



County of Yolo

John Bencomo
DIRECTOR

PLANNING AND PUBLIC WORKS DEPARTMENT

292 West Beamer Street
Woodland, CA 95695-2598
(530) 666-8775 FAX (530) 666-8156
www.yolocounty.org

PLANNING COMMISSION STAFF REPORT

JUNE 9, 2011

FILE #2010-051: Request for a Use Permit to install two temporary 197.8-foot meteorological towers in the Agricultural Preserve (A-P) Zone (Attachment A). The towers will document wind measurements in the area for approximately two years.

APPLICANT: Yolo Wind, LLC
c/o Michael Moore (Pattern Energy)
Pier 1 Bay 3
San Francisco, CA 94111

OWNER: Robert and Barbara Bulkley
P.O. Box 487
Knights Landing, CA 95645

LOCATION: East of Rocky Ridge and northwest of the City of Winters (APN: 030-010-006 and 047-120-008) (Attachment B)

SUPERVISOR DISTRICT: 5
(Supervisor Chamberlain)

GENERAL PLAN: Agriculture (AG)

ZONING: Agricultural Preserve (A-P)

FIRE SEVERITY ZONE: Moderate

FLOOD ZONE: X (area not within the 100-year flood plain)

SOILS: Dibble Clay loam (DaF2), 30 to 60 percent slopes, eroded (Class VI); Dibble clay loam (DaG2), 50 to 75 percent slopes, eroded (Class VII); Dibble-Millsholm complex (DbG2), 50 to 75 percent slopes, eroded (Class VII); Millsholm rocky loam (MrG2), 15 to 75 percent slopes, eroded (Class VII); and Sehorn clay (SkF2), 30 to 50 percent slopes, eroded (Class VI)

ENVIRONMENTAL DETERMINATION: Negative Declaration

REPORT PREPARED BY:

Stephanie Cormier, Senior Planner

REVIEWED BY:

David Morrison, Assistant Director

RECOMMENDED ACTIONS

That the Planning Commission:

1. Hold a public hearing and receive comments;
2. Adopt the Negative Declaration as the appropriate level of environmental review in accordance with the California Environmental Quality Act (CEQA) and CEQA Guidelines (Attachment C);
3. Adopt the Findings (Attachment D); and
4. Approve the Use Permit subject to the Conditions of Approval (Attachment E).

AGENDA ITEM 6.3

REASONS FOR RECOMMENDED ACTIONS

The proposed meteorological towers (Met Towers) will collect wind speed data that can be used with other regional data to characterize the long-term wind resource in the area. The data collected will be used to assess the economic viability of a future utility scale wind energy generation project. The proposed project is consistent with policies in the Yolo County 2030 Countywide General Plan and Climate Action Plan that encourage expanded capacity and reliance on renewable energy resources in order to promote greenhouse gas emission reductions and reduce the potentially adverse effects of climate change. Though the Met Towers are not renewable energy sources, they are necessary to determine the feasibility of installing a future large scale renewable wind energy project. The towers are temporary and would be decommissioned and removed from the project site after approximately two years of measuring wind speed.

BACKGROUND

Yolo Wind is proposing to install two approximately 198-foot high Met Towers located on rangeland east of Rocky Ridge and northwest of the City of Winters (Attachment A). The proposed towers would each consist of a tubular steel structure, up to ten inches in diameter, supported by four sets of guy wires extending from the base of each tower to the top of each tower. Each set of guy wires would consist of seven guys (guide wires) attached along the entire vertical shaft of the pole, which is placed on a four-foot by four-foot base. The guy lines are anchored into the soil using screw-in, arrowhead, rock, or concrete anchors, depending on soil conditions. No permanent concrete foundation is used for the base, and thus, no grading is required; unless, however, if after a separate Site Plan Review approval, the applicant modifies the project to install the towers without the anchoring guy wires. Each tower is assembled on the ground with a base plate and the guy wires. Depending on the condition of the immediate area of installation, one or more anchor pins (ground rods) might be necessary to keep the base from slipping during installation.

The Met Towers are assembled onsite, and pick-up trucks are used for materials delivery. The tubular steel sections are brought to the site in five-foot to eight-foot lengths. The towers are hoisted with a winch, and no clearing of vegetation is expected, with the exception of removing any immediate vegetation to comply with safety precautions, as deemed necessary. The main ground disturbing activities would be temporary, involving the securing of the steel tube towers to the ground with base plates and guy wires. Electronic equipment, i.e., a cell phone device for purposes of transmitting data, is secured to each tower, which is powered by a small solar panel and battery pack. A fence will be installed around each tower for security purposes.

STAFF ANALYSIS

The proposed Met Towers would be located on a ridge within oak woodland at approximately the 1,800-foot elevation in the northeast corner of a 342-acre parcel (APN: 030-010-006); and on a hillside within oak woodland in a central location on the adjacent 320-acre parcel (APN: 047-120-008) at approximately the 1,100-foot elevation. The parcels (project site) are part of a greater 5,815±-acre ranch located in the steep terrain six miles northwest of the City of Winters.

The surrounding properties to the north, south, east, and west are agriculturally zoned, and are primarily used as rangeland (the terrain is steep and rocky). The closest structures, including a rural residence, are located approximately 1.7 miles to the northeast, in a much lower elevation. The nearest cluster of homes is approximately 3.5 miles east of the proposed towers, near County Road 29, and approximately 6.7 miles north of the proposed towers, near County Roads 83A, 23, and 22.

Aesthetics and Safety

Although the temporary Met Towers are proposed to be located in a highly remote and sparsely populated area of the county, the towers will be designed in accordance with recommendations of the National Agricultural Aviation Association, in order to increase visibility of the structures and guy wires to aircraft pilots. Though voluntary, as a condition of project approval, the applicant has agreed to the following safety features:

The Met Towers are proposed to be painted in seven, equal, alternating bands of aviation orange and white, beginning with orange at the top of the tower and ending with orange at the base. A flashing red light will also be installed at the top of each tower, with a minimum of 2.3 miles visibility when flashing. Each guy-wired tower will have a total of eight 14-inch orange marker balls attached as follows: four marker balls will be attached to the guide wires at the top of the tower at a distance no further down than 15 feet from the top wire connection to the tower, and four marker balls will be installed at the bottom of the guide wires at a height of five to ten feet above the tallest crop grown in the immediate vicinity of the tower. A seven-foot safety sleeve will be installed at the anchor point of each guy wire connection.

While increasing the visibility of the Met Towers to aircraft pilots, it is assumed that the marker balls placed ten feet from the ground will not be visible at the ground level at any distance from the subject sites. Additionally, there are no rural residences within the vicinity of the project site due to the steep terrain and remote location. The project location is approximately 4.2 miles north of State Route 128, which is a locally designated scenic roadway, from the City of Winters to the Napa County line, in the 2030 Countywide General Plan; however, the towers would not be visible from this stretch of State Route 128, and therefore would not present an aesthetic impact.

Biological Resources and Bird Strikes

A search of the California Natural Diversity Database (CNDDDB), maintained by the U.S. Fish and Wildlife Service, revealed that the American peregrine falcon has historically occurred in the vicinity of the proposed project area. Although the American peregrine falcon is a species that was recently "delisted" (taken off) from the Federal Endangered Species Act (CESA) list, it is still protected under the U. S. Migratory Bird Treaty Act. As indicated in the Conditions of Approval (Attachment E), the project will be required to install daytime visual markers on the wires to prevent collisions for diurnally (daytime) moving species, such as the falcon. Bird flight diverters are a common mitigation practice for overhead power lines and are becoming increasingly common for use on guy wires for communication towers and other guy-wired towers, such as temporary meteorological towers.

Additionally, the applicant will be required to prepare a Biological Monitoring Program, as per recommendations provided by the U.S. Fish and Wildlife Service, for the purposes of documenting the presence of any avian carcasses near the base of the Met Tower(s), to determine if any bird strikes with the guy wires have occurred. If, however, after a separate Site Plan Review approval, the applicant modifies the project to eliminate the use of anchoring guy wires, the requirement to monitor bird strikes would be null and void.

According to the 7 ½ Minute Quadrant Map (Monticello Dam 39122E1) prepared for the CNDDDB list, there are relatively few candidate, sensitive, or special-status species listed in the project vicinity. As indicated in the Initial Study/Negative Declaration prepared for the project, the following list identifies the potentially occurring species in the area:

Common Name	Federal ESA Status	California ESA Status	DFG Status
American peregrine falcon	Delisted	Delisted	Species of Special Concern
Foothill yellow-legged frog	None	None	Species of Special Concern
Hoary bat	None	None	
Valley elderberry longhorn beetle	Threatened	None	
Colusa layia	None	None	
Brewer's western flax	None	None	
Keck's checkerbloom	Endangered	None	
Jepson's leptosiphon	None	None	

In order to address the potential for impacts to special status species, H.T. Harvey & Associates, Ecological Consultants, was retained by the applicant to conduct surveys of special-status plants and wildlife (Attachment F). In addition to the above listed species, surveys were targeted for the following plant species determined to potentially occur at the project site: the federally listed Contra Costa goldfields, Sebastopol meadow foam, few-flowered naverretia, and Keck's checkerbloom; 28 other potentially occurring California Native Plant Society (CNPS) identified species; and blue elderberry, host plant to the federally listed valley elderberry longhorn beetle. According to a report prepared after a ground-level survey was conducted, no federally listed, State listed, or CNPS identified species were found to occur within the two proposed Met Tower locations. In addition, no blue elderberry plants were found at either location.

In a separate memorandum (Attachment F), H.T. Harvey and Associates have addressed current federal and State guidelines for minimizing impacts of wind energy projects on birds and bats, and in particular, the American peregrine falcon. According to the memo, a federal group of scientists, the Wind Turbine Guidelines Advisory Committee, along with the California Department of Fish and Game, and other State agencies, have consistently advocated for avoiding the use of guy wires on **permanent** meteorological towers, whenever possible, to avoid well-documented risks of collision for a variety of birds. The memo cites various other studies and research which suggested that, "A variety of complex factors can influence the susceptibility of birds to collisions with towers and associated guy wires." The memo also notes that, "To date, Met Towers, whether guyed or not, have proven to be no threat to bats, whose echolocation abilities appear to readily detect and avoid the stationary towers and guy wires."

At the recommendation of H.T. Harvey and Associates, the applicant has proposed to install bird flight diverters on all guy wires at intervals of five meters (approximately every 15 feet) to minimize collision risk. Bird flight diverters are small coil shaped devices that are secured to the guy wires to increase visibility of the wires to diurnally active birds, including raptors and migrating birds. Although effective for minimizing bird strikes, bird flight diverters are not easily seen by people at any significant distance.

According to H.T. Harvey and Associates, multiple studies have shown that appropriately installed bird flight diverters can reduce the risk of avian collisions with electrical transmission lines by nearly 90 percent; the presumption is that the same is true for guy wires. Since the proposed towers are **temporary** they will be anchored with guy wires to minimize cost and ground disturbance, and installation of the aforementioned aviation safety features and bird flight diverters will be used to reduce the potential for bird strikes with the guide wires. As previously indicated, if the applicant modifies the project to instead install the towers without the anchoring guy wires, a separate Site Plan Review approval will be required. The towers would still be considered temporary, but the requirements to place bird flight diverters on the guy wires and prepare a monitoring plan will extinguish. In order to ensure the towers remain temporary, a Condition of Approval has been added to require the removal of the towers after three years, unless a Use Permit Amendment is sought

and/or otherwise amended by the Planning Commission (Attachment E).

Met Tower Regulations

Previously, Met Towers used for determining wind energy developments have not required lighting because their height, which is designed to match the height of utility-scale turbines, has been under 200 feet (the limit above which the Federal Aviation Administration lighting is required). However, the height of wind turbines has increased markedly in the past few years, and subsequently, taller Met Towers are now being proposed that require lighting. To address those temporary towers just under the 200-foot elevation, the Federal Aviation Administration (FAA) is revising its current *Advisory Circular on Obstruction Marking and Lighting* to include guidance for meteorological towers. Since most Met Towers are typically installed in remote and rural areas, and can be less than 200 feet above ground level, they fall outside FAA regulations for governing tall structures and their impact on navigable airspace. The proposed painting and marker balls would enhance the visibility of the towers and address the safety related concerns of low level agricultural operations.

Additionally, newly introduced state legislation (Assembly Bill 511), would require meteorological towers between 50 feet and 200 feet in height to be marked with alternating bands of aviation orange and white; marker balls attached to and evenly spaced on the outside guy wires; a contrasting appearance with any surrounding vegetation, or, if grazed, fenced; safety sleeves placed at each anchor point; and a red flashing obstruction light affixed to the highest point on the tower.

As discussed above, the project, as proposed, is consistent with the most recent federal guidance and State proposed legislation to ensure the safety of navigable airspace. The project includes the maximum design criteria for aviation marking, as well as for minimizing collision risk to diurnal species.

SUMMARY OF AGENCY COMMENTS

A Request for Comments was prepared and circulated for the proposed project from December 3, 2010, to December 17, 2010. The project was also reviewed at the Development Review Committee meeting on December 15, 2010, and again on May 25, 2011, to review the project's Conditions of Approval. The Initial Study/Negative Declaration was circulated for a 20-day public review period from May 19, 2011, to June 8, 2011. The City of Winters provided no comment.

Comments received during the review period from interested agencies/parties are displayed in the table below and will be incorporated into the project as appropriate.

Date	Agency	Comment	Response
December 7, 2010	Caltrans Division of Aeronautics	No comments. The 197.8 foot tall towers do not exceed the 200 feet in height criteria for notifying the Federal Aviation Administration. Additionally, the towers are not within two miles of a public-use airport or a military airfield.	Comments noted.

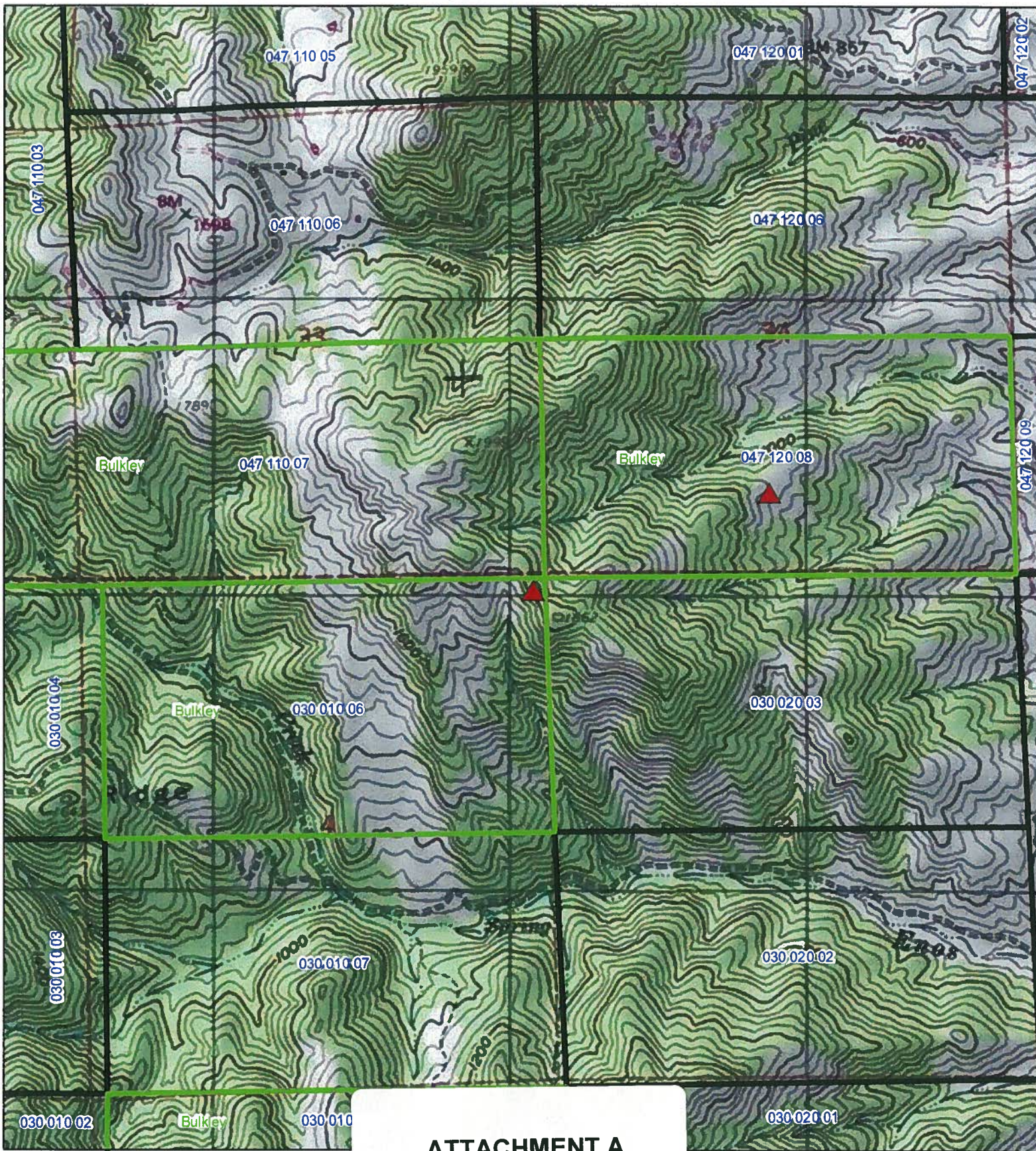
December 13, 2010	Yolo County Building Division	Project will be required to provide structural calculations for meeting wind and seismic design standards in accordance with all applicable Uniform Building Codes and Yolo County Code requirements.	Included in the project's Conditions of Approval.
December 13, 2010	Federal Aviation Administration	Require the applicant to file FAA Form 7460-1 for airspace/obstruction analysis. FAA Form 7460-1 can be obtained at: http://forms.faa.gov/forms/faa7460-1.pdf . The form can also be filed at: https://oeaaa.faa.gov/oeaaa/external/portal.jsp .	Included in the project's Conditions of Approval.
December 16, 2010	Cal Fire	Concerned about access and clearance. Make sure access to the site is well marked and accessible. Make sure flammable material (i.e., grass) is removed around the tower to eliminate sparks and fire.	Included in the project's Conditions of Approval.
December 17, 2010	Tuleyome	See attached letter (Attachment G).	Comments noted.

