 762 minutes of "yellow" glare with potential to cause temporary after-image.





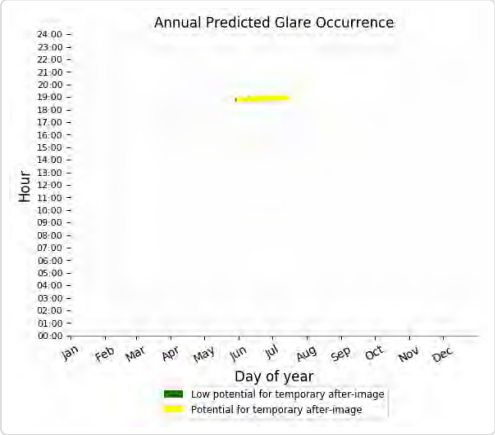


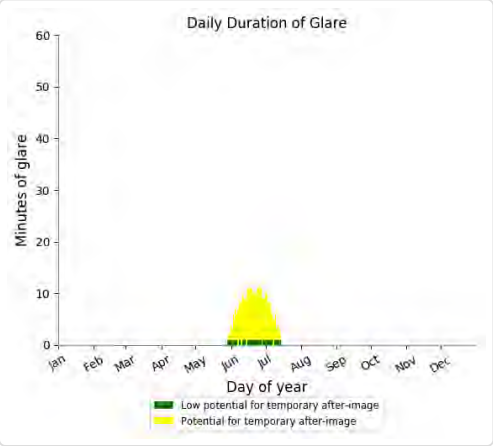


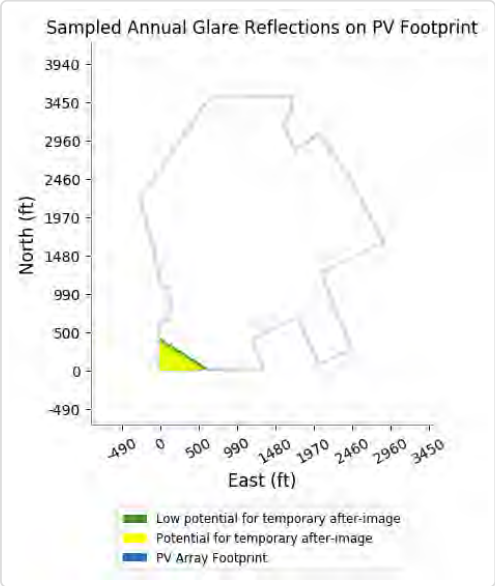
PV array 1a - OP Receptor (OP 9)

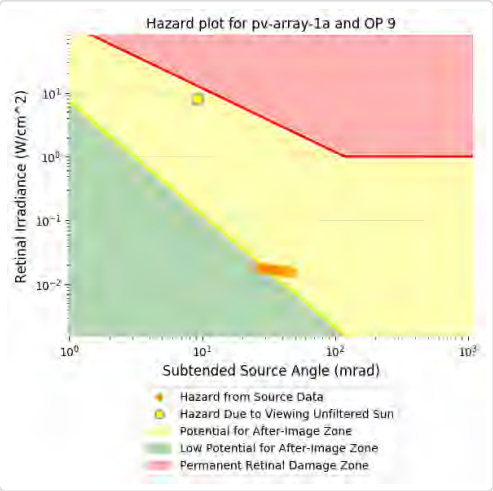
PV array is expected to produce the following glare for receptors at this location:

- 41 minutes of "green" glare with low potential to cause temporary after-image.
- 311 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 1a - OP Receptor (OP 10)

No glare found

PV array 1a - OP Receptor (OP 11)

No glare found

PV array 1a - OP Receptor (OP 12)

No glare found

PV array 1a - OP Receptor (OP 13)

No glare found

PV array 1a - OP Receptor (OP 14)

No glare found

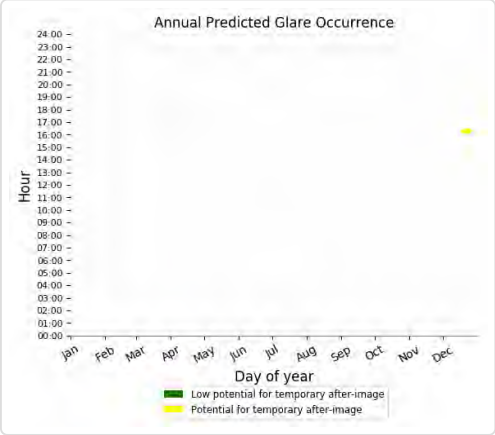
PV array 1a - OP Receptor (OP 15)

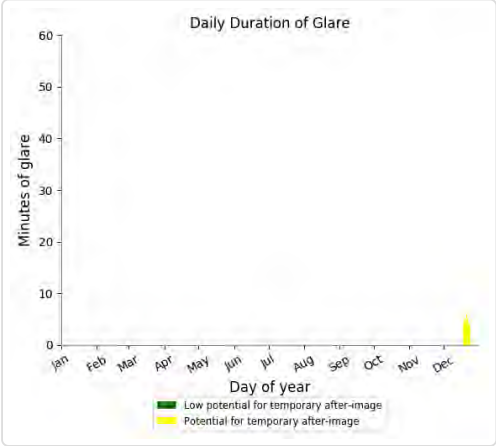
No glare found

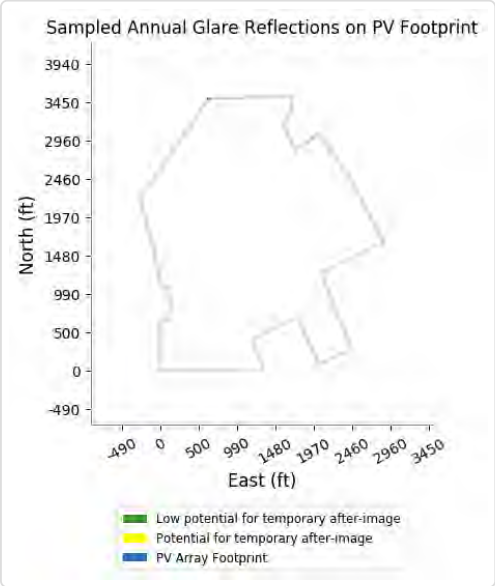
PV array 1a - OP Receptor (OP 16)

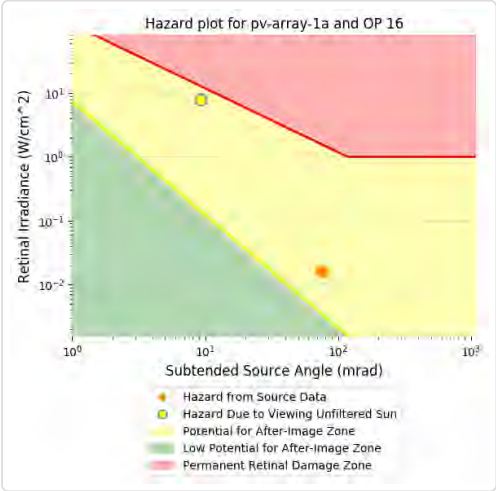
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 33 minutes of "yellow" glare with potential to cause temporary after-image.





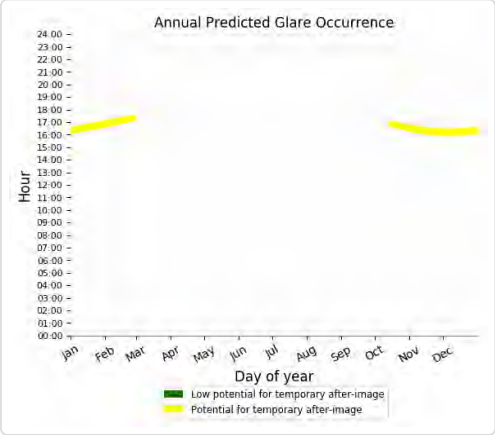


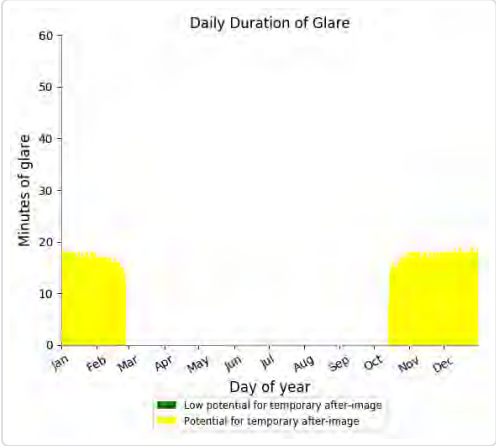


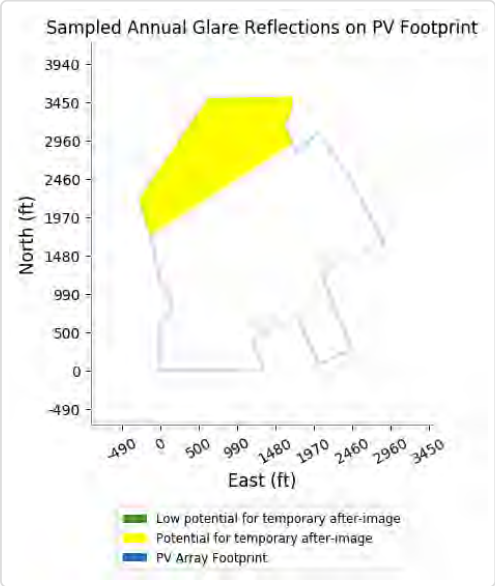
PV array 1a - OP Receptor (OP 17)

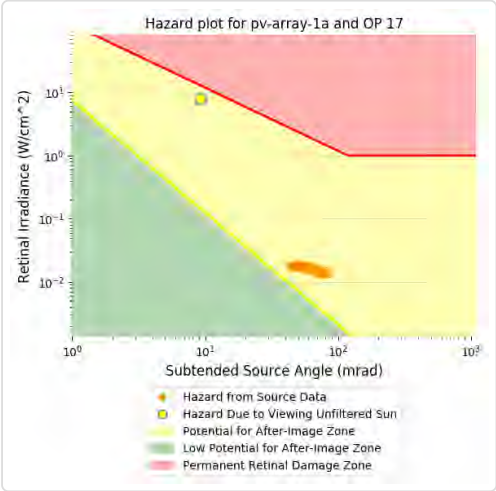
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,353 minutes of "yellow" glare with potential to cause temporary after-image.





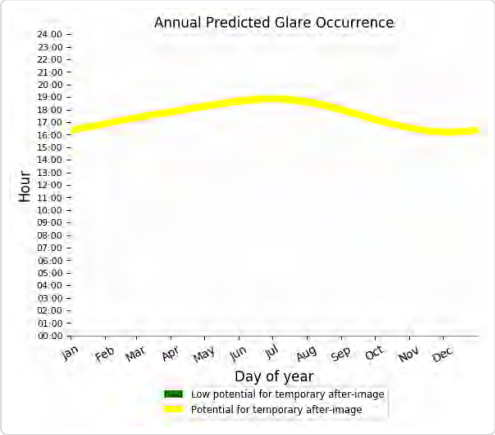


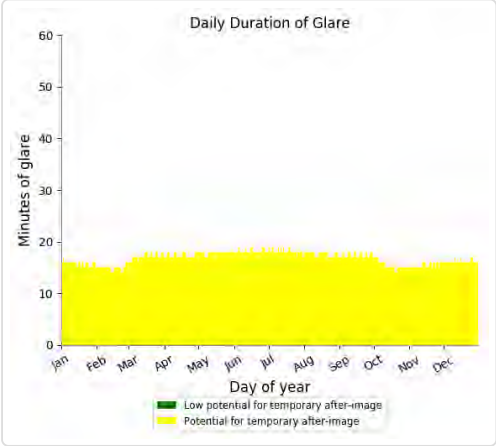


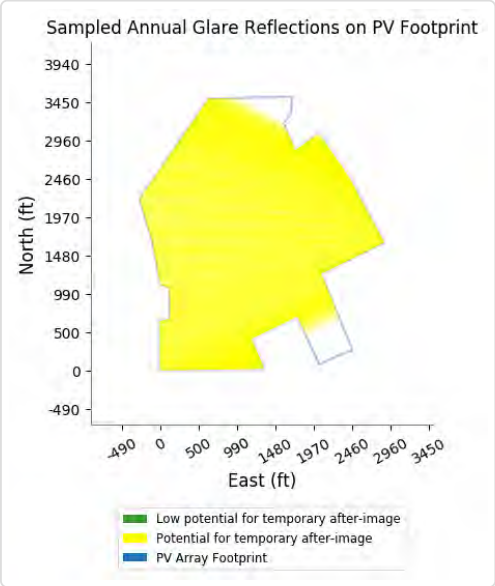
PV array 1a - OP Receptor (OP 18)

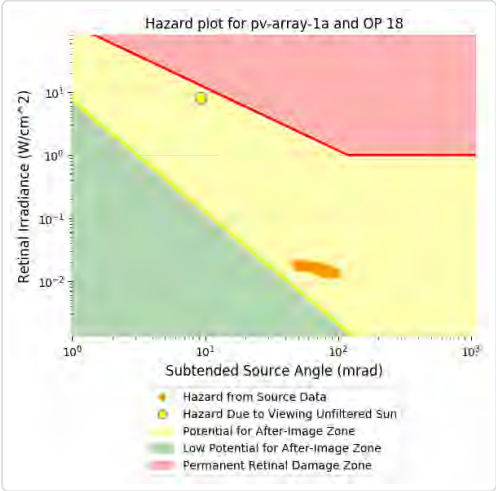
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 6,127 minutes of "yellow" glare with potential to cause temporary after-image.





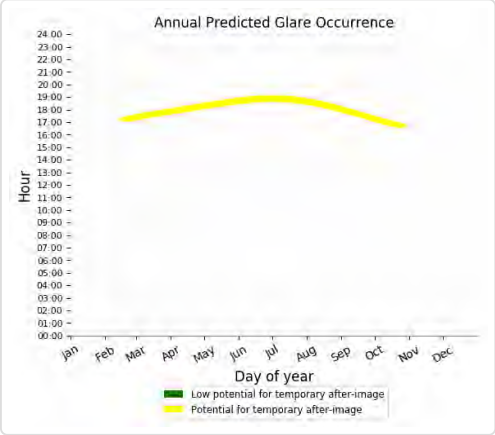


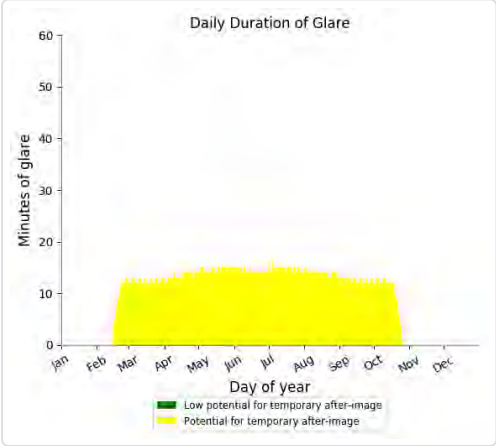


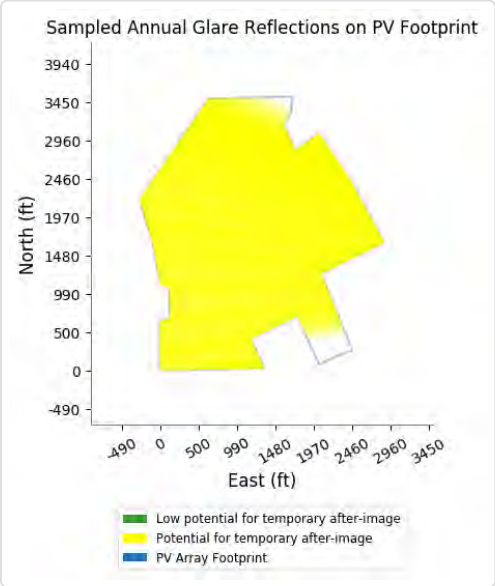
PV array 1a - OP Receptor (OP 19)

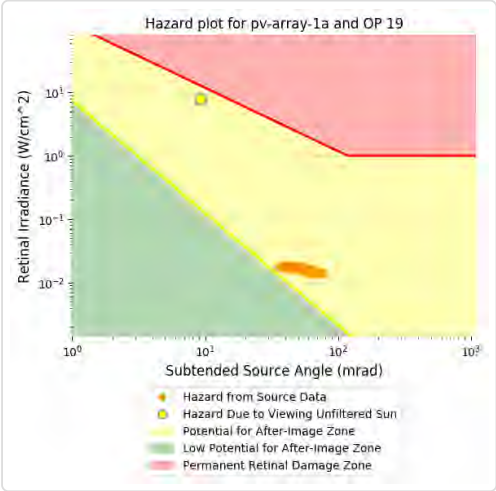
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,332 minutes of "yellow" glare with potential to cause temporary after-image.





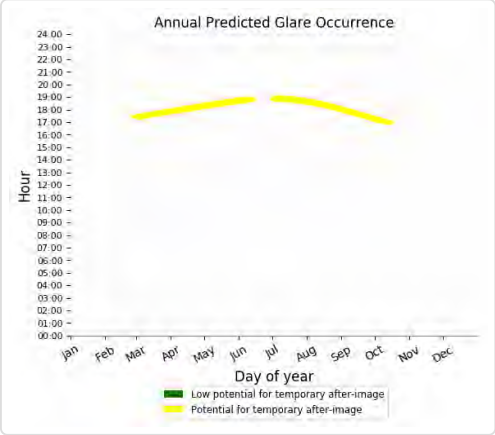


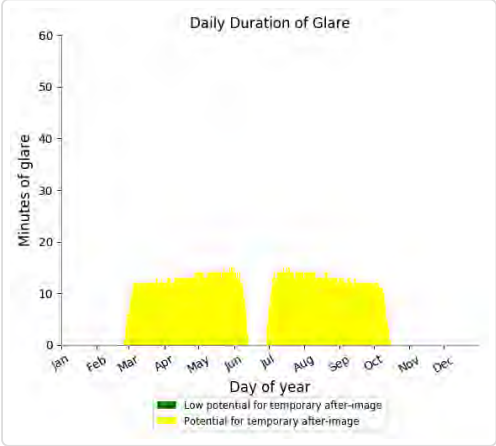


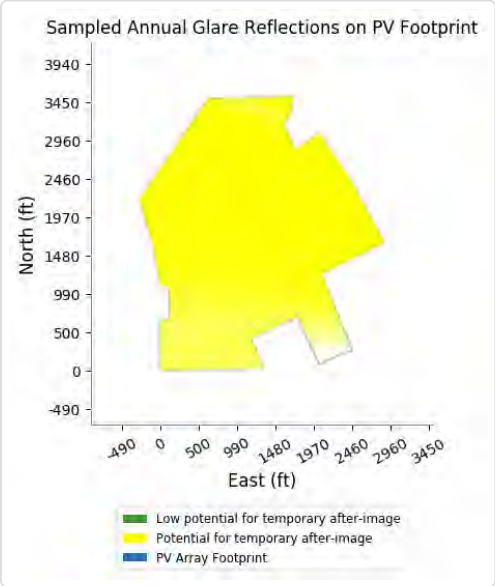
PV array 1a - OP Receptor (OP 20)

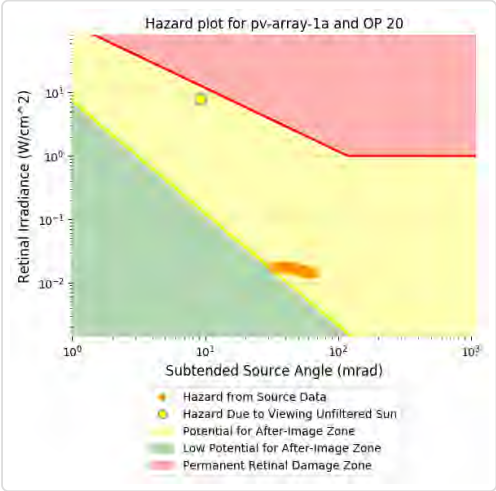
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,667 minutes of "yellow" glare with potential to cause temporary after-image.





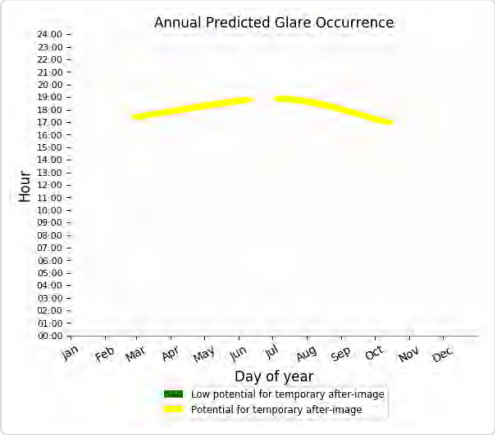


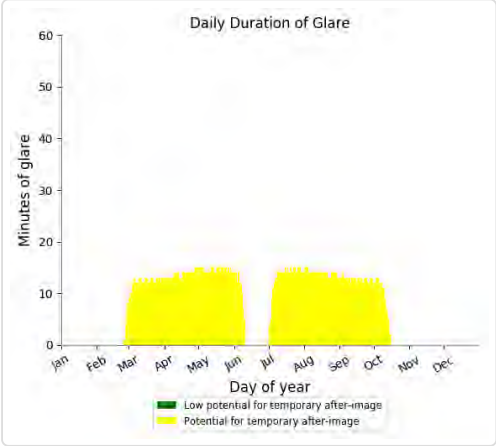


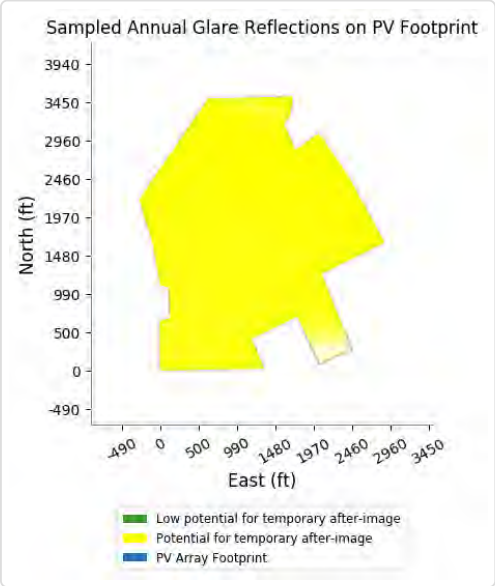
PV array 1a - OP Receptor (OP 21)

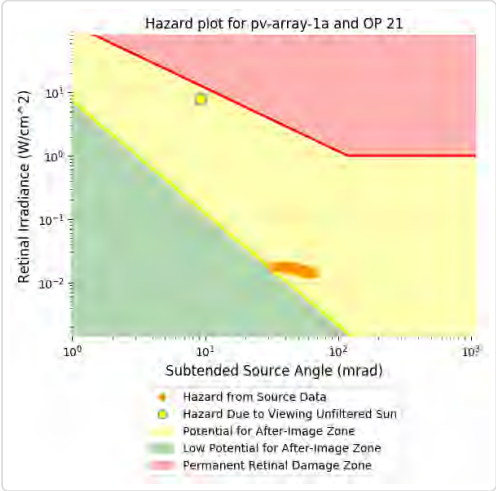
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,741 minutes of "yellow" glare with potential to cause temporary after-image.





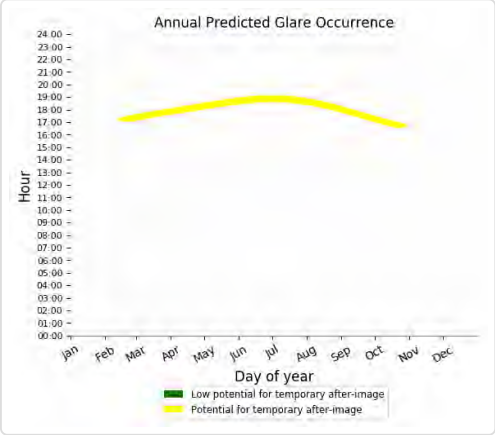


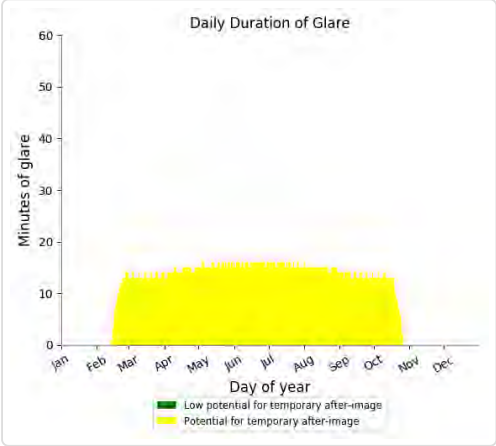


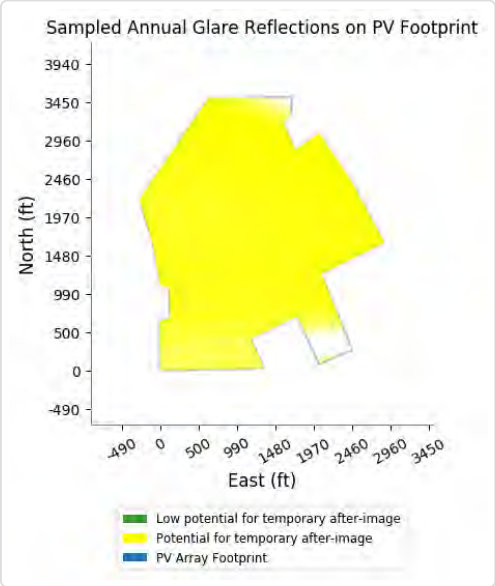
PV array 1a - OP Receptor (OP 22)

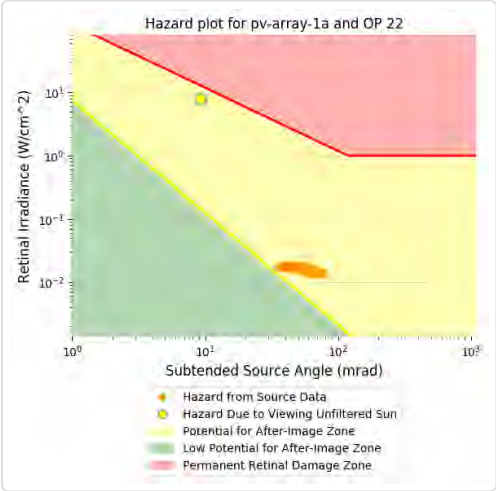
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,585 minutes of "yellow" glare with potential to cause temporary after-image.





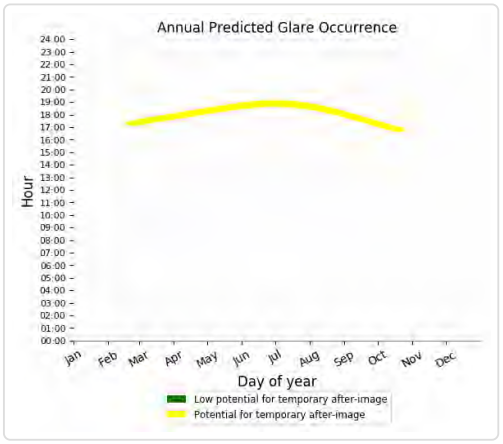


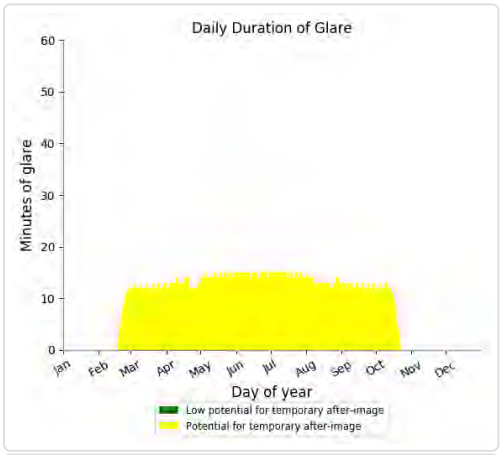


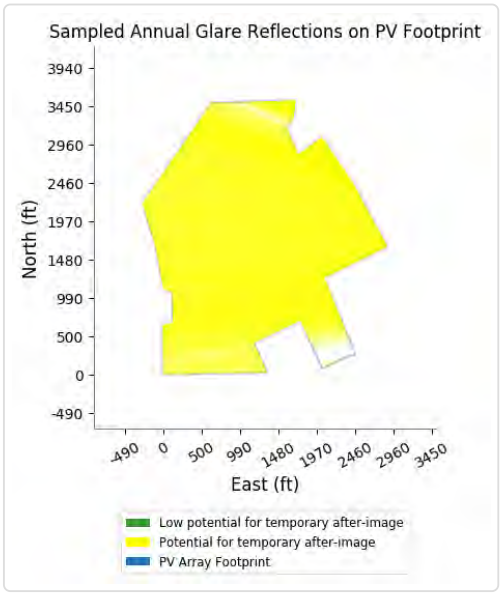
PV array 1a - OP Receptor (OP 23)

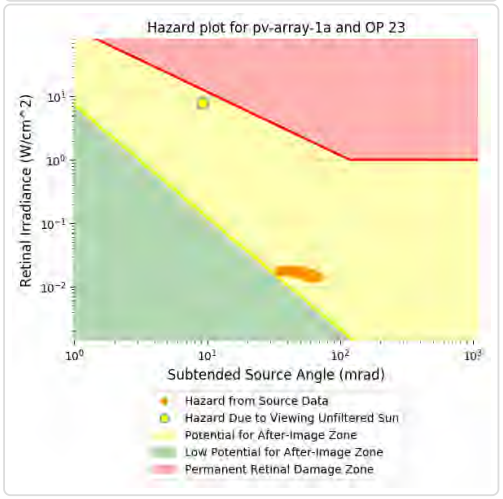
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,224 minutes of "yellow" glare with potential to cause temporary after-image.





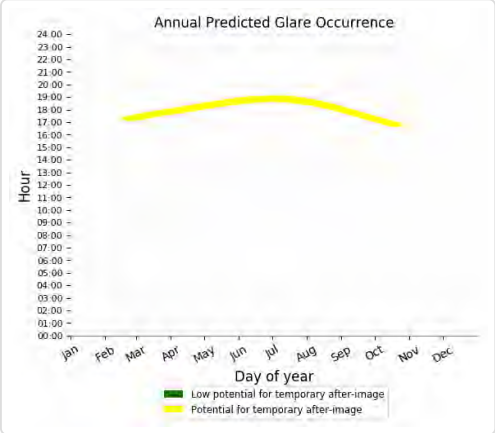


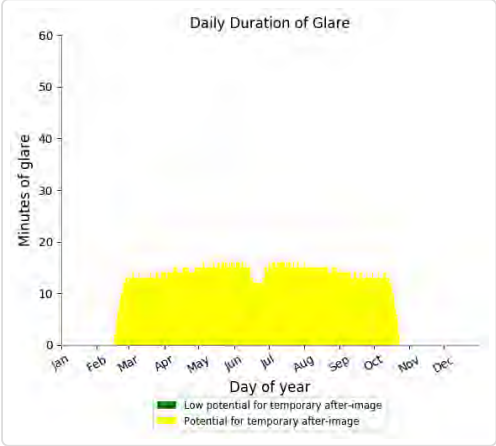


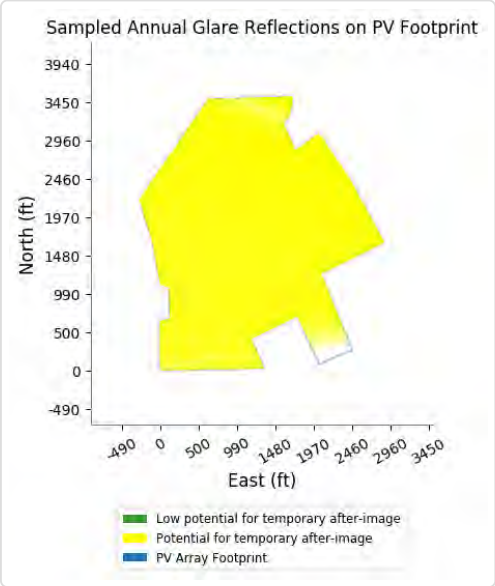
PV array 1a - OP Receptor (OP 24)

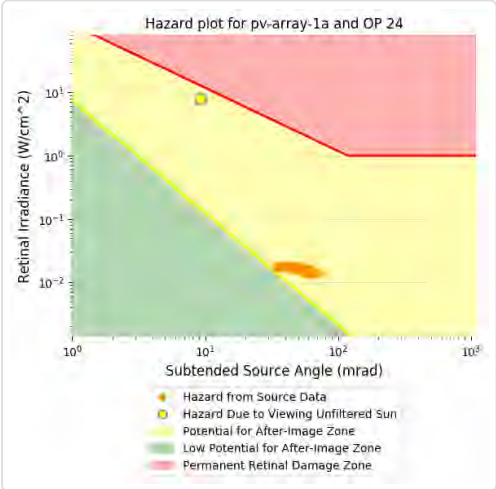
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,453 minutes of "yellow" glare with potential to cause temporary after-image.





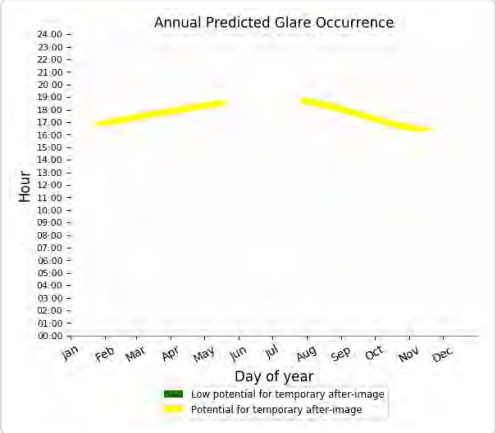


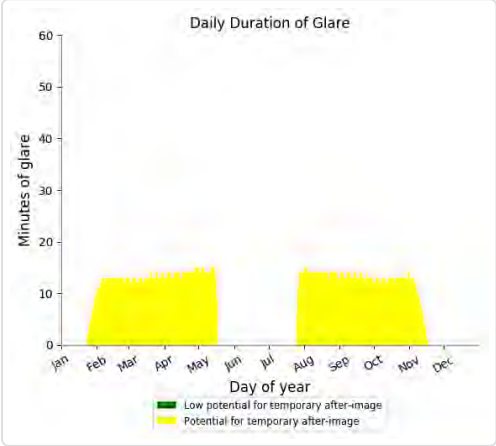


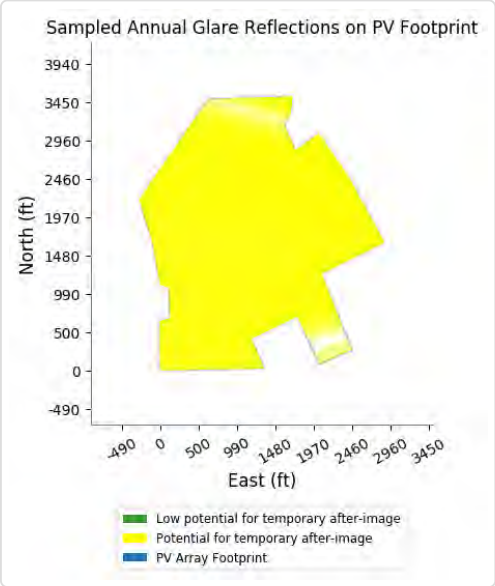
PV array 1a - OP Receptor (OP 25)

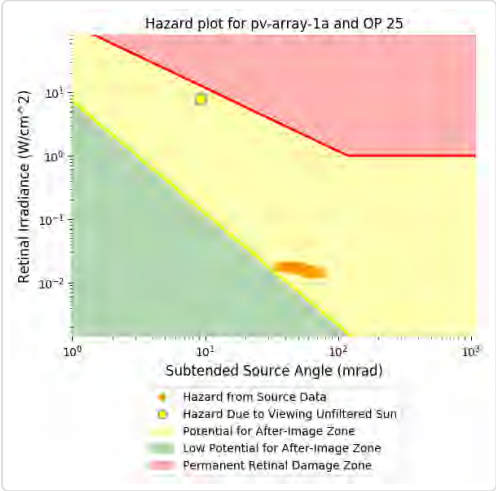
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,911 minutes of "yellow" glare with potential to cause temporary after-image.





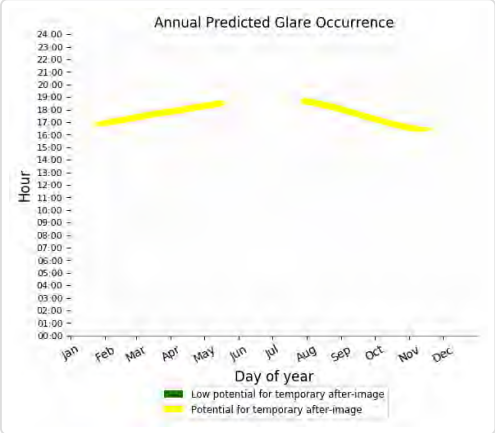


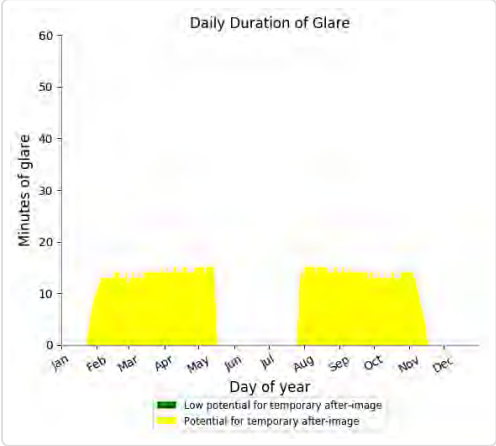


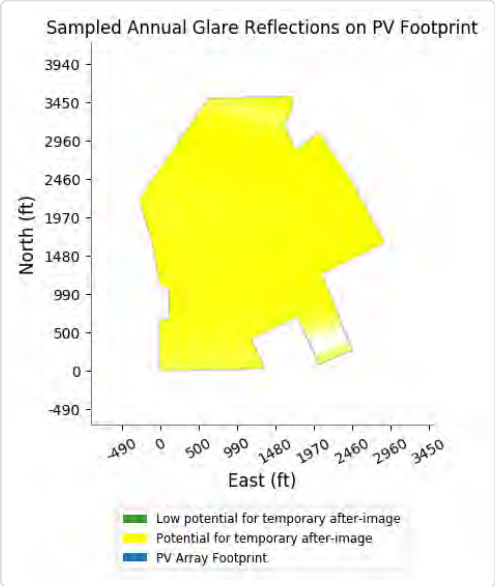
PV array 1a - OP Receptor (OP 26)

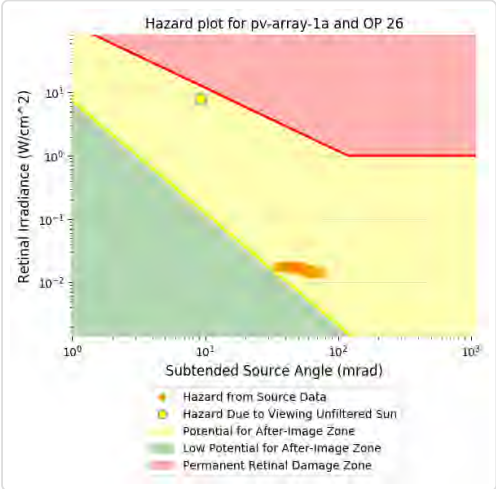
PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,997 minutes of "yellow" glare with potential to cause temporary after-image.





