

STAFF REPORT

Date: March 16, 2022

To: TRPA Governing Board

From: TRPA Staff

Subject: Appeal of Hearings Officer Issued Permit for a Verizon Wireless Monopine, 1360 Ski Run Boulevard, South Lake Tahoe, CA, Assessor's Parcel Number (APN): 025-580-007, Project File No. ERSP2019-0389, Appeal File No. ADMIN2021-0034

Requested Action:

To consider and act upon an appeal filed by Monica Eisenstecken, Tahoe Stewards, LLC, Tahoe for Safer Tech, Environmental Health Trust, and David Benedict (collectively "Eisenstecken" or appellants) of a Hearings Officer-issued permit to Verizon Wireless for a Monopine telecommunication facility.

Staff Recommendation:

Staff recommends that the Governing Board modify with Special Condition 11 (Attachment A) the Monopine telecommunication facility permit issued by the Hearings Officer and deny the appeal.

Motions:

- 1) A motion to approve the findings contained in Attachment B to this staff report, including a finding of no significant environmental effect;
- 2) A motion to modify the Permit No. ERSP2019-0389 for the Verizon Wireless Monopine with Special Condition 11 as set forth in Attachment A;
- 3) A motion to grant the appeal, which motion should fail in order to affirm the Hearings Officer's determination.

To adopt the findings and modify the permit, five affirmative votes from California and nine votes overall are required. To deny the appeal, the Governing Board should vote "no". The motion to grant the appeal will fail unless it receives five affirmative votes from California and nine votes overall.

Background:

On October 14, 2021, the TRPA Hearings Officer approved Verizon Wireless' application for a new Monopine telecommunication facility and issued Permit No. ERSP2019-0389 (see Attachment C) based on, inter alia, an Initial Environmental Checklist ("IEC") (see Attachment H). The facility meets all design and location criteria in the TRPA Code of Ordinances ("Code") and the Hearings Officer adopted the written findings included in the packet (see Attachment D).

In this appeal, the appellants contend the Hearings Officer erred in granting this permit on the grounds that the IEC was flawed and demonstrated piecemeal approvals that should be evaluated basin-wide with a comprehensive Environmental Impact Statement (“EIS”), and that TRPA is disregarding environmental impacts, including shedding of faux pine needles. See Statement of Appeal, attached as Attachment E. Verizon Wireless disputes all the appellants’ claims. See Verizon Wireless Letter, attached as Attachment F. The issues are summarized below.

Discussion:

1. Adequacy of Environmental Review

Eisenstecken raises several arguments attacking the adequacy of the IEC and demanding an EIS for this single tower project. Each argument is addressed in turn.

a. TRPA examined the right project: the proposed Ski Run Cell Tower

Eisenstecken argues that TRPA has illegally piecemealed review of an alleged greater project, namely implementation of the Tahoe Prosperity Center’s (“TPC”) “Connected Tahoe.” See Attachment E at 20-21. The TPC’s Connect Tahoe is a private non-profit’s effort to bring “reliable Broadband internet and cell service” to the Lake Tahoe Region. See <https://tahoeprosperity.org/connected-tahoe/>. The TPC’s effort is not a plan of TRPA or any other governmental agency and therefore is not the subject of any decision before the agency. As a result, there is no TRPA comprehensive action for which TRPA is required to do a “plan level” EIS.¹ Compact Article VII(a)(2), see also *San Diego Citizenry Group v. County of San Diego* (2013) 219 Cal. App. 4th 1, 19, citing CEQA Guidelines §15002(c). Eisenstecken also argues that TRPA must review the possible effects of all potential cellular towers to avoid piecemealing. Attachment E at 23. TRPA undertook that plan-level review of the consequences of its ordinances when it adopted the 2012 Regional Plan Update and certified the accompanying EIS. See *Sierra Club v. TRPA*, 840 F.3d 1106 (2016). Consequently, the scope of the IEC correctly focused on the impacts from the proposed cell tower. See also Verizon’s Letter, Attachment F, at 5.

b. TRPA examined the identified environmental impacts

Eisenstecken argues that the IEC is invalid because TRPA did not address the effects from radio frequency (“RF”) emissions, the shedding of plastic faux pine needles from the proposed monopine, effects on the nearby stream environment zone (“SEZ”), and cumulative effects from other cell towers. See Attachment E.

As for impacts from RF, Congress gave the Federal Communications Commission (“FCC”) “comprehensive powers” over radio communications through the Telecommunications Act (“TCA”), and the FCC has exercised “federal primacy” over the technical aspects of such communications. See *Cohen v. Apple, Inc.*, 2020 WL 6342922, at *3, *10 (N.D. Cal. 2020). Congress determined that “it is in the national interest that uniform, consistent requirements, with adequate safeguards of the public health and safety” be established, and it tasked the FCC with adopting regulations for RF emissions. *Id.* at *10; 47 C.F.R. §§ 1.1307(b), 1.1310, 2.1091, 2.1093. While Congress preserved traditional state and local

¹ Eisenstecken references TRPA 2015 “Intelligent Transportation System Strategic Plan” (Attachment E, at 20) as somehow linked to TPC’s “Connected Tahoe” effort. TRPA adopted the 2015 ITS Strategic Plan in August 2015. To the extent Eisenstecken is challenging that approval, it is time barred.

zoning authority, it expressly prohibited states, or instrumentalities thereof, from regulating RFR emissions based on health or environmental impacts:

No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

47 U.S.C. § 332(c)(7)(B)(iv). “Environmental effects” as used in this section includes both impacts on human health and the wider environment, including plants and wildlife. See *T-Mobile Northeast, LLC v. Town of Ramapo*, 701 F. Supp. 2d 446, 460 (S.D.N.Y. 2009) (includes human health concerns); *Jaeger v. Cellco Partnership*, 2010 WL 965730, * 10 (D. Conn. 2010) (“The plain meaning of the term ‘environmental effects’ incorporates adverse effects on all biological organisms”). Thus, the proposed Verizon Wireless tower is required to comply with the FCC limits on RF emissions, and any attempt under state law to impose other limits on RF emissions is preempted.

TRPA, having been created by an interstate compact, is a creature of federal law, and the application of the TCA to its permitting process is not a matter of preemption. Rather, one must reconcile the intent of Congress in passing both the TCA and the Compact and give meaning to both statutes should there be any conflict in implementation. In furtherance of that standard, the agency position to date is this: TRPA will defer to the more comprehensive FCC research, record, and regulations over general issues of human health and environmental impacts from RF. TRPA has not received any proof of Tahoe-specific adverse impacts of RF and therefore need not reexamine the determinations of the FCC.²

Next, Eisenstecken argues on appeal for the first time that TRPA should have included an express review of impacts allegedly associated with the shedding of plastic needles from the proposed monopine. To the extent Eisenstecken is limited in this appeal to raise only issues presented to the Hearings Officer, Eisenstecken is barred here from raising new issues. In any event, TRPA has adequately addressed the pine needle shedding issue. As explained by Verizon’s report (Attachment F at Exhibit G), the needles are made of PVC plastic which does not easily degrade and is not a common source of microplastics found in water. Eisenstecken does not supply any evidence of fallen plastic needles in waters of the basin or evidence they degrade into microplastics or that degradants traced to faux needles have actually ended up in Tahoe Region waters. TRPA staff has contacted the Lahontan Regional Water Quality Control Board (“Lahontan”), the Water Resources Control Board, and the Forest Service Lake Tahoe Basin Management Unit (“LTBMU”). None of these agencies has imposed requirements for needle shedding or informed TRPA that they consider it an issue of concern.³

² *Environmental Health Trust v. FCC*, 9 F.4th 893 (D.C.Cir. 2021), relied on by Eisenstecken (Attachment E at 7-8) provides no basis to alter this conclusion as it left in place FCC’s RF regulations. If the FCC renders new RF operating standards, Verizon will be required to operate its facilities in compliance with those standards.

