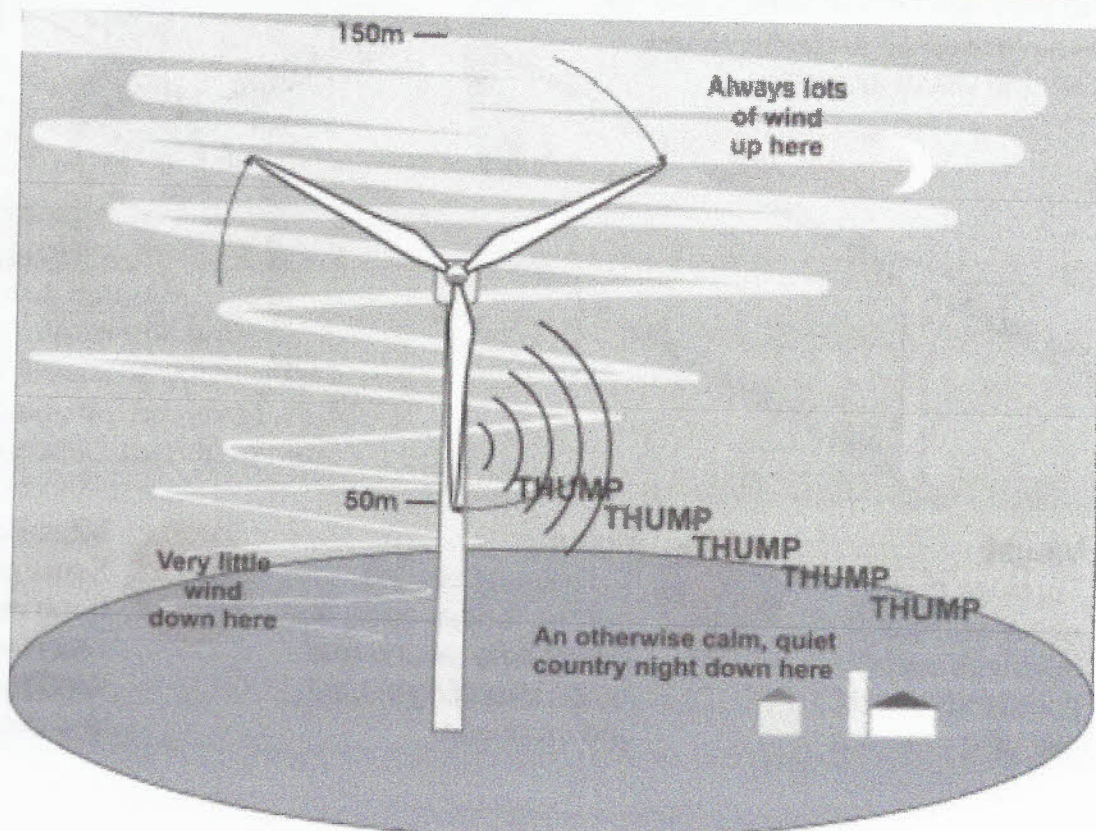
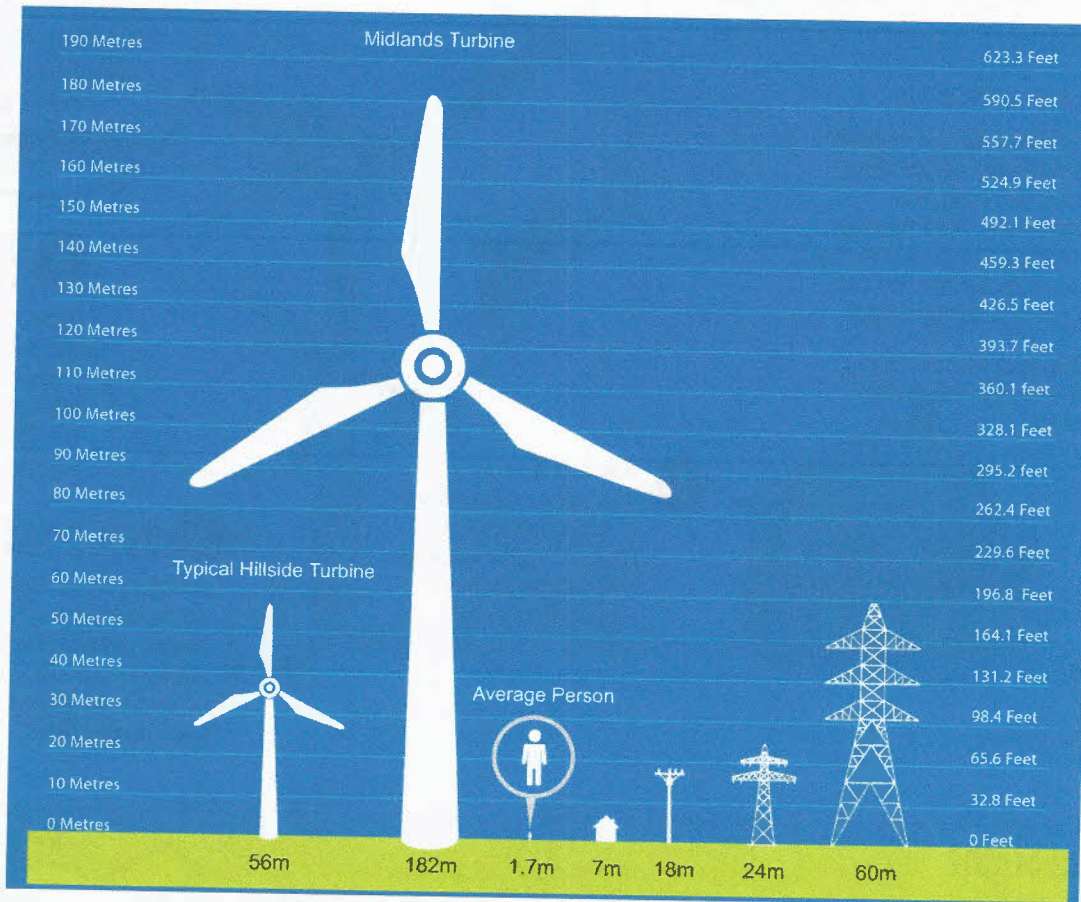


