ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT

2ND ADDENDUM TO PRIOR STAFF REPORTS

TO: EAST COUNTY BOARD OF ZONING ADJUSTMENTS
HEARING DATE: JANUARY 14, 2016

GENERAL INFORMATION

APPLICATION: **CONDITIONAL USE PERMIT, PLN2014-00056**

APPLICANT: **ALTAMONT WINDS, LLC**

PROPERTY OWNERS: **VARIOUS (See Table 1, Project Properties and Owners)**

PROPOSAL: To approve the Summit Wind Repower Project, to redevelop an existing wind farm through replacement of up to 569 older wind turbines with up to 31 new approximately 2.1 megawatt (MW) turbines, resulting in a maximum capacity of roughly 54 MW, and adding new technology and infrastructure.

Note: The original proposal was for 33 turbines; however, as of December 4, 2015, following coordination with the East Bay Regional Park District, the applicant withdrew two wind turbine sites (Nos. 29 and 30, located closest to Brushy Peak) from further consideration, and is therefore only proposing up to 31 turbine sites. Depending on final turbine selection, micro-siting and other considerations, a capacity of 54 MW is still expected to be yielded.

LOCATION, ASSESSOR'S PARCEL NOS. AND PARCEL AREAS: The proposed project is located on 17 parcels over about 3,470 acres in the eastern Altamont Hills, between the Contra Costa County line and Interstate I-580, and mainly west of Dyer Road and the portion of Altamont Pass Road between Carroll Road and Dyer Road. It also includes one parcel east of Dyer Road approximately a half mile north of Altamont Pass Road, and extends to the northeast and northwest from the north end of Dyer Road to the County line. Assessor Parcel Numbers are identified in Table 1, Project Properties and Owners, and in the Draft Resolution. (*Note:* the elimination of turbine sites 29 and 30 does not affect the number of project parcels or ownership).

ZONING: A (Agriculture, 160-acre minimum) District

GENERAL PLAN DESIGNATION: LPA (Large Parcel Agriculture), East County Area Plan, adopted in 1994 and amended in November 2000 and May 2002.

ENVIRONMENTAL REVIEW: The project is subject to the California Environmental Quality Act (CEQA, 1970 as amended), and is consistent with the Program Environmental Impact Report (PEIR) certified by the East County Board of Zoning Adjustments on November 12, 2014. The proposal is therefore reviewed as a tiered project with a checklist pursuant to Section 15168(c) of CEQA Guidelines. The CEQA aspects of the project were fully discussed in the prior staff reports.

RECOMMENDATION

The Board should receive a staff presentation, take public comment on the proposed project application, review the draft resolution and exhibits, including Findings of Significant Impacts of the Project, the Mitigation Monitoring and Reporting Program (MMRP) and a Statement of Overriding Considerations for the project, and approve the Conditional Use Permit, subject to the proposed conditions of approval.

BACKGROUND

At the first hearing on the project proposal on November 19, 2015, the Board received comments from several area residents opposed to the placement of certain proposed new turbines, within close or perceived close proximity to their residences, particularly site numbers 23, 24, 25, 26 and 30, four of which would be placed along the ridge west of their homes and another (26) on a hill to the east. Other speakers included those representing the East Bay Regional Park District (EBRPD) regarding the proposed placement of three turbines (28, 29 and 30) near the Brushy Peak summit, and the Audubon Society primarily regarding the process of turbine siting to avoid avian mortality and its lack of public availability or transparency. Planning staff also reported receiving phone calls regarding review of the proposal by Native American tribal group representatives. Based on these comments and concerns, and to obtain additional information, such as more specific visual simulations, clarified distances and setbacks from residences, the Board continued the hearing to December 10, 2015.

A staff report Addendum was prepared and circulated for the scheduled hearing; however, due to a technical problem with County software, the agenda was not posted within 72 hours as required, and the meeting was therefore continued to January 14, 2016. The staff report Addendum conveyed a Supplemental Information report prepared by the applicant's consultants, Power Engineers, that was meant to address major comments received at the hearing on November 19, 2015, including effects on residences along Dyer Road, effects on Brushy Peak, and the applicant's siting process. A revised Supplemental Information report, with additional details is attached, which primarily replaces a table describing shadow-flicker effects on specific residential receptors. In most other respects the report has few changes from the original version.

PURPOSE OF 2nd ADDENDUM

This Addendum is intended to revise and supplement the 1st Addendum, convey and summarize all of the public comments on the project, including the transmission of several letters and correspondence (e-mails, primarily) received both prior to and since the hearing on November 19, 2015. In addition, it summarizes the most prominent issues raised in the public comments. Other exhibits include a complete record of public comments received (compiled into one document, and separately), and a list of websites and webpages referenced in the comments.

PLANNING CONSIDERATIONS

The major topics of comments received, and the outline for the following discussion, includes the following:

1. Turbine Siting – the desire for a 'transparent' process (i.e., publicly accessible and accountable) that uses "best available science" (aka "smart siting") to ensure that avian and raptor mortality is avoided to the greatest extent possible.
2. Aesthetic Considerations – perception that the new turbines are proportionally too large for their relative close proximity to residences along Dyer Road, and that much larger setbacks should be required.
3. Nighttime Aesthetic Considerations – that new night time lighting required by the FAA will substantially alter the quality of nighttime and starlight views.
4. Shadow Flicker – concerns with lack of information on specific effects.
5. Noise, Including Low-Frequency Noise (aka 'infrasound') – based on some research and reporting that the wind turbines will emit low-frequency noise that will damage their quality of life.
6. Human Health – partly related to low-frequency noise, and other emissions that some researchers have attributed to adverse health effects.
7. Referral to and consideration of Native American cultural heritage and sacred status of the Brushy Peak area.

SITING ANALYSIS

The Supplemental Information report provided a general outline of the siting process, which the County has requested to be expanded upon for the hearing. A presentation on how the applicant made its siting decisions will be provided at the hearing. Since the November 19, 2015 hearing the County received more information regarding the siting process from Dr. Smallwood, and the availability of public information on the siting methodology that is in the public domain, from Dr. Doug Bell. Communication from these professionals is attached in the public comments.

The draft conditions of approval and the MMRP set forth specific guidelines for review of final siting of turbines by the APWRA Repowering Technical Advisory Committee (TAC), but generally anticipate the process would occur after project approval. Each turbine site will be reviewed carefully by the TAC to ensure avoidance of raptor and other avian species mortality, using the best available methodologies.

AESTHETIC CONSIDERATIONS

The public has raised very strong concerns about the scale of the proposed turbines, especially those that would be located within clear visual sightlines of their residences, within about half a mile of the homes along Dyer Road. This attention is focused on four proposed turbine sites, 23 through 26, although sites 25 and 26 are south of the rural residential enclave. It should be recognized that the removal of several hundred old generation turbines from along the ridge to the west would provide a substantial visual benefit to the vicinity.

Shadow flicker concerns are addressed in some detail in the Revised Supplemental Information report, and is based on the use of modeling software (WindPro). The applicant will be required to mitigate for those receptors that exceed the County's standards; additionally, the applicant intends to exceed the standard by providing for turbine curtailment during critical hours for some residences that may be further than 500 meters (approximately 1,640 feet) from turbines.

Nighttime lighting of the new turbines in compliance with FAA requirements may be a understandable concern. However, the applicant has indicated that a real observation of night sky effects in the vicinity of the new NextEra Golden Hills project are not substantially disruptive to night time views. The applicant has also pledged to employ only FAA standard red flashing lights, and to be operated at the minimum allowable intensity and flashing frequency required by the FAA.

NOISE / LOW-FREQUENCY NOISE

Substantial commentary and reports were focused on noise effects of the new turbines, especially on low-frequency noise that is inaudible but has been asserted to have potential human health effects. This also includes the concepts of "Wind Turbine Syndrome" and infrasound, all of which has been the subject of reporting and scientific controversy. The Program EIR specifically discusses the topic of low frequency noise (page 3.11-4), and cites several sources recognized and peer-reviewed. The discussion in the PEIR concludes that there is no reliable evidence that infrasound below the hearing threshold produces physiological or psychological effects. This lack of effects at levels below the hearing threshold was supported by a scientific advisory panel composed of medical doctors, audiologists, and acoustical professionals. Nonetheless, the Board may choose to be more conservative and cautious, after review of the materials and comments provided.

NATIVE AMERICAN CULTURAL HERITAGE

The Programmatic EIR for the APRWA, approved by the County in 2014, involved communication between the PEIR authors and the Native American Heritage Commission (NAHC). A Sacred Lands search request of the NAHC was made, consistent with standard CEQA procedures. According to the PEIR (Page 3.5-12), the NAHC responded by stating that there were no known Native American cultural

resources in the immediate PEIR area. In addition, the NAHC asked that the County contact nine tribal representatives (Sayers, Kehl, Perez, Garibay, Zwierlein, Cambra, Feyling, Cerda and Galvan) named by the NAHC; no responses to the County inquiry were received.

During the preparation of the cultural resource analysis included in the Supporting Documents, the consultant found that the Brushy Peak Archaeological District is located west and outside the footprint of the Summit Wind Project Footprint. In any case, no project turbines will be built on Brushy Peak nor inside the formal boundary of the Brushy Peak Regional Preserve.

RECOMMENDATION

The Board should receive a staff presentation, take public comment on the proposed Conditional Use Permit project application, review the draft resolution and exhibits, including the Mitigation Monitoring and Reporting Program (MMRP), Findings and Statement of Overriding Considerations for the project, and approve the project (PLN2014-00056) subject to the proposed conditions, which includes implementation of the MMRP.

Based on the substantial additional information received by both opponents and the project proponent, with concerns regarding the close proximity of turbines 23 to 26 to the Dyer Road area residents, and noise, vibration, shadow flicker and other setback and aesthetic concerns, the Board may wish to modify the project approval. The Board is obligated to make findings that the Conditional Use Permit allows for a land use that is properly related to other land uses in its vicinity, and that the use, if permitted, under all the circumstances and conditions of this particular case, will not materially affect adversely the health or safety of persons residing or working in the vicinity, or be materially detrimental to the public welfare or injuries to property or improvements in the neighborhood.

Attachments

PREPARED BY: Andrew Young	Planner III
REVIEWED BY: Sandra Rivera	Assistant Planning Director

REVISED SUPPLEMENTAL INFORMATION
For EBZA STAFF REPORT *2ND ADDENDUM – January 14, 2016*
Summit Wind Repower Project

I. EFFECTS ON RESIDENCES

Potential visual and noise impacts occurring to residences in proximity to proposed Project facilities was a primary concern raised by members of the public during the November 19th hearing. Area residents were particularly concerned with wind turbine site 23, 24, 25, 26 and 30.

Distance

As detailed in the FPEIR, there is no ordinance dictating setback conditions in Alameda County (Table 2-2, page 2-13); setbacks were historically determined on a project-by-project basis in accordance with the standard conditions of approval for the CUPs approved in the 1980s and 1990s. New standard conditions of approval for the fourth-generation type of turbines currently proposed for repowering of the APWRA and which account for blade throw risks. The new standards are shown in **Table 1** below, together with ***bold & italic*** notes indicating the applicable dimensions for the type of turbine assumed to be used for the Summit Wind Repower Project (the Suzlon S97 model with a total turbine height of 454 feet).

TABLE 1 ADOPTED ALAMEDA COUNTY TURBINE SETBACK REQUIREMENTS

Affected Land Use or Corridor	General Setback	Setback Adjustment for Turbine Elevation Above or Below Affected Use[a]	Alternative Minimum[b]
Adjacent parcel with approved wind energy CUP[c]	1.1 times rotor length ***(159 feet x 1.1=175 feet for the Project)***	1% TTH added or subtracted per 10ft. of turbine elevation, respectively, above or below affected parcel	50% of general setback
Adjacent parcel without approved wind energy CUP	1.25 times TTH ***(454 feet x 1.25=568 feet for the Project)***	1% TTH per 10ft. above or below affected parcel	1.1 times rotor length
Adjacent dwelling unit	3 times TTH ***(454 feet x 3.0=1,362 feet for the Project)***	1% TTH per 10ft. above or below affected unit	50% of general or elevation differential setback
Public road (including I-580), trail, commercial or residential zoning	2.5 times TTH ***(454 feet x 2.5=1,135 feet for the Project)***	1% TTH per 10ft. above or below affected right-of-way	50% of general setback with report by qualified professional, approved by Planning Director
Recreation area or property	1.25 times TTH ***(454 feet x 1.25=568 feet for the Project)***	1% TTH per 10ft. above or below affected property	TTH
Transmission line[d]	2 times TTH ***(454 feet x 2.0=908 feet for the Project)***	1% TTH per 10ft. above or below path of conductor line at ground level	50% of general setback with report by qualified professional, approved by Planning Director

Notes:
TTH = total turbine height: the height to the top of the rotor at 12:00 position. Setback distance to be measured horizontally from center of tower at ground level.
[a] The General Setback based on TTH will be increased or reduced, respectively, based on whole 10-ft. increments in the ground elevation of the turbine above or below an affected parcel, dwelling unit, road right of-way, or transmission corridor conductor line. Any portion of a 10-ft increment in ground elevation will be disregarded (or rounded down to the nearest 10-ft interval).
[b] *Alternative Minimum* refers to a reduced setback standard, including any adjustment for elevation, allowed with a notarized agreement or an easement on the affected property, subject to approval of the Planning Director.
[c] No setback from parcel lines is required within the same wind energy CUP boundary. Knowledge of proposed wind energy CUPs on adjacent parcels to be based on best available information at the time of the subject application.
[d] Measured from the center of the conductor line nearest the turbine.

Table A2.1-2 located on page 6 of Attachment A-2 of the November 2015 CEQA Implementation Checklist Supporting Document shows distances to nearest "residence" for turbines. These distances were calculated by the applicant's consultant based on "residential area" clusters, and using Geographic Information System (GIS) based on the center point of each Project tower location and the "residential areas" as points.

On November 24, 2015, the consultant conducted a field verification of the location of individual residential dwelling units, and subsequently digitized the results based on building footprints as polygons. **Figure 1** through **Figure 5** attached to this report provide aerial photos showing the locations of these dwelling units located along Dyer Road, and in proximity to wind turbines numbers 11, 23, 24, 25, and 26 based on field verification. The distances shown on **Figures 1** to **5** are measured from the center-point of the structure towers to the closest outside wall of the nearest residential dwelling unit, and range from 864 feet to 2,406 feet. The "elevation adjusted setback" shown in each figure represents the setback that is required based on **Table 1** (County setback standards), thereby showing the relative degree of compliance (and which is summarized in a subsequent table). Associated shadow flicker and noise study receptor identifiers (A, B, C, etc.) are also shown on the figures.

A comparison of nearest "residential areas" identified in the November 2015 CEQA Implementation Checklist Supporting Document Table A2.1-2 and the November 24th field verification of specific residential locations of concern in relation to the proposed turbines in these areas is shown in **Table 2** below. As noted on **Table 2** below, the dwelling unit associated with turbine 30 was accounted for in the November 2015 CEQA Implementation Checklist Supporting Document Table A2.1-2, but was not included in the shadow flicker and noise study list of receptors. Although shadow flicker and noise analysis accounting for the residence/receptor associated with turbine 30 was begun after the prior hearing, turbine site 30 has been withdrawn from further consideration, so no further analysis is provided.

Table 3 below shows the elevation adjusted and alternative minimum setbacks based on the County adopted standards for turbines and residences located along Dyer Road. The turbine number, turbine elevation, actual horizontal distance to nearest residence/receptor, residence/receptor identification, residence/receptor elevation, elevation difference between residence/receptor and turbine, elevation adjusted setback and calculated alternative minimum setback are included in **Table 3**.

Attachment A-2 of the November 2015 CEQA Implementation Checklist Supporting Document (page 11) states that "(s)everal residences located along Dyer Road are within about 1,100 feet of existing turbines." Field verification shows that two residences are located within approximately 950 feet.

As detailed in **Table 3** below, residences located in proximity to the proposed wind turbine numbers 11, 24, 25 and 30 would fall outside of the alternative minimum setbacks, but would fall within adopted County setback standards when topographic elevations are taken into account. Two of these turbines, 11 and 25, would affect properties whose owners have agreed to provide the necessary setback waivers. The elevation adjusted setback associated with turbine 24 (at current preliminary siting tolerances) and residence/receptor H falls within the current preliminary siting and elevation adjusted setback, but is within seven feet of being outside of the required setback. With this distance, final design micro-siting of turbine 24 in relation to residence/receptor H would adjust this distance so as to place the turbine beyond the 1,460-foot County adopted elevation adjusted setback standard.

TABLE 2 DISTANCE TO NEAREST FIELD VERIFIED RESIDENCES FROM PROPOSED TURBINES

TURBINE NUMBER	RESIDENTIAL DISTANCE CALCULATIONS				SHADOW FLICKER AND NOISE STUDY RECEPTOR IDENTIFICATION
	DISTANCE TO NEAREST FIELD VERIFIED RESIDENCE		*DISTANCE TO "RESIDENTIAL AREA" IDENTIFIED IN CHECKLIST SUPPORTING DOCUMENT*		
	METERS	FEET	*METERS*	*FEET*	
11	263	864	*256*	*839*	B (Walker)
23	537	1,761	*601*	*1,973*	H (____)
24	443	1,453	*615*	*2,017*	H (____)
25	265	868	*1,150*	*3,773*	P (DiVincenzi)
26	733	2,406	*1,231*	*4,039*	Y (DiVincenzi)
30	287	943	*292*	*958*	None (Walker)

TABLE 3 ADJUSTED SETBACK DISTANCE TO NEAREST RESIDENCES

TURBINES		RECEPTORS/RESIDENCES						
		DISTANCE TO NEAREST RESIDENCE		RECEPTOR/ RESIDENCE IDENTIFICATION	RECEPTOR/ RESIDENCE ELEVATION (FEET)	TURBINE ELEVATION DIFFERENCE (FEET)	*ADOPTED COUNTY STANDARD (INCLUDES ELEVATION ADJUSTMENT)* [C] (FEET)	CALCULATED ALTERNATIVE MINIMUM SETBACK (FEET)
TURBINE #	TURBINE ELEVATION (FEET)	METERS	FEET					
11[A]	863	263	864	B	726	+110	***1,410***	*706*
23	1141	537	1,761	H	863	+278	***1,480***	*Meets adopted standard w/elevation adjustment*
24	1098	443	1,453	H	863	+235	***1,460***	*730*
25[B]	996	265	868	P	798	+198	***1,450***	*725*
26[B]	1021	733	2,406	Y	779	+242	***1,410***	*Meets adopted standard w/elevation adjustment*

[A]- Nearest residence is located associated with the Walker property who have agreed to provide necessary waivers.
[B]- Nearest residence is located associated with the DeVincenzi property who have agreed to provide necessary waivers.
[C]- 1% turbine height =4.5' per 10' of elevation difference; rounded to whole 10-foot increment.

Aesthetics

Figure A3-7 in Attachment 3 of the November 2015 CEQA Implementation Checklist and Application Supporting Materials shows existing and simulated visual conditions along Dyer Road south of the residential area. To provide additional context, and response to public requests made during the November Board Hearing, the attached Figures 7 through 14 below show the existing conditions and simulated visual

conditions in the vicinity of the Dyer Road from four locations (with Camera Position locations shown in Figure 15). Camera Positions 1 through 3 represent views from publicly accessible locations along the road, and Camera Position 4 is located within a Project parcel looking toward the Dyer Road residential area, and although not a publicly accessible view, provides an overview of the proposed development.

Shadow Flicker

Attachment A2, page 12 (AES-5) of the November 2015 CEQA Implementation Checklist and Application Supporting Materials discusses shadow flicker relative to residences located along Dyer Road, with the detailed Shadow Flicker Study included in Attachment A11. An update to the shadow flicker analysis has been based on the current layout and field verified residences shown in **Table 4**.