<p>December 17, 2010</p>	<p>U.S. Fish and Wildlife Service</p>	<p>Section 9 of the Endangered Species Act of 1973, as amended, prohibits the take of any federally listed animal species by any person subject to the jurisdiction of the United States. The Service recommends that the project proponents retrieve a species list for the project. If there is a potential for federally listed species to be affected by the proposed project, a qualified biologist should conduct the appropriate habitat and special surveys. Survey results should be reported to the Service and California Department of Fish and Game. If it is determined that the proposed project may result in take or adverse effects to federally listed species, we recommend that Yolo County require the applicant to obtain authorization for incidental take for the appropriate listed species pursuant to sections 7 or 10(a)(1)(B) of the Act prior to certification of the final environmental documents.</p>	<p>On March 15, 2011, the applicant submitted the results of a CNDDDB search for the tower sites, which showed occurrences of the American peregrine falcon within the project vicinity, and Jepson's leptosiphon and Colusa layla within 0.4 mile of the tower locations.</p> <p>On May 13, 2011, the study areas were walked on foot by a plant ecologist and senior wildlife biologist to search for special-status plants and wildlife occurring within the tower locations. No federally listed, state-listed, or CNPS-listed plant species were found to occur within the 2 proposed Met Tower locations. Measures for reducing raptor collision are included in the project's Conditions of Approval.</p> <p>Copies of the Initial Study/Negative Declaration and the Memorandums prepared by H.T. Harvey & Associates were sent to the County's JPA Habitat Manager, as well as representatives of U.S. Fish and Wildlife and Department of Fish and Game.</p>
--------------------------	---------------------------------------	---	--

December 22, 2010	Yolo County Flood Control and Water Conservation District	The District owns property in the vicinity of the proposed access road alignment and would have to issue a permit to Yolo Wind for any use of District property for their access to the work area.	The applicant has worked with YCFWCWD and will be required to obtain an Encroachment Permit, as per the project's Conditions of Approval.
May 22, 2011	Clarence Scott Ranches, landowners	No objections to the installation and use of meteorological towers by Yolo Wind, as submitted.	Comment noted.
May 25, 2011	Maria Wong, JPA Habitat Manager	<p>Advised staff of the recently delisted American peregrine falcon's protection under the Migratory Bird Treaty Act.</p> <p>Recommended preparation of a Biological Monitoring Plan to document the incidence of bird strikes, as per guidance measures from the U.S. Fish & Wildlife Service.</p>	<p>Comment noted.</p> <p>Conditions of Approval require a monitoring program, if the towers are installed with the anchoring guy wires.</p> <p>The temporary towers are proposed with design features to deter bird strikes, which include installation of bird flight diverters, and use of marker balls on the guide wires and a red flashing light at the top of the towers. Additionally, the project is conditioned to be temporary, and will require a Use Permit Amendment if the towers remain for longer than 3 years after the date of Use Permit approval.</p>

ATTACHMENTS



- A: Site Plan
- B: Location Map
- C: Initial Study/Negative Declaration
- D: Findings
- E: Conditions of Approval
- F: Memorandums prepared by H.T. Harvey & Associates
- G: Tuleyome letter



ATTACHMENT A



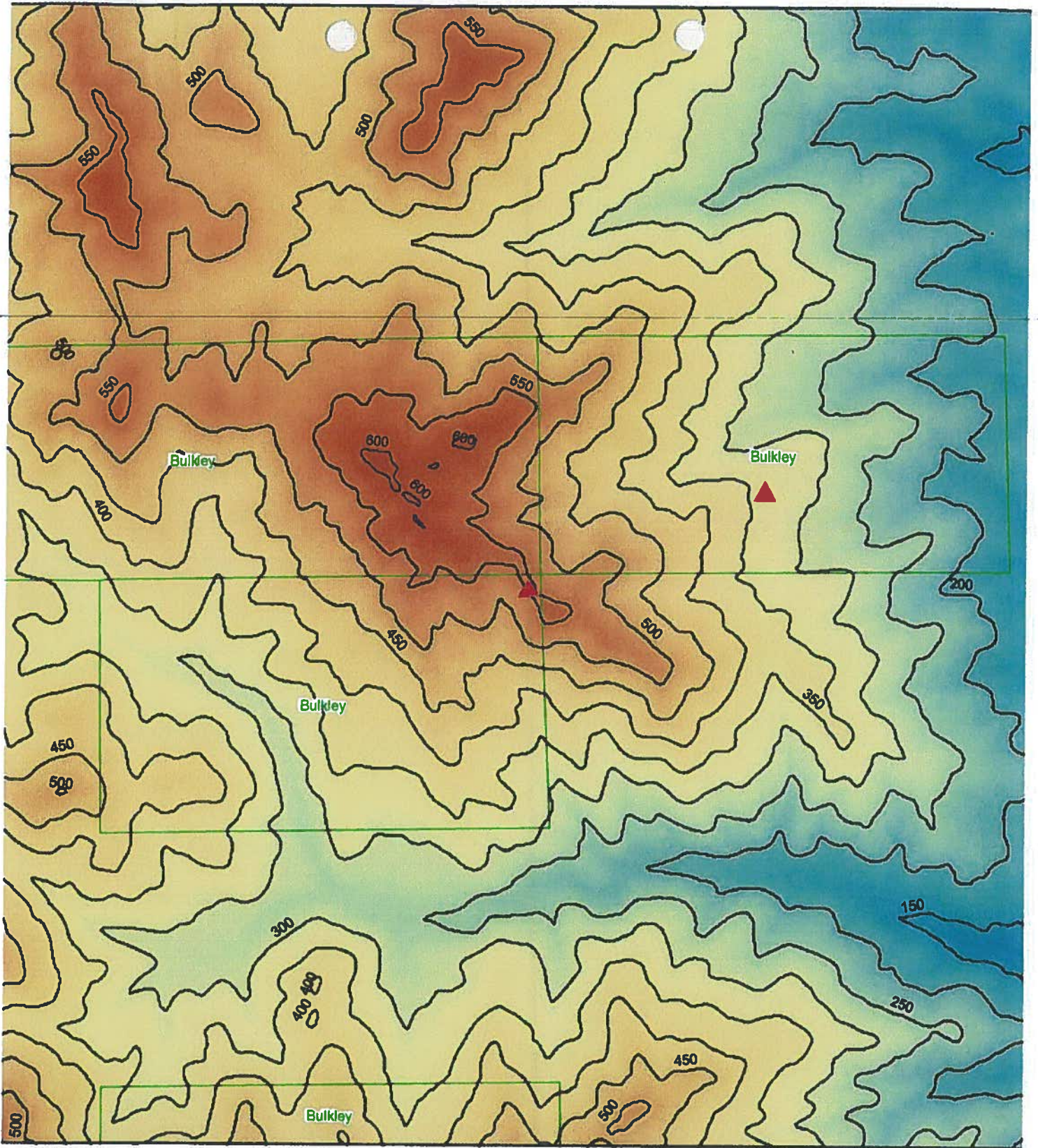
Yolo Wind Proposed Met Tower Sites

Legend	
	Proposed 60m Guyed Met Towers
	Land Owner
	World Boundaries and Places
	USA Topo Maps

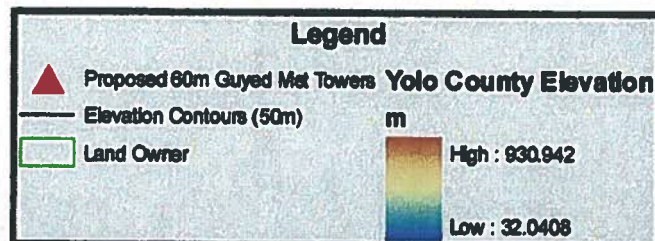


Privileged and Confidential
9 December 2010

1 inch = 1,416 feet

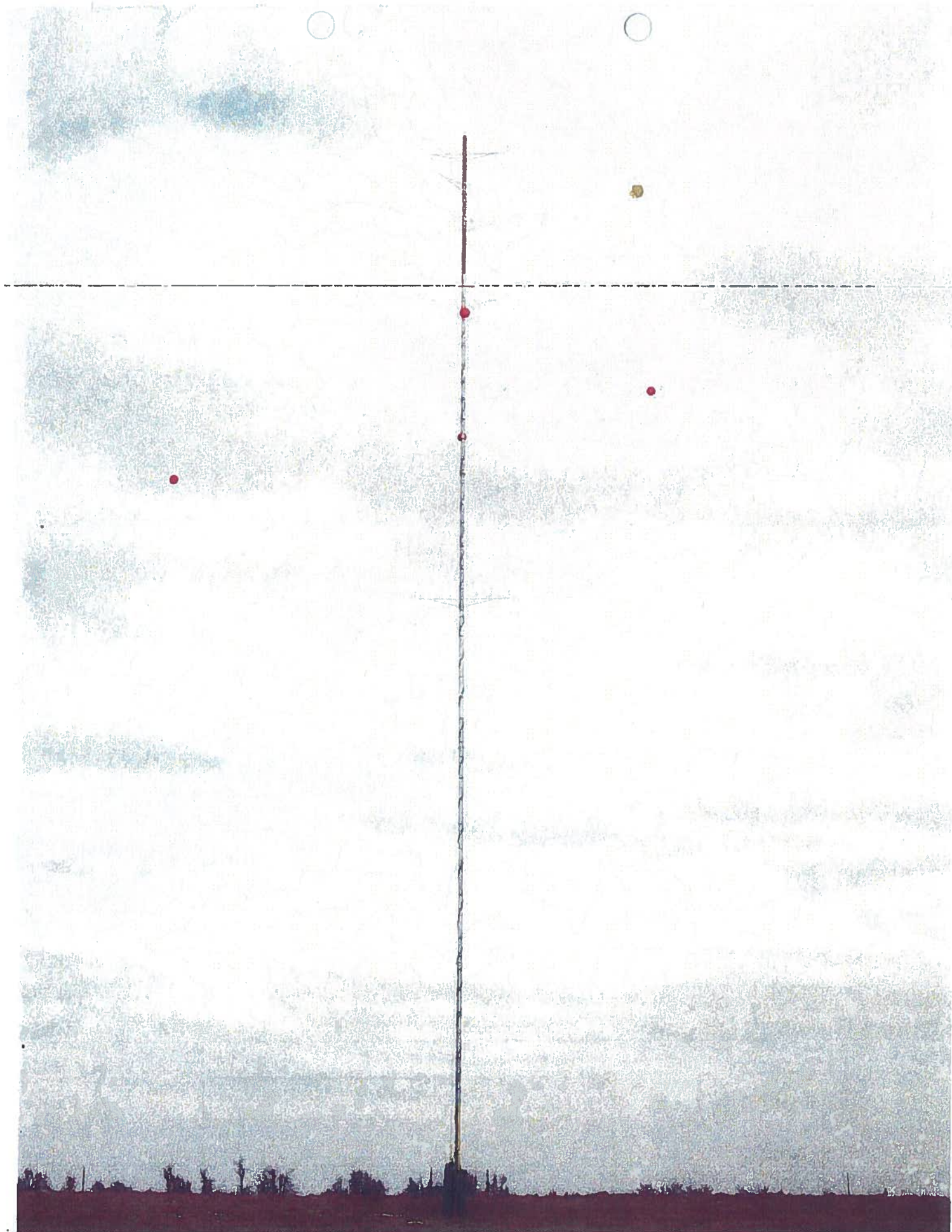


**Yolo Wind
Proposed Met Tower Sites**



Privileged and Confidential
21 June 2010

1 inch = 1 416 feet



60m XHD with Standard Footprint

Stamped Drawing

Materials						
Item	Outer Diameter	Wall Thickness	Description	Yield Strength	Breaking Strength	Corrosion Protection
1	10 inch 254 mm	0.090 inch 2.31 mm	MT 1020	48.0 ksi 310 mPa	N/A	Hot Dipped Galvanized ASTM 653
2	8 inch 203 mm	0.085 inch 2.11 mm	MT 1020	48.0 ksi 310 mPa	N/A	
3	10-8 inch taper 254-203 mm	0.100 inch 2.5 mm	MT 1018	48.0 ksi 310 mPa	N/A	
4	0.25 inch 6.35 mm	N/A	7x19 Galv. Alcoret	N/A	7000 Lb 31.1 kN	Galvanized

	Reactions and member forces									
	No ice		6.4mm (1/4") ice		12.7mm (1/2") ice		19 mm (3/4") ice		25 mm (1") ice	
	Imperial	SI	Imperial	SI	Imperial	SI	Imperial	SI	Imperial	SI
10 m (33 feet) wind velocity (Fastest mile)	111 mph	49.6 m/s	83 mph	37.1 m/s	86 mph	29.5 m/s	61 mph	22.8 m/s	33 mph	14.8 m/s
Top of tower wind velocity (Fastest mile)	143 mph	64.1 m/s	107 mph	47.8 m/s	85 mph	39.1 m/s	66 mph	29.4 m/s	43 mph	19.1 m/s
Racetal ice thickness	0 in	0 mm	0.25 in	6.4 mm	0.50 in	12.7 mm	0.75 in	19.1 mm	1.00 in	25.4 mm
Inner guy anchor force (angle from horizontal)	4.2 kLb 22°	18.7 kN 22°	2.4 kLb 22°	10.7 kN 22°	2.2 kLb 22°	9.7 kN 22°	2.1 kLb 20°	9.3 kN 20°	2.1 kLb 18°	9.2 kN 18°
Middle guy anchor force (angle from horizontal)	3.5 kLb 37°	15.7 kN 37°	2.4 kLb 38°	10.6 kN 38°	2.2 kLb 38°	9.7 kN 38°	2.2 kLb 34°	10.0 kN 34°	2.2 kLb 32°	9.9 kN 32°
Outer guy anchor force (angle from horizontal)	5.1 kLb 45°	22.7 kN 45°	4.2 kLb 44°	18.7 kN 44°	3.8 kLb 43°	16.7 kN 43°	3.0 kLb 42°	13.4 kN 42°	2.8 kLb 40°	11.6 kN 40°
Tower base force (horizontal during erection)	3.9 kLb	17.5 kN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tower base force (vertical)	12.2 kLb	54.5 kN	16.5 kLb	73.9 kN	18.6 kLb	82.6 kN	19.9 kLb	88.5 kN	22.1 kLb	98.2 kN
Erection anchor force (angle from horizontal)	5.5 kLb 44°	24.3 kN 44°	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maximum guy tension	2.8 kLb	12.6 kN	2.4 kLb	10.7 kN	2.2 kLb	9.8 kN	1.7 kLb	7.5 kN	1.5 kLb	6.9 kN
Maximum tower tube stress (compression)	15.1 ksi	104 MPa	11.5 ksi	79 MPa	11.0 ksi	76 MPa	8.9 ksi	62 MPa	8.3 ksi	58 MPa
Maximum tower tube stress (tension)	13.9 ksi	96 MPa	6.2 ksi	43 MPa	4.1 ksi	29 MPa	2.6 ksi	19 MPa	1.1 ksi	7 MPa
Maximum tower tube moment	75 in-kLb	8.4 kN-m	37 in-kLb	4.2 kN-m	28 in-kLb	3.2 kN-m	19 in-kLb	2.2 kN-m	9.9 in-kLb	1.1 kN-m
Maximum tower tube axial load	12.2 kLb	54.4 kN	16.6 kLb	73.9 kN	18.6 kLb	82.6 kN	19.9 kLb	88.5 kN	22.1 kLb	98.1 kN
Maximum top deflection	32 inches	812 mm	26 inches	667 mm	23 inches	582 mm	12 inches	312 mm	6 inches	153 mm
Initial guy tension	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN

Notes

A) Wind forces and allowable member loads are calculated using ANSI TIA/EIA-222-F, (1996), "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures".

B) Wind speeds are fastest mile wind velocity per EIA-222-F. EIA-222-F wind loading coefficients: Gf=1.0, Cf=1.0, α=2/7.

C) Fastest mile (fm) wind speed can be converted to an approximate three second (3sec) wind speed using the equation:
 $V(3sec) = 1.22 V(fm)$ for $V(fm) \leq 100$ mph

D) Guy joint efficiency = 0.9 and the guy safety factor is greater than or equal to 2.0.

E) An ANSYS large deflection FEA model using beam (Pipe16) and tension (Link10) elements with distributed wind load was used to calculate member forces and reactions.

F) Tower allowable stress design per American Institute of Steel Construction (AISC) "Allowable Stress Design", 9th Ed. 1989, Chapter H, equations H1-1, H1-2.

G) This tower design meets the structural requirements of EIA-222-F, sections 1.2, 3.6.6 for the given loading condition. This analysis does not apply to EIA-222-F sections 7.11, 12.13.

H) Foundation design must be considered separately and is not a part of this analysis. Foundation details must be approved for the specific application and site by a qualified professional.

I) A locally qualified professional must determine the applicability of this analysis for the expected site conditions. Due to the lack of involvement in the siting or construction phase of this product at a specific location, liability is strictly limited to issues arising from negligence or willful misconduct by NRG or the professional engineer completing this analysis. No warranty, expressed or implied, is made concerning the suitability of this product for a given application or location.

J) Given dimensions are nominal. Actual dimensions may vary.