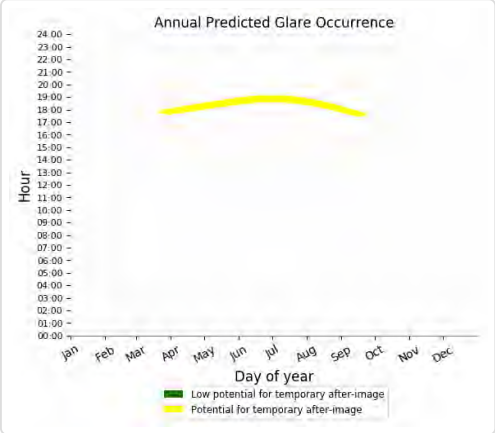


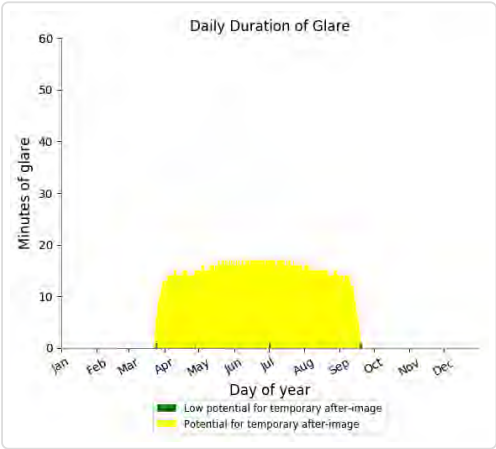


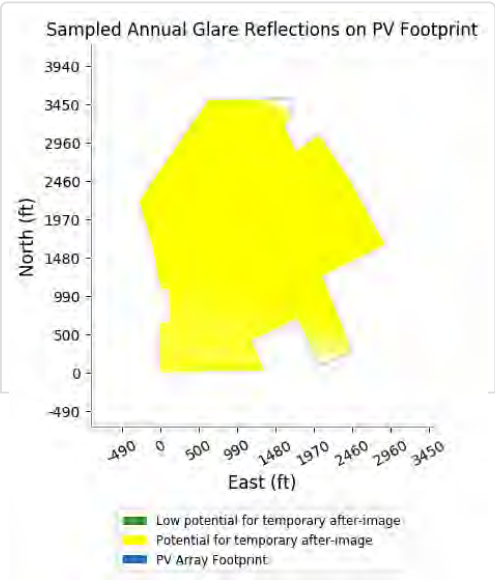
PV array 1a - OP Receptor (OP 27)

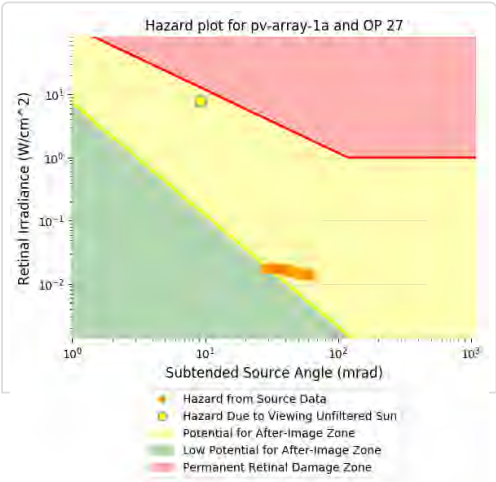
PV array is expected to produce the following glare for receptors at this location:

- 5 minutes of "green" glare with low potential to cause temporary after-image.
- 2,682 minutes of "yellow" glare with potential to cause temporary after-image.





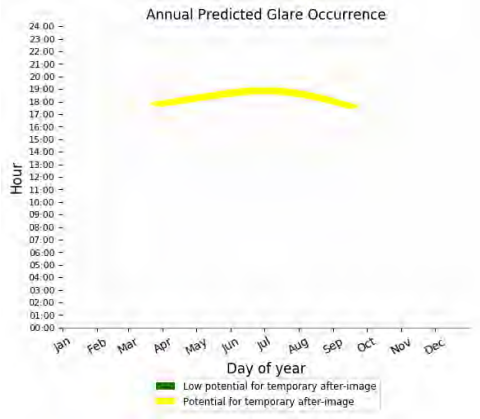


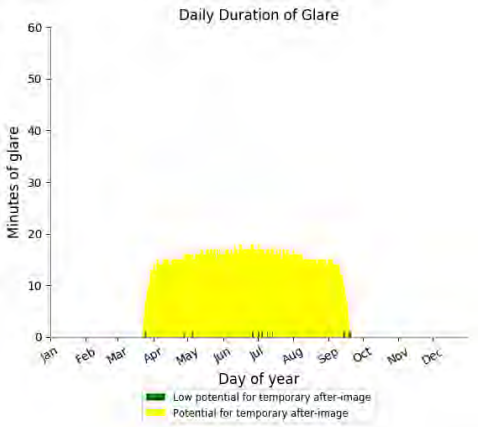


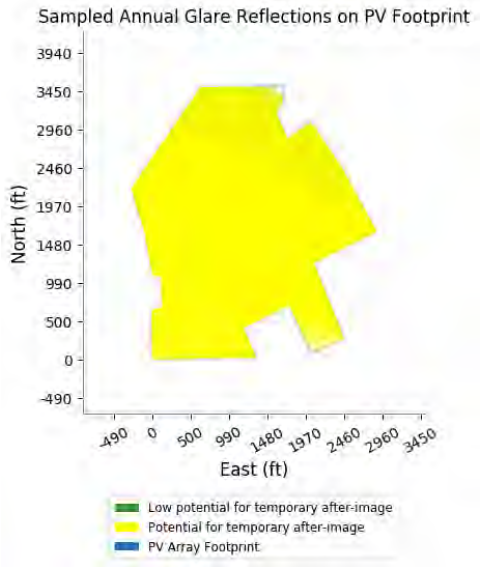
PV array 1a - OP Receptor (OP 28)

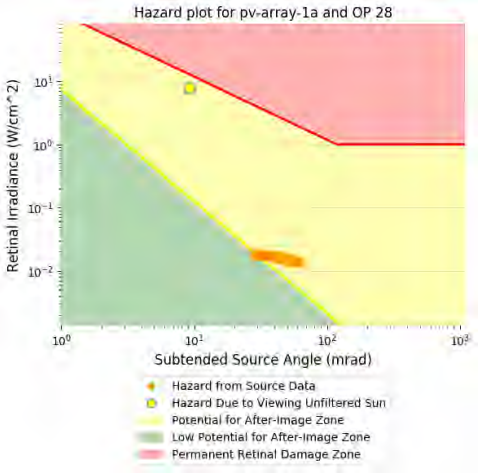
PV array is expected to produce the following glare for receptors at this location:

11 minutes of "green" glare with low potential to cause temporary after-image.
2,735 minutes of "yellow" glare with potential to cause temporary after-image.





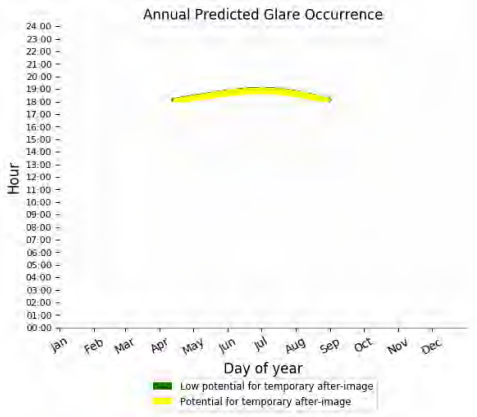


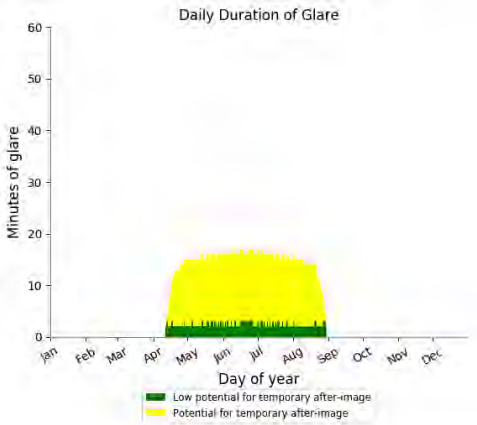


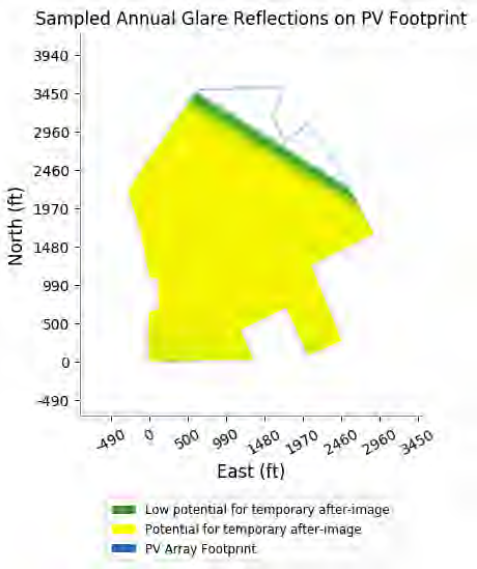
PV array 1a - OP Receptor (OP 29)

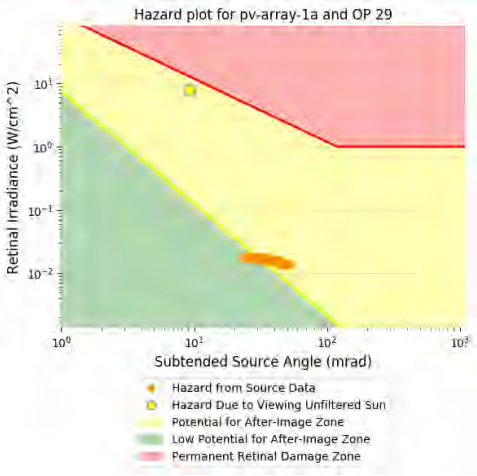
PV array is expected to produce the following glare for receptors at this location:

333 minutes of "green" glare with low potential to cause temporary after-image.
1,716 minutes of "yellow" glare with potential to cause temporary after-image.





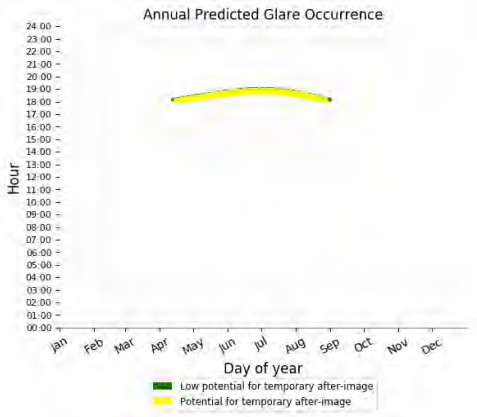


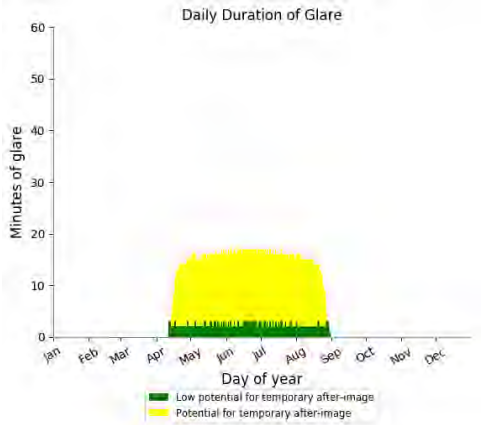


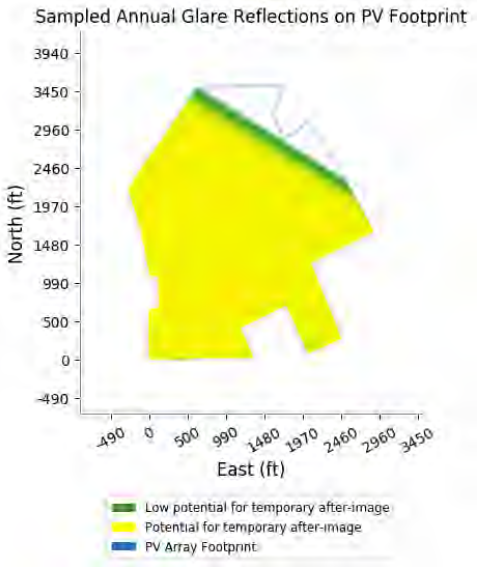
PV array 1a - OP Receptor (OP 30)

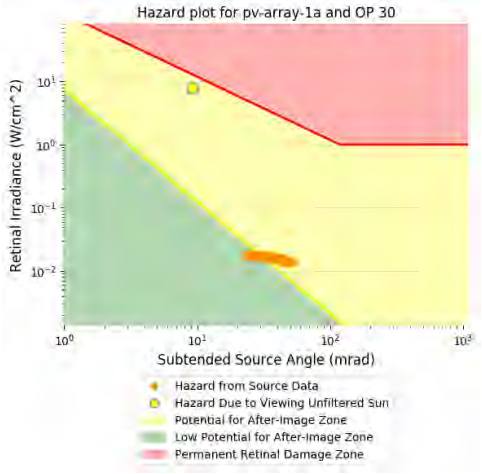
PV array is expected to produce the following glare for receptors at this location:

340 minutes of "green" glare with low potential to cause temporary after-image.
1,765 minutes of "yellow" glare with potential to cause temporary after-image.



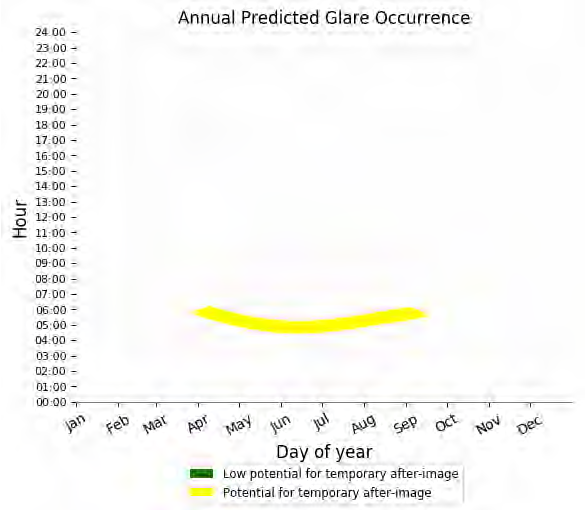


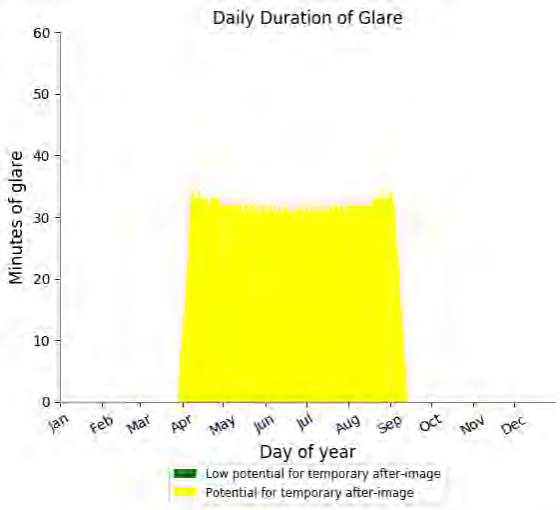


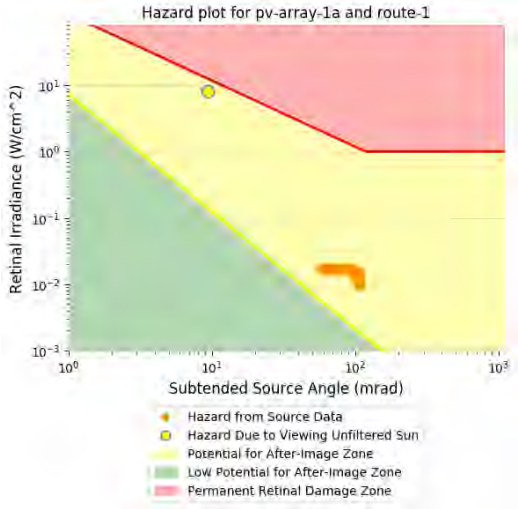


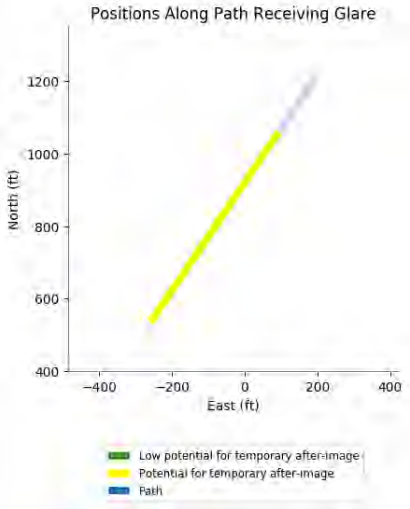
PV array 1a - Route Receptor (Route 1)

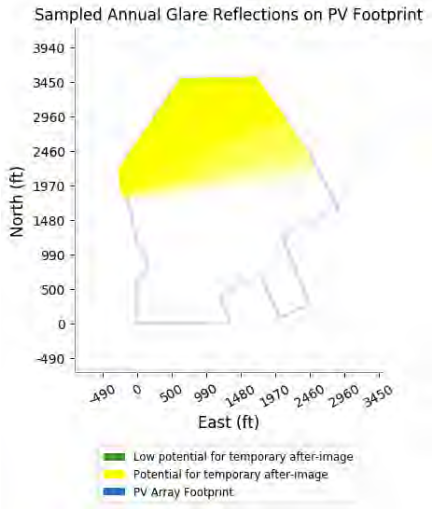
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
5,097 minutes of "yellow" glare with potential to cause temporary after-image.











PV array 1a - Route Receptor (Route 10)

No glare found

PV array 1a - Route Receptor (Route 11)

No glare found

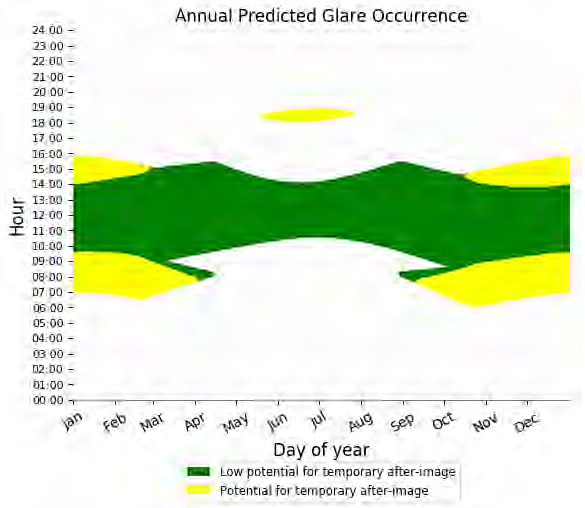
PV array 1a - Route Receptor (Route 12)

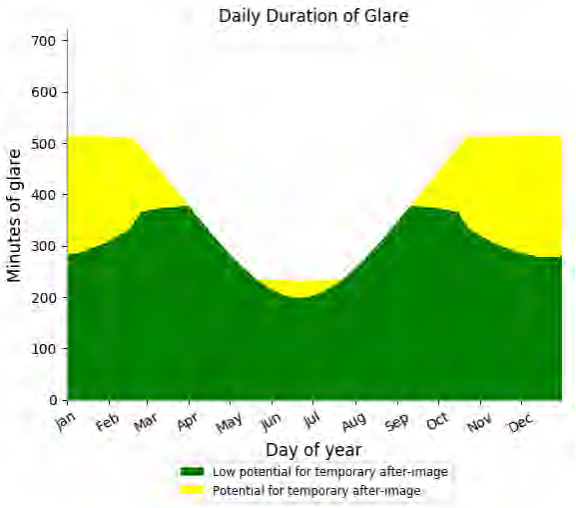
No glare found

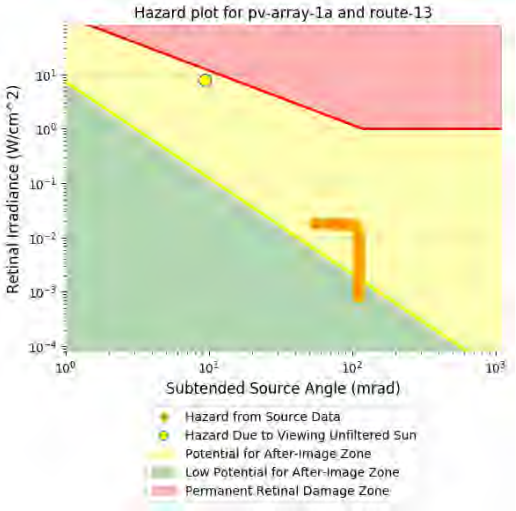
PV array 1a - Route Receptor (Route 13)

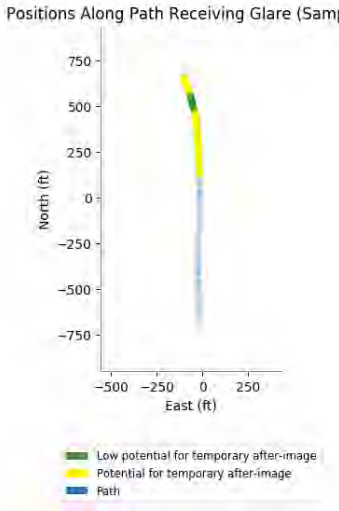
PV array is expected to produce the following glare for receptors at this location:

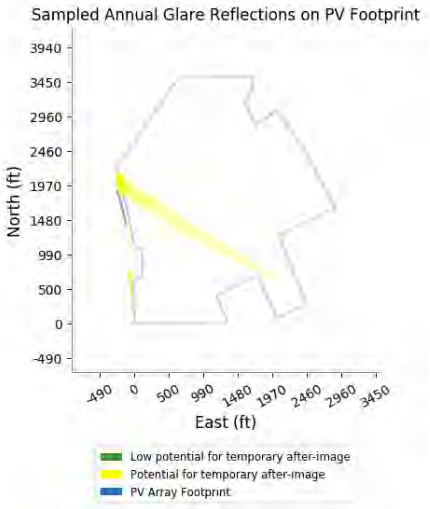
109,704 minutes of "green" glare with low potential to cause temporary after-image.
33,231 minutes of "yellow" glare with potential to cause temporary after-image.







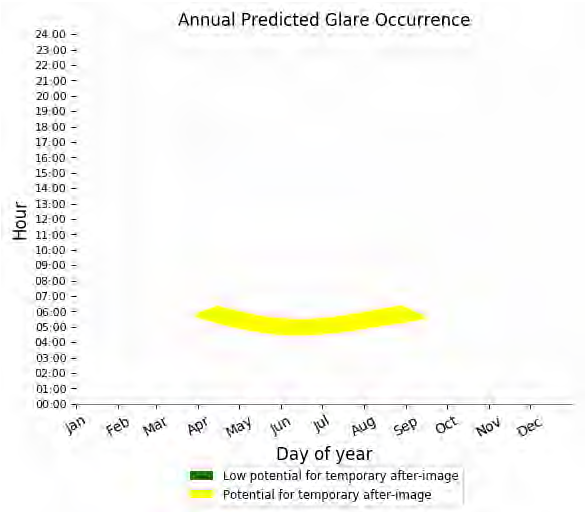


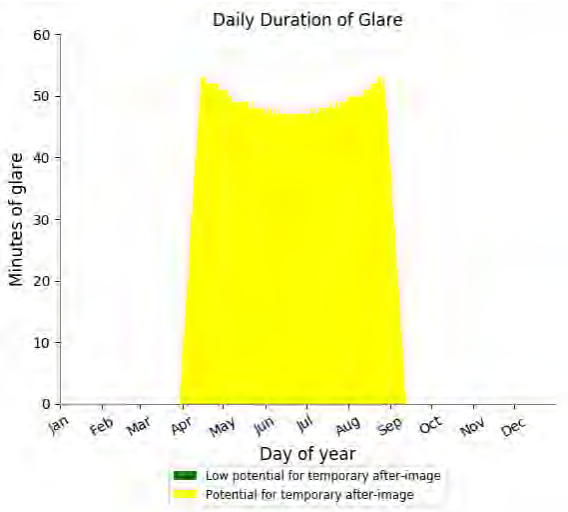


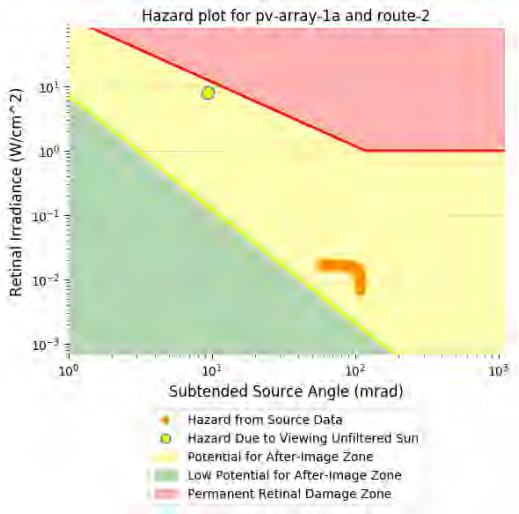
PV array 1a - Route Receptor (Route 2)

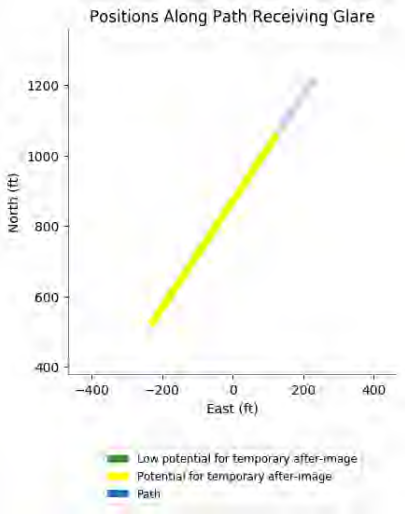
PV array is expected to produce the following glare for receptors at this location:

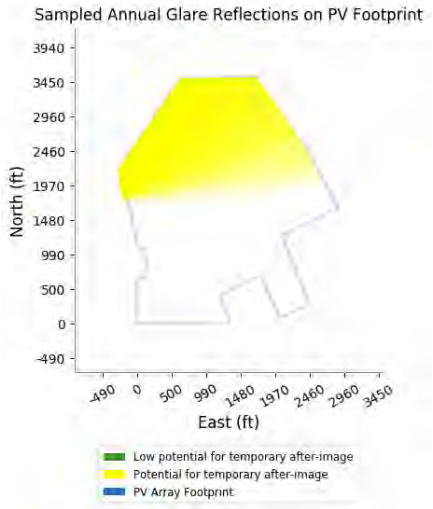
0 minutes of "green" glare with low potential to cause temporary after-image.
7,471 minutes of "yellow" glare with potential to cause temporary after-image.







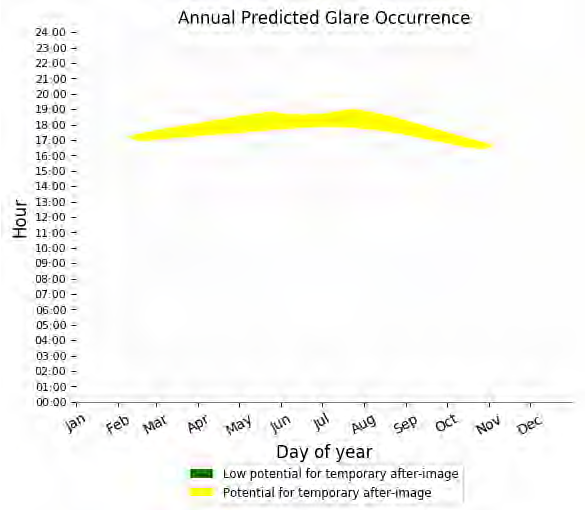


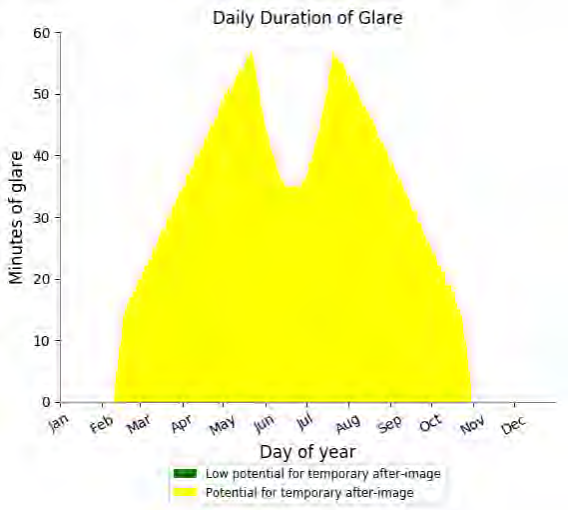


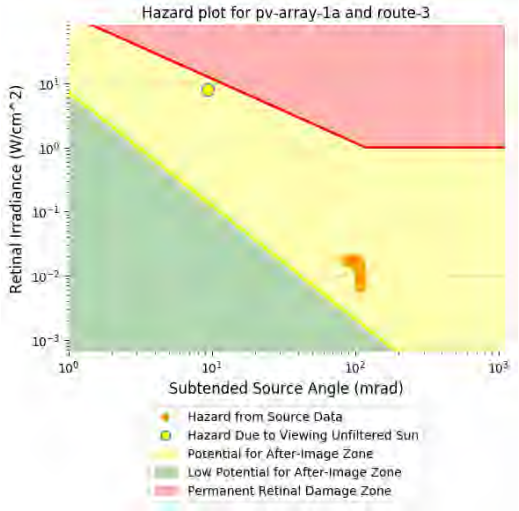
PV array 1a - Route Receptor (Route 3)

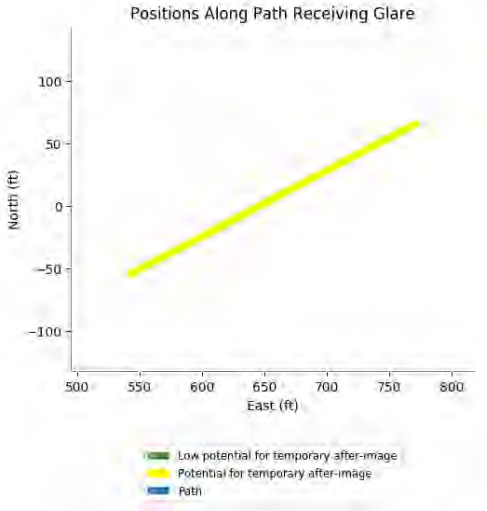
PV array is expected to produce the following glare for receptors at this location:

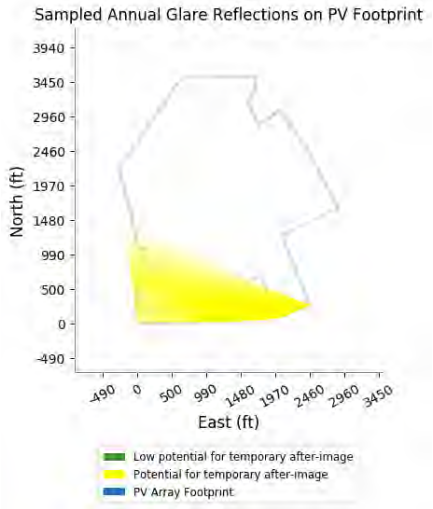
0 minutes of "green" glare with low potential to cause temporary after-image.
9,514 minutes of "yellow" glare with potential to cause temporary after-image.





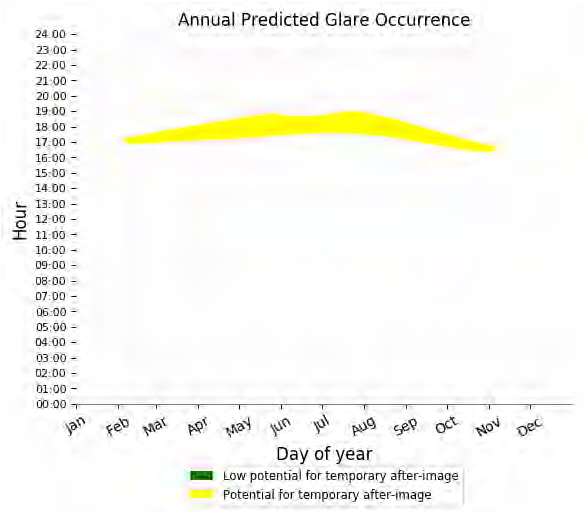


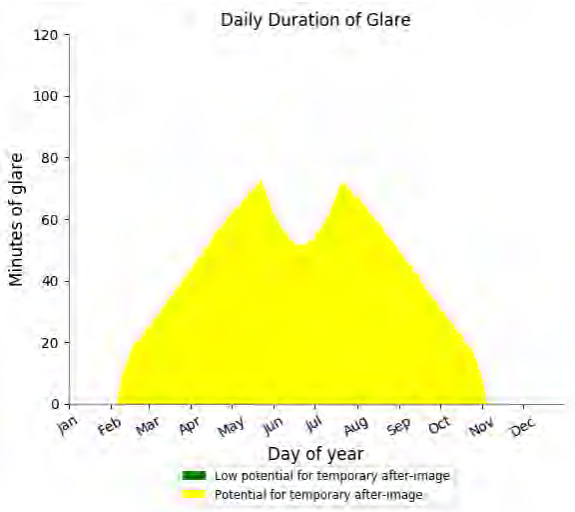


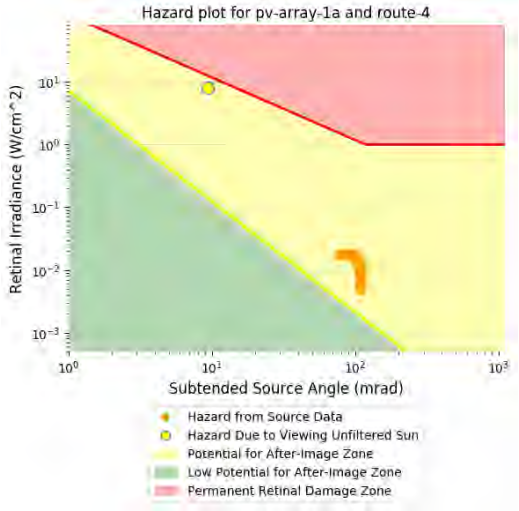


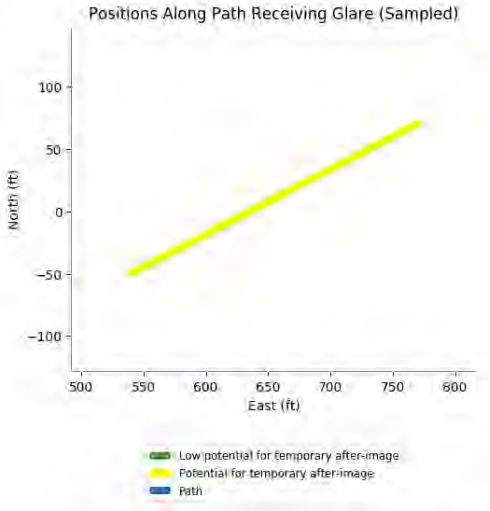
PV array 1a - Route Receptor (Route 4)

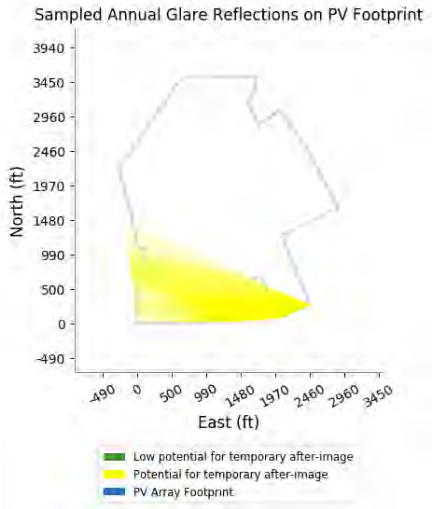
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
12,484 minutes of "yellow" glare with potential to cause temporary after-image.