³ Eisenstecken speculates that Lahontan’s Basin Plan precludes the shedding of plastic needles from the monopine without a Lahontan permit. See Attachment E at 9-18. To the extent Lahontan’s Basin Plan is applicable to Verizon’s project and Verizon must obtain a permit from Lahontan, TRPA’s permit does not operate to excuse or pre-empt such a requirement. To date, Lahontan has not required any monopine project in the Tahoe Basin to obtain a permit.

Nevertheless, TRPA staff and Verizon have agreed to modify Verizon's Monopine Permit No. ERSP2019-0389 with a special condition to require use of the best available technology to avoid needle shedding and then inspection and clean up in the spring and fall of any detached debris. See Attachment A (new Special Condition 11). The special condition requires the use of best available technologies to minimize needle shedding and twice annual inspection and removal of all visible fallen material. TRPA and Verizon request that the Governing Board modify the permit to include Special Condition 11. The appropriate draft findings are set forth in Attachment B.

Eisenstecken also asserts there are undisclosed impacts to fire risk from terpenes and tower ignition as well as to endangered species. Attachment E at 24-25. Neither claim is supported or within TRPA's ambit in this case. For fire risk from alleged terpene production, TRPA defers to the FCC's environmental documentation and record as the issue is not unique to Tahoe. For forest fire risk, TRPA is unaware of cell towers being any more risk prone than existing structures built to fire code in the Tahoe Basin or any forest fires ignited by cell towers. As for endangered species, the tower will not be placed within the SEZ nor has any endangered species been identified in the project area.

Finally, Eisenstecken wrongly asserts that TRPA was required to look at project alternatives. Attachment E at 28. An alternatives analysis is only appropriate if TRPA is conducting an Environmental Assessment or an EIS. See Rules of Procedure §§ 3.4, 3.7. No such analysis needs to be undertaken for an IEC. See Rules of Procedure § 3.3.

In sum, the Governing Board should uphold the Hearings Officer's reliance on the IEC as it properly examined the scope of the project and the relevant environmental impacts.

2. The project complies with coverage rules

Eisenstecken mistakenly argues that the project violates TRPA's rules for coverage. Attachment E at 25-26. The subject property has been verified as land capability Class 1a and Class 1b. TRPA has verified 13,245 square feet of Class 1a land coverage and 5,727 square feet of Class 1b land coverage (TRPA File #VBOC2021-0164). Although the verified existing land coverage exceeds what the base allowable coverage is for the applicable land capability, TRPA regulations allow for the "grandfathering" of land coverage that has been verified as legally existing. TRPA Code Section 30.6 (Excess Land Coverage Mitigation Program) outlines the requirements in situations like this where the amount of TRPA-verified land coverage exceeds the base land coverage associated with the verified land capability.

The base allowable land coverage for the parcel is 824 square feet. A total of 18,972 square feet of land coverage has been verified as legally existing. The parcel has 18,148 square feet of excess coverage. Special Condition 3.I. of the conditional permit addresses the excess coverage mitigation requirements for the parcel. TRPA Code Section 30.6 requires that excess coverage be partially mitigated with each approval on a parcel with excess coverage. Special Condition 3.I. of the permit is consistent with the requirements of TRPA Code Section 30.6.

The land coverage relocation to accommodate this project will be within land capability Class 1a. Regarding the land capability verification, the area identified as Class 1b (and Class 1b setback) is consistently drawn on the map used for the coverage verification for TRPA File #VBOC2021-0164 and the map used for the 2005 Land Capability Verification (TRPA File #STD20050471). The 2021 application is based on a more recent, more accurate survey, and the areas depicted are the same.

Because the parcel falls entirely within Class 1 (a combination of 1a and 1b), the base allowable land coverage for the entire parcel is 1%. The excess land coverage would not be affected if the boundary between the Class 1a and Class 1b was moved (though it was not).

3. The project's scenic simulations are accurate and establish no significant effect

Eisenstecken attacks TRPA's scenic analysis as allegedly based on inaccurate Verizon simulations. Attachment E at 27. The proposed project is visible from Pioneer Trail, along Scenic Roadway Unit #45, currently in non-attainment, and from portions of the Heavenly Valley Ski Resort recreation area. Photo simulations from the Pioneer Trail/Ski Run Boulevard intersection (part of Roadway Unit 45) show that the proposed facility blends in with surrounding trees. Other perspectives (including northwest from Ski Run Boulevard, and from across the street) show that the monopine will blend in with the adjacent trees. The proposed monopine design will provide a natural tree appearance, with non-uniform tree branches, and a tapered trunk. TRPA will require a range of tree bark, branch, needle, and material samples that integrate with colors in the surrounding natural forest. The proposed monopine tower may be visible from parts of Heavenly Valley Ski Area, which is a recreation area identified in the Lake Tahoe Scenic Resource Evaluation (TRPA 1993). Due to the presence of trees of varying heights in the foreground and middleground views, the visibility of the monopine will not significantly change the viewshed and will not adversely affect or change the numerical standard for that scenic unit. By requiring a stealth monopine design, there will be no impact to views from the recreation area. TRPA staff confirmed with Verizon's scenic consultant that the proposed cell tower was accurately represented in the submitted simulations. See also Verizon Scenic Simulation Update, Attachment G.

2. Board Member Alleged Conflicts of Interest:

Eisenstecken asserts that several Governing Board members have conflicts of interest and therefore must recuse themselves from participating in consideration of this action. See Attachment E at 29-38. Because potential conflicts are personal to each board member, TRPA's General Counsel will discuss the basis for the recusal request with each affected member.

Contact Information:

For questions regarding this agenda item, please contact John Marshall, General Counsel, at (775) 303-4882 or jmarshall@trpa.gov, or Bridget Cornell, Associate Planner, at (775) 589-5218 or bcornell@trpa.gov.

Attachments:

- A. Special Condition 11
- B. Required Findings
- C. Verizon Wireless Permit No. ERSP2019-0389
- D. October 7, 2021 Hearings Officer Staff Report
- E. Statement of Appeal, dated December 1, 2021
- F. Verizon Wireless Letter, dated March 4, 2022
- G. Verizon Scenic Simulation Update, dated March 14, 2021
- H. Initial Environmental Checklist

Attachment A

Special Condition 11

Proposed Special Condition 11 to Permit #ERSP2019-0389

1. The permittee shall construct the monopine using the best available technology at that time to adhere all branches, bark, and needles to prevent shedding. The permittee shall maintain the monopine for as long as it is present in a condition consistent with the approved project plans. If any branches, bark, or needle clusters dislodge from the monopine then the materials shall be replaced using best available technology at that time. Material colors shall also be consistent with the approved project plans.
2. The permittee is responsible for keeping the site clean of material dislodged from the monopine for as long as the monopine is present. The site, and surrounding area, shall be inspected in the Spring after snow melt and in the Fall prior to snow fall and cleaned of all visible material dislodged from the tree including branches, bark, needle clusters and associated fragments. All collected debris shall be immediately removed from the site and disposed of properly.

Attachment B

Required Findings

Project Description:

- Installation of 110' stealth monopine facility at the address listed above. Ground equipment to be placed within shelter on-site which will replace an existing shelter. The landlord will share the space with Verizon. Coverage is being removed elsewhere on the parcel so that there is a net removal of 1 SQ FT of coverage. Power and Fiber to be taken from the public right of way, Needle Peak Rd.

Required Findings

21.2.2: Special Uses

1. The project to which the use pertains is of such a nature, scale, density, intensity, and type to be an appropriate use for the parcel on which and surrounding area in which it will be located.
 - The parcel is 1.89 acres and hosts a downhill snow tubing resort. Due to the nature of the project, factors such as density and intensity aren't considered for wireless facilities. However, the tower will meet zoning code requirements for the relevant district and will blend in with the parcel while maintaining a minimal impact.
2. The project to which the use pertains will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water, and air resources of both the applicant's property and that of surrounding property owners.
 - The proposed use will not harm public health, safety, and enjoyment, but will benefit the area through increased connectivity. Local residents will also benefit through greater access to emergency services. Land, water, and air resources are not anticipated to be harmed.
3. The project to which the use pertains will not change the character of the neighborhood, or detrimentally affect or alter the purpose of the applicable planning area statement, community plan, and specific or master plan, as the case may be.
 - Because of the use of "stealthing", the proposed use will not change the character of the neighborhood.