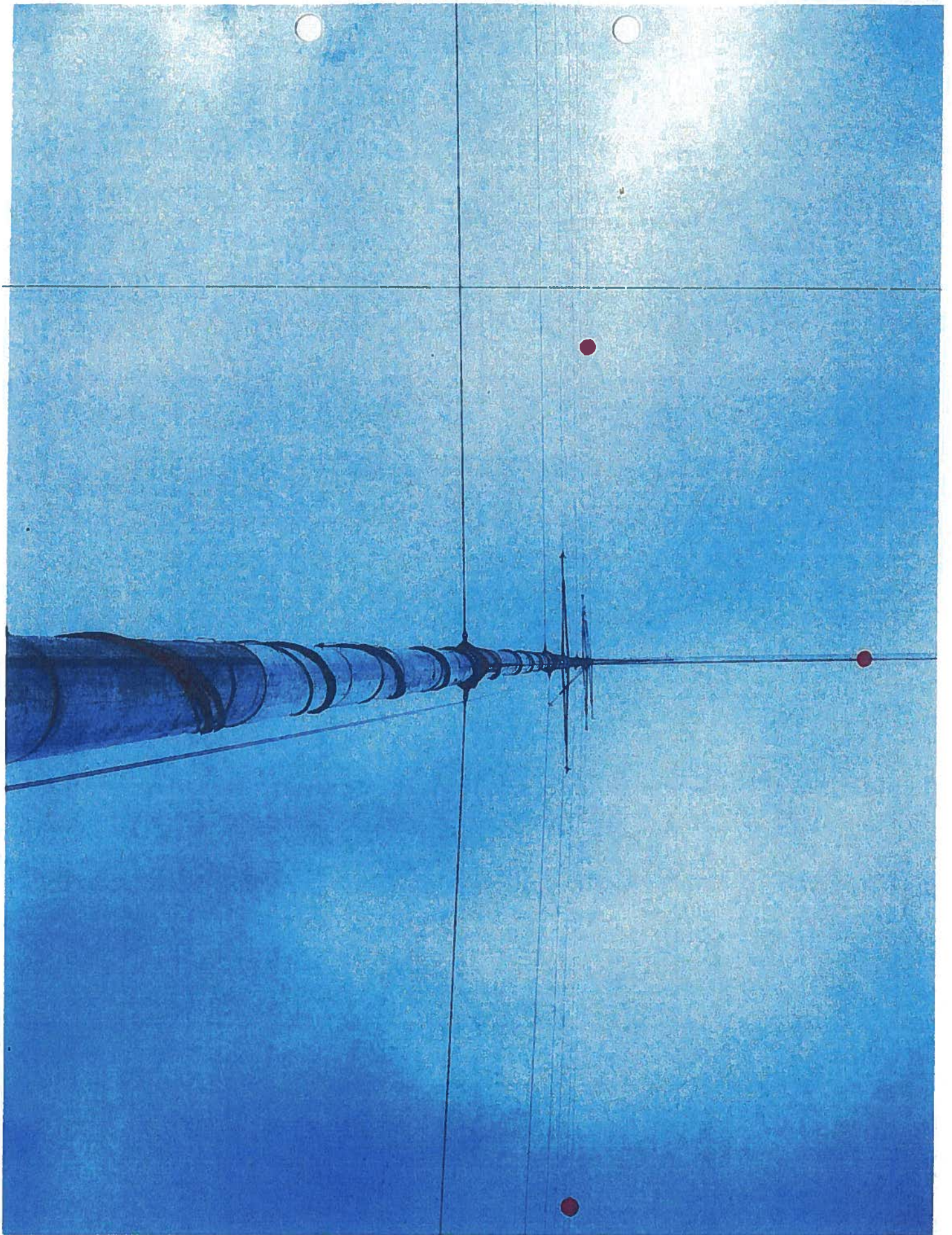
Units notation

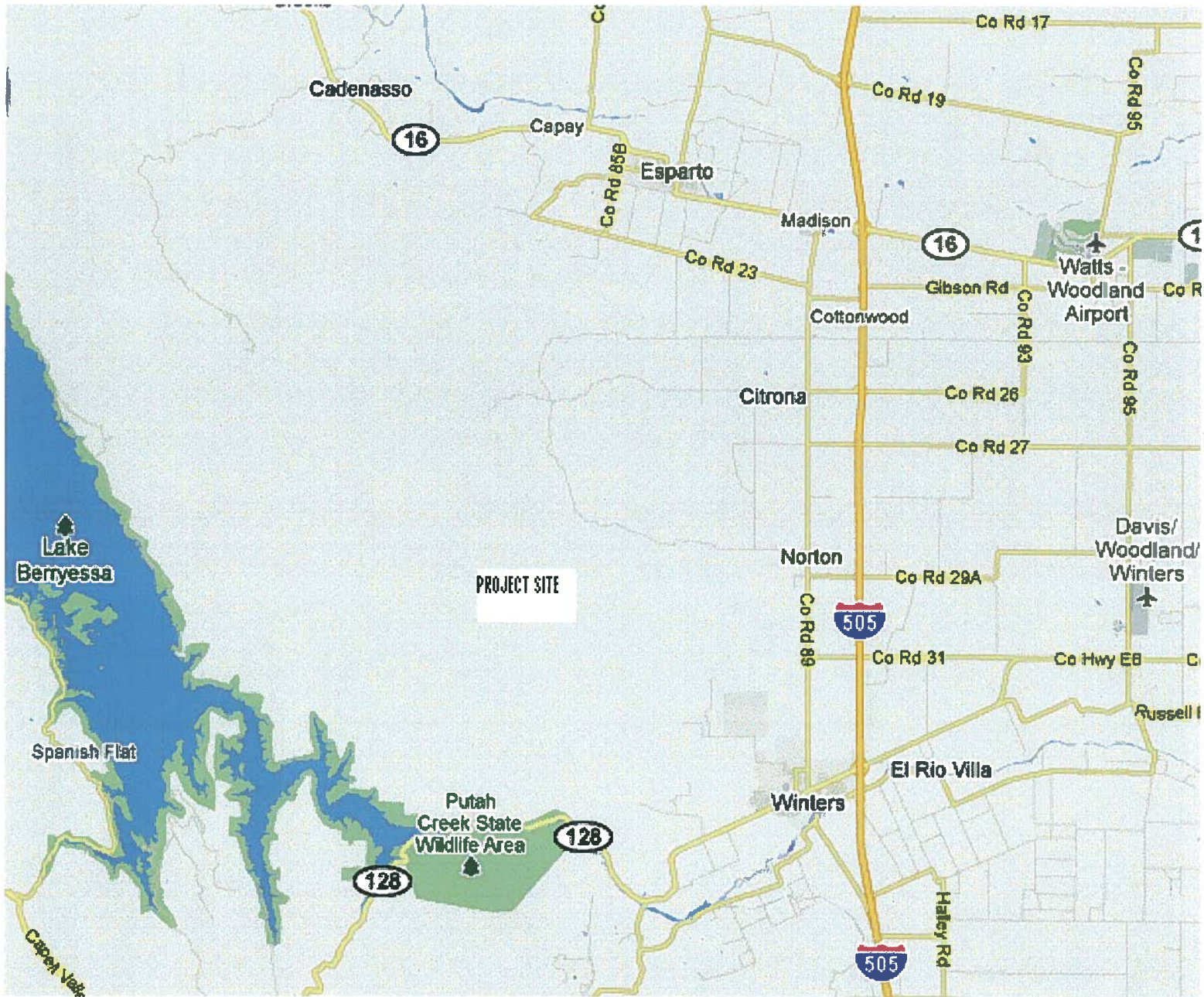
mm - Millimeters
m - Meters
m/s - Meters per second
kN - 1,000 Newtons
kPa - 1,000,000 Pascals
kLb - 1,000 US pounds
ksi - 1,000 US pounds per inch²
mph - Miles per hour
Ø - Diameter

APPROVALS

DATE	BY	DATE	BY
02/17/07	EMR	07/31/07	APD

NRG SYSTEMS INC
110 PICGS RD. HINESBURG, VT. 05461
60(50)mHD_60m with Large Footprint
254, 203 mm
(10.0, 8.0 inch) diameter tube
N4344





ATTACHMENT B



**YOLO COUNTY
PLANNING AND PUBLIC WORKS DEPARTMENT**

INITIAL STUDY / NEGATIVE DECLARATION

ZONE FILE # 2010-051

**YOLO WIND
TEMPORARY METEOROLOGICAL TOWERS
USE PERMIT**

MAY, 2011

ATTACHMENT C

Initial Environmental Study

1. **Project Title:** Zone File No. 2010-051, Yolo Wind Meteorological Towers Use Permit
2. **Lead Agency Name and Address:**
Yolo County Planning and Public Works Department
292 West Beamer Street
Woodland, CA 95695
3. **Contact Person, Phone Number, E-Mail:**
Stephanie Cormier, Senior Planner
(530) 666-8850
stephanie.cormier@yolocounty.org
4. **Project Location:** Property located east of Rocky Ridge, northwest of the City of Winters (APNs: 030-010-006 and 047-120-008), see Figure 1 (Vicinity Map) and Figure 2 (Aerial Map).
5. **Project Sponsor's Name and Address:**

Yolo Wind, LLC	Pattern Energy Group LP (Michael Moore)
Pier 1 Bay 3	206 W. Jefferson Ave.
San Francisco, CA 94111	Fairfield, IA 52556
6. **Land Owner's Name and Address:**
Robert and Barbara Bulkley
815 Marvin Way
Dixon, CA 95620
7. **General Plan Designation(s):** Agriculture
8. **Zoning:** Agricultural Preserve (A-P)
9. **Description of the Project:** See attached "Project Description"
10. **Surrounding Land Uses and Setting:**

Relation to Project	Land Use	Zoning	General Plan Designation
Project Site	Agricultural (range land)	Agricultural Preserve (A-P)	Agriculture
North	Agricultural (range land)	Agricultural Preserve (A-P)	Agriculture
South	Agricultural (range land)	Agricultural Preserve (A-P)	Agriculture
East	Agricultural (range land)	Agricultural Preserve (A-P)	Agriculture
West	Agricultural (range land)	Agricultural Preserve (A-P)	Agriculture

11. **Other public agencies whose approval is required:** Yolo County Building Division, Yolo County Public Works Division, Yolo County Flood Control and Water Conservation District.
12. **Other Project Assumptions:** The Initial Study assumes compliance with all applicable State, Federal, and local codes and regulations including, but not limited to, County of

Yolo Improvement Standards, the California Building Code, the State Health and Safety Code, and the State Public Resources Code.

Project Description

Project Under CEQA

This Environmental Initial Study is prepared in accordance with the California Environmental Quality Act (CEQA). The term "project" is defined by CEQA as the whole of an action that has the potential, directly or ultimately, to result in a physical change to the environment (CEQA Guidelines Section 15378). This includes all phases of a project that are reasonably foreseeable, and all related projects that are directly linked to the project. The "project" which is the subject of this Environmental Initial Study involves a Use Permit to install two 197.8-foot temporary meteorological towers (Met Towers).

Use Permit Proposal

The proposed project is a Use Permit to construct two approximately 198-foot tall temporary Met Towers. The Met Towers will collect wind speed data that can be used with other regional data to characterize the long-term wind resource. The data collected will be used by the project applicant to assess the economic viability of a utility scale wind energy generation project. The towers are temporary and will be decommissioned and removed from the project site after two years of measuring wind speed. Any subsequent utility scale project proposed as a result of the Met Towers is unknown at this time, and will require a separate discretionary and environmental review process.

Each Met Tower consists of a tubular steel (galvanized) structure (between 4.5 and ten inches in diameter) supported by four sets of guy wires that extend up to 197 feet from the base of each tower. Each set of guy wires consists of seven guys attached along the entire vertical shaft of the pole, which is placed on a four-foot by four-foot base. The guy lines would be anchored to the soil using screw-in, arrowhead, rock, or concrete anchors, depending on soil conditions; no permanent concrete foundation is used for the base, therefore no grading is required. The tower would be assembled on the ground with a base plate and the guy wires. Depending on the condition of the immediate area of installation, one or more anchor pins (ground rod) might be necessary to keep the base from slipping during installation.

The Met Towers would be assembled onsite, using pick-up trucks for materials delivery. The tubular steel tower sections will arrive onsite in five-foot to eight-foot lengths. The towers will be assembled on the ground with all the anchors installed and electronic equipment secured. The towers will be hoisted with a winch, with final adjustments made. A small box will be affixed to each tower containing logging/transmitting electronics (cell phone), powered by a small solar panel and battery pack. No clearing of vegetation is expected, with the exception of removal of any immediate vegetation to comply with safety precautions, as deemed necessary. The main ground disturbing activities would be temporary, involving the securing of the steel tube tower to the ground with a base plate and guy wires. A fence will be installed around each tower for security purposes; the towers will be located close to existing roads in order to minimize impacts.

As recommended by the National Aviation Association, the Met Towers will be painted in seven, equal, alternating bands of aviation orange and white, beginning with orange at the top of the tower and ending with orange at the base, in order to increase the visibility of the structure and guy wires to aircraft pilots. The applicant also proposes to install a flashing red light at the top of each tower, with a minimum of 2.3 miles visibility when flashing. The surface area under the entire footprint of the tower and six feet past the outer anchors will be kept free of vegetation or planted in vegetation that is distinctly different from the vegetation surrounding the tower. Each guy-wired tower will have a total of eight marker balls attached as follows: four marker balls will be attached to guide wires at the top of the tower at a distance no further down than 15 feet from the top wire connection to the tower, and four marker balls will be installed at the bottom of the guide wires at a height of five to ten feet above the tallest crop to be grown in the immediate vicinity of the tower. The applicant will also install a seven-foot safety sleeve at the anchor point of each guy wire connection.

In addition to installing the above safety features, the applicant has also proposed to install bird flight diverters on the guy wires to minimize the impact of bird strikes with the guy wires. A search of the California Natural Diversity Database, maintained by the U.S. Fish and Wildlife Service, revealed that the American peregrine falcon has historically occurred in the vicinity of the proposed project. According to the applicant, a reconnaissance visit to the site by the applicant's biologist confirmed the presence of the peregrine falcon. Although the American peregrine falcon is a delisted species, as a condition of project approval, the applicant will be required to install daytime visual markers on the wires to prevent collisions for diurnally moving species. Bird flight diverters are a common mitigation practice for overhead power lines and are becoming increasingly common for use on guy wires for communication towers and other guy-wired towers. The bird flight diverters are small coils made from a high-impact, standard PVC and are UV stabilized.

Project Site and Surrounding Location

The proposed Met Towers would be located in the northeast corner of an approximately 342-acre Agricultural Preserve (A-P) zoned parcel (APN: 030-010-006) at approximately the 1,800-foot elevation, and in a central location on an adjacent 320-acre A-P zoned parcel at approximately the 1,100-foot elevation (APN: 047-120-008). These sites are part of a larger 8,518± acre ranch property, currently in use as range land. The nearby Rocky Ridge, west of the tower locations, sits at approximately the 2,000-foot elevation, with surrounding peaks and ridges up to approximately the 2,300-foot elevation.

The project site is surrounded by agricultural uses (predominately steep and rocky range land). The closest structures, including a rural residence, are located approximately 1.7 miles to the northeast, in a much lower elevation. The nearest cluster of homes are approximately 3.5 miles east of the proposed towers, near County Road 29, and 6.7 miles north of the proposed towers, near County Roads 83A, 23, and 22.

