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**Case file T2-2019-12701 preliminary questions**

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**JoAnne Vincent** <jo\_annesv@comcast.net>  
To: "rithy.khut@multco.us" <rithy.khut@multco.us>  
Cc: brian vincent <bsvincent@comcast.net>

Tue, Jul 7, 2020 at 10:28 AM



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Hello Rithy,

I tried to reach you this morning via phone, and left a message. perhaps this is a quicker way to reach you. I am a neighbor to the west of the proposed WCF site on woodard road in Troutdale. My preliminary questions , before I submit my huge list of concerns are as follows and I would appreciate a quick response.

1. I recieved my notice with July 14 deadline on friday July 3. I have been busy with family and holiday activities as im sure others are too. **Why is this notice so rushed?** I have only until July 14th to provide my list of concerns and opinions. this application was submitted more than a year ago initially, (case file PA -2019-11705) when we were entitled to a public informational meeting. . **Why now is there no public meeting?, I would like to request a public information meeting to discuss concerns publically.** Also, the notice did not show up on the Mult co website until late in the day July 6th. I do not feel this is sufficient time to gather our neighbors concerns/comments and understanding of this huge item. **I would also request an extension to this July 14 deadline, so that we have time to prepare and rendor a adequate argument , to become educate and informed.**

2. During the restrictions of Covid 19 put in place by our Governor for limited social gatherings/staying home etc. I do not have ample time nor ability to gather with neighbors or research this issue without extra time. I will need to be creative and come up with "neighborhood concensus and decisions" via Zoom or other video means. This will take time. I am feeling particularly stressed about the deadline. During this time of crisis, it makes sense to me that we would be allowed more time for concerns not less. What is the rush and **please give us more time.** This is our neighbor hood and homes, we deserve time to factor this huge proposal that is being pushed on us.

3. **Why was the 750' distance chosen for notifying neighbors?.** I know that several more neighbors were included in previous WCF applications by this party. **What changed in this recent appl to only require a few neighbors to be notified?.** This will be a very tall tower, well over even my oldest trees that are 100+ feet. Our neighbors to the north deserve to know what will be in their view, especially those elevated and in the Columbia Scenic Gorge. Have the Gorge commision, and Scenic Gorge people been included in this notification and if not why not, it is a KVA and will be greatly impacted by many neighbors.

**Can I request the notification parameters be expanded and an extension deadline allowed?**

4. Who is the Planning director name and contact making this decision?

5. What multnomah county resources, state representatives, community commisioners, do we have to reach out to for support.?

Please call me or answer my questions asap, I await your input.

5037374391

JoAnne

JoAnne S Vincent



*JoAnne S Vincent*



Rithy Khut <rithy.khut@multco.us>

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## regarding a Wireless Cell tower/facility proposal in rural multnomah county

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JoAnne Vincent <jo\_annesv@comcast.net>

Thu, Jul 9, 2020 at 2:10 PM

To: "rep.annawilliams@oregonlegislature.gov" <rep.annawilliams@oregonlegislature.gov> ,

"Sen.chuckthomsen@oregonlegislature.gov" <Sen.chuckthomsen@oregonlegislature.gov>

Cc: brian vincent <bsvincent@comcast.net> , "rithy.khut@multco.us" <rithy.khut@multco.us> , "carol.johnson@multco.us" <carol.johnson@multco.us> , "district14@multco.us" <district14@multco.us> , "Lindsay@emswcd.org" <Lindsay@emswcd.org>



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Hello Senator and Representative,

I am writing you today as I am very concerned home owner, long time resident of rural east multnomah county, about an issue with a proposal in my neighborhood for a wireless cell facility WCF . I recieved notice on july 3, with 14 day period to comment, which is due July 14th 2020 by 4 pm. with the current Covid government restricitons and shut down, I have basically been unable to gather any information from the multno. county planner, phone calls nor emails have not been returned, i called tues july 7th, emailed july7th , multiple calls/emails today. I have been unsuccesful to reach neighbors via phone and have great concerns about this situation. I fail to understand how a pending decision/review can be placed upon an agency that is basically shutdown, in such a hurry, without fair time to let our community gather information /education and provide comments on this huge issue during Covid 19 and government restricitons. Please can you help me to gain an extension or shut down of this activity until we can reach an informed neighborhood decision and plan.

I have attached the notice which was sent to a very limited few of our neighbors.  
please email me a response or courtesy of a call, thank you JoAnne 5037374391

*JoAnne S Vincent*



**T2-2019-12701.pdf**  
4115K





Rithy Khut <rithy.khut@multco.us>

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## T2-2019-12701

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**Jasmine Zimmer-Stucky** <jzimmerstucky@gmail.com>  
To: rithy.khut@multco.us

Fri, Jul 10, 2020 at 4:41 PM



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Mr. Khut,  
Here is my comment for application T2-2019-12701

- I would like the conservation easement extended to cover all of the currently forested area of the property. The current proposed easement extends just 100' and is insufficient for a WCF of this size. A larger conservation easement on the subject property will ensure that if neighboring properties choose to harvest their timber, the WCF will remain suitably concealed.

Thank you,  
Jasmine Zimmer-Stucky  
[30134 E Woodard Rd Troutdale OR 97060](#)







Rithy Khut <rithy.khut@multco.us>

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## T2-2019-12701 Comments from Brian Vincent

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**Brian VINCENT** <bsvincent@comcast.net>

Sun, Jul 12, 2020 at 12:12 PM

To: "carol.johnson@multco.us" <carol.johnson@multco.us>, "rithy.khut@multco.us" <rithy.khut@multco.us>, "land.use.planning@multco.us" <land.use.planning@multco.us>



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Ms. Johnson, Mr. Khut

Please accept and review my comments and concerns regarding this proposed Land Use.

Thank you

Brian Vincent  
330 NE Seidl Rd  
5037374395



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**T2-2019-12701 Verizon Cell Tower Proposal Review -Vincent.pdf**  
482K

July 12, 2020

**Transmitted electronically due to COVID-19 closure of Multnomah County Facilities and resultant inability to deliver in person by deadline.**

**Submission to:** Carol Johnson, carol.johnson@multco.us  
**Cc:** Rithy Khut, rithy.khut@mutco.us  
**Cc:** land.use.planning@multco.us

Multnomah County  
Land Use Planning  
Attn: Ms. Carol Johnson, Planning Director  
1600 SE 190<sup>th</sup> Ave  
Portland, OR 97233

**Re:** Type II Land Use application file: T2-2019-12701, Verizon WCF POR Stinger

I have lived on my property (330 NE Seidl Rd, adjacent to subject site) for over 32 years and have enjoyed the tranquility of a very scenic and unobtrusive rural landscape. This proposal will directly and negatively impact my quality of life, ability to use my property and property value:

I will be exposed to increased EM radiation for which there is no guarantee of my health safety. Many studies suggest long term severe health damage to increased EM exposure.

The installation of 5G capability on this tower is a high probably if not certainty, and 5G impacts on life is unknown.

I will be exposed to the FAA blinking lights 24/7 and will see it from almost any location on my property. I will have direct site to the tower and the lights from 3 of the 4 bedrooms, the main bathroom, the living room, my deck, and essentially everywhere outside within my 13.9 acres.

I will be exposed to generator noise form the hours of 8a-8p with no limitation of usage as the generator is exempt.

I will offer that my residence is THE most impacted by this installation as we are closest to the tower other than the property owner. One of the owners is now deceased, the other is very elderly and in poor health and is living several miles away. The heirs no not live here and the on-site residence will most probably remain unoccupied.

I challenge many of the assumptions stated by the applicant that one of the primary drivers behind increased coverage ability is for reception in vehicles. I have driven the poorest reception area in this zone for my entire 32 years here. The no signal area is quite limited and you are in reception areas again

within a few minutes. The bigger question is WHY is the mobility component such a focus when cellular use in vehicles is restricted to hands free anyway. Even then, hands free cell phone usage is rarely a necessity and leads to distracted driving, a documented contributor for vehicular accidents.

I believe the applicant has insufficiently performed the research to find the “least impactful” site and is relying on a site of convenience, definitely avoided the Columbia River Gorge National Scenic area which abuts the northern property line of both my and the site property. In addition to my comments above, the specific notes below provide rationale as to why this application should be rejected. In overall summary, I believe that applicant has failed to meet the criteria required in MCC 39 to approve this application.

- The Pre-application conference for this site was held on April 25, 2019. This application was submitted on Nov 19, 2019. The applicant did not comply with the requirement of Type II submittal within 6 months of the pre-application conference required by MCC 39.1120 (D). As required by 39.1120 (D), the applicant is required to conduct another pre-application conference. This application should be rejected until a new pre-application condition is met.

- Nov 15, 2019 letter of submittal from Black Rock to Multnomah County Planning Division.

The proposed intent of service upgrade is not consistent with my personal experience. Black Rock states that the target search area is along Seidl Rd, north of E Woodard. In 32 years at my residence (the exact area of the proposed target search area). I have excellent service reception. I believe the summary statement to be misleading and inaccurate.

- p. 7 – Introduction. The applicant states that there are no residences within 400 ft of the proposed facility. By my measurements, my residence is 360 ft away from the monopole.
- At the bottom of p.2 of the introduction, the applicant states **“The proposed communication facility will not interfere with surrounding properties or their uses, and will not cause interference with any electronic equipment, such as telephones, televisions, or radios. Noninterference is ensured by the Federal Communications Commission (FCC) regulation of radio transmissions”**. The applicant is not qualified to make a generic overall impact statement regarding “interference with surrounding properties or their uses”. I will see the tower many times every day and exposed to the artificial intrusion in this scenic rural area. There are ongoing concerns and studies of the impact of RF and Microwave technology and the impact to both human, animal, insect and flora in general. Specifically, in the adjacent rural area, we have bee farms, substantial agricultural production for human consumption and natural beauty of the scenic gorge, all of which will be or could be negatively impacted by installation of this facility. The applicant’s statement of no impact is not accurate. The impact of the proposed tower should be evaluated by a third party professional with the full range of impact potential. **This facility will violate the intent of MCC Section 39, because the proposed facility WILL prohibit my ability to fully use and enjoy my property.**

- p.3 System information. The applicant discusses the “search ring” but has not shown any detail of how this was conducted, evaluation of other sites, etc. Based on the criteria listed, there are other

superior sites in the nearby area, but they may be in the NSA and therefore the applicant is choosing a path of lesser resistance vs. best location. The applicant has also not shown other existing facilities that potentially could be augmented to achieve a similar effect. I know personally that the local water district has a storage tower that could be augmented. The City of Troutdale has a water tower that could be augmented. The applicant has NOT shown they have performed the necessary search due diligence and should be rejected.

- p.4 Alternative Sites Analysis and Coverage Objective: The applicant reveals this is a company gap in coverage not necessarily a overall cellular gap in coverage. Quote: ***“To remain competitive, Verizon must improve services in the identified in EXHIBIT F where consumers are increasingly using their phones and data services”***. This application has little to do with service benefit and is clearly profit driven. The applicant has failed to show a public benefit and should be denied.
- The “search ring” is not sufficiently presented as to how it was derived. We are provided a simple statement that the map reflects only two areas in the region that will satisfy the gap of service. Despite that lack of explanation, the justification of location at this site is not sufficiently documented. There is an anecdotal reference to a “drive around”. There are equally if not superior locations within the Seidl Rd area which would achieve the same objective but appear to have not even been considered. I have never been contacted and to my knowledge, my neighbors have never been contacted about location of a facility. In conclusion, the chosen site appears to be one of convenience not of “least impactful”. Four other parcels within the assumed limitation (search ring), provide similar coverage options yet are located more near the ridge line and are further away from any residences. The applicant has not sufficiently shown the justification of the search ring and then within that assumed ring, the vetting of the available alternate sites. The applicant has not met a burden of proof to show no other alternate sites are available.
- p. 22 Response to Pre-App Meeting Comments:  
  
5. Real Estate Values. The applicant offers no evidence that there is no negative impact to property values. A driving factor in the real estate value in this area is scenic beauty and a natural setting. The placement of a cellular tower with imitation vegetative cover will detract from that component of value. There is negative impression of RF and microwave emissions and the potential health effects. There is a large volume of discussion, tests and data suggesting negative health impacts resulting from EM exposure, most for distances greater than what I will be exposed to. Whether substantiated or not, the resultant impact of that concern from a potential buyer is a decrease in value and / or an outright avoidance of the parcel and therefore a smaller buyer’s pool. Either way, there is a direct negative impact to the valuation of adjacent properties. I suggest that if Verizon is so confident in their statement of no decrease in valuation, they offer to purchase adjacent properties at the current market value. Verizon could then simply re-sell the property at no loss. At present, all risk associated with devaluation of property is expected to be absorbed by the adjacent

property owners. This is an unreasonable expectation, especially given the fact that property owners adjacent to this facility won't even benefit from the presumed increase in service area.

- p.22 Conclusion: The applicant has NOT shown that this is the least intrusive location, simply a convenient one. Insufficient research was conducted and therefore this application should be denied or returned for increased site analysis.
- Site plans
- Sheet A2: show an elevation view of the proposed tower with at a height of 156 ft. The sketched in top of natural tree show an approximate elevation of less than 114 ft leaving a 42 ft reveal of the "concealed" technology. This is not concealed and clearly interrupts the view of the natural and scenic beauty of the area. The site is adjacent to the Columbia River Gorge Natural Scenic area. The 42 ft clearance will easily be seen from the entire surrounding area, much of which is located within the NSA. **MCC 39.7710 defines visually subordinate to be: 2 • The relative visibility of a wireless communication facility, where that facility does not noticeably contrast with the surrounding landscape. Visibly subordinate facilities may be partially visible, but not visually dominate in relation to their surroundings.** The proposed tower does not meet the requirements of this code section due to the excessive height above the surrounding tree line and is therefore NOT visibly subordinate but is actually dominant.
- Sheet L-1: Tree removal plan. The notes state that tree removal will be minimized. Yet some large trees not within the needed site plan area are indicated for removal. This is a contradiction to the commitment to "minimize". These trees are being removed out of convenience not necessity. This unnecessary removal further compromise the alleged "concealment" of this structure. Specifically, two DF are some of the largest trees near the site and removal will further expose this structure to my daily view. The tree removal along the proposed site access driveway is unnecessary and they should all be retained. This landscaping plan clearly does not meet the requirements of MCC [(39.7740 (11)(a))]. ***(11) Landscape and Screening. All WCFs shall be improved in such a manner so as to maintain and enhance existing native vegetation and suitable landscaping installed to screen the base of the tower and all accessory equipment, where necessary. To this end, all of the following measures shall be implemented for all ground mounted WCFs including accessory structures, and should be rejected.***

*A further note on tree removal. It is a well-known fact that removal of large trees from an established stand of trees, subjects the remainder of that stand to increased fall potential from windblow. The predominate wind direction is Easterly. The removal of these trees will subject the adjacent trees to windfall and then a progressing wave of windfall towards my property and my stand of mature DF trees, resulting in both loss of landscape beauty and potential future*

*revenue source.*

In summary, I am extremely opposed to this application because the applicant has not performed sufficient research to claim the position of “least impactful”. The search ring exhibit (Exhibit E) did not provide the science behind how it was derived and the resultant locations that would provide adequate coverage are expected to be taken on faith. The “visual inspections” (a.k.a. drove the area) is not accurate with the surrounding area. The presentation is all centered on how this location fits the assumed parameters. There are other locations which should adequately serve the same need but be less impactful to the surrounding residences.

The applicant has failed to show in sufficient detail how the proposal meets the criteria and should be rejected.

Sincerely,

Brian S Vincent  
330 NE Seidl Rd  
Troutdale, OR 97060



Rithy Khut <rithy.khut@multco.us>

## T2-2019-12701

Mia Schreiner <miaschreiner@gmail.com>

Sun, Jul 12, 2020 at 9:09 PM

To: Rithy.khut@multco.us, carol.johnson@multco.us, land.use.planning@multco.us



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July 12, 2020

Regarding Case File: T2-2019-12701

Rithy Khut and the Multnomah County Planning Division:

I am opposed to the application for building a Verizon cell phone tower off of Woodard Road in Troutdale (adjacent and north of [29501 E Woodard Rd, Troutdale](#), Tax Lot 600, Section 31DB, property ID# R322458). I did receive the notice via mail, as my property at Woodard and Seidl Rd falls within the 750 foot radius from the proposed site. I also attended the pre-application conference last year in April to oppose the cell phone tower. I feel that the applicant should be required to participate in another pre-application conference rather than submit an application, as more than 6 months has passed since the conference in April 2019 (as per MCC 39.1120). All of us neighbors were shocked when over a year later, this application notice came in the mail with only 14 days to respond.

I do not feel that an alternative site analysis was thoroughly performed. There are superior sites to the proposed site. For example, the Corbett water tower up by Hurt Road is already an existing structure, so no tower would have to be built. In addition, the water tower sits at a higher land elevation than the proposed site off of E Woodard Rd, which only has an elevation of about 330 feet above sea level. I have heard that the Corbett water district board would really appreciate the extra revenue that would be generated by having the cell tower attached to the water tower. This makes more sense to a taxpaying citizen than to place the tower on private property, where it only benefits the owner of that property.

I do not feel that the applicant has proven that a cellular gap in coverage exists that would necessitate having a cell tower in this location.

The proposed cell phone tower is not visually subordinate to the surrounding trees where it is proposed to be placed (violation of MCC 39.7710). The tower is proposed to be 156 feet tall, and the surrounding trees are only 114 feet tall or less. Hence, the tower will not be concealed. It would be immediately adjacent to the Columbia River Gorge National Scenic Area and in violation of the preservation of the scenic beauty of this area.

I did not see in the proposal whether this cell tower is 4G or 5G. I am aware that it is possible to declare an emergency moratorium if 5G is proposed now or in the future (33 FCC 18-111 Sec 157).

Lastly, I oppose the cell tower as it violates the dark sky lighting standards in MMC 39. Even if shielding is applied to the tower, the flashing lights directed at oncoming aircraft will increase light pollution in the National Scenic Area.

In conclusion, I do not feel that the applicant has proven that the cell tower is needed, that the proposed location is the best site rather than considering an existing structure, and that the tower would meet the aesthetic goals, especially the more stringent criteria of the Columbia River Gorge National Scenic Area.

Sincerely,

Mia Schreiner

[28725 E Woodard Rd](#)

[Troutdale, OR 97060](#)

EXHIBIT

D.5



Rithy Khut <rithy.khut@multco.us>

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**T2-2019-12701**

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**Dave Flood** <dsf730@aol.com>

Mon, Jul 13, 2020 at 12:06 PM

Reply-To: Dave Flood <dsf730@aol.com>

To: "rithy.khut@multco.us" <rithy.khut@multco.us>



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I'm writing to support this cellphone tower land use application. It appears to meet all required planning and zoning criteria (although the vast volume of regulations makes it difficult for a novice to fully review).

Dave Flood  
31708 NE Wand Rd  
Troutdale OR 97060  
503-803-5244

EXHIBIT  
D.6





Rithy Khut <rithy.khut@multco.us>

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## Cell Tower Case File: T2-2019-12710

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**Mark and Ali** <maknieriem@comcast.net>  
To: rithy.khut@multco.us

Mon, Jul 13, 2020 at 2:15 PM



**External Sender** - Be Suspicious of Attachments, Links, and Requests for Payment or Login Information.

Hello Rithy,

Attached is comment from Chris Winters. He would like decision emailed to him at [chris@wintersfarms.com](mailto:chris@wintersfarms.com). I am emailing this on his behalf.

