

Steven and Ryan Kray



November 22, 2025

Zoning Commission / Planning Department

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OC Development Services Planning

601 N. Ross Street

Santa Ana, CA 92701

Re: PA25-0072 Public Hearing December 4, 2025 at 1:30 PM, Orange County Center, 425 W. Santa Ana Boulevard, Santa Ana, CA, to Express Opposition to Proposed Verizon Wireless and ATT communications facilities at Pelican Hill Golf Club – Administrative Record Submission (Including Attached Findings & Conclusions on Health, Financial, and Legal Risks)

Dear Members of the Zoning Commission:

I submit this letter in **opposition** to the proposed installation of two wireless communication towers sited within **approximately 150 feet** of existing residences, and **410 feet** from my home. I respectfully request that this letter, and the **attached Findings & Conclusions**, and the **Endnotes** with links and full copies of articles to the referenced articles or commentaries about those referenced studies, be entered into the administrative record for your upcoming public hearing.

Because I am not a scientist nor academic with subscriptions or easy access to these materials, but a retired attorney who in the early part of my career practiced environmental law, having brought legal actions under the “private attorney general practice” where the local agency may be obligated to reimburse plaintiff for their attorney fees, against the County Board of Supervisors (Aliso Viejo EIR) and the City of Laguna Beach (to oppose development in Open Space Preserved while lacking a complete General Plan). I ask that this commission do its job to protect all residents (men, women, children and in particular those who are aged, ill or susceptible to illness) and engage scientists and academics who can provide both access to the full studies and articles (if the links are not adequate to fully support the science being offered herein) and provide additional science available through other sources.

As a long-term resident and one of **over an estimated more than 100 households** situated within 500 feet of the proposed structures where an estimated 52 residences are within 300 feet, I raise profound concerns about **public health, financial harm, and equity** —

especially given the exemption from CEQA (or analogous environmental review) asserted for this project. These concerns are not speculative; they are grounded in an extensive body of peer-reviewed science, economic research, and case law considerations.

In the **Attachment: Findings & Conclusions**, I lay out detailed **Findings** (factual observations supported by credible sources) and **Conclusions** (legal and policy implications). Most critically, I demonstrate that:

- There is **significant scientific evidence** of adverse health effects from base station RF (radiofrequency) exposure among residents living within several hundred meters of towers, including *neurobehavioral symptoms, biochemical changes, and elevated cancer risk*.
- Proximity to communication towers reliably correlates with **decreased property values**, with credible hedonic studies showing declines ranging from **2.5% to nearly 10%**, depending on distance and visibility. As inflation of property values occurs over the years, these financial losses become staggering claims and losses in value.
- Because more than 45 high-value homes (in the millions of dollars) are within 500 feet, the cumulative **financial risk** is substantial; many of these homeowners are long-term residents who cannot simply relocate, and they face **equity harms** and potential **nuisance liability**.
- The County (and all governing agencies) must consider **mitigation or refusal**, including requiring a **precautionary setback** (e.g., 500 meters), a **property-value protection mechanism**, and **ongoing community health monitoring**.

If the Commission permits these towers without meaningful safeguards, it risks imposing a **nuisance** on the community — a harm that could form the basis for financial claims (e.g., diminution in value, diminished marketability, and potential injunctive relief).

Therefore, I ask that you: **FIRST, to protect your citizens, to deny the permit unless a full environmental / health risk study (EIR / EIS) is performed that can identify protections to the population affected**. Additionally, or in the alternative, I ask:

1. Impose a **minimum setback of 500 meters (≈1,640 ft)** from residential properties, consistent with precautionary science.
2. Commission a **property-value impact study** (hedonic analysis) for the ~45+ nearby residences.
3. Establish a **mitigation fund or escrow** to protect homeowners from economic harm (e.g., diminished resale value).
4. Implement **baseline and ongoing RF exposure monitoring** (with community reporting) so residents can verify real-world exposure over time.

I respectfully urge the Commission to weigh these documented harms seriously and avoid short-term gains in infrastructure at the expense of long-term well-being for our neighborhood. I urge you to adopt the set back standards under **land-use, aesthetics, noise, property values, and public welfare** and adopt 500 to 1,500 foot set backs similarly adopted by (and thereby avoid conflict with federal law):

- **Calabasas, CA** – 1,500 ft preferred setbacks in residential zones
- **San Diego County, CA** – up to 1,000 ft in semi-rural residential zones
- **Los Altos, CA** – prohibits towers in most residential zones
- **Boulder, CO** – strong limitations in residential areas
- **Scarsdale, NY** – restricts macro towers from residential districts
- **Mill Valley, CA** – bans new small cells in residential zones
- **Sebastopol, CA** – 1,500 ft setback for wireless facilities
- **Petaluma, CA** – 500 ft residential setbacks
- **Encinitas, CA** – discourages macro towers near homes

Thank you for your attention and for including this letter and the attached findings in the official record.