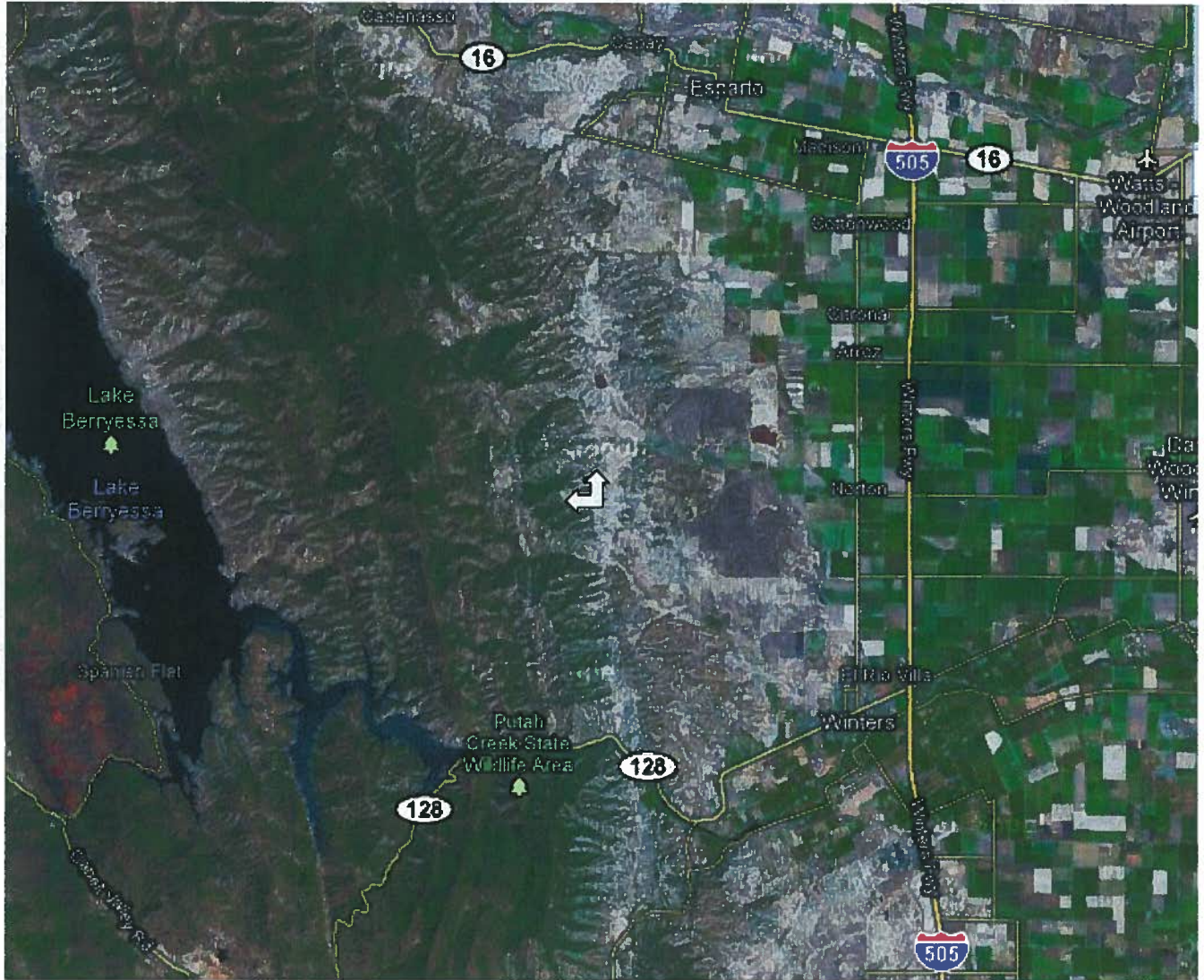


FIGURE 1
VICINITY MAP

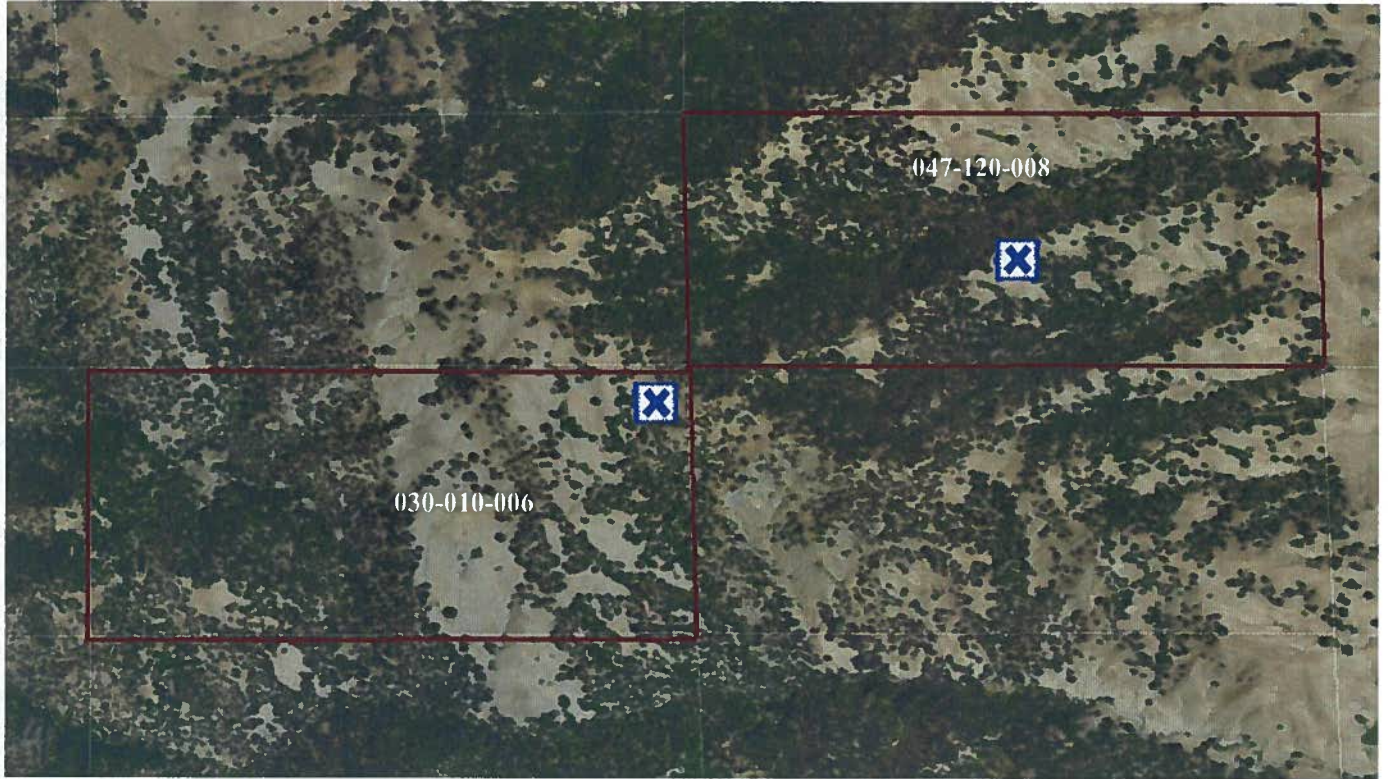


FIGURE 2
AERIAL MAP OF PROJECT SITE

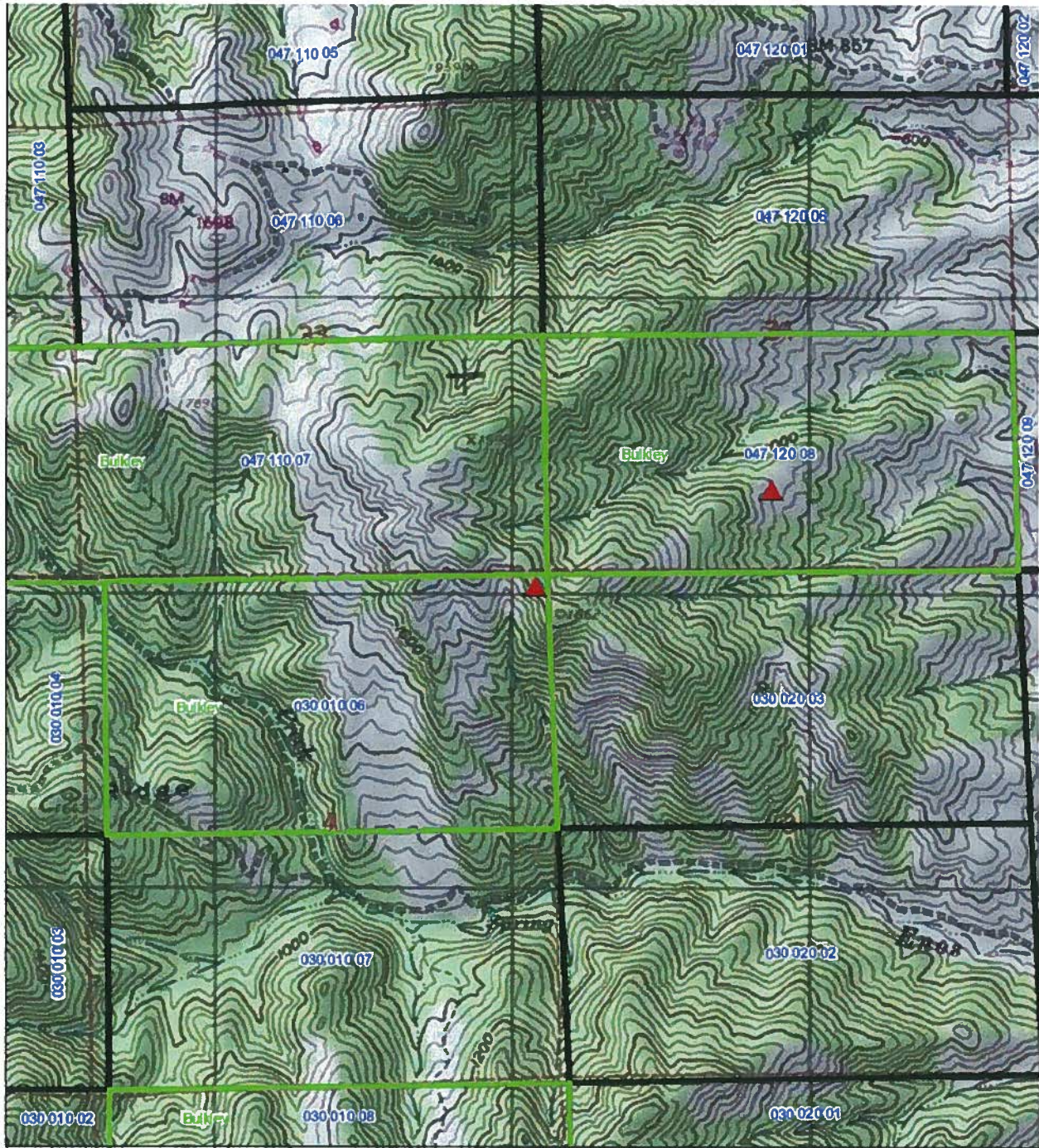
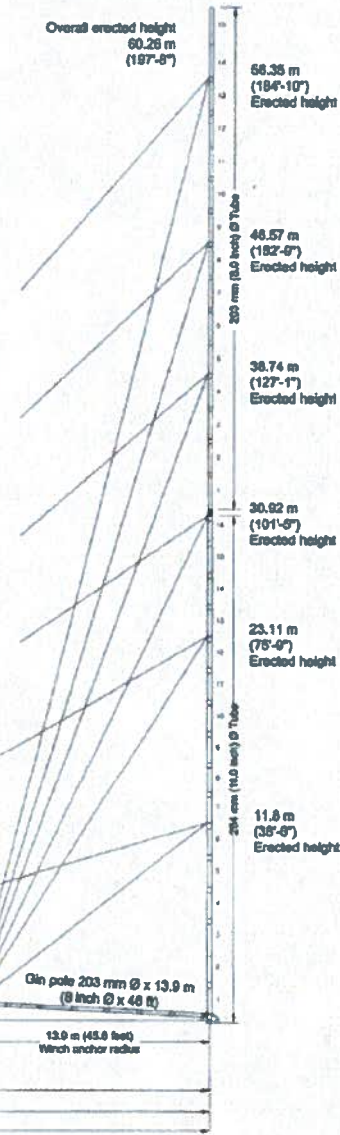


FIGURE 3
USA TOPO MAP

Material	Outer Diameter	Wall Thickness	Description	Yield Strength	Breaking Strength	Corrosion Protection
1	10 inch 254 mm	0.098 inch 2.51 mm	MT 1020	45.0 ksi 310 MPa	N/A	Hot Dipped Galvanized ASTM 653
2	8 inch 203 mm	0.098 inch 2.41 mm	MT 1020	45.0 ksi 310 MPa	N/A	
3	10.8 inch taper 254-203 mm	0.109 inch 2.6 mm	MT 1015	45.0 ksi 310 MPa	N/A	
4	0.25 inch 6.35 mm	N/A	7x19 Galv. Aircraft	N/A	7000 Lb 31.1 kN	Galvanized

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	Initial release	1 Jul 2007	A Booth

	Reactions and member forces									
	No ice		6.4mm (1/4") ice		12.7mm (1/2") ice		19 mm (3/4") ice		25 mm (1") ice	
	Imperial	SI	Imperial	SI	Imperial	SI	Imperial	SI	Imperial	SI
10 m (33 feet) wind velocity (Fastest mile)	111 mph	49.6 m/s	83 mph	37.1 m/s	66 mph	29.6 m/s	51 mph	22.6 m/s	33 mph	14.8 m/s
Top of lower wind velocity (Fastest mile)	143 mph	64.1 m/s	107 mph	47.8 m/s	65 mph	35.1 m/s	66 mph	29.4 m/s	43 mph	19.1 m/s
Racled ice thickness	0 in	0 mm	0.25 in	6.4 mm	0.50 in	12.7 mm	0.75 in	19.1 mm	1.00 in	25.4 mm
Inner guy anchor force (angle from horizontal)	4.2 kLb 22°	18.7 kN 22°	2.4 kLb 22°	10.7 kN 22°	2.2 kLb 22°	9.7 kN 22°	2.1 kLb 20°	9.3 kN 20°	2.1 kLb 18°	9.2 kN 18°
Middle guy anchor force (angle from horizontal)	3.5 kLb 37°	16.7 kN 37°	2.4 kLb 38°	10.5 kN 38°	2.2 kLb 38°	9.7 kN 38°	2.2 kLb 34°	10.0 kN 32°	2.2 kLb 32°	9.9 kN 32°
Outer guy anchor force (angle from horizontal)	5.1 kLb 45°	22.7 kN 45°	4.2 kLb 44°	18.7 kN 44°	3.5 kLb 43°	16.7 kN 43°	3.0 kLb 42°	13.4 kN 42°	2.6 kLb 40°	11.9 kN 40°
Tower base force (horizontal - during erection)	3.9 kLb	17.5 kN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tower base force (vertical)	12.2 kLb	54.5 kN	16.6 kLb	73.9 kN	18.6 kLb	82.6 kN	19.9 kLb	88.5 kN	22.1 kLb	98.2 kN
Erection anchor force (angle from horizontal)	5.5 kLb 44°	24.3 kN 44°	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maximum guy tension	2.8 kLb	12.6 kN	2.4 kLb	10.7 kN	2.2 kLb	9.8 kN	1.7 kLb	7.5 kN	1.5 kLb	6.9 kN
Maximum tower tube stress (compression)	15.1 ksi	104 MPa	11.5 ksi	79 MPa	11.0 ksi	76 MPa	6.9 ksi	47 MPa	6.9 ksi	48 MPa
Maximum tower tube stress (tension)	13.9 ksi	96 MPa	6.2 ksi	43 MPa	4.1 ksi	29 MPa	2.6 ksi	18 MPa	1.1 ksi	7 MPa
Maximum tower tube moment	75 in-kLb	8.4 kN-m	37 in-kLb	4.2 kN-m	26 in-kLb	3.2 kN-m	19 in-kLb	2.2 kN-m	9.9 in-kLb	1.1 kN-m
Maximum tower tube axial load	12.2 kLb	54.4 kN	16.6 kLb	73.9 kN	18.6 kLb	82.6 kN	19.9 kLb	88.5 kN	22.1 kLb	98.1 kN
Maximum top deflection	32 inches	812 mm	26 inches	667 mm	23 inches	582 mm	12 inches	312 mm	6 inches	153 mm
Initial guy tension	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN	0.16 kLb	0.8 kN



- Notes**
- A) Wind forces and allowable member loads are calculated using ANSI TIA/EIA-222-F, (1996), "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures".
 - B) Wind speeds are fastest mile wind velocity per EIA-222-F. EIA-222-F wind loading coefficients: Gf=1.89, Cf=1.0, α=2/7.
 - C) Fastest mile (fm) wind speed can be converted to an approximate three second (3sec) wind speed using the equation:
 $V(3sec) = 1.22 V(fm)$ for $V(fm) <= 100$ mph
 - D) Guy joint efficiency = 0.9 and the guy safety factor is greater than or equal to 2.0.
 - E) An ANSYS large deflection FEA model using beam (Pipe16) and tension (Link10) elements with distributed wind load was used to calculate member forces and reactions.
 - F) Tower allowable stress design per American Institute of Steel Construction (AISC) "Allowable Stress Design", 9th Ed. 1989, Chapter H, equations H1-1, H1-2.
 - G) This tower design meets the structural requirements of EIA-222-F, sections 1.2,3,6,8 for the given loading condition. This analysis does not apply to EIA-222-F sections 7,11,12,13.
 - H) Foundation design must be considered separately and is not a part of this analysis. Foundation details must be approved for the specific application and site by a qualified professional.
 - I) A locally qualified professional must determine the applicability of this analysis for the expected site conditions. Due to the lack of involvement in the siting or construction phase of this product at a specific location, liability is strictly limited to issues arising from negligence or willful misconduct by NRG or the professional engineer completing this analysis. No warranty, expressed or implied, is made concerning the suitability of this product for a given application or location.
 - J) Given dimensions are nominal. Actual dimensions may vary.

Units notation

- mm - Millimeters
- m - Meters
- m/s - Meters per second
- kN - 1,000 Newtons
- MPa - 1,000,000 Pascals
- kLb - 1,000 US pounds
- ksi - 1,000 US pounds per inch²
- mph - Miles per hour
- Ø - Diameter