According to Alameda County Standards, where shadow flicker could result from the installation of wind turbines proposed near residences (i.e., within 500 meters [1,640 feet] in a generally east or west direction to account for seasonal variations), the Project applicant will prepare a graphic model and study to evaluate shadow flicker impacts on nearby residences. No shadow flicker in excess of 30 minutes in a given day or 30 hours in a given year will be permitted. If it is determined that existing setback requirements as established by the County are not sufficient to prevent shadow flicker impacts on residences, Alameda County will require an increase in the required setback distances to ensure that residences are not affected. If any residence is affected by shadow flicker within the 30-minute/30-hour thresholds, the applicant will implement measures to minimize the effect, such as relocating the turbine; providing opaque window coverings, window awnings, landscape buffers, or a combination of these features to reduce flicker to acceptable limits for the affected receptor; or shutting down the turbine during the period shadow flicker would occur. Such measures may be undertaken in consultation with owner of the affected residence. If the shadow flicker study indicates that any given turbine would result in shadow flicker exceeding the 30-minute/30-hour thresholds and the property owner is not amenable to window coverings, window awnings, or landscaping and the turbine cannot be shut down during the period of shadow flicker, then the turbine will be relocated to reduce the effect to acceptable limits.

As indicated under Impact AES-5 of the November 2015 CEQA Implementation Checklist, residences are located within 500 meters generally east or west of the Project, and blades could cause shadow flicker that may disturb sensitive viewers. Residences are located on Dyer Road and just off of Vasco road directly east and west in the Project area and blade rotation could cause shadow flicker that could be a visual intrusion to viewers and could be especially disruptive to residents who will be exposed to these conditions for long periods of time. In particular, the November 2015 CEQA Implementation Checklist indicates wind turbine numbers 24 and 25 to have total annual impacts over 30 hours per year.

The following receptors fall within the 1,640 foot shadow flicker threshold standard:

- Receptor B is 864 feet from turbine 11 (Figure 1)
- Receptor H is 1,453 feet from turbine 24 (Figure 3)
- Receptor J is 1,475 feet from turbine 24 (Figure 3)
- Receptor O is 1,594 feet from turbine 25 (Figure 4)
- Receptor P is 868 feet from turbine 25 (Figure 4)
- Receptor Y is 1,071 feet from turbine 25 (Figure 4)

For all residences/receptors shown in **Table 4** below, shadow flicker on receptors would not exceed 63:32 hours per year (i.e., 63 hours and 32 minutes, for Receptor P, which will have a landowner waiver, as it is

on a project property). A total of five Receptors, B, H, J, P and Y as shown in **Table 4**, would be exposed to greater than 30 hours of shadow flicker per year or 30 minutes per day, and would also lie within the 1,640 foot adopted County standard. Receptor B, P and Y affecting turbines 11 and 25 would provide the necessary waivers. Receptors C, E, G, I, and K would receive greater than 30 hours of shadow flicker per year or 30 minutes per day, but would fall outside of the 1,640 foot shadow flicker threshold standard. The operation of turbines 23 and 24, affecting receptors H and J, would be curtailed during the time of expected shadow flicker to mitigate potential shadow flicker impacts.

TABLE 4 YEARLY EXPECTED SHADOW HOURS AT RECEPTOR LOCATIONS

RECEPTOR	EXPECTED SHADOW FLICKER		ASSOCIATED TURBINE	DISTANCE TO TURBINE	MITIGATION MEASURE
	HRS PER YEAR	DAYS WITH MORE THAN 30 MINUTES PER DAY			
B	49:15	70	11	864	Landowner Waiver
C[A]	18:07	1	23	2,326	Curtailment 23
E[A]	18:38	10	23 & 24	2,292	Curtailment 23 & 24
G[A]	26:13	47	23 & 24	2,013	Curtailment 23 & 24
H	30:01	59	23 & 24	1,453	Curtailment 23 & 24
I[A]	22:02	34	24	1,773	Curtailment 24
J	23:56	63	24	1,475	Curtailment 24
K[A]	12:57	15	24	2,303	Curtailment 24
O[A]	4:35	0	25	1,594	-
P	63:32	83	25	868	Landowner Waiver
Y	45:45	72	25	1,071	Landowner Waiver

[A]- Receptor falls outside of the 1,640 feet County Adopted standard for shadow flicker or is not located in a generally east-west position from turbines. However, curtailment may still be warranted.

TABLE 5 TOTAL SHADOW FLICKER CAUSED BY TURBINES

TURBINE #	EXPECTED SHADOW FLICKER
	HRS PER YEAR
11	85:21
23	59:18
24	101:57
25	75:02
26	18:37

As also indicated under Impact AES-5 of the November 2015 CEQA Implementation Checklist, during detailed project design, the project applicant will prepare a graphic model and study evaluating the shadow flicker impacts on nearby residences. If shadow flicker at any receptors still exceed Alameda County's

FPEIR standards of additional mitigation measures will be employed when consulting affected residence owners. The Applicant is prepared to move or shut down any wind turbines that are installed and impose shadow flicker on receptors in excess of the FPEIR standards during morning and afternoon shadow flicker hours to reduce the shadow flicker impact on the nearby receptors to within County standards.

Noise

Attachment A2, page 67 (NOI-1) of the November 2015 CEQA Implementation Checklist and Application Supporting Materials and Attachment A10 (Noise Study) discusses noise impacts relative to sensitive receptors in the Project area during project operation. The Alameda County General Plan Noise Element (Alameda County 1976) contains goals, objectives, and implementation programs for the entire county to provide its residents with an environment that is free from excessive noise and that promotes compatibility of land uses with respect to noise. The Countywide Noise Element does not explicitly define the acceptable outdoor noise level for the backyards of single-family homes or common outdoor spaces of multi-family housing projects, but it recognizes the Federal Environmental Protection Agency (EPA) noise level standards for residential land uses. These standards are an exterior Ldn of 55 dBA and an interior Ldn of 45 dBA.

The following receptors as analyzed in the Noise Study included in Attachment A10 of the November 2015 CEQA Implementation Checklist are within the closest proximity to the proposed wind turbine locations with respect to potential noise impacts. These receptors are: receptor B is located 864 feet from turbine 11; receptor H is located 1,761 feet from turbine 23 and 1,453 feet from turbine 24; receptor P is located 868 feet from turbine 25 and; receptor Y is located 2,406 feet from turbine 26.

The noise prediction results detailed in Exhibit 2 of Attachment A10 of the November 2015 CEQA Implementation Checklist, however, indicate that residences located within about 1,750 feet of a group of wind turbines could possibly be exposed to noise that exceeds 55 dBA (Ldn) or increases in noise greater than 5 dB. It is possible that daily Ldn value caused by wind turbines could increase by more than 5 dB at locations where noise currently exceeds 55 dBA (Ldn), or that residences could be exposed to noise in excess of 55 dBA (Ldn) where noise is currently less than 55 dBA (Ldn).

Receptors H, P, Y along Dyer Road are shown in Table 3.1 of Attachment A10 in the November 2015 CEQA Implementation Checklist Supporting Materials. All receptors would fall below the threshold level discussed above. Table 3.1 of Attachment A10 is summarized below in Table 6 for the closest receptors as identified on Figures 1-6 for key data points.

TABLE 6 SUMMIT WIND REPOWER PROJECT RECEPTOR SOUND PRESSURE LEVELS VS. FPEIR THRESHOLDS

RECEPTOR	CUP THRESHOLD	EXISTING SPL DB(A)	EXISTING SPL DB(A) (LDN)	FPEIR THRESHOLD	SUMMIT SPL DB(A)	SUMMIT SPL DB(A) (LDN)	SUMMIT CHANGE FROM EXISTING WTS DB(A)	SUMMIT BELOW THRESHOLD AMOUNT, DB(A)
B	65	51.7	58.1	65	50.1	56.5	-1.6	14.9
H	55	51.6	58.0	55	47.0	53.4	-4.6	8.0
P	55	54.0	60.4	65	49.3	55.7	-4.7	15.7
Y	55	46.2	52.6	60	48.2	54.6	2.0	11.8

Conclusions

As shown above, all residences are located outside of the alternative minimum setback requirements for the affected wind turbines. However, after review of individual field-verified residences, it also may not be possible to meet the elevation adjusted adopted setback as shown in Table 2-2 of the FPEIR for wind turbines 11, 24 and 25. However, residences nearest to turbines 11 and 25 are associated with owners who have agreed to provide any necessary waivers to allow for Project implementation. Final micro-siting prior to construction of turbine 24 will be completed and could adjust this particular turbine location the seven feet required to fall outside of the adopted County Setback Standard (including the elevation adjustment).

As detailed in the November 2015 CEQA Implementation Checklist, Supporting Documents and Shadow, with respect to the flicker analysis, the expected shadow flicker associated with three residences located along Dyer Road would exceed 30 hours per year.

Similarly, the overall conclusions regarding potential noise impacts as detailed in the Noise Study would remain unchanged because none of the focused receptor locations are expected to exceed the sound pressure levels thresholds as established in the FPEIR.

II. IMPACTS ON BRUSHY PEAK

Concerns were raised regarding a number of new-generation turbines associated with the Project being located in proximity to the Brushy Peak Regional Preserve during the November 19th East BZA Hearing. Commenters encouraged that Project development maintain a buffer from Brushy Peak to restore the biologic, visual and cultural integrity of the preserve currently impacted by existing turbines.

As indicated under AES-1 of the November 2015 CEQA Implementation Checklist, trails in the Brushy Peak Regional Preserve area, and employees of nearby businesses will be the principal viewer groups of the Project wind turbines. Brushy Peak Regional Preserve is just west of the Project site. The south portion is open to the public. The north half has restricted access. As indicated under AES-2 of the November 2015 CEQA Implementation Checklist, scenic vistas exist as seen from local recreational trails and residences and businesses on hillsides in and near the Project area in the vicinity of Brushy Peak, Vasco Road, Altamont Pass Road, and as shown in Attachment A3. These areas consist of wide open views of the rolling, grass-covered, rural landscape with existing turbines in long strings across the tops of a substantial number of area ridges and hills. The tower height of first-generation and second-generation turbines range from 18 to 55 meters (approximately 59 to 180 feet), while the third-generation turbines range from 41 to 68 meters (approximately 134 to 223 feet). The proposed fourth-generation towers installed under the Project will be 80–96 meters (262–315 feet) tall; therefore, the proposed fourth-generation towers will be 28–62 meters (92–203 feet) taller than the existing turbines. Views of the proposed turbines may be dominant depending on a viewer's location within the landscape, if the viewer has more direct views of the turbines, or views that are partially or fully screened by topography. The November 2015 CEQA Implementation Checklist also included Figure A3-5 – a visual simulation from the viewpoint of Laughlin Road at Brushy Peak Loop Trailhead looking northeast.

In response to public comments received and by direction of the East BZA Board, Figure 15 was prepared to show the location of individual homes as well as a 4,000-foot radius buffer around the Brushy Peak summit in the Brushy Peak Regional Preserve. Three turbines (28, 29 and 30) were proposed within this buffer; however, following the November 19th hearing, Altamont Winds and Park District representatives met on December 2, 2015. As a result of this meeting and discussions occurring between the applicant and the Park District, Altamont Winds LLC has agreed to no longer pursue development of turbines 29 and 30.

No further analysis with regards to potential impacts on residences occurring as a result of the development of these turbines is being considered (see discussion in Section II below). Also as a result of this discussion, the District is now in support of the proposed Project, including approval of turbine 28, with the understanding that the two previously proposed turbines (turbines 29 and 30) located nearest to Brushy Peak have been removed from consideration.

III. TURBINE SITING PROCESS

Summary of Siting Factors

Site selection, layout, and equipment placement for commercial wind energy facility involves a complex siting process that involves several factors. Wind Energy Facilities at the Altamont Pass Wind Resource Area (APWRA) are no different regardless of the long history of Wind Energy Production at this location. Existing facilities factor into where repower facilities will occur. Locating turbine where maximum wind production can be achieved, as well as site access, is essential. Siting also requires permitting compliance.

Altamont Winds, LLC (AW) has completed five iterations or phases of siting analysis for their proposed repowering project, summarized as follows:

Phase 1

Initial siting included placing turbines where existing disturbance and access existed to minimize new disturbance. Siting also included placement to maximize wind production, achieve compliance with entities such as FAA (see page 54, November 2015 CEQA Implementation Checklist-Attachment A2) and existing lease holders (see Table A1.1, page 2 November 2015 CEQA Implementation Checklist-Attachment A1).

Phase 2

Initial turbine sites were selected to avoid identified wildlife resources impacts.

- Initial turbine site locations accounted for habitat, terrain, ridgelines, saddle features, and prevailing winds to avoid higher risk areas for avian and bat impacts. This information was gathered from field data collection and observations by AW and through the use of Audubon Society-recommended consultant, Dr. Shawn Smallwood. Through this work, turbine locations were modified to minimize resource impacts based on wildlife concerns (see page ES-2, FPEIR).

Phase 3

Initial turbine locations were sited to avoid impacts to wetlands.

- Initial turbine locations and access roads were sited to avoid and/or minimize impacts to wetlands. Turbine locations do not typically interfere with wetland resources due to where they are placed on the landscape; however, access roads to construction areas and for operational requirements can sometimes impact wetland resources. AW contracted a wetland survey contractor to identify wetland resources for avoidance and recommend alternative access roads to minimize impacts to wetland resources (see November 2015 CEQA Implementation Checklist-Attachment A7).

Phase 4

Initial turbine locations were sited to avoid identified cultural resources impacts.

- AW completed Class I and Class III Cultural resource inventories to document avoidance areas based on Cultural Resource locations. Locations for avoidance were overlaid on the AW site plan and adjustments were made where necessary to avoid impacts to known cultural resources (based on the confidential Phase 1 Cultural Resources Survey; see November 2015 CEQA Implementation Checklist – Attachment A5).

Phase 5

Initial turbine site locations were selected to comply with Alameda County requirements for setbacks, health and safety, consistency with the APWRA FPEIR, and approved repower projects.

- AW completed setback, noise, blade throw, and shadow flicker studies for compliance with Alameda County requirements (see November 2015 CEQA Implementation Checklist-Attachments A8, A10 and A11). Results of those studies indicate that 29 of the proposed 33 repower turbines are in compliance with Alameda County's requirements for proximity to landowners and residences.

Final Micro-Siting Prior to Construction

The specific equipment chosen for the proposed project would depend on final micro-siting, and the final location of these facilities would be determined prior to construction and based on various siting criteria, such as terrain and geotechnical considerations, and the opportunity to avoid and/or minimize potential impacts. Prior to construction micro-siting modeling will be completed to minimize high risk turbines for avian and bat resources (see November 2015 CEQA Implementation Checklist-Attachment A6). Pre-construction surveys and monitoring during and post-construction will be competed to provide additional resource protection for wildlife, wetlands, cultural, and other resources as detailed in the November 2015 CEQA Implementation Checklist-Attachment C (Mitigation Monitoring and Reporting Program).

Legend

- Summit Wind Repower Turbine Location
- Project Boundary
- Residence Located on Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

0 100 200 Feet

1 INCH = 200 FEET

FIGURE 1
PROPOSED TURBINE 11
IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

Legend

- Summit Wind Repower Turbine Location
- Turbine Blade Tip Extent
- Project Boundary
- Residence Located on Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

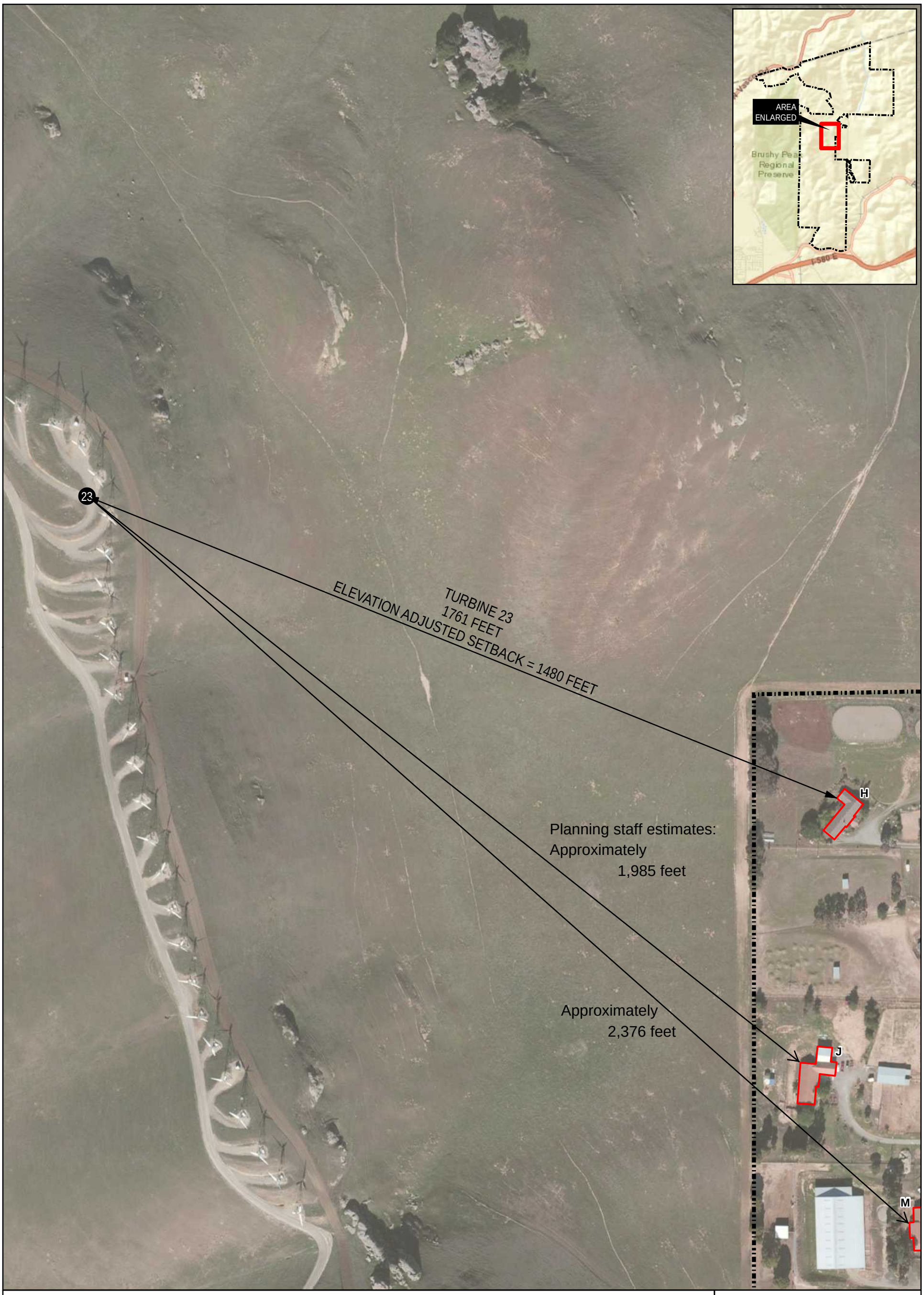
0 100 200 Feet

1 INCH = 200 FEET

FIGURE 1
PROPOSED TURBINE 11
BLADE TIP IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.