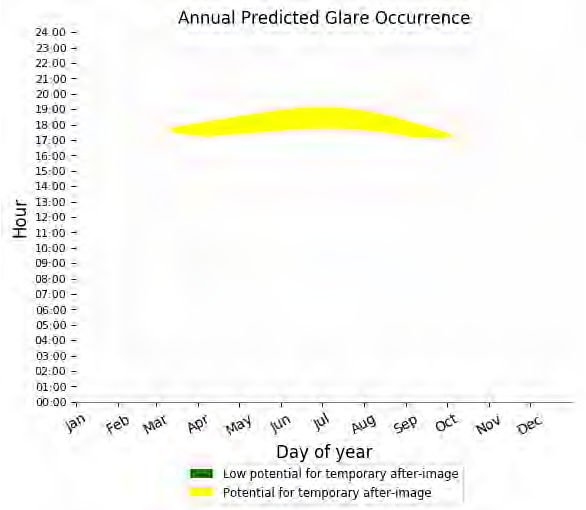


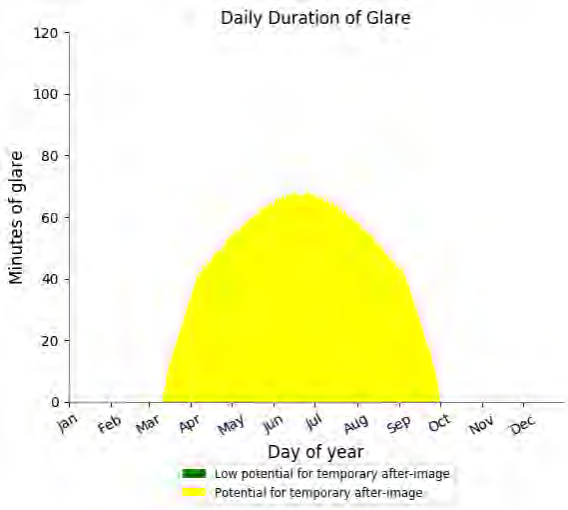


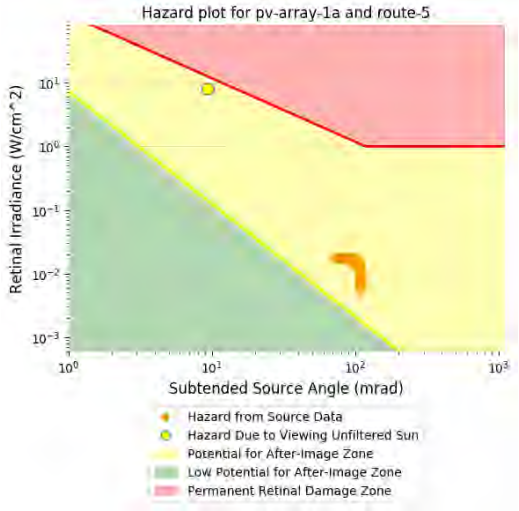


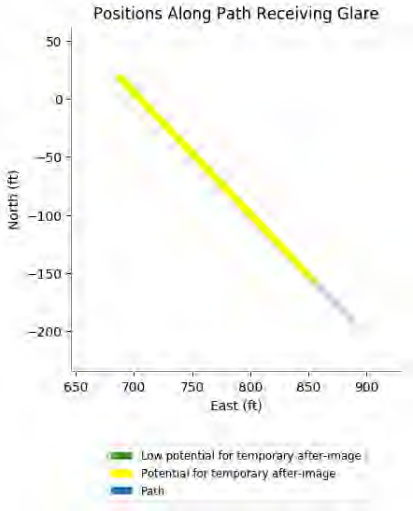
PV array 1a - Route Receptor (Route 5)

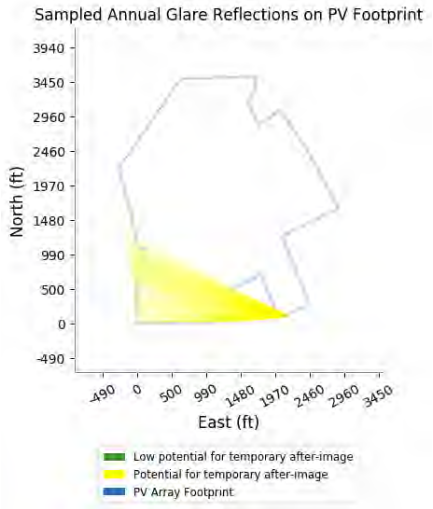
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
9,956 minutes of "yellow" glare with potential to cause temporary after-image.





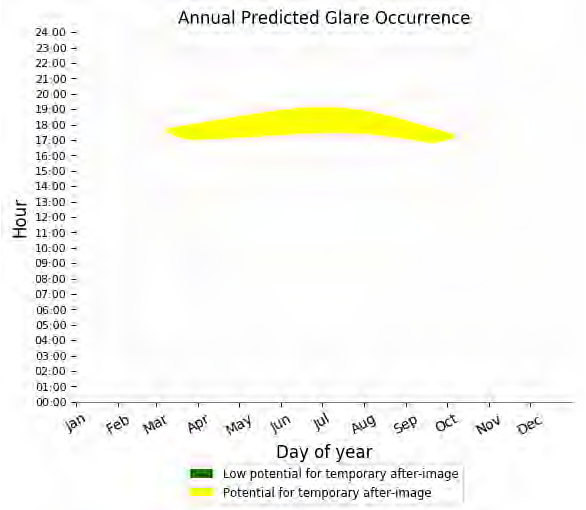


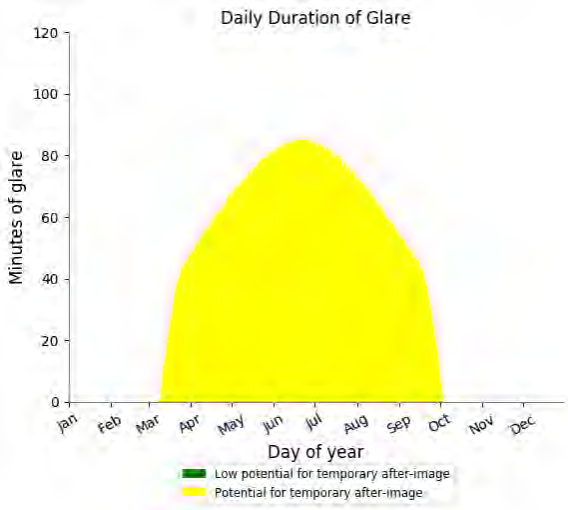


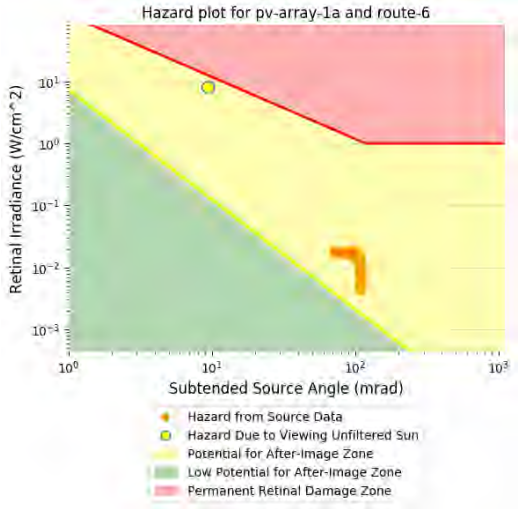


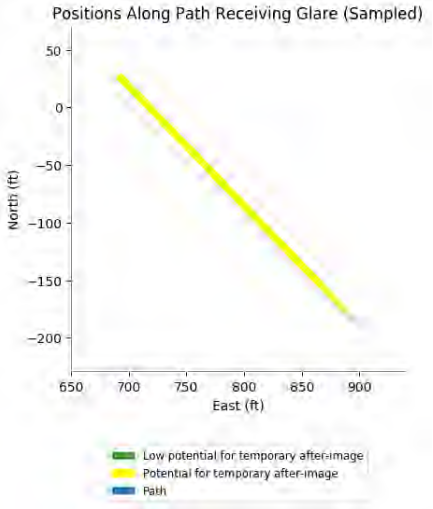
PV array 1a - Route Receptor (Route 6)

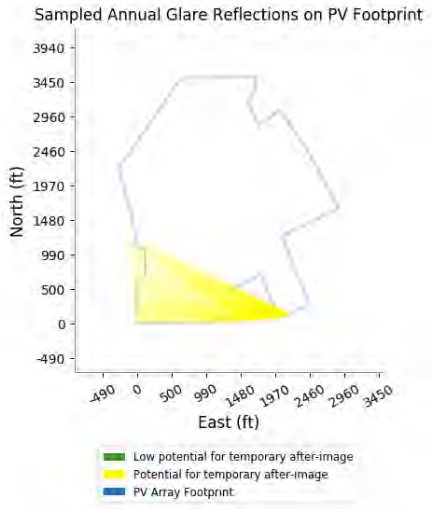
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
12,995 minutes of "yellow" glare with potential to cause temporary after-image.





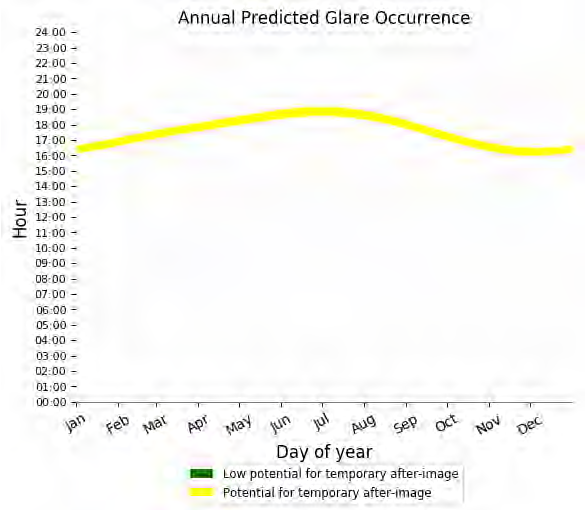


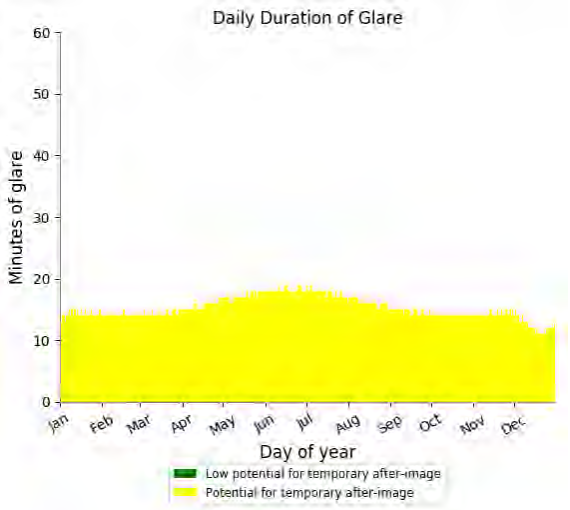


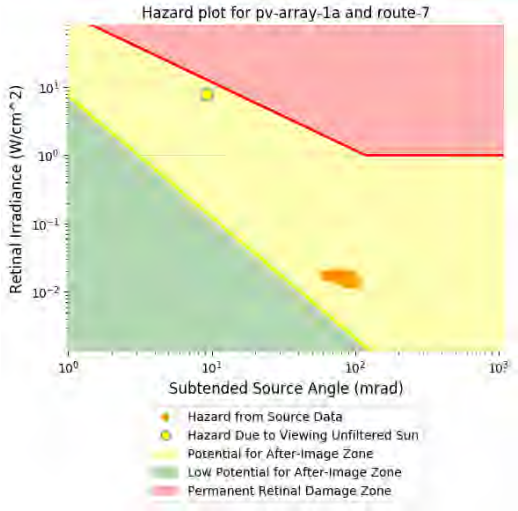


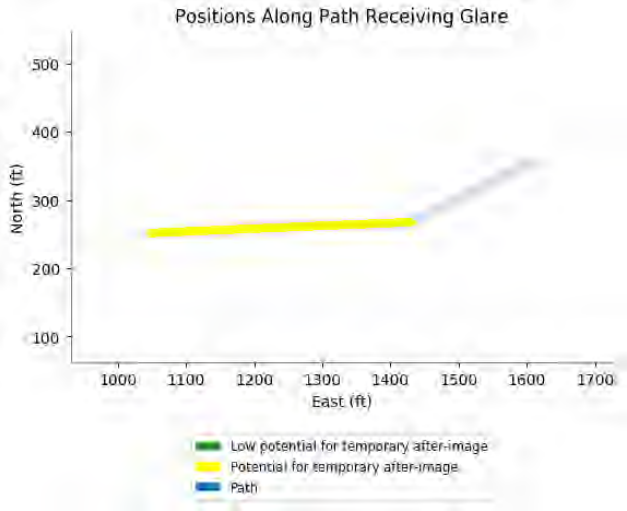
PV array 1a - Route Receptor (Route 7)

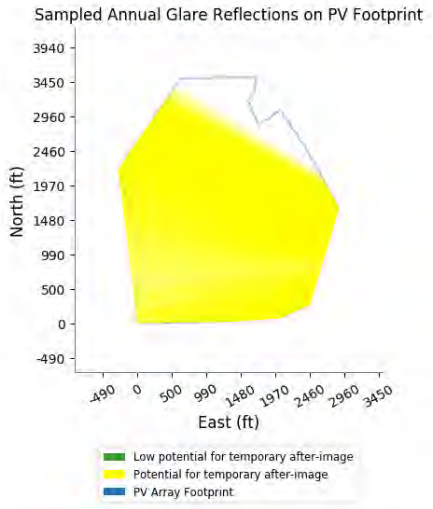
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
5,556 minutes of "yellow" glare with potential to cause temporary after-image.





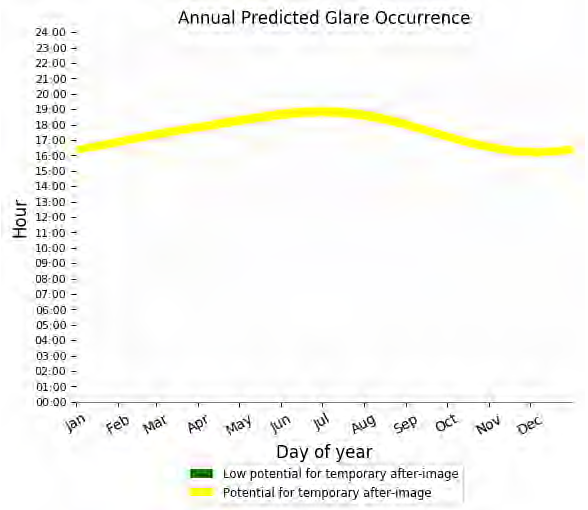


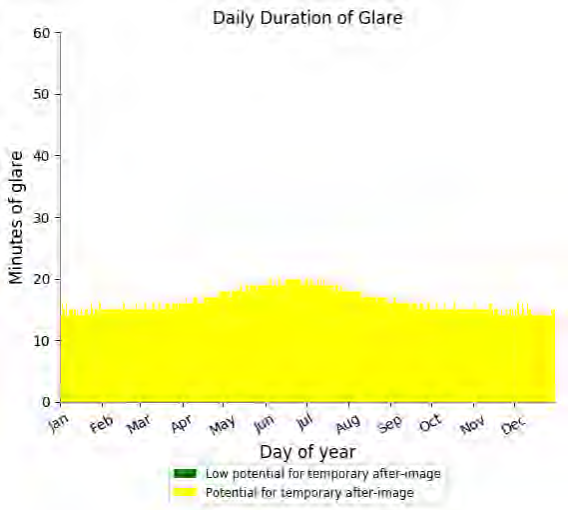


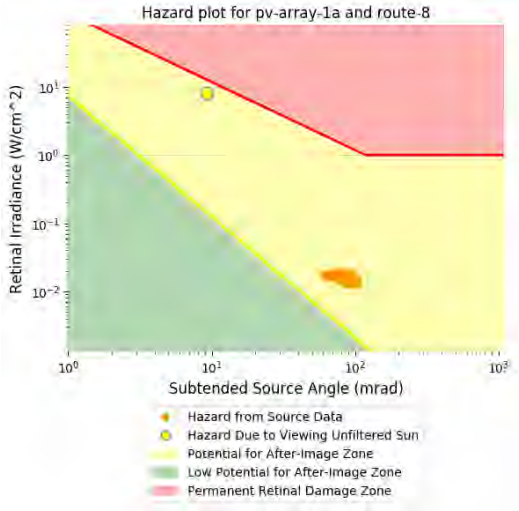


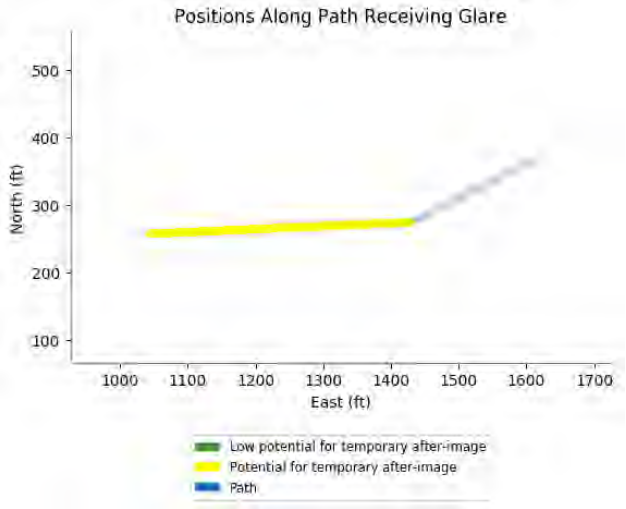
PV array 1a - Route Receptor (Route 8)

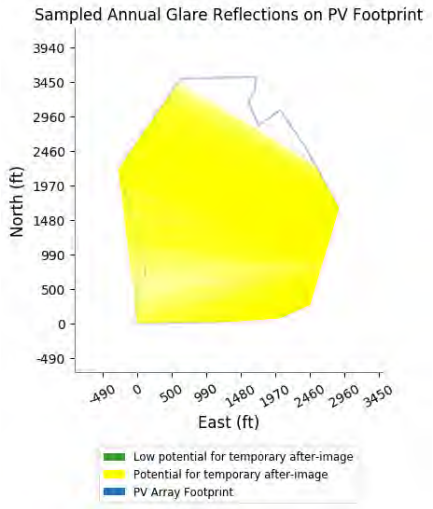
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
5,972 minutes of "yellow" glare with potential to cause temporary after-image.











PV array 1a - Route Receptor (Route 9)

No glare found

PV array 1b potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	9622
OP: OP 4	0	17517
OP: OP 5	0	17192
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	0
OP: OP 15	0	0
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	0
OP: OP 28	0	0
OP: OP 29	0	0
OP: OP 30	0	0
Route: Route 1	0	0
Route: Route 10	0	0
Route: Route 11	0	0
Route: Route 12	0	0
Route: Route 13	0	0
Route: Route 2	0	0
Route: Route 3	97051	80985
Route: Route 4	97070	81112
Route: Route 5	0	0
Route: Route 6	0	0
Route: Route 7	0	0
Route: Route 8	0	0
Route: Route 9	0	0

PV array 1b - OP Receptor (OP 1)

No glare found

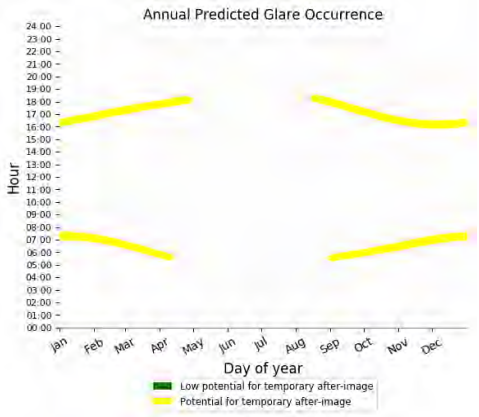
PV array 1b - OP Receptor (OP 2)

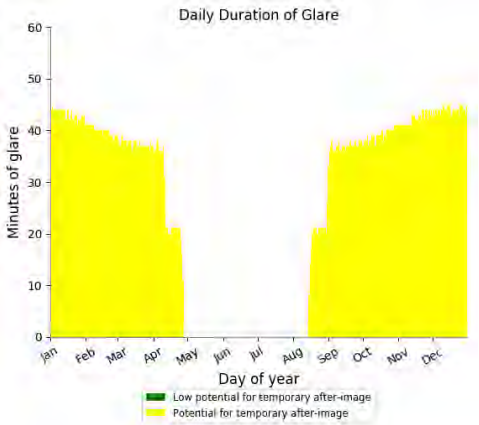
No glare found

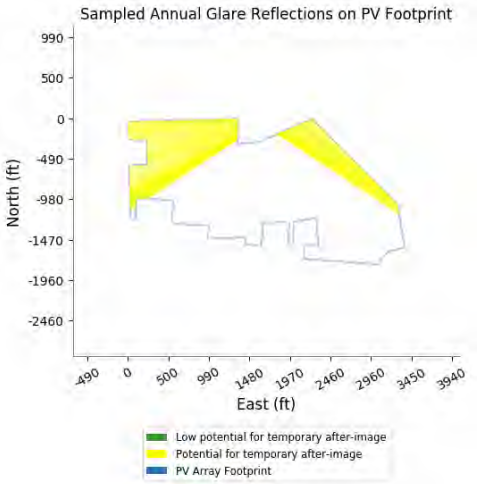
PV array 1b - OP Receptor (OP 3)

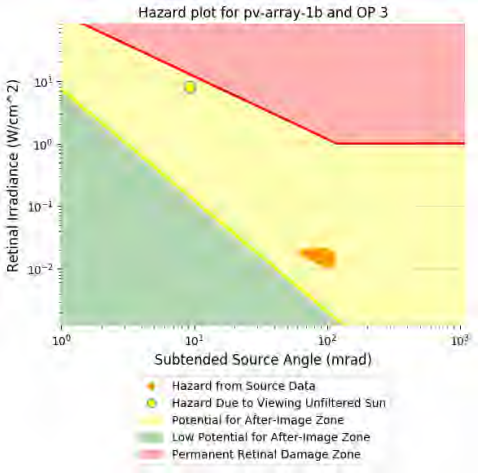
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
9,622 minutes of "yellow" glare with potential to cause temporary after-image.



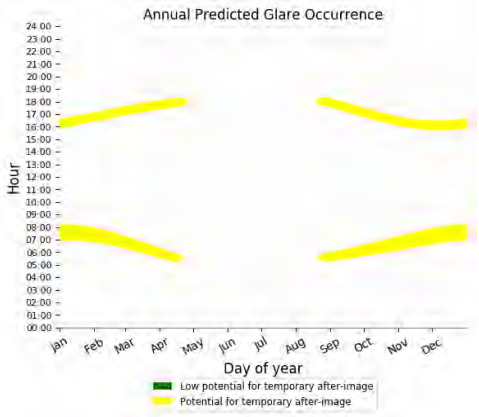


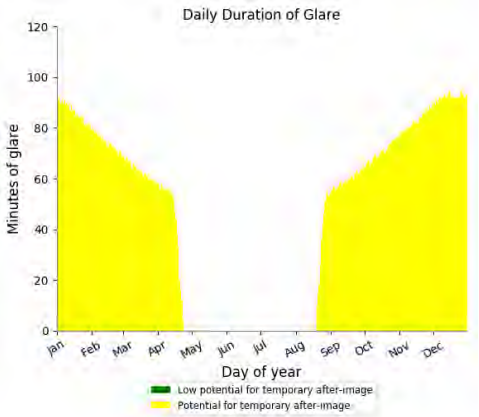


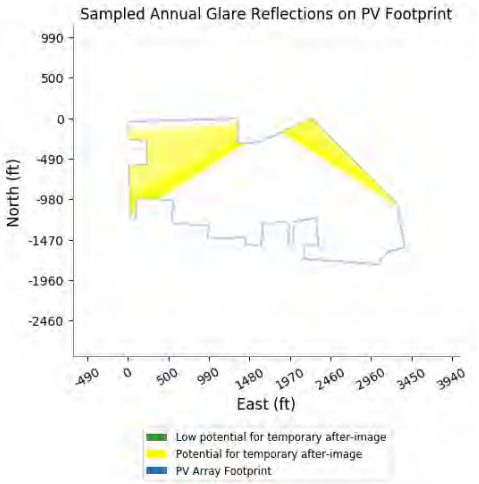


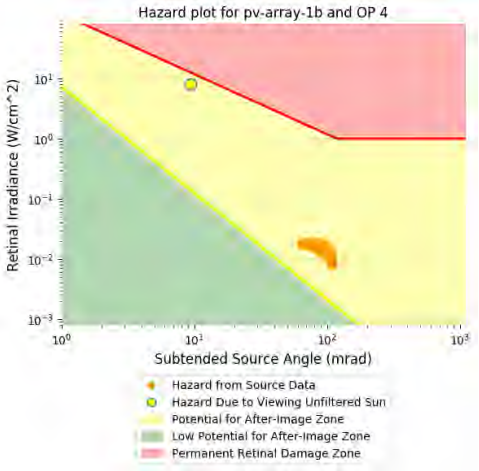
PV array 1b - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
17,517 minutes of "yellow" glare with potential to cause temporary after-image.



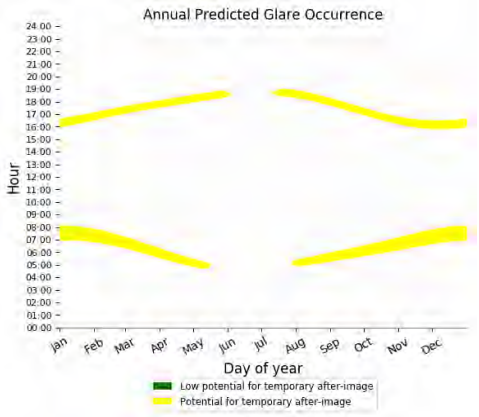


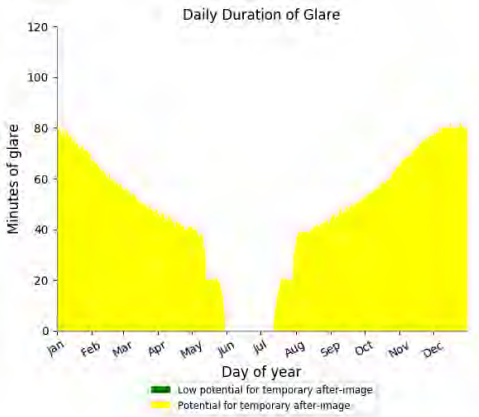


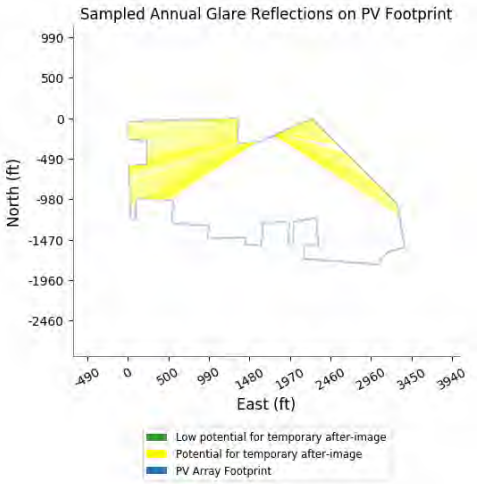


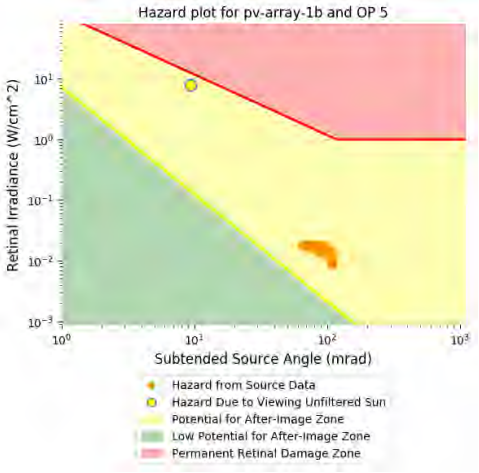
PV array 1b - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
17,192 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 1b - OP Receptor (OP 6)

No glare found

PV array 1b - OP Receptor (OP 7)

No glare found

PV array 1b - OP Receptor (OP 8)

No glare found

PV array 1b - OP Receptor (OP 9)

No glare found

PV array 1b - OP Receptor (OP 10)

No glare found

PV array 1b - OP Receptor (OP 11)

No glare found

PV array 1b - OP Receptor (OP 12)

No glare found

PV array 1b - OP Receptor (OP 13)

No glare found

PV array 1b - OP Receptor (OP 14)
No glare found

PV array 1b - OP Receptor (OP 15)
No glare found

PV array 1b - OP Receptor (OP 16)
No glare found

PV array 1b - OP Receptor (OP 17)
No glare found

PV array 1b - OP Receptor (OP 18)
No glare found

PV array 1b - OP Receptor (OP 19)
No glare found

PV array 1b - OP Receptor (OP 20)
No glare found

PV array 1b - OP Receptor (OP 21)
No glare found

PV array 1b - OP Receptor (OP 22)
No glare found

PV array 1b - OP Receptor (OP 23)
No glare found

PV array 1b - OP Receptor (OP 24)
No glare found

PV array 1b - OP Receptor (OP 25)
No glare found

PV array 1b - OP Receptor (OP 26)
No glare found

PV array 1b - OP Receptor (OP 27)
No glare found

PV array 1b - OP Receptor (OP 28)
No glare found

PV array 1b - OP Receptor (OP 29)
No glare found

PV array 1b - OP Receptor (OP 30)
No glare found

PV array 1b - Route Receptor (Route 1)
No glare found

PV array 1b - Route Receptor (Route 10)
No glare found

PV array 1b - Route Receptor (Route 11)

No glare found

PV array 1b - Route Receptor (Route 12)

No glare found

PV array 1b - Route Receptor (Route 13)

No glare found

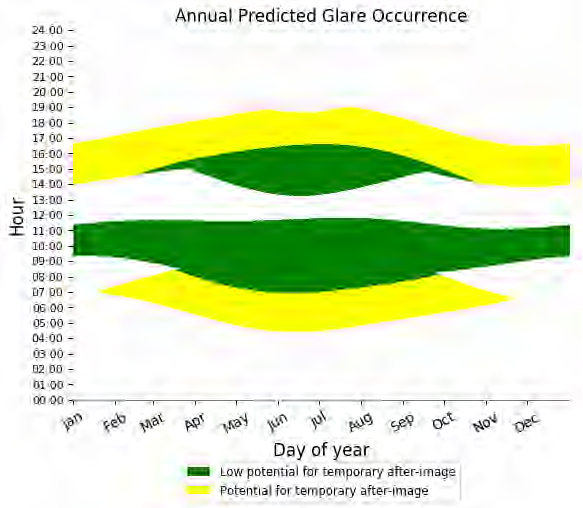
PV array 1b - Route Receptor (Route 2)

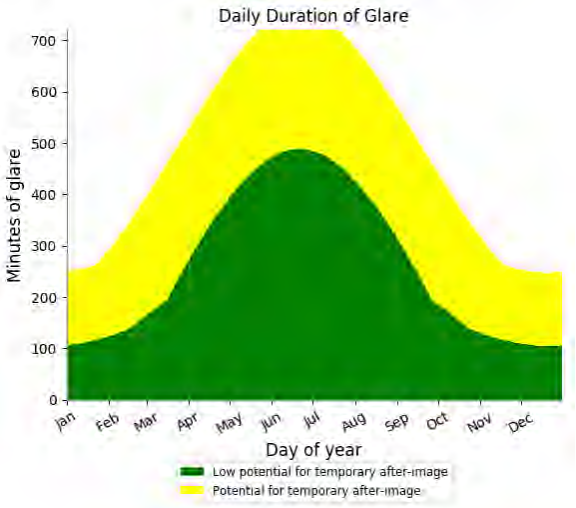
No glare found

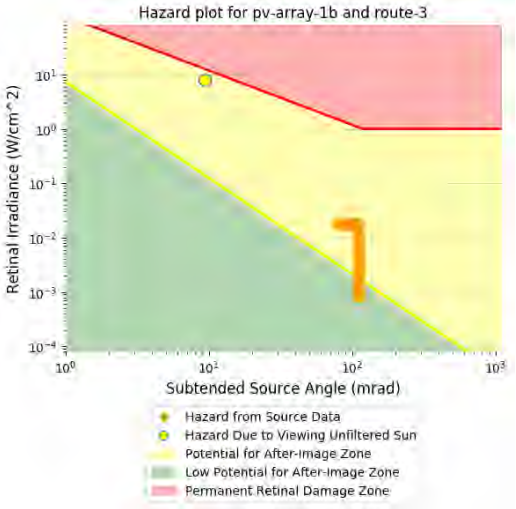
PV array 1b - Route Receptor (Route 3)

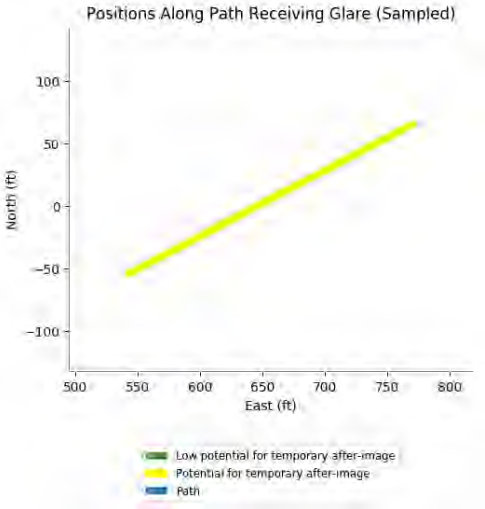
PV array is expected to produce the following glare for receptors at this location:

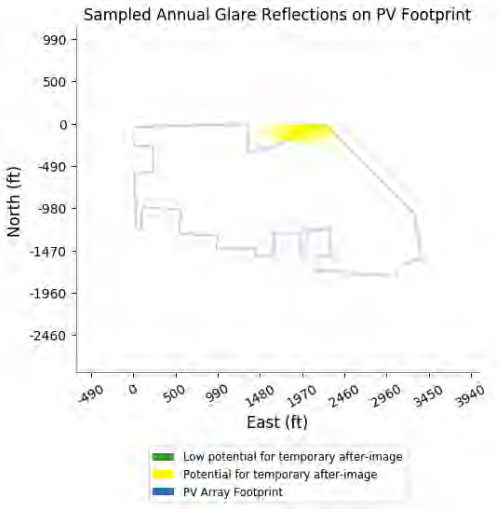
97,051 minutes of "green" glare with low potential to cause temporary after-image.
80,985 minutes of "yellow" glare with potential to cause temporary after-image.





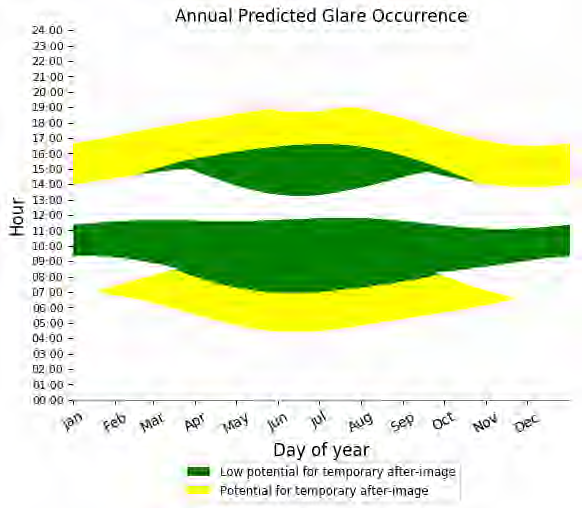


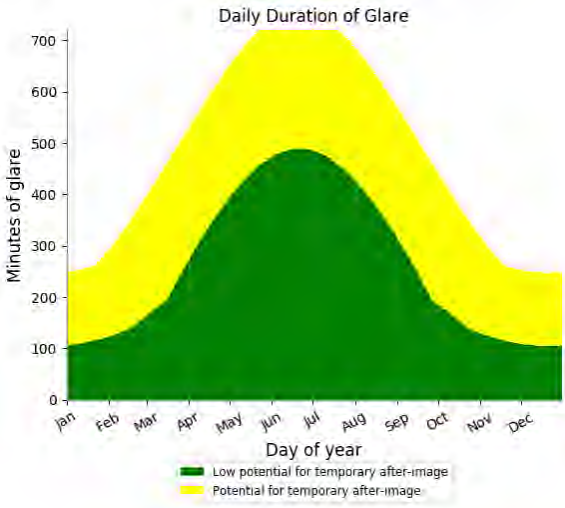


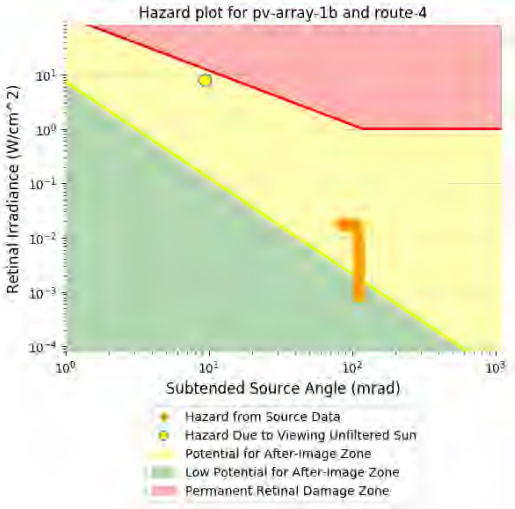


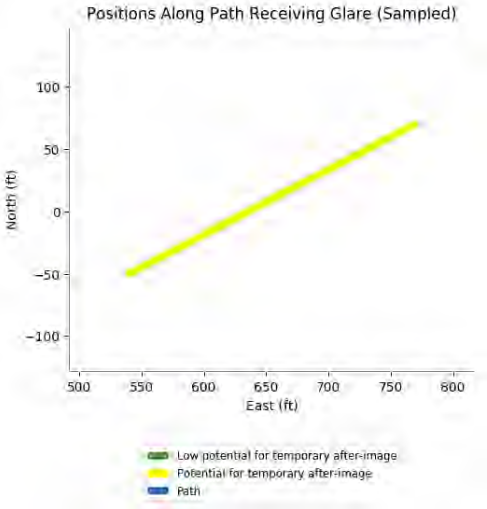
PV array 1b - Route Receptor (Route 4)

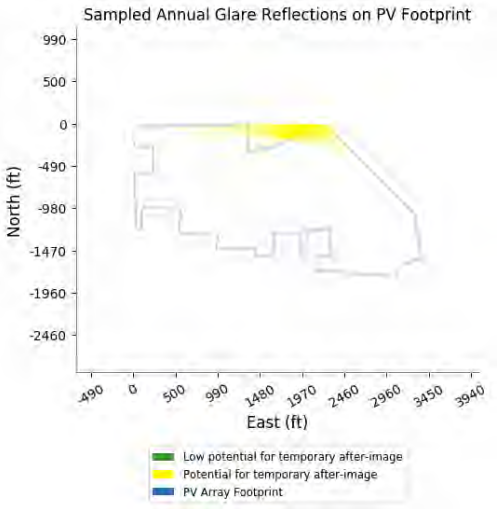
PV array is expected to produce the following glare for receptors at this location:
97,070 minutes of "green" glare with low potential to cause temporary after-image.
81,112 minutes of "yellow" glare with potential to cause temporary after-image.