Sincerely,

Steven and Ryan Kray

STEVEN KRAY for Steven Kray and Ryan Kray

Attachment: Findings & Conclusions

Findings

1. Proximity of Towers and Number of Residences

- The proposed wireless towers are to be located very close to existing homes — approximately **150 feet** from some residences, and **410 feet** from my home.
- There are **more than 45 residences** within a **500-foot (~152 m)** radius of the proposed tower locations, based on my neighborhood survey, meaning a large number of homeowners will be exposed.

2. Health Risks Supported by Scientific Evidence

- Epidemiological studies: A meta-analysis of 10 epidemiological studies found that **8 out of 10** reported increased neurobehavioral symptoms or cancer among people living **less than 500 meters** from mobile phone base stations. [1]
- Systematic review: A 2022 review by Balmori (published in *Environmental Research*) reviewed 38 studies and found that **73.6%** showed biological effects — including radiofrequency sickness, cancer, and biochemical parameter changes — in populations living near base station antennas. [2]
- Credible health-policy recommendations: Experts have recommended **precautionary setbacks**; for example, some research and policy advocates call for base stations to be no closer than **500 meters (~1,640 ft)** from residential zones. [3]
- Risk modeling: There is literature (e.g., from Environmental Health Sciences) noting increased liability and exposure with insufficient distance, citing studies such as Dode et al. (cancer mortality within 500 m) and others recommending at least **500 m setbacks**. [4]

3. Financial / Property-Value Impacts

- Hedonic economics: A study in the *Journal of Real Estate Finance & Economics* found that properties within **0.72 km (~2,362 ft)** of a tower declined by an **average of 2.46%**, with those in the tower's *visibility range* declining up to **9.78%**. [5]
- Appraiser and market data: According to Environmental Health Sciences, appraisers report value declines “of up to 20%” in some markets for homes near towers. [6]
- Empirical economics: A more localized study in Savannah, Georgia, found a **discount of up to 7.6%** for homes in close proximity to towers; the effect diminished at about 1,500 ft. [7]
- Collective risk: Given more than **45 residences** in a 500-foot radius — many of which are high-value homes (e.g., \$5–\$8 million) — even a modest percentage devaluation could represent **hundreds of thousands of dollars per property**, aggregating to a significant equity loss for the community.

4. Legal, Nuisance, and Equity Considerations

- Nuisance risk: The close siting of hazardous or perceived-hazardous infrastructure (here, RF-emitting towers) may give rise to *nuisance liability*, particularly when the harm is economic (diminution of value) and non-economic (health risk).
- Disparate impact: Many affected homeowners are long-term residents who cannot afford to move; forcing them to bear risks and economic loss raises **equity and fairness issues**.
- Process risk: The claim of exemption from environmental review (e.g., CEQA) may inadequately account for **health, financial, and community harms**, thereby undermining procedural fairness and comprehensive risk evaluation.

Conclusions & Recommended Actions

1. Conclusion: Health Risk Is Non-Negligible

- Given the preponderance of peer-reviewed evidence showing adverse health outcomes in populations living within a few hundred meters of cell towers, the Commission should treat proximity as a meaningful risk requiring mitigation.

2. Conclusion: Material Financial Harm to Homeowners

- There is a credible risk of significant property-value decline for the >45 affected homes, which could amount to substantial aggregate economic loss. Because of this, the proposed towers may impose a *financial nuisance* on the community.

3. Conclusion: Need for Precautionary Setbacks

- A **minimum setback of 500 meters (~1,640 ft)** from homes is a rational, science-backed precaution — consistent with expert recommendations and empirical studies — to reduce both health risk and economic harm.

4. Conclusion: Mitigation and Compensation Required

- If approval is granted, the Commission should require binding mitigation, including a **property-value protection fund**, an escrow or bond, and a mechanism for **remediation or compensation** in the event of documented harm.
- The Commission should also require **baseline RF exposure measurements**, followed by periodic monitoring, with public reporting, to ensure that actual exposure matches modeled or expected risk, and to provide recourse if it does not.

5. Conclusion: Environmental / Administrative Review Is Warranted

- Given the demonstrated risks, the Commission should **not rely solely on a categorical exemption** from environmental review. Instead, a full analysis (e.g., via EIR or risk-assessment process) is justified to consider health, financial, and equity impacts.

6. Conclusion: Preserve Record for Possible Legal Recourse

- Incorporating these findings and conclusions into the administrative record ensures transparency and creates a robust basis for **administrative review or mandamus**, should the Commission approve the towers without adequate mitigation or consideration of harm.