TERRA-GEN'S 60-CAMPO WIND & 30-TORREY WIND TURBINES WILL STAND 586 FT TALL, AS TALL AS THE ONE IN THE GRAPHIC BELOW.



NOISE POLLUTION FROM WIND TURBINES

Wind turbines create noise from either the blades moving through the air or from the mechanical hub that produces the electricity. Sounds from wind turbines are a problem for some who live closest to the machines.

2 PULSING SOUNDS

Outdoors: Turbines may appear to move slowly, but the tips of their blades often reach speeds of over 100 mph. This, coupled with wind conditions that may include faster moving air at the top of the arc and slower winds at the bottom, can produce a pulsing or oscillating sound.

Indoors: Low-frequency sounds can penetrate walls and windows and are sensed as vibrations and pressure changes.

1 AIR-FOIL TURBULENCE

Sound is generated by air moving over the surface of the blade or at the trailing edge of the blade, called "vortex shedding."

3 HIGH-PITCHED SOUNDS

Some noise may come from the nacelle, or hub: a high-pitched whining similar to a jet engine, but not as loud.

4 DISTANCE DIFFERENCES

Standing beneath a turbine may not be as noisy as standing farther away. Some types of sound increase with distance, depending on wind conditions, before becoming quieter.

5 SHADOWS
The flickering shadows of rotating turbine blades at various times of the day can also disturb residents.

Sources: American and Canadian Wind Energy Associations

MARK BOSWELL • Star Tribune

Wind farm blight

People living near newly-built wind farms say the turbines have slashed property values through noise and visual intrusion

Shadow flicker

When sun gets behind moving turbine it generates fast moving shadows, experienced as a powerful 'strobing' effect that can penetrate blinds and curtains



Visual

Turbines tower above surrounding buildings and constantly catch eye when moving



Noise

Turbulence around moving blades generates 'whooshing' sound that keeps changing in pitch and loudness



Vibration

Some people living near turbines report vibrations in windows, floorboards and doors