PV array 1b - Route Receptor (Route 5)

No glare found

PV array 1b - Route Receptor (Route 6)

No glare found

PV array 1b - Route Receptor (Route 7)

No glare found

PV array 1b - Route Receptor (Route 8)

No glare found

PV array 1b - Route Receptor (Route 9)

No glare found

PV array 2 potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	70	1513
OP: OP 4	78	1733
OP: OP 5	62	1663
OP: OP 6	0	3234
OP: OP 7	0	2660
OP: OP 8	0	3322
OP: OP 9	0	3677
OP: OP 10	0	173
OP: OP 11	0	2365
OP: OP 12	0	4164
OP: OP 13	0	4794
OP: OP 14	0	29
OP: OP 15	8	61
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	0
OP: OP 23	0	0
OP: OP 24	0	0
OP: OP 25	0	0
OP: OP 26	0	0
OP: OP 27	0	1731
OP: OP 28	0	1881
OP: OP 29	27	2149
OP: OP 30	29	2253
Route: Route 1	0	0
Route: Route 10	0	0
Route: Route 11	0	0
Route: Route 12	0	0
Route: Route 13	121	143
Route: Route 2	0	0
Route: Route 3	0	347
Route: Route 4	0	335
Route: Route 5	0	1006
Route: Route 6	0	669

Route: Route 7	0	0
Route: Route 8	0	0
Route: Route 9	0	0

PV array 2 - OP Receptor (OP 1)

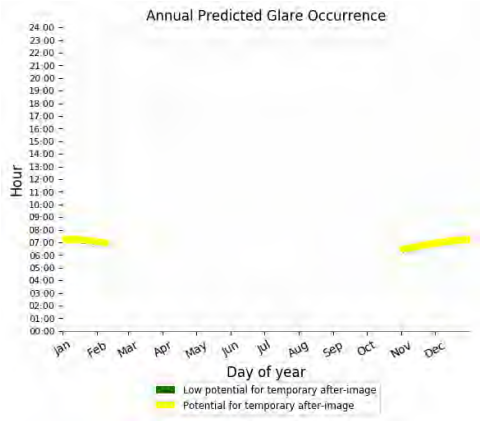
No glare found

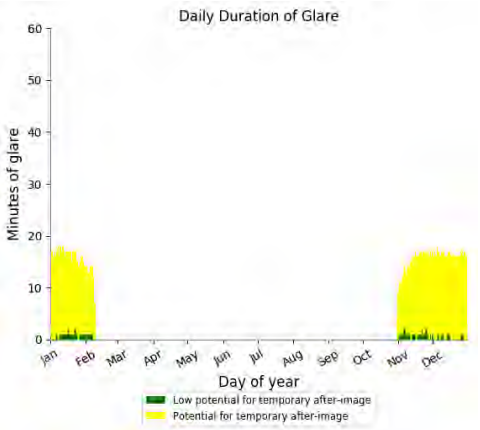
PV array 2 - OP Receptor (OP 2)

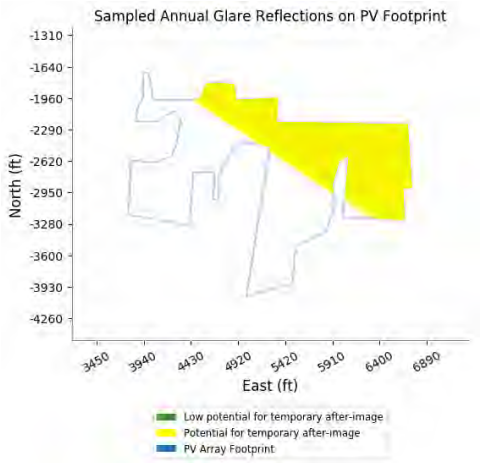
No glare found

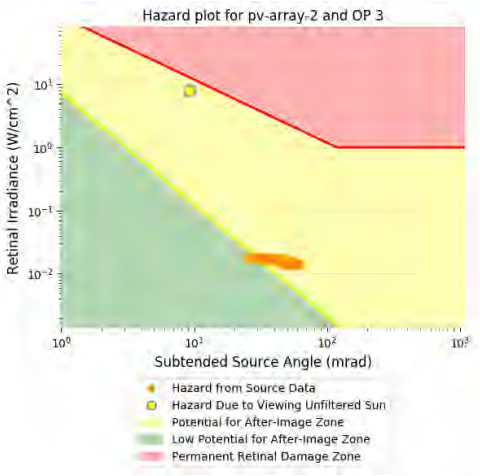
PV array 2 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:
70 minutes of "green" glare with low potential to cause temporary after-image.
1,513 minutes of "yellow" glare with potential to cause temporary after-image.





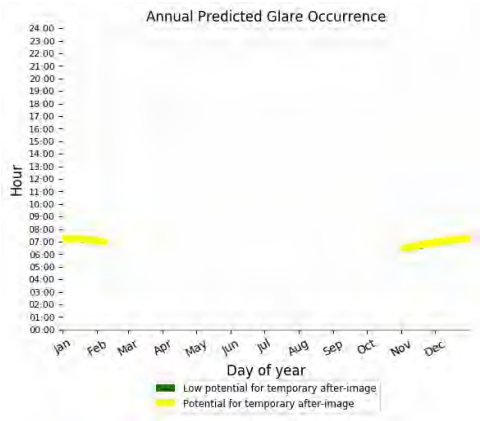


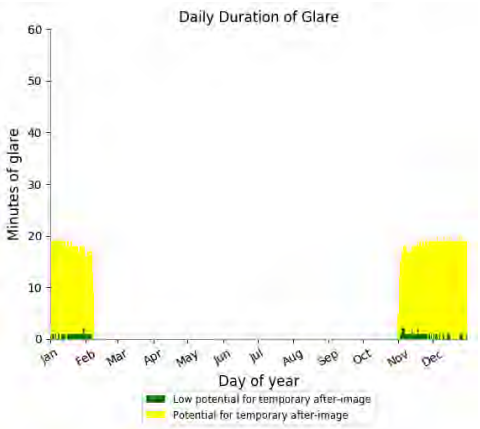


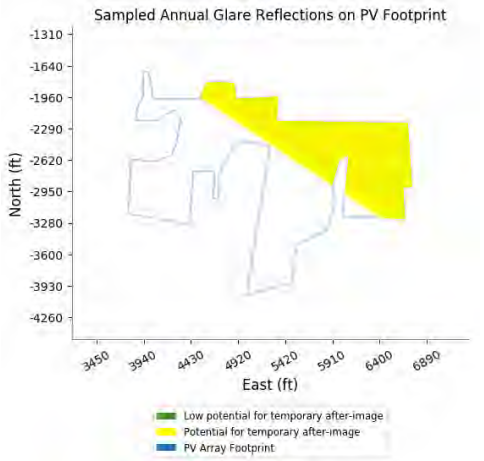
PV array 2 - OP Receptor (OP 4)

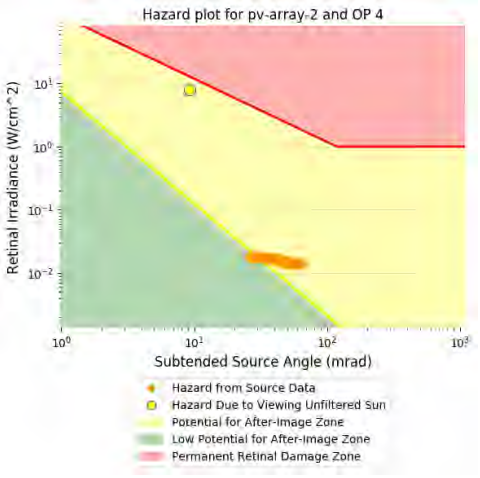
PV array is expected to produce the following glare for receptors at this location:

78 minutes of "green" glare with low potential to cause temporary after-image.
1,733 minutes of "yellow" glare with potential to cause temporary after-image.





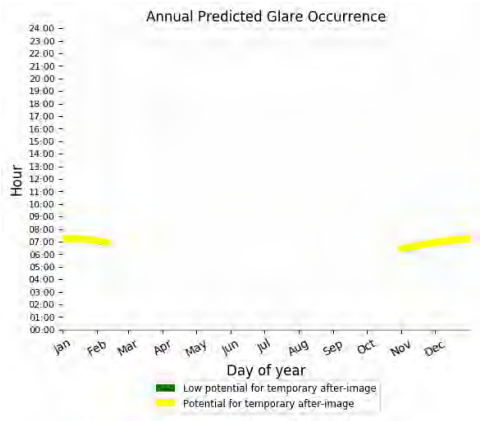


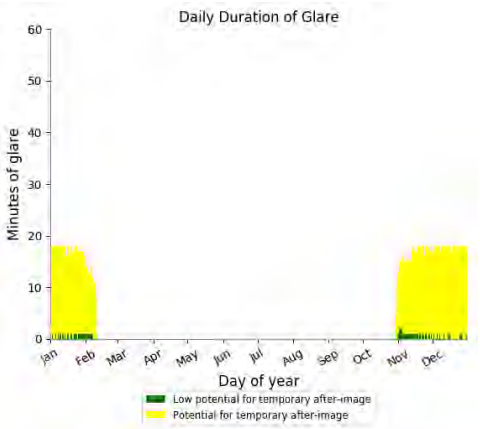


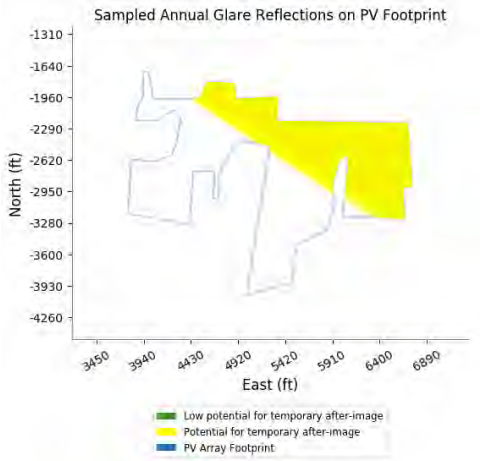
PV array 2 - OP Receptor (OP 5)

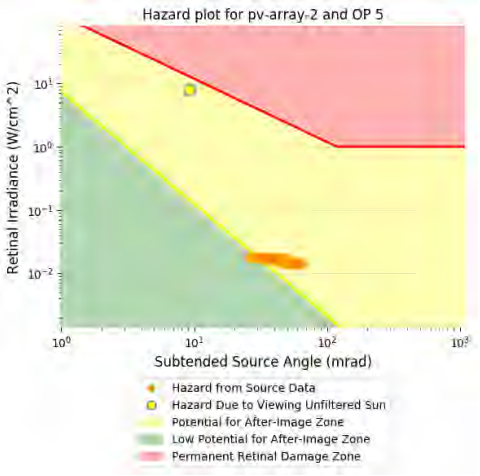
PV array is expected to produce the following glare for receptors at this location:

62 minutes of "green" glare with low potential to cause temporary after-image.
1,663 minutes of "yellow" glare with potential to cause temporary after-image.





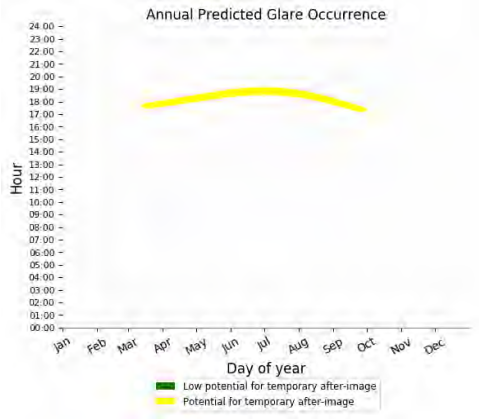


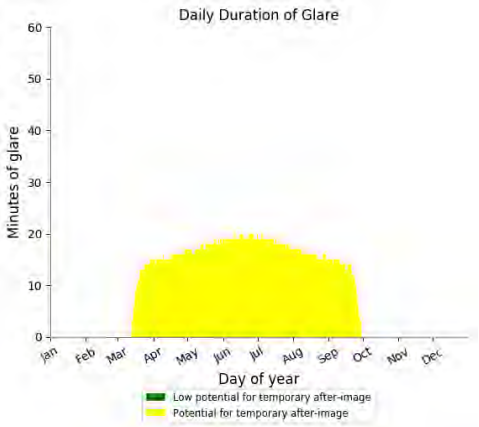


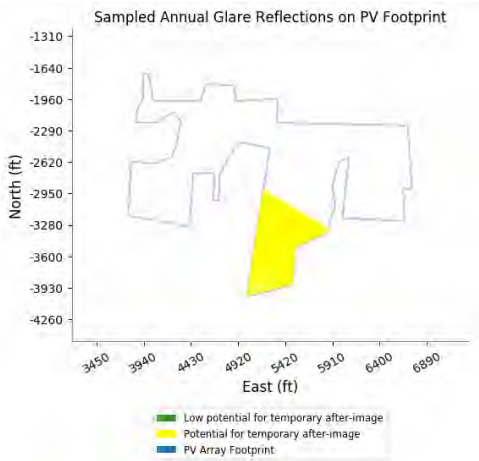
PV array 2 - OP Receptor (OP 6)

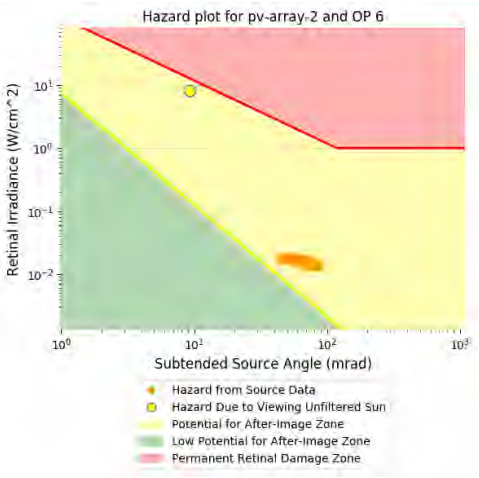
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
3,234 minutes of "yellow" glare with potential to cause temporary after-image.





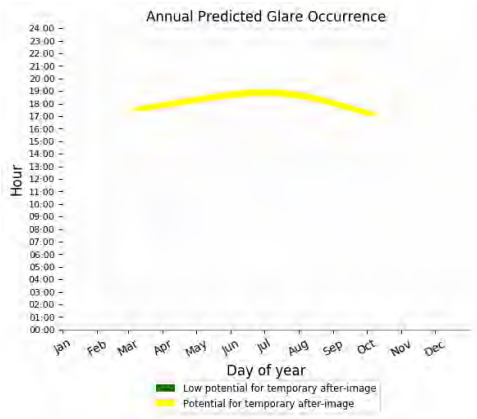


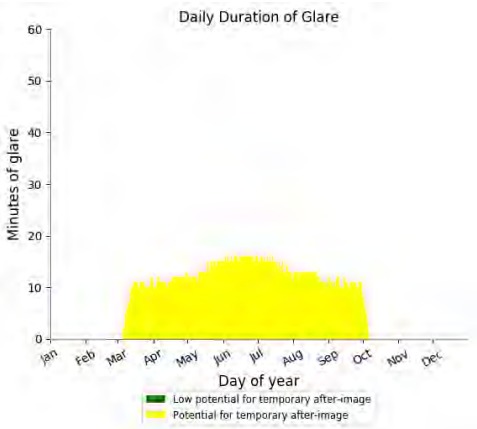


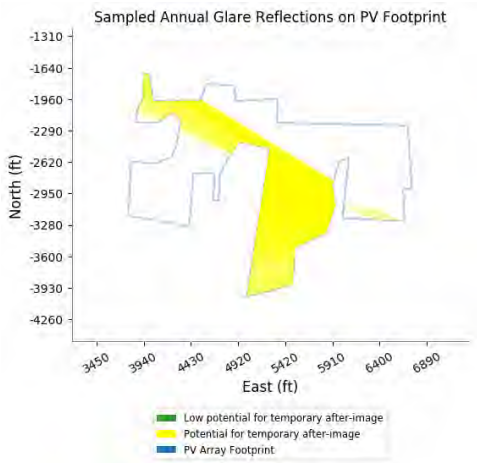
PV array 2 - OP Receptor (OP 7)

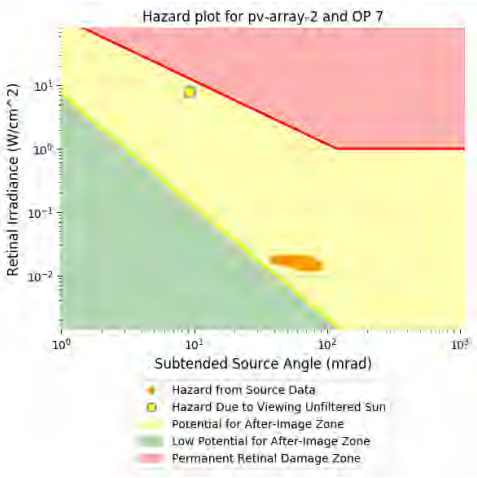
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
2,660 minutes of "yellow" glare with potential to cause temporary after-image.





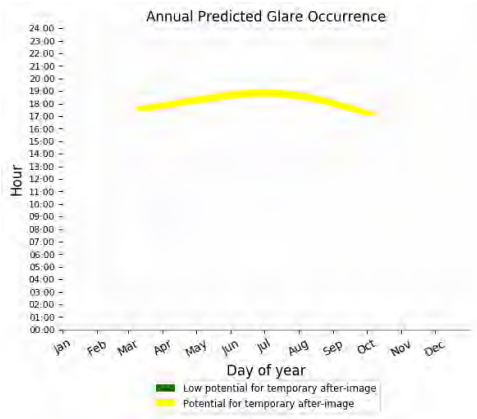


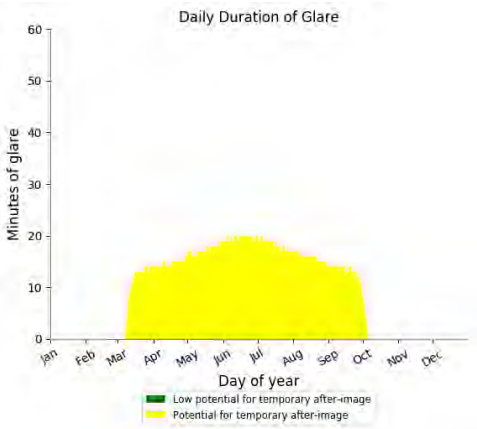


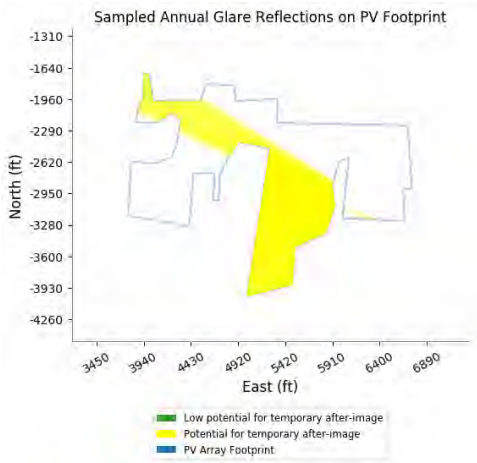
PV array 2 - OP Receptor (OP 8)

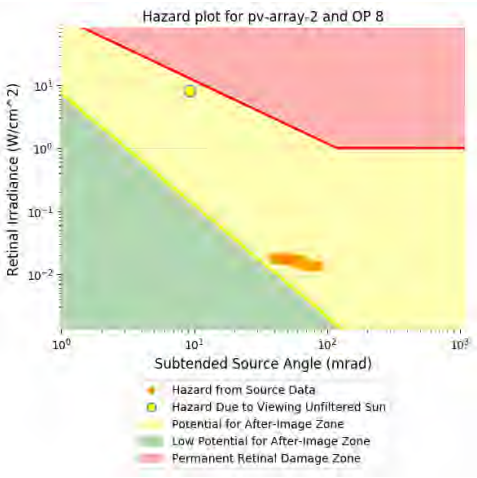
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
3,322 minutes of "yellow" glare with potential to cause temporary after-image.





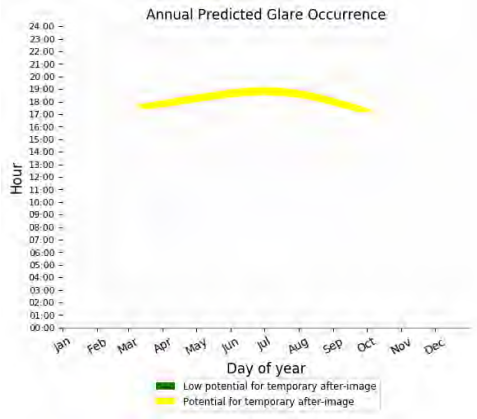


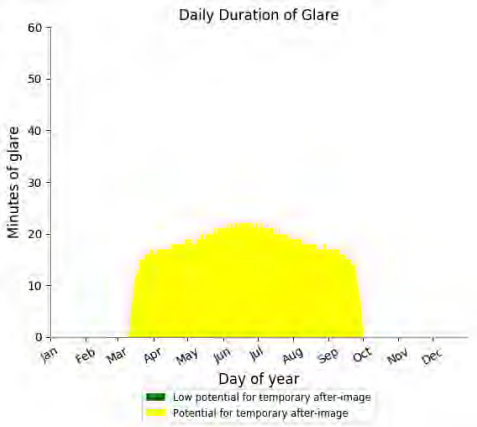


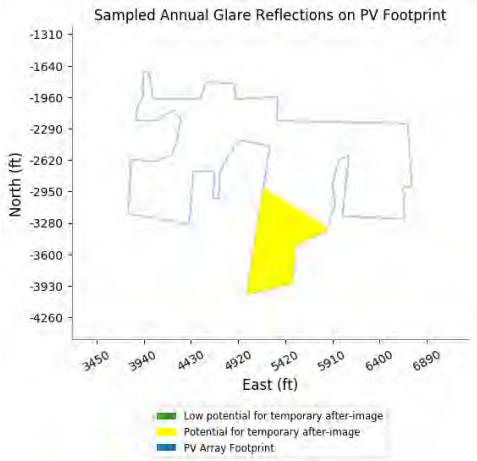
PV array 2 - OP Receptor (OP 9)

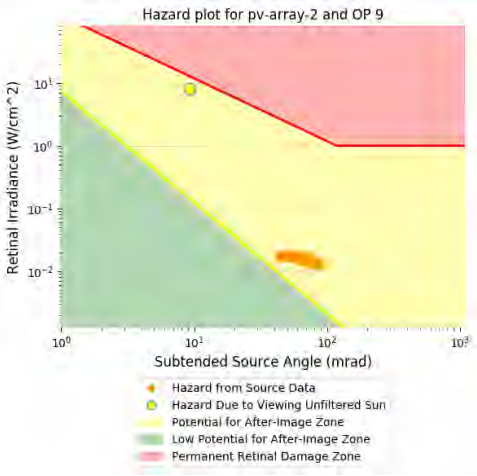
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
3,677 minutes of "yellow" glare with potential to cause temporary after-image.



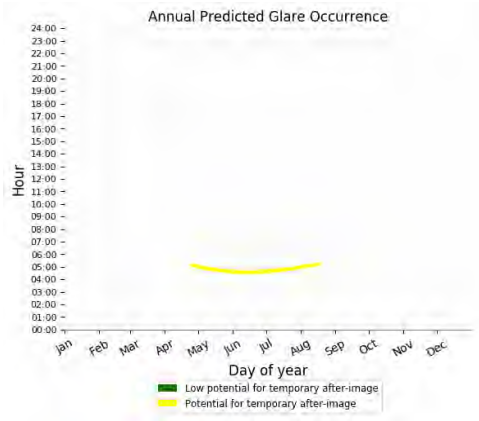


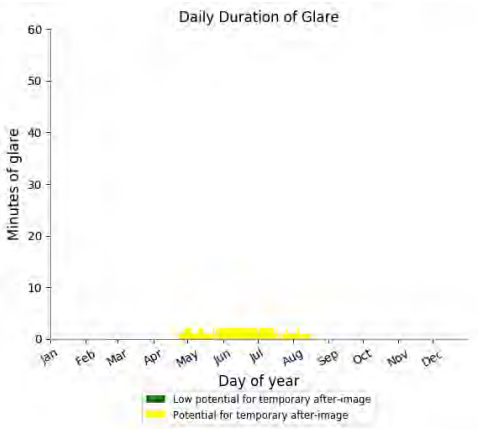


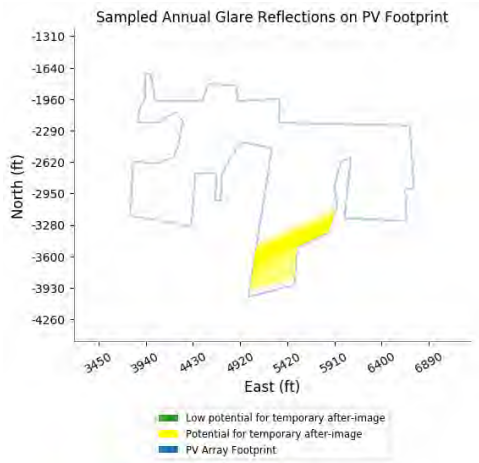


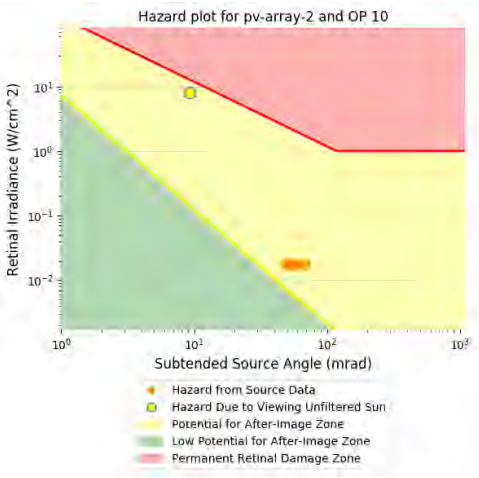
PV array 2 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
173 minutes of "yellow" glare with potential to cause temporary after-image.





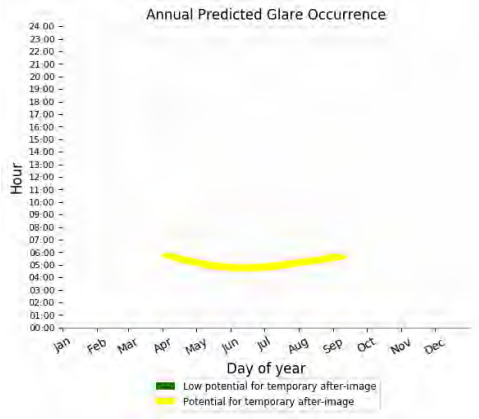


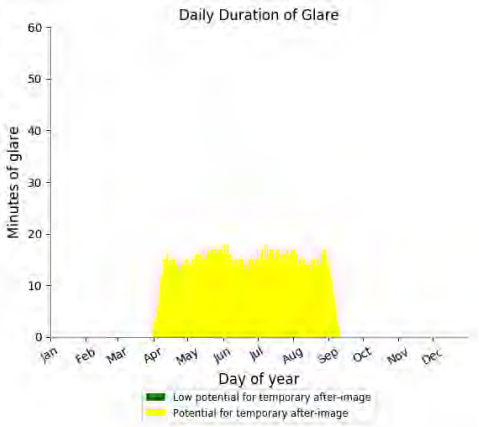


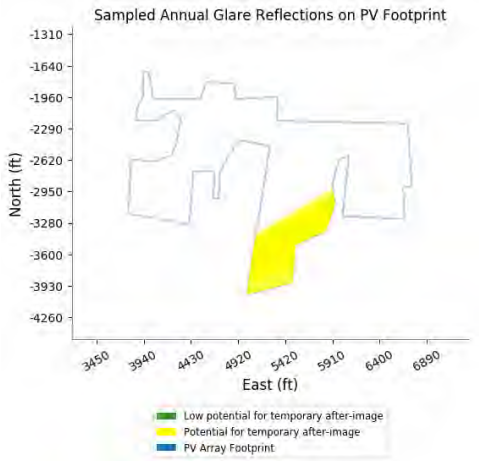
PV array 2 - OP Receptor (OP 11)

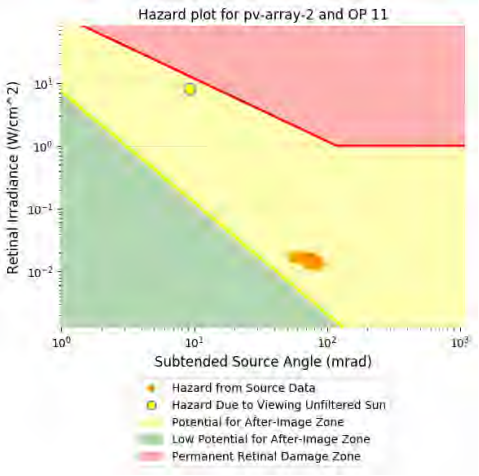
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
2,365 minutes of "yellow" glare with potential to cause temporary after-image.





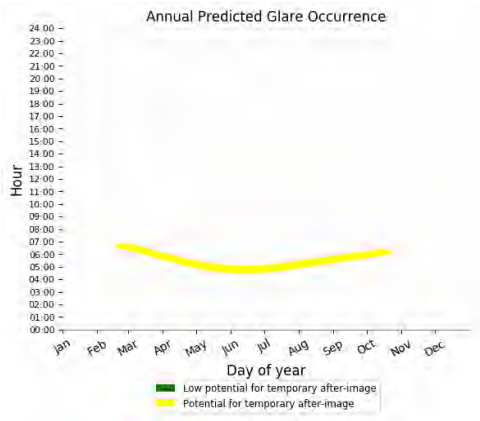


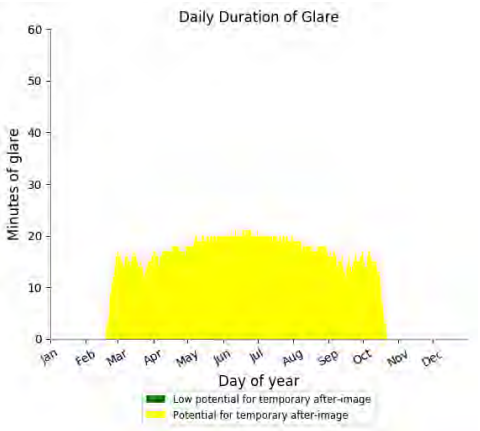


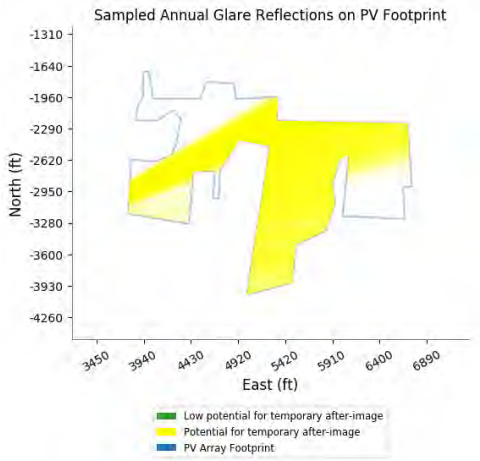
PV array 2 - OP Receptor (OP 12)

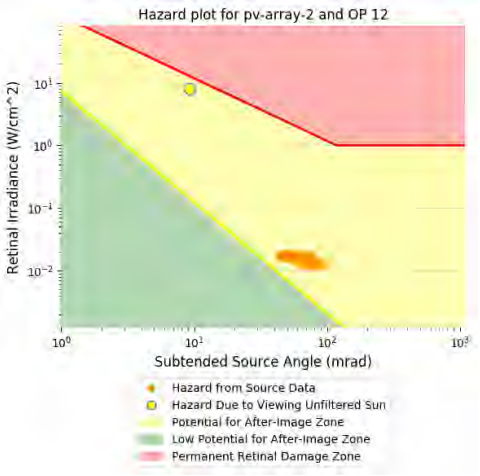
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
4,164 minutes of "yellow" glare with potential to cause temporary after-image.





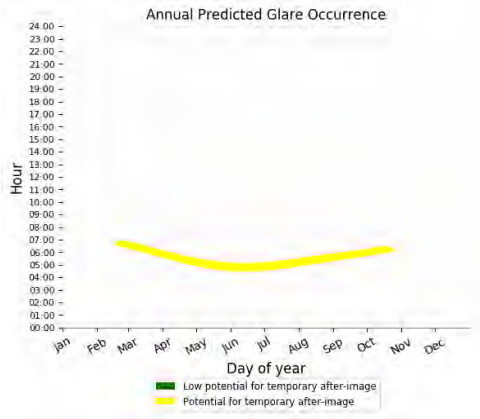


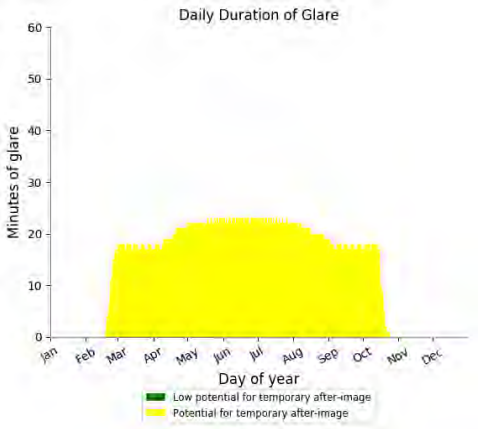


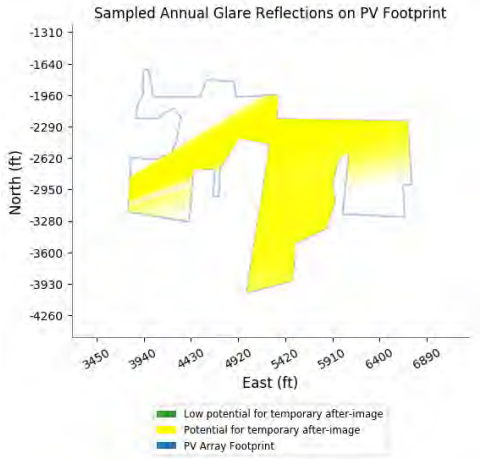
PV array 2 - OP Receptor (OP 13)

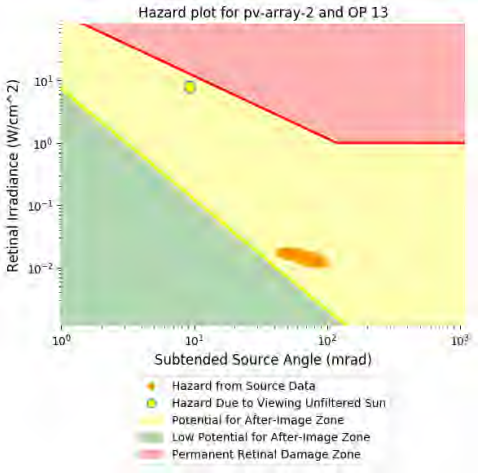
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
4,794 minutes of "yellow" glare with potential to cause temporary after-image.



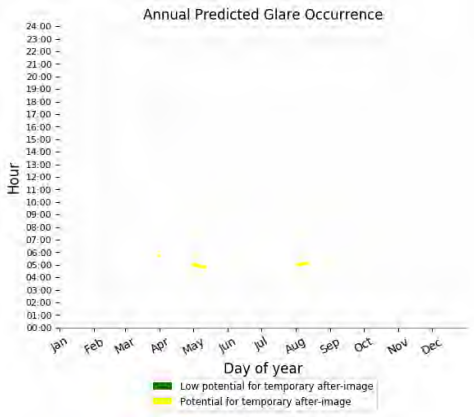


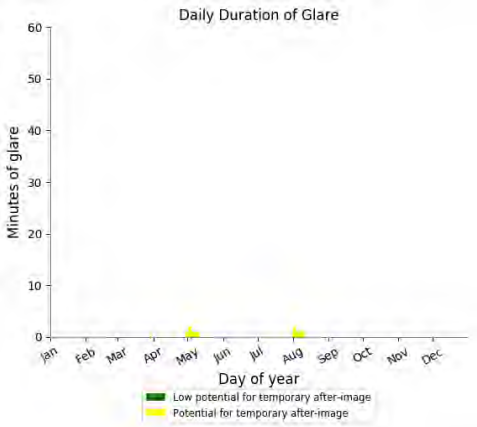


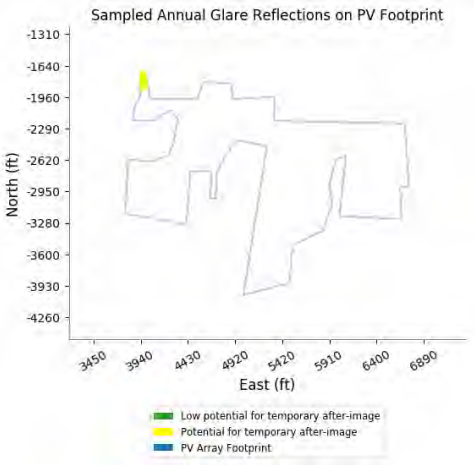


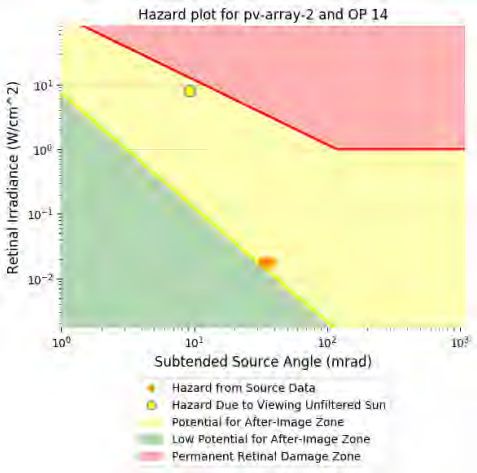
PV array 2 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
29 minutes of "yellow" glare with potential to cause temporary after-image.