Legend

- Summit Wind Repower Turbine Location
- Project Boundary
- Residence Located off Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

0 100 200 Feet

1 INCH = 200 FEET

FIGURE 2
PROPOSED TURBINE 23
IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

Legend

- Summit Wind Repower Turbine Location
- Turbine Blade Tip Extent
- Project Boundary
- Residence Located off Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

0 100 200 Feet

1 INCH = 200 FEET

FIGURE 2
PROPOSED TURBINE 23
BLADE TIP IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

Legend

- Summit Wind Repower Turbine Location
- Project Boundary
- Residence Located off Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

Planning staff calculation of elevation-adjusted setback for Receptor J = (13x4.54=59.02)+ (3x454=1362)=1422

0 100 200 Feet

1 INCH = 200 FEET

FIGURE 3
PROPOSED TURBINE 24
IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

Legend

- Summit Wind Repower Turbine Location
- Turbine Blade Tip Extent
- Project Boundary
- Residence Located off Project Land
- Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

0 100 200 Feet

1 INCH = 200 FEET

FIGURE 3
PROPOSED TURBINE 24
BLADE TIP IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

Legend

- Summit Wind Repower Turbine Location
- Project Boundary
- Residence Located off Project Land
- Residence Located on Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

0 100 200 Feet

1 INCH = 200 FEET

FIGURE 4
PROPOSED TURBINE 25
IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

Legend

- Summit Wind Repower Turbine Location
- Turbine Blade Tip Extent
- Project Boundary
- Residence Located off Project Land
- Residence Located on Project Land
- Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

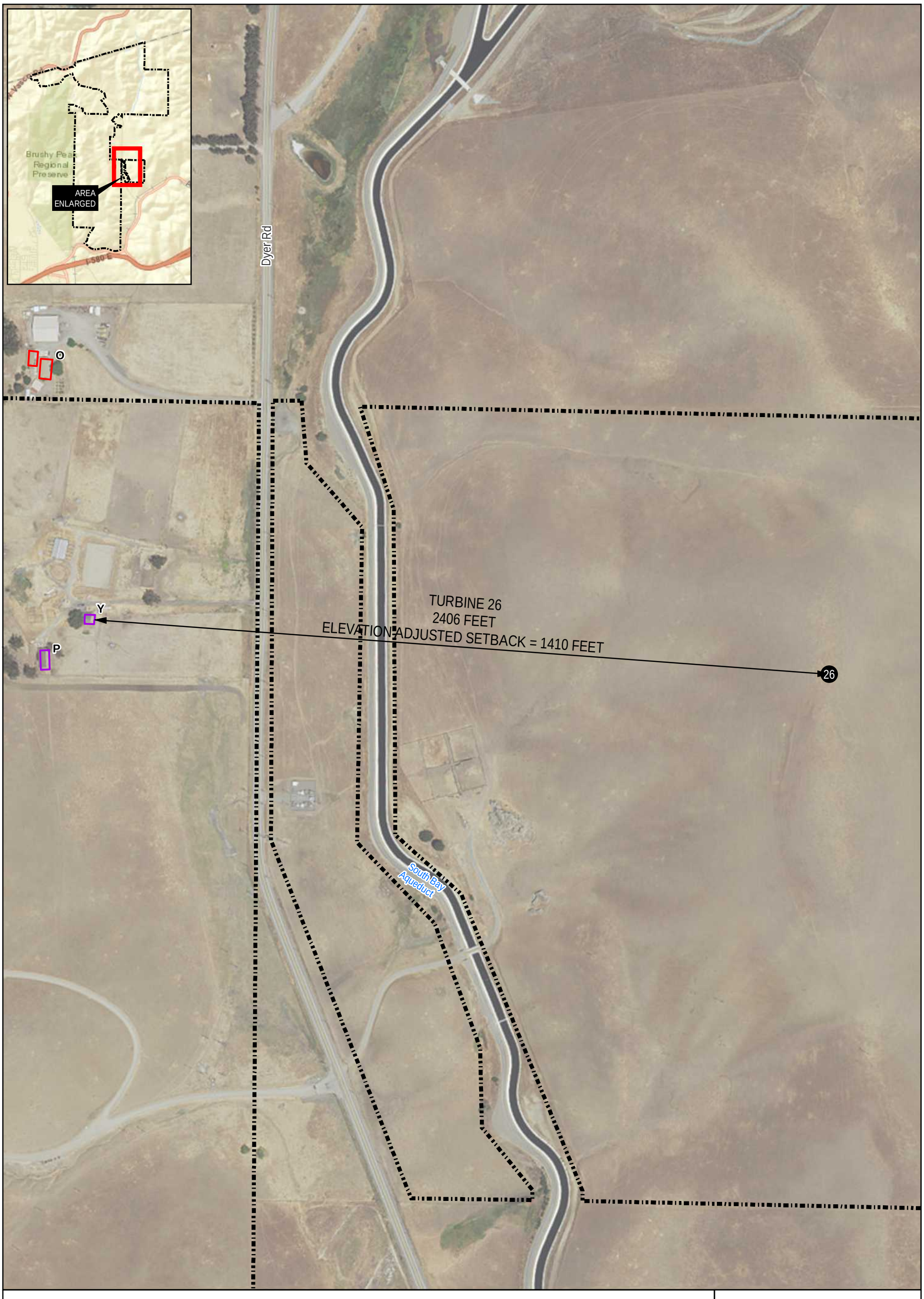
0 100 200 Feet

1 INCH = 200 FEET

FIGURE 4
PROPOSED TURBINE 25
BLADE TIP IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.



Legend

- Summit Wind Repower Turbine Location
- Project Boundary
- Residence Located off Project Land
- Residence Located on Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

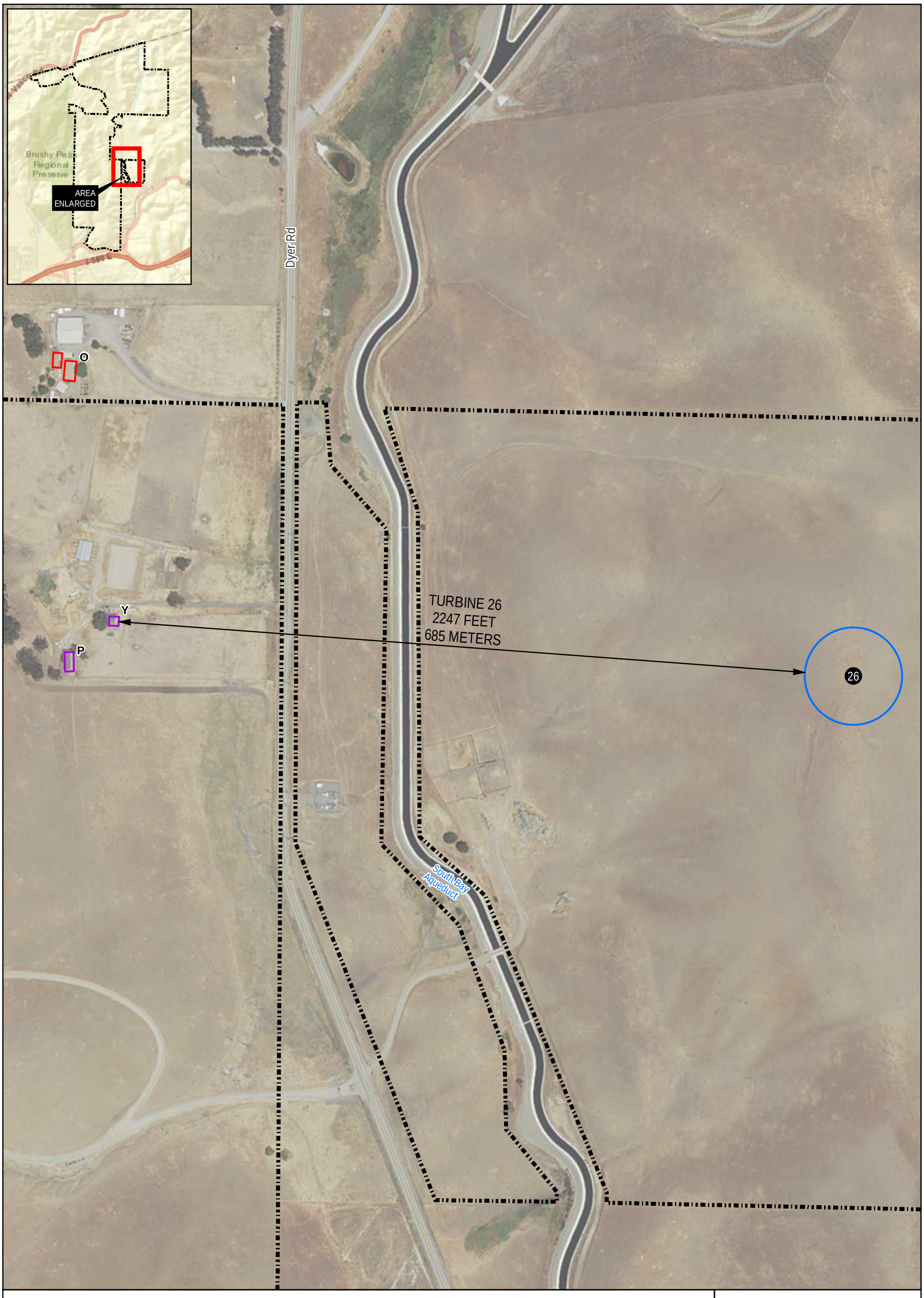
0 100 200 300 Feet

1 INCH = 300 FEET

FIGURE 5
PROPOSED TURBINE 26
IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.



Legend

- Summit Wind Repower Turbine Location
- Turbine Blade Tip Extent
- Project Boundary
- Residence Located off Project Land
- Residence Located on Project Land

Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier

0 100 200 300 Feet

1 INCH = 300 FEET

FIGURE 5
PROPOSED TURBINE 26
BLADE TIP IN RELATION TO
NEAREST RESIDENCE

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

FIGURE 8 **CAMERA POSITION 1: VIEW EAST TOWARD TURBINE 26 – EXISTING CONDITION**

FIGURE 9 **CAMERA POSITION 1: VIEW EAST TOWARD TURBINE 26 – PROPOSED SIMULATED CONDITIONS**

FIGURE 10 **CAMERA POSITION 2: VIEW SOUTHWEST TOWARD TURBINE 25 – EXISTING CONDITIONS**

FIGURE 11 **CAMERA POSITION 2: VIEW SOUTHWEST TOWARD TURBINE 25 – PROPOSED SIMULATED CONDITIONS**

FIGURE 12 CAMERA POSITION 3: VIEW SOUTHWEST TOWARD TURBINES 23 AND 24 – EXISTING CONDITIONS

FIGURE 13 CAMERA POSITION 3: VIEW SOUTHWEST TOWARD TURBINES 23 AND 24 – SIMULATED PROPOSED CONDITIONS

FIGURE 14A CAMERA POSITION 4: VIEW NORTHWEST TOWARD DYER ROAD RESIDENCES-EXISTING CONDITION

FIGURE 14B CAMERA POSITION 4: VIEW NORTHWEST TOWARD DYER ROAD RESIDENCES -PROPOSED CONDITION

0 1,000 2,000 Feet

1 INCH = 2,000 FEET

Contra Costa County
Alameda County
Vasco Rd
LARPD
Brushy Peak Summit
Livermore Area Recreation and Park District
East Bay Regional Parks District
Brushy Peak Regional Preserve
EBRPD
Dyer Rd
Laughlin Rd
Altamont Creek Dr
Meadow Dr
Northfront Rd
Goecken Rd
Altamont Pass Rd
I-580
Carroll Rd

Legend

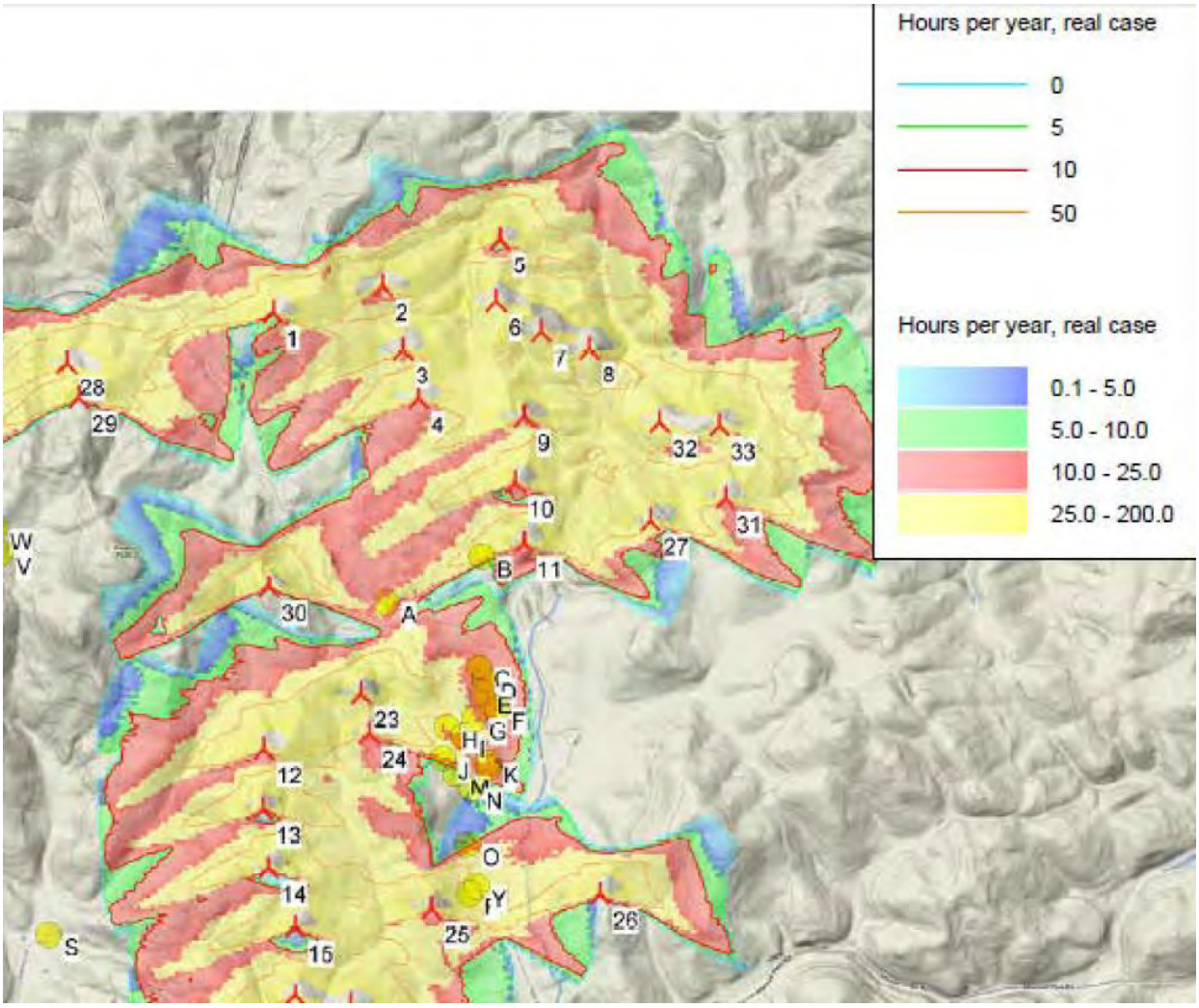
- Summit Wind Repower Turbine Location
- Existing Altamont Wind Turbine Location
- Project Boundary
- Program Area
- Camera Location
- Residence Located off Project Land
- Residence Located on Project Land
- Letter Designations Near Residences Represent Noise/Shadow Flicker Study Receptor Identifier
- Brushy Peak Summit
- 4,000-foot Buffer of Brushy Park Summit
- County Boundary
- Landfill
- Open Space

FIGURE **15**
TURBINES IN R**E**LATION
TO BRUSHY PEAK SUMMIT

ALTAMONT WINDS LLC
PROPOSED SUMMIT WIND
REPOWER PROJECT
ALAMEDA COUNTY, CA

Source: ArcGIS World Imagery.

FIGURE 16 **ENLARGED EXCERPT OF SHADOW FLICKER MAP** (FROM ATTACHMENT 11)



LIST OF COMMENTS INCLUDED BELOW (Substantive Content Only)

1. SAVE MOUNT DIABLO/GALVAN, 11-17-15

Brushy Peak Buffer

A large portion of the Project site and, if the Project is approved, a significant number of new-generation turbines will be placed directly adjacent Brushy Peak Regional Preserve. We understand that the East Bay Regional Park District (EBRPD) had an agreement with the previous turbine owner, NextEra, to maintain a buffer of some 5,000' from Brushy Peak to restore the biologic, visual, and cultural integrity of the preserve currently impacted by the existing turbines.

We highly encourage this 5,000' buffer to be maintained in the current Project. A large amount of public funds have gone to protect Brushy Peak and Alameda County should ensure that this investment is protected by requiring siting away from Brushy Peak, one of the most sensitive natural and cultural resource preserves in the area and a key recreation site for Alameda County residents.

Micro-siting of New Turbines

We highly encourage that the new turbines be located using hazard siting models that determine areas of low and high risk of turbine-raptor collisions. Such tools have been developed by scientists

associated with the Scientific Review Committee as well as EBRPD, and the proposed locations for the new Project turbines should be filtered through such models so that potentially high-risk turbines can be relocated.

Relocation of New Turbines 29 and 30

The Project currently proposes two new turbines, numbers 29 and 30, to be located in areas that do not meet the minimum setback requirements approved in the Program Environmental Impact Report (pEIR) certified in November of last year. We support the relocation of these proposed new turbines in order to meet to fulfill the requirements of the pEIR.

2. GOLDEN GATE AUDUBON SOCIETY, WITH AMERICAN BIRD CONSERVANCY, LETTER OF 11-18-15

(2.a) GGAS supports the goals and objectives set forth in this application to avoid and minimize impacts to wildlife and their habitat as the APWRA transitions to repowering with fewer, larger WTGs. However, the information provided in the Summit Wind Repower Project Description and Affected Environment Analysis (Analysis) http://www.acgov.org/cda/planning/landuseprojects/documents/COMBINED_Al-All.pdf is incomplete and neglects to define a fully credible process for independent review and assessment of impacts. Furthermore, the Project's draft Avian and Bat Protection Plan is fatally flawed because it wrongfully argues that "we're over-mitigating." (cit. i) It's not at all reasonable to conclude that they're "over-mitigating", especially because the Project description altogether lacks quantified assessments for anticipated impacts. Without the quantitative information, it is not even possible to evaluate the impacts against their proposed corresponding mitigations. Without the applicant demonstrating that a full and proper analysis of the project's impacts has been made, it's not at all possible to determine whether those could be considered less-than-significant impacts. Applicant's assertion of over-mitigation is not at all credible, automatically reflecting the glaring lack of due diligence they've done for this project to be CEQA compliant.

(2.b) In order to assess the impacts so that the mitigations can be measured, the Project must:

1. Assure adequate oversight by the TAC for proper siting of turbines to minimize potential mortality of birds
2. Use the best available science to avoid and minimize impacts that may lead to avian fatalities which exceed the baseline mortality.
3. Quantify and assess cumulative impacts on biological resources resulting from the planned intense construction activity.
4. Quantify and assess the significant and unavoidable impacts.
5. Preserve and maintain a publicly-accessible archive of all the raw data and notebook pages collected in the field by experienced credentialed monitoring biologists pre-approved by the TAC.
6. Establish regularly scheduled evaluations of the PEIR such that continuing and fresh analysis of monitoring data and reports leads to continuous refinement and improvement of the PEIR's impact and mitigation guidelines for every phase of wind farming.
7. Maintain continuity of field monitoring, analysis, and impact modeling methods so as to accrue relevant comparable data sets and establish a consistent peer-reviewable expert-consensus standard for data analysis and modeling for informing best management practices (BMPs) for turbine design, siting, and operation.

8. The Project's draft Avian and Bat Protection Plan is fatally flawed because it wrongfully argues that "we're over-mitigating."
9. Statement of Overriding Considerations must account for externalities, wildlife rehabilitation, and recovery costs
10. Require operator to secure a valid USF&WS-issued Programmatic Eagle Take Permit (with a 5-year term).

(2.c) THE COUNTY MUST ENSURE THAT THE APPLICANT PROPERLY SITE TURBINES TO MINIMIZE POTENTIAL MORTALITY OF BIRDS BEFORE CONTEMPLATING APPROVAL.

MM BIO-llb: Site turbines to minimize potential mortality of birds. While the Project properly indicates that the applicant will adhere to the PEIR requirements for properly siting the new repower turbines, the County must ensure that this applicant very stringently adhere to the SRC Siting Guidelines. There must be sufficient opportunity for the public to review the applicant's full siting analysis for this project, first, before issuing a CUP.

It is vitally important, also, to employ the TAC's expertise in assessing the appropriateness of the applicant's siting plan, as well as during the preconstruction survey phase so that the best available science can be applied. The County should ensure that Contra Costa County's TAC will also review and advise on the entire Summit Wind Repower Project, even if Alameda County's own TAC differs somewhat in its membership composition from the Contra Costa County TAC. This APWRA-wide advisory "braintrust" is of crucial importance in siting considerations, as well as in ongoing scientific assessments of impacts and mitigation implementations, too.