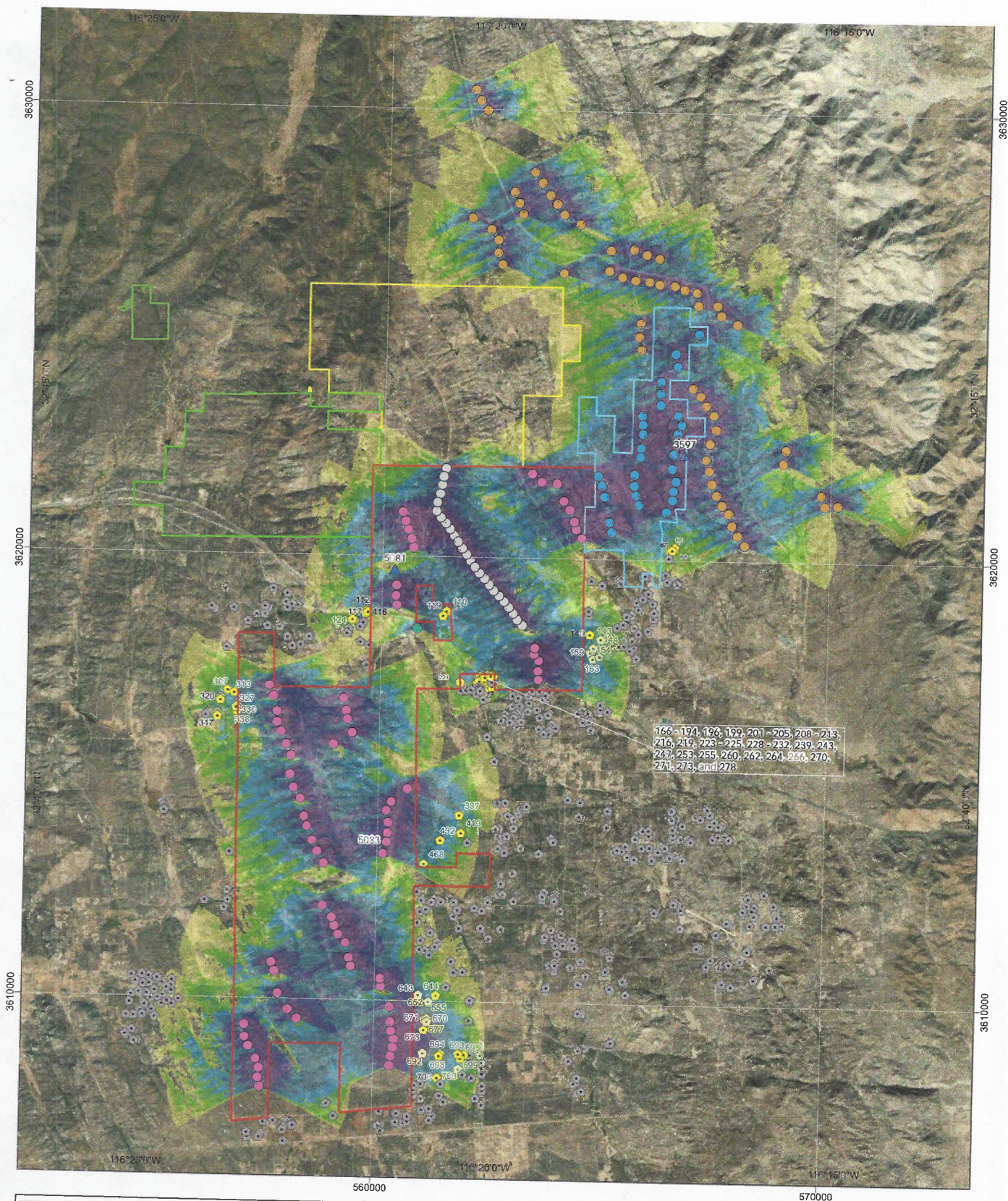


FIGURE C3
SCENARIO 3: ANNUAL SHADOW FLICKER
Expected-Case Scenario
Off-Reservations Receptors

- Legend**
- Golden Acom Casino: GE 1.85-82.5 Turbine (80-m HH)
 - Kumeyaay: Gamesa G87-2.0 MW Turbine (67-m HH)
 - Tule: GE 2.3-107 Turbine (80-m HH)
 - Campo: GE 3.83-137 Turbine (110-m HH)
 - Torrey: GE 3.83-137 Turbine (110-m HH)
 - Meteorological Tower
 - Boulder Brush Boundary
 - Campo Reservation Boundary
 - La Posta Reservation Boundary
 - Manzanita Reservation Boundary
 - Off Reservations Receptors
 - ⬢ Does Not Exceed 30 Min. Per Day and/or 30 Hrs. Per Year
 - ⬢ Exceeds 30 Min. Per Day and/or 30 Hrs. Per Year
 - Shadow Flicker (Annual Hours)
 - 1 - 10
 - 10 - 20
 - 20 - 30
 - 30 - 50
 - 50 - 100
 - 100 - 200
 - > 200