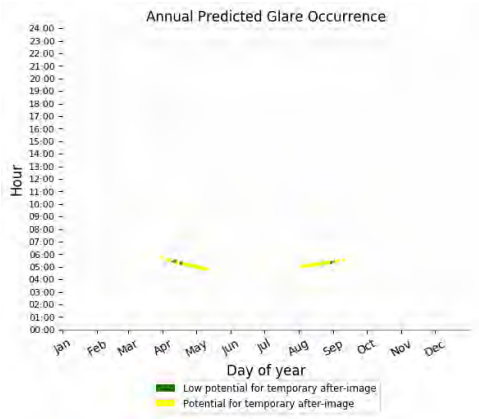


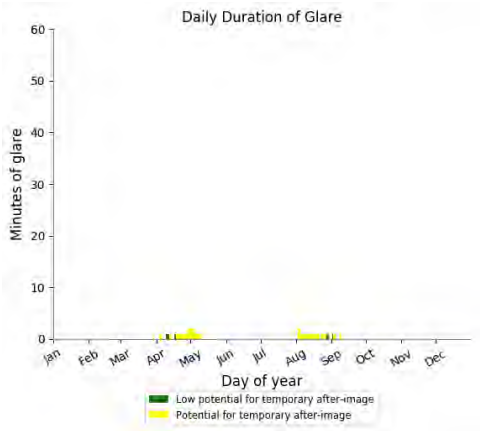


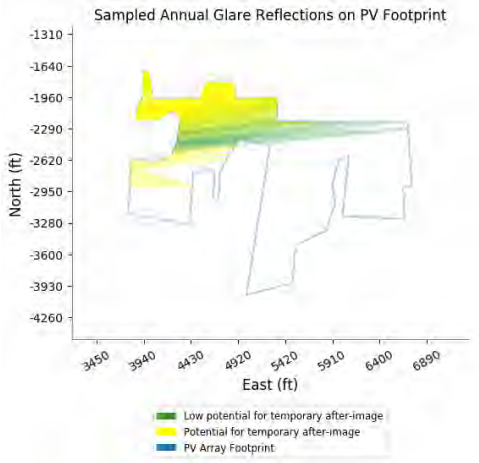


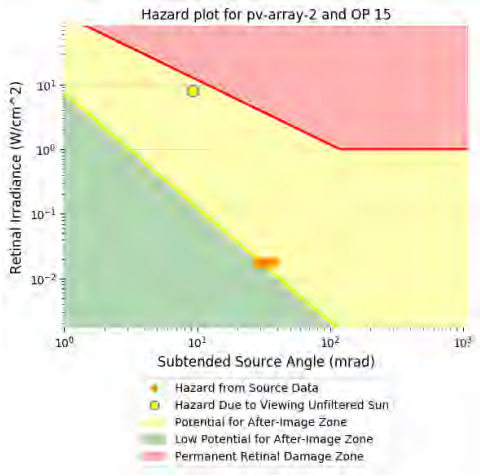
PV array 2 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:
8 minutes of "green" glare with low potential to cause temporary after-image.
61 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 2 - OP Receptor (OP 16)

No glare found

PV array 2 - OP Receptor (OP 17)

No glare found

PV array 2 - OP Receptor (OP 18)

No glare found

PV array 2 - OP Receptor (OP 19)

No glare found

PV array 2 - OP Receptor (OP 20)

No glare found

PV array 2 - OP Receptor (OP 21)

No glare found

PV array 2 - OP Receptor (OP 22)

No glare found

PV array 2 - OP Receptor (OP 23)

No glare found

PV array 2 - OP Receptor (OP 24)

No glare found

PV array 2 - OP Receptor (OP 25)

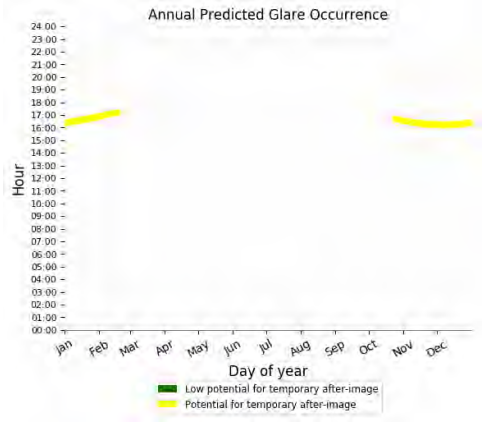
No glare found

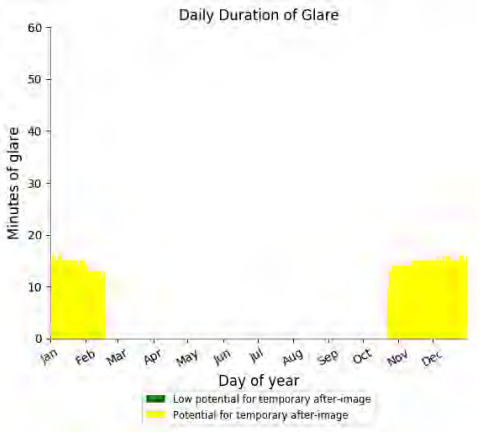
PV array 2 - OP Receptor (OP 26)

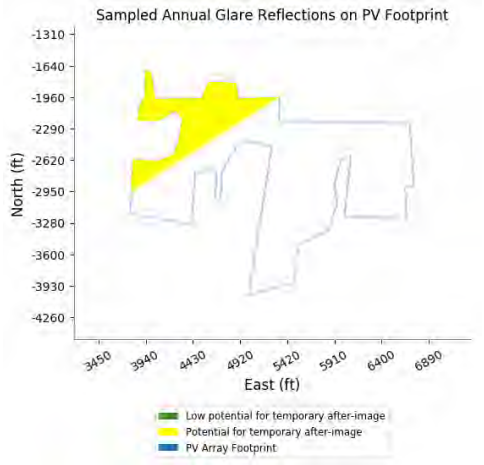
No glare found

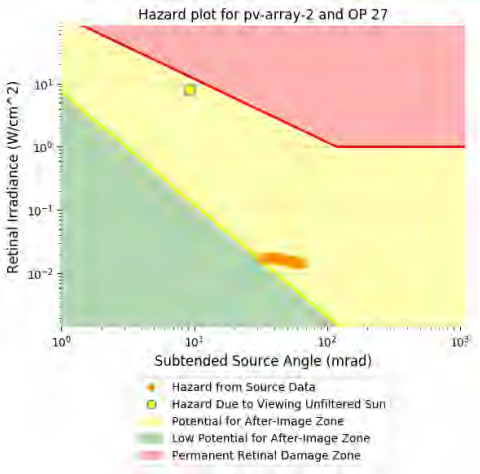
PV array 2 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
1,731 minutes of "yellow" glare with potential to cause temporary after-image.



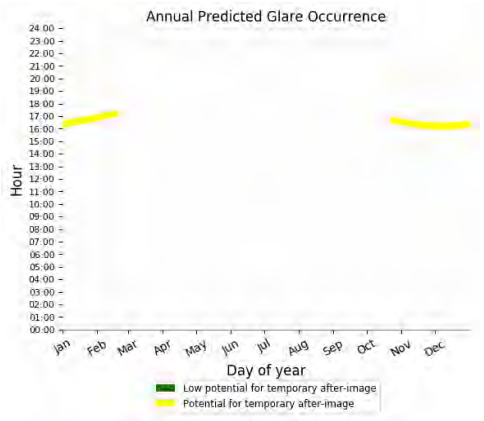


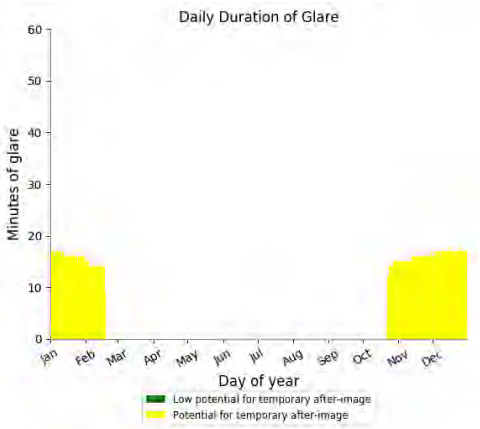


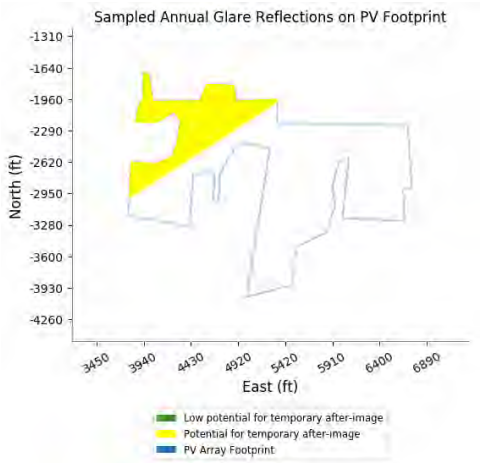


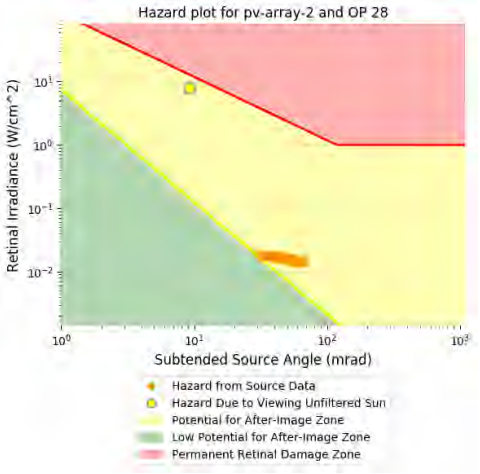
PV array 2 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
1,881 minutes of "yellow" glare with potential to cause temporary after-image.





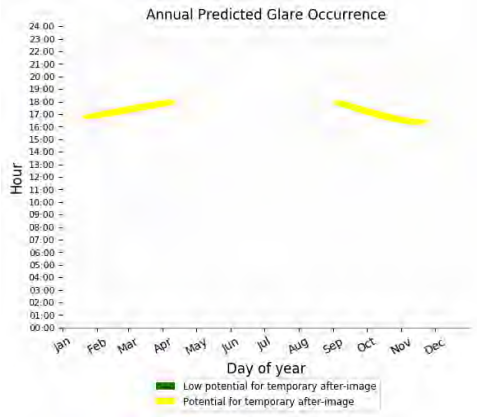


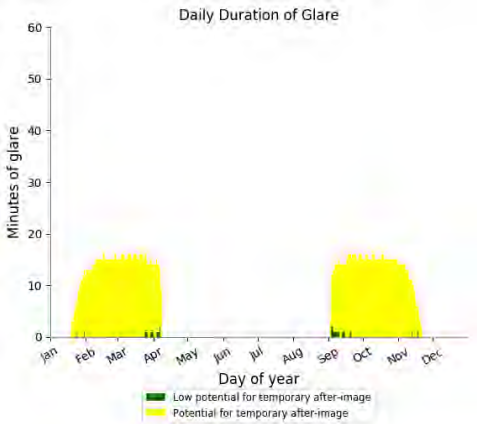


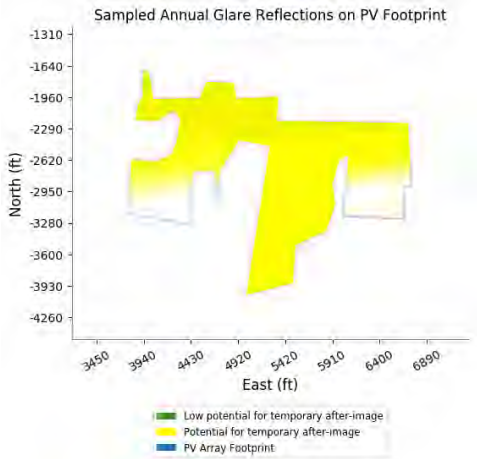
PV array 2 - OP Receptor (OP 29)

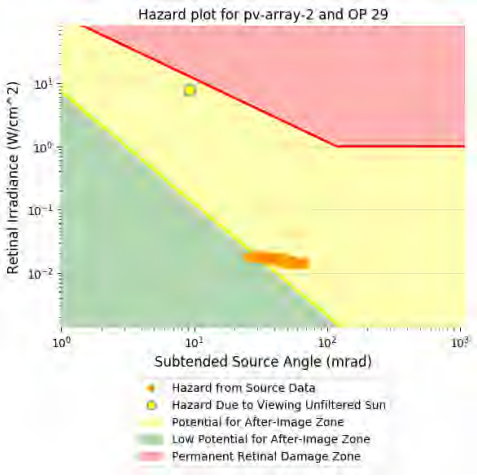
PV array is expected to produce the following glare for receptors at this location:

27 minutes of "green" glare with low potential to cause temporary after-image.
2,149 minutes of "yellow" glare with potential to cause temporary after-image.



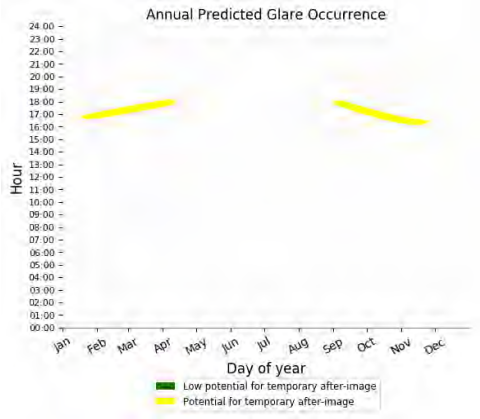


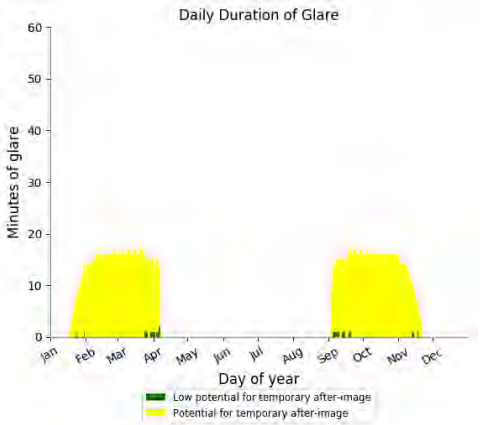


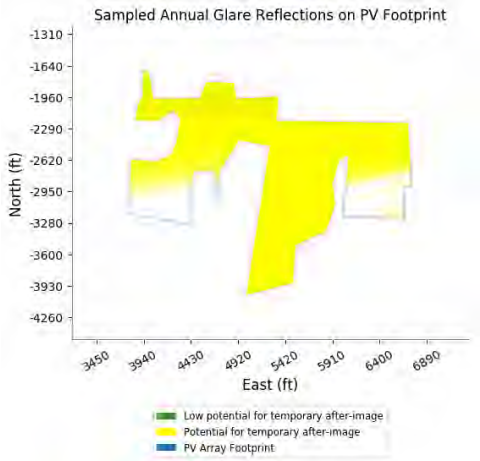


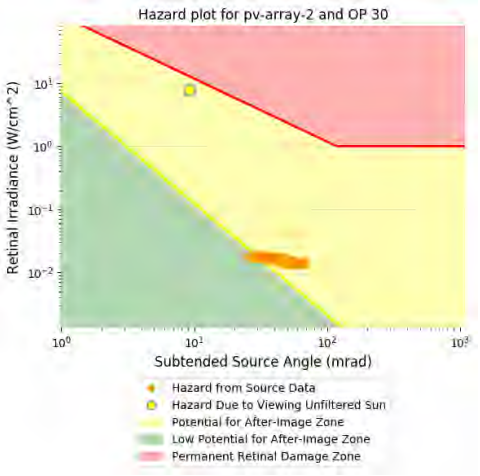
PV array 2 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:
29 minutes of "green" glare with low potential to cause temporary after-image.
2,253 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 2 - Route Receptor (Route 1)

No glare found

PV array 2 - Route Receptor (Route 10)

No glare found

PV array 2 - Route Receptor (Route 11)

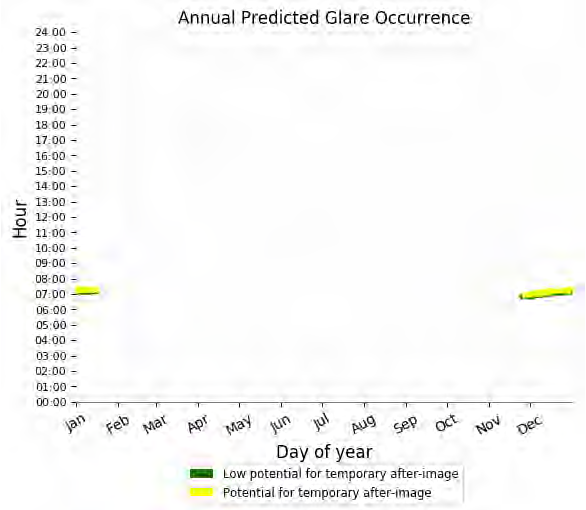
No glare found

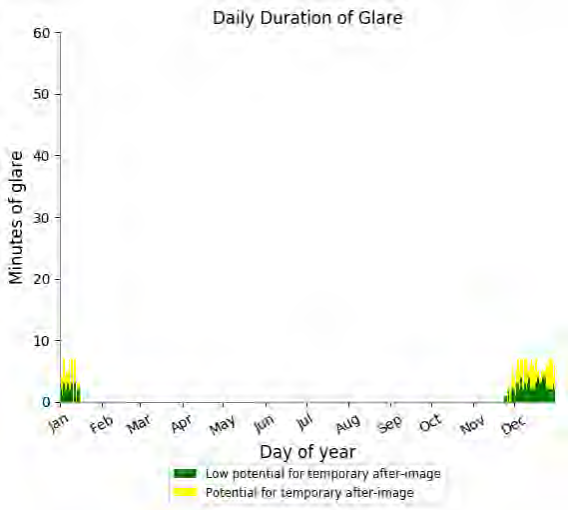
PV array 2 - Route Receptor (Route 12)

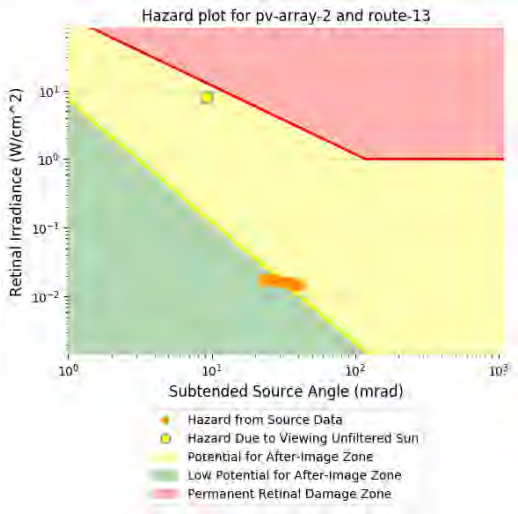
No glare found

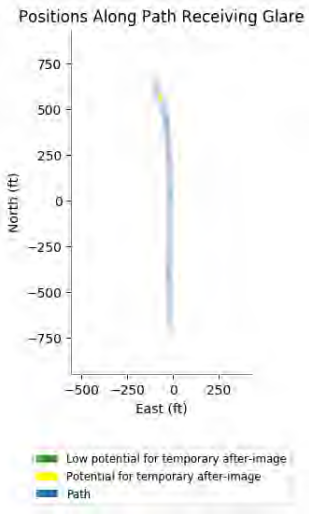
PV array 2 - Route Receptor (Route 13)

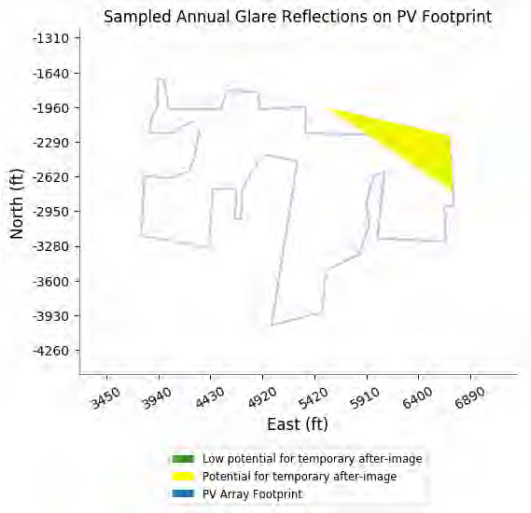
PV array is expected to produce the following glare for receptors at this location:
121 minutes of "green" glare with low potential to cause temporary after-image.
143 minutes of "yellow" glare with potential to cause temporary after-image.









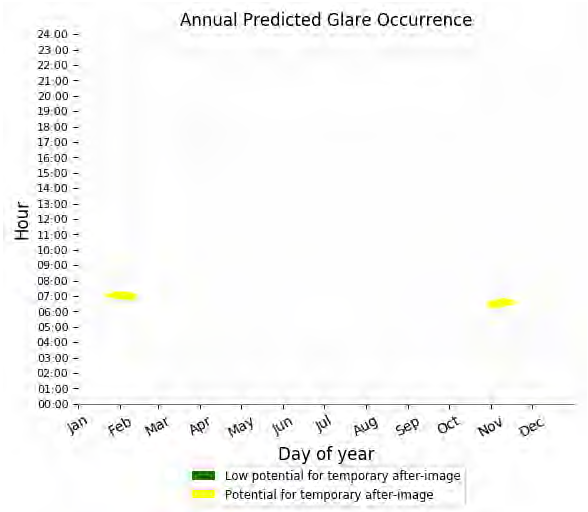


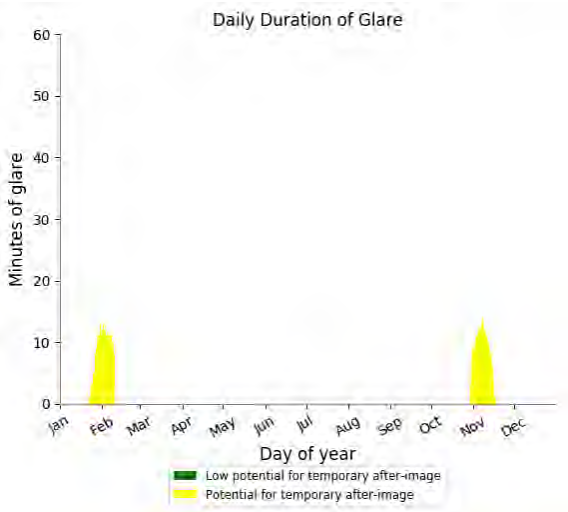
PV array 2 - Route Receptor (Route 2)

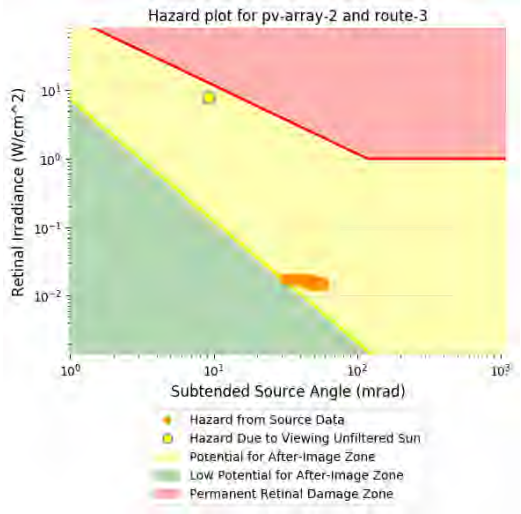
No glare found

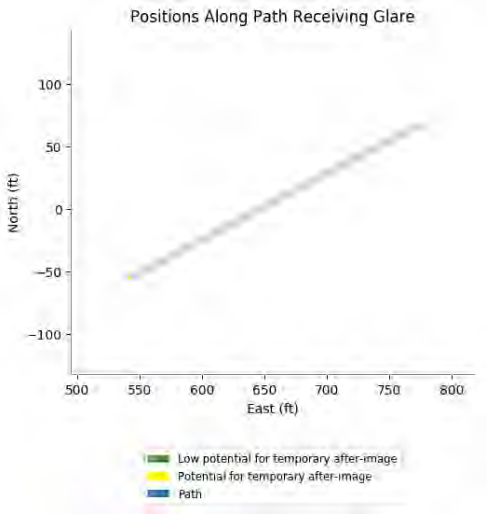
PV array 2 - Route Receptor (Route 3)

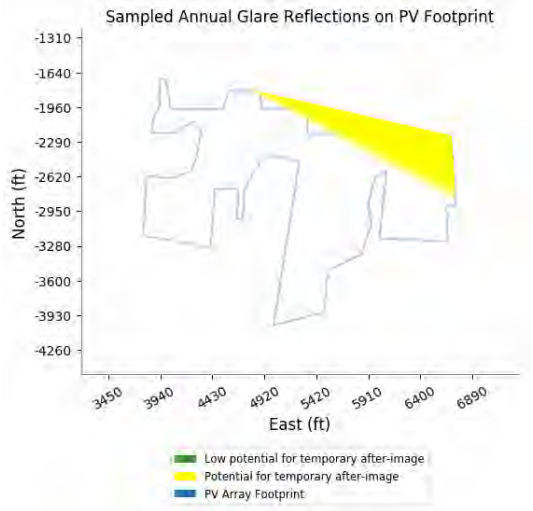
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
347 minutes of "yellow" glare with potential to cause temporary after-image.





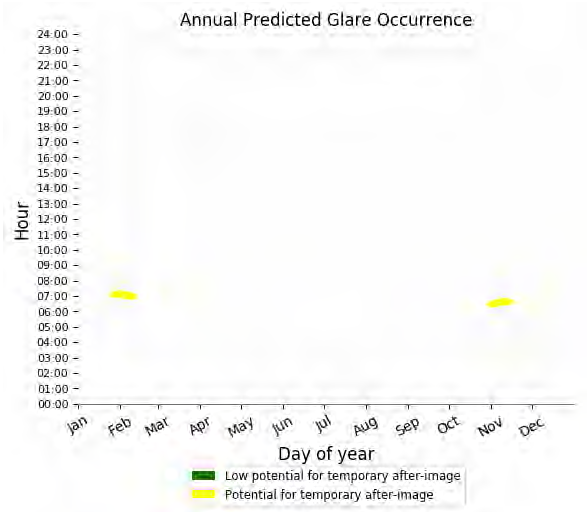


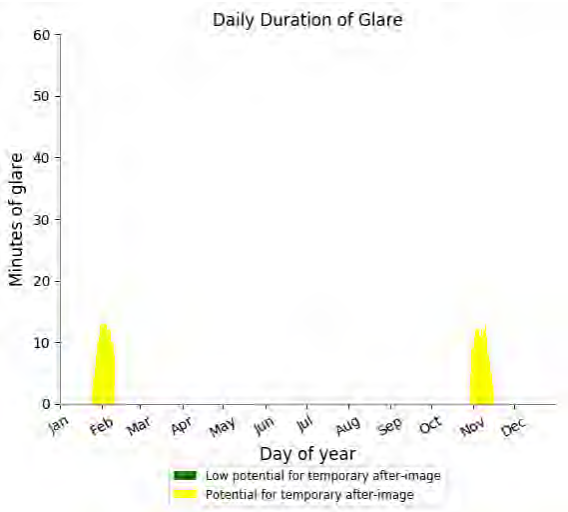


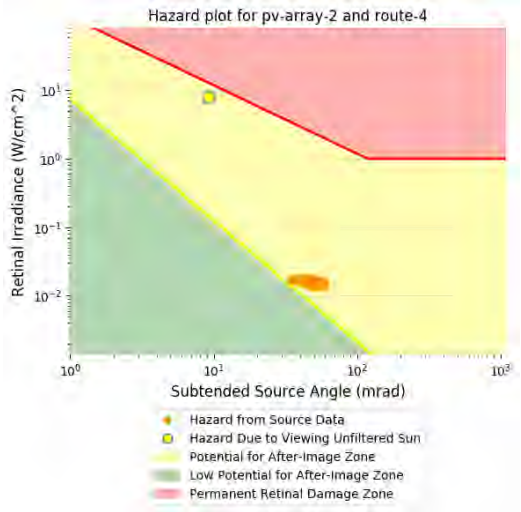


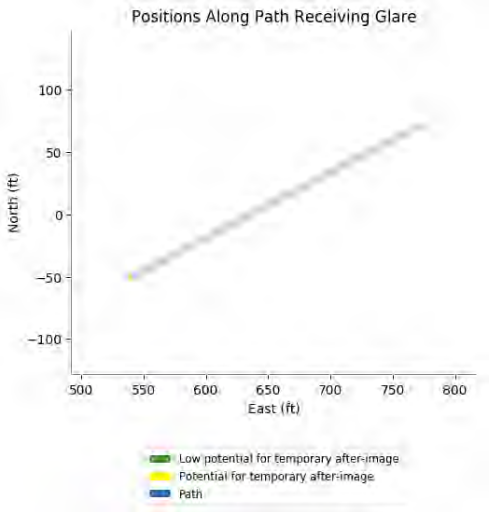
PV array 2 - Route Receptor (Route 4)

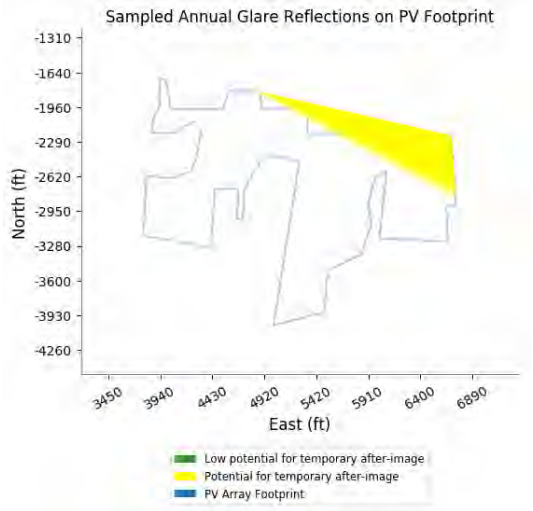
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
335 minutes of "yellow" glare with potential to cause temporary after-image.





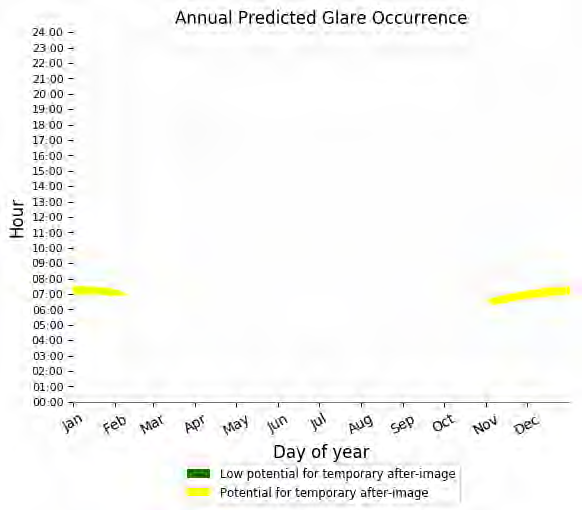


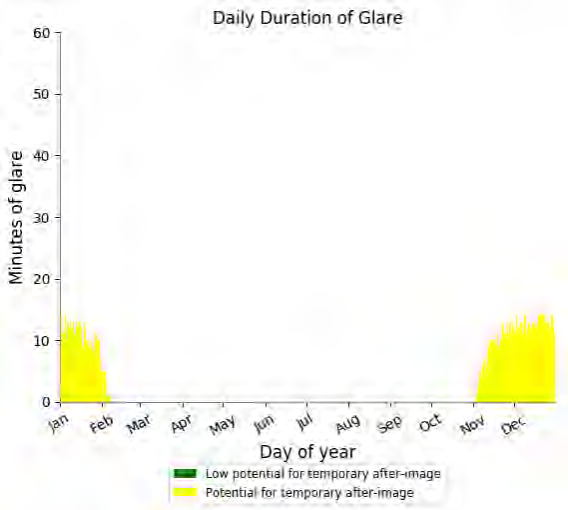


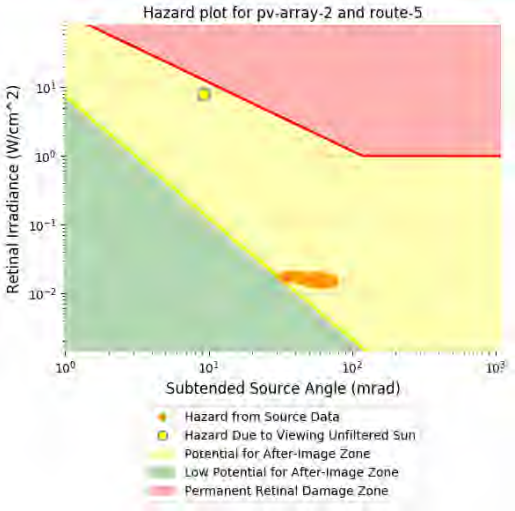


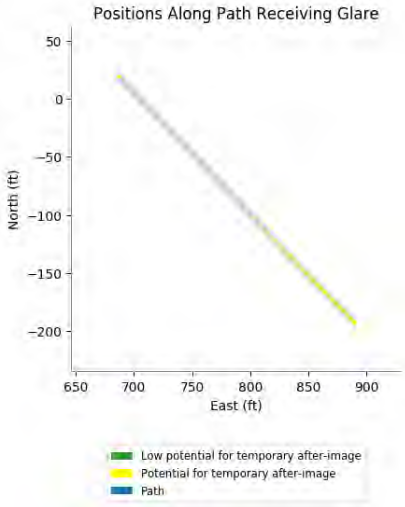
PV array 2 - Route Receptor (Route 5)

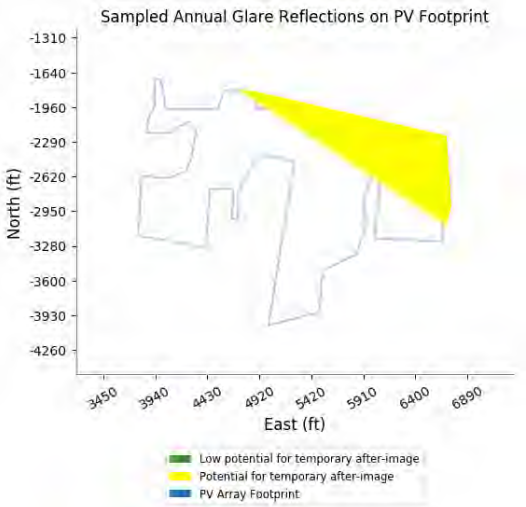
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
1,006 minutes of "yellow" glare with potential to cause temporary after-image.





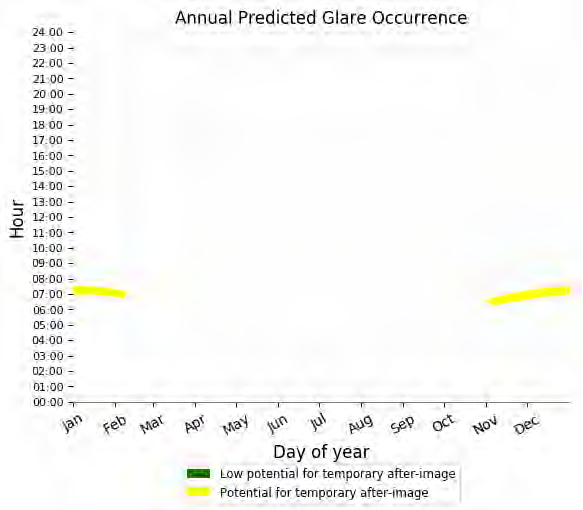


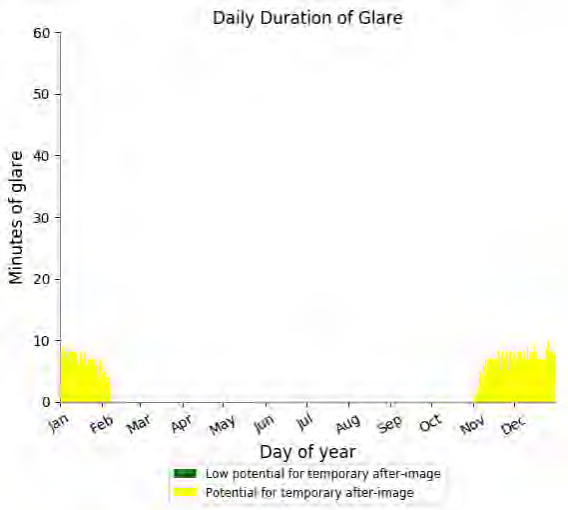


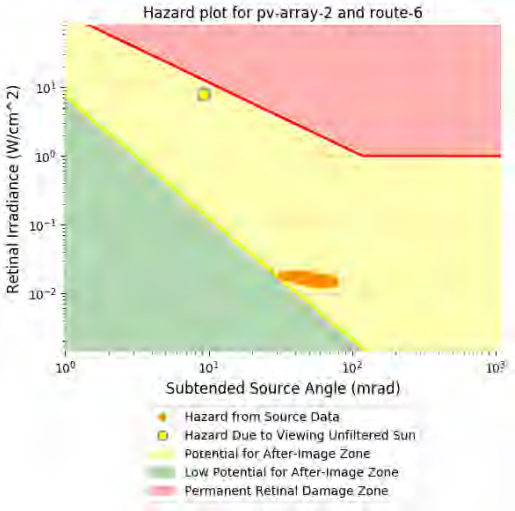


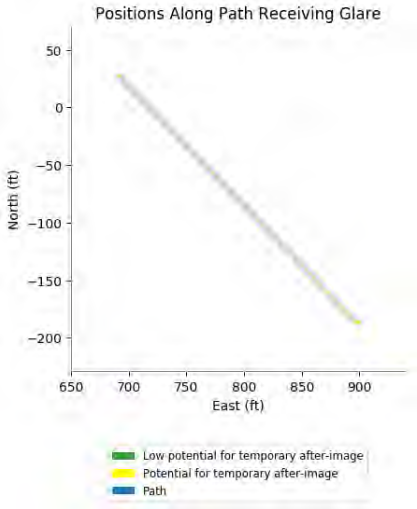
PV array 2 - Route Receptor (Route 6)

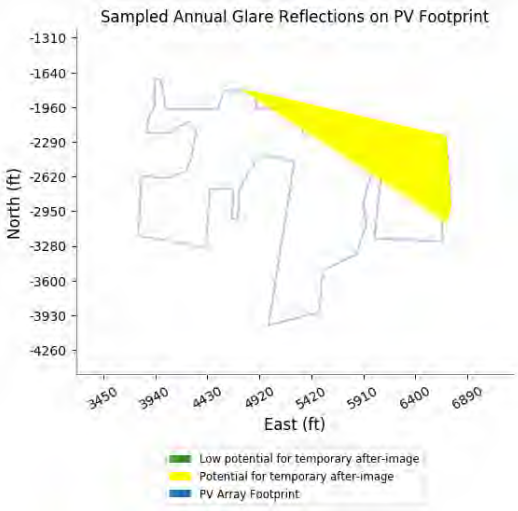
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
669 minutes of "yellow" glare with potential to cause temporary after-image.