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF NRG SYSTEMS INC. AND MUST BE KEPT IN CONFIDENCE. NO PORTION OF THE DRAWING MAY BE REPRODUCED OR USED WITHOUT THE EXPRESS PERMISSION OF THE COMPANY.		NRG SYSTEMS INC 110 RIGGS RD. WINDSBURG, VT., 05461	
FRACTIONS DECIMALS ANGLES	1/16 3/32 1/8 5/16 3/8 1/2 5/8 3/4 7/8 1 1 1/4 1 1/2 1 3/4 2 2 1/4 2 1/2 3 3 1/2 4 4 1/2 5 5 1/2 6 6 1/2 7 7 1/2 8 8 1/2 9 9 1/2 10 10 1/2 11 11 1/2 12 12 1/2 13 13 1/2 14 14 1/2 15 15 1/2 16 16 1/2 17 17 1/2 18 18 1/2 19 19 1/2 20 20 1/2 21 21 1/2 22 22 1/2 23 23 1/2 24 24 1/2 25 25 1/2 26 26 1/2 27 27 1/2 28 28 1/2 29 29 1/2 30 30 1/2 31 31 1/2 32 32 1/2 33 33 1/2 34 34 1/2 35 35 1/2 36 36 1/2 37 37 1/2 38 38 1/2 39 39 1/2 40 40 1/2 41 41 1/2 42 42 1/2 43 43 1/2 44 44 1/2 45 45 1/2 46 46 1/2 47 47 1/2 48 48 1/2 49 49 1/2 50 50 1/2 51 51 1/2 52 52 1/2 53 53 1/2 54 54 1/2 55 55 1/2 56 56 1/2 57 57 1/2 58 58 1/2 59 59 1/2 60 60 1/2 61 61 1/2 62 62 1/2 63 63 1/2 64 64 1/2 65 65 1/2 66 66 1/2 67 67 1/2 68 68 1/2 69 69 1/2 70 70 1/2 71 71 1/2 72 72 1/2 73 73 1/2 74 74 1/2 75 75 1/2 76 76 1/2 77 77 1/2 78 78 1/2 79 79 1/2 80 80 1/2 81 81 1/2 82 82 1/2 83 83 1/2 84 84 1/2 85 85 1/2 86 86 1/2 87 87 1/2 88 88 1/2 89 89 1/2 90 90 1/2 91 91 1/2 92 92 1/2 93 93 1/2 94 94 1/2 95 95 1/2 96 96 1/2 97 97 1/2 98 98 1/2 99 99 1/2 100 100 1/2 101 101 1/2 102 102 1/2 103 103 1/2 104 104 1/2 105 105 1/2 106 106 1/2 107 107 1/2 108 108 1/2 109 109 1/2 110 110 1/2 111 111 1/2 112 112 1/2 113 113 1/2 114 114 1/2 115 115 1/2 116 116 1/2 117 117 1/2 118 118 1/2 119 119 1/2 120 120 1/2 121 121 1/2 122 122 1/2 123 123 1/2 124 124 1/2 125 125 1/2 126 126 1/2 127 127 1/2 128 128 1/2 129 129 1/2 130 130 1/2 131 131 1/2 132 132 1/2 133 133 1/2 134 134 1/2 135 135 1/2 136 136 1/2 137 137 1/2 138 138 1/2 139 139 1/2 140 140 1/2 141 141 1/2 142 142 1/2 143 143 1/2 144 144 1/2 145 145 1/2 146 146 1/2 147 147 1/2 148 148 1/2 149 149 1/2 150 150 1/2 151 151 1/2 152 152 1/2 153 153 1/2 154 154 1/2 155 155 1/2 156 156 1/2 157 157 1/2 158 158 1/2 159 159 1/2 160 160 1/2 161 161 1/2 162 162 1/2 163 163 1/2 164 164 1/2 165 165 1/2 166 166 1/2 167 167 1/2 168 168 1/2 169 169 1/2 170 170 1/2 171 171 1/2 172 172 1/2 173 173 1/2 174 174 1/2 175 175 1/2 176 176 1/2 177 177 1/2 178 178 1/2 179 179 1/2 180 180 1/2 181 181 1/2 182 182 1/2 183 183 1/2 184 184 1/2 185 185 1/2 186 186 1/2 187 187 1/2 188 188 1/2 189 189 1/2 190 190 1/2 191 191 1/2 192 192 1/2 193 193 1/2 194 194 1/2 195 195 1/2 196 196 1/2 197 197 1/2 198 198 1/2 199 199 1/2 200 200 1/2 201 201 1/2 202 202 1/2 203 203 1/2 204 204 1/2 205 205 1/2 206 206 1/2 207 207 1/2 208 208 1/2 209 209 1/2 210 210 1/2 211 211 1/2 212 212 1/2 213 213 1/2 214 214 1/2 215 215 1/2 216 216 1/2 217 217 1/2 218 218 1/2 219 219 1/2 220 220 1/2 221 221 1/2 222 222 1/2 223 223 1/2 224 224 1/2 225 225 1/2 226 226 1/2 227 227 1/2 228 228 1/2 229 229 1/2 230 230 1/2 231 231 1/2 232 232 1/2 233 233 1/2 234 234 1/2 235 235 1/2 236 236 1/2 237 237 1/2 238 238 1/2 239 239 1/2 240 240 1/2 241 241 1/2 242 242 1/2 243 243 1/2 244 244 1/2 245 245 1/2 246 246 1/2 247 247 1/2 248 248 1/2 249 249 1/2 250 250 1/2 251 251 1/2 252 252 1/2 253 253 1/2 254 254 1/2 255 255 1/2 256 256 1/2 257 257 1/2 258 258 1/2 259 259 1/2 260 260 1/2 261 261 1/2 262 262 1/2 263 263 1/2 264 264 1/2 265 265 1/2 266 266 1/2 267 267 1/2 268 268 1/2 269 269 1/2 270 270 1/2 271 271 1/2 272 272 1/2 273 273 1/2 274 274 1/2 275 275 1/2 276 276 1/2 277 277 1/2 278 278 1/2 279 279 1/2 280 280 1/2 281 281 1/2 282 282 1/2 283 283 1/2 284 284 1/2 285 285 1/2 286 286 1/2 287 287 1/2 288 288 1/2 289 289 1/2 290 290 1/2 291 291 1/2 292 292 1/2 293 293 1/2 294 294 1/2 295 295 1/2 296 296 1/2 297 297 1/2 298 298 1/2 299 299 1/2 300 300 1/2 301 301 1/2 302 302 1/2 303 303 1/2 304 304 1/2 305 305 1/2 306 306 1/2 307 307 1/2 308 308 1/2 309 309 1/2 310 310 1/2 311 311 1/2 312 312 1/2 313 313 1/2 314 314 1/2 315 315 1/2 316 316 1/2 317 317 1/2 318 318 1/2 319 319 1/2 320 320 1/2 321 321 1/2 322 322 1/2 323 323 1/2 324 324 1/2 325 325 1/2 326 326 1/2 327 327 1/2 328 328 1/2 329 329 1/2 330 330 1/2 331 331 1/2 332 332 1/2 333 333 1/2 334 334 1/2 335 335 1/2 336 336 1/2 337 337 1/2 338 338 1/2 339 339 1/2 340 340 1/2 341 341 1/2 342 342 1/2 343 343 1/2 344 344 1/2 345 345 1/2 346 346 1/2 347 347 1/2 348 348 1/2 349 349 1/2 350 350 1/2 351 351 1/2 352 352 1/2 353 353 1/2 354 354 1/2 355 355 1/2 356 356 1/2 357 357 1/2 358 358 1/2 359 359 1/2 360 360 1/2 361 361 1/2 362 362 1/2 363 363 1/2 364 364 1/2 365 365 1/2 366 366 1/2 367 367 1/2 368 368 1/2 369 369 1/2 370 370 1/2 371 371 1/2 372 372 1/2 373 373 1/2 374 374 1/2 375 375 1/2 376 376 1/2 377 377 1/2 378 378 1/2 379 379 1/2 380 380 1/2 381 381 1/2 382 382 1/2 383 383 1/2 384 384 1/2 385 385 1/2 386 386 1/2 387 387 1/2 388 388 1/2 389 389 1/2 390 390 1/2 391 391 1/2 392 392 1/2 393 393 1/2 394 394 1/2 395 395 1/2 396 396 1/2 397 397 1/2 398 398 1/2 399 399 1/2 400 400 1/2 401 401 1/2 402 402 1/2 403 403 1/2 404 404 1/2 405 405 1/2 406 406 1/2 407 407 1/2 408 408 1/2 409 409 1/2 410 410 1/2 411 411 1/2 412 412 1/2 413 413 1/2 414 414 1/2 415 415 1/2 416 416 1/2 417 417 1/2 418 418 1/2 419 419 1/2 420 420 1/2 421 421 1/2 422 422 1/2 423 423 1/2 424 424 1/2 425 425 1/2 426 426 1/2 427 427 1/2 428 428 1/2 429 429 1/2 430 430 1/2 431 431 1/2 432 432 1/2 433 433 1/2 434 434 1/2 435 435 1/2 436 436 1/2 437 437 1/2 438 438 1/2 439 439 1/2 440 440 1/2 441 441 1/2 442 442 1/2 443 443 1/2 444 444 1/2 445 445 1/2 446 446 1/2 447 447 1/2 448 448 1/2 449 449 1/2 450 450 1/2 451 451 1/2 452 452 1/2 453 453 1/2 454 454 1/2 455 455 1/2 456 456 1/2 457 457 1/2 458 458 1/2 459 459 1/2 460 460 1/2 461 461 1/2 462 462 1/2 463 463 1/2 464 464 1/2 465 465 1/2 466 466 1/2 467 467 1/2 468 468 1/2 469 469 1/2 470 470 1/2 471 471 1/2 472 472 1/2 473 473 1/2 474 474 1/2 475 475 1/2 476 476 1/2 477 477 1/2 478 478 1/2 479 479 1/2 480 480 1/2 481 481 1/2 482 482 1/2 483 483 1/2 484 484 1/2 485 485 1/2 486 486 1/2 487 487 1/2 488 488 1/2 489 489 1/2 490 490 1/2 491 491 1/2 492 492 1/2 493 493 1/2 494 494 1/2 495 495 1/2 496 496 1/2 497 497 1/2 498 498 1/2 499 499 1/2 500 500 1/2 501 501 1/2 502 502 1/2 503 503 1/2 504 504 1/2 505 505 1/2 506 506 1/2 507 507 1/2 508 508 1/2 509 509 1/2 510 510 1/2 511 511 1/2 512 512 1/2 513 513 1/2 514 514 1/2 515 515 1/2 516 516 1/2 517 517 1/2 518 518 1/2 519 519 1/2 520 520 1/2 521 521 1/2 522 522 1/2 523 523 1/2 524 524 1/2 525 525 1/2 526 526 1/2 527 527 1/2 528 528 1/2 529 529 1/2 530 530 1/2 531 531 1/2 532 532 1/2 533 533 1/2 534 534 1/2 535 535 1/2 536 536 1/2 537 537 1/2 538 538 1/2 539 539 1/2 540 540 1/2 541 541 1/2 542 542 1/2 543 543 1/2 544 544 1/2 545 545 1/2 546 546 1/2 547 547 1/2 548 548 1/2 549 549 1/2 550 550 1/2 551 551 1/2 552 552 1/2 553 553 1/2 554 554 1/2 555 555 1/2 556 556 1/2 557 557 1/2 558 558 1/2 559 559 1/2 560 560 1/2 561 561 1/2 562 562 1/2 563 563 1/2 564 564 1/2 565 565 1/2 566 566 1/2 567 567 1/2 568 568 1/2 569 569 1/2 570 570 1/2 571 571 1/2 572 572 1/2 573 573 1/2 574 574 1/2 575 575 1/2 576 576 1/2 577 577 1/2 578 578 1/2 579 579 1/2 580 580 1/2 581 581 1/2 582 582 1/2 583 583 1/2 584 584 1/2 585 585 1/2 586 586 1/2 587 587 1/2 588 588 1/2 589 589 1/2 590 590 1/2 591 591 1/2 592 592 1/2 593 593 1/2 594 594 1/2 595 595 1/2 596 596 1/2 597 597 1/2 598 598 1/2 599 599 1/2 600 600 1/2 601 601 1/2 602 602 1/2 603 603 1/2 604 604 1/2 605 605 1/2 606 606 1/2 607 607 1/2 608 608 1/2 609 609 1/2 610 610 1/2 611 611 1/2 612 612 1/2 613 613 1/2 614 614 1/2 615 615 1/2 616 616 1/2 617 617 1/2 618 618 1/2 619 619 1/2 620 620 1/2 621 621 1/2 622 622 1/2 623 623 1/2 624 624 1/2 625 625 1/2 626 626 1/2 627 627 1/2 628 628 1/2 629 629 1/2 630 630 1/2 631 631 1/2 632 632 1/2 633 633 1/2 634 634 1/2 635 635 1/2 636 636 1/2 637 637 1/2 638 638 1/2 639 639 1/2 640 640 1/2 641 641 1/2 642 642 1/2 643 643 1/2 644 644 1/2 645 645 1/2 646 646 1/2 647 647 1/2 648 648 1/2 649 649 1/2 650 650 1/2 651 651 1/2 652 652 1/2 653 653 1/2 654 654 1/2 655 655 1/2 656 656 1/2 657 657 1/2 658 658 1/2 659 659 1/2 660 660 1/2 661 661 1/2 662 662 1/2 663 663 1/2 664 664 1/2 665 665 1/2 666 666 1/2 667 667 1/2 668 668 1/2 669 669 1/2 670 670 1/2 671 671 1/2 672 672 1/2 673 673 1/2 674 674 1/2 675 675 1/2 676 676 1/2 677 677 1/2 678 678 1/2 679 679 1/2 680 680 1/2 681 681 1/2 682 682 1/2 683 683 1/2 684 684 1/2 685 685 1/2 686 686 1/2 687 687 1/2 688 688 1/2 689 689 1/2				

Environmental Factors Potentially Affected

The environmental factors checked below could potentially be affected by this project, involving at least one impact that is still a "Potentially Significant Impact" (before any proposed mitigation measures have been adopted or before any measures have been made or agreed to by the project proponent) as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forest Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

Determination

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because the project is consistent with an adopted general plan and all potentially significant effects have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT, the project is exempt from further review under the California Environmental Quality Act under the requirements of Public Resources Code section 21083.3(b) and CEQA Guidelines Section 15183.


Planner's Signature

5-18-11
Date


Planner's Printed name

Purpose of this Initial Study

This Initial Study has been prepared consistent with CEQA Guideline Section 15063, to determine if the project as described herein may have a significant effect upon the environment.

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. A “Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less than significant Impact”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVIII, “Earlier Analyses”, may be cross-referenced.)
5. A determination that a “Less Than Significant Impact” would occur is appropriate when the project could create some identifiable impact, but the impact would be less than the threshold set by a performance standard or adopted policy. The initial study should describe the impact and state why it is found to be “less than significant.”
6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D) of the California Government Code. Earlier analyses are discussed in Section XVIII at the end of the checklist.
7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
8. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

I.	AESTHETICS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) *Less Than Significant Impact.* The Met Towers are proposed to locate in a steeply elevated and remote area in the southwestern portion of the unincorporated area of the County, and would not have a substantial effect on a scenic vista. The towers are proposed to locate at approximately the 1,800-foot elevation (APN: 030-010-006) and the 1,100-foot elevation (047-120-008). According to a USGS topographic map, Crane Ridge is at approximately the 2,100-foot elevation, located west of the project vicinity; and Wild Cow Mountain is at approximately the 2,260-foot elevation, located north of the project sites. The area's steep terrain provides some screening potential of the towers; however, the proposed towers could be visible from various peak vantage points. There is one residence within a couple miles of the proposed tower locations; however, as discussed in (c) below, views would not be obstructed.

b) *Less Than Significant Impact.* The proposal would not damage any scenic resources along a scenic highway. There are currently no highways within Yolo County that have been officially designated within the California Scenic Highway System. The Yolo County 2030 General Plan designates several routes in Yolo County as local scenic roadways. The nearest section of a local scenic roadway is State Route 128 from the City of Winters to the Napa County line, which is approximately 4.2 miles south of the proposed tower locations. The towers would not be visible from this stretch of State Route 128.

c) *Less Than Significant Impact.* Aesthetic perceptions are subjective and the aesthetic impacts associated with this project may be perceived differently by various individuals. The applicant has proposed several safety design features that will enhance conspicuity of the Met Towers to aircraft pilots. These safety features, while marking the towers for pilots, will also have the potential to make the towers more visible to people at ground level. The proposed approximately 198-foot tall towers are eight to ten inches in diameter and will be painted in seven alternating bands of orange and white. The towers will also include eight (14-inch) orange marker balls. Four of these marker balls will be placed approximately 15

feet from the top of the towers. The other four marker balls will be placed approximately 10 feet from the ground. It is assumed that the marker balls placed 10 feet from the ground will not be visible at the ground level at any distance from the subject sites. Additionally, there are no rural residences within the vicinity of the project site, due to the steep terrain and remote location.

The applicant has proposed to install bird flight diverters as a way to diminish the potential for bird strikes with the towers and their anchoring guy wires. Bird flight diverters are small coil shaped devices that are secured to the guy wires to increase the visibility of the wires to diurnally active birds, including raptors and migrating birds. Although effective for mitigating bird strikes, bird flight diverters are not easily seen by people at any significant distance.

The surrounding properties are all agricultural (range land) and there are no home sites in the vicinity of the project. The peaks and surrounding ridgelines in the project area have the potential to partially screen the towers from different vantage points and provide an additional terrain feature behind the towers so that they are not viewed entirely against the sky. Although the project may be visible from some vantage points in the surrounding area, the closest cluster of rural residences are located more than three miles away in significantly lower elevations (one residence is approximately 1.7 miles to the northeast). The temporary Met Towers would not substantially degrade the existing visual character or quality of the site and its surroundings.

d) *Less Than Significant Impact.* The proposed Met Towers will be painted in seven alternating bands of orange and white. This color scheme will not produce substantial glare in the project area. Lighting has been proposed as part of this project, if deemed necessary; however, since most of the surrounding properties are used for rangeland, the visual impact from tower lighting is expected to be less than significant. The FAA currently does not require lighting on towers below 200 feet, although state and federal legislation is being drafted for the voluntary marking of towers below 200 feet in addition to the orange and white marking.

II. AGRICULTURAL AND FOREST RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:

II.	AGRICULTURAL AND FOREST RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) *Less Than Significant Impact.* The project site is designated as "Grazing Land" on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The proposed Met Towers are temporary (lasting approximately two years), require no permanent structures, and will not convert the land to a non-agricultural use.

b) *No Impact.* The subject parcels are zoned Agricultural Preserve (A-P), and are enrolled in the Williamson Act. Wind energy facilities and wind testing facilities are permitted within the A-P zone in accordance with the Wind Energy Ordinance (Yolo County Code Section 8-2.2418), and will have a negligible impact on current agricultural uses.

c) and d) *No Impact.* The project does not conflict with existing zoning for, or cause rezoning of, forest land and would not result in the loss of forest land or conversion of forest land to non-forest use.

e) *No Impact.* The project is consistent with the General Plan and zoning designations and does not involve any other changes that could result in the conversion of farmland to non-agricultural uses. The proposed project is two temporary Met Towers located on a 320-acre parcel and a 342-acre parcel that are part of a larger 8,518±-acre ranch property.

III. AIR QUALITY.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Where applicable, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is within the Yolo-Solano Air Quality Management District (YSAQMD), and the Sacramento Valley Air Basin regulates air quality conditions within Yolo County. Yolo County is classified as a non-attainment area for several air pollutants, including ozone (O₃) and particulate matter 10 microns or less in diameter (PM₁₀) for both federal and state standards, the partial non-attainment of the federal particulate matter 2.5 (PM_{2.5}), and is classified as a moderate maintenance area for carbon monoxide (CO) by the state.

Development projects are most likely to violate an air quality plan or standard, or contribute substantially to an existing or project air quality violation, through generation of vehicle trips.

The YSAQMD sets threshold levels for use in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources in the Handbook for Assessing and Mitigating Air Quality Impacts (YSAQMD, 2007). The handbook identifies quantitative and qualitative long-term significance thresholds for use in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources. These thresholds include:

- Reactive Organic Gases (ROG): 10 tons per year (approx. 55 pounds per day)
- Oxides of Nitrogen (NOx): 10 tons per year (approx. 55 pounds per day)
- Particulate Matter (PM₁₀): 80 pounds per day
- Carbon Monoxide (CO): Violation of State ambient air quality standard

Discussion of Impacts

a) *No Impact.* The project would not substantially conflict with or obstruct implementation of the Yolo Solano Air Quality Management District Air Quality Attainment Plan (1992), the Sacramento Area Regional Ozone Attainment Plan (1994), or the goals and objectives of the Yolo County 2030 General Plan.

b) *Less Than Significant Impact.* As indicated above, the Yolo-Solano Region is a non-attainment area for state particulate matter (PM₁₀) and ozone standards, the federal ozone standard, and the partial non-attainment of the federal particulate matter 2.5 (PM_{2.5}). The project would not contribute significantly to air quality impacts, including PM₁₀ and PM_{2.5} since site preparation would be limited to installation of two Met Towers and the anchoring of guy wires into the soil. Ground disturbance from construction activity will be minimal. Construction activities, including vehicular traffic, would generate a minor temporary or short-term increase in PM₁₀ and PM_{2.5}. According to the applicant, the towers can be installed within one week, and will require no ground disturbing activities, such as significant grading or removal of vegetation (with the exception of removing vegetation around the base of each structure for enhanced safety and fire protection). The installation crew uses pickup trucks to transport materials to the site. A typical installation requires only one roundtrip delivery to the site. This impact is considered less than significant because any potentially sensitive receptors would be exposed to minor amounts of construction dust and equipment emissions for short periods of time with no long-term exposure to potentially affected groups. The project applicant would be required to comply with all standards as applied by the YSAQMD to minimize dust and other construction related pollutants. In addition, prior to any building permit issuance, the applicant is required to obtain any permits as required by the YSAQMD to ensure the project complies with District regulations. Thresholds for project-related air pollutant emissions would not exceed significant levels as set forth in the 2007 YSAQMD Handbook.

c) *Less Than Significant Impact.* Effects on air quality can be divided into short-term construction-related effects and those associated with long-term aspects of the project. Short-term construction impacts are addressed in (b), above. Long-term mobile source emissions from two temporary Met Towers would be negligible and would not exceed thresholds established by the YSAQMD Handbook for Assessing and Mitigating Air Quality Impacts (2007), and would not be cumulatively considerable for any non-attainment pollutant from the project. Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant.

d) and e) *No Impact.* The project site is located in a rural agricultural area, and is part of an 8,518±-acre ranch property. There are no sensitive receptors in the vicinity of the project site ("sensitive receptors" refers to those segments of the population most susceptible to poor air quality, i.e. children, elderly and the sick, and to certain at-risk sensitive land uses such as schools, hospitals, parks, or residential communities). The proposed project will not expose sensitive receptors to pollutant concentrations in excess of standards. The proposed project and associated uses would not create objectionable odors.