30.4.4 Relocation of Land Coverage

1. The relocation is to an equal or superior portion of the parcel or project area, as determined by reference to the following factors:
 - a. whether the area of relocation already has been disturbed;
 - b. the slope of and natural vegetation on the area of relocation;
 - c. The fragility of the soil on the area of relocation;

- d. whether the area of relocation appropriately fits the scheme of use of the property;
 - e. The relocation does not further encroach into a stream environment zone, backshore, or the setbacks established in the Code for the protection of stream environment zones or backshore;
 - Does not encroach into stream environment zone, backshore, or setbacks for protection of stream environment zone or backshore.
 - f. the project otherwise complies with the land coverage mitigation program set forth in Section 30.6
 - The project involves removing existing coverage through removing 1) an abandoned shed, 2) a portion of unused sidewalk, and 3) an asphalt apron. The project results in a net impact of -1 SQ FT of coverage.] ?
2. The area from which the land coverage was removed for relocation is restored in accordance with subsection 30.4.4.
 - Coverage is not being transferred to this parcel from another, or to another parcel from the host parcel.] Need to Restore
 3. The relocation shall not be to Land Capability Districts 1a, 1b, 1c, 2, or 3, from any higher numbered land capability district.
 - Coverage will not be relocated to another parcel. - what LCD \Rightarrow LCD².
 4. If the relocation is from one portion of a stream environment zone to another portion, there is a net environmental benefit to the stream environment zone. "Net environmental benefit to a stream environmental zone" is defined as an improvement in the functioning of the stream environment zone and includes, but is not limited to:
 - a. Relocation of coverage from a less disturbed area to a more disturbed area or to an area further away from the stream channel or water body, as applicable;
 - b. Retirement of land coverage in the affected stream environment zone in the amount of 1.5:1 of the amount of land coverage being relocated within a stream environment zone; or
 - c. For projects involving the relocation of more than 1,000 square feet of land coverage within a stream environment zone, a finding, based on a report prepared by a qualified professional, that the relocation will improve the functioning of the stream environment zone and will not negatively affect the quality of existing habitats, considering factors such as, but not limited to, soil function, hydrologic function, vegetation, and wildlife habitat.
 - Project not located within stream environment zone.

Attachment C

Verizon Wireless Permit No. ERSP2019-0389



Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.gov

October 14, 2021

Ms. Michelle Duarte
SAC Wireless
8880 Cal Center Drive, Suite 170
Sacramento, CA 95826

**GUILLIAM / VERIZON CELL TOWER PROJECT
1360 SKI RUN BOULEVARD, SOUTH LAKE TAHOE, EL DORADO COUNTY, CA
ASSESSOR'S PARCEL NUMBERS (APN) 025-580-007; TRPA FILE NUMBER ERSP2019-0389**

Dear Ms. Duarte:

Enclosed please find the Tahoe Regional Planning Agency (TRPA) permit and attachments for the project referenced above. If you accept and agree to comply with the Permit conditions as stated, please make a copy of the permit, sign the "Permittee's Acceptance" block on the first page the Permit, and return the signed copy to TRPA within twenty-one (21) calendar days of issuance. Should the permittee fail to return the signed permit within twenty-one (21) calendar days of issuance, the permit will be subject to nullification. Please note that signing the permit does not of itself constitute acknowledgement of the permit, but rather acceptance of the conditions of the permit.

TRPA will acknowledge the original permit only after all standard and special conditions of approval have been satisfied. Please schedule an appointment with me to finalize your project. Due to time demands, TRPA cannot accept drop-in or unannounced arrivals to finalize plans.

Pursuant to Rule 11.2 of the TRPA Rules of Procedure, this permit may be appealed within twenty-one (21) days of the date of this correspondence (November 4, 2021).

Please feel free to call me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Bridget K. Cornell".

Bridget K. Cornell
Associate Planner
Current Planning

Enclosure

Cc: Nel Guilliam
PO Box 19531
South Lake Tahoe, CA 96150

Verizon Wireless
8880 Cal Center Drive, Suite 130
Sacramento, CA 95826



Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.gov

PERMIT

PROJECT DESCRIPTION: Verizon – New Cellular Tower **APN** 025-580-007

PERMITTEE(S): Nel Guilliam and **FILE#** ERSP2019-0389
SAC Wireless (dba Verizon Wireless)

COUNTY/LOCATION: El Dorado County / 1360 Ski Run Boulevard, South Lake Tahoe

Having made the findings required by Agency ordinances and rules, TRPA approved this project on October 14, 2021, subject to the standard conditions of approval attached hereto (Attachment Q) and the special conditions found in this permit.

This permit shall expire on October 14, 2024, without further notice unless the construction has commenced prior to this date and diligently pursued thereafter. Commencement of construction consists of pouring concrete for a foundation and does not include grading, installation of utilities or landscaping. Diligent pursuit is defined as completion of the project within the approved construction schedule. The expiration date shall not be extended unless the project is determined by TRPA to be the subject of legal action which delayed or rendered impossible the diligent pursuit of the permit.

NO TREE REMOVAL, CONSTRUCTION OR GRADING SHALL COMMENCE UNTIL:

- (1) TRPA RECEIVES A COPY OF THIS PERMIT UPON WHICH THE PERMITTEE(S) HAS ACKNOWLEDGED RECEIPT OF THE PERMIT AND ACCEPTANCE OF THE CONTENTS OF THE PERMIT.
- (2) ALL PRE-CONSTRUCTION CONDITIONS OF APPROVAL ARE SATISFIED AS EVIDENCED BY TRPA’S ACKNOWLEDGEMENT OF THIS PERMIT.
- (3) THE PERMITTEE OBTAINS A COUNTY BUILDING PERMIT. TRPA’S ACKNOWLEDGEMENT IS NECESSARY TO OBTAIN A COUNTY BUILDING PERMIT. THE COUNTY PERMIT AND THE TRPA PERMIT ARE INDEPENDENT OF EACH OTHER AND MAY HAVE DIFFERENT EXPIRATION DATES AND RULES REGARDING EXTENSIONS; AND
- (4) A TRPA PRE-GRADING INSPECTION HAS BEEN CONDUCTED WITH THE PROPERTY OWNER AND/OR THE CONTRACTOR.

Bridget K. Cornell October 14, 2021
 TRPA Executive Director/Designee Date

PERMITTEE’S ACCEPTANCE: I have read the permit and the conditions of approval and understand and accept them. I also understand that I am responsible for compliance with all the conditions of the permit and am responsible for my agents’ and employees’ compliance with the permit conditions. I also understand that if the property is sold, I remain liable for the permit conditions until or unless the new owner acknowledges the transfer of the permit and notifies TRPA in writing of such acceptance. I also understand that certain mitigation fees associated with this permit are non-refundable once paid to TRPA. I understand that it is my sole responsibility to obtain any and all required approvals from any other state, local or federal agencies that may have jurisdiction over this project whether or not they are listed in this permit.

Signature of Permittee(s) _____ Date _____

PERMIT CONTINUED ON NEXT PAGE

**APN 025-580-07
FILE NO. ERSP2019-0389**

Excess Coverage Mitigation Fee (1): Amount \$ _____ Paid _____ Receipt No. _____

Scenic Monitoring Fee (2): Amount \$ 5,000.00 Paid _____ Receipt No. _____

Security Posted (3): Amount \$ 10,000.00 Type: _____ Paid _____ Receipt No. _____

Security Administrative Fee (3): Amount \$ _____ Paid _____ Receipt No. _____

Notes:

- (1) See Special Condition 3.I., below.
- (2) See Special Condition 3.J., below.
- (3) See Special Condition 3.K., below.