PV array 2 - Route Receptor (Route 7)

No glare found

PV array 2 - Route Receptor (Route 8)

No glare found

PV array 2 - Route Receptor (Route 9)

No glare found

PV array 3 potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	3343
OP: OP 4	0	3969
OP: OP 5	0	3508
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	15
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	190
OP: OP 13	0	328
OP: OP 14	101	0
OP: OP 15	96	2
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	1169
OP: OP 20	33	1556
OP: OP 21	28	1712
OP: OP 22	0	1328
OP: OP 23	8	1358
OP: OP 24	11	1537
OP: OP 25	24	654
OP: OP 26	29	703
OP: OP 27	0	3159
OP: OP 28	0	3397
OP: OP 29	250	1921
OP: OP 30	291	1921
Route: Route 1	0	0
Route: Route 10	0	0
Route: Route 11	0	0
Route: Route 12	0	0
Route: Route 13	60	1378
Route: Route 2	0	0
Route: Route 3	0	2235
Route: Route 4	0	2381
Route: Route 5	0	5391
Route: Route 6	0	9273
Route: Route 7	0	891
Route: Route 8	0	1112
Route: Route 9	0	0

PV array 3 - OP Receptor (OP 1)

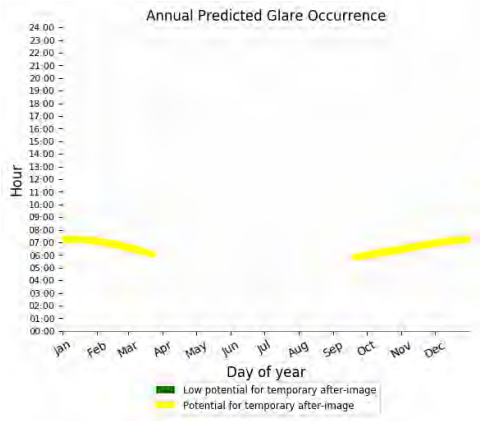
No glare found

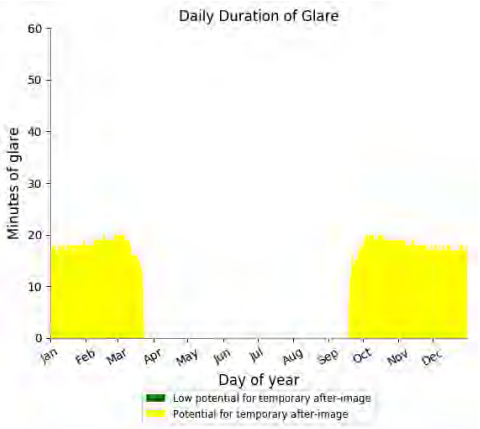
PV array 3 - OP Receptor (OP 2)

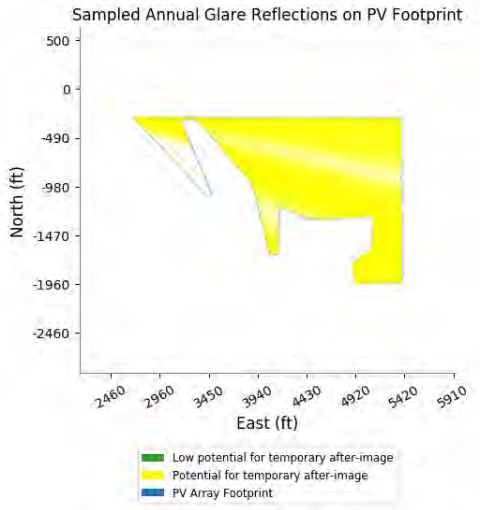
No glare found

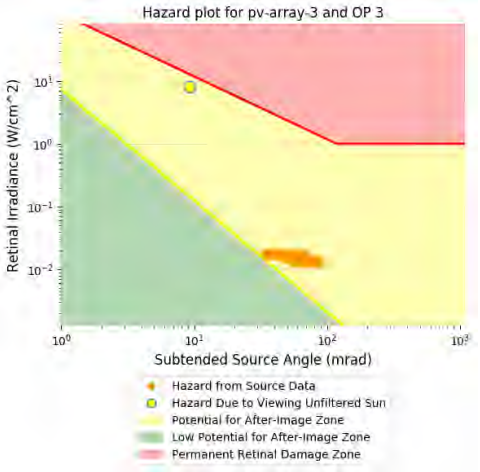
PV array 3 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
3,343 minutes of "yellow" glare with potential to cause temporary after-image.





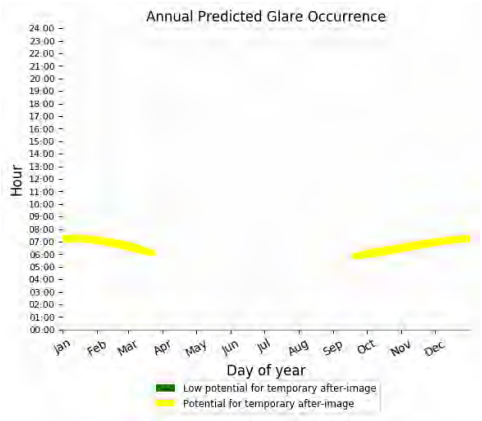


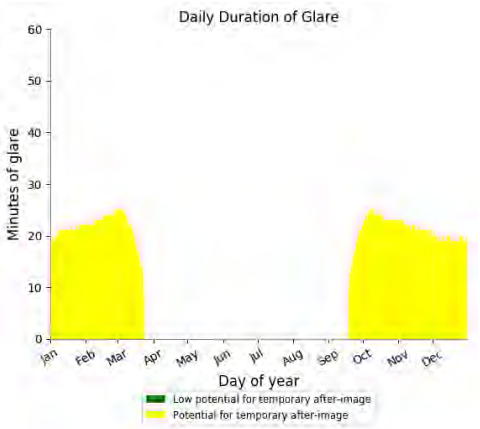


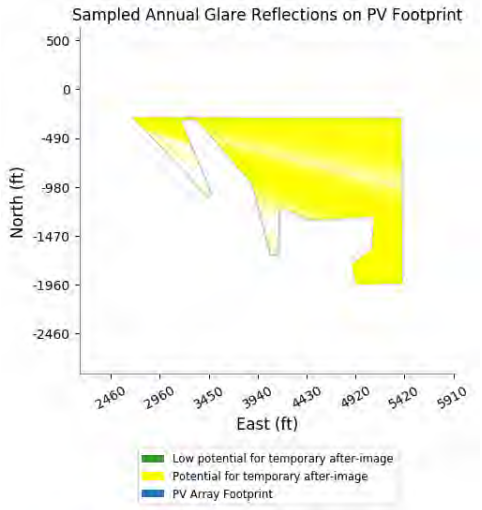
PV array 3 - OP Receptor (OP 4)

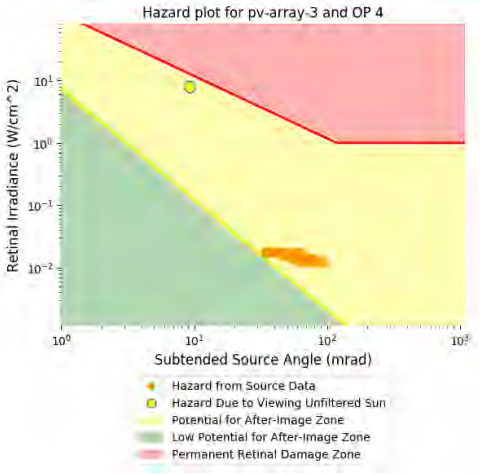
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
3,969 minutes of "yellow" glare with potential to cause temporary after-image.



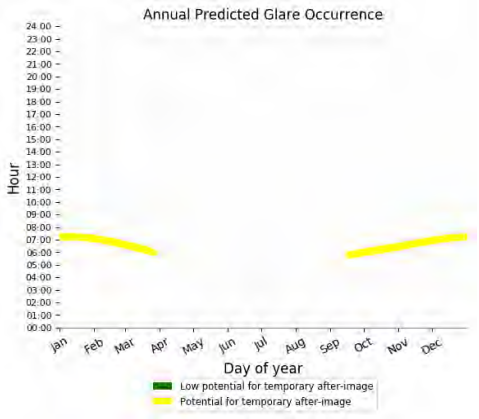


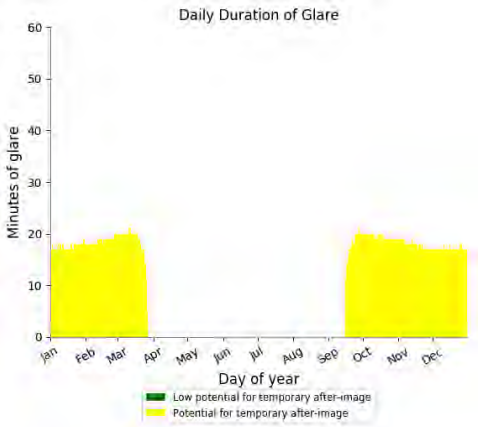


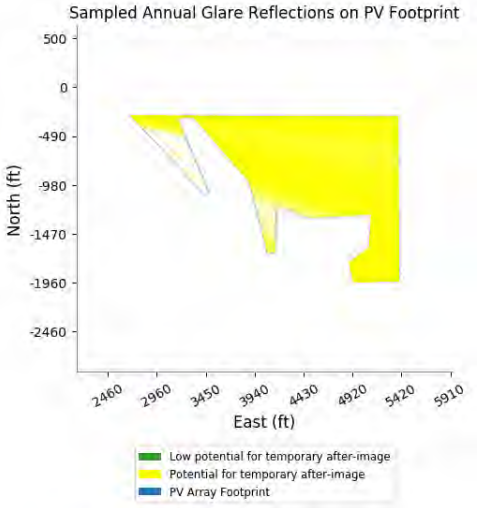


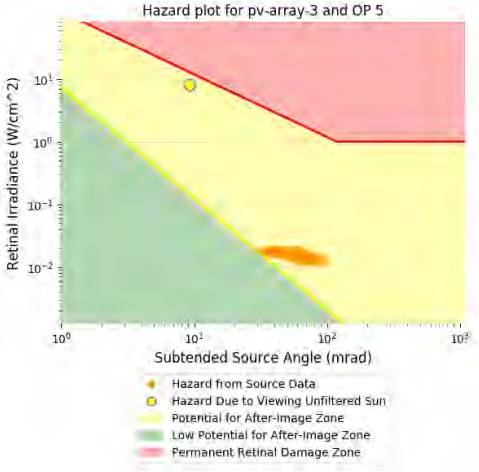
PV array 3 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
3,508 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 3 - OP Receptor (OP 6)

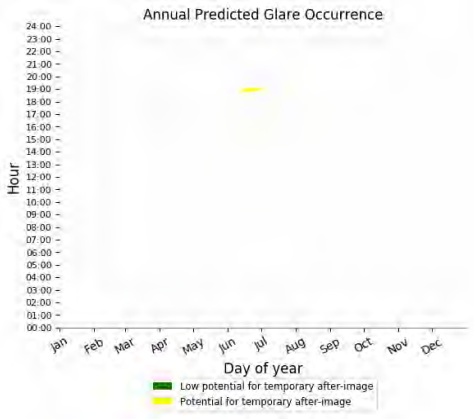
No glare found

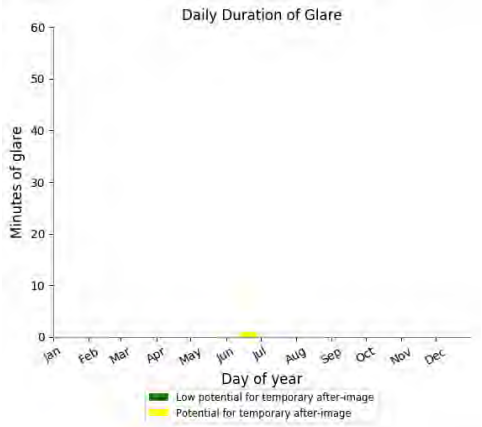
PV array 3 - OP Receptor (OP 7)

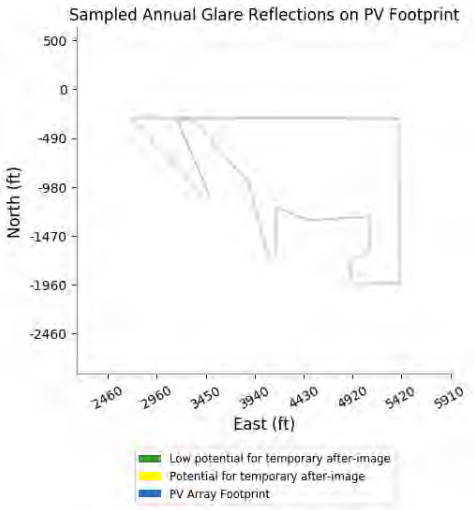
No glare found

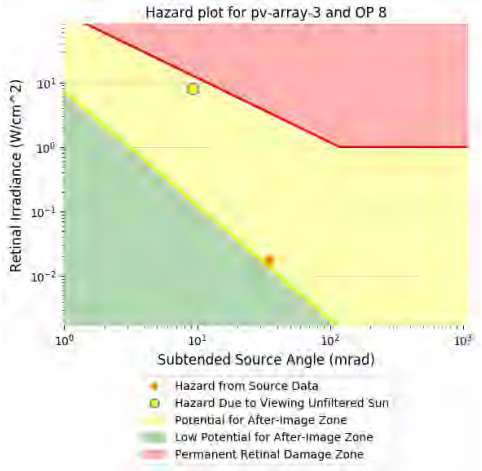
PV array 3 - OP Receptor (OP 8)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
15 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 3 - OP Receptor (OP 9)

No glare found

PV array 3 - OP Receptor (OP 10)

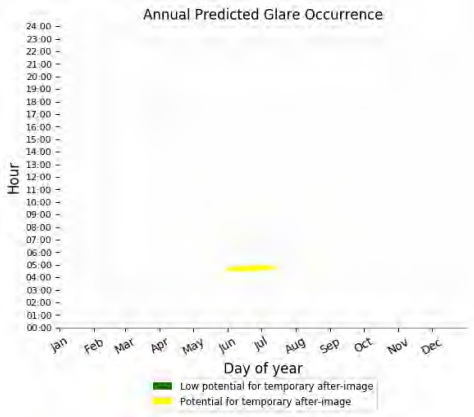
No glare found

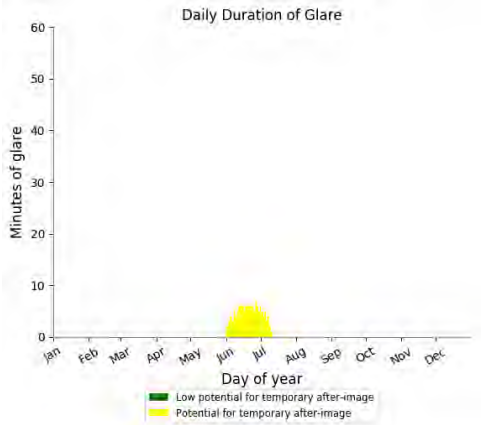
PV array 3 - OP Receptor (OP 11)

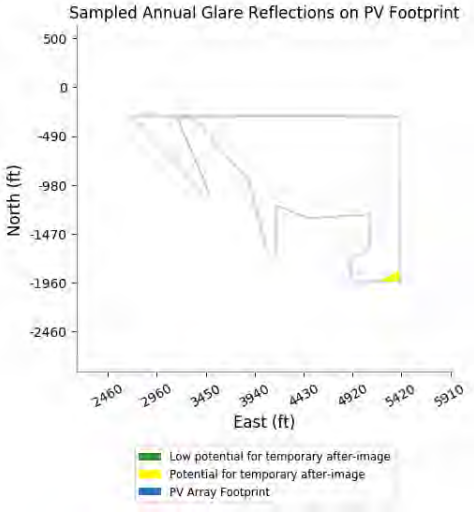
No glare found

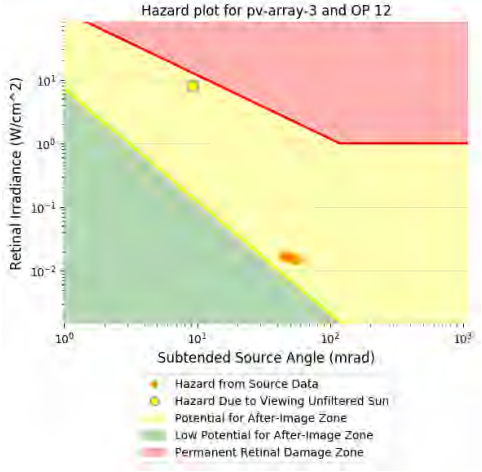
PV array 3 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
190 minutes of "yellow" glare with potential to cause temporary after-image.



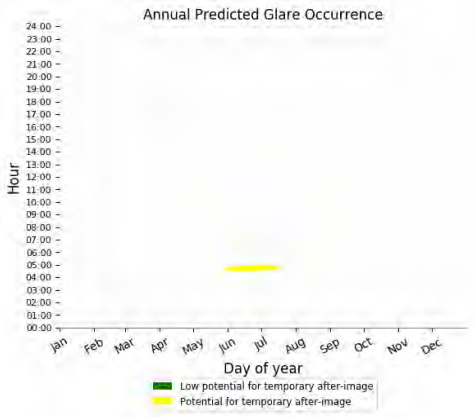


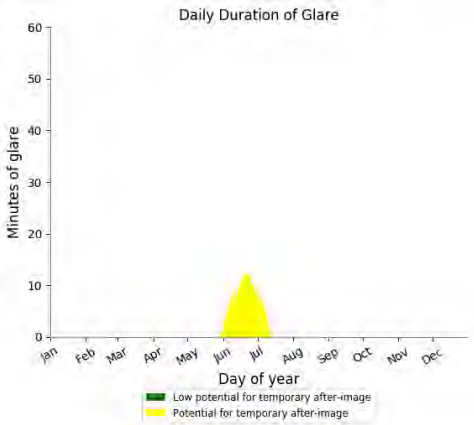


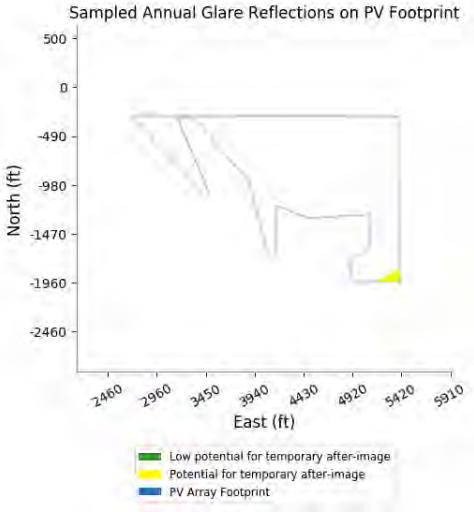


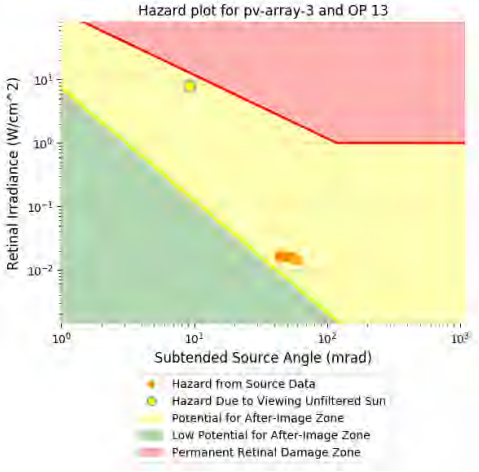
PV array 3 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
328 minutes of "yellow" glare with potential to cause temporary after-image.





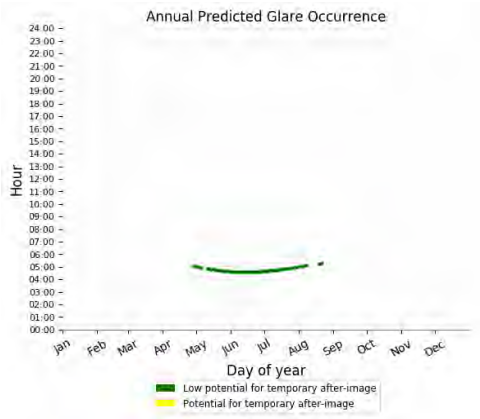


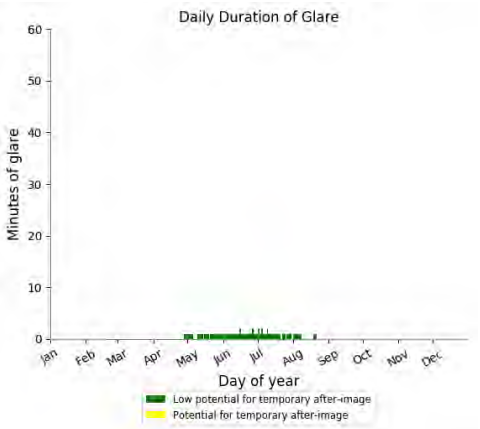


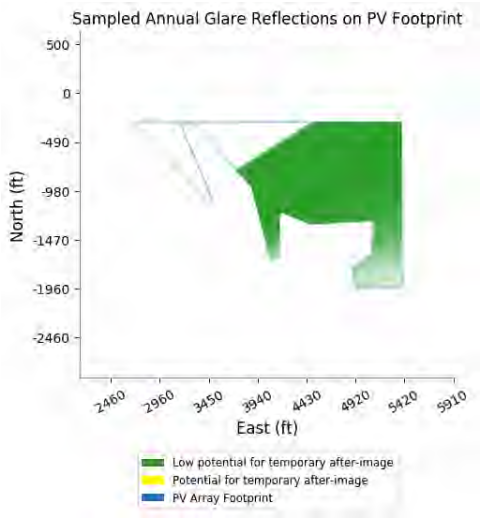
PV array 3 - OP Receptor (OP 14)

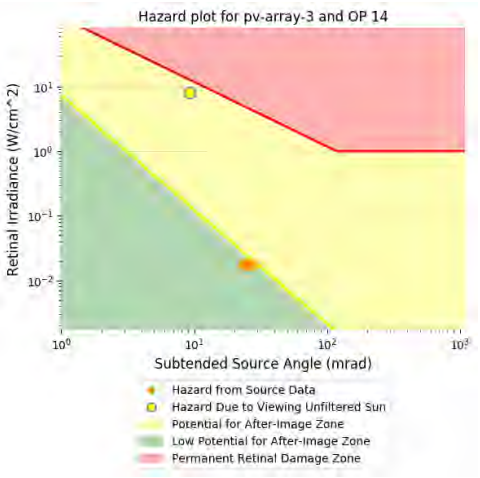
PV array is expected to produce the following glare for receptors at this location:

101 minutes of "green" glare with low potential to cause temporary after-image.
0 minutes of "yellow" glare with potential to cause temporary after-image.



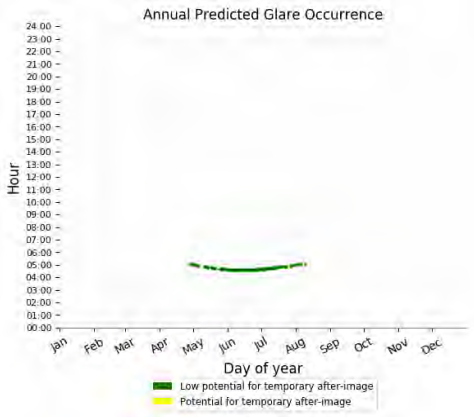


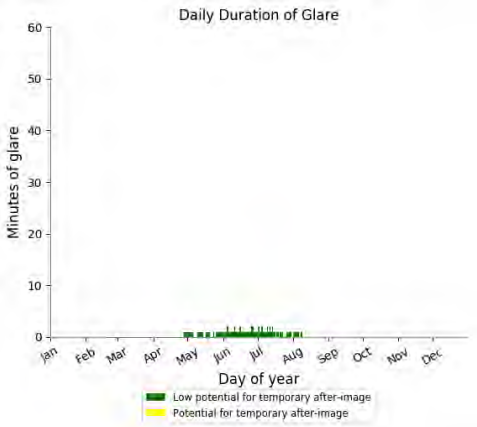


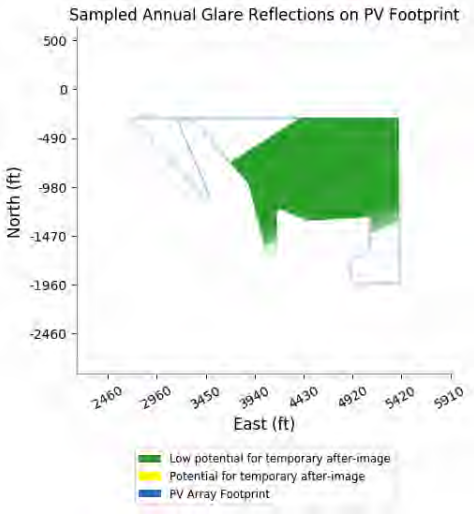


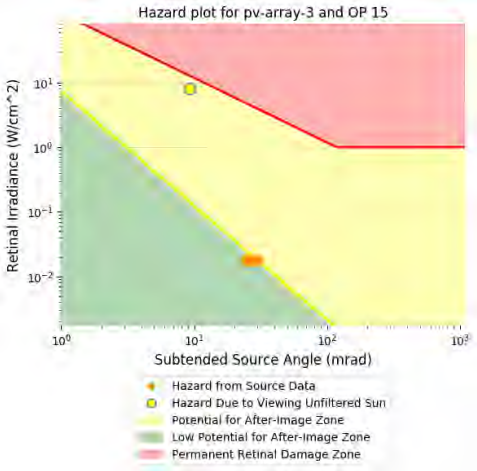
PV array 3 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:
96 minutes of "green" glare with low potential to cause temporary after-image.
2 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 3 - OP Receptor (OP 16)

No glare found

PV array 3 - OP Receptor (OP 17)

No glare found

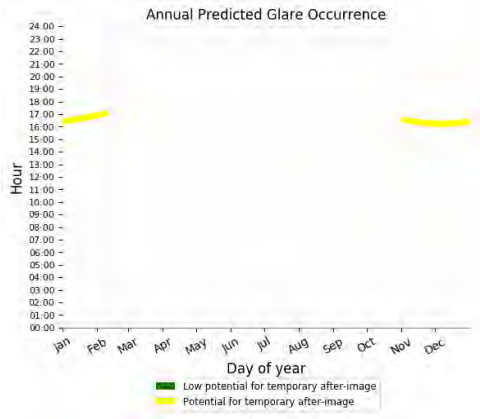
PV array 3 - OP Receptor (OP 18)

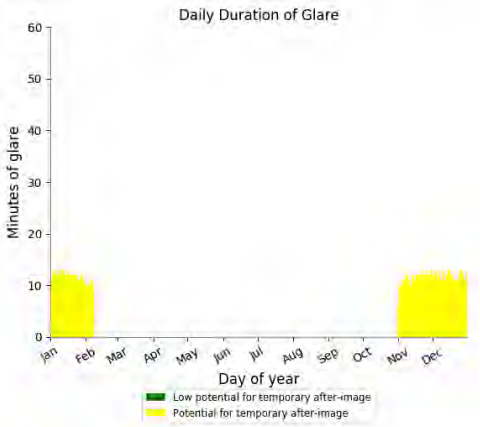
No glare found

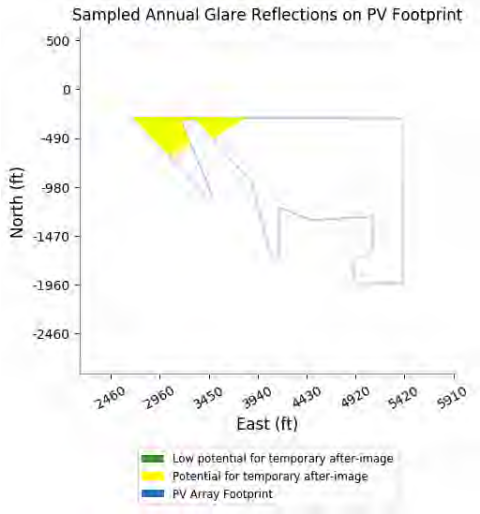
PV array 3 - OP Receptor (OP 19)

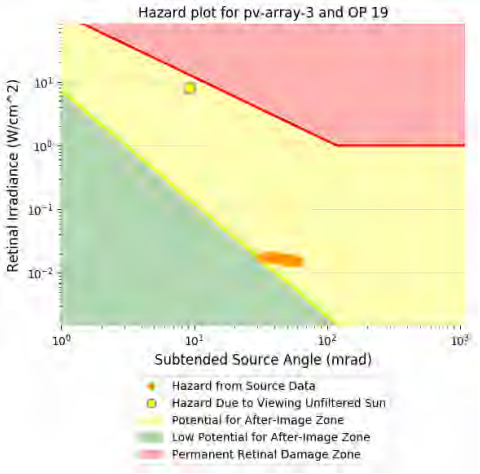
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
1,169 minutes of "yellow" glare with potential to cause temporary after-image.





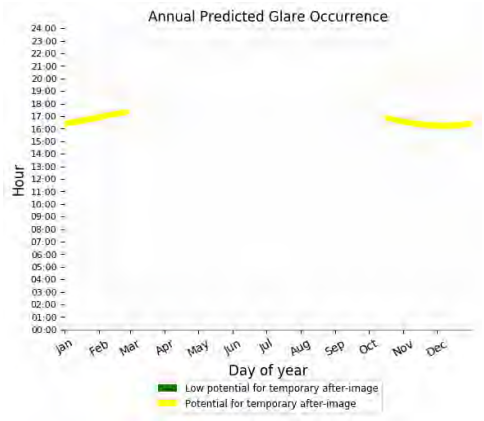


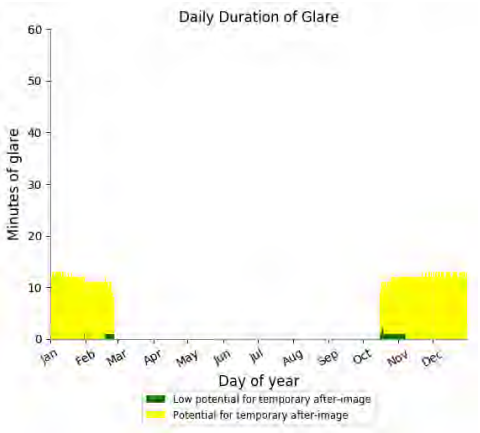


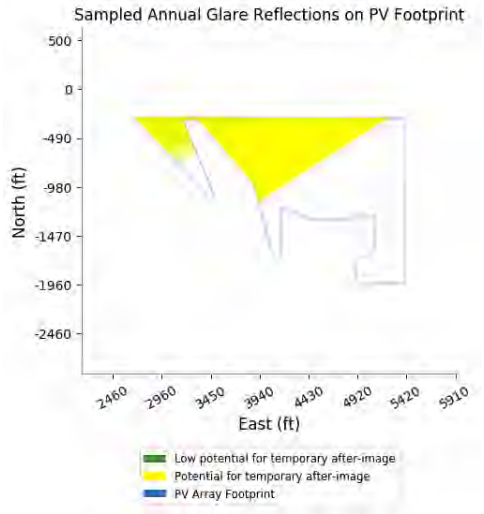
PV array 3 - OP Receptor (OP 20)

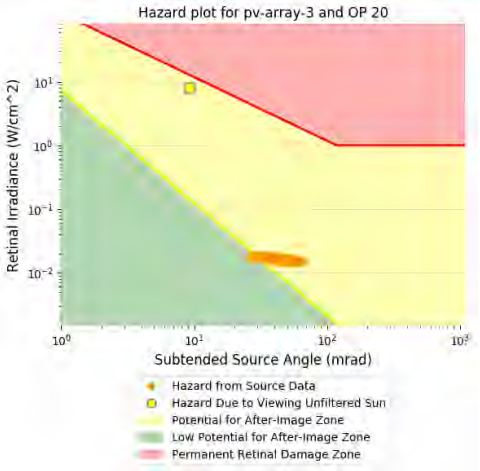
PV array is expected to produce the following glare for receptors at this location:

33 minutes of "green" glare with low potential to cause temporary after-image.
1,556 minutes of "yellow" glare with potential to cause temporary after-image.





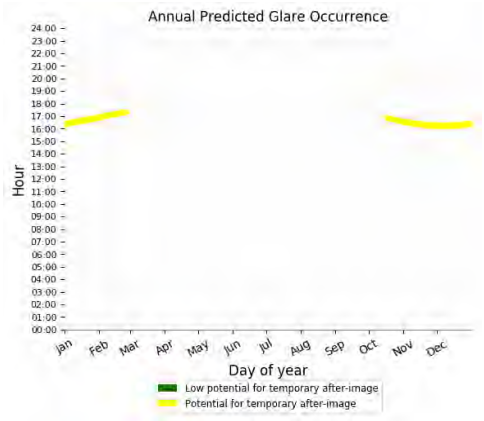


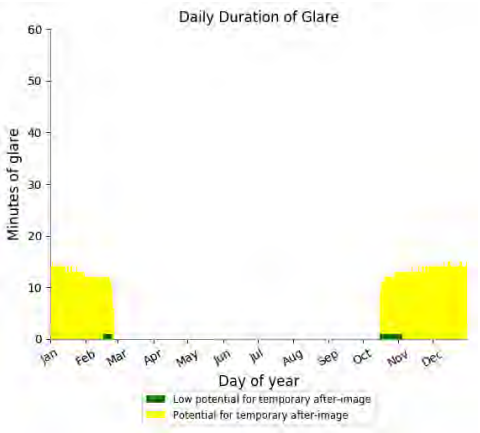


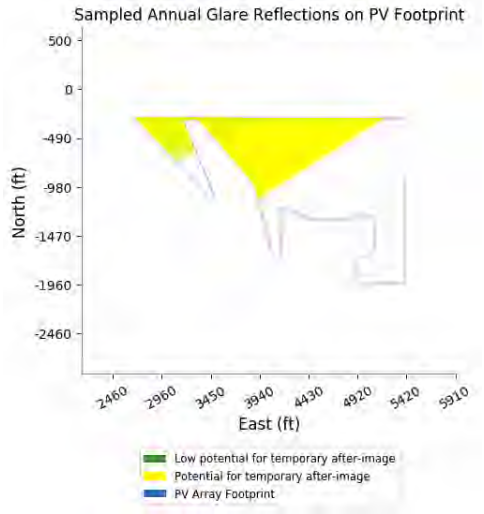
PV array 3 - OP Receptor (OP 21)

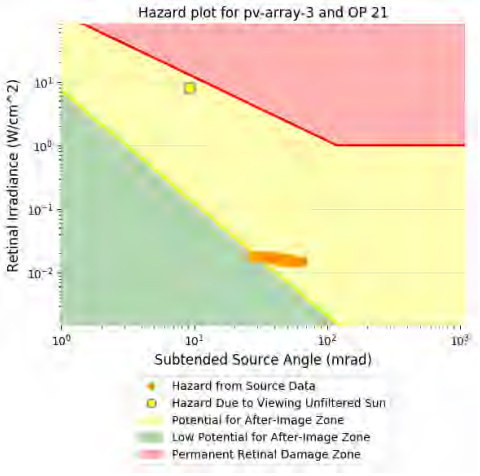
PV array is expected to produce the following glare for receptors at this location:

28 minutes of "green" glare with low potential to cause temporary after-image.
1,712 minutes of "yellow" glare with potential to cause temporary after-image.