Before this CUP can be approved, the TAC must confirm that the Project has utilized and very best available Science and leveraged the most reputable biologists and site planning experts with the expertise to analyze the total landscape features and location-specific bird use and behavior data to ensure that all the turbines are positioned to reduce wildlife collision risk. Given this operator's historic objection to the use of independent monitors, the County must establish stringent oversight and transparent reporting of the siting process.

(2.d) REQUIRE PRE-CONSTRUCTION SURVEYS OF THE FOUR FOCAL SPECIES AND OF SPECIAL-STATUS SPECIES AT APWRA.

Require a pre-construction survey specifically of prairie falcon avian use and frequency of occurrence in the proposed project area. In addition to conducting pre-construction surveys of the use and frequency of occurrence of the four focal species, this proposed project is well within the use-area of Prairie Falcons that nest less than 10 miles away in the Brushy Peak Regional Preserve, as studied by the Santa Cruz Predatory Bird Research Group and East Bay Regional Park District. https://baynature.org/articles/raptor-rapture/

"Twenty-six observations of prairie falcons were recorded during fixed point surveys around the Diablo Winds repowering project," and "[t]hirteen observations of prairie falcons were recorded during site monitoring within the APWRA," including nesting activity, as reported on page 3.4-39 of the PEIR.

Therefore; this project should have a required extensive pre-construction survey that accounts for the use and frequency of occurrence of the Prairie Falcon in the proposed project area. This pre-construction survey needs to be carefully reviewed by the TAC before any siting or definitive micro-siting plan is finalized.

Also, Golden eagles and many other raptor species that occur in the APWRA are known to roost in the Brushy Peak Regional Preserve. Given the sensitive proximity to Brushy Peak, this project area has a increased likelihood of being frequented by nearby raptors. Therefore, the pre-construction surveys must be conducted in concert with field biologists who have expertise in the avian population dynamics in the nearby Brush Peak area.

Staff Report Item 35. Expand to include a Pre-Construction Siting Review In Addition to A Post-Construction Monitoring Review

Upon completion of a pre-construction survey to monitor avian use in the proposed repower area to provide informative quantitative date and when the applicant makes public its turbine siting plan, then the County's Planning Director should schedule a public hearing for the purpose of assessing whether the project applicant has shown evidence of having prepared a very responsible siting plan prepared consistent with the best available science critieria for properly siting large turbines with full cognition as to the likely avian impacts, as well. The County should further employ the Contra Costa County TAC to consult with the project applicant on final siting criteria.

Staff Report Item 38. Expand to include a pre-construction siting review to assure that the project applicant has also consulted with expert bat biologists who are trained in monitoring bat habitat use and impacts in the APWRA. Assign the TAC to consult with the bat biologist in advising the project applicant on properly avoiding water hazards and known roosts and known high bat-use areas.

(2.e) QUANTIFY AND ASSESS CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES RESULTING FROM THE PLANNED INTENSE CONSTRUCTION ACTIVITY

4.8 IMPACT BI0-8 Potential construction-related disturbance or mortality of special-status and non-special status migratory birds

The exact dates of construction activities are not yet known but it is assumed that construction may occur during the nesting season for White-tailed Kite, Bald Eagle, Northern Harrier, Swainson's hawk, Golden Eagle, Western Burrowing Owl, Loggerhead shrike, and Tricolored blackbird. The project expects to have less-than-significant impacts after implementing MM BI0-8a. Yet, the project plans on removing potential nesting areas, such as trees, shrubs, grassland, burrows, and wetland and grassland plants.

The applicant fails to quantify any of these impacts, yet assures the County that mitigations will result in less-than-significant impacts. This contradicts the requirements for establishing 'mitigation measures and violates the CDFW Burrowing Owl Mitigation Plan requirements. (citation iii)

The impacts to wildlife-- especially to the four focal raptor species (Golden Eagle, Red-tailed Hawk, American Kestrel, Western Burrowing Owl)- and including endangered and threatened species, from the cumulatively scheduled decommissioning and construction remain unknown and unquantified. Without known quantified cumulative impacts, the requisite mitigations and compensations cannot be properly determined, nor evaluated by independent experts, nor understood to the satisfaction of the TAC who is charged with advising the County regarding this project.

(2.f) APPLY THE BEST AVAILABLE SCIENCE AND BEST MANAGEMENT PRACTICES TO AVOID AND MINIMIZE IMPACTS.

Under MMBI0-11g, the County should require that the TAC oversee the monitoring program and advise the County on adaptive management measures that may be necessary if fatality rates exceed, such as turbine·curtailment.

Under the PEIR and under the Mitigation Measures in this Project's Checklist, the County should support the TAC in advising that turbine curtailment be instituted when fatalities exceed the baseline. The SRC found that a biologist who is trained to apply the best available science for conducting APWRA search methods is far more effective than remote detection methods. Therefore, the County should require that only a qualified and trained field biologist be assigned to monitor the area of turbine-curtailment and report their findings to the TAC. (see SRC meeting minutes, 13 Nov 2015).

MM BI0-11g Instead of recommending search intervals of less than 14 days, the County should require best management practices of the SRC which recommends search intervals that occur every 10 days at minimum.

The County should follow best management practices as recommended by the SRC in requiring that search intervals occur every 10 days at minimum or even more frequently where the smaller raptors or small bird species are being monitored.

Use Best Available Science to Calculate Avian Mortality

The present CUP application lacks the best available science for calculating avian mortality. Adaptive management plans should be based on the best available science in monitoring reports. The draft Vasco Wind monitoring report, discussed during November 2015, will provide the most scientifically update detection probability methods for quantifying impacts and assessments of avian mortality at repowered wind facilities in the APWRA.

ADMM-7: Real-time turbine curtailment should be employed if operation monitors determine that mortality has exceeded the baseline.

If mortality exceeds the baseline, then the County must consult the TAC on instituting adaptive management measures for eliminating mortality-causing operations. The County should require the wind operator to work directly with the TAC on employing real-time turbine curtailment mitigation as the very first adaptive management measure.

(2.g) QUANTIFY AND ASSESS SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 3.3.2.2 The Project is reported to result in permanent and temporary loss of occupied habitat for Western Burrowing Owl and foraging habitat for Tricolored Blackbird and other special-status (and non-special-status) birds. A permanent loss of occupied habitat constitutes a significant impact that should be scrupulously avoided. An impact of this significance must be quantified and assessed so that the best available science can serve to avert such serious longlasting impacts.

MM BI0-8a: Do Not Remove Suitable Nesting Habitat

Eliminate the measure that proposes to remove shrubs and trees during the nonbreeding season for nesting birds. This measure constitutes a significant and avoidable impact that destroys and further reduces viable habitat. Intentional removal of nest sites violates the Migratory Bird Treaty Act and contradicts the objectives of enhancing and supporting breeding populations as a crucial method for compensating for avian mortality in the APWRA.

MM BI0-8b Avoid Impacts That Result In Eviction Of Burrowing Owls

Employ buffers and exclude or stop construction and activities so that nesting Burrowing Owls are always at least 500 feet away from any construction or human-caused activity.

MM BI0-8b, Exhibit B, p B-22 Eliminate the Burrowing Owl Exclusion Plan.

Avoid Burrowing Owls during the non-breeding season and eliminate the Burrowing Owl exclusion plan from all mitigation discussions. A plan utilizing exclusion will quite likely result in a permanent eviction of individual Burrowing Owls or even entire Burrowing Owl colonies. Such an action constitutes a significant impact, under CDFW, and must be avoided.

MM BIO-llf: Do Not Discourage the Presence of All Fossorial Mammals

Any attempt to discourage fossorial mammals, which serve as primary prey base for raptors (including Golden Eagles) may contradict the measures for avoiding harm to Burrowing Owls. Burrowing owls depend upon the excavation services of ground squirrels especially (among the species of fossorial mammals in the area).

This measure should be re-written so as to ensure abundant sustainable populations of ground squirrels on which Burrowing Owls depend for both their nesting and sheltering burrows.

(2.h) PRESERVE ALL THE RAW DATA AND MAKE IT PUBLICLY AVAILABLE

All raw data should be made available to the public as quickly as possible without any interference or alteration by wind operators nor by the lead agency. Raw data and notebook pages, consistently indexed with (at least) fully-searchable metadata headers, should ·be uploaded promptly by biologists to a public repository which will be permanently accessible for public and scientists to review.

Appoint an independent neutral third-party as a data manager with advanced expertise in transferring, indexing, and securing raw field data into a fully-searchable and web-accessible digital scientific resource for the public.

The raw data, as well as any interim or final reports by certified biological monitors working in the APWRA, should be managed and maintained in this publicly accessible digital repository. Such a crucial fully accessible and readily searchable repository will ensure that all learning and knowledge for avoiding, minimizing, and mitigating adverse impacts on the public's wildlife resources can be leveraged to inform best management practices for preserving the public's wildlife resources. This highly salient scientific archive needs to be meticulously maintained such that all relevant documents are publicly accessible for download and readily searchable for learning and review at any time.

Mitigation Measure BIO-llg: *Implement post-construction avian fatality monitoring to require raw data delivery directly to the data manager*

Require field monitors to deliver raw data directly to data manager

Require field monitors to deliver raw data directly to an independent neutral third party data manager (authorized and vetted by the TAC). Such a timely data-upload protocol will assure the unassailable integrity and reliability of the raw data gathered in the field by accredited biologist(s). All biological monitoring must be done by competent biologists with relevant peer-reviewed scientific credentials and experience surveying wind energy & wildlife-impact issues.

No biologists should be hired for primary biological monitoring or reporting on wind energy operational impacts on species if they have not, at least published peer-reviewed scientific article(s) on wind energy impacts on wildlife and, also, been approved (by a majority of the TAC members) as having the bona fides and expertise necessary to perform the specific monitoring and reporting for which they're expecting to be contracted &/or hired. Because the TAC must have full confidence in the biological data, and reporting provided, they must have independent authority to vet the primary scientific monitors conducting any field work and reporting on their findings.

(2.i) *Mitigation Measure BI0-14* - LEVERAGE BEST AVAILABLE SCIENCE TO MINIMIZE TURBINE-CAUSED IMPACTS ON RESIDENT & MIGRATORY BAT SPECIES

Science indicates that tree roosting bats are the most likely to be struck by turbines, especially during migration periods such as in the fall from Aug. 15-October 15. Increasing the turbines' "cut-in" speed (when the turbine starts to spin) in lower-wind conditions – especially during crepuscular hours during the fall migration period is known to reduce bat mortality substantially. Further, bats will avoid turbines if acoustic aversion is deployed such that aversion signals are broadcast all the way across the diameter of the turbine blade span (vertically and horizontally).

Science on bat mortality at wind energy facilities is continually evolving. A biologist with significant expertise in bat and wind energy facility interactions should join the TAC or consult extensively with the TAC to design appropriate aversion and mitigation measures to preclude bat mortality. Bats are a vital vertebrate group, performing crucial ecological services so bat mortality (of all four species in the area) should be preventable by leveraging the latest reputable peer-reviewed scientific resources for that purpose.

(2.j) ESTABLISH REGULARLY SCHEDULED EVALUATIONS OF THE PEIR

The County, the TAC, and the operators should regularly meet and confer to evaluate the PEIR for its continued relevance and scientific quality for guiding APWRA research, analysis, and management of wind-wildlife impacts.

Mitigation Measure BIO-llb: Compensate for loss of Raptors with BMPs that are regularly revised to incorporate the best available science

The PEIR incorporates the evolving "science of raptor conservation." The County must work with the TAC to apply the analysis reports to improve and refine modeling methods for predicting and "understanding ... wind-wildlife impacts." Apply a "suite of ... options"(cit. iv) that will improve the PEIR and establish stronger measures for avoiding impacts and eliminating turbine-caused raptor mortality.

Mitigation Measure BIO-llb, Discussion: Compensate for loss of Raptors by incorporating a landscape-scale approach to impact and mitigation assessments

Apply a landscape-scale approach to mitigation and conservation efforts that will benefit a "broader suite of species", as discussed on p. B-34.

(2.k) MAINTAIN CONTINUITY AND UNIFORMITY OF FIELD MONITORING METHODS

Establish uniform analysis and impact modeling methods so as to build on existing data and establish a standard for data analysis and modeling. Apply the best available science and incorporate findings so as to improve Best Management Practices (BMPs) for wind turbine design, siting, and operation.

Mitigation Measure BIO-llg: Implement postconstruction avian fatality monitoring

Link survey protocols to turbine operation data.

In addition to implementing survey protocols for sets and subsets of turbines, link the field data for monitoring avian and wildlife fatalities to operational data about the turbines, such as wind-speed and turbine-spin rates. For example, bird and bat fatality incidents can correspond with certain wind conditions and turbine rotation speeds.

Incorporate CDFW Staff Report Burrowing Owl Mitigation Requirements for Experienced Field Biologists

The County should appoint field biologists with species-specific expertise in project impact evaluations, including habitat assessment, surveys, and impact assessment. Only biologists that are trained in scientific research and conservation of the focal species should conduct field data monitoring and surveys. Such surveys should be conducted under the direction of an experienced surveyor.(cit. 4)

(2.l) THE PROJECT'S DRAFT AVIAN AND BAT PROTECTION PLAN IS FATALLY FLAWED BECAUSE IT WRONGFULLY ARGUES THAT "WE'RE OVER-MITIGATING." (cit. v)

The Project applicant misunderstands the very mortality report that it quotes from Hunt (2002. vi). In fact Hunt states, "WT [wind turbine] blades accounted for 42 of 100 fatalities, and the actual number of blade strike deaths within the sample of tagged eagles may have been higher ... [emphasis added.]" Therefore, Hunt concluded that blade strike deaths are likely even higher (not lower) than 42 of 100 fatalities.

While Table 3.1 on p.18 of the Avian & Bat Protection Plan correctly lists that trauma was the leading cause of death in golden eagles, the project applicant misunderstands the data and erroneously argues against the research author's finding. (cit. vii)

In its Avian & Bat Protection Plan, the applicant failed to conform with the PEIR requirements for a draft ABPP by falsely arguing that background mortality lowers Project-caused fatalities. This argument is not the best available science and is not based on the SRC's own findings. Such a conclusion contradicts the PEIR's own findings of turbine-caused mortality being the highest cause of mortality in the APWRA for the four focal avian species. Therefore, the applicant's ABPP is inadequate and must be revised to conform with the best available science and with the PEIR.

(2.m) STATEMENT OF OVERRIDING CONSIDERATIONS FAILED COST ACCOUNTING

The listed significant effects do not account for costs of habitat restoration, recovery of losses of four focal raptor species, rehabilitative costs for wildlife injured on premises, and enforcement damages for excessive avian mortality.

Quantify the number of new full-time jobs

No actual number of new full-time jobs is provided by which to compare and contrast economic benefits and costs.

Require A Cost Accounting for the 30+ Years of MBTA Violations and Tens of Thousands of Killed Wildlife

The County's finding that the project's benefits override the significant landscape-scale harms entirely fails to account for over thirty years (since the 1980's) of intense and profound rates of wildlife mortality, associated costs for restoring the damaged landscape and habitats, and for recovering drastically reduced wildlife populations. Recovery efforts are significantly more extensive and are hard to predict. As an initial calculation for assessing recovery costs, multiply the applicant's confirmed "take" times the maximum penalties for that take under BGEPA, MBTA, and ESA as well as California State penalties.

The Diablo Range Supports the Highest Concentration of Territorial Breeding Golden Eagles in the World

A 2014 USGS report concluded that the Diablo Range is home to the greatest density of territorial breeding pairs of golden eagles in the entire world. (cit. viii). This concentration of golden eagles underscores the importance of compensating for the continuous killing of Golden Eagles that has occurred within the APWRA for more than thirty years.

Apply A Resource Equivalency Assessment for Eagle Mortality and Associated Loss of Future Offspring

Resource Equivalency Analysis internalizes the full costs associated with turbine development and includes direct losses for raptors that collide with turbines and indirect losses for offspring not yet produced. A full accounting based on resource equivalency will demonstrate that compensation costs for wildlife and habitat losses greatly outweigh the benefits of the project. (cit. ix)

(2.n) REQUIRE APPLICANT TO PRESENT A VALID PROGRAMMATIC EAGLE TAKE PERMIT ISSUED BY THE USF&WS AS A PRECONDITION BEFORE BEGINNNING CONSTRUCTION.

Notwithstanding concerns about regulatory uncertainty, the project operators, APWRA, Alameda County, and the region's Golden Eagles need a quantified analysis of fatalities. The required eagle scoping guidelines will provide such data.

The permittee will benefit from ascertaining the exact limits for eagle mortality. The Project will benefit from the certainty assured by a USF&WS-issued Programmatic Take Permit for a 5-year term (renewable for the life of the Project, if operator maintains compliance with Agency guidance). Because the process of qualifying for a USF&WS issued 5-year PETP requires scrupulous attention to avoidance and minimization of risks to avoid take of eagles and large raptors, as well as robust Eagle Conservation Plans, A PETP will offer some public assurance that the applicant is complying with the law under repowering. The Project can then go forward in applying BMPs and the best available science to scaling its operations to meet and exceed eagle survival requirements.

(2.o) APPLICANT IS NOT IN GOOD STANDING WITH THE PUBLIC

It is important to note that this applicant has never compensated the public for its unlawful take of public wildlife resources for decades of unlawful destruction of protected wildlife species, including but not limited to-- the focal raptor species. Unlike their competitor- NextEra- which has heavily invested in habitat conservation, and in funding crucial research to better inform responsible wind turbine siting, AWI has not done anything of the kind. In fact, AWI was the only wind company operating in Alameda County which did not even agree to the Settlement with Audubon parties in 2007. Unless and until AWI compensates by paying all fines that would be due for their unlawful take, or until they make at least an investment of comparable size to NextEra's in habitat and species conservation work in the region, AWI simply does not merit the public trust, and therefore it is not appropriate to grant them a Conditional Use Permit.

(2.p) CONCLUSION

Given the fact that this project is located within the APWRA with its most regrettable history of eagle fatalities caused by wind energy facilities in the past, and given that the project is located in an area frequented by an especially dense concentration of breeding Golden Eagles, this project must first qualify for a valid 5-year USF&WS-issued Programmatic Eagle Take Permit (PETP). A PETP quantifies and strictly limits Golden Eagle mortality to within levels that the local population can sustain. Designed for wind energy providers specifically, a PETP is an important tool for the County to leverage in assuring the applicant minimizes mortality, especially for iconic Eagles and large raptors.

This Project must not use mitigation practices and compensation measures that lead to permanent losses of habitat and preventable destruction or evictions of the public's wildlife resources.

We all want sustainable energy, but that means producing energy which is fully compatible with sustaining healthy viable wildlife populations and habitats with naturally-functioning ecological services. Each wind farm operations can and must leverage BMPs that restore and enhance wildlife populations and facilitate viable habitats. We believe that Alameda County needs to exercise maximum due diligence in evaluating this project and applicant, especially given the unfortunate history of egregious destruction

of the public's wildlife resources in the face of past wind energy projects. We believe Alameda County must do better in the era of the PEIR.

GGAS/ABC letter Citations (*staff note – presented as listed in letter except with one font only*)

Repower Project, 31 October 2015, p 17

[1] Ibid

[1] 2012, CDFW Staff Report Burrowing Owl Mitigation

[1] Ibid

[i] Avian & Bat Protection Plan, Summit Wind Repower Project, 31 October 2015, p 17

[1] Hunt, G. 2002. The Trend of Golden Eagle Territory Occupancy in the Vicinity of Altamont Pass Wind Resource Area: 2005 Survey. Prepared for the California Energy Commission, contract 50001.02, to the Predatory Bird Research Group, University of California, Santa Cruz

[1] Russell, R. E. and Franson, J. C. (2014), Causes of mortality in eagles submitted to the National Wildlife Health Center 1975-2013 . Wild!. Soc. Bull., 38: 697-704. doi: 10.1002/wsb.469 from Abstract: ""For golden eagles, the major causes of mortality were trauma and electrocution."