Thank you,

Alison Knieriem



**Chris Winters Comment.pdf**  
332K

CS File: TZ-2019-12701

Chris C. Winters  
29446 E Woodward Rd  
Bountable OR 97060  
503 970 4719

To Mult Co. Planning & Land Use

That Radio Tower or Cell towers  
need to be placed inside the  
urban growth Boundary not out  
side with all the Land Use  
restrictions that have been placed  
upon us

Chris C. Winters  
chris@wintersfarms.com



Rithy Khut <rithy.khut@multco.us>

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## Cell Tower Case file T2-2019-12710

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**Mark and Ali** <maknieriem@comcast.net>

Mon, Jul 13, 2020 at 2:19 PM

To: rithy.khut@multco.us



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Rithy,

Attached is comment from Donna Davis another neighbor of ours. She also would like decision emailed to her. Her email is [papananny141@aol.com](mailto:papananny141@aol.com). I am emailing you on Donna Davis's behalf.

Thank you,

Alison Knieriem



**Donna Davis comment.pdf**

178K

EXHIBIT

D.8

July 10, 2020

To Whom It May Concern:

My family and I are very much against having a cell tower in our neighborhood. We can look across the Sandy River from here and see two of these towers with their red lights blinking in the distance. The thought of having that large blinking light almost across the street is not a welcome thought. Why put this in such a populated area? Why not out further where there are less homes and not neighbors so close?

This property has been in my family since 1895 and the generations have enjoyed the quietness of living in this area of farms growing crops and raising cattle and certainly don't need this intrusion.



Donna Davis

29610 E. Woodard Road

Troutdale, OR 97060

Email adress: papananny141@aol.com



Rithy Khut <rithy.khut@multco.us>

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## Cell Tower Case file T2-2019-12701

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**Mark and Ali** <maknieriem@comcast.net>  
To: rithy.khut@multco.us

Mon, Jul 13, 2020 at 2:20 PM



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Rithy,

Attached is George and Donna Knieriem's comment. They would like the decision emailed to them at [knieriem1@msn.com](mailto:knieriem1@msn.com). I am emailing this on their behalf.

Thank you,

Alison Knieriem



**George and Donna Knieriem comment.pdf**  
269K

EXHIBIT

D.9

July 7, 2020

RE: Case File: TZ-2019-12701

Dear Sirs,

After reading the letter sent from your office, I thought deeply about why I am not in favor of this light being installed near our home on Woodard Road.

My parents bought this place nearly 80 years ago. We have enjoyed the peace and quiet of this hill for over 50 years ourselves.

We have no desire to live in an area, very quiet and peaceful to begin a slide down into **commercialism**.

We have been limited in many ways by this county to share or even make the minuest change on the use of this property. Why would you allow someone coming from outside of this area to begin to add overt "money-making projects"?? We love this area because it is **Country Living**.

George & Donna Knieriem

Knieriem1@msn.com

29735 E. Woodard Rd  
Troutdale, OR 97060





Rithy Khut <rithy.khut@multco.us>

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## Cell Tower Case file T2-2019-12701

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**Mark and Ali** <maknieriem@comcast.net>  
To: rithy.khut@multco.us

Mon, Jul 13, 2020 at 2:26 PM



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Rithy,

Attached is our comment concerning the cell tower application proposed here on Woodard Rd.

Thank you,

Mark & Alison Knieriem



**Cell Tower Comment.docx**  
16K

July 12, 2020

Department Of Community Services  
Land Use Planning Division  
1600 SE 190<sup>th</sup> Ave  
Portland, OR 97233

RE: Case File T2-2019-12701, concerning proposed cell tower

Dear Planner,

We (Mark and Alison Knieriem) are property owners at 29805 E Woodard Rd and are very much against any approval and construction of a cell tower on property ID #R322458. We believe a cell tower is inappropriate and not wanted in our rural and unique community east of the Sandy River.

I would like to comment concerning the purpose of MUA-20 as written by Multnomah County Land Use and Dark Sky Lighting.

Concerning the purposes of MUA-20 zoning as written by Multnomah County Land Use:

*The purposes of the Multiple Use Agriculture District are to conserve those agricultural lands not suited to full-time commercial farming for diversified or part-time agriculture uses; to encourage the use of non-agricultural lands for other purposes, such as forestry, outdoor recreation, open space, low density residential development and appropriate Conditional Uses, when these uses are shown to be compatible with the natural resource base, the character of the area and the applicable County policies. (MCC39.4300)*

The above-mentioned purposes as set forth by Multnomah County Land Use states that conditional uses are to be compatible with the character of the area. A cell tower is not compatible with the character of the area even though concealment technology is proposed to be used. The cell tower will clearly be above the natural tree line and the concealment technology lacks greatly in looking like natural trees. In addition, what really makes this cell tower stand out even more is a red blinking light. It does not comply with MCC 39.4300.

In order for a typical monopole to be permitted, the location must allow for it to blend with surrounding existing natural environment in such a manner so as to be visually subordinate according to MCC 39.7710. MCC 39.7710, which is one of the criteria that must be met, defines "visually subordinate" to be:



*“The relative visibility of a wireless communication facility, where that facility DOES NOT NOTICABLY CONTRAST with surrounding landscape. Visibly subordinate facilities may be partially visible, BUT NOT VISUALLY DOMINATE IN RELATION TO THEIR SURROUNDING”.*

Although the monopole is proposed to be located within trees using concealment technology, it will extend at least an additional 55’ above the surrounding trees which have an average height of 100’. Not only will it be above the trees, it will have a red blinking light on it which will draw attention to it. The light alone is NOT in compliance with the natural environment and WILL NOTICABLY CONTRAST with the surrounding landscape. Not only will the surrounding properties see this “beacon” (which by definition is a light set up in a high or PROMINENT, VISIBLE position as a warning, signal or celebration), property owners located on the slope of Chamberlain Hill as well as property owners on Lampert Rd, who all have beautiful undefiled panoramic views will see this red blinking beacon that WILL DOMINATE THEIR VIEW. The light cannot and will not blend in and will dominate in relation to its surroundings. Therefore, the proposed cell tower DOES NOT comply with MCC 39.7710.

I would like to mention that the Applicant stated two reasons for not locating the monopole at Sunrise Park in Troutdale. One reason was due to the monopole interfering with property owners’ **views** of Mt. Hood. How is this different from the **views** of the property owners on Chamberlain Hill, Lampert Road and properties that surround proposed location of the monopole on Woodard Rd? I see no difference.

The Applicant also included before and after pictures (from submitted application materials) from different locations around our area during the day. Again the concealed monopole in the pictures is not how it will actually look. It will be taller and have a red blinking light on top of it. The Applicant failed to provide pictures how the cell tower would look like at night. This violates the purpose of Dark Sky Lighting Standards because the red blinking light will degrade the nighttime visual environment of our whole community. It is unfortunate that the Applicant’s chosen location for the cell tower is in the flight path of aircraft approaching Troutdale Airport which requires the installation of a red blinking light.

In conclusion as tax paying property owners, we have had to comply with strict MUA-20 criteria/restrictions as to what we can and cannot do with our properties. It is hard to understand why Land Use code/criteria has been written to allow cell towers to be constructed in our MUA-20 zoned area that has nothing to do with mixed use agriculture. It seems that we are ultimately and sadly not protected. Please consider what has been discussed in this comment and deny application to construct a cell tower on Woodard Rd.

Sincerely,

Mark & Alison Knieriem  
29805 E Woodard Rd  
Troutdale, OR 97060

[maknieriem@comcast.net](mailto:maknieriem@comcast.net)



Rithy Khut <rithy.khut@multco.us>

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## Cell Tower Case File: T2-2019-12701

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**Pamela Teseniar** <pteseniar@gmail.com>  
To: rithy.khut@multco.us

Mon, Jul 13, 2020 at 7:56 PM



**External Sender** - Be Suspicious of Attachments, Links, and Requests for Payment or Login Information.

Attached are two letters in opposition to the Monopine Cell Tower that is being considered at [29501 E Woodard Rd, Troutdale](#)

Thank you for your consideration of our opposition to this matter.

Should you have need of any more information, you may contact me at (503) 740-1482

Pam Teseniar

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### 2 attachments



**Cell Tower opposition.docx**  
14K



**Letter against tower Alyssa.docx**  
32K

EXHIBIT

D.11

I am writing this letter in **opposition** to the 150 foot tall monopine wireless communication (cell tower) facility that is under review to be placed at 29501 E Woodard Rd in Troutdale.

I live at 29635 E Woodard Rd and have concerns about the effects of the strobe lighting day and night and the wireless electromagnetic waves that will be sent into the atmosphere.

Night lighting has been shown through various studies to cause bees to become confused and birds to no longer migrate in their regular pattern. There are 2 large truck farms and bee keepers within this area. Without the bees, there will be no pollination and the crops that are grown here, will no longer produce efficiently. Bee colonies have been dying out and it is our duty as keepers to do all we can to keep them alive and healthy.

The area that has been requested for the (cell tower) is under a **dark sky ordinance** which does not allow for bright lights to shine upward. No one is to keep their outdoor lights on continually or to have them shine up into the sky.

In researching the whys, I found that animals who are subjected to 'artificial light at night' (ALAN) are highly susceptible to loss of vision, temporal disorientation, as their circadian rhythm is disrupted and spatial disorientation which disrupts their navigation system as they often use the moon or the stars for direction.

Furthermore, night lights in particular attract flying insects and it has been shown that 30-40 percent of insects who approach lights at night die soon after.

The electromagnetic waves (especially 5G) have also been shown to cause insects to die. They are at the bottom of the food chain, but without them, birds would not survive and without them other creatures will not have nourishment. Bee colonies have collapsed when near electromagnetic waves as these disrupt a bee's navigation with the earth's natural low power non-pulsating magnetic field and they can then not find their way around to pollinate or return to their colony.

As a neighborhood homeowner, I do not want the tower here. I moved here, 40 years ago looking for quiet, enjoying the wildlife, (cougars, coyotes, bears, deer, fox, raccoons to name a few) gardening and the ability to go outside and look up at the stars on a clear night. The hum of the cell tower along with the lights will disrupt not only my quiet, but that of all that is here.

Lastly, I have a granddaughter who lives with me who has sensory disorder and according to her therapist has autistic tendencies. She thrives on the quiet, night lights do not allow her to sleep well, causing disruptions to her daily routine and constant noise makes it hard for her to process her world. The cell tower lights will disrupt her and though I cannot prove it yet, the electromagnetic waves will likely compromise her thought processes. She already cannot use screen or phone technology for any length of time as it disrupts her thought processes, so continual electromagnetic waves would not be good for her.

I was told that "the county didn't care as long as someone in this neighborhood was willing to have a tower on their property (and get paid for it) and the criteria for them and the tower owner was correct." I am hoping that this is wrong and that you will take everyone who is affected into consideration. Technology is the world, but this is a quiet corner of it and none of the neighbors want this tower. We pay our taxes to live here, and I personally moved here for the quiet and the ability to look up on a clear night and see the stars. Please allow it to say that way.

Pam Teseniar  
29635 E Woodard Rd  
pteseniar@gmail.com

To whom it concerns,

I am writing in regards to **Case File T2-2019-12701**. As a resident this will negatively impact the environment, the animals and people. Cell towers have been proven to destroy the pollination process. With a degree in Biology I can firmly say that when one part of the ecosystem is changed it impacts every other aspect in a negative manner. For instance, farmers and wildlife rely on bees and other insects to pollinate flowers and assist with controlling pests. Cell towers disorient insects preventing them from carrying out their necessary roles in the ecosystem, creating a domino effect in all other areas. The impact can be seen with any species that has been negatively affected.

Not only do cell towers disrupt the ecosystem, they destroy habitat for small rodents as well. When small rodents leave it effects birds, coyotes, wolves, cougars, insect populations as well as the beauty of the natural world. Living in the country we pay more for property to have a spot that nature can reside in. This brings up a deeply personal issue...my kids. Both my children have sensory integration disorders. The dark nights and silent days with natural sounds allows my children to process sensory input. That is why we settled here. Right now there are no pulsing lights from cell towers to disrupt their neurological processing. Adding that in LESS THAN 500 Meters to our house not only exposes them to radiation (see below for the multiple scientific studies) but interrupts their ability to regulate which increases stress on their body and interferes with how they function biologically, cognitively and neurologically.

As you can see from the studies below ranging from 2000 to 2019 Cell towers have negative effects on biology, neurology, plant and animal life, and health to name only a few. This is not simply a matter of one person's opinion, this is proven FACT. Living in the country we have chosen to live a healthier life and by placing your tower at the location you want you are taking away ours and our children's choice to stay healthy! You are forcing your desires on a community that does not choose to disrupt nature and biology. Cell towers have been proven to disrupt both humans, animals and plant life. This is not the place for your tower and for my children's sake I am advocating for this to be moved back into the city and out of our beautiful land.

**Santini 2002**, in a French study, reported an increase in fatigue at 300 meters from the cell towers and remaining symptoms at 200 meters. A follow up **study** by Santini in 2003 revealed that older subjects reported more symptoms and were more sensitive. Duration of exposure of 1 to 5 years did not have an effect on frequency of symptoms but after 5 years there was a significant increase in irritability reported.

**Navarro (2003)** indicates much lower levels of exposure cause adverse health symptoms. The Navarro (2003) **study** on cell towers and "Microwave Syndrome" in Spain found that in those living near cell towers symptoms occurred at low power. He looked at distance from the towers and electromagnetic field exposures and concluded, " Based on the data of this study the **advice** would

be to **strive for levels not higher than** 0.02 V/m for the sum total, which is equal to **a power density of 0.0001  $\mu\text{W}/\text{cm}^2$  or 1  $\mu\text{W}/\text{m}^2$** , which is the indoor exposure value for GSM base stations proposed on empirical evidence by the Public Health Office of the Government of Salzburg in 2002."

**Hutter (2006)**, in an Austrian study, looked at cognitive performance, insomnia and well being in relation to power density of radiofrequency radiation versus reported symptoms in those in rural vs urban settings for more than a year. His study showed an increase in health effects with higher radiofrequency exposure. Important conclusions were that these complaints were independent of patients concern over health effects and that at levels well below current safety standards.

**Abdel-Rassoul (2006)** Researchers looked at neurologic effects of inhabitants living under or across from cell tower base stations versus those far away. They found "The prevalence of neuropsychiatric symptoms such as headache (23.5%), memory changes (28.2%), dizziness (18.8%), tremors (9.4%), depressive symptoms (21.7%), and sleep disturbance (23.5%) were significantly higher among exposed inhabitants than controls: (10%), (5%), (5%), (0%), (8.8%) and (10%)." In addition, "the exposed inhabitants exhibited a significantly lower performance than controls in one of the tests of attention and short-term auditory memory" also, "the inhabitants opposite the station exhibited a lower performance in the problem solving test (block design) than those under the station." All readings were within the standard guidelines. They recommend revision of standard guidelines for public exposure to RER from mobile phone base station antennas.

**Sivan and Sudarsanam 2012 Review of Literature-** The Inter-Ministerial Committee (IMC) covered scientists to review the literature of the effects of RF-EMF radiations on wildlife, humans and the biosphere. In their 2010 MOEF Report they found that out of the 919 research papers collected on birds, bees, plants, other animals, and humans, 593 showed impacts, 180 showed no impacts, and 196 were inconclusive studies

They concluded, "Based on current available literature, it is justified to conclude that RF-EMF radiation exposure can change neurotransmitter functions, blood-brain barrier, morphology, electrophysiology, cellular metabolism, calcium efflux, and gene and protein expression in certain types of cells even at lower intensities. They noted as well that, "Identification of the frequency, intensity, and duration of non-ionizing electromagnetic fields causing damage to the biosystem and ecosystem would evolve strategies for mitigation and would enable the proper use of wireless technologies to enjoy its immense benefits, while ensuring one's health and that of the environment."

#### **Percentage of studies that reported harmful effect of EMR in various groups in MOEF Report**

**Human Effects**– 62% showed effects, 13% no effect and 25% inconclusive

**Plant Effects**– 87% showed effects and 13% were inconclusive

**Wildlife Effects**– 62% showed effects, 4% no effect and 36% inconclusive

**Bee Effects**—85% showed effects and 15% no effect

**Bird Effects**—77% showed effects, 10% no effect and 13% inconclusive

**Shinjo and Shinjo 2014** in an independent cell tower study from Japan, looked at health effects of residents living in a condominium complex from 1998-2009, noting health symptoms before placement of cell towers, during cell tower functioning and after removal of different antennas on the rooftops. They found a significant development of symptoms with placement of the cell towers and a significant reduction in symptoms after removal. The most frequent symptoms were fatigue, loss of motivation, headaches, eye pain, deteriorated eyesight, sleep disturbances, dizziness, jitteriness, rapid heart rate, muscle aches and nasal bleeding.