Required plans determined to be in conformance with approval: Date: _____

TRPA ACKNOWLEDGEMENT: The permittee has complied with all pre-construction conditions of approval as of this date and is eligible for a county building permit:

TRPA Executive Director/Designee

Date

SPECIAL CONDITIONS

1. The project specifically authorizes the construction of a new cellular communications tower on a parcel with existing commercial development in South Lake Tahoe, California. The proposed tower is a monopine similar in color and form to trees (Jeffrey Pine) in the immediate vicinity to help ensure the tower does not result in impacts to scenic quality. The top of the upper most cell panels will be at a height of 107 feet, at the uppermost portion of the monopine pole. Faux branches will five feet above the top of the pole to a height of 112 feet. Currently, Verizon Wireless is proposing the project for its use. Verizon committed to seeking additional providers to be added to the tower. Only Verizon is proposed at this time, with the potential for another carrier. The project also includes an equipment shelter to be located adjacent to the tower. The project will require approximately 736 square feet of coverage, which will be relocated from elsewhere on the parcel. No new coverage will be added as a result of the project. The equipment shelter and pad include a 30kW diesel generator and a 132-gallon diesel fuel tank. Pursuant to Special Condition 3.K., below, TRPA will require long-term maintenance of the scenic quality of the monopine tower. The monopine's design requires an excavation depth of 7' 6" below ground surface, which has been approved by TRPA (#LCAP2019-0189). The parcel has been certified for Best Management Practices (BMPs) (Certificate #10772, October 17, 2008). BMPs will be adjusted as necessary to accommodate the project, and maintenance of existing BMPs will be required.

This review is based on the most recent set of plans received on September 29, 2021.

2. The Standard Conditions of Approval listed in Attachment Q shall apply to this permit.

3. Prior to permit acknowledgement, the following conditions of approval must be satisfied.

A. Page C-1: Site Survey: Some of the coverage numbers on this page are inconsistent with numbers shown on other pages. The coverage table, below, reflects the land coverage numbers as they were most recently conveyed. Please update with the appropriate numbers and assure consistency across the multiple site plans provided.

Total Lot area:	84,411 square feet
• Class 1b (16,735 sf; 1%)	167
• Class 1a (67,676 sf; 1%):	677
Base Allowable Coverage:	844 square feet

	Coverage (square feet)	
	Existing / Previously Approved ¹	Proposed ²
<u>Class 1b:</u>		
Buildings	1,166	1,166
Asphalt	3,640	3,640
Concrete Walkways	921	921
Class 1b Subtotal:	5,727	5,727
<u>Class 1a:</u>		
Buildings	3,663	3,153
Asphalt	6,403	6,403
Paved Parking (Needle Peak)	170	0
Concrete Walkways	2,945	2,900
Snack Shack	64	0
Expanded Equipment Shelter	0	432
Cell Tower Footing	0	304
Class 1a Subtotal:	13,245	13,192
Total Coverage, Class 1a and 1b:	18,972	18,919
Banked Class 1a:	0	53
TOTAL:	18,972	18,972

NOTES:

- 1) Existing coverage was verified per TRPA File #VBOC2021-0164. The 2021 verification was a correction to TRPA File #20040472STD. Coverage has not changed. The 2021 verification reflects more accurate coverage accounting and measurements as reflected in 2020 survey.
- 2) "Proposed Coverage" presumes the removal of "Building #1" (192 square feet), "Shed" (318 square feet), 45 square feet of "concrete sidewalk" associated with Shed, a small portion of Paved Parking along Needle Peak (which was verified and already removed), and the snack shack (which was already removed) in Class 1a.

- B. Page BMP-1: Erosion Control Plans, Best Management Practices, Notes, Legend and Details:
- (1) Please identify a construction staging area. Construction staging shall occur on a paved surface and have appropriate temporary Best Management Practices (BMPs).
 - (2) Please include a BMP calculation spreadsheet for BMPs related to the project, printed in color. This can be provided separately.
- C. Page A-1: Site Plan: See Special Condition 3.A., above. Please populate coverage table with appropriate numbers and assure consistency among the various site plans.
- D. Page A1.1: Existing Site Plan: As per above, please assure consistent land coverage numbers among the site plans.
- E. Pages A-3 and A-4 (Elevations) shall be revised to reflect the following:
- (1) A monopine trunk (within structural limitations), with a textured tree bark-like exterior.
 - (2) A monopine tree branch configuration.
 - (3) Add note stating: "The monopine tower shall be constructed and maintained to integrate with the surrounding pine forest and shall emulate, to the greatest extent feasible, the natural appearance of the surrounding forest with respect to; bark, branch and needle color, trunk color, detail, and taper, branch and needle density, and branch taper."
 - (4) Add note stating: "Antenna sock covers that match the surrounding forest color and pine needle density shall be installed on all antennas and maintained and/or replaced as needed."
- F. Please provide final engineering drawings, including a detailed foundation design. TRPA has approved an excavation depth of 7 feet 6 inches below ground surface (bgs). If the final design includes an excavation depth deeper than that, the applicant shall submit a new soils-hydro application to TRPA, seeking approval for the proposed excavation depth. TRPA shall approve the excavation prior to stamping final plans.
- G. The permittee shall submit final proposed monopine bark and needle samples. The material samples shall demonstrate the proposed monopine colors and textures will integrate with the surrounding pine forest and shall be subject to approval by TRPA staff. Final color and material samples shall also be submitted for the proposed equipment shelter.
- H. Final construction elevation drawings shall include a random tree branch and pine needle density and configuration, to be approved by TRPA prior to installation.

- I. The affected property previously has approximately 18,128 square feet of unmitigated excess land coverage. The permittee shall mitigate a portion or all of the excess land coverage on this property by removing coverage within Hydrologic Transfer Area 5 – South Stateline (California side), or by submitting an excess coverage mitigation fee.

To calculate the amount of excess coverage to be removed, use the following formula:

Estimated project construction cost multiplied by the fee percentage of 3.00% (as identified in Table 30.6.1-2 of Subsection 30.6.1.C.3. of the TRPA Code of Ordinances) divided by the mitigation factor of 8. If you choose this option, please revise your final site plans and land coverage calculations to account for the permanent coverage removal.

An excess land coverage mitigation fee may be paid in lieu of permanently retiring land coverage. The excess coverage mitigation fee shall be calculated as follows:

Coverage reduction square footage (as determined by formula above) multiplied by the coverage mitigation cost fee of \$8.50 per square foot for projects within Hydrologic Transfer Area 5 – South Stateline (California side). If you choose this option, please provide a construction cost estimate by your licensed contractor, architect, or engineer. In no case shall the mitigation fee be less than \$200.00

- J. The applicant shall submit a scenic monitoring fee of \$5,000. This fee shall cover the cost of TRPA's oversight to assure maintenance of the scenic quality of the tower. TRPA staff will inspect the tower every two years for the first ten years after passing final inspection. These inspections shall include review of the quality of the branches and bark of the tower. If the scenic quality of the tower has substantially degraded (e.g., branches or bark have fallen off, needles have substantially fallen off and/or faded from the original color, etc.), the applicant shall make improvements to bring the tower back to a level consistent with original approval. Any future project related to the tower shall also provide additional opportunity to make improvements to the tower.
 - K. The Security required under Standard Condition I.2 of Attachment Q shall be \$10,000.00. Security shall be released upon completion of the project, installation of permanent BMPs and satisfaction of all permit conditions. Please see Attachment J, Security Procedures, for appropriate methods of posting the security and the applicable security administration fee.
 - L. The permittee shall submit three final sets of plans to TRPA. If submitting electronically (preferred), only one set is required.
4. All BMP details and specifications shall be consistent with the TRPA Handbook of Best Management Practices. All BMP handbook details and information sheets can be viewed and downloaded at <http://www.tahoebmp.org/BMPHandbookCh4.aspx>. If sub-surface infiltration facilities are proposed, it will be necessary to submit photo documentation of sub-surface infiltration systems prior to issuance of a BMP Certificate of Completion. The photographs shall clearly show that the infiltration systems have been installed as specified on TRPA approved plans.