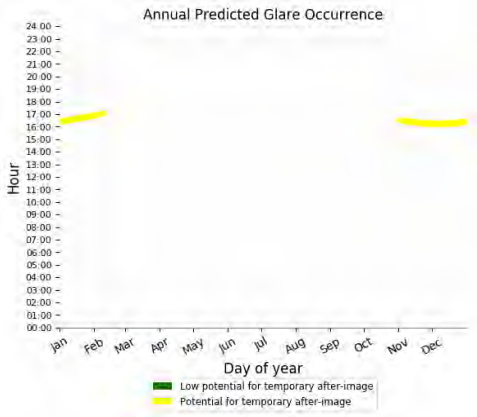


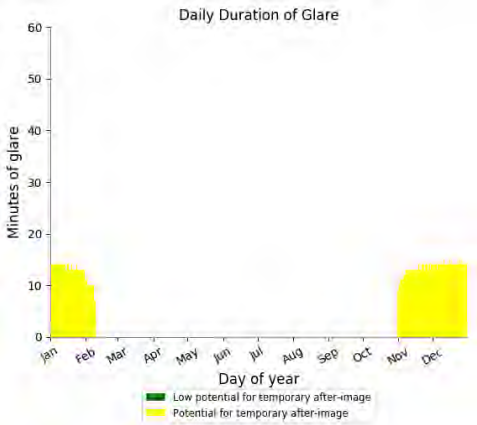


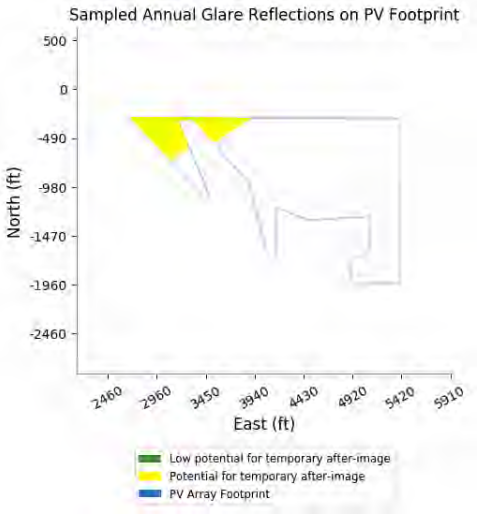


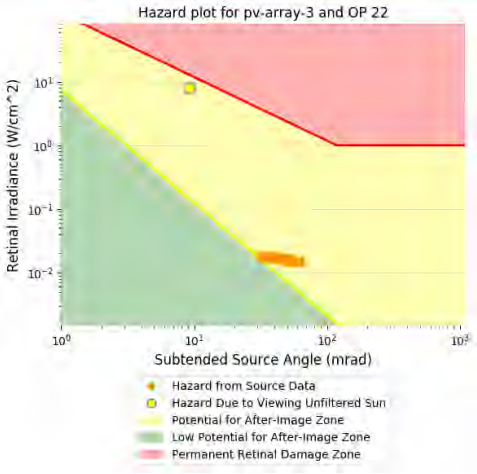
PV array 3 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
1,328 minutes of "yellow" glare with potential to cause temporary after-image.



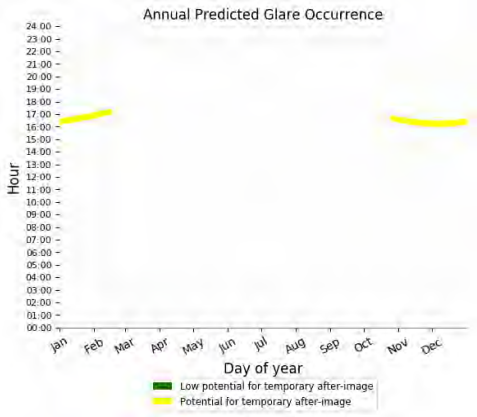


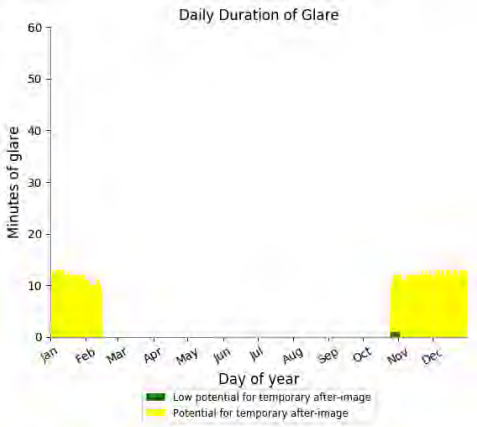


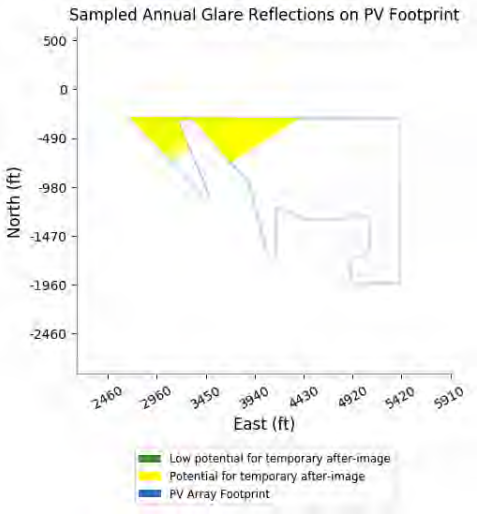


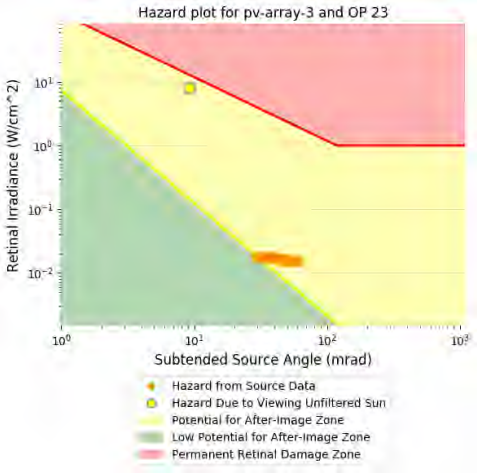
PV array 3 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:
8 minutes of "green" glare with low potential to cause temporary after-image.
1,358 minutes of "yellow" glare with potential to cause temporary after-image.





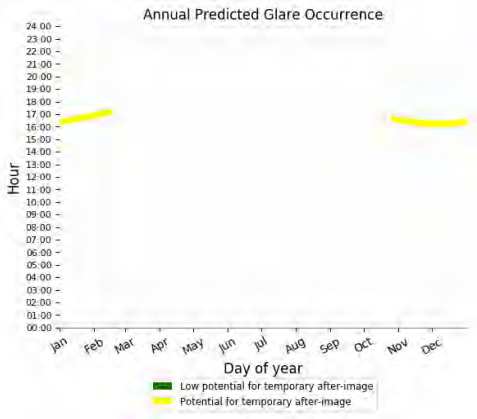


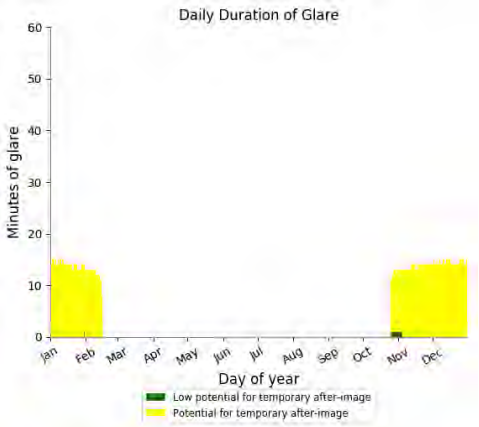


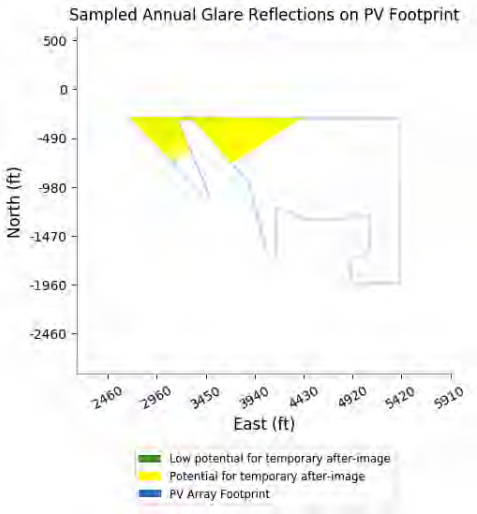
PV array 3 - OP Receptor (OP 24)

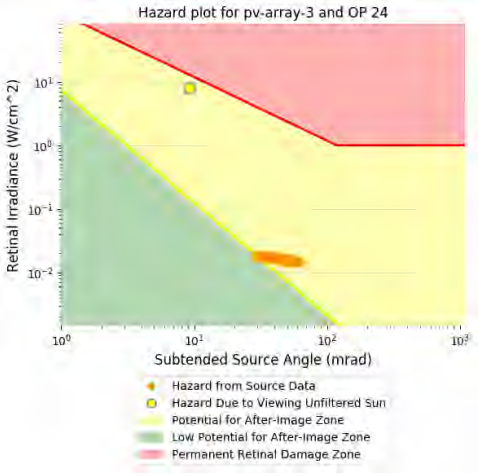
PV array is expected to produce the following glare for receptors at this location:

11 minutes of "green" glare with low potential to cause temporary after-image.
1,537 minutes of "yellow" glare with potential to cause temporary after-image.





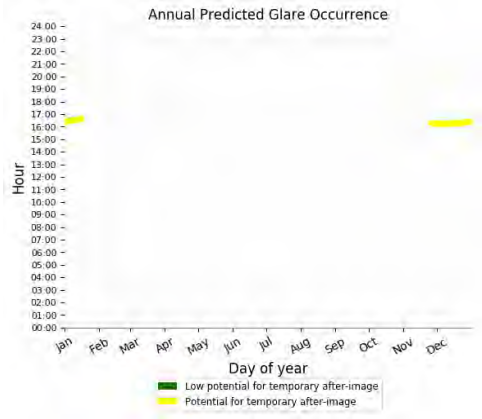


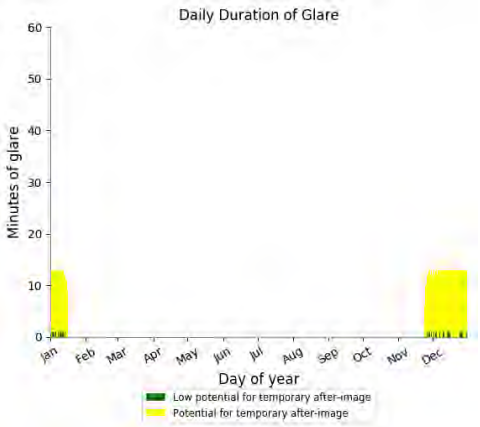


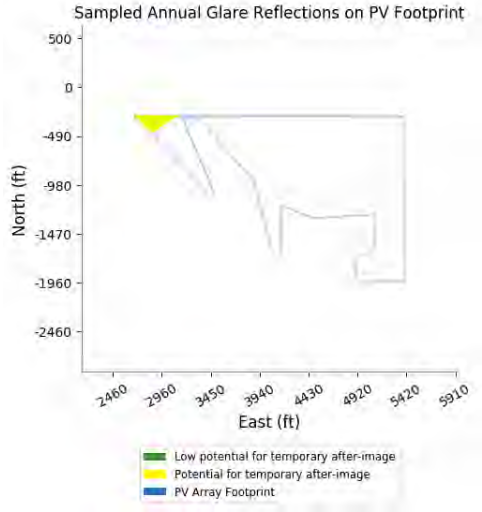
PV array 3 - OP Receptor (OP 25)

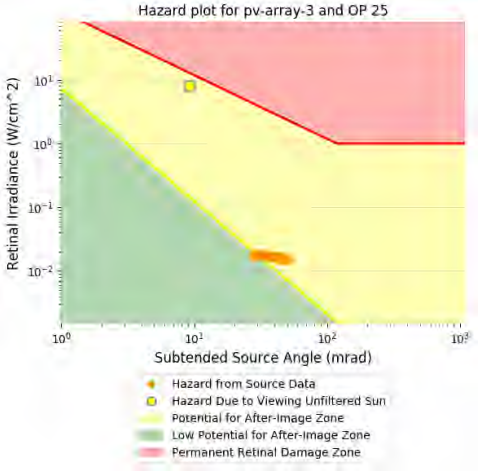
PV array is expected to produce the following glare for receptors at this location:

24 minutes of "green" glare with low potential to cause temporary after-image.
654 minutes of "yellow" glare with potential to cause temporary after-image.



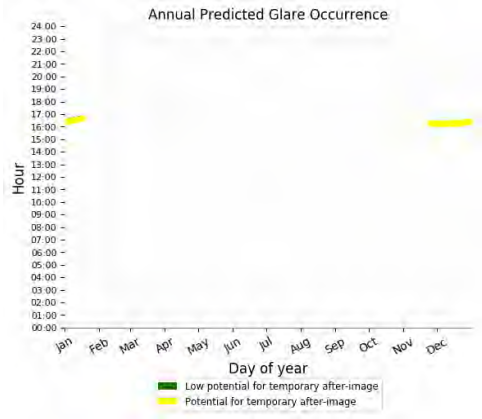


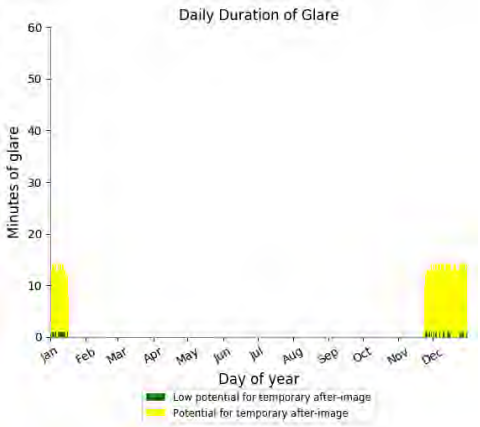


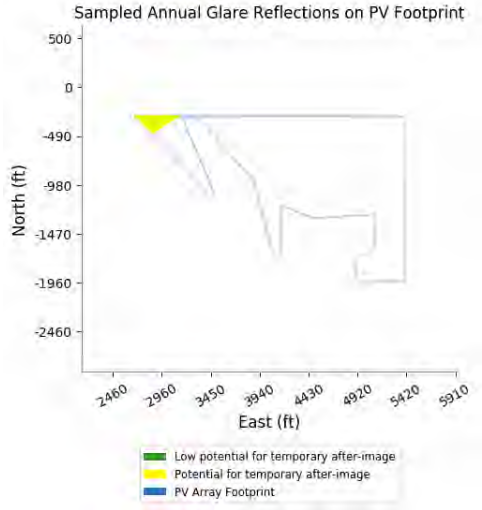


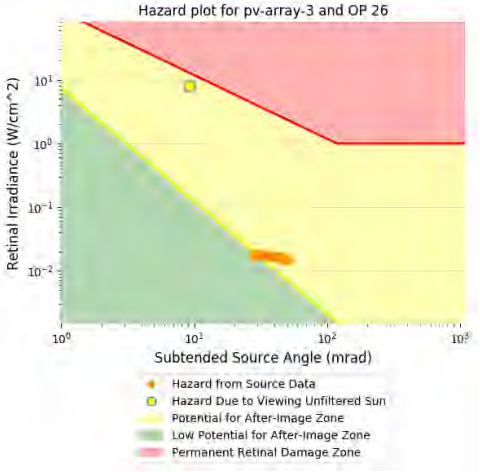
PV array 3 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:
29 minutes of "green" glare with low potential to cause temporary after-image.
703 minutes of "yellow" glare with potential to cause temporary after-image.



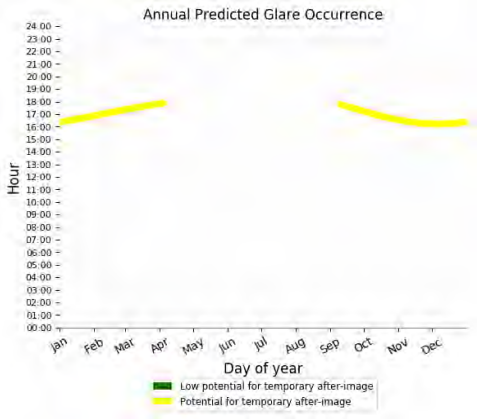


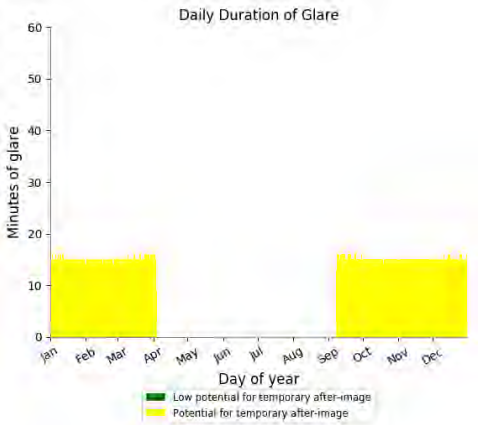


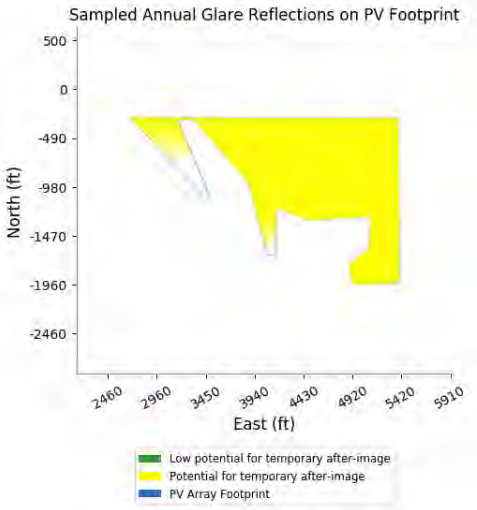


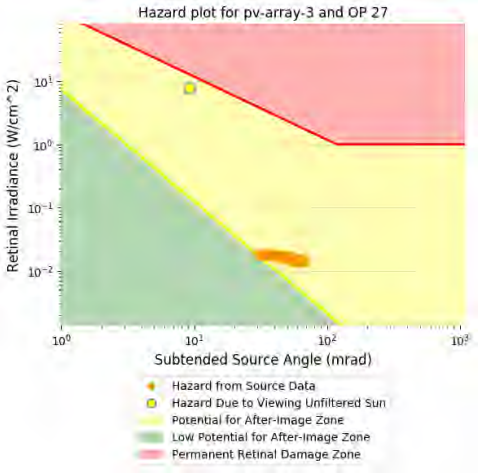
PV array 3 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
3,159 minutes of "yellow" glare with potential to cause temporary after-image.



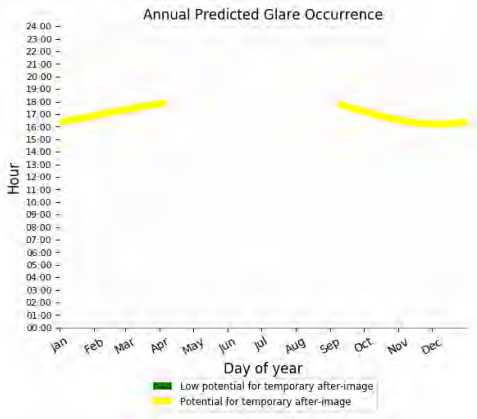


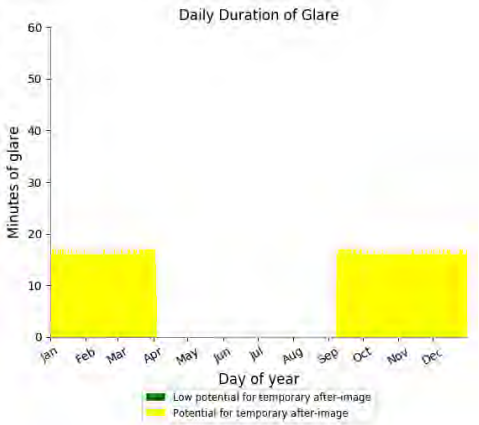


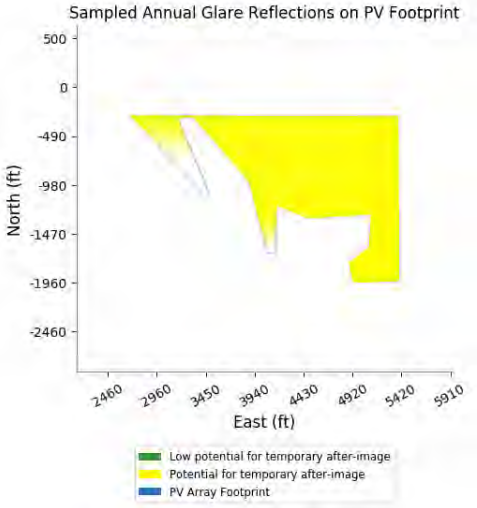


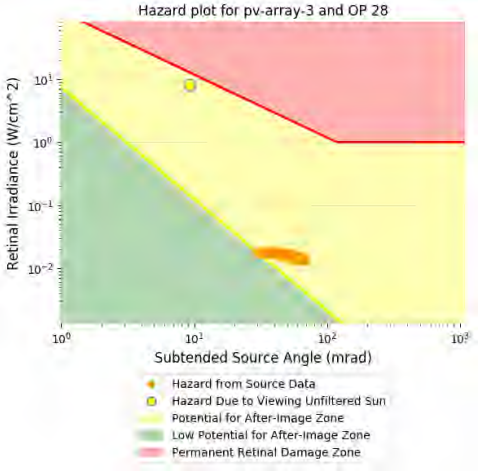
PV array 3 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
3,397 minutes of "yellow" glare with potential to cause temporary after-image.





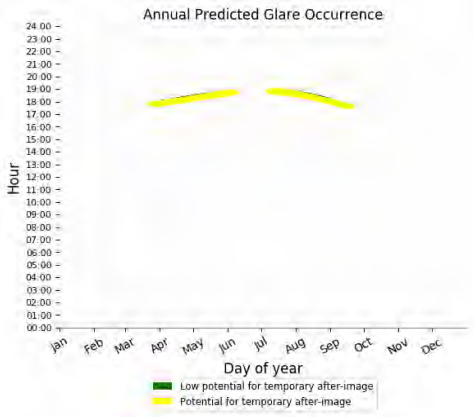


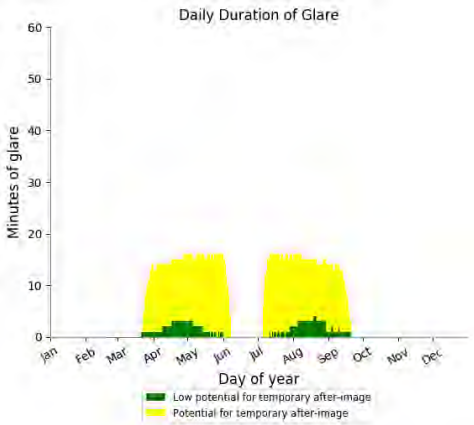


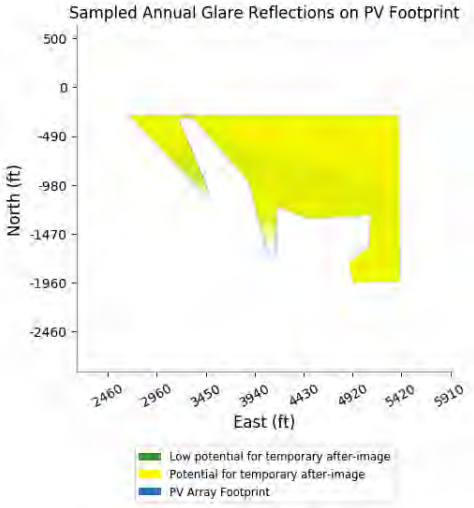
PV array 3 - OP Receptor (OP 29)

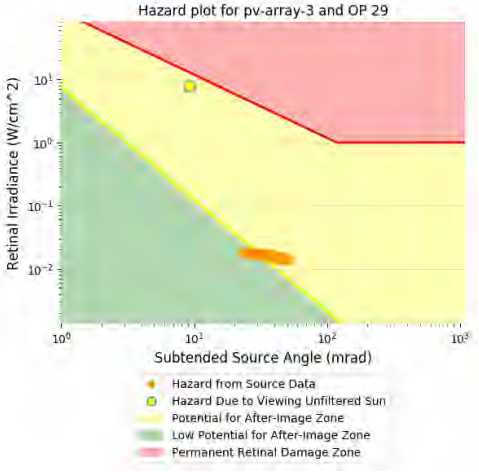
PV array is expected to produce the following glare for receptors at this location:

250 minutes of "green" glare with low potential to cause temporary after-image.
1,921 minutes of "yellow" glare with potential to cause temporary after-image.



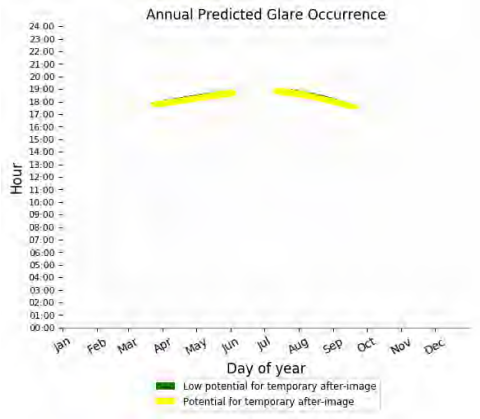


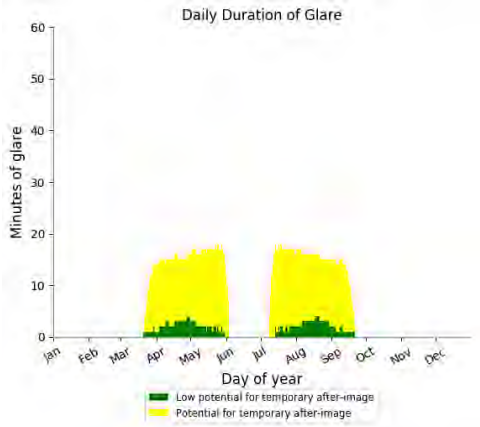


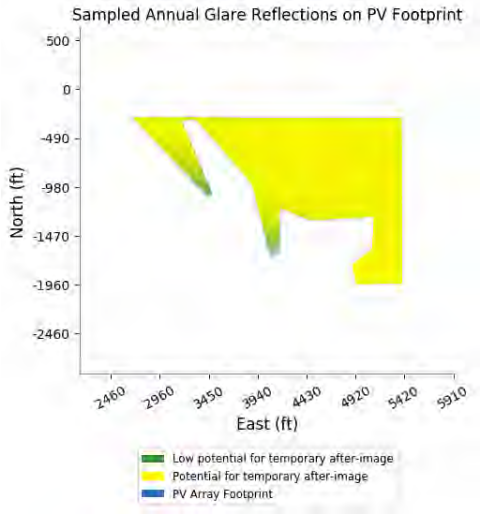


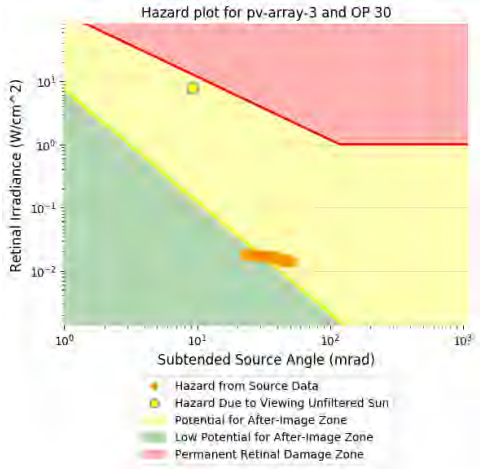
PV array 3 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:
291 minutes of "green" glare with low potential to cause temporary after-image.
1,921 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 3 - Route Receptor (Route 1)

No glare found

PV array 3 - Route Receptor (Route 10)

No glare found

PV array 3 - Route Receptor (Route 11)

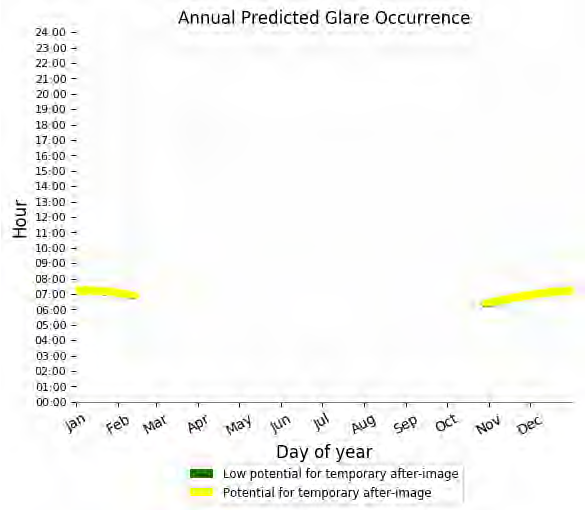
No glare found

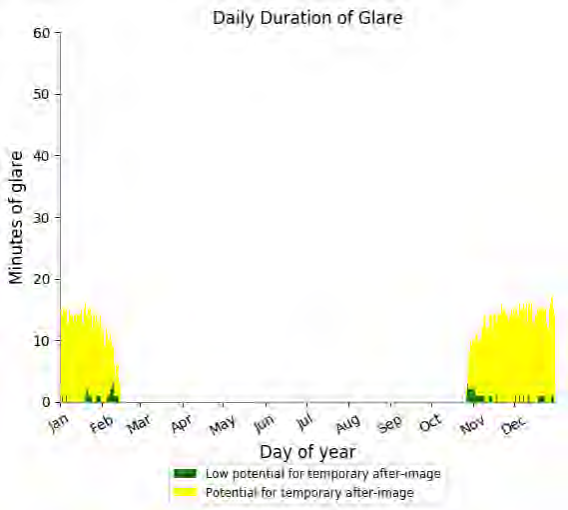
PV array 3 - Route Receptor (Route 12)

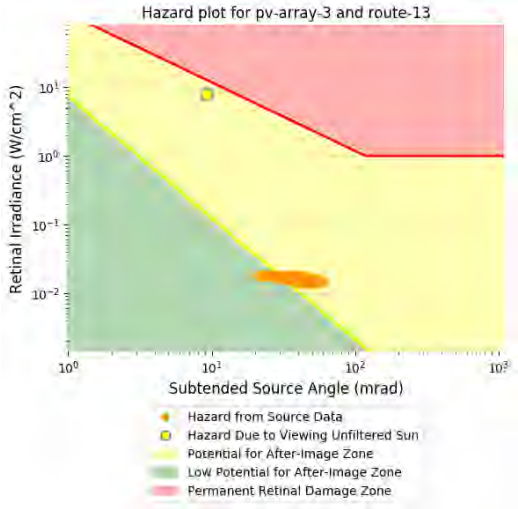
No glare found

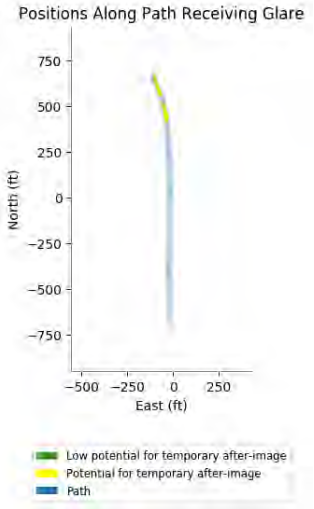
PV array 3 - Route Receptor (Route 13)

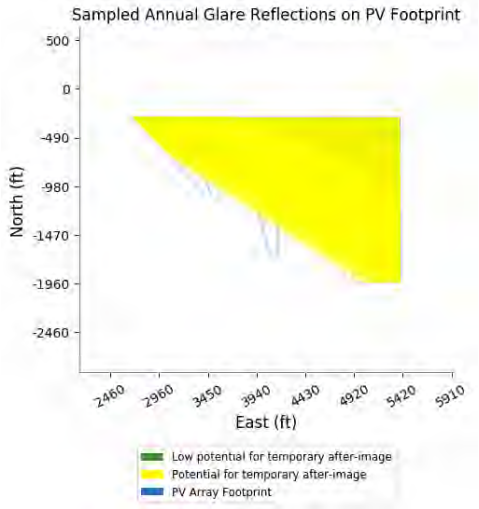
PV array is expected to produce the following glare for receptors at this location:
60 minutes of "green" glare with low potential to cause temporary after-image.
1,378 minutes of "yellow" glare with potential to cause temporary after-image.









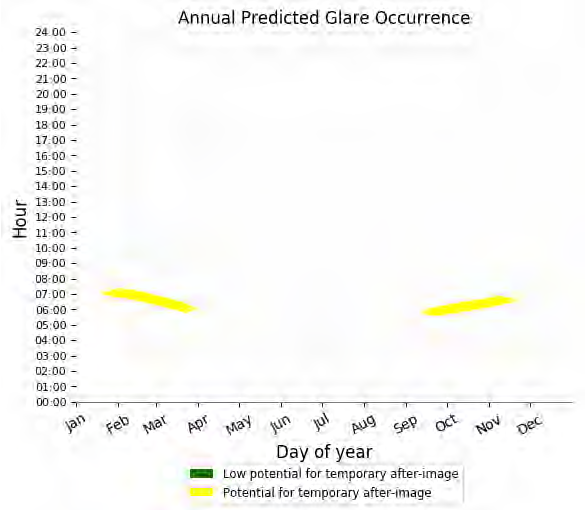


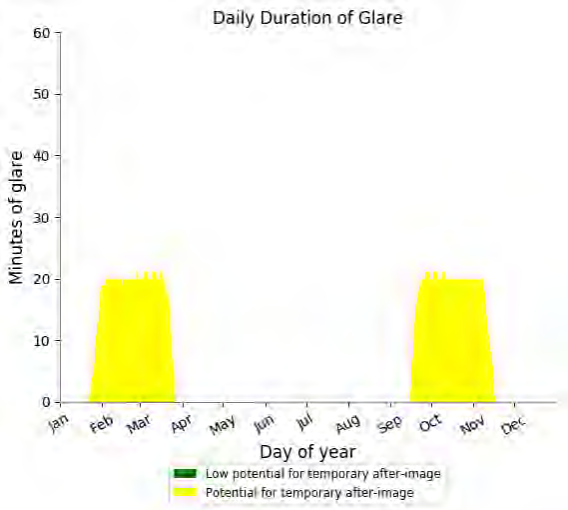
PV array 3 - Route Receptor (Route 2)

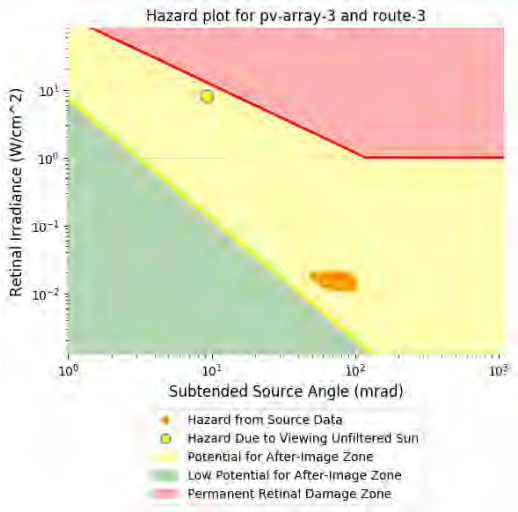
No glare found

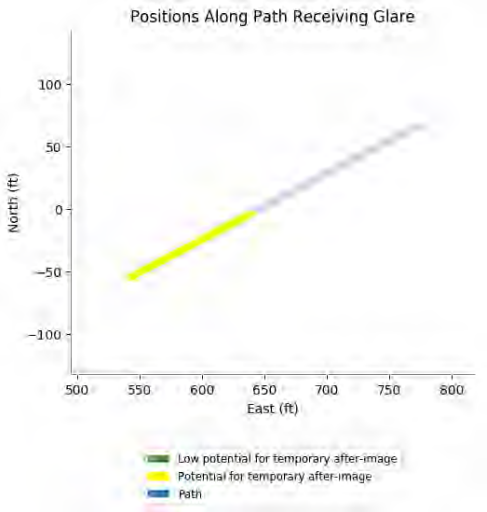
PV array 3 - Route Receptor (Route 3)

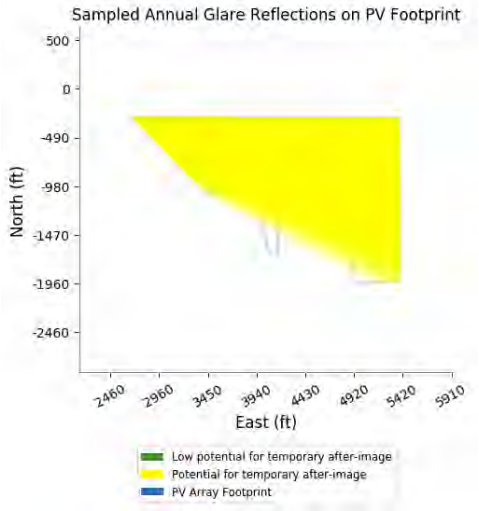
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
2,235 minutes of "yellow" glare with potential to cause temporary after-image.





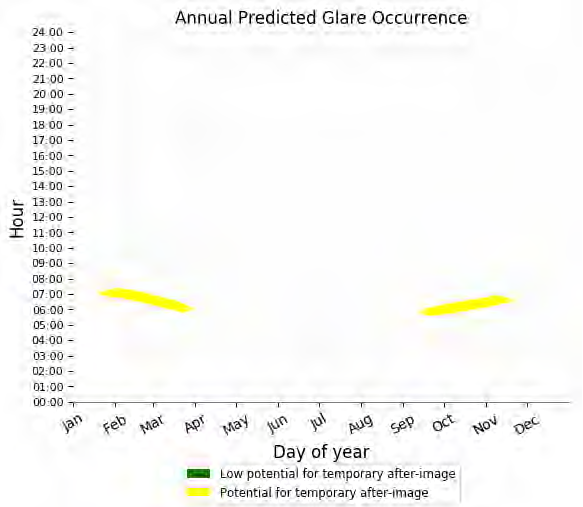


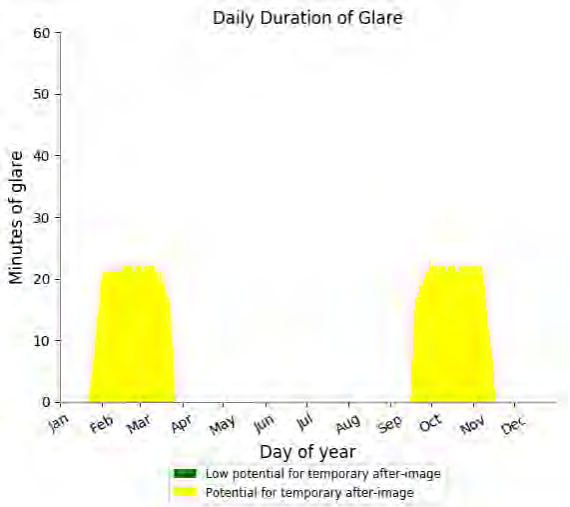


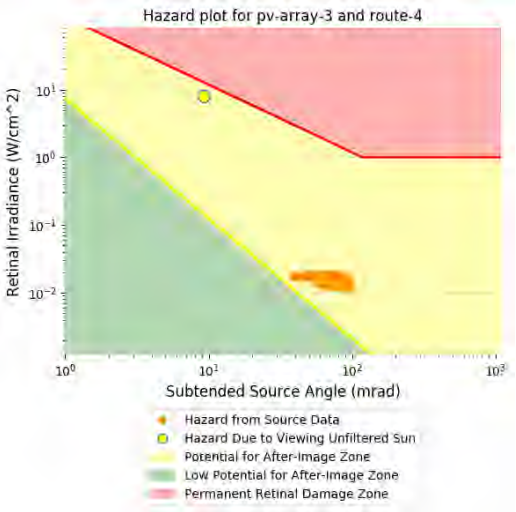


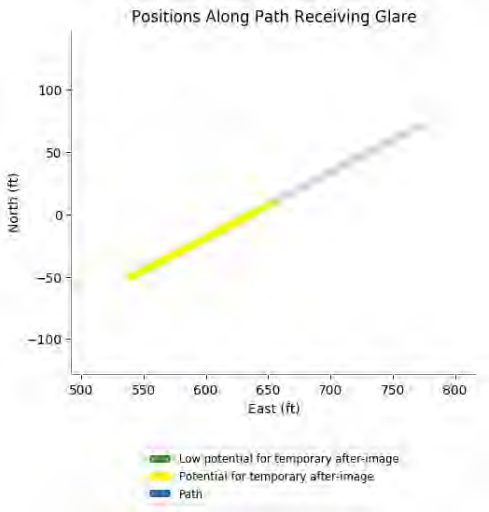
PV array 3 - Route Receptor (Route 4)

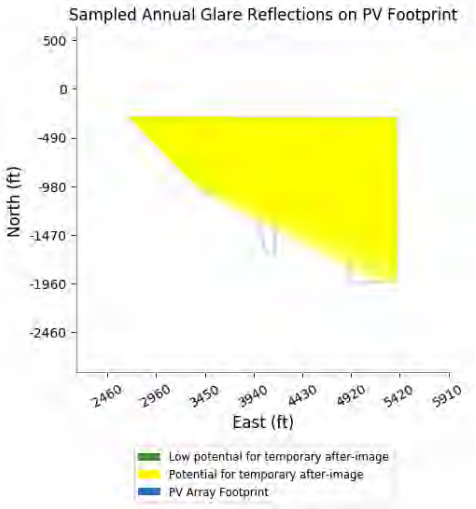
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
2,381 minutes of "yellow" glare with potential to cause temporary after-image.