## Newest Articles

- **500 Meter buffer recommended around schools, hospitals and homes. “Limiting liability with positioning to minimize negative health effects of cellular phone towers.” (2019) Pearce M. Environmental Research, Nov 2019; <https://www.sciencedirect.com/science/article/abs/pii/S0013935119306425>**
- **Analysis of mobile tower radiation and its health effects in Champhai District of Mizoram Lallawmzuala L et al. (2019)** “Analysis of mobile tower radiation and its health effects in Champhai District of Mizoram. 2019 URSI Asia-Pacific Radio Science Conference (AP-RASC), New Delhi, India, 2019, pp. 1-1. <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8738408&isnumber=8738126>
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- **Comparison of radiofrequency electromagnetic field exposure levels in different everyday microenvironments in an international context. (2018)** Sagar S et al. May 2018, Pages 297-306. <https://www.sciencedirect.com/science/article/pii/S016041201731485X>

## Older Published Literature

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- **Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations. (2017)** Zothansama et al. Electromagn Biol Med. 2017;36(3):295-305. <https://www.ncbi.nlm.nih.gov/pubmed/28777669>
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## Occupational Exposures to RF and Immune System –

See also **Military and Government Reports**

- **Radio frequency radiation-related cancer: assessing causation in the occupational/military setting. (2018)** Peleg M et al. Environ Res. 2018 May;163:123-133. <https://www.ncbi.nlm.nih.gov/pubmed/29433020>
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## Animal, Insect, Bacteria and Wildlife Effects of Cell Towers

- **Effect of Mobile Tower Radiation on Microbial Diversity in Soil and Antibiotic Resistance. (2018)** Sharma AB et al. IEEE Explore. 2018 international Conference on Power and Energy, Environment and Intelligent Control. April 13-14, 2018. <https://ieeexplore.ieee.org/document/8665432>
- **Electromagnetic Radiation of Mobile Communication Antennas Affects the Abundance and composition of Wild Pollinators.** Lazaro, A. Journal of Insect Conservation react-text: 61 20(2):1-10, April 2016. [https://www.researchgate.net/publication/301647025\\_Electromagnetic\\_radiation\\_of\\_mobile\\_telecommunication\\_antennas\\_affects\\_the\\_abundance\\_and\\_composition\\_of\\_wild\\_pollinators](https://www.researchgate.net/publication/301647025_Electromagnetic_radiation_of_mobile_telecommunication_antennas_affects_the_abundance_and_composition_of_wild_pollinators)
- **Impacts of radio-frequency electromagnetic field (RF-EMF) from cell phone towers and wireless devices on biosystem and ecosystem—A review. (2013)** Sivani Saravanamuttu. January 9. 2013. [https://www.researchgate.net/publication/258521207\\_Impacts\\_of\\_radio-frequency\\_electromagnetic\\_field\\_RF-EMF\\_from\\_cell\\_phone\\_towers\\_and\\_wireless\\_devices\\_on\\_biosystem\\_and\\_ecosystem-A\\_review](https://www.researchgate.net/publication/258521207_Impacts_of_radio-frequency_electromagnetic_field_RF-EMF_from_cell_phone_towers_and_wireless_devices_on_biosystem_and_ecosystem-A_review)
- **Report on Possible Impacts of Communication Cell Towers on Wildlife Including Birds and Bees.** (2010) The Ministry of Environment and Forest. [http://www.moef.nic.in/downloads/publicinformation/final\\_mobile\\_towers\\_report.pdf](http://www.moef.nic.in/downloads/publicinformation/final_mobile_towers_report.pdf) or <http://www.indiaenvironmentportal.org.in/content/341385/report-on-possible-impacts-of-communication-towers-on-wildlife-including-birds-and-bees/>
- **Mobile phone mast effects on common frog (Rana temporaria) tadpoles: the city turned into a laboratory. (2010)** Balmori A. Electromagn Biol Med. 2010 Jun;29(1-2):31-5. <https://www.ncbi.nlm.nih.gov/pubmed/20560769>

- **Electromagnetic pollution from phone masts. Effects on wildlife. (2009)** Balmori A. Pathophysiology. 2009 Aug;16(2-3):191-9. <https://www.ncbi.nlm.nih.gov/pubmed/19264463>
- **The Skrunda Radio Location Case** <https://www.sciencedirect.com/science/article/pii/0048969795049134>

## Adverse Health Symptoms Near Cell Towers

The majority of published studies in different countries have shown a relationship between distance from base stations and a variety of health complaints. They have found that the closer to the towers people live there is an increase incidence of reported physical symptoms including those below. These are the same symptoms that military personnel working on radar have experienced, people who have microwave illness (AKA electrosensitivity) experience and also similar to what Cuban and Chinese Diplomats reported in unusual "attacks" in 2017. See [\(Cuban Diplomats Likely Hit by Microwave Weapons -New York Times \)](#)

- headaches
- insomnia
- dizziness
- irritability
- fatigue
- heart palpitations
- nausea
- loss of appetite
- feeling of discomfort
- loss of libido
- poor concentration
- memory loss
- neuropsychiatric problems such as depression.

<https://mdsafetech.org/cell-tower-health-effects/>

### Decline in cognition

Study here- **"Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students' Cognitive Health"** Mao SA et al. American Journal of Men's Health. December 7, 2018. <https://journals.sagepub.com/doi/10.1177/1557988318816914>

Thank you for reading this letter and I sincerely advocate for this tower to NOT BE BUILT!

Alyssa Denney

a.tess@hotmail.com





July 14, 2020

Comments submitted electronically due to Covid 19 closure of Multnomah County facilities.

Please give courtesy of response that this was received

I will attempt to deliver a hard copy as photographs are included.

Submission to :

Carol Johnson , Planning Director of Multnomah County, [carol.johnson@multco.us](mailto:carol.johnson@multco.us)

Cc: Rithy Khut, Planner [rithy.khut@multco.us](mailto:rithy.khut@multco.us)

Cc [land.use.planning@multco.us](mailto:land.use.planning@multco.us)

Regarding: Type II Land Use application File T2-2019-12701, Verizon WCF POR Stinger

14 day opportunity to comment

I am in opposition of this WCF for many reasons and will explain those specifically in each criteria area outlined in the application and to address each of the MC codes. I do not feel the applicant has met the burden of proof nor convinced me of the safety and well being of my home, household, neighborhood nor environment. I would also like to reiterate that during this Covid 19 pandemic with governmental restrictions, and MC closures, I have had significant impact and duress on my ability to respond with informed/ educated comments as there was very little time allowed of the 14 day mandated period. This, coupled with the nature of July holiday weekend, was very troubling to me that an issue of such great significance and importance would be forced upon us so abruptly for an application that has been in processing as early as August 2016. What is the rush after this lengthy and expensive process, shouldn't our taxpayers and law-abiding citizens be awarded a fair and adequate time period for reflection and gathering of information to make an informed comment.?

( I received the notice from usps on July 3rd, offices were closed on business days 7/3, 7/6, and then emails phone calls were not returned until July 9th, late afternoon, which left me technically with Friday July 10, and Tuesday July 14 to connect with government officials/and multnomah co personnel. Monday July 6 and 13, mult co was closed, and Fridays many of our county commissioners are furloughed).

My name is JoAnne Vincent, I live at 330 NE Seidl rd. Troutdale, Oregon 97060. I have owned and resided at this residence since 1988 with my husband Brian Vincent, and our family. We own approx. 13.9 acres zoned EFU directly west and adjacent to the proposed site for a WCF 156' cellular tower. Drawings and exhibits show that the proposed tower will be approx. 360' from the back corner of our house/dwelling. Opposition to cell towers is increasing throughout the U.S. due to health and safety risks, liability risks, environmental risks, and concerns about reduced property value. Oregon for Safer Technology recently helped defeat a 4G cell tower application at a University in southern Oregon.





. <https://www.or4safertech.org/> I intend to work familiarize myself with this group to learn more about the risks and impact on my life, dwelling and family. Many groups including American Cancer Society, Environmental Health Trust and MDsafeTech are mounting concerns for cell towers in residential areas. I sleep, eat, recreate, live and thrive in my home and grounds and cannot accept that this cell tower is a required device in this neighborhood so close to residential homes and animal/insect/wildlife/forest habitat. Our cellular and internet services seem sufficient this tower seems redundant to me, I question the "need" for another tower here.

We have outbuildings to the north of our dwelling, of significance is a livestock barn where 4 horses reside within 430' of the WCF tower'. For my livestock to access our lower pasture for grazing they need to walk through our easternmost livestock transit pathway on our land, which is approx. 272' away from the tower. I believe I will have to relocate my livestock/ shelter at great expense as they will not pass directly under this tower to access their grazing pasture.

I have concerns about the environment, the wildlife and my pets/animals. I do not think the applicant has provided the necessary criteria to "not interfere" with our neighborhood lifestyle, nor have they provided the least intrusive plan to limit impact.

I have concerns about my property value and desirability to live here. I have enjoyed living here for 32 years but we will suffer greatly if this tower proposal is accepted. My life, liberty and pursuit of happiness will be greatly degraded.

I will address these concerns in the appropriate code areas later in this letter.

**For this application to be approved, the proposal will need to meet the applicable approval criteria below:**

Regarding § 39.1515 CODE COMPLIANCE AND APPLICATIONS. (B) For the purposes of this section, Public Safety means the actions authorized by the permit would cause abatement of conditions found to exist on the property that endanger the life, health, personal property, or safety of the residents or public.

***JV COMMENT:* Conditions that exist that endanger the life, health, personal property or safety of the residents include noise, lighting and/or radioactive emission or frequencies( emf) detrimental to the health and lifestyle of human life, animal life, wildlife, insects, birds, plant life, and forest. My home/dwelling, and working farm land and recreational leisure yard/garden areas will be within 360' of the proposed tower. I do not feel the applicant has in any way provided research, scientific facts, nor compliance with FCC guidelines, EPA recommendations nor any proof that convinces me that my life, the lives of my family and guests are not in extreme danger from EMF and radiation effects from this WCF being in such close proximity to my home. I FEEL THAT THAT THE EMF AND RF EMISSIONS I AND MY FAMILY WILL BE SUBJECTED TOO ARE VERY GREAT AND I FEAR FOR MY HEALTH AND WELL BEING. TO DATE, MOST STUDIES I HAVE FOUND WERE**

**BASED ON TOWERS 300-600 METERS AWAY FROM RESIDENTIAL AREAS. STILL THE HEALTH RISKS ARE GREAT, IN THIS SITUATION THE TOWER IS PROPOSED TO BE WITHIN 400 FEET OR LESS OF MY HOME, OUTBUILDINGS, AND PROPERTY. I AM NOT ASSURED THAT MY HEALTH WILL NOT BE IMPACTED BY THIS TOWER AND I REQUEST A LETTER OF INTENT TO PROVIDE HEALTH INSURANCE AND/OR REIMBURSEMENT IN THE EVENT I DEVELOP SYMPTOMS OF HYPERSENSITIVITY, CANCER, OR ANY OTHER ILLNESS FROM EMF/RF EMISSIONS.**

**My horses, who are extremely sensitive to and will not tolerate the sounds, lighting or soundwave/radio wave emissions, will no longer have safe access from their grazing lands that are south of the subject tower, on my property, to from their shelter/water/feed that is presently on my property northwest of the subject tower and is connected via an access pathway on the eastern side of our property. This distance spans an approximate 300' length to gain access from barn/shelter to grazing land and is within ~260' of the proposed tower. Horses react very strongly to electromagnetic waves as in an electric fence. I fear this tower will mitigate my pasture and shelter access for my livestock. The applicant should be held accountable for expense and emotional duress /stress to myself and my livestock to alleviate this conditional impact.**

**Wildlife, pets, insects, birds, and bees are not protected, shielded or concealed from these conditions of impact. We have threatened species living in our forest, the northern spotted owl for 1. We have pileated woodpeckers and multitudes of bats, insects, bees, and birds that thrive here. IN CONCLUSION I DO NOT FEEL THE BURDEN OF PROOF HAS BEEN MET BY THE APPLICANT IN REGARDS TO ENDANGERMENT OF MY LIFE, HEALTH AND PERSONAL PROPERTY. DUE TO EMF EMISSIONS, LIGHTS, SOUNDS AND I BELIEVE THE APPLICATION SHOULD BE DENIED.**

§ 39.6850 DARK SKY LIGHTING STANDARDS. (A) The purpose of the Dark Sky Lighting Standards in this Section is to protect and promote public health, safety and welfare by preserving the use of exterior lighting for security and the nighttime use and enjoyment of property while minimizing the obtrusive aspects of exterior lighting uses that degrade the nighttime visual environment and negatively impact wildlife and human health. (C) The following standards apply to all new exterior lighting supporting a new, modified, altered, expanded, or replaced use approved through a development permit and to all existing exterior lighting on property that is the subject of a development permit approval for enlargement of a building by more than 400 square feet of ground coverage. (1) The light source (bulbs, lamps, etc.) must be fully shielded with opaque materials and directed downwards. "Fully shielded" means no light is emitted above the horizontal plane located at the lowest point of the fixture's shielding. Shielding

must be permanently attached.. (2) The lighting must be contained within the boundaries of the Lot of Record on which it is located. To satisfy this standard, shielding in addition to the shielding required in paragraph (C)(1) of this section may be required.

***Jv COMMENT:***

***THERE HAS BEEN NO MENTION OF SHIELDING OF OUR HOME AND OUTBUILDINGS. I REQUEST ADDITIONAL SHIELDING FROM LIGHT AND EMF. THE QUALITY OF LIFE , INCLUDING NIGHT SKY AND RECREATIONAL ACTIVITIES ON MY PROPERTY WILL BE GREATLY DEGRADED. THE SAFETY AND PROTECTION OF MY LIVESTOCK IS A CONCERN, THEY ARE HIGHLY SENSITIVE TO LIGHT, SOUNDS AND EMISSIONS, I WILL HAVE TO RELOCATE THEM AND THEIR SHELTER AT GREAT EXPENSE. THE FOLLOWING IS MENTION OF TYPE OF LIGHTING PROPOSED WITH NO MENTION OF SHIELDING. .***

***E1 lighting system. Top mounted medium intensity dual red and white flashing 2 single red flashing midway up APPROX. 78' IN HEIGHT.***

***Exhibit Q***

***Exhibit Z reflected downward light site sheet A1.1***

***WILDLIFE INCLUDING OWLS, BATS AND OTHER NOCTURNAL ANIMALS THRIVE IN THIS AREA OF EAST MULTNOMAH COUNTY, AND I DO NOT AGREE THAT THE APPLICANT HAS CONSIDERED THE IMPACT TOWARDS THIS WILDLIFE NOR OUR ENVIRONMENTAL FORESTS AND FARMING. I BELIEVE AN ENVIRONMENT ASSESSMENT MUST BE CONDUCTED AS PER FCC GUIDELINES. WE HAVE A THREATENED SPECIES LIVING IN OUR MIDST, THE NORTHERN SPOTTED OWL FOR WHICH IMMEDIATE CONCERN SHOULD BE INCLUDED IN THIS APPLICATION. (5)***

***<https://www.fcc.gov/wireless/bureau-divisions/competition-infrastructure-policy-division/tower-and-antenna-siting>***

***IN CONCLUSION, I DO NOT FEEL THE APPLICANT HAS PROVIDED THE BURDEN OF PROOF NOR HAS THE CRITERIA FOR THE IMPACT ON DARK SKY LIGHTING BEEN MET. I BELIEVE THE APPLICATION SHOULD BE DENIED.***

**§ 39.7725 GENERAL REQUIREMENTS.**

(A) No WCF shall be constructed or operated within unincorporated Multnomah County until all necessary approvals and permits, whether local, state, or federal, have been secured.

**JV COMMENT; I THINK WORK INCLUDING GRADING SOIL, REMOVING VEGETATION, AND/OR TREES HAS BEEN INITIATED IN THE AREA PRIOR TO THIS APPLICATION BEING ACCEPTED, WHICH IS DIRECTLY IN NON COMPLIANCE WITH FCC GUIDELINES POSTED BELOW.**

**“Grading soil, removing vegetation, clearing an area or otherwise beginning construction or building without following these requirements or before completion of the FCC’s environmental process can constitute a violation of FCC rules and subject the party to**

**potential enforcement action. Granting of a license is NOT an authorization to build unless all environmental review requirements have been met."**

§ 39.7735 APPLICATION SUBMITTAL REQUIREMENTS For an application for a Planning Director Review or Building Permit Review to be deemed complete the following information is required: (A) Co-location of antennas upon existing towers or structures. (1) An accurate and to-scale site plan showing the location of the tower, or structure upon which the proposed antenna is to be mounted including guy anchors (if any), antennas, equipment cabinets and other uses accessory to the communication tower or antenna. The site plan shall include a description of the proposed antenna including use of concealment technology if applicable; (2) A report/analysis from a licensed professional engineer documenting the following for each antenna. (a) Antenna height above ground, design, dimensions, wind load rating, gain and radiation pattern; (b) Failure characteristics of the antenna and documentation that the site and setbacks are of adequate size to contain debris; and (c) Ice hazards and mitigation measures that can be employed. (3) A statement documenting that placement of the antenna is designed to allow future co-location of additional antennas if technologically possible. (4) Plans showing the connection to utilities/right-of-way cuts required, ownership of utilities and access easements required. (5) Documents demonstrating that necessary easements have been obtained. (6) Documentation that the ancillary facilities will not produce sound levels in excess of those standards specified below in the Approval Criteria for lands not zoned Exclusive Farm Use.

**Jv COMMENT: I BELIEVE A GENERATOR WILL BE VERY EVIDENT AND PRODUCE LOUD SOUNDS TOWARD MY NEIGHBORING PROPERTY. I DO NOT BELIEVE THE APPLICANT HAS MET THE BURDEN OF PROOF FOR SOUND LEVELS FOR A GENERATOR IN THIS AREA.**

**MY PROPERTY IS EFU AND I HAVE FARMED LIVESTOCK AND PLANT/CROP FOR MANY OF THE PAST 32 YEARS AS A RESIDENT. I DO NOT SEE THAT SOUND LEVEL STANDARDS HAVE BEEN DOCUMENTED BY THE APPLICANT, FOR FARM LIVESTOCK, INSECTS, BIRDS, BEES AND DOMESTIC PETS ON MY EFU PROPERTY, MY HORSES ARE EXTREMELY SENSITIVE TO SOUND, FOR EXAMPLE NEAR A LOW VOLTAGE ELECTRIC FENCE WITH VERY LITTLE SOUND IN THE HUMAN DECIBEL RANGE, THEY WILL NOT GO NEAR AND IT COULD CAUSE HEALTH AND MANAGEMENT DIFFICULTIES. I CANNOT CONTINUE TO ENJOY AND UTILIZE MY EFU ZONED PROPERTY IN THE MANNER I HAVE BECOME ACCUSTOMED TO, WITH SOUNDS COMING FROM THE WCF TOWER. I DO NOT CONCLUDE THAT THE CRITERIA FOR SOUND EFFECTS ON WILDLIFE, LIVESTOCK AND OTHER ANIMALS HAS BEEN MET BY THIS APPLICANT AND THE APPLICATION SHOULD BE DENIED.**

(7) If ancillary facilities will be located on the ground, a landscape plan drawn to scale showing the proposed and existing landscaping, including type, spacing, and size. (8) A map of the county showing the approximate geographic limits of the "cell" to be created by the facility. This map shall include the same information for all other facilities owned or operated by the applicant within the county, or extending within the county from a distant location, and any existing

detached WCF of another provider within 1,000 feet of the proposed site. (9) Documentation demonstrating compliance with non-ionizing electromagnetic radiation (NIEER) emissions standards set forth by the Federal Communications Commission as outlined in A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance, or a subsequent FCC publication delineating required radiofrequency performance standards.

**Jv COMMENT: IT IS NOT EVIDENT THAT DOCUMENTATION HAS BEEN PROVIDED FOR COMPLIANCE WITH NIEER FOR ANIMALS, LIVESTOCK, WILDLIFE AND BIRDS,/BEES/INSECTS FOR OUR ECOSYSTEM**

<https://sustainablepulse.com/2018/03/22/worlds-largest-animal-study-on-cell-tower-radiation-confirms-cancer-link/#.XwyeeChKjIU>

**There is no ENVIRONMENT ASSESSMENT from fcc guidelines.**

**I CONCLUDE THAT THIS CRITERIA HAS NOT BEEN MET AND THE APPLICATION SHOULD BE DENIED.**

(10) Documentation demonstrating that the FAA has reviewed and approved the proposal, and the Oregon Aeronautics Division has reviewed the proposal.

(B) Construction of a New Tower. For an application for either a Planning Director Review or Community Service Review to be deemed complete the following information is required: (1) An accurate and to-scale site plan showing the location of the tower, guy anchors (if any), antennas, equipment cabinet and other uses accessory to the communication tower or antenna. The site plan shall include a description of the proposed tower including use of concealment technology if applicable;

**JV COMMENT: CONCEALMENT TECHNOLOGY IS NOT SIGNIFICANTLY DOCUMENTED EXCEPT FOR VISUAL CONCEALMENT. I WANT AESTHETIC CONCEALMENT . I WANT PROOF OF NOISE, LIGHT AND EMF CONCEALMENT. I WANT SHIELDING FOR MY HOME AND OUTBUILDINGS I DO NOT THINK THE BURDEN OF PROOF HAS BEEN PROVIDED BY THE APPLICANT ABOUT THE HEALTH AND RISKS FOR HEALTH FOR MYSELF, MY FAMILY AND MY PERSONAL PROPERTY/ANIMALS/LIVESTOCK AND I BELIEVE THE APPLICATION SHOULD BE DENIED.**

. (2) A visual study containing, at a minimum, a graphic simulation showing the appearance of the proposed tower, antennas, and ancillary facilities from at least five points within a five mile radius. Such points shall include views from public places including but not limited to parks, rights-of-way, and waterways and chosen by the Planning Director at the pre-application conference to ensure that various potential views are represented.