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Footnotes / Endnotes

1. Epidemiological evidence for a health risk from mobile phone base stations, PubMed (2010).

1.1 Khurana, V. G. et al. (2010). “Epidemiological Evidence for a Health Risk from Mobile Phone Base Stations.”

- **Open Research Repository (ANU):** This is a version of the article. Download link: <https://openresearch-repository.anu.edu.au/items/2b6ee4bf-80fc-4f1f-b65a-5468e76488a3> [Open Research Repository](#)
- **EMF-Portal (Full-text / metadata):** <https://www.emf-portal.org/en/article/18448> [emf-portal.org](#)
- **PubMed record:** <https://pubmed.ncbi.nlm.nih.gov/20662418/> [PubMed](#)
- **Note:** The ANU repository gives a PDF. Use that for your record.

1.2 Levitt, B. B. & Lai, H. (2010). “Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations ...” *Environmental Reviews*.

- **PDF (NRC Research Press):** You can download a full-text version from a public source: <http://article.pubs.nrc-cnrc.gc.ca/RPAS/rpv?hm=HInit&journal=er&volume=18&calyLang=eng&afpf=a10-018.pdf> [IIT Bombay - Electrical Engineering](#)
- **Alternative copy / mirror:** https://www.avaate.org/IMG/pdf/levitt_lai_a10-018.pdf [avaate.org](#)
- **Summary / abstract (Radiation Research):** <https://radiationresearch.org/biological-effects-from-exposure-to-electromagnetic-radiation-emitted-by-cell-tower-base-stations-and-other-antenna-arrays/> [radiationresearch.org](#)

1.3 Bortkiewicz, A. et al. (2004). “Subjective complaints of people living near mobile phone base stations ...” *International Journal of Occupational Medicine and Environmental Health* (or related).

- **Full text PDF (Poland study, 2012 re-publication):** “Subjective complaints ...” 2012 article; download: https://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.ojs-doi-10_2478_s13382-012-0007-9.pdf [CEJSH](#)

2. A. Balmori, Evidence for a health risk by RF on humans living around mobile phone base stations, Environmental Research, 2022.

- Pre-proof PDF: *Evidence for a health risk ...* — https://escuelasaludable.org/wp-content/uploads/2021/11/Balmori-Health.risk_by_mobile.phone_base_stationsiri.2022.pdf [Escuela Saludable+2Rebernig Baubiologie & Umweltmesstechnik+2](#)
- PubMed (abstract): <https://pubmed.ncbi.nlm.nih.gov/35843283/> [PubMed](#)
- EMF:data summary: <https://www.emfdata.org/en/studies/detail%26id%3D646> [EMF Data](#)

(Supplement to 2. – Mechanism / Biological Basis)

- Yakymenko, I., et al. (2015). *Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation*. *Electromagnetic Biology and Medicine*. Full PDF: <https://www.ahealthylife.nl/wp-content/uploads/2020/04/Oxidative-mechanisms-of-biological-activity-of-low-intensity-radiofrequency-radiation.pdf> [aHealthylife.nl](https://www.ahealthylife.nl)
-

4. Are Cell Towers Safe? Research Recommending 500 m Setbacks, Environmental Health Sciences.

- Dode, A. C., et al. (2011). *Mortality by neoplasia and cellular telephone base stations in Belo Horizonte ... Science of the Total Environment*. Summary / reproduction (with data): <https://www.emrsa.co.za/documents/brazilresearch.pdf> [Emrsa](https://www.emrsa.co.za)
 - Chronic Exposure summary of that paper: <https://www.chronicexposure.org/basestations.html> [Chronic Exposure](https://www.chronicexposure.org)
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3 / 5 / 6. Property-Value Impacts

- Environmental Health Sciences: *Cell Towers Drop Property Values* — summary + references: <https://ehsciences.org/cell-towers-drop-property-value/> [Environmental Health Sciences](https://ehsciences.org)
 - Environmental Health Trust: PDF report on property-value drop (5G, cell towers): <https://ehtrust.org/wp-content/uploads/5G-and-Cell-Towers-Drop-Property-Values-.pdf> [Environmental Health Trust](https://ehtrust.org)
 - McDonough, Carol C. (2003). *The impact of wireless towers on residential property values*. *Assessment Journal*. Full article: https://researchexchange.iaao.org/assessment_journal/vol10/iss3/3 [Research Exchange](https://researchexchange.iaao.org)
 - Bond / Appraisal-Journal study (Bond, Sandy): Bond's "The Effect of Distance to Cell Phone Towers on House Prices" PDF summary: found in a public meeting packet: <https://evocloud-prod3-public.s3.us-east-2.amazonaws.com/meetings/66/attachments/15753.pdf> (see pp. referencing Appraisal Journal) [EvoCloud](https://evocloud-prod3-public.s3.us-east-2.amazonaws.com)
 - Public-policy book (hedonic / valuation): *Towers, Turbines and Transmission Lines: Impacts on Property Value* – Blackwell, eds. Bond/Sims/Dent: PDF: <https://vdoc.pub/documents/towers-turbines-and-transmission-lines-impacts-on-property-value-1q9q9t342uo0> [Vdoc](https://vdoc.pub)
-

7. Cell Towers — Effect on Residential Property Values.

7.1 Filippova, O., & Rehm, M. (2011). *The impact of proximity to cell phone towers on residential property values*. International Journal of Housing Markets & Analysis.