5. Prior to security release photos shall be provided to TRPA taken during the construction of any subsurface BMP's or of any trenching and backfilling with gravel.
6. Temporary and permanent BMPs may be field fit by the Environmental Compliance Inspector where appropriate.
7. All Best Management Practices shall be maintained in perpetuity to ensure effectiveness which may require BMPs to be periodically reinstalled or replaced.
8. Existing natural features outside of the building site shall be retained and incorporated into the site design to the greatest extent feasible. The site shall be designed to avoid disturbance to rock outcrops and to minimize vegetation removal and maintain the natural slope of the project site.
9. TRPA reserves the right to amend any portion of this permit or construction operation while in progress if it is determined that the project construction is causing significant adverse effects.
10. To the maximum extent allowable by law, the Permittee agrees to indemnify, defend, and hold harmless TRPA, its Governing Board, its Planning Commission, its agents, and its employees (collectively, TRPA) from and against any and all suits, losses, damages, injuries, liabilities, and claims by any person (a) for any injury (including death) or damage to person or property or (b) to set aside, attack, void, modify, amend, or annul any actions of TRPA. The foregoing indemnity obligation applies, without limitation, to any and all suits, losses, damages, injuries, liabilities, and claims by any person from any cause whatsoever arising out of or in connection with either directly or indirectly, and in whole or in part (1) the processing, conditioning, issuance, or implementation of this permit; (2) any failure to comply with all applicable laws and regulations; or (3) the design, installation, or operation of any improvements, regardless of whether the actions or omissions are alleged to be caused by TRPA or Permittee.

Included within the Permittee's indemnity obligation set forth herein, the Permittee agrees to pay all fees of TRPA's attorneys and all other costs and expenses of defenses as they are incurred, including reimbursement of TRPA as necessary for any and all costs and/or fees incurred by TRPA for actions arising directly or indirectly from issuance or implementation of this permit. Permittee shall also pay all costs, including attorneys' fees, incurred by TRPA to enforce this indemnification agreement. If any judgment is rendered against TRPA in any action subject to this indemnification, the Permittee shall, at its expense, satisfy and discharge the same.

END OF PERMIT

Attachment D

October 7, 2021 Hearings Officer Staff Report



Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.gov

Staff Report

Date: October 7, 2021

To: TRPA Hearings Officer

From: TRPA Staff

Subject: Verizon/Guilliam New Cellular Monopine Cellular Tower; 1360 Ski Run Boulevard, City of South Lake Tahoe, El Dorado County, CA; Assessor's Parcel Number 025-580-07, TRPA File Number ERSP2019-0389

Staff Recommendation:

Staff recommends the Hearings Officer make the required findings and approve the project subject to the special conditions in the draft permit.

Required Motions:

In order to approve the proposed project, the Hearings Officer must make the following motions, based on the staff report:

- 1) A motion to approve the findings contained in this staff summary, and a finding of no significant environmental effect; and
- 2) A motion to approve the project subject to the conditions contained in the attached Draft TRPA Permit (Attachment A).

Staff recommends that the Hearings Officer take the following actions, based on the staff report.

Project Description:

The project involves the construction of a new cellular communications tower on a parcel with existing commercial development in South Lake Tahoe, California. The proposed tower is a monopine similar in color and form to trees (Jeffrey Pine) in the immediate vicinity to help ensure the tower does not result in impacts to scenic quality. The top of the upper most cell panels will be at a height of 107 feet, at the uppermost portion of the monopine pole. Faux branches will be five feet above the top of the pole to a height of 112 feet. Currently, Verizon Wireless is proposing the project for its use alone, with the potential for adding another carrier. During the City of South Lake Tahoe's review, Verizon committed to seek additional providers to be added in order to avoid construction of another tower. The project also includes an equipment shelter to be located adjacent to the tower. The project will require approximately 736 square feet of coverage, which will be relocated from elsewhere on the parcel. The equipment shelter and pad include a 30kW diesel generator and a 132-gallon diesel fuel tank.

The parcel has been certified for Best Management Practices (BMPs) (Certificate #10772, October 17, 2008). BMPs will be adjusted as necessary to accommodate the project, and maintenance of existing BMPs will be required.

Cellular signal maps indicate the tower will allow cellular providers to fill in cell phone coverage gaps in the area.

The project will result in the relocation of 736 square feet of Class 1a coverage. The new land coverage consists of a pad housing the equipment shelter and generator, and the base of the proposed tower. Four trees are proposed for removal to accommodate the project (one 16" diameter at breast height (dbh); one 12" dbh, one 11" dbh and one 10" dbh).

TRPA approved the construction of a 100-foot cellular tower at this same location in 2013 (TRPA file #ERSP2013-0811), but the tower was never constructed and the permit expired.

Site Description:

The monopine tower will be located adjacent to a maintenance building on a 1.9-acre property that houses Hansen's Resort (a four-unit motel, with four residential units) and a snow play area. The tower is proposed on the snow play portion of the parcel, adjacent to an existing parking area and an existing maintenance building. The parcel has been verified as Land Capability Class 1a and Class 1b. The tower is proposed on the Class 1a portion of the parcel. Vegetation consists primarily of Jeffrey pines. Surrounding land uses include a Hansen's Resort, and various residential uses in the vicinity, including across the street and adjacent to the property.

Issues: The proposed project involves a special use determination and therefore requires Hearing Officer review in accordance with Chapter 2, Subsection 2.2.2.a of the TRPA Code. All other issues are discussed in the following staff analysis:

Staff Analysis:

- A. Environmental Documentation: TRPA staff completed the Initial Environmental Checklist (IEC) and "Project Review Conformance Checklist and Article V(g) Findings" in accordance with Chapter 4, Subsection 4.3 of the TRPA Code of Ordinances. All responses contained on said checklists indicate compliance with the environmental threshold carrying capacities and TRPA staff recommends the Hearings Officer make a Finding of No Significant Effect. A copy of the completed checklists will be made available at the Hearings Officer hearing and at TRPA.
- B. Plan Area: The project is located within Plan Area 085, Lakeview Heights, where transmission and receiving facilities are a special use.
- C. Land Coverage: The project will not result in the creation of additional coverage. The 736 square feet of coverage associated with the project will be relocated from elsewhere on the property. The parcel includes both Land Capability Districts 1a and 1b. All coverage associated with the project is located in Class 1a. The parcel currently has 18,128 square feet of excess coverage, which will be mitigated pursuant to the Excess Land Coverage Mitigation Program (TRPA Code of Ordinances Section 30.6).
- D. Height: The proposed height of the monopine tower is 112 feet. The equipment will be housed within an enclosed shelter. The height of the proposed shelter is 18 feet above the structure's low point, and approximately 14 feet above the adjacent paved parking area. The structure's 18-foot height is below the 24-foot maximum height allowed.

The tower height can be permitted subject to the Chapter 37 height findings below. The applicant has prepared an Alternatives Analysis for the proposed tower (dated December 19, 2019), which evaluated 32 different locations. Alternative locations for providing cellular service to the area were evaluated during review of the project. The other 31 locations were not feasible for various reasons (e.g., didn't fill the gap in service; owners were not cooperative, etc.). The full Alternatives Analysis can be viewed in Attachment C.

- E. Location: The current proposal is the preferred location. The locations that were considered in Alternatives Analysis (Attachment C) varied from opportunities for colocation on an existing tower, to locating at a nearby large parking lot and adding a tower to other existing land uses (fire station, apartment buildings, tourist accommodation, etc.). Regarding co-locating on an existing tower, the nearest existing facilities already serve Verizon and would not fill the gap in service coverage. Each other location was evaluated based on its ability to fill in the coverage gap, possible scenic impacts, owners willing to entertain a cell tower on property, etc. Each of the other 31 locations was not feasible for one of these reasons. The Alternatives Analysis addresses the constraints at each of the other locations, and why the proposed location is preferred.

- F. Scenic Quality: The proposed project is visible from Pioneer Trail, along Scenic Roadway Unit #45, currently in non-attainment, and from portions of the Heavenly Valley Ski Resort recreation area. Photo simulations from the Pioneer Trail/Ski Run Boulevard intersection (part of Roadway Unit 45) show that the proposed facility blends in with surrounding trees. Other perspectives (including northwest from Ski Run Boulevard, and from across the street) show that the monopine will blend in with the adjacent trees. The proposed monopine design will provide a natural tree appearance, with non-uniform tree branches, and a tapered trunk. TRPA will require a range of tree bark, branch, needle, material samples that integrate with colors surrounding natural forest.