**JV comment**

**Photo exhibit I view 1, and site drawing A2,**

**(Difficult to submit electronically, see paper submission.)**

The site plan drawing and illustration do not match the Photo view 1. I want to be assured that the tower will appear as you have described in the photo. Further I want assurance that the tower will remain concealed and the health of the trees in the surrounding areas / close proximity of the tower will remain healthy and thriving. I request that an approved plan needs to be provided with a contract that for the lifetime of the lease for the site of this tower there will be no clear cutting, and the trees will be maintained at the highest level by a certified specialist in forest growth/science. Further I want to know that for future carriers, for which this plan has no details about and should not be included, they will be subject to a separate review process.

Photo view 1 and A2 exhibit I page 2 and site plan page 10

<https://drive.google.com/file/d/1xF-0fMuLFz2W9eFTp3N50-Yg9tJJ1YgA/view?usp=sharing>

<https://drive.google.com/file/d/1291xXim7gG7AeUXUzs00JTfDjdY0m5xa/view?usp=sharing>

**MY VIEWPOINT, BEING THE CLOSEST DWELLING TO THE PROPOSED TOWER IS NOT REPRESENTED IN THIS APPLICATION. THERE IS NO GRAPHIC SIMULATION PRESENTED FROM MY VIEW POINT/DWELLING AND ANIMAL SHELTERS, THE PROPOSED TOWER IS WITHIN 320' OF MY 3 BEDROOMS, BATHROOM AND LIVING ROOM WINDOWS AND LESS THAT 300' TO MY WORKING BARN/LIVESTOCK SHELTER. I DO NOT ACCEPT THAT THIS BURDEN OF PROOF HAS BEEN PROVIDED AND I HAVE REACHED A CONCLUSION THAT THE CRITERIA HAS NOT BEEN MET.**

. (3) The distance from the nearest WCF and nearest potential co-location site. (4) A report/analysis from a licensed professional engineer documenting the following: (a) The reasons why the WCF must be located at the proposed site (service demands, topography, dropped coverage, etc.

**JV COMMENT; THERE IS NOT SUBSTANTIAL REVIEW OF AREA LOCATIONS NOR PROOF THAT ALL POTENTIAL LOCATION SITES WERE DISCLOSED. AS A PROPERTY OWNER IN THE AREA I WAS NOT APPROACHED, THERE ARE MULTIPLE OTHER LOCATIONS THAT SEEM MORE REASONABLE SAFE AND IN LESS DENSE NEIGHBORHOOD DWELLINGS, INCLUDING CORBETT WATER DISTRICT RESERVOIR NEAR HURT/WAND ROAD, AND LARGE FARM LANDS WITH LITTLE IMPACT TO HUMAN AND/OR WILDLIFE SOUTH OF WOODARD RD. FURTHER FROM THE SCENIC GORGE LANDS. I DO NOT THINK A THROUGH STUDY/RESEARCH WAS PUT IN TO FINDING LOCAL TOWERS OR UTILITIES TO USE FOR THIS TOWER. THERE ARE MULTIPLE AREAS THAT COULD BE IDENTIFIED IN MY OPINION . I HAVE REACHED THE CONCLUSION THAT THE CRITERIA HAS NOT BEEN MET BY THE APPLICANT..**

. (b) The reason why the WCF must be constructed at the proposed height;

**Jv COMMENT; NEARBY TOWERS ARE SMALLER/SHORTER AND DO NOT APPEAR TO INVADE OR ENDANGER THE HOMES AND LIVES OF HUMANS AND FARM/LIVESTOCK. BURDEN OF PROOF HAS NOT BEEN MET BY THIS APPLICANT.**

(c) Verification of good faith efforts made to locate or design the proposed WCF to qualify for an expedited review process. To this end, if an existing structure approved for co-location is within the area recommended by the engineers report, the reason for not co-locating shall be provided;

**JV COMMENT; I DO NOT BELIEVE THAT GOOD FAITH EFFORTS WERE MADE TO FIND AN EXISTING STRUCTURE IN THE PROPOSED AREA. I BELIEVE CORBETT WATER DISTRICT WOULD BE A FINE EXAMPLE OF AN EXISTING UTILITY THAT WOULD STRONGLY CONSIDER A WCF ON THEIR PREMISES**

(d) Tower height and design, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design such as, but not limited to, an explanation for the failure to employ concealment technology if applicable

**Jv COMMENT: CONCEALMENT IS LIMITED FOR ME TO VISUAL CONCEALMENT, I DO NOT FEEL THAT THIS TOWER WILL BE CONCEALED' FROM MY HOME AND FARMING PRACTICES AS THERE ARE OTHER FACTORS THAT CANNOT BE CONCEALED IE NOISE, EMISSION, AND LIGHTING. IT WILL BE GREAT EXPENSE TO ME FOR THE SAFETY AND WELL BEING OF MY LIVESTOCK, I WILL NEED A NEW SHELTER, WATER AND ELECTRICITY IN THE SOUTHERN PORTION OF MY LAND TO BE BUILT OR ANIMALS RELOCATED . I WISH TO BE COMPENSATED PRIOR TO THE TOWER BEING BUILT. FURTHER I REQUEST SHIELDING FROM THE EMF FOR MY HOME, OUTBUILDINGS, AND LAND SO THAT I CONTINUE TO LIVE THE LIFESTYLE I HAVE BEEN ACCUSTOMED TO, IN THE WAY OF ROOFING, WINDOW AND WALL UPGRADES. I DO NOT FEEL THE CRITERIA HAS BEEN MET BY THIS APPLICANT.**

. (e) Total anticipated capacity of the structure, including number and types of antennas which can be accommodated; (f) Evidence of structural integrity of the tower structure as required by the Building Official; (g) Failure characteristics of the tower; and (h) Ice hazards and mitigation measures which can be employed

**Jv COMMENT. MITIGATION MEASURES FOR THE FOREST AND NATIVE PLANT LIFE. ARE REQUESTED. I WOULD LIKE TO SEE A PLAN . WIND STUDY HAS NOT BEEN COMPLETED TO MY SATISFACTION AS WE ARE SUBJECT TO SIGNIFICANT WIND AND GUSTS IN EXCESS OF 100MPH OCCASIONALLY AND FREQUENTLY DURING HEAVY PERIODS OF ICE/FREEZING RAIN, I HAVE CONCERN FOR MY TREES/FOREST LAND AND THE IMPACT OF THE REMOVAL OF 2 LARGE CONIFERS, 4 DECIDUOUS TREES THAT MAY INTERRUPT MY WIND FLOW STABILITY AND PATTERN. WIND STABILITY OF THE TOWER DANGERS DUE TO ICE HAZARD AND WINDS THAT MAY CAUSE PROPERTY DAMAGE, AND RISK TO HEALTH AND SAFETY. I CONCLUDE THAT CRITERIA HAS NOT BEEN MET**



(5) Documentation demonstrating compliance with non-ionizing electromagnetic radiation (NIE) emissions standards set forth by the Federal Communications Commission as outlined in A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance or a subsequent FCC publication delineating required radio frequency performance standards. (6) A signed agreement, stating that the applicant will allow co-location with other users, provided all safety, structural, and technological requirements are met. This agreement shall also state that any future owners or operators will allow co-location on the tower option to lease an antenna mount upon the proposed tower by a service provider.

**Jv COMMENT EMF/ RF EMISSION SAFETY RULES INDICATED FOR HUMAN HEALTH AND LIFE SUBJECT TO FURTHER DISTANCES AWAY MOST STUDIES QUOTE SEVERAL HUNDRED METERS AND/OR MILES FROM THE TOWER NOT 400 FEET OR LESS. I HAVE GREAT CONCERN FOR MY HEALTH AND THE HEALTH OF MY FAMILY, PETS, GUESTS, NEIGHBORS, AND MY ELDERLY MOTHER WHO HAS FREQUENTLY STAYED WITH US AND WOULD BE PARTICULARLY VULNERABLE TO HEALTH HAZARDS. NO INDICATORS FOR IMPACT ON WILDLIFE, LIVESTOCK, BEES,/BIRDS/INSECTS AND DOMESTIC PET IN SUCH CLOSE PROXIMITY HAVE BEEN PROVIDED. I CONTINUE TO HAVE GRAVE CONCERN FOR EXPOSURE IN SUCH CLOSE PROXIMITY AND SUBJECT TO ENVIRONMENTAL FACTORS/IE WINDOWS, INCLINE, OTHER ENVIRONMENT CONDITIONS LIKE LESS DECIDUOUS LEAF COVERAGE.**

**NO EVIDENCE OF A SITE SAFETY PLAN , PROOF OF REVIEW AND/OR REMEDIATION HAS NOT BEEN PROVIDED. NO SUGGESTION FOR HOW TO MONITOR HEALTH AND SAFETY. I WANT A GUARANTEE, I WANT A EMF CONSULTANT , WITH A LIFETIME GUARANTEE FOR A WAY TO MONITOR THE EMF IN MY HOME AND SURROUNDING GROUNDS.** <http://www.emfservices.com/cell-towers.htm>

**I WANT A SHIELD PROVIDED** <http://www.emfservices.com/cell-towers.htm>  
<http://www.emfrf.com/cell-tower-shielding-in-san-diego/>

**Furthermore, it is not my job nor expertise nor knowledge to answer the question for how close the tower is to my home, where I reside , live, eat, and sleep. It is the applicants' burden of proof to comply and prove that this will not cause harmful health effects to me, my family, my guests, my neighbors. I CONCLUDE THAT THE BURDEN OF PROOF FOR THIS CRITERIA HAS NOT BEEN MET BY THE APPLICANT**

**(a)(3) may affect listed threatened or endangered species or designated critical habitats; or is likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats**

**JV COMMENT, IN THIS AREA. IT REMAINS A THREATENED SPECIES. Birds**

NAME  
STATUS

**Northern Spotted Owl** CH



(5) Documentation demonstrating compliance with non-ionizing electromagnetic radiation (NIE) emissions standards set forth by the Federal Communications Commission as outlined in A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance or a subsequent FCC publication delineating required radio frequency performance standards. (6) A signed agreement, stating that the applicant will allow co-location with other users, provided all safety, structural, and technological requirements are met. This agreement shall also state that any future owners or operators will allow co-location on the tower option to lease an antenna mount upon the proposed tower by a service provider.

**Jv COMMENT EMF/ RF EMISSION SAFETY RULES INDICATED FOR HUMAN HEALTH AND LIFE SUBJECT TO FURTHER DISTANCES AWAY MOST STUDIES QUOTE SEVERAL HUNDRED METERS AND/OR MILES FROM THE TOWER NOT 400 FEET OR LESS. I HAVE GREAT CONCERN FOR MY HEALTH AND THE HEALTH OF MY FAMILY, PETS, GUESTS, NEIGHBORS, AND MY ELDERLY MOTHER WHO HAS FREQUENTLY STAYED WITH US AND WOULD BE PARTICULARLY VULNERABLE TO HEALTH HAZARDS. NO INDICATORS FOR IMPACT ON WILDLIFE, LIVESTOCK, BEES,/BIRDS/INSECTS AND DOMESTIC PET IN SUCH CLOSE PROXIMITY HAVE BEEN PROVIDED. I CONTINUE TO HAVE GRAVE CONCERN FOR EXPOSURE IN SUCH CLOSE PROXIMITY AND SUBJECT TO ENVIRONMENTAL FACTORS/IE WINDOWS, INCLINE, OTHER ENVIRONMENT CONDITIONS LIKE LESS DECIDUOUS LEAF COVERAGE.**

**NO EVIDENCE OF A SITE SAFETY PLAN , PROOF OF REVIEW AND/OR REMEDIATION HAS NOT BEEN PROVIDED. NO SUGGESTION FOR HOW TO MONITOR HEALTH AND SAFETY. I WANT A GUARANTEE, I WANT A EMF CONSULTANT , WITH A LIFETIME GUARANTEE FOR A WAY TO MONITOR THE EMF IN MY HOME AND SURROUNDING GROUNDS.** <http://www.emfservices.com/cell-towers.htm>

**I WANT A SHIELD PROVIDED** <http://www.emfservices.com/cell-towers.htm>  
<http://www.emfrf.com/cell-tower-shielding-in-san-diego/>

**Furthermore, it is not my job nor expertise nor knowledge to answer the question for how close the tower is to my home, where I reside , live, eat, and sleep. It is the applicants' burden of proof to comply and prove that this will not cause harmful health effects to me, my family, my guests, my neighbors. I CONCLUDE THAT THE BURDEN OF PROOF FOR THIS CRITERIA HAS NOT BEEN MET BY THE APPLICANT**

**(a)(3) may affect listed threatened or endangered species or designated critical habitats; or is likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats**

**JV COMMENT, IN THIS AREA. IT REMAINS A THREATENED SPECIES. Birds**

NAME  
STATUS

**Northern Spotted Owl** CH

**Strix occidentalis caurina**

**Threatened**

**Streaked Horned Lark<sup>CH</sup>**  
**Eremophila alpestris strigata**

**Threatened**

**Yellow-billed Cuckoo<sup>CH</sup>**  
**Coccyzus americanus**

**Threatened**

<https://ecos.fws.gov/ipac/location/SDVI3NV4YNBW5EDIVW3LKCENFY/resources>

*Jv COMMENT*

*THESE SPECIES ARE KNOWN TO LIVE AND THRIVE IN OUR AREA. THE APPLICANT HAS NOT ADDRESSED THIS ISSUE , THERE HAS BEEN NO ENVIRONMENTAL ASSESSMENT (EA) AS PER FCC GUIDELINES, AND I CONCLUDE THAT THE CRITERIA HAS NOT BEEN MET. THIS INFORMATION WAS TAKEN FROM THE FISH AND WILDLIFE SITE LISTED ABOVE AND ARE KNOW THREATENED SPECIES LIVING IN OUR DIRECT AREA. THE APPLICANT HAS NOT MET THE CRITERIA FOR THIS ITEM.*

. (8) A landscape plan drawn to scale showing the proposed and existing landscaping, including type, spacing, and size

**JV COMMENT; TREE REMOVAL, AFFECTS OF TREE REMOVAL ON NEIGHBORING FOREST AND FARMLAND I BELIEVE A LANDSCAPE PLAN TO MINIMIZE THE IMPACT ON THE EXISTING ENVIRONMENT NEEDS TO BE CONSIDERED . I SUGGEST THAT IMPACT IS ALREADY OCCURRING WITH GROUND SOIL AND TREE REMOVAL BY APPLICANT. I AM CONCERNED ABOUT THE IMPACT REMOVING LARGE TREES WILL HAVE ON MY TREE AND FOREST LANDS DIRECTLY TO THE WEST. THIS HAS NOT BEEN ADDRESSED BY THE APPLICANT AND I CONCLUDE THE CRITERIA HAS NOT BEEN MET.**

(9) Plans showing the connection to utilities/right-of-way cuts required, ownership of utilities and easements required. (10) Documents demonstrating that any necessary easements have been obtained. (11) Plans showing how vehicle access will be provided. (12) Signature of the property owner(s) on the application form or a statement from the property owner(s) granting authorization to proceed with building permit and land use processes. (13) Documentation that

the ancillary facilities will not produce sound levels in excess of those standards specified below in the Approval Criteria for lands not zoned Exclusive Farm Use

**JV COMMENT MY NEIGHBORING FARM IS EFU, I AM NOT CONVINCED THAT SOUND LEVELS WILL NOT INTERFERE WITH MY DAILY LIFE AND IMPACT MY LIVESTOCK/SPECIES OF WILDLIFE , DOMESTIC PETS AND CROPS. The criteria and burden of proof has not been met.**

(14) A map of the county showing the approximate geographic limits of the "cell" to be created by the facility. This map shall include the same information for all other facilities owned or operated by the applicant within the county, or extending within the county from a distant location, and any existing detached WCF of another provider within 1,000 feet of the proposed site. (15) Documentation demonstrating that the FAA has reviewed and approved the proposal, and the Oregon Aeronautics Division has reviewed the proposal. (16) Full response to the Approval Criteria for lands not zoned Exclusive Farm Use specified below as applicable.

**§ 39.7740 APPROVAL CRITERIA FOR LANDS NOT ZONED EXCLUSIVE FARM USE.**

(11) Landscape and Screening. All WCFs shall be improved in such a manner so as to maintain and enhance existing native vegetation and suitable landscaping installed to screen the base of the tower and all accessory equipment, where necessary. To this end, all of the following measures shall be implemented for all ground mounted WCFs including accessory structures. (a) A landscape plan shall be submitted indicating all existing vegetation, landscaping that is to be retained within the leased area on the site, and any additional vegetation that is needed to satisfactorily screen the facility from adjacent land and public view areas. Planted vegetation shall be of the evergreen variety and placed outside of the fence. The landscape plan shall be subject to review and approval of the Design Review process. All trees, larger than four inches (4") in diameter and four and a half feet high (4 1/2') shall be identified in the landscape plan by species type, and whether it is to be retained or removed with project development; (b) Existing trees and other screening vegetation in the vicinity of the facility and along the access drive and any power/telecommunication line routes involved shall be protected from damage, during the construction period.

**Jv COMMENT I BELIEVE THE APPLICANT NEEDS TO PROVIDE A LANDSCAPE PLAN FOR MITIGATION AND IMPACT ON THE NEIGHBORING LANDS. I BELIEVE THERE SHOULD BE A WRITTEN PLAN FOR HOW THE APPLICANT INTENDS TO KEEP THE STAND OF TREES THAT ARE NECESSARY FOR CONCEALMENT HEALTHY AND THRIVING. I EXPECT A WRITTEN AGREEMENT FOR THE ENTIRETY OF THE LEASE OF THE LAND FOR THIS TOWER THAT THE TREES AND FOREST WILL NOT BE CLEAR CUT NOR ALLOWED TO DIE, AND THAT THE HIGHEST LEVEL OF CARE AND MONITORING WILL GO INTO THE CARE OF THE FOREST IN THE CLOSE AND SURROUNDING AREA OF THE PROPERTY.**

**A SHIELD FOR NEIGHBORING HOUSES COULD BE PROVIDED TO INCLUDE EMF MONITORING , CONSULTATION, AND SHIELDING UPGRADES TO THEIR EXISTING HOMES AND STRUCTURES. I CONCLUDE THAT CRITERIA HAS NOT BEEN MET BY THE APPLICANT AND THIS APPLICATION SHOULD BE DENIED.**

**IN CONCLUSION, I AM STRONGLY OPPOSED TO THIS CWF TOWER. I HAVE LIVED A PEACEFUL , QUIET LIFE HERE , PAID MY TAXES, EMPLOYED IN A PRODUCTIVE AND CONTRIBUTING OCCUPATION IN OUR SCHOOL DISTRICTS HERE IN OREGON, IN EAST MULTNOMAH COUNTY FOR 32 YEARS. I FEEL I HAVE A RIGHT TO THE ENJOYMENT AND QUALITY OF LIFE I HAVE BEEN ACCUSTOMED TO ON MY PROPERTY AND SHOULD NOT BE PUT AT RISK FOR HEALTH OR LIFE PURSUITS. I WAS TOLD IT WOULD BE NECESSARY TO COMMENT ON THIS PROPOSAL IN AN ABRUPT AND STRESSFUL WAY WITHIN 14 DAYS DESPITE GOVERNMENT AND MULTCO CLOSURES, GIVEN VERY LITTLE TIME TO BECOME INFORMED NOR GATHER NEIGHBOR AND FAMILY INPUT. I BELIEVE THE APPLICANT HAS NOT PERFORMED SUFFICIENT RESEARCH NOR PROVIDED PROOF FOR THE ABOVE MENTIONED AREAS OF THE APPLICATION PROCESS, I BELIEVE STRONGLY THIS APPLICATION SHOULD BE DENIED AND THAT THE CRITERIA HAS NOT BEEN MET BY THE APPLICANT.**

**SINCERELY,  
JO ANNE S VINCENT  
330 NE Seidl Rd  
Troutdale, Or 97060  
503 737 4391**

ADDITIONAL NEIGHBORS THAT HAVE CONCERNS WANT TO ADD THEIR NAME TO THIS LETTER AS WELL:

Ann Schilke [AESchilke@gmail.com](mailto:AESchilke@gmail.com)



July 14, 2020

Comments submitted electronically due to Covid 19 closure of Multnomah County facilities.