[1] Final APWRA PEIR, 2014, p. 1-4-1-5 " ... birds were colliding with wind turbine blades ... The [PEIR] program was intended to ... reduce avian mortality through reductions in rotor-swept area." http://www.acgov.org/cda/planning/landuseprojects/apwraprog.htm

[1] http://pubs.usgs.gov/of/2015/1039/pdf/ofr2015-1039.pdf
Estimation of Occupancy, Breeding Success, and Abundance of Golden Eagles (Aquila chrysaetos) in the Diablo Range, California, 2014

[1] Cole, S.G. 2011. Wind Power Compensation is not for the Birds, Restoration Ecology

[i] Avian & Bat Protection Plan, Summit Wind Repower Project, 31 October 2015, p 17

[ii] Avian & Bat Protection Plan, Summit Wind Repower Project, 31 October 2015, p 17

[iii] 2012, CDFW Staff Report Burrowing Owl Mitigation

[v] Avian & Bat Protection Plan, Summit Wind Repower Project, 31 October 2015, p 17

[vi] Hunt, G. 2002. The Trend of Golden Eagle Territory Occupancy in the Vicinity of Altamont Pass Wind Resource Area: 2005 Survey. Prepared for the California Energy Commission, contract 50001.02, to the Predatory Bird Research Group, University of California, Santa Cruz

[vii] Russell, R. E. and Franson, J. C. (2014), Causes of mortality in eagles submitted to the National Wildlife Health Center 1975-2013. Wildl. Soc. Bull., 38: 697-704. doi :l0.1002/wsb.469 from Abstract:" "For golden eagles, the major causes of mortality were trauma and electrocution."

[viii] http://pubs.usgs.gov/of/2015/1039/pdf/ofr2015-1039.pdf
Estimation of Occupancy, Breeding Success, and Abundance of Golden Eagles (Aquila chrysaetos) in the Diablo Range, California, 2014

[ix] Cole, S.G. 2011. Wind Power Compensation is not for the Birds, Restoration Ecology

3. AUDUBON CALIFORNIA, LETTER, 11-18-15

Audubon California, the state division of the National Audubon Society, writes to express concern about the potential approval of Conditional Use Permits (CUPs) for the Summit Wind Repower Project as proposed by Altamont Winds, Inc. (AWI) and recommended by Alameda County staff. We urge the East County Board of Zoning Adjustments (EBZA) to amend the CUPs to ensure that the impacts from the project are adequately avoided, mitigated, monitored, and reported upon.

Audubon California's biggest concern with the project as proposed is that it will not follow the model for "smart siting" established by more recent repowering efforts, such as the Vasco Winds and Golden Hills projects developed by NextEra, Inc. Smart siting is perhaps the best mitigation measure we have for reducing impacts before these turbines go into the ground and operate for decades, during which time birds will continue to be killed. Those projects were sited using the best available science, including an on-the-ground monitoring and modeling effort, and through open communication with the County and Audubon on how siting decisions were made. Audubon may not have always agreed with the final siting decisions, but the process was transparent and NextEra was accountable for its commitments.

For Summit Wind, Mitigation Measure BIO-11b states that bird mortality will be reduced through careful siting based on scientific analyses. Specifically, it requires that "[a]ll project proponents will conduct a siting process and prepare a siting analysis to select turbine locations to minimize potential impacts to bird and bat species." BIO-11b also promises that the siting analysis will include review of previously-gathered data, offsite analyses, and new data collection and modeling.

On paper, this presents the right path forward. Unfortunately, none of the touted analyses have been made available to the public. To our knowledge, the County has not reviewed how the siting decisions have been made (or will be made) and Audubon and AWI have never met and conferred on siting. At this point, everyone is being asked to accept that AWI will engage in "smart siting" on faith alone.

It is not enough for the developer to simply describe where turbines will go into the ground – there needs to be an iterative process and, where appropriate, tweaks to the site plans to reduce impacts to birds while maintaining a productive siting for wind power generation. This model was successful during the NextEra repowering process and should be a requirement for future repowering efforts –not only because it represents the best policy for reducing impacts to birds, but also as a policy of fairness between the wind companies.

This requirement is no minor thing. It is necessary to fulfill part of the Mitigation Monitoring and Reporting Program (MMRP) and the obligations set forth in the PEIR. It is also expressly relied upon in the Statement of Overriding Considerations, which the EBZA will need to adopt in order to approve the project. Specifically, the Statement of Overriding Considerations states:

> The County finds that the project, with *all the mitigation measures proposed*, would best balance the advancement of wind technology, while also *reducing the unavoidable impacts* on protected or special-status avian wildlife species, including golden eagles and other raptors, *to the lowest acceptable level*.

(Exhibit C – Statement of Overriding Considerations, at C-3, emphasis added). The County cannot be assured that all mitigation measures will be implemented and that impacts will be reduced to the lowest acceptable level without greater transparency and accountability for AWI.

Therefore, Audubon urges the EBZA to include within the CUPs for the Summit Winds projects the following requirements:

- Prior to finalizing its construction plans, AWI shall provide to the EBZA a written report that describes its compliance, including supporting analyses and other documentation, with pre-

construction mitigation measures. Audubon believes the report should cover all pre-construction mitigation activities, but is particularly concerned about BIO-11b.

- During construction, AWI shall provide to the EBZA a written report describing its compliance with mitigation measures required to be implemented during the construction phase, including but not limited to BIO-11d, BIO-11e, and BIO-11f.
- After construction is complete, AWI shall provide to the EBZA a written report describing its post-construction compliance activities.
- For each reporting period, and subsequent avian mortality monitoring, the County, upon receipt of the reports from AWI, shall make the reports and their supporting analyses and documentation publicly available.
- The EBZA will authority to determine whether mitigation measures have been adequately implemented and may direct AWI to take further actions to adequately meet its obligations.

While we support repowering, Audubon California cannot support a project on blind faith alone. There is no need to revisit past conflicts with AWI at this point. We only ask that the County require AWI to commit to a transparent, accountable process similar to what has already been required of NextEra.

4. EAST BAY REGIONAL PARK DISTRICT/B. HOLT, LETTER, 11-9-15

The District applauds Alameda County's (the "County") efforts to support the responsible repowering of older generation turbines throughout the Altamont Pass. With respect to Summit Wind project, the District supports staffs recommendation that turbines #29 and #30 must be either relocated or eliminated to avoid impacts to Brushy Peak. We would like to clarify, however, that even a shifting of these locations to meet the County's setback requirements would not be enough to substantially avoid or minimize the potential avian, cultural resource, and visual impacts from turbines #29 and #30. A larger buffer area is required, particularly given that the project materials do not appear to include the project-specific siting analysis required by the PEIR and MMRP (BIO-11b) to show how these resources would be adequately protected. Additionally, the District remains concerned about potential avian and visual impacts from turbine #28 which is proposed on a currently undeveloped ridge near Brushy Peak.

The Alameda County General Plan identifies Brushy Peak as one of the most significant visual resources in the East County area and directs the County to partner with the District and Livermore Area Park and Recreation District ("LARPD") to acquire the Brushy Peak area as permanent public open space (East County Area Plan, Implementation Program 51). To date, more than $8.5 million have been spent to acquire Brushy Peak and the surrounding lands with over $2.5 million provided by the County. Brushy Peak represents an important partnership and conservation success between the District and the County.

The District actively supports repowering of old-generation turbines in the Altamont Pass Wind Resource Area and has over 10 years of experience in working with wind turbine operators to balance the need for wind energy with the protection of natural, cultural, and visual resources in the Altamont region. The District worked with the prior applicant for the repowering of the Summit Wind project and entered into an agreement to site the repowered turbines in a manner that would maintain a minimum 4,000 foot buffer from Brushy Peak to minimize impacts on the viewshed from the peak, avoid siting near known raptor nesting sites, and protect the cultural values of the preserve. This negotiated agreement demonstrates that turbines 28, 29, and 30 can be relocated or eliminated without compromising the viability or feasibility of the project.

While the repowering project would result in a significant reduction in turbines adjacent to Brushy Peak, turbines 28, 29, and 30 would remain within the previously negotiated buffer from Brushy Peak. The long-term investment and successful protection of open space on the part of the District and the County at Brushy Peak would be best served by ensuring that siting of turbines maintains an adequate buffer and that the protection of natural, cultural, and visual resources of Brushy Peak be restored as part of this repowering project.

The District is additionally concerned with the minimal notice and lack of sufficient time to fully review the project materials for the Summit Winds Repowering Project. The staff report, Environmental Checklist, Mitigation Monitoring and Reporting Program, and project description comprise over 500 pages of materials. These materials were released after working hours on Friday, November 13, 2015, giving the District only three working days to review all of the project materials.

We have a successful track record of successfully working with land owners, developers, and project proponents, including wind turbine operators, to successfully resolve issues in a manner that balances the projects interests with the need to protect the significant investments made on the part of the public to protect the resources of the East Bay.

Given the limited time available to review project materials, the District respectfully requests that project approvals be continued to a future date to allow the County, the District, and project proponent to identify strategies to protect the important and substantial investments made at Brushy Peak.

5. DON HANKINS, PhD., E-MAIL, 11-19-15

Per our conversation [by phone with Planning staff A. Young on 11-19-15] I am writing to express opposition to the proposed wind turbine project near Brushy Peak. As discussed this area is a designated sacred site registered with the Native American Heritage Commission. I just learned of this project, and thus am only familiar with the location information provided. However, I can safely say that notification of the project and consideration of project impacts to a sacred site have not been appropriately addressed based on information you have relayed. As a Miwko' (Plains Miwok) traditional cultural practitioner who uses these sites for traditional purposes, I urge the planning commission to not approve this project.

6. DARRYL MUELLER, POWERPOINT™ PRESENTATION, 11-19-15

- The distances indicated were developed using Google Earth and available project documents
- Distances are not claimed to be exact and are approximations used to demonstrate the inaccuracies in the project documentation.
- Distances are calculated from the center of the windmill sites.
- Distances can be even shorter if measured from the tip of the blade diameter. (blade length 47.5 m or 155 ft)

Turbines 23, 24 25 and 26 are all closer than these distances.

TABLE A2.1-2 DISTANCE TO NEAREST RESIDENCES FROM PROPOSED TURBINES

TURBINE NUMBER	DISTANCE TO NEAREST RESIDENCE	
	METERS	FEET
23	601	1973
24	615	2017
25	1150	3773
26	1231	4039

Residences are less than 3773 feet from Windmill 25

Based on PDF page 293 [of the Project Description and Affected Environment Analysis]

- Distances to Residences from Windmill 25
- Based on PDF page 293

- Distances to Residences from Windmill 23 and 24
- Based on PDF page 291

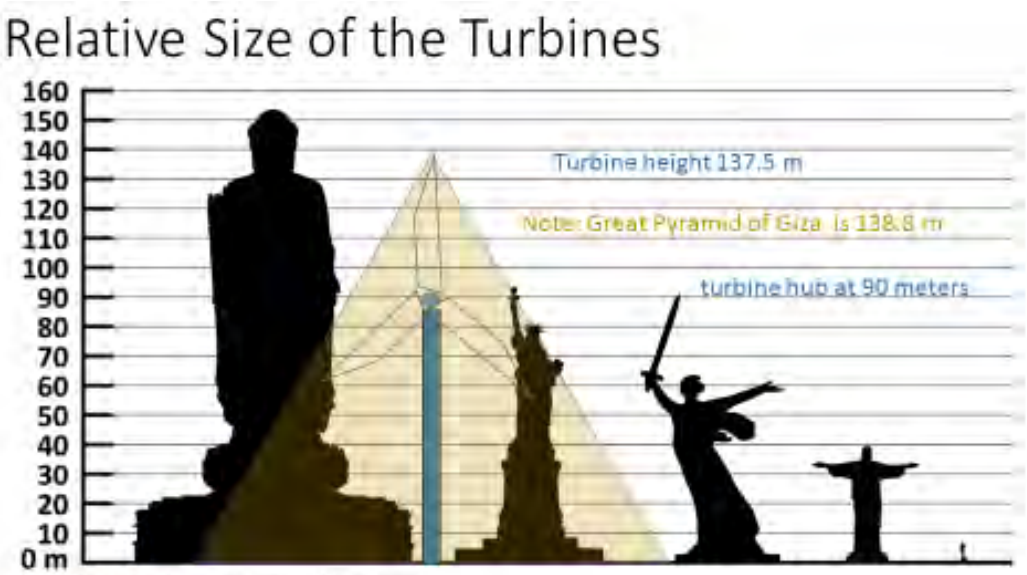
Attachment A8

- Summit Repower Wind Project – Blade Throw Analysis

The results of the analysis found that, for the "full blade" scenario considered, the maximum blade throw ranges between 167 and 196 m (548-643 ft), or between 1.2 and 1.4 times the total turbine height (TTH) of 138.5 m, depending on local terrain. The attached Figure 1 presents the modeled wind farm layout along with the maximum calculated blade throw radii for each turbine shown as shaded circles. Given that the closest distance from any turbine (Turbine #20) to the existing PG&E overhead transmission line is 290 m (2.1 TTH), all wind turbines are well beyond the maximum blade throw distances predicted by this analysis.

- It is unclear why the distance to a PGE line is used as a standard.
- The house near Turbine 25 is approximately 224 meters from the turbine and sits right at the edge of the shaded circle indicating the blade throw distance.

- Epsilon Analysis
- Potential Wind Turbine Blade Throw Areas – Full Blade
- PDF page 326



Approximate heights of various notable statues:
1. Spring Temple Buddha 153 m (incl. 25 m pedestal and 20 m throne)
2. Statue of Liberty 93 m (incl. 47 m pedestal)
3. The Motherland Calls 91 m (excl. pedestal)
4. Christ the Redeemer 38 m (incl. 8 m pedestal)

Turbine data from Epsilon report (hub 90 m above ground, rotor blade 47.5 m)

Lighting

All repowered wind turbines will require Federal Aviation Administration (FAA) lighting. This could affect daytime and nighttime views in the Project area because of the visual contrasts created by flashing and continuous lighting against the sky resulting reduction of visual character and quality However, because the Project will reduce the number existing turbines by up to 487 (from 511 to 24) the amount of FAA-required lighting in the Program Area is expected to be reduced in comparison to existing turbine lighting in the Project area. Therefore, the proposed Project will not create a new source of substantial light in the Project area that will affect daytime or nighttime views.

- Windmills along the ridge behind the Dyer Road residences have no lights on them currently
- Turbines will cast light all night long in both the front and back of the residences located between them
- Current night view has only residence lights, no street lights, one light at the reservoir, and one light at the aqueduct terminus
- Lights of new turbines located south of 580 are have added light to the night view

Closing (in Power Point presentation)

- Some Dyer Road residents were not notified of the new documents dated November 4th 2015 until a meeting held on November 12th.
- Residents are unable to easily find information on the Alameda County website regarding the project.
- This meeting is held at a time when working residents cannot attend without affecting their work status and causing a financial burden.

Action Requests

- Request a moratorium until windmills south of Dyer Road and 580 are completed so that residents can have an opportunity to see the impacts.
- Request this meeting be put off for at least 90 days until residents have sufficient time to digest the current ramifications of the documents and the impacts to Dyer Road.
- Request Alameda County Staff address the inaccuracies in the documents that were demonstrated today.
- Request simulations as were done in attachment A3 of all views of the turbines when installed along Dyer Road

7. ALAN RAGSDALE, E-MAIL, 11-23-15

I spoke briefly in today's Board of Zoning hearing about shadow flicker. Mr Young pulled up a shadow flicker map copied below. This map only address annual shadow flicker and I could not locate any data on daily limits. This map, in the PDF document, is not granular enough such that I can see my residence and determine the impact to me.

As discussed in the meeting, a spreadsheet with each address and all the data related to than address (set-backs, shadow flicker, noise) would be helpful.

8. RANDY YONEMURA, E-MAIL, 11-19-15

I represent the Ione Band of Miwok Indians Cultural Committee, It was brought to my attention that you would like to build a wind turbine on Brushy Peak. We have not had any consultation on this matter.

Please contact me with your Record search, pedestrian survey report, and site APE map, and your record of consultation, including the contact of the Lead Agency.

This area is of cultural, and spiritual significance to our Tribe.

9. BOB COOPER, E-MAIL, 11-20-15

At the Nov. 19, 2015 meeting which considered AWI CUP application, I was disappointed that AWI presented no substantial information on how the siting was performed for the project. Since they did not coordinate with either the Audubon Society nor EBRPD, organizations that have studied the issue, I would be more inclined to believe that they sited the windmills with the goal of crowding as many windmills on the property rather than siting the windmills with thought of reducing bird kills.

Transparency engenders trust; opacity breeds distrust. And, AWI siting process is opaque.

10. SHAWN SMALLWOOD, LETTER, 11-23-15

I am writing to correct representations that were made about me and the work that I performed on the Summit Wind Repowering Project. The first representation appears in Attachment A6 of the Environmental Checklist, specifically on page 23 at Section 3.4.1.1. The subheading reads, “Siting Analysis and Risk-Model Results.” The text under the subheading reads, “The applicant hired an avian consultant with experience in the Altamont Pass (Smallwood 2014) to do a WT siting analysis in 2014. As a result of that report, the locations of several WTs were changed to areas where impacts would be

reduced." The second representation was made by one or more representatives of Altamont Winds, Inc. ("AWI") at the East County Board of Zoning Adjustments Hearing on 19 November 2015. I did not attend the hearing, but I learned from attendees that AWI claimed it was my wish to keep my report confidential because the methods used allegedly are proprietary.

Because I am bound by a confidentiality agreement, I cannot disclose the contents of my report to AWI, which was cited in the Environmental Checklist as Smallwood (2014), but I can say that there is nothing in my report for AWI that I consider to be proprietary. My preference is for AWI to make the report available to the BZA and the public so that everyone has the opportunity to review my report and decide for themselves whether my report meets the relevant mitigation standard in the County's Programmatic EIR.

My confidentiality agreement with AWI does not bind me from revealing what I didn't do for AWI. I did not prepare collision hazard models for the Summit Wind Repowering Project. In support of the Tres Vaqueros and Vasco Winds repowering projects in Contra Costa County and the Golden Hills, Golden Hills North and Patterson Pass repowering projects in Alameda County, I prepared map-based collision hazard models to help guide wind turbine siting to minimize impacts to golden eagles, red-tailed hawks, American kestrels and burrowing owls. The earlier versions of the models relied on burrowing owl burrow locations and bird utilization data for the other species. Later versions also relied on wind turbine fatality data and bird behavior data. Years of careful work went into collecting these data, including fatality monitoring at thousands of turbines from 1998 through 2015, five years of burrowing owl surveys across the Altamont Pass, 855 hours of nocturnal surveys using a thermal camera, nearly two thousand hours of utilization surveys and >900 hours of diurnal behavior surveys. The data were used to identify relationships between fatality and behavior patterns and a suite of terrain variables (e.g., slope, aspect, position on slope, slope size) that were derived from a digital elevation model of the Altamont Pass Wind Resource Area. Wind conditions were also important to model development.

The end products were maps with four colors depicting collision risk. In most cases would work with the wind company to interpret the hazard maps and to guide wind turbine siting within other constraints faced by the company, such as land availability, constructability of slopes and soils, and setback requirements. As was accomplished at these other projects, and as required by the PEIR, the layout of the wind turbines in the Summit Wind Repowering Project should be carefully planned and sited using similar methods to avoid and minimize impacts to birds and bats. The data available for accomplishing a carefully planned project are much more numerous and of greater quality than used for any previous repowering project.

To summarize, I am in favor of having my report made available to the public. I also recommend the development and use of the collision hazard models used for other repowering projects at Altamont Pass to facilitate careful siting of wind turbines in the Summit Wind Repowering Project.