IV. BIOLOGICAL RESOURCES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) *Less Than Significant Impact.* The proposed project is two approximately 198-foot tall temporary Met Towers. As requested by the U.S. Fish and Wildlife Service, the project proponents retrieved a species list for the project area to determine the potential for federally listed species to be affected by the Met Towers. According to the 7 ½ Minute Quad Map (Monticello Dam 38122E1) for the California Natural Diversity Data Base (CNDDB) list, there are relatively few candidate, sensitive, or special-status species listed in the project vicinity. Additionally, due to the proposed location of the tower sites and the minimal footprint of each tower, the only species on these lists that would be potentially affected by the proposed project are birds and plants. The following table shows the potentially occurring species:

Common Name	Federal Status	California Status	DFG Status
American peregrine falcon	Delisted	Delisted	Species of Special Concern
Foothill yellow-legged frog	None	None	Species of Special Concern
Hoary bat	None	None	
Valley elderberry longhorn beetle	Threatened	None	
Colusa layia	None	None	
Brewer's western flax	None	None	
Keck's checkerbloom	Endangered	None	
Jepson's leptosiphon	None	None	

Additionally, H. T. Harvey & Associates, Ecological Consultants, were retained by the applicant to conduct surveys of special-status plants at the proposed Met Tower locations (Memorandum dated May 16, 2011). The surveys were conducted on foot by plant and wildlife ecologists. The surveys were targeted for the following plant species determined to potentially occur at each tower site:

- Federally listed Contra Costa goldfields (*Lasthenia conjugens*), Sebastopol meadowfoam (*Limnanthes vinculans*), few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*), Keck's checkerbloom (*Sidalcea keckii*);
- 28 other potentially occurring CNPS-listed species (HTH 2010); and
- Blue elderberry (*Sambucus nigra* ssp. *Caerulea*), host plant to the federally listed valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

According to the survey, no federally listed, state-listed, or CNPS-listed species were found to occur within the two proposed Met Tower locations. In addition, no blue elderberry plants were found near the vicinity of either location.

In order to ensure that no special status species are affected by the project, the applicant has proposed to install bird flight diverters on the temporary towers to deter and minimize collision risk. Additionally, the project proposes use of a flashing red light at the top of each tower, which, according to the applicant, has been documented to substantially reduce migratory bird collision. A memorandum prepared by H.T. Harvey & Associates for the project, dated May 5, 2011, indicates that the Met Towers will be well below the standard flight altitudes of nocturnal migrants. The memorandum also suggests that, to date, Met Towers, whether guyed or not, have proven to be no threat to bats, whose echolocation abilities appear to readily detect and avoid the stationary towers and their guy wires.

The project proposes little to no vegetation removal, with the exception of any safety precautions necessary for aircraft marking and fire safety. Impacts to special status species and special status species habitat is expected to be less than significant.

b) and c) *No Impact*. The project would not have a substantial adverse effect on any wetlands, riparian habitat or any other sensitive natural community identified in local or regional plans, policies, or regulations. The proposed project is not located near a wetland, nor does the project propose any grading; installation of two temporary Met Towers will not require any permanent or concrete foundation.

d) *No Impact*. The proposed project, which includes the installation of two temporary approximately 198-foot tall Met Towers would not interfere with the movement of any

native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) *No Impact*. The proposed project does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) *No Impact*. The proposed project would not conflict with any local policies or ordinances protecting biological resources. The Yolo County Habitat Conservation Plan (HCP)/Natural Communities Conservation Plan (NCCP) is in preparation by the Natural Heritage Program, with an anticipated adoption sometime in 2011. Thus, the project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

V. CULTURAL RESOURCES.		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) through c) *No Impact*. The construction of two temporary Met Towers would not affect any historic, cultural, or paleontological resources known or suspected to occur on the project site. The project site is not known to have any significant historical, archaeological, or paleontological resources as defined by the criteria within the CEQA Guidelines.

d) *Less Than Significant Impact*. No human remains are known or predicted to exist in the project area. However, the potential exists during construction to uncover previously unidentified resources. Section 7050.5 of the California Health and Safety Code states that when human remains are discovered, no further site disturbance shall occur until the County coroner has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, in the manner provided in

Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and the remains are recognized to be those of a Native American, the coroner shall contact the Native American Heritage Commission within 24 hours.

VI. GEOLOGY AND SOILS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				
2. Strong seismic groundshaking?				
3. Seismic-related ground failure, including liquefaction?				
4. Landslides?				
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) Less Than Significant Impact:

1. The project site is not located within an Alquist-Priolo Earthquake Fault Zone. The Met Tower sites are located approximately one mile west of the West Valley Fault and within one mile of a smaller Quaternary fault. The project site can be expected to experience moderate to strong ground shaking during future seismic events along active faults throughout Northern California or on smaller active faults located in the project vicinity.

The construction of the Met Towers will be required to comply with all applicable Uniform Building Code requirements.

2. Any major earthquake damage on the project site is likely to occur from ground shaking, and seismically related ground and structural failures. Local soil conditions, such as soil strength, thickness, density, water content, and firmness of underlying bedrock affect seismic response. Seismically induced shaking and some damage should be expected to occur during a major event but damage should be no more severe in the project area than elsewhere in the region. The Met Towers will be built in accordance with Uniform Building Code requirements and will be generally flexible enough to sustain only minor structural damage from ground shaking. Therefore, people and structures would not be exposed to potential substantial adverse effects involving strong seismic ground shaking.

3. The proposed project is located in an area of steep terrain. The erosion hazard could be significant. Effects of liquefaction or cyclic strength degradation beneath the project vicinity during seismic events are likely, but are not expected to impact the project. The project requires no grading and no placement of permanent foundations, such as a concrete pad. Anchors will be placed into the soil, as determined by soil conditions.

4. The project site is in an area of steep terrain, but the project proposes no permanent structures or residences, and approval of the project would not expose people or structures to potential landslides.

b) *Less than Significant Impact.* Only a small area of ground disturbance is proposed for the placement of the Met Towers and guy wire anchors. Although the project is located in an area with the potential for high erosion, substantial soil erosion or loss of topsoil is unlikely to occur as the project proposes very little grading or ground disturbance. The temporary towers will be anchored into the soil with guy lines using screw-in, arrowhead, rock, or concrete anchors depending on the soil conditions. As a Condition of Approval, the project will be required to provide structural calculations for meeting wind and seismic design standards in accordance with all applicable Uniform Building Codes and Yolo County Code requirements.

c) *Less than Significant Impact.* Although the project is located in an area of unstable geologic materials, the project is not expected to significantly affect the stability of the underlying materials, which could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse, as long as the project is designed in accordance with structurally engineered calculations that meet wind and seismic requirements, as described in (b), above. There are no people residing in the area and the project proposes no permanent improvements or structures, including residences, and would not subject people to landslides or liquefaction or other cyclic strength degradation during a seismic event.

d) *Less Than Significant Impact.* The existence of substantial areas of expansive and/or corrosive soils has been documented in the project area. The Met Towers will be built in accordance with Uniform Building Code requirements and a geotechnical report, along with soil samples, will be required as part of the building permit process.

e) *No Impact.* The proposed Met Towers will not be served by a septic system.

VII. GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Be affected by climate change impacts, e.g., sea level rise, increased wildfire dangers, diminishing snow pack and water supplies, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The issue of combating climate change and reducing greenhouse gas emissions (GHG) has been the subject of recent state legislation (AB 32 and SB 375). The Governor's Office of Planning and Research has recommended changes to the California Environmental Quality Act (CEQA) Guidelines, and the environmental checklist which is used for Initial Studies such as this one. The recommended changes to the checklist, which have not yet been approved by the state, are incorporated above in the two questions related to a project's GHG impacts. A third question has been added by Yolo County to consider potential impacts related to climate change's effect on individual projects, such as sea level rise and increased wildfire dangers. To date, specific thresholds of significance to evaluate impacts pertaining to GHG emissions have not been established by local decision-making agencies, the Yolo Solano Air Quality Management District, the state, or the federal government. However, this absence of thresholds does not negate CEQA's mandate to evaluate all potentially significant impacts associated with the proposed project.

Discussion of Impacts

a) *Less Than Significant Impact.* The proposed project is for two unmanned temporary Met Towers. Aside from the few truck trips during installation and eventual decommissioning of the towers, the only vehicular traffic generated by the project would be one to two vehicle trips per year for routine maintenance purposes. Thus, the project would not generate greenhouse gas emissions that will have a significant impact on the environment.

b) *No Impact.* The proposed project would not conflict with any applicable plan, policy or regulation adopted to reduce GHG emissions, including the Yolo County Climate Action Plan or the numerous policies of Yolo County 2030 General Plan. In fact, meteorological testing for the purposes of gathering wind resource data for the implementation of a future utility scale wind generation project supports policies in the General Plan and Climate Action Plan that call for measurable reductions in GHGs through expanded capacity and reliance on renewable energy resources such as solar, wind, biomass, and others.

c) *No Impact*. The proposed temporary Met Towers will not be at significant risk of wildfire dangers or diminishing snow pack or water supplies. Access to the site will be well marked, and any little vegetation around the towers will be removed to reduce the risk of flammable materials.

VII.	HAZARDS AND HAZARDOUS MATERIALS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) and b) *No Impact*. The installation and operation of the proposed project would not result in any new hazardous emissions or materials. There will be no storage of fuel, oil, or

other potentially hazardous materials. All electronic equipment will be properly disposed of or reused by the project applicant.

c) *No Impact.* See (a) and (b), above. Additionally, the project site is not located within one-quarter mile of an existing or proposed school.

d) *No Impact.* The project site is not located on a site that is included on a list of hazardous materials sites compiled by the Yolo County Environmental Health Division-Hazardous Waste Site Files pursuant to Government Code 65962.5.

e) *Less Than Significant Impact.* The project site is not located within an airport land use plan or within two miles of a public airport or public use airport. In relation to the proposed tower locations, the nearest airports are as follows: Yolo County Airport (approx. 11.2 mi. E); Watts-Woodland Airport (approx. 12 mi. NE); UC Davis Airport (approx. 15.6 mi. SE); and Sacramento International Airport (approx. 26 mi. E). The project is also located within approximately 17± miles of at least one or more airfields for agricultural spraying operations. The applicant has proposed to incorporate several design features to increase the conspicuity of the tower to aircraft pilots. These design features include painting the tower in seven alternating bands of orange and white, installing eight orange marker balls on the guy wires, and installing seven foot safety sleeves on the guy wire anchor points.

f) *Less Than Significant Impact.* See (e), above. The project site is not located within the vicinity of any other known private airstrip.

g) *No Impact.* The project would not interfere with any adopted emergency response or evacuation plans.

h) *Less than Significant Impact.* Although the project sites are located in a wildland area with moderate fire severity, the project is not expected to be at risk from wildland fires. The tower locations are in grassland areas, and the project proposal includes removal of what little vegetation may occur immediately around the temporary tower sites. As a Condition of Approval, and as per Cal Fire's request, access to the site will be required to be well marked and accessible; and all flammable material (i.e., grass) will be required to be removed around the towers. Additionally, the project sites will be unmanned and will not include any other structures other than the towers.

VIII. HYDROLOGY AND WATER QUALITY.		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VIII.	HYDROLOGY AND WATER QUALITY.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j.	Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) *No Impact.* The proposed project would not discharge any pollutants into the water system, or result in any violations of existing requirements.

b) *No Impact.* The proposed project would not affect any onsite well and would not deplete groundwater supplies or interfere with groundwater recharge.

c) through f) *No Impact.* The proposed project would not modify any drainage patterns or change absorption rates, or the rate and amount of surface runoff. No additional impacts to water quality are anticipated.

g) and h) *No Impact*. The proposed project does not include any housing. The project site is not located within the 100-year or 500-year floodplains.

i) *No Impact*. The project site is not located immediately down stream of a dam or adjacent to a levee that would expose individuals to risk from flooding.

j) *No Impact*. The project area is not located near any large bodies of water that would pose a seiche or tsunami hazard. The project would not contribute to inundation by a mudflow hazard.

IX.	LAND USE AND PLANNING.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) *No Impact*. The project site is located in a rural agricultural area, well outside any established community, including approximately six miles northwest of the City of Winters; therefore, there are no impacts to established communities.

b) *No Impact*. The proposed project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The Yolo County 2030 Countywide General Plan and Climate Action Plan encourage the installation of renewable energy technologies in order to promote GHG emission reductions (Policy CO-8.5). Though the temporary towers are not renewable energy sources, they are necessary to determine the feasibility of installing a large scale renewable energy (wind) project. Any future utility scale wind project will require approval of a Major Use Permit as described in Yolo County Code Section 8-2.2418 (Small and Large Wind Energy Systems), which will be subject to a separate CEQA analysis.

c) *No Impact*. The project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The Yolo County Habitat Conservation Plan (HCP)/Natural Communities Conservation Plan (NCCP) is in preparation by the Natural Heritage Program.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
X.	MINERAL RESOURCES.				
Would the project:					
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) and b) *No impact*. The project area has not been identified as an area of significant aggregate deposits, as classified by the State Department of Mines and Geology.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XI.	NOISE.				
Would the project:					
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) through d) *No Impact*. Yolo County has not adopted a noise ordinance which sets specific noise levels for different zoning districts or for different land uses in the unincorporated area. However, the State of California Department of Health Services developed recommended Community Noise Exposure standards, which are set forth in the State's General Plan Guidelines (2003). These standards are also included in the Yolo County 2030 Countywide General Plan and used to provide guidance for new development projects. The recommended standards provide acceptable ranges of decibel (dB) levels. The noise levels are in the context of Community Noise Equivalent Level (CNEL) measurements, which reflect an averaged noise level over a 24-hour or annual period.

The proposed project is located in a rural agricultural area and there are no sensitive receptors in the vicinity. The project site is surrounded by agricultural uses for several miles in each direction. The noise guidelines define 80-85 dB CNEL for outdoor noise level in agricultural areas as "normally acceptable." The proposed project includes the installation of two 197.8-foot Met Towers, including guy wires. The towers will be unmanned and will include solar powered battery packs. The proposed project will be located on a 342-acre parcel and a 320-acre parcel, which are part of a 8,518± acre ranch property. The proposed Met Towers will not produce noise or vibration that will exceed any thresholds during the installation, operation, or decommissioning phases.

e) and f) *No Impact*. The project site is not located within an airport land use plan nor is it within two miles of a public airport, public use airport, or private airstrip.

XII. POPULATION AND HOUSING.		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) through c) *No Impact*. The proposed project is for two temporary Met Towers and would not induce any population growth or displace any existing housing units or people.

XIII. PUBLIC SERVICES.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) *Less than Significant Impact.* The proposed project is located in a moderate fire severity area, and could potentially increase the demand for fire protection services. However, the towers are unmanned facilities and the project proposes no permanent construction, including residences. As per Cal Fire, the project will be required to ensure both sites are well marked and accessible at all times. All flammable materials will be required to be removed around the immediate area of each tower. The project will not require the need for new or expanded fire protection facilities.

b) through e) *No Impact.* The proposed project is for two temporary Met Towers, and would not be expected to increase the demand for police protection services, schools, parks, or other public facilities and services.

XIV. RECREATION.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) and b) *No Impact*. The proposed project would not affect any existing or future recreational facilities.

XV. TRANSPORTATION/TRAFFIC.		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) and b) *No Impact*. The roadway network within the unincorporated parts of the County is primarily rural in character, serving small communities and agricultural uses through a system of State freeways and highways, county roads (including arterials, collectors and local streets) and private roads. Interstate 80, Interstate 5 and Interstate 505 are the primary transportation corridors extending through the County and serve all of the County's major population centers including Davis, West Sacramento, Winters and Woodland. The installation, maintenance, and decommissioning of the Met Towers would generate a limited number of truck trips. However, this would not exceed the capacity of the existing circulation system nor exceed a level of service standard for any road.

c) *Less Than Significant Impact*. The proposed Met Towers will not result in a change in

air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks. The applicant has proposed to incorporate several design features to increase the conspicuity of the towers to aircraft pilots. These design features include painting the towers in seven alternating bands of orange and white, installing eight orange marker balls on the guy wires, and installing seven-foot safety sleeves on the guy wire anchor points.

d) *No Impact.* The proposed project does not incorporate design features that would substantially increase hazards or introduce incompatible uses.

e) *No Impact.* The proposed project would not result in inadequate emergency access. Access to the subject site is from a private access easement via County Road 89.

f) *No Impact.* The proposed project would not conflict with any adopted policies, plans, or programs supporting alternative transportation.

XVI.	UTILITIES AND SERVICE SYSTEMS.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
Would the project:					
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a) through g) *No Impact*. The proposed project is for two unmanned, temporary Met Towers. This project would not create any new demand for public utilities or public service systems and would not require the construction of any new facilities.

XVII.	MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) *Less than Significant Impact*. Based on the information provided in this Initial Study, no potential environmental impacts would be caused by the project. The project site has already been disturbed and developed. No important examples of major periods of California history or prehistory in California were identified; and, with the implementation of the project's required Conditions of Approval, the habitat and/or range of any special status wildlife, habitat, or plants would not be substantially reduced or eliminated.

b) *Less Than Significant Impact*. Based on the analysis provided in this Initial Study, the project would have less than significant cumulative impacts.

c) *Less Than Significant Impact*. Based on the analysis provided in this Initial Study, impacts to human beings resulting from the proposed project would be less than significant. The project as proposed would not have substantial adverse effects on human beings, either directly or indirectly.

REFERENCES

- Application materials
- H.T. Harvey & Associates, *Memorandum*, May 5, 2011
- H.T. Harvey & Associates, *Memorandum*, May 16, 2011
- 2030 Yolo Countywide General Plan
- Yolo County Zoning Ordinance, Title 8, Chapter 2 of the County Code, 2004, as amended
- Yolo Solano Air Quality Management District, *Handbook for Assessing and Mitigating Air Quality Impacts*, 2007
- Staff experience and knowledge

FINDINGS
YOLO WIND METEOROLOGICAL TOWERS USE PERMIT
ZONE FILE #2010-051

Upon due consideration of the facts presented in this staff report and at the public hearing for Zone File #2010-051, the Yolo County Planning Commission finds the following:
(A summary of evidence to support each FINDING is shown in Italics)

California Environmental Quality Act (CEQA) and Guidelines

That the recommended Negative Declaration/Initial Study was prepared in accordance with the California Environmental Quality Act (CEQA) and is the appropriate environmental document and level of review for this project.

The environmental document for the project, prepared pursuant to Section 15000 et. seq. of the CEQA Guidelines, provides the necessary proportionate level of analysis for the proposed project, and sufficient information to reasonably ascertain the project's potential environmental effects. The environmental review process has concluded that there will not be a significant effect on the environment as a result of the proposed project.