Please give courtesy of response that this was received

I will attempt to deliver a hard copy as photographs are included.

Submission to :

Carol Johnson , Planning Director of Multnomah County, [carol.johnson@multco.us](mailto:carol.johnson@multco.us)

Cc: Rithy Khut, Planner [rithy.khut@multco.us](mailto:rithy.khut@multco.us)

Cc [land.use.planning@multco.us](mailto:land.use.planning@multco.us)

Regarding: Type II Land Use application File T2-2019-12701, Verizon WCF POR Stinger

14 day opportunity to comment

I am in opposition of this WCF for many reasons and will explain those specifically in each criteria area outlined in the application and to address each of the MC codes. I do not feel the applicant has met the burden of proof nor convinced me of the safety and well being of my home, household, neighborhood nor environment. I would also like to reiterate that during this Covid 19 pandemic with governmental restrictions, and MC closures, I have had significant impact and duress on my ability to respond with informed/ educated comments as there was very little time allowed of the 14 day mandated period. This, coupled with the nature of July holiday weekend, was very troubling to me that an issue of such great significance and importance would be forced upon us so abruptly for an application that has been in processing as early as August 2016. What is the rush after this lengthy and expensive process, shouldn't our taxpayers and law-abiding citizens be awarded a fair and adequate time period for reflection and gathering of information to make an informed comment.?

( I received the notice from usps on July3rd, offices were closed on business days 7/3, 7/6, and then emails phone calls were not returned until July 9th, late afternoon, which left me technically with friday july 10, and tues july 14 to connect with government officials/and multnomah co personnel. Monday July 6 and 13, mult co was closed, and fridays many of our county commissioners are furloughed).

My name is JoAnne Vincent, I live at 330 NE Seidl rd. Troutdale, Oregon 97060. I have owned and resided at this residence since 1988 with my husband Brian Vincent, and our family. We own approx. 13.9 acres zoned EFU directly west and adjacent to the proposed site for a WCF 156' cellular tower. Drawings and exhibits show that the proposed tower will be approx. 360' from the back corner of our house/dwelling. Opposition to cell towers is increasing throughout the U.S. due to health and safety risks, liability risks, environmental risks, and concerns about reduced property value. Oregon for Safer Technology recently helped defeat a 4G cell tower application at a University in southern Oregon.



. <https://www.or4safertech.org/> I intend to work familiarize myself with this group to learn more about the risks and impact on my life, dwelling and family. Many groups including American Cancer Society, Environmental Health Trust and MDsafeTech are mounting concerns for cell towers in residential areas. I sleep, eat, recreate, live and thrive in my home and grounds and cannot accept that this cell tower is a required device in this neighborhood so close to residential homes and animal/insect/wildlife/forest habitat. Our cellular and internet services seem sufficient this tower seems redundant to me, I question the "need" for another tower here.

We have outbuildings to the north of our dwelling, of significance is a livestock barn where 4 horses reside within 430' of the WCF tower'. For my livestock to access our lower pasture for grazing they need to walk through our easternmost livestock transit pathway on our land, which is approx. 272' away from the tower. I believe I will have to relocate my livestock shelter at great expense as they will not pass directly under this tower to access their grazing pasture.

I have concerns about the environment, the wildlife and my pets/animals. I do not think the applicant has provided the necessary criteria to "not interfere" with our neighborhood lifestyle, nor have they provided the least intrusive plan to limit impact.

I have concerns about my property value and desirability to live here. I have enjoyed living here for 32 years but we will suffer greatly if this tower proposal is accepted. My life, liberty and pursuit of happiness will be greatly degraded.

I will address these concerns in the appropriate code areas later in this letter.

**For this application to be approved, the proposal will need to meet the applicable approval criteria below:**

Regarding § 39.1515 CODE COMPLIANCE AND APPLICATIONS. (B) For the purposes of this section, Public Safety means the actions authorized by the permit would cause abatement of conditions found to exist on the property that endanger the life, health, personal property, or safety of the residents or public.

**JV COMMENT: Conditions that exist that endanger the life, health, personal property or safety of the residents include noise, lighting and/or radioactive emission or frequencies( emf) detrimental to the health and lifestyle of human life, animal life, wildlife, insects, birds, plant life, and forest. My home/dwelling, and working farm land and recreational leisure yard/garden areas will be within 360' of the proposed tower. I do not feel the applicant has in any way provided research, scientific facts, nor compliance with FCC guidelines, EPA recommendations nor any proof that convinces me that my life, the lives of my family and guests are not in extreme danger from EMF and radiation effects from this WCF being in such close proximity to my home. I FEEL THAT THAT THE EMF AND RF EMISSIONS I AND MY FAMILY WILL BE SUBJECTED TOO ARE VERY GREAT AND I FEAR FOR MY HEALTH AND WELL BEING. TO DATE, MOST STUDIES I HAVE FOUND WERE**

**BASED ON TOWERS 300-600 METERS AWAY FROM RESIDENTIAL AREAS. STILL THE HEALTH RISKS ARE GREAT, IN THIS SITUATION THE TOWER IS PROPOSED TO BE WITHIN 400 FEET OR LESS OF MY HOME, OUTBUILDINGS, AND PROPERTY. I AM NOT ASSURED THAT MY HEALTH WILL NOT BE IMPACTED BY THIS TOWER AND I REQUEST A LETTER OF INTENT TO PROVIDE HEALTH INSURANCE AND/OR REIMBURSEMENT IN THE EVENT I DEVELOP SYMPTOMS OF HYPERSENSITIVITY, CANCER, OR ANY OTHER ILLNESS FROM EMF/RF EMISSIONS.**

**My horses, who are extremely sensitive to and will not tolerate the sounds, lighting or soundwave/radio wave emissions, will no longer have safe access from their grazing lands that are south of the subject tower, on my property, to from their shelter/water/feed that is presently on my property northwest of the subject tower and is connected via an access pathway on the eastern side of our property. This distance spans an approximate 300' length to gain access from barn/shelter to grazing land and is within ~260' of the proposed tower. Horses react very strongly to electromagnetic waves as in an electric fence. I fear this tower will mitigate my pasture and shelter access for my livestock. The applicant should be held accountable for expense and emotional duress /stress to myself and my livestock to alleviate this conditional impact.**

**Wildlife, pets, insects, birds, and bees are not protected, shielded or concealed from these conditions of impact. We have threatened species living in our forest, the northern spotted owl for 1. We have pileated woodpeckers and multitudes of bats, insects, bees, and birds that thrive here. IN CONCLUSION I DO NOT FEEL THE BURDEN OF PROOF HAS BEEN MET BY THE APPLICANT IN REGARDS TO ENDANGERMENT OF MY LIFE, HEALTH AND PERSONAL PROPERTY. DUE TO EMF EMISSIONS, LIGHTS, SOUNDS AND I BELIEVE THE APPLICATION SHOULD BE DENIED.**

§ 39.6850 DARK SKY LIGHTING STANDARDS. (A) The purpose of the Dark Sky Lighting Standards in this Section is to protect and promote public health, safety and welfare by preserving the use of exterior lighting for security and the nighttime use and enjoyment of property while minimizing the obtrusive aspects of exterior lighting uses that degrade the nighttime visual environment and negatively impact wildlife and human health. (C) The following standards apply to all new exterior lighting supporting a new, modified, altered, expanded, or replaced use approved through a development permit and to all existing exterior lighting on property that is the subject of a development permit approval for enlargement of a building by more than 400 square feet of ground coverage. (1) The light source (bulbs, lamps, etc.) must be fully shielded with opaque materials and directed downwards. "Fully shielded" means no light is emitted above the horizontal plane located at the lowest point of the fixture's shielding. Shielding



must be permanently attached.. (2) The lighting must be contained within the boundaries of the Lot of Record on which it is located. To satisfy this standard, shielding in addition to the shielding required in paragraph (C)(1) of this section may be required.

***Jv COMMENT:***

***THERE HAS BEEN NO MENTION OF SHIELDING OF OUR HOME AND OUTBUILDINGS. I REQUEST ADDITIONAL SHIELDING FROM LIGHT AND EMF. THE QUALITY OF LIFE , INCLUDING NIGHT SKY AND RECREATIONAL ACTIVITIES ON MY PROPERTY WILL BE GREATLY DEGRADED. THE SAFETY AND PROTECTION OF MY LIVESTOCK IS A CONCERN, THEY ARE HIGHLY SENSITIVE TO LIGHT, SOUNDS AND EMISSIONS, I WILL HAVE TO RELOCATE THEM AND THEIR SHELTER AT GREAT EXPENSE. THE FOLLOWING IS MENTION OF TYPE OF LIGHTING PROPOSED WITH NO MENTION OF SHIELDING. .***

***E1 lighting system. Top mounted medium intensity dual red and white flashing  
2 single red flashing midway up APPROX. 78' IN HEIGHT.***

***Exhibit Q***

***Exhibit Z reflected downward light site sheet A1.1***

***WILDLIFE INCLUDING OWLS, BATS AND OTHER NOCTURNAL ANIMALS THRIVE IN THIS AREA OF EAST MULTNOMAH COUNTY, AND I DO NOT AGREE THAT THE APPLICANT HAS CONSIDERED THE IMPACT TOWARDS THIS WILDLIFE NOR OUR ENVIRONMENTAL FORESTS AND FARMING. I BELIEVE AN ENVIRONMENT ASSESSMENT MUST BE CONDUCTED AS PER FCC GUIDELINES. WE HAVE A THREATENED SPECIES LIVING IN OUR MIDST, THE NORTHERN SPOTTED OWL FOR WHICH IMMEDIATE CONCERN SHOULD BE INCLUDED IN THIS APPLICATION. (5)***

***<https://www.fcc.gov/wireless/bureau-divisions/competition-infrastructure-policy-division/tower-and-antenna-siting>***

***IN CONCLUSION, I DO NOT FEEL THE APPLICANT HAS PROVIDED THE BURDEN OF PROOF NOR HAS THE CRITERIA FOR THE IMPACT ON DARK SKY LIGHTING BEEN MET. I BELIEVE THE APPLICATION SHOULD BE DENIED.***

**§ 39.7725 GENERAL REQUIREMENTS.**

(A) No WCF shall be constructed or operated within unincorporated Multnomah County until all necessary approvals and permits, whether local, state, or federal, have been secured.

**JV COMMENT; I THINK WORK INCLUDING GRADING SOIL, REMOVING VEGETATION, AND/OR TREES HAS BEEN INITIATED IN THE AREA PRIOR TO THIS APPLICATION BEING ACCEPTED, WHICH IS DIRECTLY IN NON COMPLIANCE WITH FCC GUIDELINES POSTED BELOW.**

"Grading soil, removing vegetation, clearing an area or otherwise beginning construction or building without following these requirements or before completion of the FCC's environmental process can constitute a violation of FCC rules and subject the party to

potential enforcement action. Granting of a license is NOT an authorization to build unless all environmental review requirements have been met.”

§ 39.7735 APPLICATION SUBMITTAL REQUIREMENTS For an application for a Planning Director Review or Building Permit Review to be deemed complete the following information is required: (A) Co-location of antennas upon existing towers or structures. (1) An accurate and to-scale site plan showing the location of the tower, or structure upon which the proposed antenna is to be mounted including guy anchors (if any), antennas, equipment cabinets and other uses accessory to the communication tower or antenna. The site plan shall include a description of the proposed antenna including use of concealment technology if applicable; (2) A report/analysis from a licensed professional engineer documenting the following for each antenna. (a) Antenna height above ground, design, dimensions, wind load rating, gain and radiation pattern; (b) Failure characteristics of the antenna and documentation that the site and setbacks are of adequate size to contain debris; and (c) Ice hazards and mitigation measures that can be employed. (3) A statement documenting that placement of the antenna is designed to allow future co-location of additional antennas if technologically possible. (4) Plans showing the connection to utilities/right-of-way cuts required, ownership of utilities and access easements required. (5) Documents demonstrating that necessary easements have been obtained. (6) Documentation that the ancillary facilities will not produce sound levels in excess of those standards specified below in the Approval Criteria for lands not zoned Exclusive Farm Use.

**Jv COMMENT: I BELIEVE A GENERATOR WILL BE VERY EVIDENT AND PRODUCE LOUD SOUNDS TOWARD MY NEIGHBORING PROPERTY. I DO NOT BELIEVE THE APPLICANT HAS MET THE BURDEN OF PROOF FOR SOUND LEVELS FOR A GENERATOR IN THIS AREA.**

**MY PROPERTY IS EFU AND I HAVE FARMED LIVESTOCK AND PLANT/CROP FOR MANY OF THE PAST 32 YEARS AS A RESIDENT. I DO NOT SEE THAT SOUND LEVEL STANDARDS HAVE BEEN DOCUMENTED BY THE APPLICANT, FOR FARM LIVESTOCK, INSECTS, BIRDS, BEES AND DOMESTIC PETS ON MY EFU PROPERTY , MY HORSES ARE EXTREMELY SENSITIVE TO SOUND, FOR EXAMPLE NEAR A LOW VOLTAGE ELECTRIC FENCE WITH VERY LITTLE SOUND IN THE HUMAN DECIBEL RANGE , THEY WILL NOT GO NEAR AND IT COULD CAUSE HEALTH AND MANAGEMENT DIFFICULTIES. I CANNOT CONTINUE TO ENJOY AND UTILIZE MY EFU ZONED PROPERTY IN THE MANNER I HAVE BECOME ACCUSTOMED TO, WITH SOUNDS COMING FROM THE WCF TOWER. I DO NOT CONCLUDE THAT THE CRITERIA FOR SOUND EFFECTS ON WILDLIFE, LIVESTOCK AND OTHER ANIMALS HAS BEEN MET BY THIS APPLICANT AND THE APPLICATION SHOULD BE DENIED.**

(7) If ancillary facilities will be located on the ground, a landscape plan drawn to scale showing the proposed and existing landscaping, including type, spacing, and size. (8) A map of the county showing the approximate geographic limits of the "cell" to be created by the facility. This map shall include the same information for all other facilities owned or operated by the applicant within the county, or extending within the county from a distant location, and any existing



detached WCF of another provider within 1,000 feet of the proposed site. (9) Documentation demonstrating compliance with non-ionizing electromagnetic radiation (NIE) emissions standards set forth by the Federal Communications Commission as outlined in A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance, or a subsequent FCC publication delineating required radiofrequency performance standards.

**Jv COMMENT: IT IS NOT EVIDENT THAT DOCUMENTATION HAS BEEN PROVIDED FOR COMPLIANCE WITH NIE FOR ANIMALS, LIVESTOCK, WILDLIFE AND BIRDS,/BEES/INSECTS FOR OUR ECOSYSTEM**

<https://sustainablepulse.com/2018/03/22/worlds-largest-animal-study-on-cell-tower-radiation-confirms-cancer-link/#.XwyeeChKjIU>

**There is no ENVIRONMENT ASSESSMENT from fcc guidelines.**

**I CONCLUDE THAT THIS CRITERIA HAS NOT BEEN MET AND THE APPLICATION SHOULD BE DENIED.**

(10) Documentation demonstrating that the FAA has reviewed and approved the proposal, and the Oregon Aeronautics Division has reviewed the proposal.

(B) Construction of a New Tower. For an application for either a Planning Director Review or Community Service Review to be deemed complete the following information is required: (1) An accurate and to-scale site plan showing the location of the tower, guy anchors (if any), antennas, equipment cabinet and other uses accessory to the communication tower or antenna. The site plan shall include a description of the proposed tower including use of concealment technology if applicable;

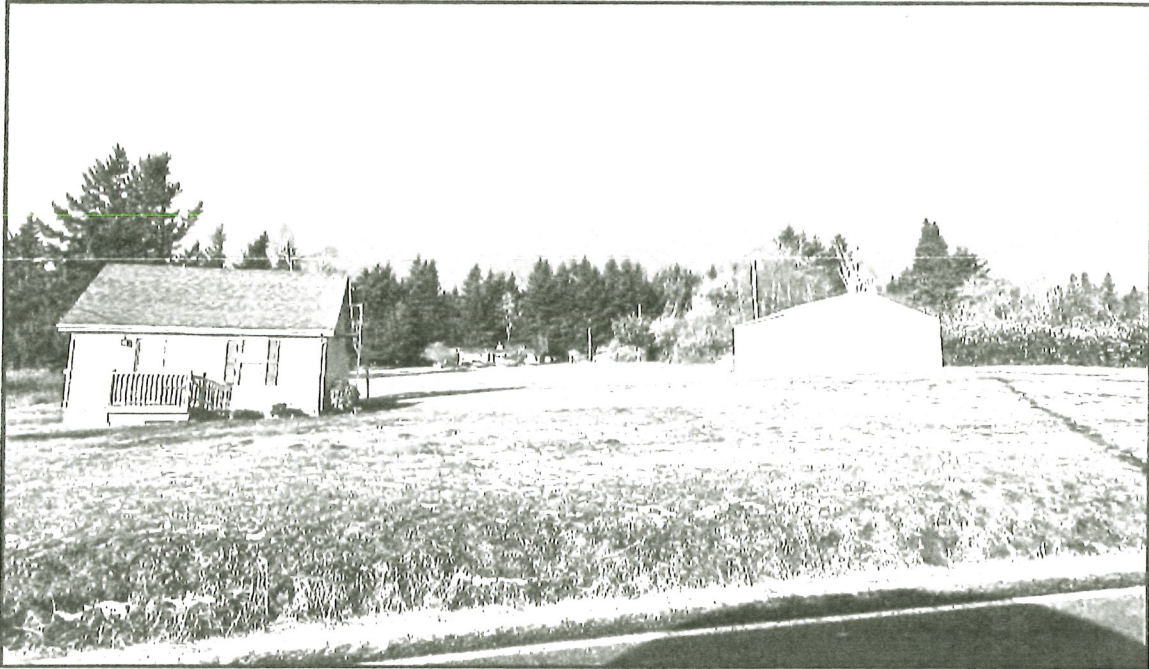
**JV COMMENT: CONCEALMENT TECHNOLOGY IS NOT SIGNIFICANTLY DOCUMENTED EXCEPT FOR VISUAL CONCEALMENT. I WANT AESTHETIC CONCEALMENT . I WANT PROOF OF NOISE, LIGHT AND EMF CONCEALMENT. I WANT SHIELDING FOR MY HOME AND OUTBUILDINGS I DO NOT THINK THE BURDEN OF PROOF HAS BEEN PROVIDED BY THE APPLICANT ABOUT THE HEALTH AND RISKS FOR HEALTH FOR MYSELF, MY FAMILY AND MY PERSONAL PROPERTY/ANIMALS/LIVESTOCK AND I BELIEVE THE APPLICATION SHOULD BE DENIED.**

. (2) A visual study containing, at a minimum, a graphic simulation showing the appearance of the proposed tower, antennas, and ancillary facilities from at least five points within a five mile radius. Such points shall include views from public places including but not limited to parks, rights-of-way, and waterways and chosen by the Planning Director at the pre-application conference to ensure that various potential views are represented.