11. ALTAMONT WINDS LLC/B. DAMON, E-MAIL, 11-23-15

In response to claims during the EBZA hearing held Nov. 19 that the Summit wind repower project will degrade property values, we attach a study by Berkeley National Laboratory, dated August 2013, regarding the effects of wind energy facilities on surrounding property values in the United States. This study concludes that (see page 38 of the attached):

1. "we find no statistical evidence that home prices near wind turbines were affected in either the post-construction or post-announcement/pre-construction periods."

2. "the core results of our analysis consistently show no sizable statistically significant impact of wind turbines on nearby property values."

This project will result in a much less dense wind turbine layout. With 569 wind turbine sites to be removed and up to a maximum of 33 new turbines to be installed for the project, a ratio of 17:1 (and with 72 removed and up to a maximum of 3 new turbines installed on the ridge due west of the Dyer Road residences, a ratio of 24:1), the property values could increase.

12. GREG SANDFORD, E-MAIL, NOV. 30, 2015

I live on Dyer with my wife and two children ages 9 and 7. I bought my home 3 years ago. When we purchased the home we were under the impression that the windmills were going to be removed in 2015. We were not happy when we heard that they were getting an extension for another 3 years. It seems that has changed now and they are going but they will be replaced with some new very large ones.

I have been doing some research and looking through the documents provided regarding this project. I am concerned about a lot of the impacts listed in the proposal for this project, below are my top 5:

First and most important are the health impacts of these new large windmills. I searched the internet to learn about the impacts. There are almost endless pages out there ranging from studies showing the impacts, real life examples from people who were surrounded by windmills, and very few pages that offer any rebuttals or discounts to the impacts of them.

Google: health effects of living near windmills, just the first 4 on the list below.
http://science.howstuffworks.com/environmental/green-science/wind-turbines-health.htm
http://hearinghealthmatters.org/hearingviews/2014/wind-turbine-health-problems-noise/
http://theconversation.com/the-real-science-on-wind-farms-noise-infrasound-and-health-43112
http://oto2.wustl.edu/cochlea/wind.html
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3653647/

My main concern is for my children and the other children on the street. There are four new families that I know of that have a total of 10 young children, ages 11, 10, 9, 9, 7, 7, 5, 3, 1, 1. As you must know children are more susceptible to the environmental impacts in there life. I also found in my research there are families in current lawsuits regarding the health effects of the windmills that were put up around their home.

My second concern is the noise from the large blades and wind interruption that will occur. This was a serious impact with the old windmills and from my research will continue with the new ones.

Thirdly, Reduced property value if we are even able to sell the property with these towering windmills so close. It's aggravating that there are people making a lot of money with this project at the financial cost of the nearby homeowners. (The health cost was noted in point one above.)

Fourth, the Shadow flashing mentioned in the paperwork provided by this project. I imagine this will be a bigger issue with the new taller windmills than the smaller ones since they will be between our home and the sun for a longer period of time.

Lastly, the Flashing red beacons will negatively effect our view of the stars. I own a telescope and use it often. I am concerned the light will flood out the stars.

It's my understanding that there are somewhere around 570 old windmills being removed and 34 new ones going up. I don't understand why the 3 or 4 that are being placed near Dyer road, towing over our home, can't be relocated further west out of sight. If there was room for 570 old ones there has to be

space on the hills west of dyer for all 34 of the new ones. It's simple rude they would propose to put a few of them right behind our home.

13. ALTAMONT WINDS, LLC/WM. DAMON, DEC. 1, 2015, RESPONDING TO G. SANDFORD in bold blue

[Sandford:] I live on Dyer with my wife and two children ages 9 and 7. I bought my home 3 years ago. When we purchased the home we were under the impression that the windmills were going to be removed in 2015. We were not happy when we heard that they were getting an extension for another 3 years. It seems that has changed now and they are going but they will be replaced with some new very large ones.

I have been doing some research and looking through the documents provided regarding this project. I am concerned about a lot of the impacts listed in the proposal for this project, below are my top 5:

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Google: health effects of living near windmills, just the first 4 on the list below.
http://science.howstuffworks.com/environmental/green-science/wind-turbines-health.htm
http://hearinghealthmatters.org/hearingviews/2014/wind-turbine-health-problems-noise/
http://theconversation.com/the-real-science-on-wind-farms-noise-infrasound-and-health-43112
http://oto2.wustl.edu/cochlea/wind.html
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3653647/

[Sandford:] My main concern is for my children and the other children on the street. There are four new families that I know of that have a total of 10 young children, ages 11, 10, 9, 9, 7, 7, 5, 3, 1, 1. As you must know children are more susceptible to the environmental impacts in there life. I also found in my research there are families in current lawsuits regarding the health effects of the windmills that were put up around their home.

Attached is an article, named Wind Turbines and Human Health, accepted in May 2014 in Epidemiology, a section of the peer reviewed journal, Frontiers in Public Health, regarding the analysis of roughly 60 scientific peer-reviewed articles concerning the title, which concludes:

1.1 "Regarding the existence of "Wind Turbine Syndrome," Farboud et al. stated that: "There is an abundance of information available on the internet describing the possibility of wind turbine syndrome. However, the majority of this information is based on purely anecdotal evidence." [The authors] also pointed out that "Wind Turbine Syndrome" was not a clinically recognized diagnosis, remained unproven, and was not generally accepted within the scientific and medical community."

1.2 "Concerns about ever–present nature of EMF...and possible health effects have been raised by some in the global community for a number of years. However, the science around EMF and possible health concerns has been extensively researched, with tens of thousands of scientific studies published on the issue...the weight of scientific evidence does not support a causal link between EMF and health issues at levels typically encountered by people."

1.3 "[T]here are roughly 60 scientific peer-reviewed articles on this issue. The available scientific evidence suggests that EMF, shadow flicker, low-frequency noise, and infrasound from wind turbines are not likely to affect human health...")

Also, attached is a study by the Chief Medical Officer of Health of Ontario, dated May 2010, regarding the potential health impact of wind turbines. This study concludes that (see pages 7 and 10 of the study report):

2.1 "Wind turbines are not considered a significant source of EMF exposure since emissions levels around wind farms are low".

2.2 "Shadow flicker occurs when the blades of a turbine rotate in sunny conditions, casting moving shadows on the ground that result in alternating changes in light intensity appearing to flick on and off. About 3 per cent of people with epilepsy are photosensitive, generally to flicker frequencies between 5-30 Hz. Most industrial turbines rotate at a speed below these flicker frequencies". The new turbines will have a maximum rotational speed of about 0.3 Hz (18 rpm).

2.3 "While some people living near wind turbines report symptoms such as dizziness, headaches, and sleep disturbance, the scientific evidence available to date does not demonstrate a direct causal link between wind turbine noise and adverse health effects."

2.4 "The sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct adverse health effects. However, some people might find it annoying. It has been suggested that annoyance may be a reaction to the characteristic "swishing" or fluctuating nature of wind turbine sound rather than to the intensity of sound."

2.5 "Low frequency sound and infrasound from current generation upwind model turbines are well below the pressure sound levels at which known health effects occur. Further, there is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects".

[Sandford:] My second concern is the noise from the large blades and wind interruption that will occur. This was a serious impact with the old windmills and from my research will continue with the new ones.

Wind plants are always located where the wind speed is higher than average, and the background sound of the wind itself will often "mask" any sounds that might be produced by operating wind turbines – especially because the turbines only run when the wind is blowing. This project will result in a much less dense wind turbine layout with well-designed utility scale wind turbines which are generally quiet in operation. Permitted sound levels are determined at the local level. [Specific results for Sanford are (pending) .] All wind farms must comply with sound ordinances of applicable local governments prior to project approval. Please see attached, AWEA Utility Scale Wind Energy and Sound Factsheet 2013.

From the article, Wind Turbines and Human Health: the authors "concluded that although there was evidence to suggest that wind turbines can be a source of annoyance to some people, there was no evidence demonstrating a direct causal link between living in proximity to wind turbines and more serious physiological health effects...a convincing body of evidence exists to show that annoyance is more strongly related to visual cues and attitude than to wind turbine noise itself. In particular, this was highlighted by the fact that people who benefit economically from wind turbines...reported significantly lower levels of

annoyance than those who received no economic benefit, despite increased proximity to the turbines and exposure to similar (or louder) sound levels." (Knopper, Ollson 05/24/14 WTs and Human Health – Frontiers in Public Health)

[*Sandford:*] Thirdly, Reduced property value if we are even able to sell the property with these towering windmills so close. It's aggravating that there are people making a lot of money with this project at the financial cost of the nearby homeowners. (The health cost was noted in point one above.)

Attached is a study by Berkeley National Laboratory, dated August 2013, regarding the effects of wind energy facilities on surrounding property values in the United States. This study concludes that (see page 38 of the study report):

1. "we find no statistical evidence that home prices near wind turbines were affected in either the post-construction or post-announcement/pre-construction periods."

2. "the core results of our analysis consistently show no sizable statistically significant impact of wind turbines on nearby property values."

This project will result in a much less dense wind turbine layout. With 569 wind turbine sites to be removed and up to a maximum of 33 new turbines to be installed for the project, a ratio of 17:1 (and with 72 removed and up to a maximum of 3 new turbines installed on the ridge due west of the Dyer Road residences, a ratio of 24:1), the property values could increase.

[*Sandford:*] Fourth, the Shadow flashing mentioned in the paperwork provided by this project. I imagine this will be a bigger issue with the new taller windmills than the smaller ones since they will be between our home and the sun for a longer period of time.

Computer models in wind development software can determine the days and times during the year that specific buildings in close proximity to turbines may experience shadow flicker. [Specific results for Sanford are (pending)].
"Shadow flicker from wind turbines occurs much more slowly than the light "strobing" associated with seizures. The strobe rates necessary to cause seizures in people with photosensitive epilepsy are 3 to 5 flashes per second and large wind turbine blades cannot rotate this quickly". Also, see above for health issues. Please see attached, AWEA Wind Turbines and Health Factsheet 2009.

From the article, Wind Turbines and Human Health: "The main health concern with shadow flicker is the risk of seizures in those people with photosensitive epilepsy. As reviewed by Knopper and Ollson, Harding et al. and Smedley et al. have published the seminal studies dealing with this concern...Both studies suggested that flicker from turbines that interrupt of reflect sunlight at frequencies > 3 Hz pose a potential risk of inducing photosensitive seizures in 1.7 people per 100,000 of the photosensitive population. For turbines with three blades this translates to a maximum speed of rotation of 60 rpm." (Knopper, Ollson 05/24/14 WTs and Human Health – Frontiers in Public Health) Our proposed turbines will rotate at a speed of about 18 rpm.

[*Sandford:*] Lastly, the Flashing red beacons will negatively effect our view of the stars. I own a telescope and use it often. I am concerned the light will flood out the stars.

Lighting will be installed on the fewest number of WTs allowed by FAA regulations (enough to define the perimeter of the project and about every half-mile in between; we

anticipate about 50% of WTs will be lit). All navigation warning lights will flash synchronously. WT lighting will employ only FAA standard red flashing lights, and will be operated at the minimum allowable intensity and flashing frequency allowed by the FAA. If the commenter would look at the night sky in the area of NextEra's Golden Hills wind project south of I-580 and their Vasco wind project along Vasco Road, he would see that the WT lights do not flood out the view of the stars.

[*Sandford:*] It's my understanding that there are somewhere around 570 old windmills being removed and 34 new ones going up. I don't understand why the 3 or 4 that are being placed near Dyer road, towing over our home, can't be relocated further west out of sight. If there was room for 570 old ones there has to be space on the hills west of dyer for all 34 of the new ones. It's simple rude they would propose to put a few of them right behind our home.

The project's objective is to maximize the use of the available wind resource in the project footprint, and to produce as close to the allowable interconnection capacity of approximately 54 MW as possible. It is important that the greatest possible number of possible sites be approved (33 are being requested) to attain the development flexibility needed to meet the capacity maximization objective, and for the project to be economically viable.

In order to effectively capture the renewable winds, all turbines, old and new, must be located along ridgelines or hilltops. Due to their larger sizes, the new turbines also need greater spacing between them to properly operate, as compared to the old turbines. There simply aren't enough turbine sites along the western-most ridge alone to maximize the allowable project capacity and to keep the project economically feasible. For the project to be successful, turbines need to be also installed on the first ridge west of Dyer Road, on which, incidentally, old turbines are currently installed.

In closing, renewable wind energy projects are commonplace throughout the country and the world, and multiple studies refute the assertion of wind farms causing health impacts. In addition, the project is consistent with the PEIR certified by the EBZA Nov. 12, 2014, following public testimony, and its siting requirements, and therefore should be approved just as the three previous repowering projects have been approved (Golden Hills, Patterson Pass, and Golden Hills North).

14. D. MUELLER, 11-24-15, GOLDEN HILLS APPEAL

The Altamont Landowners Against Rural Mismanagement is a group of concerned property owners residing on Dyer Road in Alameda County. At a meeting of the group on November 22, 2015 to discuss the continuing repowering of the wind turbines in the Altamont Pass area, especially those affecting Dyer Road, particularly the project GHN 157 Repowering, it was discovered that the project was unknown to the people at the meeting. Lack of communication to the residents could be why. Darryl Mueller was the only resident at the CPU Hearing on 11/12/15.

Grounds for the appeal.

1. I did not receive a notice of the project from beginning or Notice of Preparation.
2. Enclosed are copies of CUP comments over 25 years. I was left out of the process starting with the NOP, DEIR & only 2 weeks before a final decision was being made. Most of the same issues are in contention and have not been mitigated.

3. I did not receive a notice of a Draft EIR so I could comment.
4. I got a notice of the Final EIR before the meeting but the description was somewhat clouded to the fact, that the project wraps around the Altamont Landfill was missing.
5. Process is moving way to fast. The final EIR has a September 2015 date its 108 pages long. Residents work and do not work full time reading EIR's. Residents need reasonable time to digest and make comment for the process to work as intended.
6. The purpose of the EIR is to promote informed decision-making by federal agencies by making "detailed information concerning significant environmental impacts" available to agency leaders, public and residents of that area.
7. In my written objection 11/12/15 Alameda County Planning Board meeting I mention several factors that are not mitigated 454 ft. windmills with 2 photographs of huge Contra Costa County Repowered windmills 3 miles away and Golden Hills South project 2.8 miles away and the intrusion into our life style and piece of mind. See enclosed NOP 9/95, SEQA 12/90, CPU 8231 12/03, Repowering Appeal 12/98, DEIR 9/98
8. The Flashing Red lights will spoil the night sky view. This is also referenced back - see enclosed NOP 9/95, DEIR 9/98,
9. The awesome size is so overwhelming and causes any view of the hills to become a view of the windmill. DEIR 9/98
10. Raptor & bird bat death are not mitigated, a reduction is not mitigation. Buying a permit to take raptors, bird & bats creates a conflict of interest on the part of agencies and groups that should be protecting the raptor, bird, & bats. See Repower 5/04, NOP 9/95, CPU 8231 12/03,
11. Loss of property value must be a concern.
    a. The fact is that 100 ft. tall windmills were originally permitted. The setbacks must change with the change in the size factor of the windmill. New 45 story windmills change the whole scope of what is now visible from our homes and potential buyers will pay less based on the view.
    b. Property values decline by windmills, enclosed is "IPRO Impacts of Noise and Visual Pollution from Wind Turbines from the University of Copenhagen 2013."
12. People affected most, those living on Dyer Rd., did not get notifications of the projects.
13. Windmills do cause fires, CDF now imposes a tax on fire suppression residents have to pay, but windmills do not have to pay. The potential of each windmill as a fire hazard is not assessed by CDF only because it is not habitable structure, but they are a major cause of fires in Altamont Hills.
14. Just because Windmill are here does not make it a continual right. It has been said that windmill should be permitted because they are all ready at Altamont Pass. As the facts come out programs, study's, fees, take permits and other mitigation is only a guise to cover up the fact of continued killing raptors, birds and bats. See DEIR 9/98
15. At a time when reliable power generation should be the main concern, Altamont Windmills operate at less than 15% of the time and other power sources must be maintained to carry the load 85% of the time. Altamont Windmills cannot operate on it's own without, production tax credits, carbon credit, Carbon offsets, subsidy's and higher electric rates to residents of California.

16. Health issues are an on going concern and enclosed is an article from "Renewable Energy 9/16/15" enclosed. Appeal CPU 3989 5/91, Repower Appeal12/98,
17. Property values decline by windmills, enclosed is "IPRO Impacts of Noise and Visual Pollution from Wind Turbines from University of Copenhagen 2013 ". See Repower Appeal12/98, Response to DEIR 9/98
18. Letter from John Soares and Dean Labot
19. List of residents that did not receive notice of 1 1/12/15 Repowering Hearing.
    a. John & Donna Soares 4004 Dyer Rd.
    b. Brandon & Jill Alchorn 4006 Dyer Rd.
    c. Virginia Miner 4008 Dyer Rd.
    d. Joseph Cruz 3988 Dyer Rd.
    e. Patrick Harrold 3966 Dyer Rd.
    f. Gregory Sandford 3326 Dyer Rd.
    g. Dean Labat 3300 Dyer Rd.
    h. Robert Cooper 3988 Dyer Rd.
    1. Allen Ragsdale 3932 Dyer Rd.

[*subsequent e-mail on 12-7-15, confirming intent to submit appeal comments and materials for consideration of the Summit Wind Repower Project*]

I have it all that digital if needed. On the second mail package are several places named including Brown County Wisconsin and Waterloo Australia that have our same situation **rural homes, & farms** with the addition of large Industrial Wind Turbines and the fact that people had to move out of their homes and the health issues that came after the Turbine installation. The Australia study involves **people lives within 16,404 ft [or] 5 km.**

And the Wisconsin study involves [a report with the following summary:]

Summary: “The four investigating firms are of the opinion that enough evidence and hypotheses have been given herein to classify LFN and infrasound as a serious issue, possibly affecting the future of the industry. It should be addressed beyond the present practice of showing that wind turbine levels are magnitudes below the threshold of hearing at low frequencies.”

Note: Duke Energy's wind turbines at Shirley Wind in Brown County have been declared a **"Human Health Hazard" by the Brown County Board of Health. 3 families have vacated their homes at 1280’, 3300’, and 7100’ in order to regain their health**, while sworn affidavits representing over 50 others attest to the continued suffering around the turbines in homes that residents simply cannot afford to leave. Nearly all affected families reside beyond the PSC 128 allowed 1250 foot setback.

15. ALTAMONT WINDS, LLC/B. DAMON, 12-3-15, RESPONSE TO MUELLER APPEAL:

Aside from County noticing allegations, all but five of Mr. Mueller’s criticisms (his Nov. 24 appeal is attached) have already been addressed in our Dec. 1 draft response to Greg Sandford’s Nov. 30 comments (or Dec. 1 e-mail to Power Engineers is attached for your reference) and in our Nov. 23 e-mail to you regarding no property values degradation (copy also attached for reference). Our responses to the remaining five items are as follows in **bold blue** (the item numbers correspond to the item numbers in Mr. Mueller’s Nov. 24 appeals letter):

[Mueller:] 7. "In my written objection 11/12/15 Alameda County Planning Board meeting I mention several factors that are not mitigated 454 ft. windmills with 2 photographs of huge Contra Costa County Repowered windmills 3 miles away and Golden Hills South project 2.8 miles away and the intrusion into our life style and piece of mind." and

[Mueller:] 9. "The awesome size is so overwhelming and causes any view of the hills to become a view of the windmill."

> we have provided Power Engineers with additional visual simulations for Dyer road, and they will include these in their materials package to you.
> the FPEIR states in section 3.1 "Aesthetics," Impact AES-4a-1, that where existing wind turbines are located now, repowered wind turbines will be considered a visual improvement.

> overall, within the project footprint, we will decommission 569 WTs and install up to a maximum of 33 new WTs (ratio 17:1); on the ridge directly behind Mr. Mueller's house, we will decommission 72 WTs and install up to only 3 new WTs (ratio 24:1); larger and fewer turbines means that spacings between turbines are increased, which provides a less congested visual perspective.