Reference

0 0.5 1 1.5 2
 Kilometers
 0 0.25 0.5 0.75 1
 Miles

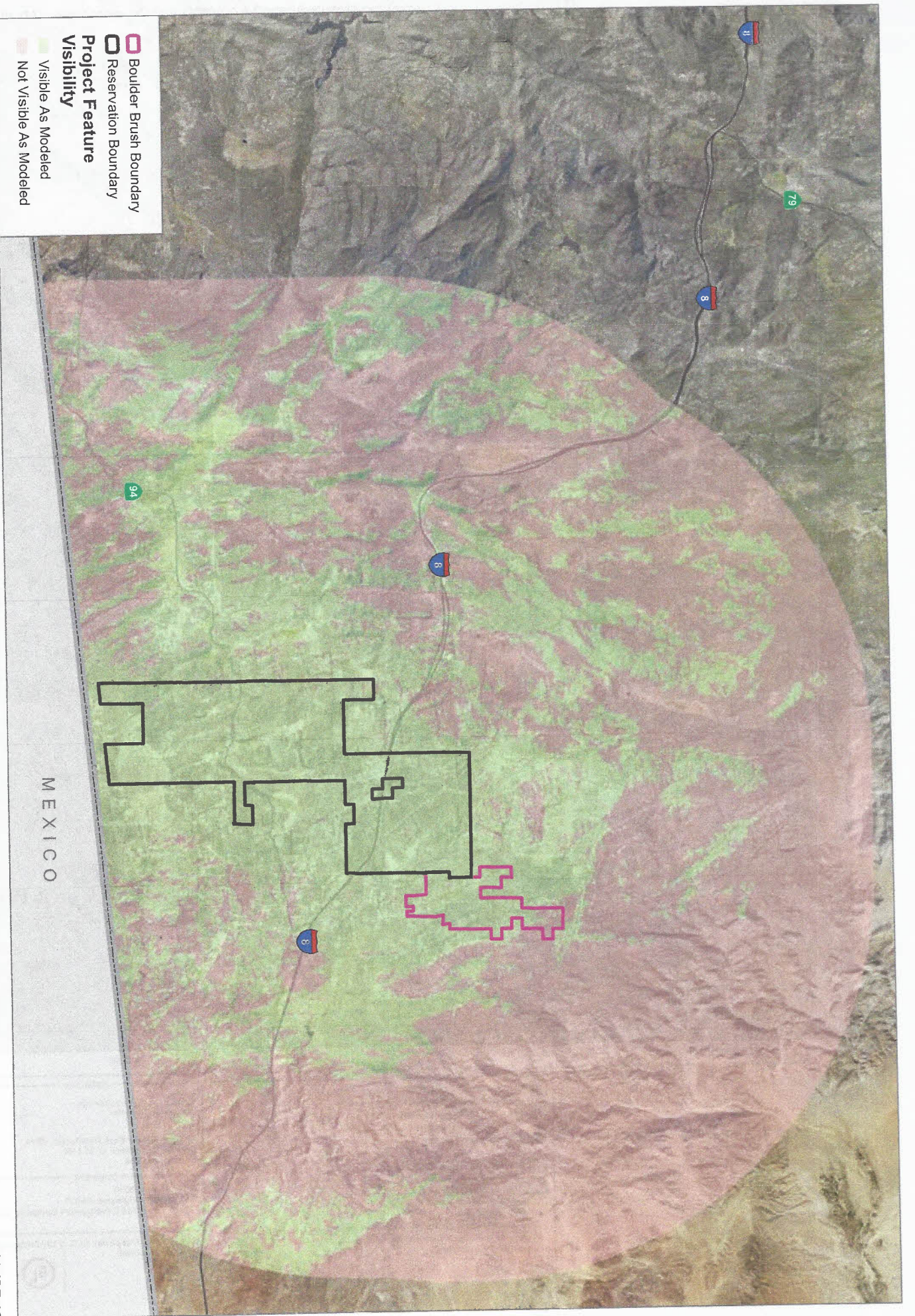
Shadow Flicker Data Resolution: 20 m
 Coordinate System: UTM 11N
 Datum: WGS84

Originator

Date: 08-Nov-2019
 Department/Originator: ES/LD
 Client: Terra-Gen Development Company, LLC

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SOURCE: SANGIS 2017

Note: While not depicted on this figure, views to proposed wind turbines would be available in Mexico.