**JV comment**

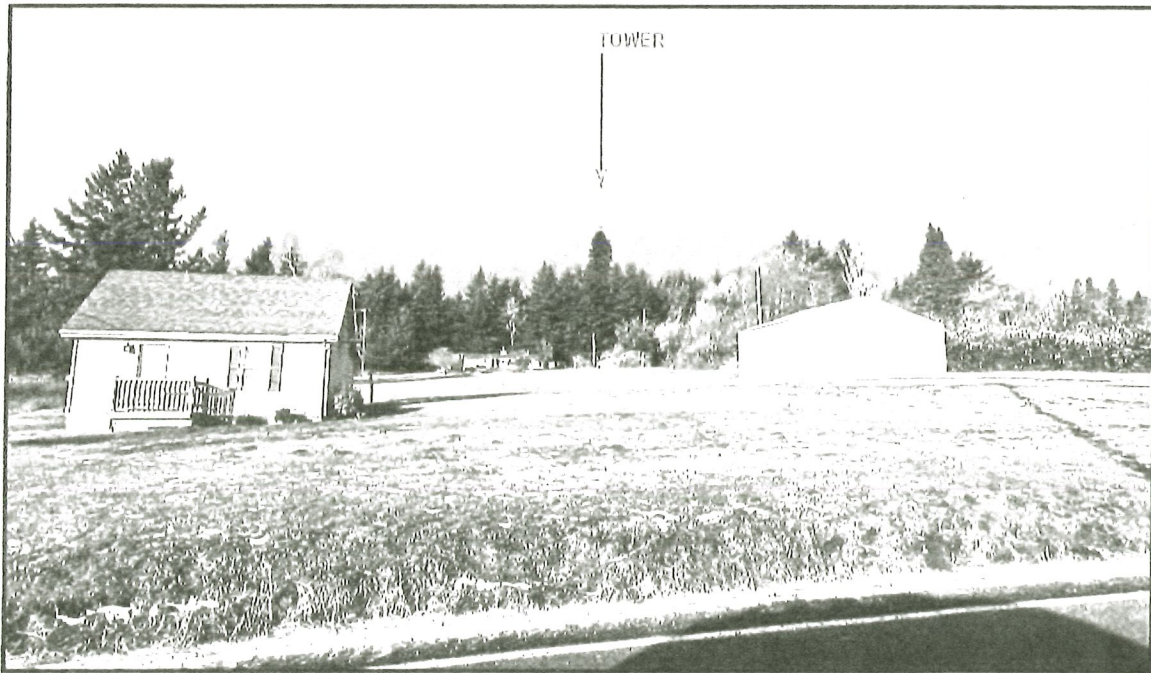
**Photo exhibit I view 1, and site drawing A2,**

**(Difficult to submit electronically, see paper submission.)**



CURRENT

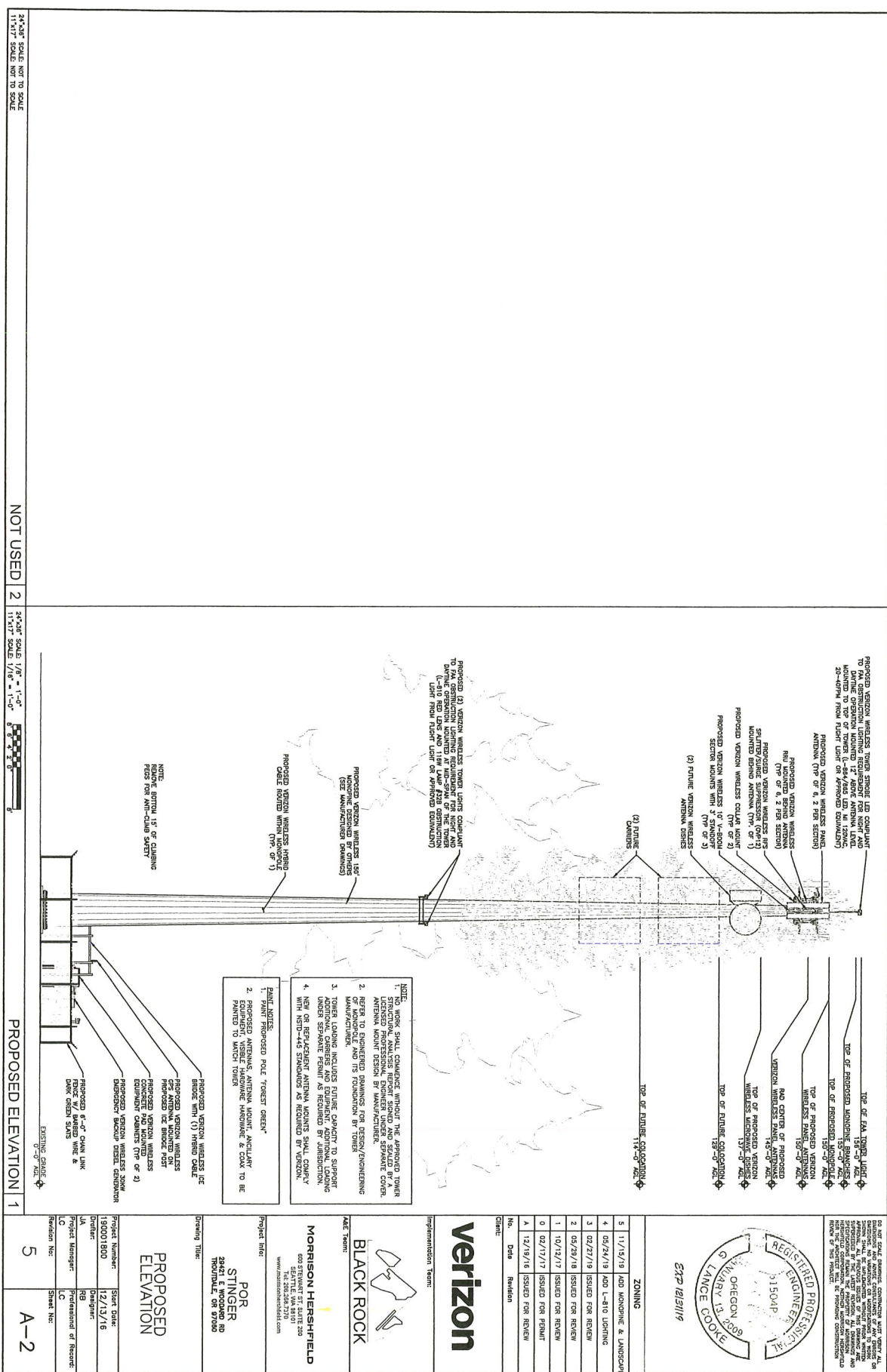
VIEW #1 LOOKING NORTH  
AT 29421 E. WOODARD RD.



PROPOSED

TIM BRADLEY IMAGING





**The site plan drawing and illustration do not match the Photo view 1. I want to be assured that the tower will appear as you have described in the photo. Further I want assurance that the tower will remain concealed and the health of the trees in the surrounding areas / close proximity of the tower will remain healthy and thriving. I request that an approved plan needs to be provided with a contract that for the lifetime of the lease for the site of this tower there will be no clear cutting, and the trees will be maintained at the highest level by a certified specialist in forest growth/science. Further I want to know that for future carriers, for which this plan has no details about and should not be included, they will be subject to a separate review process.**

**Photo view 1 and A2 exhibit I page 2 and site plan page 10**

<https://drive.google.com/file/d/1xF-0fMuLFz2W9eFTp3N50-Yg9tJJ1YgA/view?usp=sharing>

<https://drive.google.com/file/d/1291xXim7gG7AeUXUzs00JTfDjdY0m5xa/view?usp=sharing>

**MY VIEWPOINT, BEING THE CLOSEST DWELLING TO THE PROPOSED TOWER IS NOT REPRESENTED IN THIS APPLICATION. THERE IS NO GRAPHIC SIMULATION PRESENTED FROM MY VIEW POINT/DWELLING AND ANIMAL SHELTERS, THE PROPOSED TOWER IS WITHIN 320' OF MY 3 BEDROOMS, BATHROOM AND LIVING ROOM WINDOWS AND LESS THAT 300' TO MY WORKING BARN/LIVESTOCK SHELTER. I DO NOT ACCEPT THAT THIS BURDEN OF PROOF HAS BEEN PROVIDED AND I HAVE REACHED A CONCLUSION THAT THE CRITERIA HAS NOT BEEN MET.**

. (3) The distance from the nearest WCF and nearest potential co-location site. (4) A report/analysis from a licensed professional engineer documenting the following: (a) The reasons why the WCF must be located at the proposed site (service demands, topography, dropped coverage, etc.

**JV COMMENT; THERE IS NOT SUBSTANTIAL REVIEW OF AREA LOCATIONS NOR PROOF THAT ALL POTENTIAL LOCATION SITES WERE DISCLOSED. AS A PROPERTY OWNER IN THE AREA I WAS NOT APPROACHED, THERE ARE MULTIPLE OTHER LOCATIONS THAT SEEM MORE REASONABLE SAFE AND IN LESS DENSE NEIGHBORHOOD DWELLINGS, INCLUDING CORBETT WATER DISTRICT RESERVOIR NEAR HURT/WAND ROAD, AND LARGE FARM LANDS WITH LITTLE IMPACT TO HUMAN AND/OR WILDLIFE SOUTH OF WOODARD RD. FURTHER FROM THE SCENIC GORGE LANDS. I DO NOT THINK A THROUGH STUDY/RESEARCH WAS PUT IN TO FINDING LOCAL TOWERS OR UTILITIES TO USE FOR THIS TOWER. THERE ARE MULTIPLE AREAS THAT COULD BE IDENTIFIED IN MY OPINION . I HAVE REACHED THE CONCLUSION THAT THE CRITERIA HAS NOT BEEN MET BY THE APPLICANT..**

. (b) The reason why the WCF must be constructed at the proposed height;



**Jv COMMENT; NEARBY TOWERS ARE SMALLER/SHORTER AND DO NOT APPEAR TO INVADE OR ENDANGER THE HOMES AND LIVES OF HUMANS AND FARM/LIVESTOCK. BURDEN OF PROOF HAS NOT BEEN MET BY THIS APPLICANT.**

(c) Verification of good faith efforts made to locate or design the proposed WCF to qualify for an expedited review process. To this end, if an existing structure approved for co-location is within the area recommended by the engineers report, the reason for not co-locating shall be provided;

**JV COMMENT; I DO NOT BELIEVE THAT GOOD FAITH EFFORTS WERE MADE TO FIND AN EXISTING STRUCTURE IN THE PROPOSED AREA. I BELIEVE CORBETT WATER DISTRICT WOULD BE A FINE EXAMPLE OF AN EXISTING UTILITY THAT WOULD STRONGLY CONSIDER A WCF ON THEIR PREMISES**

(d) Tower height and design, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design such as, but not limited to, an explanation for the failure to employ concealment technology if applicable

**Jv COMMENT: CONCEALMENT IS LIMITED FOR ME TO VISUAL CONCEALMENT, I DO NOT FEEL THAT THIS TOWER WILL BE CONCEALED' FROM MY HOME AND FARMING PRACTICES AS THERE ARE OTHER FACTORS THAT CANNOT BE CONCEALED IE NOISE, EMISSION, AND LIGHTING. IT WILL BE GREAT EXPENSE TO ME FOR THE SAFETY AND WELL BEING OF MY LIVESTOCK, I WILL NEED A NEW SHELTER, WATER AND ELECTRICITY IN THE SOUTHERN PORTION OF MY LAND TO BE BUILT OR ANIMALS RELOCATED . I WISH TO BE COMPENSATED PRIOR TO THE TOWER BEING BUILT. FURTHER I REQUEST SHIELDING FROM THE EMF FOR MY HOME, OUTBUILDINGS, AND LAND SO THAT I CONTINUE TO LIVE THE LIFESTYLE I HAVE BEEN ACCUSTOMED TO, IN THE WAY OF ROOFING, WINDOW AND WALL UPGRADES. I DO NOT FEEL THE CRITERIA HAS BEEN MET BY THIS APPLICANT.**

. (e) Total anticipated capacity of the structure, including number and types of antennas which can be accommodated; (f) Evidence of structural integrity of the tower structure as required by the Building Official; (g) Failure characteristics of the tower; and (h) Ice hazards and mitigation measures which can be employed

**Jv COMMENT. MITIGATION MEASURES FOR THE FOREST AND NATIVE PLANT LIFE. ARE REQUESTED. I WOULD LIKE TO SEE A PLAN . WIND STUDY HAS NOT BEEN COMPLETED TO MY SATISFACTION AS WE ARE SUBJECT TO SIGNIFICANT WIND AND GUSTS IN EXCESS OF 100MPH OCCASIONALLY AND FREQUENTLY DURING HEAVY PERIODS OF ICE/FREEZING RAIN, I HAVE CONCERN FOR MY TREES/FOREST LAND AND THE IMPACT OF THE REMOVAL OF 2 LARGE CONIFERS, 4 DECIDUOUS TREES THAT MAY INTERRUPT MY WIND FLOW STABILITY AND PATTERN. WIND STABILITY OF THE TOWER DANGERS DUE TO ICE HAZARD AND WINDS THAT MAY CAUSE PROPERTY DAMAGE, AND RISK TO HEALTH AND SAFETY. I CONCLUDE THAT CRITERIA HAS NOT BEEN MET**

(5) Documentation demonstrating compliance with non-ionizing electromagnetic radiation (NIER) emissions standards set forth by the Federal Communications Commission as outlined in A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance or a subsequent FCC publication delineating required radio frequency performance standards. (6) A signed agreement, stating that the applicant will allow co-location with other users, provided all safety, structural, and technological requirements are met. This agreement shall also state that any future owners or operators will allow co-location on the tower option to lease an antenna mount upon the proposed tower by a service provider.

**Jv COMMENT EMF/ RF EMISSION SAFETY RULES INDICATED FOR HUMAN HEALTH AND LIFE SUBJECT TO FURTHER DISTANCES AWAY MOST STUDIES QUOTE SEVERAL HUNDRED METERS AND/OR MILES FROM THE TOWER NOT 400 FEET OR LESS. I HAVE GREAT CONCERN FOR MY HEALTH AND THE HEALTH OF MY FAMILY, PETS, GUESTS, NEIGHBORS, AND MY ELDERLY MOTHER WHO HAS FREQUENTLY STAYED WITH US AND WOULD BE PARTICULARLY VULNERABLE TO HEALTH HAZARDS. NO INDICATORS FOR IMPACT ON WILDLIFE, LIVESTOCK, BEES,/BIRDS/INSECTS AND DOMESTIC PET IN SUCH CLOSE PROXIMITY HAVE BEEN PROVIDED. I CONTINUE TO HAVE GRAVE CONCERN FOR EXPOSURE IN SUCH CLOSE PROXIMITY AND SUBJECT TO ENVIRONMENTAL FACTORS/IE WINDOWS, INCLINE, OTHER ENVIRONMENT CONDITIONS LIKE LESS DECIDUOUS LEAF COVERAGE.**

**NO EVIDENCE OF A SITE SAFETY PLAN , PROOF OF REVIEW AND/OR REMEDIATION HAS NOT BEEN PROVIDED. NO SUGGESTION FOR HOW TO MONITOR HEALTH AND SAFETY. I WANT A GUARANTEE, I WANT A EMF CONSULTANT , WITH A LIFETIME GUARANTEE FOR A WAY TO MONITOR THE EMF IN MY HOME AND SURROUNDING GROUNDS.** <http://www.emfservices.com/cell-towers.htm>

**I WANT A SHIELD PROVIDED** <http://www.emfservices.com/cell-towers.htm>  
<http://www.emfrf.com/cell-tower-shielding-in-san-diego/>

**Furthermore, it is not my job nor expertise nor knowledge to answer the question for how close the tower is to my home, where I reside , live, eat, and sleep. It is the applicants' burden of proof to comply and prove that this will not cause harmful health effects to me, my family, my guests, my neighbors. I CONCLUDE THAT THE BURDEN OF PROOF FOR THIS CRITERIA HAS NOT BEEN MET BY THE APPLICANT**

**(a)(3) may affect listed threatened or endangered species or designated critical habitats; or is likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats**

**JV COMMENT, IN THIS AREA. IT REMAINS A THREATENED SPECIES. Birds**

NAME  
STATUS

**Northern Spotted Owl**CH



**Strix occidentalis caurina**

**Threatened**

**Streaked Horned Lark<sup>CH</sup>**

**Eremophila alpestris strigata**

**Threatened**

**Yellow-billed Cuckoo<sup>CH</sup>**

**Coccyzus americanus**

**Threatened**

<https://ecos.fws.gov/ipac/location/SDVI3NV4YNBW5EDIVW3LKCENFY/resources>

**Jv COMMENT**

**THESE SPECIES ARE KNOWN TO LIVE AND THRIVE IN OUR AREA. THE APPLICANT HAS NOT ADDRESSED THIS ISSUE , THERE HAS BEEN NO ENVIRONMENTAL ASSESSMENT (EA) AS PER FCC GUIDELINES, AND I CONCLUDE THAT THE CRITERIA HAS NOT BEEN MET. THIS INFORMATION WAS TAKEN FROM THE FISH AND WILDLIFE SITE LISTED ABOVE AND ARE KNOW THREATENED SPECIES LIVING IN OUR DIRECT AREA. THE APPLICANT HAS NOT MET THE CRITERIA FOR THIS ITEM.**

. (8) A landscape plan drawn to scale showing the proposed and existing landscaping, including type, spacing, and size

**JV COMMENT; TREE REMOVAL, AFFECTS OF TREE REMOVAL ON NEIGHBORING FOREST AND FARMLAND I BELIEVE A LANDSCAPE PLAN TO MINIMIZE THE IMPACT ON THE EXISTING ENVIRONMENT NEEDS TO BE CONSIDERED . I SUGGEST THAT IMPACT IS ALREADY OCCURRING WITH GROUND SOIL AND TREE REMOVAL BY APPLICANT. I AM CONCERNED ABOUT THE IMPACT REMOVING LARGE TREES WILL HAVE ON MY TREE AND FOREST LANDS DIRECTLY TO THE WEST. THIS HAS NOT BEEN ADDRESSED BY THE APPLICANT AND I CONCLUDE THE CRITERIA HAS NOT BEEN MET.**

(9) Plans showing the connection to utilities/right-of-way cuts required, ownership of utilities and easements required. (10) Documents demonstrating that any necessary easements have been obtained. (11) Plans showing how vehicle access will be provided. (12) Signature of the property owner(s) on the application form or a statement from the property owner(s) granting authorization to proceed with building permit and land use processes. (13) Documentation that

the ancillary facilities will not produce sound levels in excess of those standards specified below in the Approval Criteria for lands not zoned Exclusive Farm Use

**JV COMMENT MY NEIGHBORING FARM IS EFU, I AM NOT CONVINCED THAT SOUND LEVELS WILL NOT INTERFERE WITH MY DAILY LIFE AND IMPACT MY LIVESTOCK/SPECIES OF WILDLIFE , DOMESTIC PETS AND CROPS. The criteria and burden of proof has not been met.**

(14) A map of the county showing the approximate geographic limits of the "cell" to be created by the facility. This map shall include the same information for all other facilities owned or operated by the applicant within the county, or extending within the county from a distant location, and any existing detached WCF of another provider within 1,000 feet of the proposed site. (15) Documentation demonstrating that the FAA has reviewed and approved the proposal, and the Oregon Aeronautics Division has reviewed the proposal. (16) Full response to the Approval Criteria for lands not zoned Exclusive Farm Use specified below as applicable.