[Mueller:] 13. "Windmills do cause fires, CDF now imposes a tax on fire suppression residents have to pay, but windmills do not have to pay. The potential of each windmill as a fire hazard is not assessed by CDF only because it is not a habitable structure, but they are a major cause of fires in Altamont Hills."

> the tax referenced is the State Responsibility Area ("SRA") Fire Prevention Fee of $152.33 per habitable structure. The anticipated property tax for the first year of the project is $1.3 million, which Alameda County can allocate towards fire prevention/fighting as it deems necessary.

> as stated in the EIR documents, Project Description, Section 13.1:

- CalFire provides fire protection services to the Project area. The fire protection facilities and infrastructure required to protect the proposed facilities and employees are already in place and will not change as a result of the proposed Project.

- the Project will result in a net reduction of turbines and related infrastructure in the Project area. As a result, fewer wind energy facility components could be threatened by fire or could cause a fire.

- CalFire indicated that the newer generation wind turbines were safer than the original models that exist in the area (Giambrone pers. comm.).

> the improved design of modern wind turbines results in much fewer, indeed very rare, fires as compared to the early generation turbines that currently exist in Altamont Pass.

[Mueller:] 14. "Just because Windmill are here does not make it a continual right. It has been said that windmill should be permitted because they are all ready at Altamont Pass. As the facts come out programs, study's, fees take permits and other mitigation is only a guise to cover up the fact of continued killing raptors, birds and bats."

> the Altamont Pass Wind Resource Area ("APWRA") is a local treasure. It is one of three major areas in the State where large scale wind farms can be built. The reason that the APWRA was selected as the location of one of the earliest wind farms in the United States, and continues to be repowered, is because of the ideal situation created by the cold air from the San Francisco Bay area being drawn through the APWRA to cool the San Joaquin

valley. The APWRA provides an invaluable resource to the local residents and greater State. In 2014, California wind projects generated 12,997 gigawatt-hours (GWh) of electricity or 6.5% of all power generated within California. (CEC 2014 Energy Almanac total system power, attached.)

[Mueller:] 15. "At a time when reliable power generation should be the main concern, Altamont Windmills operate at less than 15% of the time and other power sources must be maintained to carry the load 85% of the time. Altamont Windmills cannot operate on it's own without, production tax credits, carbon credits, Carbon offsets, subsidy's and higher electric rates to residents of California."

> Mr. Mueller does not cite a source for this 15% operation figure, and it is patently false. While wind is an intermittent resource, turbines operate at some level of output the majority of the time (excluding downtime for servicing , utility or County-imposed curtailments, etc.). Modern wind turbines are more efficient, and with operating characteristics varying greatly depending on the type of turbine and the site-specific wind regime, we expect to see the new Summit turbines operate more than approximately 80% of the time.

> California has historically been a leader on clean energy investments, driven in large part by its Renewables Portfolio Standard ("RPS"), which requires all utilities in the state to source 33% of their electricity sales from clean, renewable sources, like wind, by 2020. Governor Brown has recently pushed to increase that amount to 50% by 2030. California, and society as a whole, embraces wind power as a clean, renewable energy resource to combat climate change and preclude the environmental and health impacts associated with traditional (fossil fuel) energy sources.

> Lower wind turbine prices and installed project costs, along with improvements in expected capacity factors, are enabling aggressive wind power pricing. After topping out at nearly 7¢/kWh in 2009, the average levelized long-term price from wind power sales agreements signed in 2014 fell to just 2.35¢/kWh—the lowest-ever average price in the U.S. market. (See attached Berkeley National Laboratory 08/10/15 wind energy price news release.)

16. MARADE SANDFORD, 12-4-15

I am a resident of Dyer Road and have become increasingly alarmed at the prospect of new large wind turbines being placed so close to my home. I have done considerable research on wind turbines and am scared of the potential health affects for me and my family. I have 2 young children and think it is unconscionable to put a known health hazard so close to our home. We will fight this with everything we have since it is our lives that are affected. Here are a couple of snippets from my research on the affects of living too close to wind turbines:

People who live or work in close proximity to IWTs have experienced symptoms that include decreased quality of life, annoyance, stress, sleep disturbance, headache, anxiety, depression, and cognitive dysfunction. Some have also felt anger, grief, or a sense of injustice. Suggested causes of symptoms include a combination of wind turbine noise, infrasound, dirty electricity, ground current, and shadow flicker.

Pierpont (2009) documented symptoms reported by individuals exposed to wind turbines, which include sleep disturbance, headache, tinnitus, ear pressure, dizziness, vertigo, nausea, visual blurring, tachycardia, irritability, problems with concentration and memory, and panic episodes associated with sensations of internal pulsation or quivering when awake or asleep. The American Wind Energy

> Association and the Canadian Wind Energy Association convened a panel literature review that determined these symptoms are the "well-known stress effects of exposure to noise," or in other words, are "a subset of annoyance reactions."
>
> Noise-induced annoyance is acknowledged to be an adverse health effect. Chronic severe noise annoyance should be classified as a serious health risk. According to the WHO guidelines for community noise, "[t]he capacity of a noise to induce annoyance depends upon many of its physical characteristics, including its sound pressure level and spectral characteristics, as well as the variations of these properties over time." Industrial wind turbine noise is perceived to be more annoying than transportation noise or industrial noise at comparable sound pressure levels. Industrial wind turbine amplitude modulation, audible low frequency noise, tonal noise, infrasound, and lack of nighttime abatement have been identified as plausible noise characteristics that could cause annoyance and other health effects.
>
> In 2010, Nissenbaum et al used validated questionnaires in a controlled study of 2 Maine wind energy projects. They concluded that "the noise emissions of IWTs disturbed the sleep and caused daytime sleepiness and impaired mental health in residents living within 1.4 km of the two IWT installations studied."
>
> After considering the evidence and testimony presented by 26 witnesses, a 2011 Ontario environmental review tribunal decision acknowledged IWTs can harm human health:
>
> This case has successfully shown that the debate should not be simplified to one about whether wind turbines can cause harm to humans. The evidence presented to the Tribunal demonstrates that they can, if facilities are placed too close to residents.
>
> An Ontario community-based self-reporting health survey, WindVOiCe, identified the most commonly reported IWT-induced symptoms as altered quality of life, sleep disturbance, excessive tiredness, headache, stress, and distress. Other reported effects include migraines, hearing problems, tinnitus, heart palpitations, anxiety, and depression. In addition, degraded living conditions and adverse socioeconomic effects have been reported. In some cases the effects were severe enough that individuals in Ontario abandoned their homes or reached financial agreements with wind energy developers.A 2012 board of health resolution in Brown County in Wisconsin formally requested financial relocation assistance for "families that are suffering adverse health effects and undue hardships caused by the irresponsible placement of industrial wind turbines around their homes and property."

I do not want to experience any of these symptoms and do not wish for my children to experience any of these either. What kind of life is that? We would be forced to move. I am worried since who would buy a home so close to a wind turbine? We would be forced to walk away and lose everything.

> Industrial wind turbines can harm human health if sited too close to residents. Harm can be avoided if IWTs are situated at an appropriate distance from humans.
>
> Researchers studying wind-turbine syndrome also recommend a larger buffer zone around wind farms to protect people from any ill effects. Some people say that the distance should be least 1.2 miles (2 kilometers) [source: CleanTechnica]. Others suggest at least 2 miles (3.2 kilometers) [source: PlanetGore].
>
> In areas with a relatively long history of industrial wind turbines (IWTs), a distance of at least 1-1/4 miles (2 kilometers)—and more in areas with hilly terrain—is now considered necessary to avoid negative impacts on health.

A simple solution to prevent all this is to not place these giant turbines right next to my home. A safe distance is at least 1-2 miles. Your project plans to place them within a few hundred feet of our home. That is unacceptable. Please take all this to heart and make the right decision that will affect all the residents of Dyer Road. The health of every resident on Dyer Road is at stake.

17. ALTAMONT WINDS LLC/B. DAMON, RESPONSE TO M. SANDFORD, 12-7-15 in blue bold

1. "People who live or work in close proximity to IWTs have experienced symptoms that include decreased quality of life, annoyance, stress, sleep disturbance, headache, anxiety, depression, and cognitive dysfunction. Some have also felt anger, grief, or a sense of injustice. Suggested causes of symptoms include a combination of wind turbine noise, infrasound, dirty electricity, ground current, and shadow flicker."

> Ms. Bryant does not cite a source for this assertion, however Health Canada Wind Turbine Noise and Health Study (2014) (attached) states that the following were not found to be associated with Wind Turbine Noise ("WTN") exposure:

- self-reported sleep (e.g., general disturbance, use of sleep medication, diagnosed sleep disorders);

- self-reported illness (e.g., dizziness, tinnitus, prevalence of frequent migraines and headaches) and chronic health conditions (e.g., heart disease, high blood pressure and diabetes); and

- self-reported perceived stress and quality of life.

> Further that study also went on to state that:

- Results of self-reported measures of sleep, that relate to aspects including, but not limited to general disturbance, use of sleep medication, diagnosed sleep disorders and scores on the PSQI, did not support an association between sleep quality and WTN levels.

- Self-reports of having been diagnosed with a number of health conditions were not found to be associated with exposure to WTN levels. These conditions included, but were not limited to chronic pain, high blood pressure, diabetes, heart disease, dizziness, migraines, ringing, buzzing or whistling sounds in the ear (i.e., tinnitus).

- Self-reported stress, as measured by scores on the Perceived Stress Scale, was not found to be related to exposure to WTN levels.

- Exposure to WTN was not found to be associated with any significant changes in reported quality of life for any of the four domains, nor with overall quality of life and satisfaction with health

- Statistically significant exposure response relationships were found between increasing WTN levels and the prevalence of reporting high annoyance...Although Health Canada has no way of knowing whether these conditions may have either predated, and/or are possibly exacerbated by, exposure to wind turbines, the findings support a potential link between long term high annoyance and health. Findings suggest that health and wellbeing effects may be partially related to activities that influence community annoyance, over and above exposure to wind turbines.

- WTN was not observed to be related to hair cortisol concentrations, blood pressure, resting heart rate or measured sleep (e.g., sleep latency, awakenings, sleep efficiency) following the application of multiple regression models.

- While it can be seen that many variables had a significant impact on measured sleep, calculated outdoor WTN levels near the participants' home was not found to be associated with sleep

efficiency, the rate of awakenings, duration of awakenings, total sleep time, or how long it took to fall asleep.

> Per the article: Wind Health Impacts Dismissed in Court, Barnard (2014) Energy and Policy Institute (attached):

"The nocebo effect, first named by WP Kennedy in 1961, is the negative side of the placebo effect. Instead of suggestions leading to positive health outcomes, suggestions lead to negative health outcomes. The nocebo effect causes health issues in psychogenic health hysterias such as "fan death," where people believe that a fan in a closed room chops oxygen molecules in two, causing them to be unable to breathe. The nocebo effect causes some side effects of medicine, creating a challenge for the ethical disclosure of potential side effects of medication. As a result, the nocebo effect is a confounding factor in clinical trials of medication and treatment techniques. Direct studies into the nocebo effect have been banned due to medical ethics concerns since roughly the 1970s.

Researchers are now assessing the nocebo and psychogenic hypotheses, finding strong evidence that they are the cause of the majority of complaints and are responsible for significant increases in numbers and severity of complaints. Professor Simon Chapman and a team of researchers at the Public Health Faculty of the University of Sydney of Australia found strong supporting evidence that the psychogenic hypothesis was the dominant factor in wind farm health complaints in a recently published study undergoing formal peer review and publication.

Ms. Fiona Crichton and along with researchers from the University of Auckland in New Zealand found strong supporting evidence for the nocebo effect being the cause of significantly increased numbers and severity of symptoms attributed to infrasound (noise below the frequency which humans can hear, typically zero to twenty Hertz). Studies such as Crichton's that assess the nocebo effect are required to ensure that larger goals of the study are expected to have positive health outcomes, and that negative impacts of the nocebo effect are monitored during the study and the study terminated if they become too severe. Further, study participants are informed after the study was over that the goal was to assess the nocebo effect and that symptoms that they experienced were not due to infrasound, following standard practice."

2. "Pierpont (2009) documented symptoms reported by individuals exposed to wind turbines, which include sleep disturbance, headache, tinnitus, ear pressure, dizziness, vertigo, nausea, visual blurring, tachycardia, irritability, problems with concentration and memory, and panic episodes associated with sensations of internal pulsation or quivering when awake or asleep. The American Wind Energy Association and the Canadian Wind Energy Association convened a panel literature review that determined these symptoms are the "well-known stress effects of exposure to noise," or in other words, are "a subset of annoyance reactions."

> Per the article: Wind Health Impacts Dismissed in Court, Barnard (2014) Energy and Policy Institute (attached):

"Dr. Nina Pierpont was a long-term campaigner against wind farms near her home who conducted a minor and very poorly constructed health survey. This survey was the basis for her self-published book which coined the phrase, "wind turbine syndrome." This "syndrome" is widely referenced by people campaigning against wind turbines. Pierpont claims that wind turbines cause tinnitus, dizziness, heart palpitations, nausea, tingling, and loss of sleep, among several other symptoms. However, the book is deeply flawed.

Pierpont interviewed 23 people by phone. They were chosen by advertising through ant-wind groups that blamed wind farms for their health issues. Pierpont also accepted statements about an additional 15 household members without speaking to them and did not assess health histories of the participants outside of verbal statements by people surveyed. She hypothesized a connection of infrasound and created 60 pages of charts, graphs, and tables, a level of statistical analysis far beyond anything supportable by the data. The symptoms she identified are very commonly found in the general populace.

There have been 22 literature reviews on wind turbine health and many point-specific studies on wind turbine noise, vibration, infrasound, and shadow flicker, conducted by public health doctors and scientists, acousticians, epidemiologists, and related specialists. The studies considered Pierpont's book along with other published literature. In every case, they found that her work was lacking in credibility. Recent major reviews have been conducted in Ontario, Massachusetts, Oregon and Australia with the same results.

In October of 2013, Pierpont attempted to gain expert witness status at the Adelaide ERT wind farm hearing in Ontario. She wrote:

"I will attempt to teach the representatives of NextEra and the Ontario Ministry of the Environment, as well as the members of the Tribunal, enough about brain and ear physiology and pathophysiology, population-level studies in free-living organisms, and medical interviewing that they can understand the wind turbine associated health issues."

Pierpont has no expertise from education or experience in "brain and ear physiology and pathophysiology, population-level studies in free-living organisms, and medical interviewing." Her evidence included her self-published book, which along with her testimony, was dismissed."

3. "Noise-induced annoyance is acknowledged to be an adverse health effect. Chronic severe noise annoyance should be classified as a serious health risk. According to the WHO guidelines for community noise, "[t]he capacity of a noise to induce annoyance depends upon many of its physical characteristics, including its sound pressure level and spectral characteristics, as well as the variations of these properties over time." Industrial wind turbine noise is perceived to be more annoying than transportation noise or industrial noise at comparable sound pressure levels. Industrial wind turbine amplitude modulation, audible low frequency noise, tonal noise, infrasound, and lack of nighttime abatement have been identified as plausible noise characteristics that could cause annoyance and other health effects."

> Please refer to our response to the first point and Health Canada's 2014 study (attached).

4. "In 2010, Nissenbaum et al used validated questionnaires in a controlled study of 2 Maine wind energy projects. They concluded that "the noise emissions of IWTs disturbed the sleep and caused daytime sleepiness and impaired mental health in residents living within 1.4 km of the two IWT installations studied.""

> Per the article: Wind Health Impacts Dismissed in Court, Barnard (2014) Energy and Policy Institute (attached):

"Dr. Michael Nissenbaum is a radiologist, not a researcher, acoustician, epidemiologist or public health expert. Additionally, he is a member of the Advisory Board of the anti-wind group, Society for Wind Vigilance. Nissenbaum performed a "health survey" of people near two wind farms in Maine, where he lives. The survey was deeply flawed because of the insignificant sample size and the low response rate. Health surveys require at least a 50 percent response rate to be considered

useful. The survey identified that it was assessing wind energy noise and health problems, and the questions were leading and pushed desired responses upon the respondents. McMurtry attempted to enter Nissenbaum's study into evidence in the 2013 Bovaird v. Director, Ministry of the Environment ERT in Ontario. The evidence was dismissed."

5. "After considering the evidence and testimony presented by 26 witnesses, a 2011 Ontario environmental review tribunal decision acknowledged IWTs can harm human health:

This case has successfully shown that the debate should not be simplified to one about whether wind turbines can cause harm to humans. The evidence presented to the Tribunal demonstrates that they can, if facilities are placed too close to residents."

> Ms. Bryant does not provide a citation to this assertion, and we have been unable to locate the source material.

6. "An Ontario community-based self-reporting health survey, WindVOiCe, identified the most commonly reported IWT-induced symptoms as altered quality of life, sleep disturbance, excessive tiredness, headache, stress, and distress. Other reported effects include migraines, hearing problems, tinnitus, heart palpitations, anxiety, and depression. In addition, degraded living conditions and adverse socioeconomic effects have been reported. In some cases the effects were severe enough that individuals in Ontario abandoned their homes or reached financial agreements with wind energy developers."

> Please refer to our response to the first point and Health Canada's 2014 study (attached).

7. "A 2012 board of health resolution in Brown County in Wisconsin formally requested financial relocation assistance for "families that are suffering adverse health effects and undue hardships caused by the irresponsible placement of industrial wind turbines around their homes and property.""

> A formal request is not a final adjudicated finding, the Brown County determination has not been finalized yet, it is still before the health director. See attached Green Bay Press-Gazette article.

8. "Researchers studying wind-turbine syndrome also recommend a larger buffer zone around wind farms to protect people from any ill effects. Some people say that the distance should be least 1.2 miles (2 kilometers) [source: CleanTechnica]. Others suggest at least 2 miles (3.2 kilometers) [source: PlanetGore]. In areas with a relatively long history of industrial wind turbines (IWTs), a distance of at least 1-1/4 miles (2 kilometers)—and more in areas with hilly terrain—is now considered necessary to avoid negative impacts on health."

> Ms. Bryant does not cite to any scientific authorities in making these assertions, the website link is to an op-ed piece the crux of which boils down to 'perhaps turbines need to be moved further away, but the science isn't clear.'

18. DEBBIE BRYANT, 12-5-15

I have been reading the research regarding the impact of Industrial Wind Turbines on health.

Being retired, I enjoy spending more time outdoors gardening on Dyer Road. I have found myself with increasing tiredness during the three years I have lived here. My doctor has ruled out this tiredness with normal results from tests. Health studies report excessive tiredness has been reported along with other health issues.

I now have a major concern of the health impacts because chronic severe noise annoyance should be classified as a serious health risk if the new large industrial wind turbines are going up near Dyer Road in Livermore, CA.

Industrial Wind Turbines need to be placed at a distance to avoid negative impacts to the health of the residents of Dyer Road. A distance of 1-2 miles or more is necessary and safer than the meer couple of hundred feet.

Please considered placing the industrial wind turbines further away than proposed.

19. LIVERMORE AREA RECREATION & PARK DISTRICT/TIM BARRY, 12-7-15

We have reviewed the information for the Altamont Winds LLC Repowering Project, presented to the East County Board of Zoning Adjustments and voiced our concerns to Altamont Winds with proposed windmill site #30 relative to its obstruction of the view-shed ofthe parkland and proximity of known raptors frequenting our parkland. Prior to sending you a communication, and noting that the hearing by the East County Board of Zoning Adjustments had been continued to December 10, 2015, we discussed the matter with Morgan McGovert of Altamont Winds. He subsequently sent me an email communication, attached, assuring us that their proposal has changed to omit location #30 from their proposal. With this removal, LARPD has no objection to the Altamont Winds LLC Repowering Project as amended.

20. DOUG BELL, 12-7-15

Please forward to the Board members of the East County Board of Zoning Adjustments the attached paper (http://www.mdpi.com/1996-1073/2/4/915) describing the methodology for creating risk maps that Smallwood et al. use for informing the careful siting of wind turbines to reduce impacts to the four focal species of raptors in the Altamont Pass Wind Resource Area. Statements were made at the Nov. 19, 2015, EBZA meeting that the method of carefully sitting wind turbines is proprietary. In fact, this scientific method has been published in a peer-reviewed, professional journal and is available to the public.