Views from Recreation Area: The proposed monopine tower may be visible from parts of Heavenly Valley Ski Area, which is a recreation area identified in the Lake Tahoe Scenic Resource Evaluation (TRPA 1993). However, due to the presence of trees of varying heights in the foreground and middleground views, the visibility of the monopine will not significantly change the viewshed and will not adversely affect the numerical standard. By requiring the stealth, monopine design, there will be no impact to views from the recreation area.

TRPA has incorporated a condition into the draft permit (Special Condition 3.J) requiring the payment of a scenic monitoring fee. TRPA staff will inspect the tower every two years for the first ten years after passing final inspection. These inspections shall include review of the quality of the branches and bark of the tower. If the scenic quality of the tower has substantially degraded (e.g., branches or bark have fallen off, needles have substantially fallen off and/or faded from the original color, etc.), the applicant shall make improvements to bring the tower back to a level consistent with original approval. Any future project related to the tower shall also provide additional opportunity to make improvements to the tower.

- G. Radio Frequency Emissions: Congress gave the Federal Communications Commission (“FCC”) “comprehensive powers” over radio communications, and the FCC has exercised “federal primacy” over the technical aspects of such communications. *See Cohen v. Apple, Inc.*, 2020 WL 6342922, at *3, *10 (N.D. Cal. 2020). Congress determined that “it is in the national interest that uniform, consistent requirements, with adequate safeguards of the public health and safety” be established, and it tasked the FCC with adopting regulations for radio frequency (“RF”) emissions. *Id.* at *10; 47 C.F.R. §§ 1.1307(b), 1.1310, 2.1091, 2.1093. While Congress preserved traditional state and local zoning authority, it expressly prohibited states, or instrumentalities thereof, from regulating RF emissions based on health or environmental impacts:

No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

47 U.S.C. § 332(c)(7)(B)(iv). “Environmental effects” as used in this section includes both impacts on human health and the wider environment, including plants and wildlife. *See T-Mobile Northeast, LLC v. Town of Ramapo*, 701 F. Supp. 2d 446, 460 (S.D.N.Y. 2009) (includes human health concerns); *Jaeger v. Cellco Partnership*, 2010 WL 965730, * 10 (D. Conn. 2010) (“The plain meaning of the term ‘environmental effects’ incorporates adverse effects on all biological organisms”).

Thus, the proposed Verizon Wireless tower is required to comply with the FCC limits on RF emissions, and any attempt under state law to impose other limits on RF emissions is preempted. This preemption applies to other federal and state claims as well. For example, the Federal District Court in the Northern District of California recently rejected claims that RF emissions violated the Americans with Disabilities Act, Federal Fair Housing Act, California Fair Employment and Housing Act, and associated tort claims, finding that the Telecommunications Act (TCA) and the FCC’s regulations preempted a city’s ability to regulate radio frequency emissions. *Wolf v. City of Millbrae*, 2021 WL 3727072 (N.D. Cal. Aug. 23, 2021).

TRPA, having been created by an interstate compact, is a creature of federal law, and the application of the TCA to its permitting process is not a matter of preemption. Rather, one must reconcile the intent of Congress in passing both the TCA and the Compact and give meaning to both statutes should there be any conflict in implementation. In furtherance of that standard, the agency position to date is this: TRPA will defer to the FCC regulations over general issues of human health and environmental impacts. However, TRPA could choose to regulate RF in the region should cellular facilities be proven to have a particular adverse effect on the unique environment of the Tahoe Region. TRPA has not received any such proof of adverse impacts of RF particular to Tahoe and therefore will not reexamine the determinations of the FCC.

H. Required Findings: The following is a list of the required findings as set forth in Chapters 4, 21, 37 and 50 of the TRPA Code of Ordinances. Following each finding, agency staff has summarized the evidence on which the finding can be made.

1. Chapter 4 – Required Findings:

- (a) The project is consistent with and will not adversely affect implementation of the Regional Plan, including all applicable Goals and Policies, Plan Area Statements and maps, the Code and other TRPA plans and programs.

The project is located within Plan Area Statement #085 (Lakeview Heights), where transmission and receiving facilities are a special use. Policy PS-1.1 of the Regional Plan supports the upgrade and expansion of public service facilities consistent with the Land Use Element of the Regional Plan. There is no evidence showing the proposed project will have an adverse effect on the Land Use, Transportation, Conservation, Recreation, Scenic Quality, Public Service and Facilities, or Implementation sub-elements of the Regional Plan. The project, as conditioned, will not adversely affect the implementation of any applicable elements of the Regional Plan.

- (b) The project will not cause the environmental threshold carrying capacities to be exceeded.

TRPA staff has completed the “Article V(g) Findings” in accordance with Section 4.4.2 of the TRPA Code of Ordinances and incorporates the checklist into this analysis. All responses contained in the project findings indicate compliance with the environmental threshold carrying capacities. In addition, the applicant has completed an IEC, which is hereby incorporated into this analysis. Staff has concluded that the project will not have a significant effect on the environment. A copy of the completed checklist and IEC will be made available on the TRPA website, and through the Parcel Tracker.

- (c) Wherever federal, state, or local air and water quality standards applicable for the Region, whichever are strictest, must be attained and maintained pursuant to Article V(g) of the TPRA Compact, the project meets or exceeds such standards.

The project, as conditioned, will not have an adverse impact on applicable air and water quality standards for the Region. The project includes the installation of water quality best management practices and will not result in the generation of additional daily vehicle trip ends.

2. Chapter 21 – Special Use Findings:

- (a) The project, to which the use pertains, is of such a nature, scale, density, intensity and type to be an appropriate use for the parcel on which, and surrounding area in which, it will be located.

The nature of the proposed project is consistent with the public service uses permissible within the Area Plan and will provide an important site for wireless technology providers to improve service in the area. The monopine tower is

designed to simulate the appearance of a pine tree and integrate with the natural environment. The applicant conducted an analysis of 32 alternative sites, all of which were not feasible. The proposed location was found to be the preferred location.

- (b) The project to which the use pertains, will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water, and air resources of both the applicant's property and that of surrounding property owners.

The tower will not contain lights or generate noise that could be visible or heard outside the immediate vicinity of the monopine. The generator will be housed in an enclosure shelter and will temporarily provide power during power outages only. The shelter will be visible from adjacent roadways. The equipment will be housed within the shelter.

Visual simulations were prepared for the project which demonstrates the main structure will be partially visible from scenic travel routes and as a result, staff has requested specific design criteria to ensure the project would not result in impacts to scenic quality. The cell tower will resemble a tree of similar height and appearance to adjacent trees in the surrounding forest. A condition of approval requires the applicant to submit elevation drawings that include a random branch pattern that mimics the branch pattern of adjacent trees (see Special Condition 3.H of draft permit). A condition of approval also requires the applicant to submit final color and material samples for monopine and equipment shelters to ensure there will be no significant impacts to scenic quality. In addition, Special Condition 3.J requires the payment of a scenic monitoring fee. TRPA staff will inspect the tower every two years for the first ten years after passing final inspection. These inspections shall include review of the quality of the branches and bark of the tower. If the scenic quality of the tower has substantially degraded (e.g., branches or bark have fallen off, needles have substantially fallen off and/or faded from the original color, etc.), the applicant shall make improvements to bring the tower back to a level consistent with original approval.

The project will provide important wireless communication service in emergencies to protect public health, safety, and welfare. The ground level equipment will be housed within a shelter to reduce the potential for public access and injury. The monopine will improve public safety by increasing cellular reception for first responders in the area.

- (c) The project, to which the use pertains, will not change the character of the neighborhood or detrimentally affect or alter the purpose of the applicable planning area statement, community plan and specific or master plan, as the case may be.

The communication facility will improve wireless service in the area and will not change the character of the neighborhood due to its monopine design. The project is located within Plan Area Statement 085 (Lakeview Heights) where transmission and receiving facilities are a special use. Policy PS-1.1 of the Regional Plan supports
AGENDA ITEM NO. VIII. B.

the upgrade and expansion of public service facilities consistent with the Land Use Element of the Regional Plan.