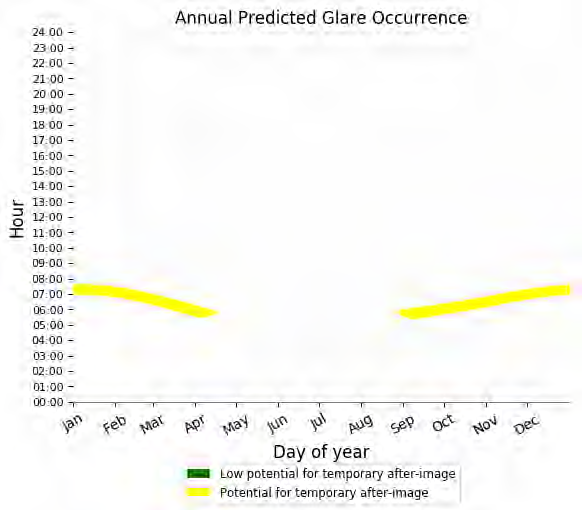


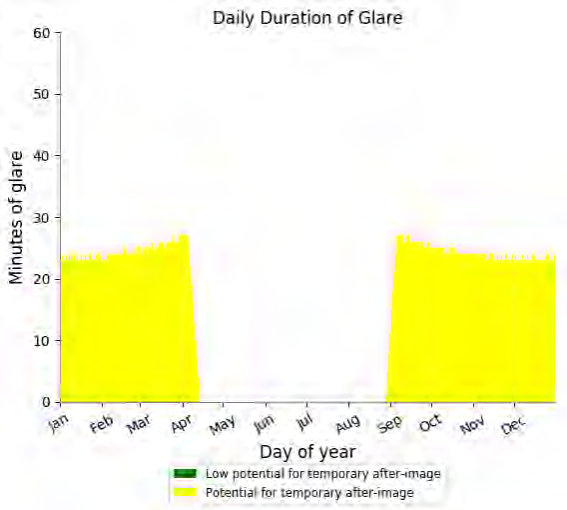


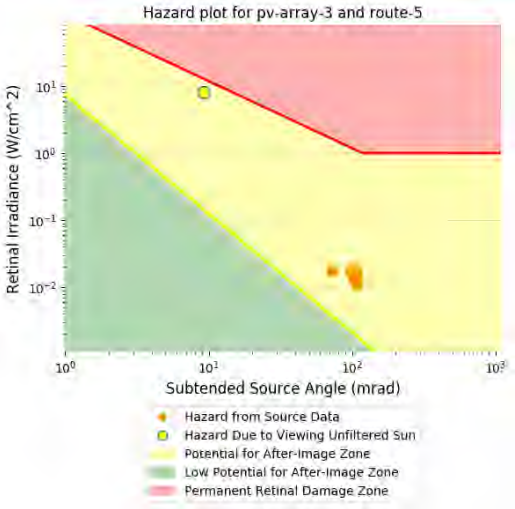


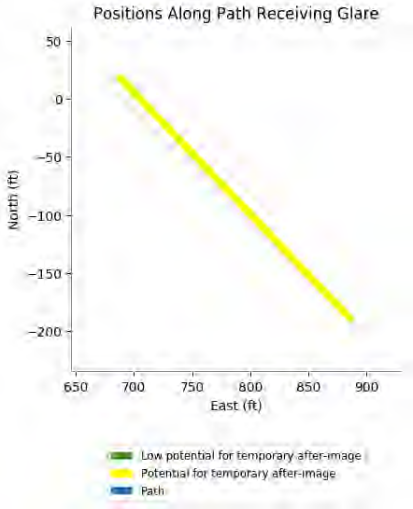
PV array 3 - Route Receptor (Route 5)

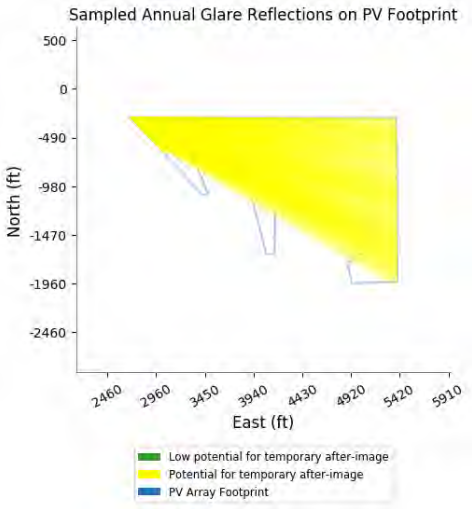
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
5,391 minutes of "yellow" glare with potential to cause temporary after-image.





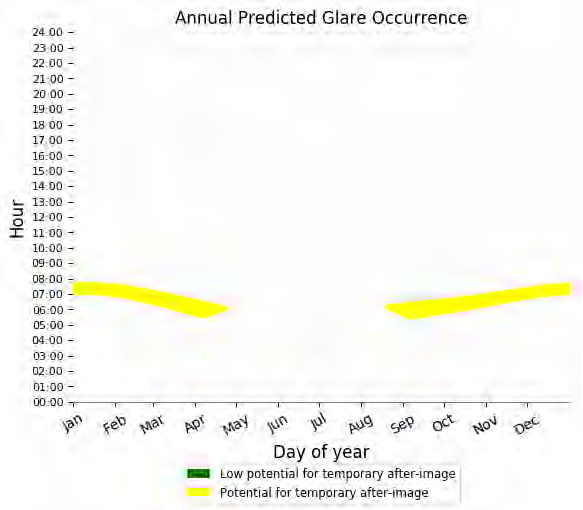


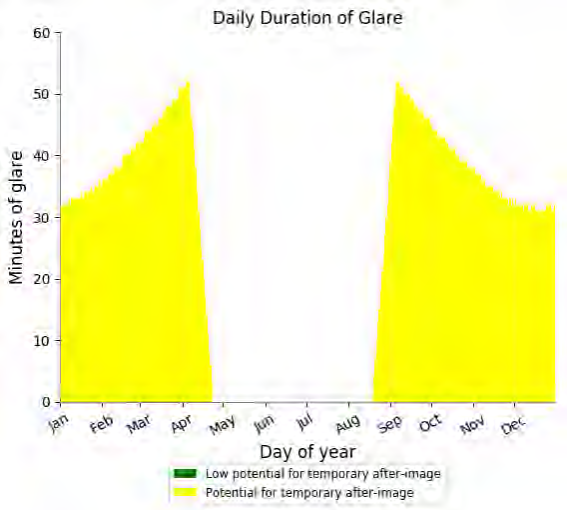


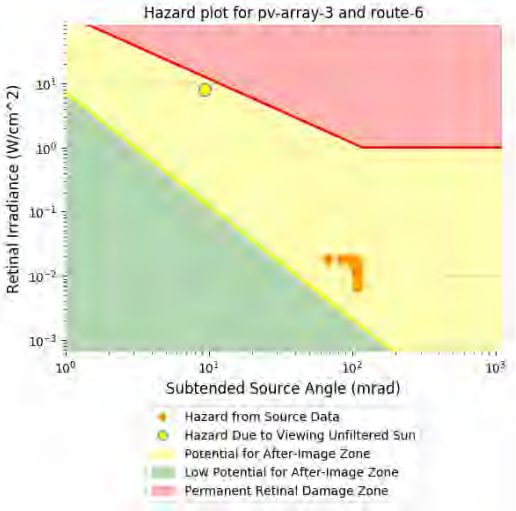


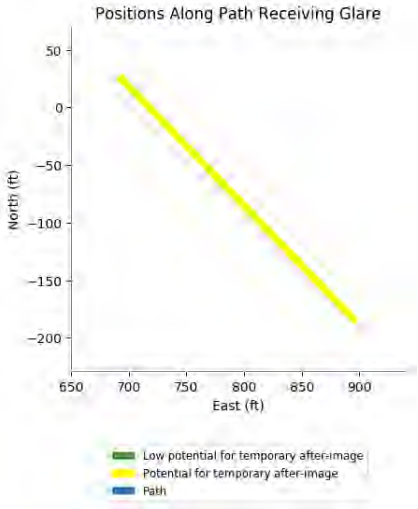
PV array 3 - Route Receptor (Route 6)

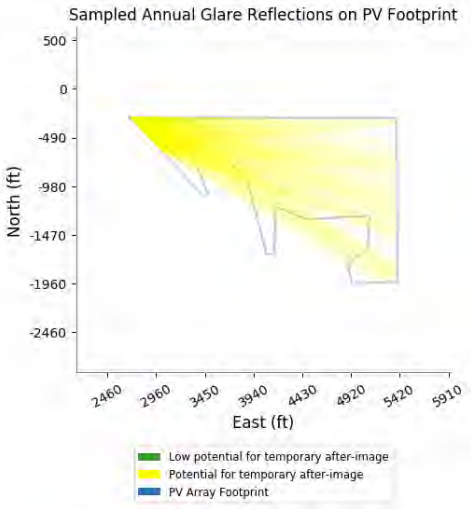
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
9,273 minutes of "yellow" glare with potential to cause temporary after-image.





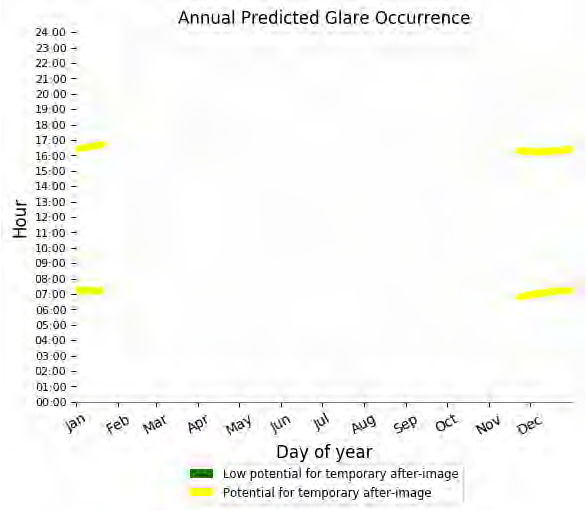


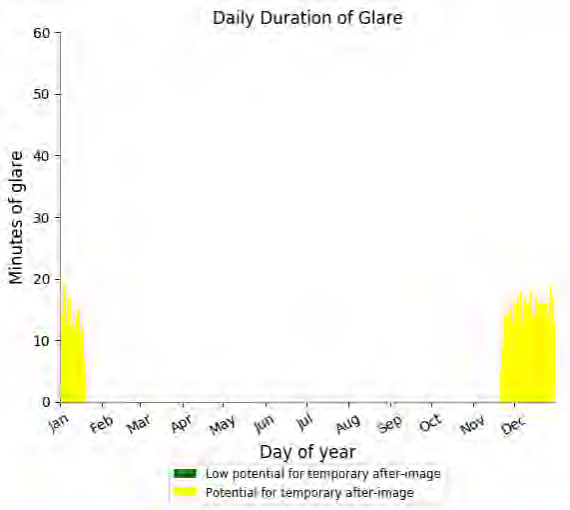


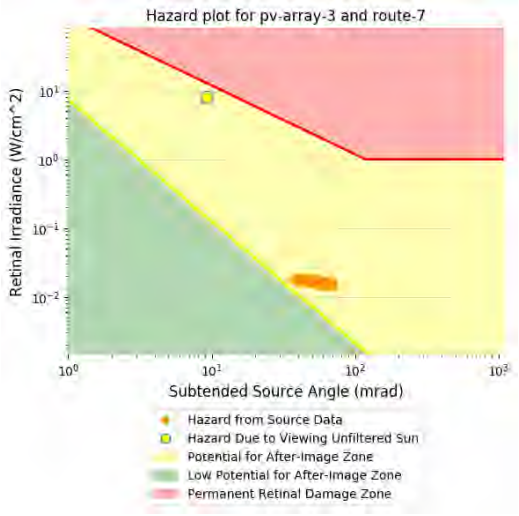


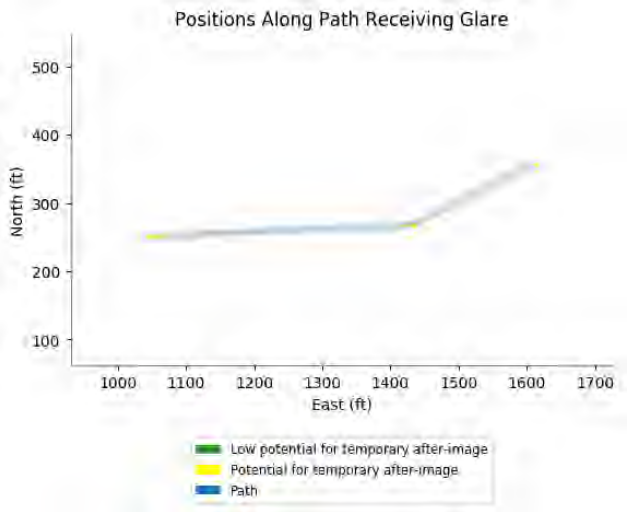
PV array 3 - Route Receptor (Route 7)

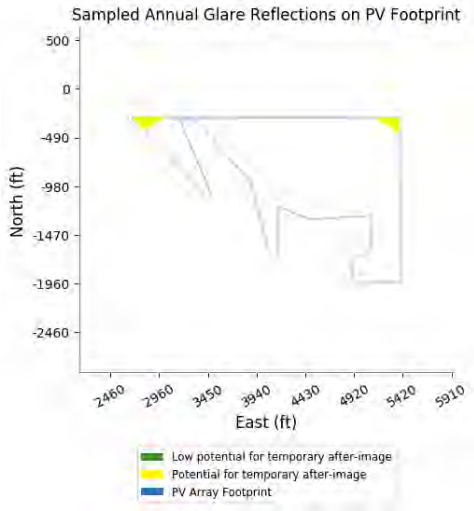
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
891 minutes of "yellow" glare with potential to cause temporary after-image.





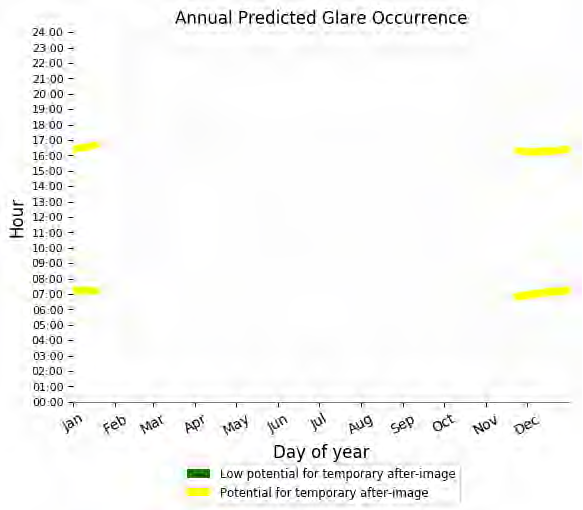


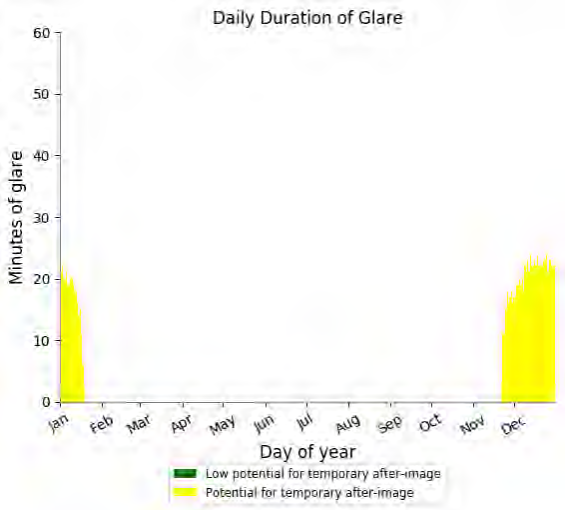


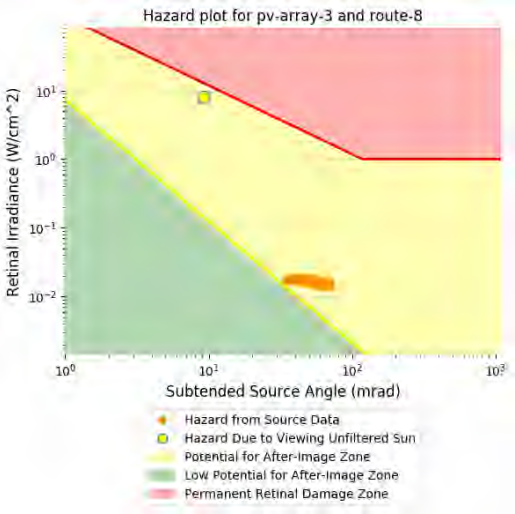


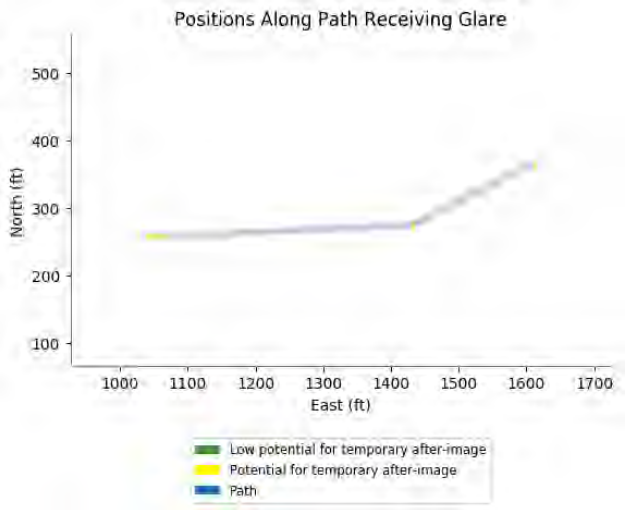
PV array 3 - Route Receptor (Route 8)

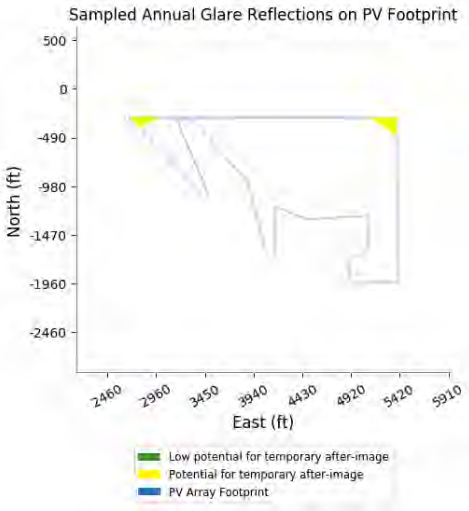
PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
1,112 minutes of "yellow" glare with potential to cause temporary after-image.











PV array 3 - Route Receptor (Route 9)

No glare found

PV array 4 potential temporary after-image

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	3164
OP: OP 4	0	4638
OP: OP 5	0	3866
OP: OP 6	0	0
OP: OP 7	0	0
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	124	329
OP: OP 15	257	599
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	2176
OP: OP 21	0	2785
OP: OP 22	0	2688
OP: OP 23	0	1719
OP: OP 24	0	2641
OP: OP 25	0	0
OP: OP 26	1	1279
OP: OP 27	26	3102
OP: OP 28	26	3329
OP: OP 29	857	1150
OP: OP 30	872	1243
Route: Route 1	0	0
Route: Route 10	0	0
Route: Route 11	0	0
Route: Route 12	0	0
Route: Route 13	51	0
Route: Route 2	0	0
Route: Route 3	0	5977
Route: Route 4	0	6917
Route: Route 5	0	6864
Route: Route 6	0	12364
Route: Route 7	0	52
Route: Route 8	0	56
Route: Route 9	0	0

PV array 4 - OP Receptor (OP 1)

No glare found

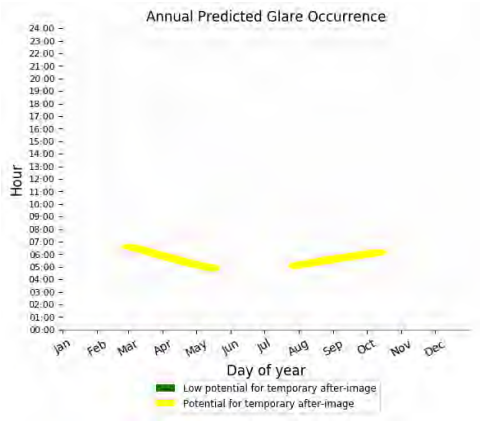
PV array 4 - OP Receptor (OP 2)

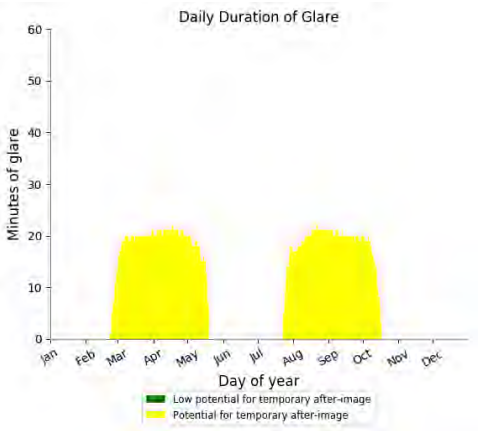
No glare found

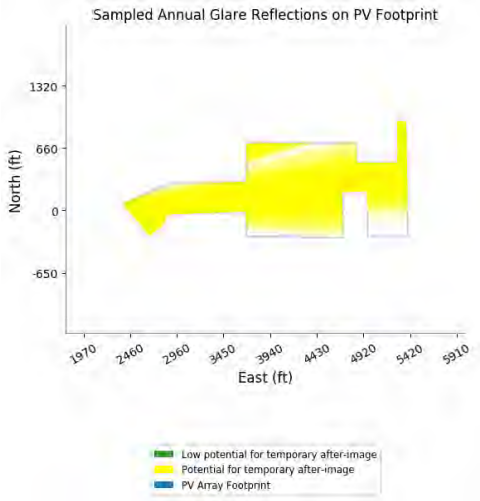
PV array 4 - OP Receptor (OP 3)

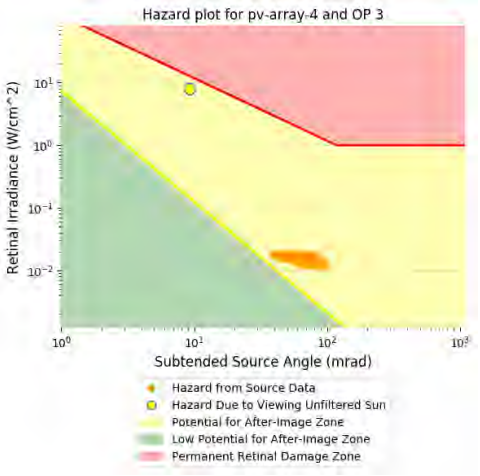
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
3,164 minutes of "yellow" glare with potential to cause temporary after-image.





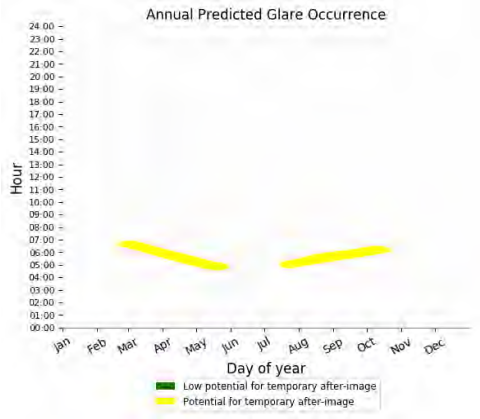


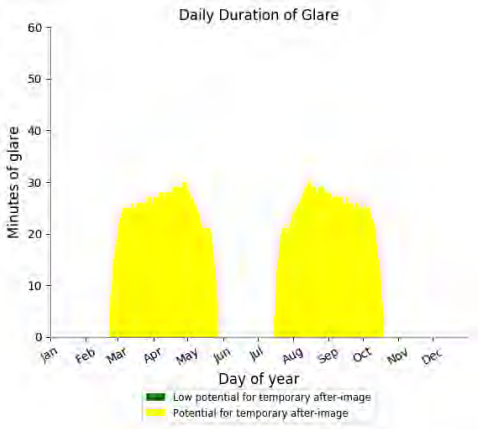


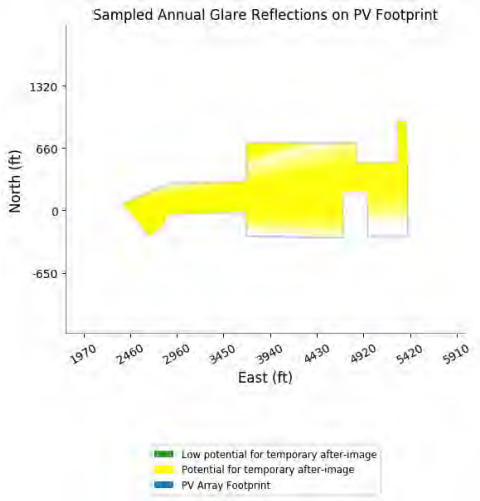
PV array 4 - OP Receptor (OP 4)

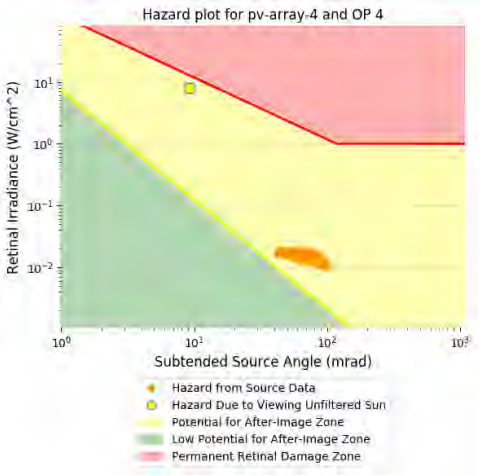
PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
4,638 minutes of "yellow" glare with potential to cause temporary after-image.



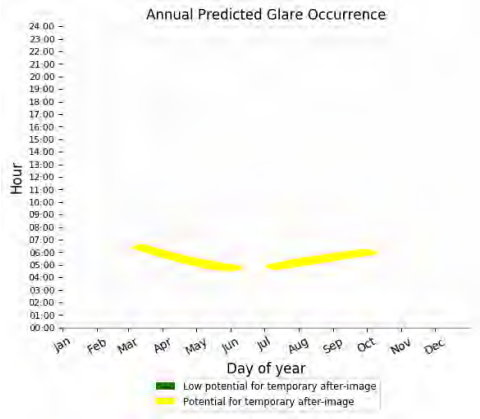


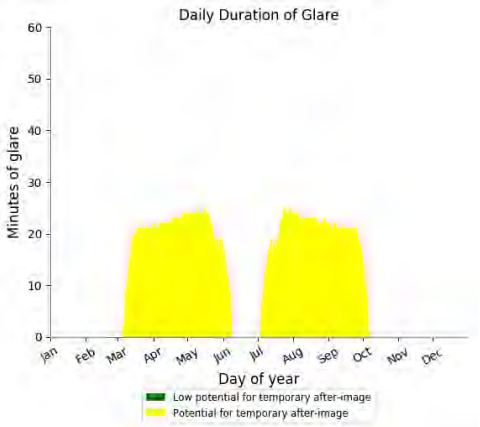


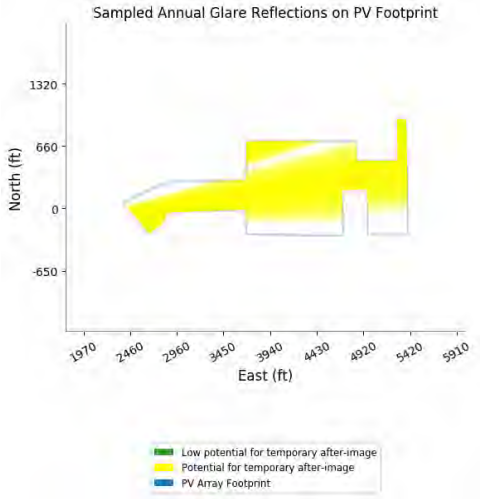


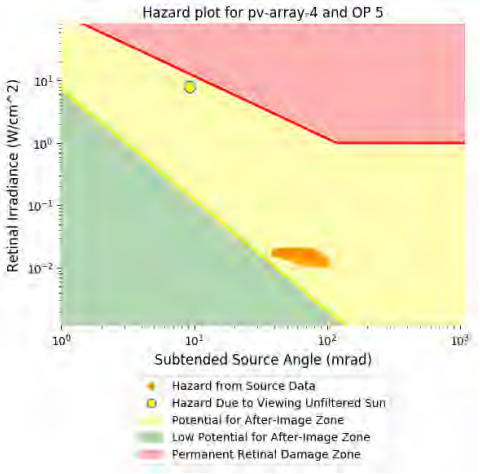
PV array 4 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:
0 minutes of "green" glare with low potential to cause temporary after-image.
3,866 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 4 - OP Receptor (OP 6)

No glare found

PV array 4 - OP Receptor (OP 7)

No glare found

PV array 4 - OP Receptor (OP 8)

No glare found

PV array 4 - OP Receptor (OP 9)

No glare found

PV array 4 - OP Receptor (OP 10)

No glare found

PV array 4 - OP Receptor (OP 11)

No glare found

PV array 4 - OP Receptor (OP 12)

No glare found

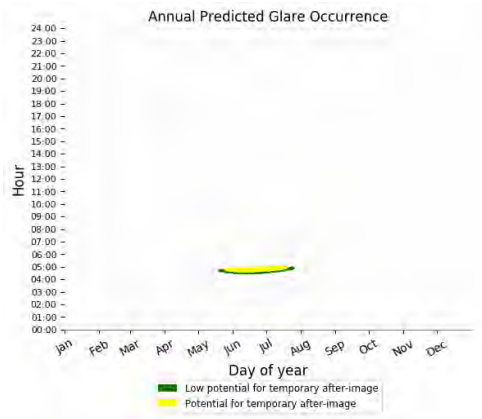
PV array 4 - OP Receptor (OP 13)

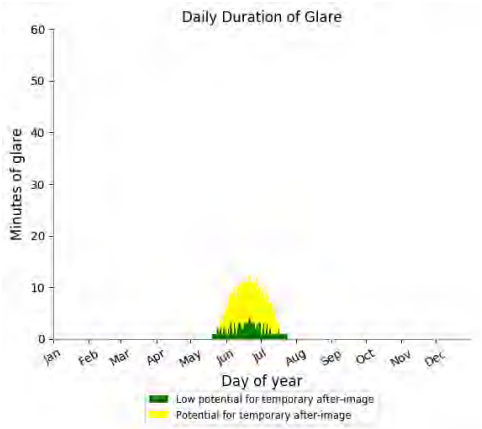
No glare found

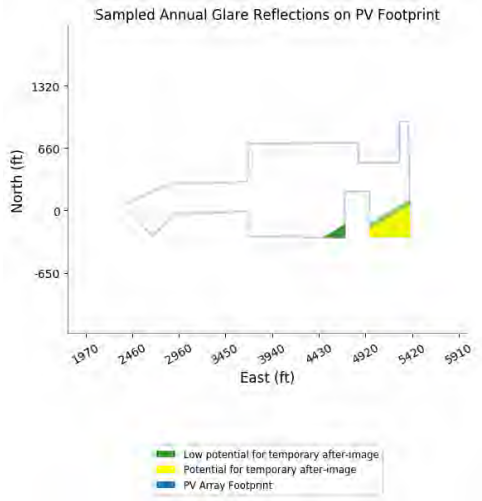
PV array 4 - OP Receptor (OP 14)

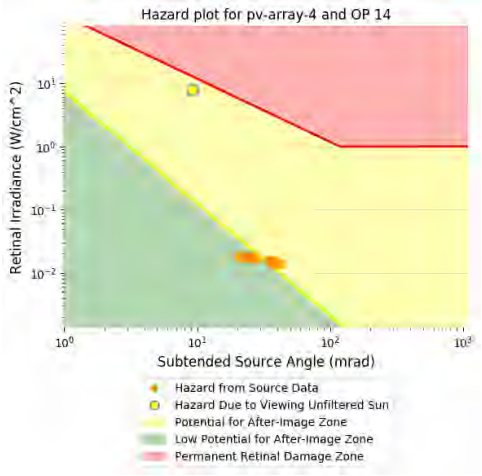
PV array is expected to produce the following glare for receptors at this location:

124 minutes of "green" glare with low potential to cause temporary after-image.
329 minutes of "yellow" glare with potential to cause temporary after-image.



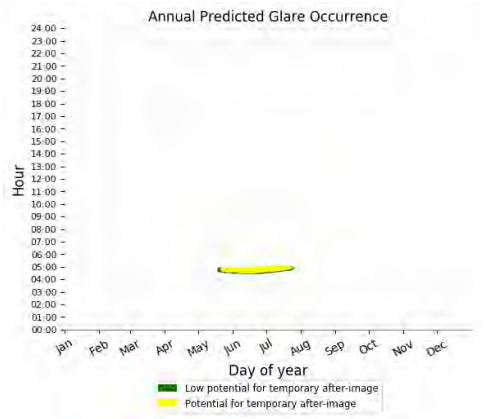


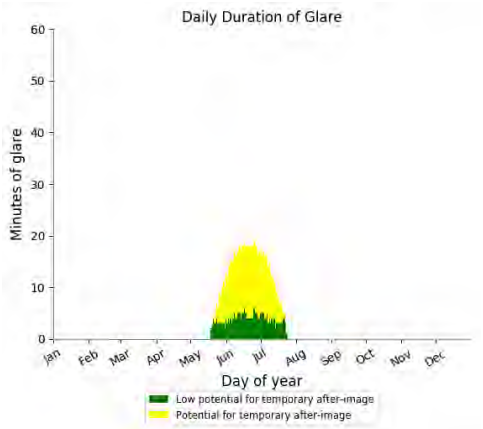


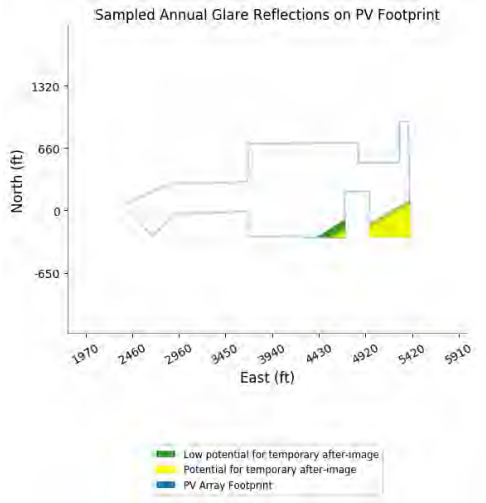


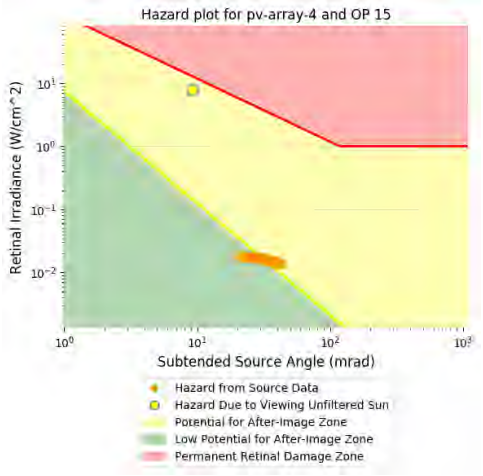
PV array 4 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:
257 minutes of "green" glare with low potential to cause temporary after-image.
599 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 4 - OP Receptor (OP 16)

No glare found

PV array 4 - OP Receptor (OP 17)

No glare found

PV array 4 - OP Receptor (OP 18)

No glare found

PV array 4 - OP Receptor (OP 19)

No glare found

PV array 4 - OP Receptor (OP 20)

PV array is expected to produce the following glare for receptors at this location:

0 minutes of "green" glare with low potential to cause temporary after-image.
2,176 minutes of "yellow" glare with potential to cause temporary after-image.