**§ 39.7740 APPROVAL CRITERIA FOR LANDS NOT ZONED EXCLUSIVE FARM USE.**

(11) Landscape and Screening. All WCFs shall be improved in such a manner so as to maintain and enhance existing native vegetation and suitable landscaping installed to screen the base of the tower and all accessory equipment, where necessary. To this end, all of the following measures shall be implemented for all ground mounted WCFs including accessory structures. (a) A landscape plan shall be submitted indicating all existing vegetation, landscaping that is to be retained within the leased area on the site, and any additional vegetation that is needed to satisfactorily screen the facility from adjacent land and public view areas. Planted vegetation shall be of the evergreen variety and placed outside of the fence. The landscape plan shall be subject to review and approval of the Design Review process. All trees, larger than four inches (4") in diameter and four and a half feet high (4 1/2') shall be identified in the landscape plan by species type, and whether it is to be retained or removed with project development; (b) Existing trees and other screening vegetation in the vicinity of the facility and along the access drive and any power/telecommunication line routes involved shall be protected from damage, during the construction period.

**Jv COMMENT I BELIEVE THE APPLICANT NEEDS TO PROVIDE A LANDSCAPE PLAN FOR MITIGATION AND IMPACT ON THE NEIGHBORING LANDS. I BELIEVE THERE SHOULD BE A WRITTEN PLAN FOR HOW THE APPLICANT INTENDS TO KEEP THE STAND OF TREES THAT ARE NECESSARY FOR CONCEALMENT HEALTHY AND THRIVING. I EXPECT A WRITTEN AGREEMENT FOR THE ENTIRETY OF THE LEASE OF THE LAND FOR THIS TOWER THAT THE TREES AND FOREST WILL NOT BE CLEAR CUT NOR ALLOWED TO DIE, AND THAT THE HIGHEST LEVEL OF CARE AND MONITORING WILL GO INTO THE CARE OF THE FOREST IN THE CLOSE AND SURROUNDING AREA OF THE PROPERTY.**

**A SHIELD FOR NEIGHBORING HOUSES COULD BE PROVIDED TO INCLUDE EMF MONITORING , CONSULTATION, AND SHIELDING UPGRADES TO THEIR EXISTING HOMES AND STRUCTURES. I CONCLUDE THAT CRITERIA HAS NOT BEEN MET BY THE APPLICANT AND THIS APPLICATION SHOULD BE DENIED.**

**IN CONCLUSION, I AM STRONGLY OPPOSED TO THIS CWF TOWER. I HAVE LIVED A PEACEFUL , QUIET LIFE HERE , PAID MY TAXES, EMPLOYED IN A PRODUCTIVE AND CONTRIBUTING OCCUPATION IN OUR SCHOOL DISTRICTS HERE IN OREGON, IN EAST MULTNOMAH COUNTY FOR 32 YEARS. I FEEL I HAVE A RIGHT TO THE ENJOYMENT AND QUALITY OF LIFE I HAVE BEEN ACCUSTOMED TO ON MY PROPERTY AND SHOULD NOT BE PUT AT RISK FOR HEALTH OR LIFE PURSUITS. I WAS TOLD IT WOULD BE NECESSARY TO COMMENT ON THIS PROPOSAL IN AN ABRUPT AND STRESSFUL WAY WITHIN 14 DAYS DESPITE GOVERNMENT AND MULTCO CLOSURES, GIVEN VERY LITTLE TIME TO BECOME INFORMED NOR GATHER NEIGHBOR AND FAMILY INPUT. I BELIEVE THE APPLICANT HAS NOT PERFORMED SUFFICIENT RESEARCH NOR PROVIDED PROOF FOR THE ABOVE MENTIONED AREAS OF THE APPLICATION PROCESS, I BELIEVE STRONGLY THIS APPLICATION SHOULD BE DENIED AND THAT THE CRITERIA HAS NOT BEEN MET BY THE APPLICANT.**

**SINCERELY,  
JO ANNE S VINCENT  
330 NE Seidl Rd  
Troutdale, Or 97060  
503 737 4391**

ADDITIONAL NEIGHBORS THAT HAVE CONCERNS WANT TO ADD THEIR NAME TO THIS LETTER AS WELL:

Ann Schilke [AESchilke@gmail.com](mailto:AESchilke@gmail.com)





Rithy Khut <rithy.khut@multco.us>

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## Comments on Case File T2-2019-12701

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**Gordon Fulks** <gordonfulks@hotmail.com>

Tue, Jul 14, 2020 at 2:26 PM

To: "rithy.khut@multco.us" <rithy.khut@multco.us>

Cc: Mia Schreiner <miaschreiner@gmail.com>, Carl Schreiner <carlschreiner4@gmail.com>



**External Sender** - Be Suspicious of Attachments, Links, and Requests for Payment or Login Information.

Attached please find comments on the above referenced Cell Tower project in rural Multnomah County outside the urban limit line.

If for any reason you cannot read the attached pdf file, please let me know immediately so that I can provide the file in another format.

Since this is time critical, please acknowledge receipt by replying to this email.

Sincerely Yours,

Gordon J. Fulks, PhD  
[28812 E. Woodard Road](#)  
Troutdale, Oregon 97060

cc: Mia Shreiner, MD  
Carl Schreiner, MD



**Mult cell tower v2.pdf**  
129K



28812 E. Woodard Road  
Troutdale, Oregon 97060  
14 July 2020

Multnomah County Oregon  
Attn: Rithy Khut  
1600 SE 190<sup>th</sup> Avenue  
Portland, Oregon 97233

Reference: Case File T2-2019-12701

Ladies and Gentlemen,

As a consultant who has worked this issue for clients, as a former Director of the Corbett Water District that expressed interest in locating cell phone facilities on their many water storage tanks in our area, and as a homeowner whose house is shown on your satellite image of the immediate vicinity of the project, I would like to submit these comments.

First, I need to say that **I was never notified about this project** by Multnomah County. That is a huge oversight, considering that I live so close and am regularly notified of projects proposed in our area, even as far away as the city of Troutdale. Many have little impact on my seven lots (29 acre) property. This one does. I only found out about the proposed cell phone tower a few days ago from a very distressed neighbor. Since cell phone installations are typically benign, you should be more than willing to let everyone know.

Of course, the proposed installation is far from benign. The basic problem is that the tower will rise well above surrounding trees, appear ludicrous as a fake tree, and flash lights at us day and night. At night the flashing strobe, intended to warn off low flying aircraft, will spoil our dark sky and spoil the tranquility of our area. If this were to be located in the city where there are all sorts of city lights, some flashing, some not, it would probably blend in fine.

But in our very dark environment, it will stick out like a sore thumb. Those living closest will not be able to ignore the constant flashes, as the tower never sleeps. (How will we sleep??) Those of us living roughly a thousand feet away will find our night sky contaminated by the strobe, making it more difficult to see the Milky Way galaxy as well as shooting star displays. These are important to us, because I am an astrophysicist.

Are flashing lights harmful to the environment, namely neighbors and wildlife? Your standards say they are:

39.685039.6850

## DARK SKY LIGHTING STANDARDS

(A) The purpose of the Dark Sky Lighting Standards in this section is to protect and promote public health, safety and welfare by preserving the use of exterior lighting for security and the nighttime use and enjoyment of property while minimizing the obtrusive aspects of **exterior lighting uses that degrade the nighttime visual environment and negatively impact**

## wildlife and human health.

I am sure that “negatively impact” is true in this case.

My property is maintained for wildlife, and I am concerned for the well-being of all the creatures who live on my land and adjacent properties. We had a buck and doe in our front yard the other day. A magnificent Red Tail Hawk was hunting moles in my backyard. We have seen the largest surviving North American woodpecker (Pileated Woodpecker) flying over our property. It is a species of concern and lives in the Sandy River Gorge where we and others maintain a degree of wildness that it needs. My immediate neighbors saw two young bears on their property that runs along the west side of Seidl Road, directly west of the proposed project.

Are mitigations possible to preserve a dark sky, avoid harm to neighbors and wildlife, and allow our area to retain its rural character? Yes! For instance, the strobe light on the tower could be baffled, so that no light strikes the ground. That is probably the minimum necessary to protect humans and wildlife. But it will not work on our many foggy nights, when the fog (or low cloud cover) will reflect the strobe light down upon us.

Another possibility is to limit the cell phone tower height to just above the tree tops. Then it would likely not need a flashing light anymore than the surrounding trees need lights. Your prior decision on another cell tower in our area specified **No exterior lighting is permitted on the tower or the equipment shed [MCC 33.6183(B)(8)]**. That was appropriate and helpful.

A still better idea would be to contact the Corbett Water District to see if they would allow the the cell phone antenna complex to be placed on their “Cabbage Hill” or “Mershon” reservoirs. Those are located at elevations that would likely not require an obtrusive tower or strobe at all.

At the Water District, we had a lot of trouble getting Multnomah County Planners to appreciate the very different environment where we live, beyond the Portland Metro urban limit line. We have very different concerns and needs than those living just a short distance away inside the urban area. We are also near or a part of the Columbia Gorge National Scenic Area, where aesthetic standards are important and strict. That means that ugly towers which rise far above the tree canopy spoil the scenic character of our area.

Since I am but one of several neighbors who should have been notified, I urge you to contact at the very least *every home visible on your satellite photo*. They will have concerns in addition to those I have voiced here.

**This construction project as presently proposed is NOT acceptable or appropriate for our rural community. Please deny it until it is redesigned to avoid substantial damage to neighbors.**

Sincerely Yours,

Gordon J. Fulks, PhD



Rithy Khut <rithy.khut@multco.us>

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## Janet Helus Comment on Cell Tower T2-2019-12701

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**Mark and Ali** <maknieriem@comcast.net>  
To: rithy.khut@multco.us

Tue, Jul 14, 2020 at 3:58 PM



**External Sender** - Be Suspicious of Attachments, Links, and Requests for Payment or Login Information.

Rithy,

Here is comment and supporting documents from Janet Helus. I am emailing on her behalf. Janet's email is [circlefire55@gmail.com](mailto:circlefire55@gmail.com)

Thank you,

Alison Knieriem

---

### 2 attachments



**Janet Helus Comment T2-2019-12701.pdf**  
1308K



**Entomology and Zoology Studies Bees.pdf**  
2046K

EXHIBIT

D.15



Rithy Khut @ multco.us

July 14, 2020

To Rithy Khut,

Re: 150 Ft cell tower at  
29501 E. WOODARD Rd. Troutdale, OR 97060

I want to make a List of my  
concerns due to the shortage of  
time that I have been allowed to  
respond to this request.

I think that this tower is not  
beneficial for our community, health  
of our neighbors (especially with the tower  
being able to install more antennas on  
the same pole.) It's not beneficial to  
our bee keepers with bee colonies endangered  
by the tower's signals, see attachments.  
There would be food crops and gardens

affected by lack of bees, we are heavy into agriculture in our area.

The housing prices would drop and we would have written testimony if requested to that opinion.

Blackrock LLC stated that we should have had evidence at the April 2019 meeting.

That meeting was to find out what their plans were and not to have a hearing.

Because of co-vid, I would like to state that this is a difficult time for all of us. For the timing, meetings and shared information.

April, 2019 meeting remarks made about whether this tower at this

location is necessary or just  
a requested cell tower placement.

The answer was that it was not  
necessary here and the speaker requested  
that we tell him where else he could  
put his tower. Again, this was  
a fact finding meeting for us and  
not our burden to supply a alternative  
location. I thought his responses  
to our questions were not informative.

At that time, he could not answer  
these questions:

- \* How bright is the light?

- \* How many times a minute  
does it blink?

- \* What color is it?

- \* What else will you install on this tower pole?
- \* Why are you not going to a less populated area?
- \* Why are you not searching higher so the pole would not be so visible because of the tree line?
- \* Can you discuss the surge protection for our houses from lightning?
- \* Why haven't you had a Troutdale Airport review?
- \* Are you installing another tower within 10 miles?  
There were more questions from my neighbors.

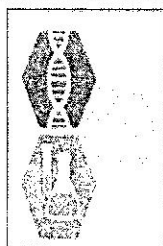
Radiation levels will not be determined until completion of all empty places on tower.

The impact of this tower will be unknown and will last as long as the permamete tower is here for literally generations.

I realize that this company has invested their time & money into this project. Please do not let that enter into your decision, for all of us have also put years and finances into our family homes, we cherish our area and this tower is not necessary

Thank you

e-mail Janet Helus  
Circle K Fire 55@gmail.com P.O. Box 505 Troutdale OR 97060



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**Ritu Ranjan Taye**  
Department of Entomology,  
Assam Agricultural University,  
Jorhat, Assam, India

**Mukul Kumar Deka**  
Department of Entomology,  
Assam Agricultural University,  
Jorhat, Assam, India

**Ataur Rahman**  
Department of Entomology,  
Assam Agricultural University,  
Jorhat, Assam, India

**Manha Bathari**  
Department of Entomology,  
Assam Agricultural University,  
Jorhat, Assam, India

## Effect of electromagnetic radiation of cell phone tower on foraging behaviour of Asiatic honey bee, *Apis cerana* F. (Hymenoptera: Apidae)

**Ritu Ranjan Taye, Mukul Kumar Deka, Ataur Rahman and Manha Bathari**

### Abstract

The effect of electromagnetic radiation (EMR) of cell phone tower on foraging behaviour of honey bee, *Apis cerana* F. was studied at Assam Agricultural University, Jorhat from December to May during 2012-13 and 2013-14 at an interval of 15 days. To quantify the effect of EMR, five treatments were placed at varying distance from the tower having different radiation level. The present study results revealed that the peak foraging behaviour of worker bees continues from March to May. The foraging behaviour of worker bees were observed maximum in colonies placed at 500m followed by 1000m, 300m and 200m and least at 100m distance from the tower. The results from the present investigation revealed that the *Apis cerana* colonies in close proximity to cell phones towers were most affected by the electromagnetic radiation emitted by the cell phone tower.

**Keywords:** Electromagnetic radiation, cell phone tower, *Apis cerana* F., foraging behaviour

### 1. Introduction

Apiculture is a dynamic vocation and has developed into an important industry in India. Traditional apiculture in India is mainly based on Asiatic honey bee, *Apis cerana* F. It is essential not only for honey and other hive products, but also for the pollination service provided by bees. The economic role of honey bees in worldwide pollination has been statistically valued around 153 billion Euros in the year 2005<sup>[1]</sup>. Bee losses have been recorded for more than a century<sup>[2]</sup>. A new phenomenon of sudden disappearance of bees with little sign of disease or infestation has been reported from all over the world where the bees simply leave the hive and fail to return. Colony Collapse Disorder (C.C.D) is the name given to the problem<sup>[3]</sup>. CCD has so far pointed to pesticides, air pollution and even GMOs. In the US, disappearance of bees was associated with the rising network of electromagnetic pollution where bees simply leave the hive and fail to return<sup>[4]</sup>. Studies have brought out evidence to support the theory of colony collapse disorder (CCD) among honey bees due to electromagnetic radiation from cell phones and their relay towers. The massive amount of radiation produced by towers and mobile phones is actually affecting honey bee behaviour and biology. The "waggle" dance that bees perform on the honey comb to communicate with others could be influenced by the radiation, these prevents them from returning back to their hives. The thriving hives suddenly left with only queens, eggs and hive bound immature worker bees. Recently, a sharp decline has been noticed in commercial bee population in Kerala posing a serious threat to beekeepers, hitting apiculture. Similar cases have been observed in Bihar, Punjab, and other parts of India and have been attributed to increasing electromagnetic pollution in the environment. Currently, there are more than 60 crores cell phone users and nearly 4.3 lakh cell phone towers in India to meet the communication demand. The numbers of cell phones and cell towers are increasing despite of several disadvantages<sup>[5]</sup>.

So keeping these points in view, the present experiment had been carried out to see the effect of EMR from cell phone tower on foraging behaviour of Indian honey bees, *Apis cerana* F.

### 2. Materials and Methods

The present investigation on effect of electromagnetic radiation of cell phone tower on foraging behaviour of honey bee, *Apis cerana* F. (Hymenoptera: Apidae) was carried out at

**Correspondence**  
**Ritu Ranjan Taye**  
Department of Entomology,  
Assam Agricultural University,  
Jorhat, Assam, India

Assam Agricultural University, Jorhat, India (26°46'N latitude, 94°12' E longitude and 86.6 meters above sea level). The observations were recorded from December to May during 2012-13 and 2013-14 at an interval of 15 days. The experiment was conducted by placing five treatments each replicated four times at varying distance from the tower viz:

T<sub>1</sub> = *Apis cerana* colonies placed at 100m away from the cell phone tower

T<sub>2</sub> = *Apis cerana* colonies placed at 200m away from the cell phone tower

T<sub>3</sub> = *Apis cerana* colonies placed at 300m away from the cell phone tower

T<sub>4</sub> = *Apis cerana* colonies placed at 500m away from the cell phone tower

T<sub>5</sub> = *Apis cerana* colonies placed at 1000m away from the cell phone tower

A 3-Axis RF electromagnetic field meter was used to measure the electromagnetic radiation from the cell phone tower at varying distances (Table 1)

**Table 1:** EMR frequency on *Apis cerana* colonies placed at varying distance from the mobile tower during the observation period.

EMR measurement	0m	T <sub>1</sub> (100m)	T <sub>2</sub> (200m)	T <sub>3</sub> (300m)	T <sub>4</sub> (500m)	T <sub>5</sub> (1000m)
Electric field (E) mV/m	0	159-189	76-127	75-112	63-101	65-103

The following behavioural aspects were recorded during the observation:

#### a. Flight activity

Flight activity was measured as number of worker bees leaving the hive per minute.