Ten-mile modeled viewshed based on terrain and height of tallest proposed component on the Project Site (i.e., wind turbines).

FIGURE 12

Modeled Topographic Viewshed Analysis: Campo Wind Facilities

Campo Wind Project with Boulder Brush Facilities

Table ES-1
Summary of Significant Effects

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
Significant and Unavoidable Impacts			
<i>2.1 – Aesthetics</i>			
Boulder Brush Facilities			
No significant and unavoidable impacts to Aesthetics			
Campo Wind Facilities			
Impact AE-A	Size and scale of proposed turbines	M-AE-A through M-AE-H	Significant and unavoidable
Impact AE-B	Alteration of visual landscape	M-AE-A through M-AE-H	Significant and unavoidable
Impact AE-C	Interruption and degradation of existing vistas from surrounding roads	M-AE-A through M-AE-G	Significant and unavoidable
Impact AE-D	Lighting from proposed wind turbines on existing night views	M-AE-H	Significant and unavoidable
Cumulative Impacts			
Impact AE-CU-A	Cumulative impacts on the visual environment	M-AE-A through M-AE-H	Significant and unavoidable
<i>2.3 – Biological Resources</i>			
Boulder Brush Facilities			
No significant and unavoidable impacts to biological resources			
Campo Wind Facilities			
Impact BI-B	Direct loss of County List A and B special-status plants during construction	N/A	Significant and unavoidable
Impact BI-D	Permanent direct impacts to habitat for special-status wildlife species	N/A	Significant and unavoidable

Table ES-1
Summary of Significant Effects

Impact No.	Impact	Mitigation	Conclusion and Mitigation Effectiveness
Impact BI-M	Direct impacts to sensitive vegetation communities within the Campo Wind Corridor	N/A	Significant and unavoidable
Impact BI-U	Permanent direct impacts to RPO wetland and wetland buffer	N/A	Significant and unavoidable
<i>Cumulative Impacts</i>			
Impact BI-CU-1	Potential cumulative project impacts to sensitive plants and vegetation communities	M-BI-C (General Avoidance and Minimization Measures)	Significant and unavoidable
<i>2.6 – Noise</i>			
Boulder Brush Facilities			
No significant and unavoidable noise impacts			
Campo Wind Facilities			
Impact N-A	Potentially significant noise impacts due to operational wind turbines	No feasible mitigation	Significant and unavoidable
Impact N-B	Potentially significant noise impacts due to operational wind turbines	No feasible mitigation	Significant and unavoidable
Impact N-C	Potentially significant noise impacts to noise-sensitive land uses On-Reservation	No feasible mitigation	Significant and unavoidable
Cumulative Impacts			
Impact N-CU-A	Cumulative noise impacts with regard to the L _{dn} Guidance Limit	N/A	Significant and unavoidable

Terra-Gen's Boulder Brush / 252 megawatt (MW) Campo Wind "Project"

Draft Environmental Impact Report (DEIR):

This brief summary is provided by the non-profit, Backcountry Against Dumps, to help inform the public:

- 60-586 ft tall 4.2 MW (megawatt) Campo Wind wind turbines proposed for about 2,200 acres of Campo Reservation from Tierra Del Sol Road on the south to north of I-8.
- Boulder Brush high voltage substation and switchyard proposed on private land, owned by GM Gabrych Family entities, to carry Campo Wind and Torrey Wind energy to connect to SDG&E Sunrise Powerlink, north end of Ribbonwood Road.
- 8.5 miles of new 230 kV high voltage lines with 150' tall steel poles (32 poles on private land)
- Concrete batch plant for use during construction, a temporary equipment staging and parking area, Operations & Maintenance Building.
- New and existing access roads. Widening and paving of parts of Ribbonwood Road.
- *14 recognized Significant and Unavoidable Impacts: visual, noise, light, biological.*
- *Draft EIR should but fails to include Terra-Gen's proposed Torrey Wind project with 30-586' tall turbine planned for the old Big Country Ranch property at north end of Ribbonwood Rd. It is a connected action and reasonably foreseeable project under California Environmental Quality Act (CEQA).*