3. Chapter 37 - Additional Height Findings:

- (a) The function of the structure requires greater maximum height than otherwise provided for in this chapter.

Surrounding trees and mountainous topography cause cell signal degradation and scatter. Cell tower functionality is greatest if it extends above the forest canopy and therefore requires greater maximum height than otherwise provided for in Chapter 37. The monopine design, colors and antenna configuration will ensure the antennas are located within the monopine's branches to achieve a more realistic tree appearance.

- (b) The additional height is the minimum necessary to feasibly implement the project and there are no feasible alternatives requiring less additional height.

The height of the proposed monopine tower is the minimum required to enable the tower to provide adequate cell service, and also allows for eventual use by multiple carriers. Allowing multiple carriers to co-locate on the tower will eliminate the need to possibly construct additional towers for each carrier. As demonstrated by the Alternatives Analysis, no other feasible alternative exists; therefore the additional height is necessary.

4. Chapter 50 – Additional Public Service Facility Findings:

- (a) There is a need for the project.

Cellular coverage maps show service gaps in the area and existing facilities are not meeting service needs associated with increased wireless data needs. This project will provide additional facilities to meet service needs in the area. The additional facilities will provide improved wireless communication service in emergencies to help protect public health, safety, and welfare.

- (b) The project with the Goals and Policies, applicable plan area statements, and Code.

See rationale in Chapter 4 findings, above.

- (c) The project is consistent with the TRPA Environmental Improvement Program.

The project will not affect implementation of the EIP and will not cause TRPA's environmental thresholds to be exceeded. The color and shape of the monopine tower and color and material of equipment shelter will resemble other trees in the project vicinity which will also ensure there are no significant impacts to applicable scenic resource thresholds.

- (d) The project meets the findings adopted pursuant to Article V (g) of the Compact as set forth in Chapter 4: *Required Findings*, as they are applicable to the project's service capacity.

The project's service capacity is shown on wireless propagation maps submitted with the application and shows the areas to be served by the project.

Contact Information:

For questions regarding this project please contact Bridget Cornell, TRPA Current Planning, by telephone at (775) 589-5218 or via email to bcornell@trpa.gov.

Attachments:

- A. Draft Permit
- B. Project Plans and Simulations
- C. Alternatives Analysis

Attachment A

Draft Permit

DRAFT PERMIT

**APN 025-580-07
FILE NO. ERSP2019-0389**

Excess Coverage Mitigation Fee (1): Amount \$ _____ Paid _____ Receipt No. _____

Scenic Monitoring Fee (2): Amount \$ 5,000.00 Paid _____ Receipt No. _____

Security Posted (3): Amount \$ 10,000.00 Type: _____ Paid _____ Receipt No. _____

Security Administrative Fee (3): Amount \$ _____ Paid _____ Receipt No. _____

Notes:

- (1) See Special Condition 3.I., below.
- (2) See Special Condition 3.J., below.
- (3) See Special Condition 3.K., below.

Required plans determined to be in conformance with approval: Date: _____

TRPA ACKNOWLEDGEMENT: The permittee has complied with all pre-construction conditions of approval as of this date and is eligible for a county building permit:

TRPA Executive Director/Designee

Date

SPECIAL CONDITIONS

1. The project specifically authorizes the construction of a new cellular communications tower on a parcel with existing commercial development in South Lake Tahoe, California. The proposed tower is a monopine similar in color and form to trees (Jeffrey Pine) in the immediate vicinity to help ensure the tower does not result in impacts to scenic quality. The top of the upper most cell panels will be at a height of 107 feet, at the uppermost portion of the monopine pole. Faux branches will five feet above the top of the pole to a height of 112 feet. Currently, Verizon Wireless is proposing the project for its use. Verizon committed to seeking additional providers to be added to the tower. Only Verizon is proposed at this time, with the potential for another carrier. The project also includes an equipment shelter to be located adjacent to the tower. The project will require approximately 736 square feet of coverage, which will be relocated from elsewhere on the parcel. No new coverage will be added as a result of the project. The equipment shelter and pad include a 30kW diesel generator and a 132-gallon diesel fuel tank. Pursuant to Special Condition 3.K., below, TRPA will require long-term maintenance of the scenic quality of the monopine tower. The monopine’s design requires an excavation depth of 7’ 6” below ground surface, which has been approved by TRPA (#LCAP2019-0189). The parcel has been certified for Best Management Practices (BMPs) (Certificate #10772, October 17, 2008). BMPs will be adjusted as necessary to accommodate the project, and maintenance of existing BMPs will be required.

This review is based on the most recent set of plans received on September 29, 2021.

2. The Standard Conditions of Approval listed in Attachment Q shall apply to this permit.

3. Prior to permit acknowledgement, the following conditions of approval must be satisfied.

A. Page C-1: Site Survey: Some of the coverage numbers on this page are inconsistent with numbers shown on other pages. The coverage table, below, reflects the land coverage numbers as they were most recently conveyed. Please update with the appropriate numbers and assure consistency across the multiple site plans provided.

Total Lot area:	84,411 square feet
• Class 1b (16,735 sf; 1%)	167
• Class 1a (67,676 sf; 1%):	677
Base Allowable Coverage:	844 square feet

	Coverage (square feet)	
	Existing / Previously Approved ¹	Proposed ²
<u>Class 1b:</u>		
Buildings	1,166	1,166
Asphalt	3,640	3,640
Concrete Walkways	921	921
Class 1b Subtotal:	5,727	5,727
<u>Class 1a:</u>		
Buildings	3,663	3,153
Asphalt	6,403	6,403
Paved Parking (Needle Peak)	170	0
Concrete Walkways	2,945	2,900
Snack Shack	64	0
Expanded Equipment Shelter	0	432
Cell Tower Footing	0	304
Class 1a Subtotal:	13,245	13,192
Total Coverage, Class 1a and 1b:	18,972	18,919
Banked Class 1a:	0	53
TOTAL:	18,972	18,972

NOTES:

- 1) Existing coverage was verified per TRPA File #VBOC2021-0164. The 2021 verification was a correction to TRPA File #20040472STD. Coverage has not changed. The 2021 verification reflects more accurate coverage accounting and measurements as reflected in 2020 survey.
- 2) "Proposed Coverage" presumes the removal of "Building #1" (192 square feet), "Shed" (318 square feet), 45 square feet of "concrete sidewalk" associated with Shed, a small portion of Paved Parking along Needle Peak (which was verified and already removed), and the snack shack (which was already removed) in Class 1a.

- B. Page BMP-1: Erosion Control Plans, Best Management Practices, Notes, Legend and Details:
- (1) Please identify a construction staging area. Construction staging shall occur on a paved surface and have appropriate temporary Best Management Practices (BMPs).
 - (2) Please include a BMP calculation spreadsheet for BMPs related to the project, printed in color. This can be provided separately.
- C. Page A-1: Site Plan: See Special Condition 3.A., above. Please populate coverage table with appropriate numbers and assure consistency among the various site plans.
- D. Page A1.1: Existing Site Plan: As per above, please assure consistent land coverage numbers among the site plans.
- E. Pages A-3 and A-4 (Elevations) shall be revised to reflect the following:
- (1) A monopine trunk (within structural limitations), with a textured tree bark-like exterior.
 - (2) A monopine tree branch configuration.
 - (3) Add note stating: "The monopine tower shall be constructed and maintained to integrate with the surrounding pine forest and shall emulate, to the greatest extent feasible, the natural appearance of the surrounding forest with respect to; bark, branch and needle color, trunk color, detail, and taper, branch and needle density, and branch taper."
 - (4) Add note stating: "Antenna sock covers that match the surrounding forest color and pine needle density shall be installed on all antennas and maintained and/or replaced as needed."
- F. Please provide final engineering drawings, including a detailed foundation design. TRPA has approved an excavation depth of 7 feet 6 inches below ground surface (bgs). If the final design includes an excavation depth deeper than that, the applicant shall submit a new soils-hydro application to TRPA, seeking approval for the proposed excavation depth. TRPA shall approve the excavation prior to stamping final plans.
- G. The permittee shall submit final proposed monopine bark and needle samples. The material samples shall demonstrate the proposed monopine colors and textures will integrate with the surrounding pine forest and shall be subject to approval by TRPA staff. Final color and material samples shall also be submitted for the proposed equipment shelter.
- H. Final construction elevation drawings shall include a random tree branch and pine needle density and configuration, to be approved by TRPA prior to installation.
- I. The affected property previously has approximately 18,128 square feet of unmitigated excess land coverage. The permittee shall mitigate a portion or all of the excess land

coverage on this property by removing coverage within Hydrologic Transfer Area 5 – South Stateline (California side), or by submitting an excess coverage mitigation fee.