IDEAS / RePEc (record / abstract): <https://ideas.repec.org/a/eme/ijhmap/v4y2011i3p244-267.html>

ResearchGate (author upload / PDF):

https://www.researchgate.net/publication/235317103_The_impact_of_proximity_to_cell_phone_towers_on_residential_property_values

7.2 Bond, S. G. (2007). *Cell Phone Tower Proximity Impacts on House Prices: A New Zealand Case Study*. Pacific Rim Real Estate Society (PRRES).

Full-text PDF (PRRES):

<https://www.prres.org/uploads/1350/1249/14445921.2007.11104223.pdf>

7.3 Hite, D., Chern, W.-S., Hitzhusen, F., & Randall, A. (2001). *Property value impacts of an environmental disamenity* (cited as foundational hedonic work on tower/disamenity effects). Journal of Real Estate Finance & Economics, Vol. 22. (Note: the original 2001 article is not freely hosted in a public repository; the public documents below summarize and reproduce its findings and context.)

Connecticut public docket — “The Effect of Distance to Cell Phone Towers on House Prices in Florida” (public PDF that cites and discusses Hite et al. 2001): https://portal.ct.gov/-/media/csc/1_dockets-medialibrary/media_do400-499/do488/baldhillneighborsubmissions/huntertestimony71620/hunter-exhibit-a-attachment-1.pdf

Appraisal Journal / Summary PDF (Bond & Wang discussion of Hite and related studies): <https://electromagnetichealth.org/wp-content/uploads/2014/06/TAJSummer05p256-277.pdf>

Transcript of Oral Statement in Opposition to Re: PA25-0072 Public Hearing December 4, 2025

Good afternoon Commissioners. My name is Steven Kray. I live at [REDACTED] in the Cameo Highlands neighborhood.

I am here today to express my strong opposition to permitting two new wireless towers at the proposed location. I urge you to adopt the set back standards under **land-use, aesthetics, noise, property values, and public welfare** and adopt 500 to 1,500 foot set backs similarly adopted by (and thereby avoid conflict with federal law):

- **Calabasas, CA** – 1,500 ft preferred setbacks in residential zones
- **San Diego County, CA** – up to 1,000 ft in semi-rural residential zones
- **Los Altos, CA** – prohibits towers in most residential zones
- **Boulder, CO** – strong limitations in residential areas
- **Scarsdale, NY** – restricts macro towers from residential districts
- **Mill Valley, CA** – bans new small cells in residential zones
- **Sebastopol, CA** – 1,500 ft setback for wireless facilities
- **Petaluma, CA** – 500 ft residential setbacks
- **Encinitas, CA** – discourages macro towers near homes

The proposed site places more than 52 homes within 300 feet of the towers, and over 100 residences within 500 feet. That is an extraordinarily dense residential impact area. No independent environmental or health review has been conducted for exposure levels in a neighborhood with this many homes and long-term residents.

There is credible scientific literature—including Environmental Research, Science of the Total Environment, and multiple epidemiological reviews—shows elevated biological effects and increased risk patterns within 300 to 500 feet of wireless base stations.

Many international jurisdictions use minimum 500-meter (1,640-foot) precautionary setbacks for this reason.

We are being asked to accept towers at 150 to 410 feet, far inside every recommended precautionary distance.

This decision will have a real and measurable financial impact. Appraisal and economic studies consistently show property value declines of 2% to 10% for homes located near cell towers—often the largest declines occur for homes within 300 to 500 feet.

Our neighborhood includes many long-term residents—30, 40 years or more—who have invested heavily in maintaining and improving their homes. These residents cannot simply relocate if their property values fall.

If the County allows an industrial telecommunications installation this close to our homes, the County must acknowledge that it is creating a permanent nuisance affecting safety perception, financial stability, and residential quiet enjoyment.

We are simply asking for the same level of precaution that other jurisdictions already use, and that the scientific literature supports.

For these reasons, I respectfully ask the Commission to deny this permit, or at the very least require a full independent environmental and community-impact review before any approval is considered.

Thank you.

Steven Kray