General Plan

That the proposal is consistent with the Yolo County General Plan as follows:

The Yolo County General Plan designates the subject property as Agriculture (AG).

The project is consistent with the following General Plan Policies:

Community Character Policy CC-1.18: Electric towers, solar power facilities, wind power facilities, communication transmission facilities and/or above ground lines shall be avoided long scenic roadways and routes, to the maximum feasible extent.

Community Character Policy CC-4.1: Reduce dependence upon fossil fuels, extracted underground metals, minerals and other non-renewable resources.

Community Character Policy CC-4.5: Encourage individual and community-based wind and solar energy systems.

Conservation Policy CO-7.1: Encourage conservation of natural gas, oil and electricity, and management of peak loads in existing land uses.

Zoning

That the proposal is consistent with the property's zoning.

The property is zoned A-P (Agricultural Preserve). The proposed use is consistent with Section 8-2.2418 of the Yolo County Code, which regulates the placement of wind energy structures.

That, as required by Section 8-2.2418.4(3) it is found that the proposed use shall require a Use Permit.

ATTACHMENT D

Although meteorological towers (Met Towers), themselves, are not wind generating turbines, they are the precursors to a potential wind energy generation project, and thus, subject to the requirements of the County's Wind Ordinance. Met Towers do not generate energy, nor do they produce any noise or other nuisances, but they can impose on aesthetic resources if located near a scenic vista or in a populated rural setting. They are generally temporary in nature, and to minimize cost and ground disturbance, are anchored with guy wires. Guy-wired towers, such as radio towers, communication towers, etc., present a potential impact to navigable airspace and avian species.

In order to address the potential impacts of installing a nearly 200-foot tower anchored with guy wires, the project's Conditions of Approval require recommendations made by the National Agricultural Aviation Association for increasing visibility to aircraft pilots, and include conditions that require bird flight diverters and a bird monitoring plan for minimizing collision risk, as per the U.S. Fish and Wildlife Service's recommendations.

If, after approval of a separate Site Plan Review, the towers are installed without the anchoring guy wires, the requirement for installing bird flight diverters and preparing a bird monitoring plan will be null and void, since impacts to avian species will be less than significant. The requirements for aviation safety marking will remain in effect, however.

That the proposal is consistent with findings required for approval of a Use Permit (Section 8-2.2804 of the Yolo County Code) as follows:

The requested land use is listed as a permitted use in the zoning regulations.

Pursuant to Section 8-2.2418(3) the proposed Met Towers are allowed within the A-P Zone through the Major Use Permit review and approval process.

The request is essential or desirable to the public comfort and convenience.

The project is essentially an information gathering effort in which meteorological towers are installed temporarily to collect wind data to assess the potential for a future wind energy generation project. State and federal legislation require local jurisdictions to address the promotion of greenhouse gas emission (GHG) reduction, which is consistent with policies in the Yolo County 2030 Countywide General Plan and Climate Action Plan that call for measurable reductions in GHGs through enhanced reliance on renewable and sustainable energy sources.

The requested land use will not impair the integrity or character of a neighborhood or be detrimental to public health, safety or general welfare.

As evidenced in the Initial Study/Negative Declaration, the proposed project will not create a significant effect on the character of the surrounding rural area. The project is located on approximately 662 acres, which are part of a larger 8,518-acre ranch property located in the remote and sparsely populated area east of Rocky Ridge. The property and greater surrounding vicinity are currently in use as rangeland, and the terrain is steep and rocky. The project proposes very little ground disturbance and the towers will be placed temporarily, no longer than three years as conditioned. Very little to no vegetation is required to be removed for installation of the temporary towers, and thus there will be negligible loss of rangeland. The closest rural residence is located approximately 1.7 miles northeast of the project in a much lower

elevation. Conditions of Approval placed on the project, such as the requirement for aviation marking and installation of bird flight diverters, will ensure that the public's health, safety, or general welfare will not be impaired.

Adequate utilities, access roads, drainage, sanitation, and/or other necessary facilities will be provided.

All necessary infrastructure and utilities will be required of the proposed project. Existing roadways will serve the project; an access agreement and/or an encroachment permit will be required prior to installation of the towers. No other utilities are required for the temporary placement of the Met Towers.

The requested use will serve and support production of agriculture, the agricultural industry, animal husbandry or medicine; or is agriculturally related, and not appropriate for location within a city or town; and the requested use, if proposed on prime soils, cannot be reasonably located on lands containing non-prime soils.

Met Towers are typically located in rural, remote areas, away from urban centers. The proposed location is on property used as rangeland up in the higher elevations of the southwestern portion of the County. Due to the steep terrain there are no rural residences within the vicinity of the project, and very little to no grazing land will be taken out of production with the installation of the temporary towers.

**CONDITIONS OF APPROVAL
YOLO WIND METEOROLOGICAL TOWERS
USE PERMIT
ZONE FILE #2010-051**

ON-GOING OR OPERATIONAL CONDITIONS OF APPROVAL:

PLANNING DIVISION—PPW (530) 666-8850

1. The project shall be developed in compliance with all adopted Conditions of Approval approved for Zone File #2010-051. The applicant shall be responsible for all costs associated with implementing the Conditions of Approval as contained herein.
2. Development of the sites, including installation and/or placement of structures, shall be as described in this staff report for this Use Permit (ZF #2010-051). Installation of two temporary meteorological towers shall be limited to the specific areas of the property as shown in **Attachment A**: two 197.8-foot high tubular steel towers, up to 10 inches in diameter, with four sets of guy wires, at approximately the 1,800-foot elevation (located on APN: 030-010-006) and 1,100-foot elevation (on APN: 047-120-008). Each set of guy wires will consist of seven guys attached along the entire vertical shaft of each pole, and placed on a 4-foot by 4-foot base. The guy lines will be anchored to the soil using screw-in, arrowhead, rock, or concrete anchors, depending on soil conditions. If the towers are constructed without guy wires, a Site Plan Review shall be required prior to issuance of any grading or building permits.
3. Any minor modification or expansion of the proposed use shall be consistent with the purpose and intent of this Use Permit, and shall be approved through Site Plan Review or an amendment to this Use Permit, as determined by the Director of Planning and Public Works. The sites shall be operated in a manner consistent with the project's approval.
4. This Use Permit shall commence within one year from the date of the Planning Commission's approval or said permit shall be null and void. The Use Permit shall expire after 36 months (three years) from the date of project approval. However, through a Use Permit Amendment, the Planning Commission may grant an extension of time if the request for extension is found to be consistent with the intent of the original approval.
5. Assessment of fees under Public Resources Code Section 21089, and as defined by Fish and Game Code Section 711.4 will be required. The fees (\$2,044 plus a \$50 Recorder fee) are payable by the project applicant upon filing of the Notice of Determination by the lead agency, within five working days of approval of this project by the Planning Commission.

ATTACHMENT E

6. The project is required to comply with recommendations from the National Agricultural Aviation Association for increasing visibility to aircraft pilots. The following measures shall be included in the design of the towers:
 - The towers must be painted in seven (7) equal, alternating bands of aviation orange and white, beginning with orange on the top of the tower, and ending with orange at the base.
 - The towers must have a flashing red light at the top of the tower with a minimum of 3.75km visibility when flashing.
 - The surface area under the entire footprint of the towers and six (6) feet past the outer anchors must be fenced.
 - Guy-wired towers must have a total of eight (8) marker balls attached as follows: four (4) marker balls attached to the guide wires at the top of the tower at a distance no further down than 15 feet from the top wire connection to the tower; four (4) marker balls at the bottom of the guide wires at a height of five (5) to ten (10) feet above the tallest crop to be grown in the immediate vicinity of the tower.
 - Guy-wired towers must have a 7-foot safety sleeve at each anchor point, plus one (1) sleeve located six (6) feet outside the outside anchor, and one (1) sleeve at the lift anchor.
7. The applicant shall notify all agricultural aircraft sprayers that are registered with the Yolo County Agricultural Commissioner of the exact location of the approved Met Tower (list may be obtained from the Agricultural Commissioner). This correspondence shall include the longitude and latitude of the tower location(s), an aerial photograph of the tower locations(s), and a general vicinity map. The applicant shall provide a signed statement that this condition has been satisfied, along with a copy of the mailing list, to the Yolo County Planning division.
8. In order to minimize impacts to birds and bats, the applicant will be required to install daytime visual markers (i.e., bird flight diverters) on all guy wires to prevent collisions for diurnally moving species. The bird flight diverters should span the length of the guide wires at intervals of not greater than five (5) meters (16.4 feet).
9. The applicant shall keep the designated leasehold areas (site) free from flammable brush, grass, and weeds. However, if removal of some plants causes concern for erosion, then an exception will be made to not require removal.
10. Except for aviation warning lights installed in accordance with Federal Aviation Administration (FAA) regulations, no exterior lighting shall be provided as part of this project.
11. The project shall be operated in compliance with all applicable federal and state laws, including Yolo County Code regulations and FAA standards regulating tower heights and aviation safety procedures.
12. Within 30 days upon termination of the use, the meteorological towers shall be removed and the project site restored back to its original condition.

PUBLIC WORKS DIVISION (530) 666-8811

13. The applicant shall file a Record of Survey, prepared by a licensed surveyor in the State of California, whenever any of the following instances occur:
 - a. A legal description has been prepared that is based upon a new field survey disclosing data that does not appear on any previously filed Subdivision Map, Parcel Map, Record of Survey, or other official map.
 - b. Permanent monuments have been set marking any boundary.

ENVIRONMENTAL HEALTH DIVISION (530) 666-8646

14. The applicant shall submit a hazardous materials business plan and inventory for review and approval by Yolo County Environmental Health Division by the time hazardous materials and/or hazardous wastes are present in reportable quantities on-site, at the facility. **Reportable quantities are amounts of hazardous materials that equal or exceed 500 pounds, 55 gallons, 200 cubic feet of gas, or any quantity of hazardous waste.**

CAL FIRE—(530) 796-3506

15. Access to each tower site shall we be well marked and shall remain accessible during the temporary use. All flammable materials, i.e., grass, shall be removed around each tower.

FEDERAL AVIATION ADMINISTRATION—(650) 876-2778, ext. 625

16. The applicant shall be required to file FAA Form 7460-1 for airspace/obstruction analysis. FAA Form 7460-1 can be obtained at: <http://forms.faa.gov/forms/faa7460-1.pdf>. Please contact T.J. Chen, P.E., Program Manager at the San Francisco Airports District Office for more information.

COUNTY COUNSEL—(530) 666-8172

17. In accordance with Yolo County Code Section 8-2.2415, the applicant shall agree to indemnify, defend, and hold harmless the county or its agents, officers and employees from any claim, action, or proceeding (including damage, attorney fees, and court cost awards) against the County or its agents, officers, or employees to attach, set aside, void, or annul an approval of the county, advisory agency, appeal board, or legislative body concerning the permit or entitlement when such action is brought within the applicable statute of limitations.

The county shall promptly notify the applicant of any claim, action or proceeding and that the county cooperates fully in the defense. If the county fails to promptly notify the applicant of any claim, action, or proceeding, or if the county fails to cooperate fully in the defense, the applicant shall not thereafter be responsible to defend, indemnify, or hold the county harmless as to that action.

The county may require that the applicant post a bond in an amount determined to be sufficient to satisfy the above indemnification and defense obligation.

18. Failure to comply with the Conditions of Approval as approved by the Yolo County Planning Commission may result in the following actions:
 - non-issuance of future building permits;
 - legal action.

PRIOR TO LAND DISTURBANCE OR ISSUANCE OF BUILDING PERMITS:

PLANNING DIVISION—PPW (530) 666-8808

19. The applicant shall verify access to the tower sites through provision of a recorded access easement or an encroachment permit. A signed access agreement shall be provided to the Director of Planning and Public Works prior to installation of the project.
20. Construction details shall be included in construction drawings, submitted concurrent with the building permit application, and are subject to review and approval by the Director of the Planning and Public Works Department.
21. During construction, all disturbed soils and unpaved roads shall be adequately watered to keep soil moist to provide dust control, and comply with YSAQMD requirements listed below.
22. The applicant shall submit verification from the Federal Aviation Administration that all requirements regarding regulations for tower lighting have been satisfied, and that any required lighting is at the lowest intensity level allowed.
23. If the Met Towers are installed with anchoring guy wires, as proposed, the applicant shall submit a Biological Monitoring Program (Program) to the Planning and Public Works Department for approval prior to the issuance of any building or grading permits. The Program shall include quarterly (every three months) monitoring of the project site for the life of the tower(s) by a qualified biologist hired by the applicant. The purpose of the mentoring is to document the presence of any avian carcasses near the base of the Met Tower(s), to determine if any bird strikes with the tower and/or guy wires have occurred. A report shall be prepared by the biologist documenting the results of the monitoring and shall be submitted to the Planning and Public Works Department and the appropriate office of the U.S. Fish and Wildlife Service, following each quarterly monitoring session. Installation of the Met Towers without anchoring guy wires shall deem this condition null and void, after approval of a Site Plan Review.
24. Prior to the issuance of building permits, the property owner shall submit a signed document granting Yolo County, or contractor hired by Yolo County, access to the project site to remove the tower(s) in the event that the applicant fails to remove the tower(s) in accordance with the limits set forth in Condition of Approval #4 and #12. In the event the applicant fails to remove the tower(s) in accordance with these conditions, it shall be liable to County for all costs associated with the removal of the tower(s).

PUBLIC WORKS DIVISION—PPW (530) 666-8811

25. Construction disturbance of one acre or more shall require a Storm Water Pollution Prevention Plan (SWPPP).

BUILDING DIVISION—PPW (530) 666-8775

26. All building plans shall be submitted to the Planning and Public Works Department for review and approval in accordance with County Building Standards prior to the commencement of any construction.
27. If applicable, the applicant shall obtain the necessary building permits prior to installation of equipment. New installation shall meet State of California minimum code requirements for fire, life, and safety standards.
28. The applicant will be required to provide structural calculations for meeting wind and seismic design standards in accordance with all applicable Uniform Building Codes and Yolo County Code requirements.
29. The applicant shall pay all appropriate fees prior to the issuance of Building Permits, including but not limited to the Winters Joint Unified School District, Winters Fire District, and County facility fees.

YOLO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT—(530) 662-0265

30. The applicant will be required to obtain an encroachment permit for access over the CSY Winters, Inc. property, which crosses over the Winters Canal and Chapman reservoir facilities.

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT—(530) 757-3650

31. Visible emissions from stationary diesel-powered equipment are not allowed to exceed 40 percent opacity for more than three minutes in any one-hour, as regulated under District Rule 2.3, Ringelmann Chart.
32. Portable diesel fueled equipment greater than 50 horsepower, such as generators or pumps, must be registered with either the Air Resources Board's (ARB's) Portable Equipment Registration Program (PERP) (<http://www.arb.ca.gov/perp/perp.htm>) or with the District.
33. Architectural coatings and solvents used at the project site shall be compliant with District Rule 2.14, Architectural Coatings.
34. All stationary equipment, other than internal combustion engines less than 50 horsepower, emitting air pollutants controlled under District Rules and Regulations require an Authority to Construct (ATC) and Permit to Operate (PTO) from the District.
35. In order to reduce construction-related air pollutants, the following best management practices will be required at the project site to control dust:

- All construction areas shall be watered as needed.
- All trucks hauling soil, sand, or other loose materials shall be covered or required to maintain at least two feet of freeboard.
- Unpaved access roads, parking areas, and staging areas shall be paved, watered, or treated with a non-toxic soil stabilizer, as needed.
- Exposed stockpiles shall be covered, watered, or treated with a non-toxic soil stabilizer, as needed.
- Traffic speeds on unpaved access roads shall be limited to 15 miles per hour.
- Any visible soil material that is carried onto adjacent public streets shall be swept with water sweepers, as needed.



MEMORANDUM

PROJECT# 3132-01

TO: Fernando Ferreyra, Senior Developer
Pattern Energy
Pier 1, Bay 3
San Francisco, CA 94111

FROM: Scott Terrill, Vice President & Principal, Wildlife Ecology
Jeff Smith, Senior Wildlife Ecologist & Wind-Energy Team Project Manager
H. T. Harvey & Associates

DATE 5 May 2011

SUBJECT: Yolo County Wind Project, Met Towers

Current federal and state guidelines for minimizing impacts of wind-energy developments on birds and bats (e.g., CEC and CDFG 2007, Wind Turbine Guidelines Advisory Committee 2010) consistently advocate for avoiding use of guy wires on permanent meteorological towers whenever possible to avoid well-documented risks of collision for a variety of birds (e.g., Winkelman 1992 as cited in Erickson et al. 1999, Johnson et al. 1999). Gehring et al. (in press) documented 16 times higher mortality at guyed versus unguyed communication towers of the same height. That said, a variety of complex factors may influence the susceptibility of birds to collisions with towers and associated guy wires in different areas (Erickson et al. 1999). Some studies have documented no avian mortalities at met towers, even with guy wires present (e.g., BioSystems Analysis 1992, Kerlinger 2002). In other cases, avian mortality at guyed met towers has equaled or exceeded that documented at adjacent wind turbines (e.g., Kerlinger et al. 2008 a,b,c). In contrast, to date met towers, whether guyed or not, have proven to be no threat to bats, whose echolocation abilities appear to readily detect and avoid the stationary towers and guy wires.

In cases where use of guy wires is unavoidable due to other environmental constraints, installing bird flight diverters (BFDs) on all guy wires at intervals of 5 meters is recommended to minimize collision risk. Multiple studies have shown that appropriately installed BFDs can reduce the risk of avian collisions with electrical transmission lines by margins of 60–90% (APLIC 1994, Brown and Drewien 1995, Yee 2007); although not specifically evaluated to the same degree, the presumption is that the same is true for guy wires. The “temporary” towers installed during initial investigations of wind-energy generation potential typically are installed with guy wires to minimize cost and ground disturbance, and therefore should be installed with BFDs on all guy wires. That said, a variety of different siting and ecological factors may influence collision risk, such that even within individual wind resource areas evaluating the relative risk associated with factors such as presence/absence of flight diverters can be complicated in the absence of a rigorous experimental design (e.g., Kerlinger et al. 2008a, b, c).



Other factors that contribute to collision risk with communication and meteorological towers are tower height and FAA lighting requirements. Heretofore, most met towers used in wind-energy developments have not required lighting because their height (typically 50 or 60 m), which is designed to match the height of the turbines to be installed, has been under 200 ft, which is the limit above which FAA lighting is required. However, the height of turbines has increased markedly in the past few years to the point where 80 m met towers are now being called for and would require lighting. Recent advances in understanding of the effects of different lighting on avian collision risk now unequivocally call for flashing or strobe-type red or white lights rather than steady-burning lights to substantially reduce risk (Gehring et al. 2009, Kerlinger et al. 2010). Increasing tower height also increases collision risk for birds independent of lighting (Gehring et al. 2009), even when the difference in height appears relatively small (e.g., 50 vs. 60 m met towers; Kerlinger et al. 2008a).