FIRE:

- The DEIR does recognize and admit the increased risk of wildfire related to Boulder Brush facilities and Campo Wind turbines but alleges that it will be mitigated by the related Fire Protection Plans.
- Wind turbine project related fires have reportedly ignited and burned vegetation from small spot fires to up to 8,400 acres in Australia and about 30 square miles in Canada.
- The Boulder Brush Substation Plot Plan (sheet 26 of 27) shows at least 13 NICAD (Nickel Cadmium) battery storage components that are not disclosed, analyzed or mitigated in the Draft EIR or related Fire Protection Plan.
- Potentially explosive Battery storage fires require Class D-Dry chemical, Carbon dioxide (CO₂), Carbon dioxide blanket; sand, foam equipment and training that *are not disclosed, analyzed, mitigated, or funded in current Fire Protection Plan.*

WATER & GRADING

- 173 AF (56.4 million gallons) (123 AF for Campo Wind Facilities and 50 AF for Boulder Brush Facilities) needed for 14 month construction phase.
- Estimated 1,349,550 Cubic Yards of Fill Soil (26,000 cubic yards for Boulder Brush).
- 37,700 cubic yards of concrete required.
- **Water sources include:**
 - *Same On-Reservation wellfield that was run dry and impacted springs and other wells during construction of SDG&E' ECO Substation.*
 - *Jacumba Community Services District and / or Pine Valley MWD Off-Reservation supply sources.*

TRAFFIC:

- **1,238 vehicle trips per day for Project (Table 2.8-9)**
- 320 trips per day for workers, vendor trucks and haul trucks.
- 934 trips per day for workers, vendor trucks, and haul trucks
- The Draft EIR alleges that all traffic / road impacts will be mitigated into insignificance.
- Ribbonwood Road, BIA 10 / Church Road, Crestwood @ I-8 and Ribbonwood @ I-8 would be the most impacted by increased traffic and delays of up to 20 minutes or so during the 14-month construction period, including road widening, heavy equipment and water tankers.
 - **Potential cumulative impacts** related to construction of Tule Wind II's already approved turbines, Rugged Solar on Rough Acres Ranch, proposed Torrey Wind turbines.

SHADOW FLICKER ANALYSIS – APPENDIX O:

- The Draft EIR admits that there are no local, state, or federal laws to address potentially dangerous and harmful shadow flicker which are the rotating shadows of operating wind turbines that can extend out to about 7,000 ft or more, depending on location and conditions at the time.
- **Terra-Gen's Scenario 3 (Baseline + Project + Cumulative):**
 - "Includes the operational wind projects in Scenario 1, 76 Project turbines, and the reasonably foreseeable future Torrey Wind Project (30 proposed turbines).
 - "Approximately 34 Off-Reservations receptors may experience shadow flicker for more than 30 minutes in a given day and approximately 101 Off-Reservations receptors may experience shadow flicker for more than 30 hours in a given year.
 - "Approximately 72 On-Reservations receptors may experience shadow flicker for more than 30 minutes in a given day and approximately 64 On-Reservations receptors may experience shadow flicker for more than 30 hours in a given year".
 - Some residents would experience over 30 minutes per day and over 120 hours per year!

PUBLIC COMMENTS ARE VERY IMPORTANT AND CAN HELP ESTABLISH LEGAL STANDING FOR ANY POTENTIAL FUTURE LEGAL CHALLENGES TO TERRA-GEN'S PROPOSED CAMPO WIND/BOULDER BRUSH& TORREY WIND PROJECTS.