#### b. Returning ability

Returning ability was determined by counting the number of worker bees returning to the hive per minute.

#### c. Pollen foraging efficiency

Pollen foraging efficiency was measured as number of worker bees returning with pollen loads per minute.

#### Statistical analysis

The experimental data were statistically analysed by the method of analysis of variance developed by Fisher (1920's). The data were statistically analysed and the source of variance due to replication, treatment and error were separated out from the total variation. The significance or non-significance of a given variance was determined by calculating the respective values of "F" and by comparing the calculated value of "F" at 5 per cent probability level.

### 3. Results and Discussion

The study on effect of electromagnetic radiation on behavior of *Apis cerana* revealed that, March to May was the peak foraging period during the study period. The flight activity was observed maximum (33.29 bees per minute) in colonies placed at 500m distance from the tower followed by 1000m, 300m and 200m, where number of bees leaving the hive was recorded to be 32.42, 31.71 and 30.96 bees per minute respectively, while minimum was reported in colonies placed at 100m (28.58 bees per minute) from the tower. The returning ability of worker bees pertaining to various

treatments, the maximum 22.42 returning bees per minute was noticed in colonies placed at 500m distances followed by 1000m, 300m and 200m where the average returning ability were 21.75, 21.42 and 19.96 bees per minute respectively. The least returning ability was recorded from colonies placed at 100m distance (19.67 bees per minute) (Table 3). The study revealed that the number of worker bees returning to the hive with pollen loads per minute was not significantly affected in all the treatments. *Apis cerana* colonies in close proximity to mobile phones towers were most affected by the electromagnetic radiation emitted by the tower. Similar type of results was reported by Favre where proximity of mobile phone handsets induced honey bee workers to "pipe" [6]. The radiation produced by towers might affect the navigational skills of the honey bees and preventing them from returning back to their hives. Ferrari carried out a series of experiments that subjected foraging bees to magnetic fields, which appeared to disrupt their ability to navigate so they become less able to find their way home [7]. Similar type of results were reported by Sharma and Kumar where the number of returning bees declined in colonies with active cell phones (36.4 bees per minute) as compared to the control (39.6 bees per minute) [8]. Another important finding was that the number of bees leaving the hive also decreased following exposure to EMR of cell phone. Similarly, Sainudeen reported that after ten days of exposure to radiation the worker bees never returned hives in the test colonies [9]. In contrary to the findings, Mall and Kumar reported that there was no apparent effect of EMR on brood rearing, honey production and foraging behaviour of *Apis mellifera* colonies [10]. Similarly, Mixon *et al.* reported that there was no effect of GSM radiation exposure on aggression of honey bees. They also concluded that GSM cellular phone radiation emission do not inhibit the foraging behavior and navigational ability of honey bees, and unlikely to affect colony health [11].

**Table 2:** Effect of electromagnetic radiation of cell phone tower on flight activity of worker bees of different treatments placed at varying distance from the tower.

Treatments	Number of worker bees leaving the hive per minute at monthly interval						Mean
	Dec	Jan	Feb	Mar	Apr	May	
T <sub>1</sub>	28.50	29.25	29.00	28.50	28.50	27.75	28.58
T <sub>2</sub>	30.00	31.00	32.00	32.25	31.75	28.75	30.96
T <sub>3</sub>	31.50	31.75	32.25	32.75	31.75	30.25	31.71
T <sub>4</sub>	32.25	32.50	34.50	35.50	33.00	32.00	33.29
T <sub>5</sub>	31.00	32.50	32.50	34.50	32.25	31.75	32.42
S.Ed			0.78	1.01	0.90	0.70	
C.D (P=0.05)	N.S	N.S	1.70	2.21	1.96	1.51	



**Table 3:** Effect of electromagnetic radiation of cell phone tower on returning ability of worker bees of different treatments placed at varying distance from the tower.

Treatments	Number of worker bees returning the hive per minute at monthly interval						Mean
	Dec	Jan	Feb	Mar	Apr	May	
T <sub>1</sub>	18.00	19.50	19.25	19.50	21.00	20.75	19.67
T <sub>2</sub>	18.25	20.00	19.75	20.25	20.75	20.75	19.96
T <sub>3</sub>	19.75	19.75	20.50	22.75	22.25	23.50	21.42
T <sub>4</sub>	20.25	21.25	21.50	23.50	23.75	24.50	22.46
T <sub>5</sub>	20.00	20.25	21.75	22.25	22.50	23.75	21.75
S.Ed				0.92	0.94	0.83	
C.D (P=0.05)	N.S	N.S	N.S	2.01	2.04	1.81	

**Table 4:** Effect of electromagnetic radiation of cell phone tower on pollen foraging efficacy of worker bees of different treatments placed at varying distance from the tower.

Treatments	Number of worker bees returning the hive with pollen load per minute at monthly interval						Mean
	Dec	Jan	Feb	Mar	Apr	May	
T <sub>1</sub>	6.00	7.75	6.00	7.75	6.00	7.75	6.00
T <sub>2</sub>	7.00	8.00	7.00	8.00	7.00	8.00	7.00
T <sub>3</sub>	7.50	8.50	7.50	8.50	7.50	8.50	7.50
T <sub>4</sub>	7.75	9.25	7.75	9.25	7.75	9.25	7.75
T <sub>5</sub>	8.50	9.50	8.50	9.50	8.50	9.50	8.50
S.Ed	N.S	N.S	N.S	N.S	N.S	N.S	

#### 4. Conclusion

The results from the present investigation revealed that the *Apis cerana* colonies in close proximity to mobile phones towers were most affected by the electromagnetic radiation emitted by the tower. The flight activity and returning ability of worker honey bees were maximum in colonies placed at 500m and minimum at 100m from the tower. There was no significant difference in the pollen foraging behaviour of foragers in various treatments. Findings of several works reported sharp decline and potential health hazards in honey bee populations due to cell phone radiation and could considerably weaken the infrastructure of food webs. The EMRs may harm the health of honey bee in the long run; however, the immediate and direct impact is yet need intensive research to draw a firm conclusion.

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# Colony Collapse Disorder (CCD) in Honey Bees Caused by EMF Radiation

Sundar Santhosh Kumar

Department of Computer Science, Alagappa University, Karaikudi, Tamil Nadu, India - 630 003; Dr. S. Santhoshkumar - Email: [santhoshkumars@alagappauniversity.ac.in](mailto:santhoshkumars@alagappauniversity.ac.in)

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## Abstract:

Honey bees are one of the treasures in the world. An increase of waveform communication leads to good information exchange of mankind. In the biological view, it causes a lot of side effects and lifestyle changes in other living organisms. The drastic changes are causing the natural imbalance in the ecosystem and become a global issue. There are significant reasons for bee colony collapse disorder (CCD) like pesticides, disease and climate change. Recent studies reveal that a cell phone tower and mobile phone handset are also causing side effects to honey bees due to radiation emission. Most of the researchers concentrated on biological and behavioral changes in a honey bee due to radiation effects. For that, the real-time radiation levels have experimented but the different technical perspectives such as radiation emission levels, handset radiation emission measures and multi-sources of radiation are needed to be considered during research. This study aimed to provide possible research extensions of colony collapse disorder caused by cell tower and mobile handsets.

**Keywords:** Electromagnetic radiation, cell towers, honey bees, colony collapse disorder.

## Background:

Honey bees are small insects which play a vital role in agriculture. Honeybees are essential partners of pollination for successful yield in agriculture. Recent declines in honey bee populations and increasing demand for insect-pollinated crops raise concerns about pollinator shortages. It happens due to pesticides, monocultural crop practices etc. [1]. The recent study reveals that another potential cause for bee losses are electromagnetic fields. The sudden growth in the telecommunication sector leads to the manifold increase of mobile phone and exponential installation of cell towers across the nations. The sudden loss of honey bees in a colony is called colony collapse disorder (CCD) [2]. It is a syndrome with no adult bees in with a queen in a colony. It is said to be a dead colony. The cellular service providers and governing bodies confirming that there are no side effects due to cell tower radiation and cell phones. According to plant tree foundation (PTF) in America, there is no real evidence that honeybees rely on the electromagnetic field to navigate, and many apiaries that are still experiencing losses are in rural areas where cell phone service is spotty or absent [3]. Some of the researchers revealed that there is

standard evidence that the EMF radiation cause damage in honey bees. A large number of studies have been performed over the last two decades to assess whether cell towers and mobile phones pose a potential health risk or not. In another view WHO conducted a formal risk assessment of all studied health outcomes from radiofrequency field's exposure by 2016 whereas WHO (2010) reported there was no standing evidence for causing health defects in the ecosystem by EMF radiation [4, 5]. In the year 2017 Olgasheean, former international civil servant, brain-tumor survivor and electro-sensitive individual from World Health Organization who initiated a project for establishing a globalized standard for wireless communication which comprises mobile device standards, radio wave, and microwave emission limitations [6]. The important agenda for the mission is to protect the world population from harmful microwave radiations. The WHO has given the green light to governments, regulatory bodies, service providers, and healthcare agencies around the world to consider radiation emission issues. Based on that the Department of Telecom (DOT) India in 2017 launched a web portal called "Tarang Sanchar" that allows people to know radiation emission levels of cell towers



across the country [7, 8]. The problem is whether honey bees affected by radiation in permissible levels or when high-level radiation occurs. These areas should be explored in both biological and technical perspectives. There are significant studies done in the biological perspective hence the limited number of works done in technical perspective. For that, the present study investigates existing experimental studies and analyzes to find possible research paths.

#### Evidential Study:

The existing experimental studies contributed much more in CCD research area. The overall work investigation is classified in three major categories namely honey bee radiation study in hives, the impact of the life cycle of honey bees caused by EMF radiation, CCD caused by cell towers.

#### *Study of CCD caused by Radiation in Hives:*

The first criteria are well explored and the studies confirmed the radiation effects are possible for CCD due to mobile handsets. The wagging dance, foraging, and navigation behavior of honey bees are destructed due to radiation emission of mobile phones. Is electromagnetism one of the causes of the CCD? A work plan for testing this hypothesis, Marie-Claire Cammaerts (2017) [9]. The experimental study made in Belgium. The honey boxes with and without mobile phones have experimented in radiation exposure. The health condition and behavioral changes in honey bees are predicted during experimentation. The study has shown that the honey bees hesitated to enter into the hive where mobile handset is placed inside. The bee felt discomfort and given alert sound about the indication of danger. The count of bee entered in another entrance (without mobile handset) is comparatively high and no behavioral change was recorded. Electromagnetic Radiation (EMR) Clashes with Honey Bees, Sainudeen Sahib.S (2011) done an experimental study with six honey hives [10]. The selected hives with mobile handsets and results shown the strong destruction of navigational skills in worker bees and colony collapsed due to high radiation emission. The study did not cover any distance measures between cell towers, mobile handsets, and hives.

#### *Study of radiation influences in a life cycle of honey bees:*

Most of the studies focused on behavioral change in honey bees due to EMF radiation. Some significant contributions are in queen and its hatching measures. Changes in honeybee behavior and biology under the influence of cell phone radiations, VedParkash Sharma and Neelima R. Kumar (2010), made a significant study of honey bees during radiation exposure and revealed remarkable outcomes of their work [11]. The results have shown that the life cycle of the honey bee is affected by electromagnetic radiation exposure. Influence of cell phone radiations on *aphismellifera* semen Kumar, Neelima r., tarunaVerma and anudeep (2012), examined male honey bee to prove the impact of electromagnetic radiation in their semen [12]. This work revealed that the genetic

disorder in a brood may be possible due to EMF by mobile phone and cell towers. The test made with mobile handsets kept inside the hives. The Effect of Cell Phone Radiations on the Life Cycle of Honeybees, Nashaat El Halabi, Roger Achkar, Gaby AbouHaidar (2014) made a study in a different view. They measured variation in sound by honey bees during radiation emission. The sound emitted by bees is recorded in various conditions and resulted that the honey bees are disturbed by mobile radiation and they acted with different behavior during radiation [13].

#### *Study of CCD caused by cell towers:*

Only a few of the studies are done about EMF radiation in cell towers. The cell tower and multiple cell towers in the same location can have the possibility of colony collapse. The mobile phone with respect to its density and battery level also be considered. For that SAR and Connect values will be used as the measuring parameters. Effect of electromagnetic radiations on brooding, honey production and foraging behavior of European honey bees, Pramod mall and Yogesh Kumar (2014) made an experimental study and resulted that there is an insignificant change in honey bee colony by electromagnetic radiation [14]. The three-phenomenon taken into the study is a colony under cell phone tower - The cell phone tower radiation emission is zero degree at this point. Therefore, the radiation must be very less and it will not create any major risks. For example, many birds are having to construct their nest in cell phone towers. The second experimentation was done with mobile phone kept in a colony. Mobile phones will not cause any biological damages in a colony is acceptable but the mobile phone radiation level increases during communication time only. Hence the test did not include that criterion. Effect of electromagnetic radiation of cell phone tower on the foraging behavior of Asiatic honey bee, Apiscerana F. (Hymenopteran: Apidae), RituRanjanTaye, Mukul Kumar Deka, Ataur Rahman and ManhaBathari (2017) made an experimental study about CCD caused by cell phone towers [15]. The test is carried in different distance levels from cell towers with the colony. They calculated foraging behavior, in and out the count of bees and honey collected by each honey bee to the nest. This experimental study reveals that there is a slight loss of all activities in the colony where is closer to the radiation level. The foraging behavior may possibly have affected due to cell tower radiation.

#### Research extensions in CCD:

Based on the several experimental studies the following possible research areas can be explored in technological view.

#### *Radiation Emission of Cell Towers and CCD*

Most of the studies concentrated in EMF radiation of Mobile handsets with CCD. The EMF emission of cell towers must be considered as a serious problem and lot research is needed in that area. Multiple cell towers installed in the same location is also considered. Whereas each tower may emit radiation in permissible limits but overall radiation should be measured and CCD issue to



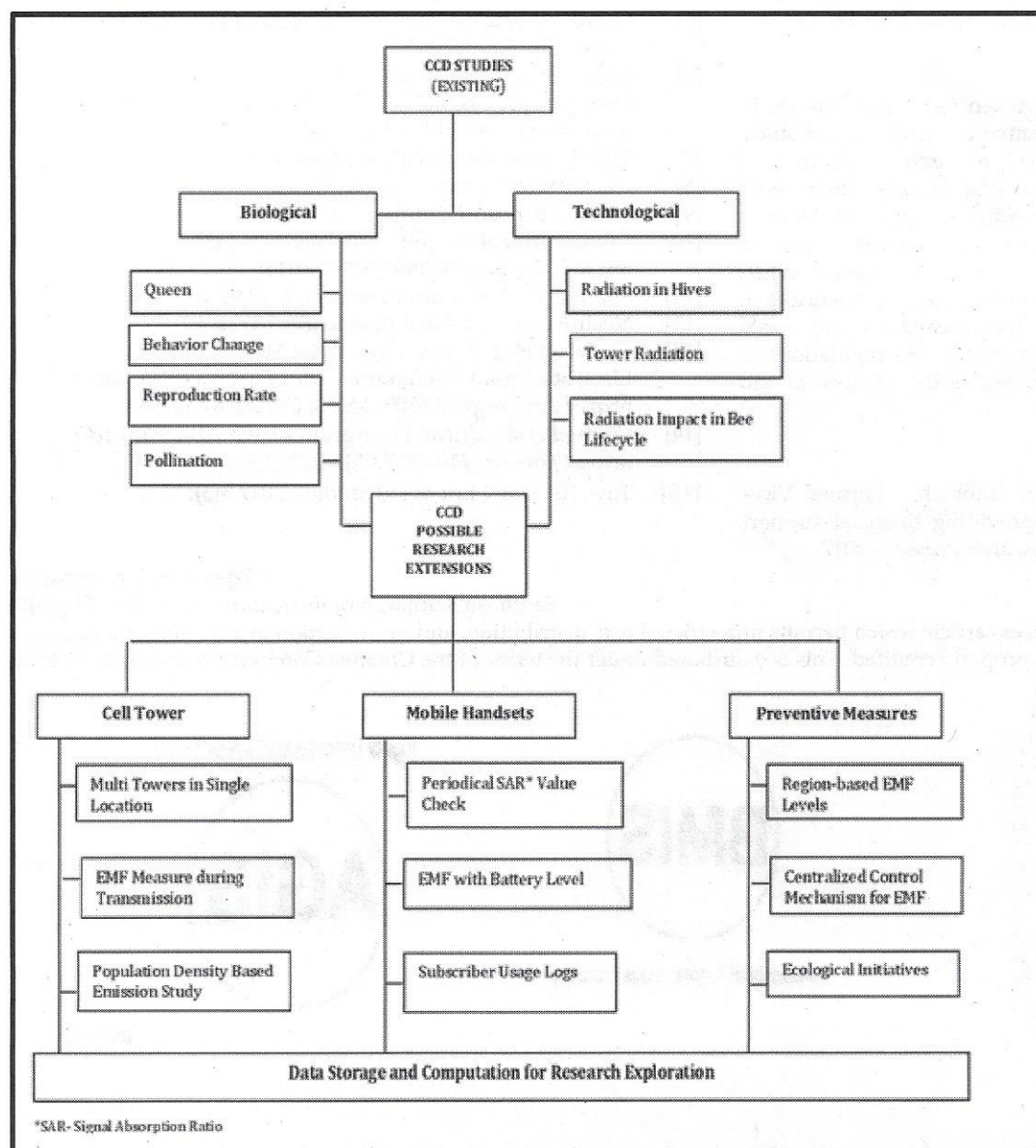
be explored. Cell towers with high-density population produce high radiation in both cell towers and mobile phones.

## Radiation Emission of Mobile handsets and Battery power

The mobile handset with less battery power and low signal range causes high radiation exposure. The distinct tower location areas, especially in forest areas must be explored. Experimentation should be done periodically during radiation and some studies done only with mobile handsets nearby hives.

## Preventive Mechanisms

The radiation shielded honey boxes may use to protect the hives from high radiation exposure. The other preventive mechanisms are also being considered like planting Trees and gardens. The less number of trees and plants insists bees to collect honey from long distances. Hence it is affected by environmental factors and failed to return their hives. If trees are available in frequent distances, then it can be avoided. The urban areas can be gardened in public areas like park etc.,



**Figure 1:** Diagrammatic Representation of CCD Research Perspectives  
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**Data Storage and Computation**

Daniel Favre (2017), an Independent researcher revealed that the experimental data about CCD and honey bees research with respect to EMF must be shared and contributed to the researchers for further exploration of research in that area. The experimental data can be used as a data set to predict accurate results using computation techniques. Another important point is experimental data are the strong shreds of evidence for radiation occurrence so that the impact of radiation can be known to the society. The data set can be stored in public storage medium as online databases or in cloud storage. So, that it is available and accessible globally.

**Conclusion:**

The present investigations were undertaken significant studies in CCD and radiation effects. The perspective of this proposed study to enable researchers to extend their research work from a technological point of view. The existing studies show both negative and non-negative impacts of radiation. whereas the non-negative studies need to confine that there is standard proven evidence for the destruction of bee colony due to radiation. When the studies have supporting data with technological evidence then it can be considered as a blueprint for researchers and social workers to insist the authorities to standardize the regulations to control and maintain the radiation emissions by cell towers and mobile handsets.

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