21. ALAN RAGSDALE, 12-3-15

I believe the three wind generators west of the homes on Dyer Road are too close to residents. I have based my analysis on the following issues:

1) Daily residential shadow flashing has either not been analyzed, or the analysis has not been shared. Even if within legal requirements, shadow flashing up to 30 minutes a day and 30 hours a year will certainly be irritating.

2) Flashing red beacons at the top of the generators may disturb our sleep, and will reduce enjoyment of our dark evening sky and star gazing. At a minimum can all the generators beacons be shielded from ground level view?

3) Noise from large blades and wind interruption (pulsing or thrashing) will be noticeable to residents most of the time. This is because the predominant wind direction comes from the west of our house where generators are located. When a noise source is above you on a hill, as the generators will be in relation to our house, the sound travels uninterrupted directly to you.

4) We will experience reduced property value due to proximity of towering generators. Proximity to towering generators reduces the desirability of real estate as supported in studies. Prospective buyers will almost certainly require a substantial price reduction in order for us to sell our property. From Forensic-Appraisal reference below "According to our research, an overwhelming majority of Realtors says that wind turbines negatively impact property value. They estimate the range of impact to be from a 10% price reduction to being completely unsellable." Note that many wind generator -vs- real estate values study large ranges, sometimes noting distances of 10 miles in studies.

5) Health effects from low frequency noise dubbed 'Wind Turbine Syndrome", are frequently referenced in the press (see links below). We don't know if these effects are real, but certainly don't want to be guinea pigs on this issue.

6) AWI's existing efforts are not transparent:

A) Use of secret processes and documents to site generators.

B) Maps have insufficient detail for residents to determine impacts to their families.

C) Daily shadow flashing data is absent.

Harvard Medical School Doctor diagnoses Wind Turbine Syndrome

http://abcnews.go.com/Health/wind-turbine-syndrome-blamed-mysterious-symptoms-cape-cod/story?id=20591168

How much noise do wind turbines make

http://science.opposingviews.com/much-noise-wind-turbines-make-19398.html

Do Wind Turbines Effect Property Values?

http://www.forensic-appraisal.com/wind-turbines

Values in the Wind: A Hedonic Analysis of Wind Power Facilities

http://le.uwpress.org/content/88/3/571.abstract

22. P. HARROLD, 12-8-15

The following is a list of issues I have with the new wind turbine installation. They are in order of importance to me and my family:

1. Health effects from low frequency noise and flashing called, "Wind Turbine Syndrome."

Here is a case study from Wisconsin: http://www.bccrwe.com/index.php/8-news/16-duke-energy-s-shirley-wind-declared-human-health-hazard, and a short quote from that study:

> The declaration of Duke's Shirley Wind turbines as a "Human Health Hazard" follow a year long study linking the signature of inaudible low frequency noise (created by the passing of the massive turbine blades past their supporting towers) to the homes that have been abandoned and to the homes where people continue to suffer. The Board of Health was asked to look at the study's raw data, the evidence linking the sound data to the wind turbines, peer-reviewed medical research and the complaints of the people living in the conditions around Duke's Shirley Wind project. They looked at the facts, they listened to the residents, they studied the medical literature, and then made the connection between Shirley Wind's operations and the suffering in Glenmore - declaring the wind turbines a "Human Health Hazard".

This case study is very compelling. However, as with every other case study I've found, the results are inconclusive. This information does not sit well with me. I have 3 children under 3 years old, and a 4th on the way. Raising my children around devices that have been linked to Sleep Disturbance and various Psychological effects makes me a very concerned father.

In addition, a lot of these case studies involve a situation with wind turbines that are much further from homes than the situation at Dyer rd. That leads me to believe that the Dyer rd residents will experience worse effects than many of these case studies.

2. There is a lack of transparency in the Dyer Rd. Project. There are secret documents used in planning generator locations and illegible maps. The information provided does not provide sufficient detail to identify impacts to all homes in the area and only addresses a subset of the possible negative issues. There should be no reason why any information should be withheld from the county, the homeowners, and other experts who can provide an unbiased review of the facts.

3. Irritating Shadow flashing up to 30 min. a day, 30 hours a year.

4. Noise and vibrations from large blades and wind interruption (pulsing or thrashing) will occur most of the time, as predominant wind direction comes from the west.

5. Flashing red beacons at the top of the generators may disturb our sleep, and will reduce enjoyment of our dark evening sky and star gazing.

6. Reduced property value due to proximity of 400+ ft. generators. A smaller set of buyers are willing to move near turbines and risk the negative impacts associated with them. Due to the height of the new wind turbines, they are visible in almost every direction from my house (3966 Dyer Rd). This definitely has a detrimental impact on the landscape.

23. AWL/B. DAMON, 12-8-15 REGARDING STAFF REPORT FOR 12-10-15

> [Staff Report:] "Based on the substantial additional information received by both opponents and the project proponent, with concerns regarding the close proximity of turbines 23 to 26 to the Dyer Road area residents, and noise, vibration, shadow flicker and other setback and aesthetic concerns, the Board may wish to modify the project approval to exclude turbine sites 23, 24, 25 and 26. It is expected that the applicant will still be able to develop a repowering project with a resulting capacity of 54 MW with 27 turbine sites."

We must object to the inclusion of this paragraph in the staff report addendum. First of all, there is no reason to invite the EBZA board to exclude turbines sites 23, 24, 25 and 26. Secondly, there is no basis to make such a statement because all of these turbine sites will ultimately comply with the PEIR, as follows:

> Turbine sites 25 and 26 meet all PEIR requirements now.

> While sites 23 and 24 meet all PEIR requirements except they cause shadow flicker thresholds to be exceeded (and a site 24 setback issue is also addressed, below), they will be brought into compliance by curtailment during shadow flicker time periods, as allowed by the PEIR.

> Site 24 is calculated to fall short of setback requirements by a mere seven feet, and this turbine will be relocated through final micro-siting to be beyond the setback distance.

In addition, it is not appropriate for the County Staff to decide how many turbine sites we, the applicant, will need to meet our project objectives, in terms of capacity and economics or otherwise. Only we can

make such a determination based on our expertise and the multitude of variables that need to be considered, of which the County is not informed.

We respectfully ask that the County Staff retract the subject paragraph.

Further:

We have the following comments based on our preliminary review:

1. On page 1, Sec. I, second paragraph. We met with EBRPD on Dec. 2 (not Dec. 4). We did not reach an agreement, however, until Dec. 4, outside of the meeting.

2. Shadow flicker, page 19: Add Receptor O as being within the 1,640 ft limit (it is 1,594 ft from WT25 per Fig. 4). We note, however, that Receptor O is not exposed to shadow flicker in excess of the thresholds. Also, Receptor L is not mentioned (and it exceeds 30 min/day)—is it beyond the 1,640 ft limit? Include Receptor L in the appropriate context (either within or outside the 1,640 ft limit).

3. Shadow Flicker Table 4, page 20:

> Receptor B should not have a "B" footnote.

> Add Receptor O to the table. Also, add Receptor L, unless it is beyond the 1,640 ft limit.

> Delete Receptor AA, as it is associated with WT30.

4. Shadow Flicker, paragraph above Table 5, page 21: in the first sentence did you mean to say "Receptors B, H, P and Y" rather than "Receptors H, P, Y and AA along Dyer Road"?

5. Tier 5, page 25: please check to see if the statement "Results of those studies indicate that 29 of the proposed 33 repower turbines are in compliance..." (emphasis added) is still valid. With WT29 and 30 removed from consideration, there are now only 31 sites. Also, WT24 (setback off by 7 feet), and WTs 23 and 24 (shadow flicker impacts) are not now in compliance. Therefore, should the statement be "28 of the proposed 31"?

24. UNITED STATES FISH & WILDLIFE SERVICE, 12-9-15

The U.S. Fish and Wildlife Service (Service) received Alameda County's staff report, draft resolution and exhibits, for Altamont Wind Incorporated's (AWl) Summit Wind Repower Project application. Our comments are in the context of our legal mandate and trust responsibility to maintain healthy migratory bird populations for the benefit of the American public pursuant to the Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.) and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d; Eagle Act). This letter supplements our December 10, 2014, October 15, 2014 and April19, 2013 comment letters regarding the Notice of Availability of Preparation of a Supplemental Environmental Impact Report for Proposed Modifications to Existing Conditional Use Permits -A WI; and, the Draft Environmental Impact Report for the Modifications to Existing (Year 2005) Conditional Use Permits (Project) for the Altamont Winds Inc. respectively.

The Service is concerned about the high levels of take known to occur on A WI's holdings within the Altamont Pass Wind Resource Area (WRA), both of golden eagles and other raptors. If AWI intends to operate a wind energy facility within the Altamont Pass WRA, we strongly encourage the County to use the best available science to minimize risk to eagles and other migratory birds in your decision process. Site specific behavior studies should be used to inform careful micrositing of repowered turbines following the methods used at previously repowered projects in the Altamont Pass WRA.

The methodology used to assess potential impacts on avian species and turbine layout for the proposed project should be provided to both the County and the Service.

Due to the ongoing risk of collisions at this project site, we continue to recommend that AWI following our Eagle Conservation Plan Guidance (webpage provided below) and apply for a programmatic take permit for eagles pursuant to the Eagle Act regulations. We had anticipated receiving an application package from A WI by November 30, 2015. However, AWI has not submitted an application to address impacts to eagles from either their existing facilities or the proposed Summit Wind Repower Project.

Our Land-based Wind Energy Guidelines (http://www.fws.gov/ecological-services/es-library/pdfs/WEG final.pdf) and Eagle Conservation Plan Guidance (http://www.fws.gov/windenergy/pdf/Eagle%20Conservation%20Plan%20GuidanceModule%201.pdf) are both available online. We recommend early communication with the Service to facilitate completion of pre-project surveys and sharing of additional information relevant to assessing the risk of a wind energy project to eagles and other wildlife, as evidence of due care with respect to avoiding, minimizing, and mitigating significant adverse impacts to wildlife species protected under federal laws. We ask that, as part of your oversight role, you work with A WI and the Service to ensure compliance with applicable federal laws.

25. GREG SANDFORD, 12-15-15

After going over the material provided for this project again. I have further concerens noted below regarding the noise.

My residence (3326 Dyer Rd.) sits on a 50' hill and I worry that I may be more vulnerable to windmill noise in this location than other residents. My comments refer to "Altamont Winds LLC, Noise Study".

The report states there "could possibly" be excessive noise levels at residences closer than 1,750 feet to windmills. Windmill set-backs for this project allow windmills to be located as close as three times the windmill height, (3 x 454) 1,362 feet. Looking at the project site map and tables, several of Dyer Road residences are closer than 1,750' to planned windmills. Is this wise?

The "project-specific noise studies" claim that noise level will be "less than significant". Several residences will have close, unobstructed views of windmills 23 and 24, as will my residence. I am seriously concerned that the calculations may be wrong, reducing my property value and, perhaps, making my home unlivable, as has happened in other windmill projects. Do the computer calculations take into account low frequency noise that has been a serious problem with other windmill projects? Were calculations run using wind-speeds other than 8 m/s (18 mi/hr)? AWI should provide more information.

The diagram that shows the location of "noise receptors", i.e. residences, is unreadable. AWI should provide a blowups clearly showing all the locations of "noise receptors." To residents of Dyer Road, this is important information and should not be hidden.

I urge the EBZA to take a conservative stance in allowing location of the new windmills. I am interested in protecting my property values and thus reducing the probability of future problems with the re-powering project.

26. LINDA RAGSDALE, 12-25-15 – see ALAN RAGSDALE, 12-3-15 ABOVE (identical)

27. JOE CRUZ, 12-30-15

My name is Joe Cruz, my address is 3988 Dyer Road in Livermore CA.

The purpose of this email to stress my opposition of AWI erecting those HUGE windmills on the ridge directly behind the homes on Dyer road.

Its very simple, They are huge, 454' at it's highest and will be major eyesores in the neighborhood. **Yes it is a neighborhood not just an open unpopulated range.**

Picture the scale of the proposed windmills !!!!!! 350' is the height of the towers not including the 150' blade. Do you realize that a single story building stands about 15' ? So take the height of a windmill and picture it as a building! Its like having a 29 story building on each pad on the ridge directly above our homes. A couple of the homes are actually within 1500' of proposed sites !

Lets talk about noise! The current windmills create quite the hum as it is now. The large windmills will not only create wind noise but will also create ground noise (LFN) from the vibration that is much more harmful to homes, people, and animals that reside in close proximity to the windmills.

I know you have seen studies from around the world where people have had to leave their homes because of the ground noise. This noise is known as Low Frequency Noise (LFN) that is not detectable by the human ear. Again there are many studies that show that this is harmful to the health of local residents. Do you want to be responsible for all medical issues that this will create? Does AWI want that liability?

A couple of examples are listed below,

http://science.opposingviews.com/much-noise-wind-turbines-make-19398.html

http://www.telegraph.co.uk/news/earth/earthnews/7085086/Wind-farms-can-cause-noise-problems-finds-study.html

Now the property values! I purchased my ranch in Sept of 2014 in a beautiful rolling hills, peaceful valley on the edge of Livermore.

I was told the small windmills close to our property along the ridge where going to be removed in 2015. Understanding if new windmills went up, they would go up further from the homes on the ridge west of the current locations.

So now take those small windmills, that are at least not eyesores, and put a line of behemoth 29 story windmills that create Wind noise, LFN noise, Shadow Flashing, and Flashing RED lights, and imagine what happens to our beautiful peaceful valley AND the property values.

The area is going from a peaceful rolling hill agricultural area to an Industrial WIND FARM! Not acceptable.

Also, lets not forget about those majestic Golden Eagles that are resident in the Altamont hills. They are being chopped out of the sky. It is appalling to think how many birds have been killed and how many more will be killed. Have you ever gone up to the top of Flynn road and watched them sail in the sky? Well if you do, you will also witness the eagles having to dodge the blades of the massive windmills that have already gone up. This can't be okay!

So I talked about the size of the windmills, the noise pollution of the windmills and it's effects, the view of the windmills, and the animal massacre the windmills are doing, lo ss of property value from the windmills, What about the company behind all of this. AWI. AWI has not been upfront with you on their study's findings. They have not been honest about the results of the numbers of birds that have been

killed, and just not being honest and upfront about general information and licensing that most other wind generation companies have.

There has to be something wrong or illegal going with AWI and I don't understand why you folks are allowing it to continue. If there isn't, then why all the secretes?

I do not want any windmills to be erected with in 2 miles of any homes in the Altamont area. A solution,,,move them west where there are no homes. Move them east of the landfill where there are acres and acres of open land with no residents to ruin their peaceful places.

28. VIRGINIA W. MINER, 1-3-16

I live at 4008 Dyer Rd. and have an excellent view of the northern portion of the Summit Repowering Project. One of the things I love about living here is watching eagles and hawks. I have serious concerns about the number of windmills proposed to be located on the project site. Quite frankly, AWI seems to be proposing as many windmills as can be squeezed on the site with no regard to reducing avian kills.

For example, windmills number 28 and 29 are located in the territory of eagles that nest at Los Vaqueros Reservoir. I assume that some areas on the project site are more prone to avian kills than others. Since the windmills are spread out more or less evenly, I conclude that no attempt has been made to avoid locating windmills in these areas.

I am told that AWI has Dr. Smallwood's proprietary algorithm for locating windmills to avoid avian kills. Since it is proprietary, the algorithm has not been made available. That is OK.

However, the results of analyzing the project site using Smallwood's algorithm are not proprietary and should be made public by AWI. Looking at the proposed windmill locations, I would conclude that the algorithm's results would not be needed to come up with the proposed windmill locations. Has the analysis actually been performed? Can AWI tell the public what areas of the project site they did not put windmills on in order to reduce avian kills? In other words, I'd like to see facts to support the claim that bird strikes were considered in choosing sites.

Recent studies have shown that large windmills, like the S97, do not solve the problem of avian kills. They kill birds just like the old windmills. Intuitively, the more windmills on a site (or the more swept area) the more likely birds will be killed. I do not know why 33 windmill are proposed for the Summit project. I think that is too many.

It was my understanding that the county was requiring AWI to maintain its current power generation capacity of 54MW, which would be 26 windmills, not 33. (26 x 2.1 = 54.6). If the county requires AWI to maintain the current total windmill swept area, only 20 windmills would be allowed (See note below.) Comparing the locations of windmills of the Summit Project with the windmills that I can see south of I-580, it is obvious that Summit windmills are much closer together.

Also, with the repowering, these windmills will run the entire year, not just 8.5 months. After the repowering they will be left on from November to February 15 when the concentration of eagles and hawks is highest in the Altamont. Why is that being allowed? The winter shut-down was instituted for a reason.

In short, I worry that 33 S97 windmills will turn the place where I live into a much worse avian killing field than it currently is.

Note:

Kenetech 56-100 windmills have a diameter of 18 meters and a swept area of 254.5 sq-meters. The total swept area of 569 Kenetech windmills is 144,792 sq-meters.

Suzlon 97 windmills have a diameter of 97 meters and a swept area of 7390 sq-meters. The total swept area of 20 Suzlon 97 windmills is 147,800 sq-meters.

The swept area of 33 Suzlon 97 windmills is 243,863; 68% increase of the current swept area

29. MOUNT DIABLO AUDUBON SOCIETY/N. WENNINGER, 1-6-16

MDAS was a party to the lawsuit and subsequent settlement with Alameda County and three other wind companies to address the ongoing issue of avian mortality associated with wind turbines operating in the Altamont Pass Wind Resource Area (APWRA). As you know, the current project's proponent, Altamont Winds, LLC (aka A WI), did not agree to the terms of the settlement, instead reaching a separate agreement with the County.

In the interim, A WI has consistently avoided taking substantive voluntary actions to reduce avian mortalities within its leased lands and has also consistently refused access to third-party monitors. AWI has earned a reputation among conservationists as a "bad actor," in contrast to the other wind companies who are endeavoring to abide by the intention of the settlement. We believe that AWl's recent decision to permanently shut down its old turbines was reached only under threat of serious enforcement action by the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife.

Therefore, MDAS urges the EBZA not to approve the requested Conditional Use Permit unless and until:

- AWI works with a qualified independent expert to plan and site all turbines within the project to avoid and minimize impacts to birds and bats (the same standard used for other wind projects in the APWRA). Any report generated by said expert should be submitted for review by the EBZA and made available to the public.
- AWI agrees to obtain programmatic eagle take permits from the USFWS and to abide by all conditions of said permits.
- AWI agrees to provide unfettered access to its lands to third parties authorized by the County during the entire monitoring period to ensure accurate reporting. Carcass search intervals should be no longer than 14-day intervals to minimize scavenger impacts.
- Any conservation easements or lands purchased to mitigate for avian impacts should be located as close as possible to the impacted site and confined to locations within the East Diablo Range.

30. D. HANKINS, PHD., 1-6-16, E-MAIL

Sorry for the delayed reply to your message. Thank you for submitting the links to the prior cultural work for the project. In review of that it seems that whoever did the work did not dig very deep in their ethnographic review. I also see that in 2013 a request to the NAHC's sacred lands file was made, and that letters were sent to a select group of Ohlones. A search in the sacred lands file would have directed the consultant to contact me for this site, and I did not receive anything. Therefore, I find the environmental compliance to be faulty. In your message you note that the site survey records are confidential, but I know they can be made available to Tribes upon request, and thus I am making that request. Has your recent request to the NWIC and NAHC provided anything since your message? Lastly, I need the GIS data to understand better the relationship of all of the proposed infrastructure to things in a regional context as pertains to the sacred nature of this particular landscape. Having just held ceremony nearby, I can say that the presence of the windmills has multiple impacts which are not discussed in any of the documents I've seen for this project. Withdrawing two windmills from the project may or may not mitigate some of these impacts.