The following measures should reduce the risk of collision, including the risks of peregrine falcon collision, with the met tower to an extremely low probability.

- 1) Towers will be painted in seven, equal, alternating bands of aviation orange and white. Beginning with orange on the top of the tower, and ending with orange at the base. This will make the towers obvious.
- 2) Towers will have a flashing red light at the top of the tower with a minimum of 3.75 km visibility when flashing. Flashing red lights substantially reduce the migratory bird collision risk relative to constant white light, white strobe or red constant. In addition, these met towers will be well below the standard flight altitudes of nocturnal migrants.
- 3) Guy-Wired Towers will have a total of 8 marker balls attached as follows: 4 marker balls attached to the guide wires at the top of the tower at a distance no further down than 15 ft from the top wire connection to the tower; 4 marker balls at the bottom of the guide wires at a height of 5 – 10 ft above the tallest crop to be grown in the immediate vicinity of the tower. Marker balls should span the length of the guide wires at intervals of not greater than 5 meters. These marker balls should be brightly colored and would act as bird flight diverters, which should substantially reduce the potential for bird strikes with the guide wire. Under these conditions, we would consider the probability of bird strikes, including peregrine falcons, to be very low.

LITERATURE CITED

- Avian Power Line Interaction Committee (APLIC). 1994. Mitigating bird collisions with power lines: the state of the art in 1994. Edison Electric Institute, Washington, DC.
- BioSystems Analysis. 1992. Wind turbine effects on avian activity, habitat use, and mortality in Altamont Pass and Solano County WRAs. California Energy Commission, Sacramento, CA.
- Brown, W. M., and Drewien, R. C. 1995. Evaluation of two power line markers to reduce crane and waterfowl collision mortality. *Wildlife Society Bulletin* 23:217–217.
- California Energy Commission (CEC) and California Department of Fish and Game (CDFG). 2007. California guidelines for reducing impacts to birds and bats from wind energy development. California Energy Commission and California Department of Fish and Game, Sacramento, CA.
- Erickson, W. P., G. D. Johnson, M. D. Strickland, K. Kronner, P. S. Becker, and S. Orloff. 1999. Baseline Avian Use and Behavior at the CARES Wind Plant Site, Klickitat County, Washington. Final Report. Subcontractor report NREL/SR-500-26902. National Renewal Energy Laboratory, Golden, CO.
- Gehring, J. L., P. Kerlinger, and A. M. Manville II. 2009. Communication towers, lights, and birds: successful methods of reducing the frequency of avian collisions. *Ecological Applications* 19: 505–514.
- Gehring, J. L., P. Kerlinger, and A. M. Manville II. In press. Successful methods of reducing the frequency of avian collisions with communication towers: the role of tower height and guy wires. *Journal of Wildlife Management*.
- Johnson, G. D., W. P., Erickson, M. D. Strickland, M. F. Shepherd, and D. A. Shepherd. 1999. Avian monitoring studies, Buffalo Ridge Wind Resource Area, Minnesota, 1996–1998. Northern States Power Co., Minneapolis, MN.
- Kerlinger, P. 2002. An Assessment of the Impacts of Green Mountain Power Corporation's Wind Power Facility on Breeding and Migrating Birds in Searsburg, Vermont, July 1996–July 1998. Subcontractor report NREL/SR-500-28591. National Renewal Energy Laboratory, Golden, Colorado.
- Kerlinger, P., R. Curry, L. Culp, B. Fischer, A. Hasch, and C. Wilkerson. 2008a. Post-construction meteorological tower fatality study at the Shiloh I Wind Project Site Solano County, California. Final report. Prepared by Curry & Kerlinger, LLC, McLean, Virginia, for enXco, Inc., San Diego, California.
- Kerlinger, P., R. Curry, L. Culp, A. Hasch. 2008b. Meteorological tower fatality study at the Shiloh II Wind Power Project, Solano County, California. Final Report. Prepared by Curry & Kerlinger, LLC, McLean, Virginia, for enXco, Inc., San Diego, California.

- Kerlinger, P., R. Curry, L. Culp, A. Hasch. 2008c. Pre-construction meteorological tower fatality study at the Hamilton Ranch Wind Power Project, Solano County, California. Final Report. Prepared by Curry & Kerlinger, LLC, McLean, Virginia, for FPL Energy, Juno Beach, FL.
- Kerlinger, P., J. L. Gehring, W. P. Erickson, R. Curry, A. Jain, and J. Guarnaccia. 2010. Night migrant fatalities and obstruction lighting at wind turbines in North America. *Wilson Journal of Ornithology* 122:744–754
- Wind Turbine Guidelines Advisory Committee. 2010. Wind Turbine Guidelines Advisory Committee recommendations to the Secretary of the Interior, March 4, 2010. USDI Fish and Wildlife Service, Division of Habitat and Resource Conservation, Arlington, VA.
- Yee, M. L. 2007. Testing the effectiveness of an avian flight diverter for reducing avian collisions with distribution power lines in the Sacramento Valley, California. PIER Final Project Report CEC-500-2007-122. California Energy Commission, Sacramento, CA.



MEMORANDUM

PROJECT# 3132-02

DATE: 16 May 2011

TO: Rick Greiner, Environmental Manager
Pattern Energy
1600 Smith Street, Suite 4025
Houston, TX 77002

FROM: Scott Terrill, Ph.D., Principal

SUBJECT: Yolo County Potential Wind Power Project Special-Status Plant Surveys

H. T. Harvey & Associates has completed a survey of special-status plants at two proposed met tower locations northwest of Bulkley Hunting Camp within the Yolo County Potential Wind Power Project site. The eastern area (Location 1 @ 122 degrees, 4 minutes, 21.46 seconds West by 38 degrees, 34 minutes, 46.791 seconds North) is situated on a hillside within oak woodland at approximately 1100 feet elevation. The western area (Location 2 @ 122 degrees, 4 minutes, 54.573 seconds West by 38 degrees, 34 minutes, 36.273 seconds North) is located on a ridge within oak woodland at approximately 1800 feet elevation. Our surveys were conducted during the appropriate season and were floristic in nature, aiming to identify any and all rare plant species on-site. All areas within the study areas were walked on foot by plant ecologist Charles McClain, M.S. on 13 May 2011 accompanied by Senior Wildlife Biologist, Scott Terrill, Ph.D. In total, approximately 3 man-hours of survey time were spent searching for special-status plants occurring within the study area (this does not include time accessing the sites).

Surveys were targeted for the following plant species determined to potentially occur on the Project site: the federally listed Contra Costa goldfields (*Lasthenia conjugens*), Sebastopol meadowfoam (*Limnanthes vinculans*), few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*), Keck's checkerbloom (*Sidalcea keckii*); 28 other potentially occurring CNPS-listed species (HTH 2010); and blue elderberry (*Sambucus nigra* ssp. *Caerulea*), host plant to the federally listed valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). During this survey, all plants were identified to species, or if diagnostic features were missing, at least to a level sufficient to determine that the plant was not a rare species, either one listed above or any other rare species related to the plant that could occur in the area. Plants found on site were identified using the following resources: *The Jepson Manual* (Hickman 1993) and *Selected Plants of Northern California and Adjacent Nevada* (Oswald 2002).

No federally listed, state-listed, or CNPS-listed species were found to occur within the 2 proposed met tower areas. In addition, no blue elderberry plants were found at either location.



A complete list of all common species identified within the survey area is provided at the close of this memo.

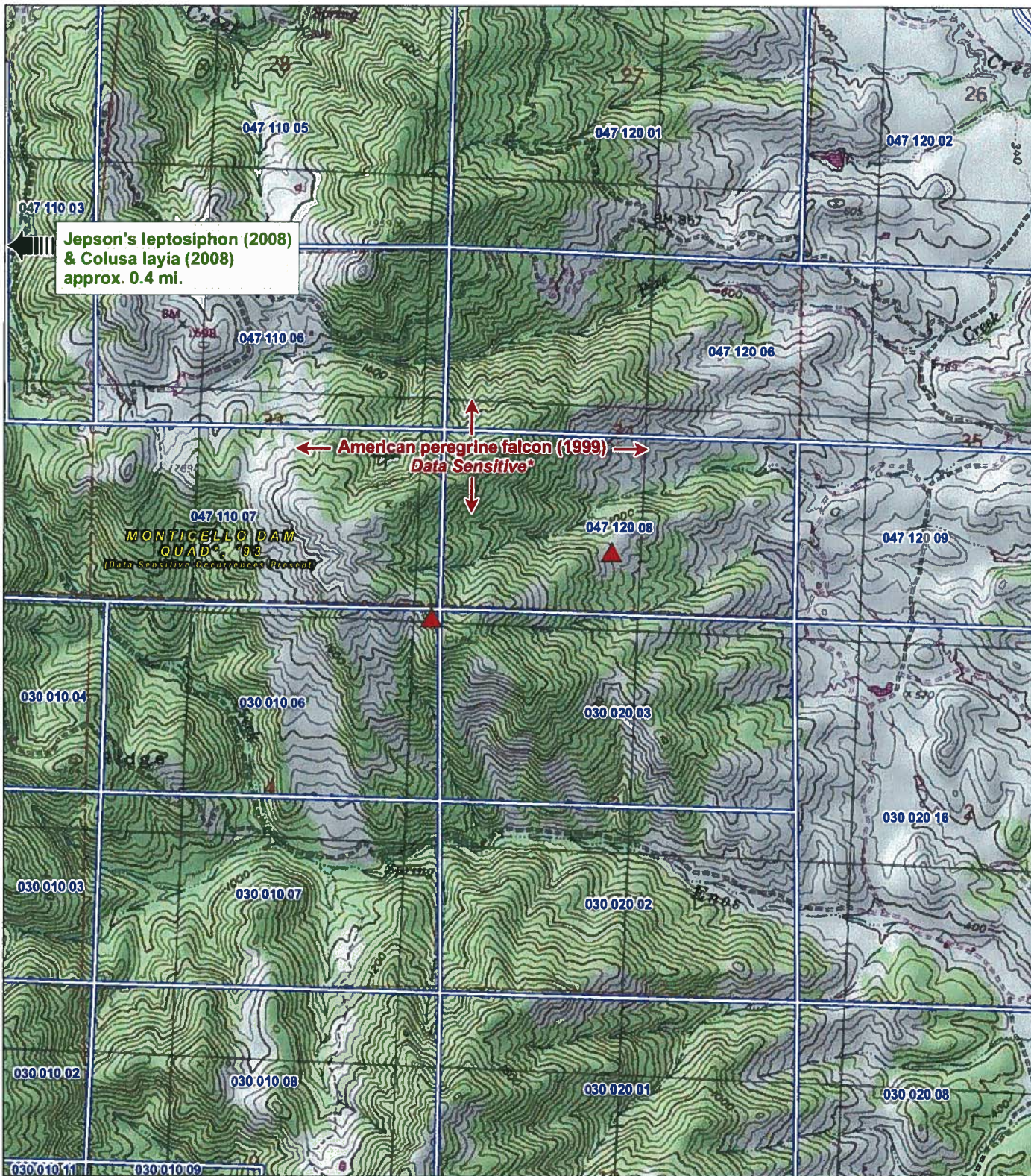
We hope this information is useful in the planning of this Project, and please do not hesitate to contact us at 408.458.3203 with any further comments or questions.

REFERENCES

- [HTH] H. T. Harvey & Associates. 2010. Yolo County Potential Wind Power Project Fatal Flaw Analysis. Project No. 3132-01. Draft prepared 12 April 2010.
- Hickman, J. C. 1993. The Jepson Manual: Higher Plants of California. University of California Press.
- Oswald, V. H. 2002. Selected Plants of Northern California and Adjacent Nevada. Studies From The Herbarium, California State University, Chico, CA.

Table 1. Plant Species Identified at the Two Yolo County Potential Wind Power Project Proposed Met Tower Locations

FAMILY NAME	SCIENTIFIC NAME	COMMON NAME	LOCATION 1 (EAST)	LOCATION 2 (WEST)
Apiaceae	<i>Torilis arvensis</i>	hedge parsley	X	X
Asteraceae	<i>Achillea millefolium</i>	yarrow		X
	<i>Achyrrachaena mollis</i>	blow-wives		X
	<i>Carduus pycnocephalus</i>	Italian thistle	X	X
	<i>Grindelia</i> sp.	gumplant		X
	<i>Micropus californica</i>	slender cottonweed		X
	unknown Asteraceae	unknown Asteraceae	X	X
Boraginaceae	<i>Amsinckia menziesii</i>	rancher's fireweed	X	
Brassicaceae	unknown Brassicaceae	unknown Brassicaceae	X	X
Caryophyllaceae	<i>Cerastium glomeratum</i>	mouse-ear chickweed		X
Fabaceae	<i>Lathyrus sulphureus</i>	Brewer's pea		X
	<i>Lupinus nanus</i>	sky lupine	X	X
	<i>Medicago polymorpha</i>	California burclover	X	
	<i>Trifolium cernuum</i>	nodding clover		X
	<i>Trifolium microcephalum</i>	hairy clover	X	X
	<i>Quercus douglasii</i>	blue oak	X	X
	<i>Quercus wislizeni</i>	interior live oak		X
Liliaceae	<i>Chlorogalum</i> sp.	soap plant		X
	<i>Triteleia bridgesii</i>	Bridges' brodiaea	X	X
Onagraceae	<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	four-spot		X
Pinaceae	<i>Pinus sabiniana</i>	grey pine		X
Poaceae	<i>Aegilops trunciialis</i>	barbed goatgrass	X	X
	<i>Avena fatua</i>	wild oat	X	X
	<i>Bromus diandrus</i>	ripgut grass	X	X
	<i>Bromus hordeaceus</i>	soft brome	X	X
	<i>Bromus madritensis</i> ssp. <i>madritensis</i>	foxtail chess	X	X
	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	farmer's foxtail	X	X
	<i>Lolium multiflorum</i>	Italian ryegrass	X	X
	<i>Melica californica</i>	California melic		X
	<i>Stipa pulchra</i>	purple needlegrass		X
	<i>Taeniatherum caput-medusae</i>	medusa head	X	X
	<i>Vulpia microstachys</i> var. <i>pauciflora</i>	fescue		X
Ranunculaceae	<i>Delphinium patens</i> ssp. <i>patens</i>	spreading larkspur		X



Jepson's leptosiphon (2008)
& Colusa layia (2008)
approx. 0.4 mi.

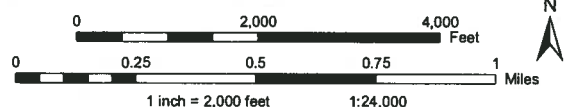
American peregrine falcon (1999)
Data Sensitive*

MONTICELLO DAM
QUAD 03
(Data Sensitive Occurrence Present)

Legend

- CNDDB 03-2011
- Plant
- Animal
- Terrestrial Community
- Aquatic Community
- Proposed 60m Guyed Met Towers
- Parcels
- 7.5 Quad Index
- 7.5 Quads that contain Data Sensitive CNDDB Occurrences*

*Boundaries for Data Sensitive CNDDB records are not mapped, but occur somewhere within the quad boundary on which they are labeled.



Source: (1) California Natural Diversity Database (CNDDB, MARCH-2011), (2) USGS 1:24,000-scale topographic map created with TOPOI, (c)2007 National Geographic Maps, All Rights Reserved.

T:\PatternEnergy\Yolo\Wind\deliverables\SpecialStatusSpecies.mxd



**Yolo Wind
Proposed Met Tower Sites**

**HISTORICAL SPECIAL STATUS
SPECIES LOCATIONS**

2011

December 17, 2010

Stephanie Cormier, Associate Planner
Yolo County Planning/Public Works
292 West Beamer Street
Woodland, CA 95695

530-666-8850

Stephanie.cormier@yolocounty.org

Re: ZF #2010-051 Yolo Wind

Dear Ms Cormier:

Tuleyome has made a preliminary review of the use permit request file number ZF #2010-051 for 2 proposed anemometer towers at APN 030-010-06 and 047-120-08. It is clear that these proposed towers may be the initial phase of a wind development project in the Blue Ridge area of western Yolo County. Tuleyome does not have a position on these towers or a potential wind project at this time. However, we believe that it's necessary that the County adopt the position that approving this request has a high potential to lead to future development proposals, and therefore we believe that the County needs to conduct the environmental and entitlement reviews with a clear goal of not providing any approvals that would limit the County's ability to say "no" to the proposed development of wind-energy projects in the future, either on these two sites or anywhere else in the County. That is, any current approvals must clearly allow for withholding future approvals without adversely affecting County and citizen interests.

We make the following comments and suggestions for the developers.

1. Tuleyome will pay particular attention to issues that might be raised by project neighbors including Audubon, Chapman and Rominger.
2. The Hatcher Ridge project, reoperation of Altamont Pass, and expansion of the SMUD Rio Vista project are three wind-development projects currently underway on private lands. There is much to be learned from each of these projects in terms of environmental review, community relations, and minimization and mitigation of impacts. We suggest that the applicants here consult early with the proponents of each of these projects.

ATTACHMENT G

3. It is vital to have several years of data with respect to biological resources that occur on and near the proposed project, including sensitive plant species, plant communities and wildlife habitats, sensitive wildlife species and their habitats, migratory corridors, and particularly on the utilization of the project region by birds and bats, in order to properly assess environmental impacts. The applicant should:
- Immediately deploy acoustic detectors for bird and bat studies on the proposed anemometer sites, as well as on any anemometer towers resulting from the proposal.
 - Consult with Audubon California or Yolo Audubon Society to assess potential impacts on bird species in the region and their habitats.
 - Consult with Dr. Shawn Smallwood or other experts to assess the potential impacts of wind development in this region on raptors and other sensitive birds in the region and their habitats.
 - Consult with Dr. Ellen Dean or other experts to undertake thorough multi-year floristic surveys of all sensitive plant species in the region and their habitats.

Tuleyome received notice of this project on December 3, with a comment deadline of December 17th. There was also a correction made during this time frame with respect to the elevation of the towers. In our opinion, requests for comments must have a minimum 30 day comment period.

We thank you for the opportunity to comment.

Sincerely,

Bob Schneider
Senior Policy Director
530-304-6215
bschneider@tuleyome.org