- *Public comments are due by 4 Pm February 3rd: email to the following address with Boulder Brush-Campo Wind DEIR in the subject line: Susan.Harris@sdcounty.ca.gov with cc to our San Diego County Supervisor Dianne.Jacob@sdcounty.ca.gov*
- *Or mail them to: Susan Harris, Planning & Development Services, 5510 Overland Avenue, Suite 310, San Diego, CA 92123*
- **Comments can be as brief as:** " I /We formally opposed Terra-Gen's Boulder Brush Facilities, Campo Wind and Torrey Wind projects proposed for the Boulevard/ Campo Reservation area due to the significant adverse and disproportionate impacts to people, quality of life and economic well being, public health and safety, community character, wildlife, pets, visual, biological, cultural, groundwater, and other resources and sensitive receptors.
- **Be sure to include your name, physical address and mailing address, phone number and email address.**
 - ~ Any errors or omissions are unintentional~

**TERRA-GEN IS NOT COMMUNITY ORIENTED. THEY THINK THEY ARE TOO BIG TO FAIL
AND DON'T NEED TO PARTICIPATE AT COMMUNITY MEETINGS. ARE THEY HERE?
THEY HIRE CONTROVERIAL SO-CALLED EXPERTS / INDUSTRY HACKS
TO SUPPORT THEIR PRECARIOUS POSITIONS:**

- **In December 2019, the Humboldt County Supervisors voted to deny Terra-Gen's proposed 60-turbine Humboldt Wind that was planned on ridges near Scotia and Rio Dell. Let's hope Terra-gen gets voted down here, too!**
- **Terra-Gen is owned by Energy Capital Partners**, a private equity firm with some \$19 billion in energy sector holdings and on May 27, 2019, announced the acquisition of all of Canadian Utilities fossil fuel-based electricity generation assets, which were valued at \$621 million¹.
- **Terra-Gens' Campo Wind and connected Boulder Brush Substation /Gen-Tie and Torrey Wind projects are predicated on the timing of the availability of Production Tax Credits (PTC)** and other significant financial incentives that come at tax and ratepayer expense. The feds just extended the PTC through 2020.
- **Terra-Gen's Craig Pospisil is on the Board of California Wind Energy Association (CalWEA)² which lends unjustified credibility.** Not that CalWEA is credible. They are just another lobbying firm willing to stretch and ignore the facts in order to promote their pro-wind agenda.
- **According to their website³, "CalWEA is a non-profit corporation supported by members of the wind energy industry, including project developers and owners, turbine manufacturers, support contractors and others.** CalWEA represents its members in California's policy forums, seeking to encourage and support the production of electricity through the use of wind generators."
- **CalWEA's Nancy Radar chastised local wind turbine victims at a San Diego County Planning Commission in an April 2019 meeting as 'biased and self-serving',** when they were seeking justified redress and relief from wind turbine impacts, when it is Radar that is biased and self-serving. Residents are defending hearth and home. Radar is a paid wind industry lobbyist.
- **Terra-Gen, or industry front groups, hired industry go-to-shill, Kenneth Mundt, an alleged expert epidemiologist,** to tell San Diego Planning Commissioners that wind turbines are safe --without ever conducting any site-specific studies at impacted homes. Mundt appears to be part of the 'science-for-sale' contingent researched by publicintegrity.org⁴
- **Mundt is the same expert that reportedly manipulated /buried data that helped the Chromium Coalition and others downplay brain cancers /cancer clusters linked to their products⁵.** The industry's (and Mundt's) behavior was later compared to that of tobacco and pharmaceutical companies that were found to have withheld damning evidence of risks associated with their products. Mundt has worked for big tobacco, too⁶.
- **Mundt also reportedly helped downplay cancer risks linked to the use of talcum powder⁷.**
- **Despite Mundt's best efforts, juries have found some of his client's products liable for causing harm.** In May 2019, after ordering Johnson & Johnson to pay \$550 million to compensate 22 talcum powder users for ovarian cancer, jurors in St. Louis told the company to pay \$4.14 billion in punitive damages. Any errors or omissions are unintentional.

~Any errors or omissions are unintentional~

¹ <https://www.power-technology.com/news/canadian-utilities-sale/>

² <https://www.calwea.org/about>

³ <https://www.calwea.org/>

⁴ <https://publicintegrity.org/environment/about-science-for-sale/>

⁵ <https://corpwatch.org/article/us-chromium-evidence-buried-report-says>

⁶ <https://www.theatlantic.com/politics/archive/2016/05/low-tar-cigarettes/481116/>

⁷ https://www.researchgate.net/publication/312298944_Genital_use_of_talc_and_risk_of_ovarian_cancer_a_meta-analysis

**THIRD PARTY EXPERTS HIRED BY LOCAL NON-PROFIT BACKCOUNTRY AGAINST DUMPS TO REVIEW CAMPO WIND –BOULDER BRUSH DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
RELEASED BY THE BUREAU OF INDIAN FOR PUBLIC COMMENT IN SUMMER OF 2019:**

- **Law Offices of Stephan C. Volker's 13-page comment with eleven exhibits included the following:**
 - The DEIS Unlawfully Segments the Analysis of Connected Actions
 - The DEIS Fails to Consider All Cumulative Projects
 - The DEIS Fails to Evaluate a Reasonable Range of Project Alternatives
 - BIA Failed to Take a Hard Look at the Project's Impacts in the DEIS
 - Biological –Golden Eagles and other birds
 - Noise Impacts
 - Water Resources
 - Shadow Flicker
- **Scott Snyder PG 7356, CHG 748, QSD/P 445 Principal Hydrologist, Snyder Geologic, Inc, was hired to review the Bureau of Indian Affairs' Campo Wind / Boulder Brush Draft Environmental Impact Statement (DEIS) and related groundwater data to produce a Third Party Opinion: His professional opinion concludes as follows:**
 - "No groundwater protections were proposed as part of this project because the GRE stated there would be no groundwater impact. Given the data provided and assumptions made in this report, it is premature to make such a statement. Until actual groundwater investigations can be undertaken and more conservative assumptions can be made with regard to groundwater in storage and off-site impacts, it should be assumed that the project will have negative, unacceptable, and avoidable impacts. Along with the investigation and re-analysis of data, groundwater protections including well extraction rate caps and intensive off-site well monitoring should be included in any approval for the project, if it were to move forward. These protections would be necessary to ensure that nearby private well owners would continue to have sufficient groundwater resources to meet their consumptive needs, as the basin is their only resource for a water supply."
- **Richard A. Carman, Ph.D., P.E. Principal Emeritus, with Wilson Ihrig was hired to review the Bureau of Indian Affairs' Campo Wind / Boulder Brush DEIS noise analysis and related noise data to produce a Third Party Opinion. Dr. Carmen had previously been hired to conduct two local field studies (2013 & 2018) to document the acoustic impacts related to local wind turbines. Dr. Carman's professional opinion on the Campo Wind DEIS includes the following conclusions:**
 - The DEIS noise analysis is deficient in many respects.

- The DEIS fails to consider the potential noise impacts from significant increases in ambient noise as addressed by the FTA guidelines.
- The DEIS fails to address the potential impacts on sleep from wind turbine noise that contains substantial continuous low-frequency components.
- The DEIS fails to accurately characterize the existing ambient noise conditions as a result of the noise measuring instrument(s) used and the inadequacy of measuring for only one 24-hour period.
- The DEIS fails to accurately predict Project noise levels by using a computer program based on formulas that have specified limitations and have not been validated for wind turbine noise prediction for wind turbines of the size to be constructed for the Project.
- The DEIS minimizes the Project noise impacts by using inaccurate data while applying only the County noise ordinance criteria and ignoring substantial increases in ambient noise caused by the Project.
- The DEIS not only uses CadnaA, with the program's inherent limitations, to model low frequency noise, it also treats noise emission at all frequencies (in particular at low frequencies) to be omni-directional. Consequently, the DEIS low frequency predictions are inaccurate.
- The DEIS fails in the assessment of Project noise to accurately address amplitude modulation noise and its potential for sleep disturbance.
- The DEIS fails to adequately assess infrasound and its potential for physiologic impacts on the local population especially sleep disturbance.
- **According to Dr. Carman's DEIS review, improper equipment was used, which resulted in artificially high the levels that changes the impacts of increased noise, and more.**
- **dB Associates, Inc: San Diego-based CEQA-certified acoustic expert**
 - **dB Reported in July 2019 that:**
 - At five locations, the measured Ldn ambient sound levels were 6-23 dBA lower than those presented in the Dudek report. At four locations, the measured average L90 sound levels were 9-14 dBA lower than those presented in the Dudek report.
 - This means that Terra-gen's so-called noise experts used the wrong equipment to measure our generally low ambient noise levels. Their equipment would not measure that low. That would give them an unfair advantage when it comes to increased noise violations.
 - This issue was allegedly corrected without admitting their negligence in using wrong equipment.