To calculate the amount of excess coverage to be removed, use the following formula:

Estimated project construction cost multiplied by the fee percentage of 3.00% (as identified in Table 30.6.1-2 of Subsection 30.6.1.C.3. of the TRPA Code of Ordinances) divided by the mitigation factor of 8. If you choose this option, please revise your final site plans and land coverage calculations to account for the permanent coverage removal.

An excess land coverage mitigation fee may be paid in lieu of permanently retiring land coverage. The excess coverage mitigation fee shall be calculated as follows:

Coverage reduction square footage (as determined by formula above) multiplied by the coverage mitigation cost fee of \$8.50 per square foot for projects within Hydrologic Transfer Area 5 – South Stateline (California side). If you choose this option, please provide a construction cost estimate by your licensed contractor, architect, or engineer. In no case shall the mitigation fee be less than \$200.00

- J. The applicant shall submit a scenic monitoring fee of \$5,000. This fee shall cover the cost of TRPA's oversight to assure maintenance of the scenic quality of the tower. TRPA staff will inspect the tower every two years for the first ten years after passing final inspection. These inspections shall include review of the quality of the branches and bark of the tower. If the scenic quality of the tower has substantially degraded (e.g., branches or bark have fallen off, needles have substantially fallen off and/or faded from the original color, etc.), the applicant shall make improvements to bring the tower back to a level consistent with original approval. Any future project related to the tower shall also provide additional opportunity to make improvements to the tower.
 - K. The Security required under Standard Condition I.2 of Attachment Q shall be \$10,000.00. Security shall be released upon completion of the project, installation of permanent BMPs and satisfaction of all permit conditions. Please see Attachment J, Security Procedures, for appropriate methods of posting the security and the applicable security administration fee.
 - L. The permittee shall submit three final sets of plans to TRPA. If submitting electronically (preferred), only one set is required.
4. All BMP details and specifications shall be consistent with the TRPA Handbook of Best Management Practices. All BMP handbook details and information sheets can be viewed and downloaded at <http://www.tahoebmp.org/BMPHandbookCh4.aspx>. If sub-surface infiltration facilities are proposed, it will be necessary to submit photo documentation of sub-surface infiltration systems prior to issuance of a BMP Certificate of Completion. The photographs shall clearly show that the infiltration systems have been installed as specified on TRPA approved plans.
 5. Prior to security release photos shall be provided to TRPA taken during the construction of any subsurface BMP's or of any trenching and backfilling with gravel.
 6. Temporary and permanent BMPs may be field fit by the Environmental Compliance Inspector where appropriate.

7. All Best Management Practices shall be maintained in perpetuity to ensure effectiveness which may require BMPs to be periodically reinstalled or replaced.
8. Existing natural features outside of the building site shall be retained and incorporated into the site design to the greatest extent feasible. The site shall be designed to avoid disturbance to rock outcrops and to minimize vegetation removal and maintain the natural slope of the project site.
9. TRPA reserves the right to amend any portion of this permit or construction operation while in progress if it is determined that the project construction is causing significant adverse effects.
10. To the maximum extent allowable by law, the Permittee agrees to indemnify, defend, and hold harmless TRPA, its Governing Board, its Planning Commission, its agents, and its employees (collectively, TRPA) from and against any and all suits, losses, damages, injuries, liabilities, and claims by any person (a) for any injury (including death) or damage to person or property or (b) to set aside, attack, void, modify, amend, or annul any actions of TRPA. The foregoing indemnity obligation applies, without limitation, to any and all suits, losses, damages, injuries, liabilities, and claims by any person from any cause whatsoever arising out of or in connection with either directly or indirectly, and in whole or in part (1) the processing, conditioning, issuance, or implementation of this permit; (2) any failure to comply with all applicable laws and regulations; or (3) the design, installation, or operation of any improvements, regardless of whether the actions or omissions are alleged to be caused by TRPA or Permittee.

Included within the Permittee's indemnity obligation set forth herein, the Permittee agrees to pay all fees of TRPA's attorneys and all other costs and expenses of defenses as they are incurred, including reimbursement of TRPA as necessary for any and all costs and/or fees incurred by TRPA for actions arising directly or indirectly from issuance or implementation of this permit. Permittee shall also pay all costs, including attorneys' fees, incurred by TRPA to enforce this indemnification agreement. If any judgment is rendered against TRPA in any action subject to this indemnification, the Permittee shall, at its expense, satisfy and discharge the same.

END OF PERMIT

Attachment B

Project Plans and Simulations



SKI RUN BLVD PSL # 444780

1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CALIFORNIA (NORTH & CENTRAL), CALL USA NORTH 811
TOLL FREE: 1-800-227-2600 OR
www.usanorth811.org
CALIFORNIA STATUTE REQUIRES MIN OF 2 WORKING DAY'S NOTICE BEFORE YOU EXCAVATE

**Know what's below.
Call before you dig.**

REV.	DATE	DESCRIPTION	BY
0	01/31/19	90% ZONING	FA
1	03/14/19	100% ZONING	FA
2	06/26/19	100% ZONING	FA
3	01/10/2020	100% ZONING	FA
4	03/18/2020	100% ZONING	FA
5	10/06/2021	100% ZONING	FA

A Nokia company
9020 ACTIVITY RD.
SAN DIEGO, CA 92126
www.sdc.com
619.736.3766

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY & CONFIDENTIAL TO VERIZON WIRELESS
ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO VERIZON WIRELESS IS STRICTLY PROHIBITED

2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

SKI RUN BLVD
PSL# 444780
1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150

SHEET TITLE:
TITLE SHEET

T-1

PROJECT TEAM

SITE ACQUISITION
SAC WIRELESS, LLC.
8880 CAL CENTER DRIVE
SUITE 170
SACRAMENTO, CA 95826
CONTACT: MICHELLE FERNANDES
TELEPHONE: (916) 337-4133
MICHELLE.FERNANDES@SACW.COM

PLANNING
SAC WIRELESS, LLC.
8880 CAL CENTER DRIVE
SUITE 170
SACRAMENTO, CA 95826
CONTACT: MICHELLE FERNANDES
TELEPHONE: (916) 337-4133
MICHELLE.FERNANDES@SACW.COM

ARCHITECT:
SAC AE DESIGN GROUP, INC
NESTOR POPONWYCH, AIA
9020 ACTIVITY RD.
SAN DIEGO, CA 92126
CONTACT: JULIAN BRIANO
TELEPHONE: (619) 736-3570 EXT.106
FAX: (619) 736-3106
JULIAN.BRIANO@SACW.COM

UTILITY COORDINATOR:
SAC WIRELESS, LLC.
8880 CAL CENTER DRIVE
SUITE 170
SACRAMENTO, CA 95826
CONTACT: RAMON MORENO
TELEPHONE: (916) 751-8827
RAMON.MORENO@SACW.COM

SURVEYOR:
SMITHCO SURVEYING ENGINEERING
P.O. BOX 91626
BAKERSFIELD, CA 93380
CONTACT: GREG SMITH, PLS
TELEPHONE: (661) 393-1217
GSMITH@SMITHCO.NET

VICINITY MAP

NOT TO SCALE

DRIVING DIRECTIONS

FROM: 2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

TO: 1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150

- HEAD NORTHEAST ON MITCHELL DR TOWARD OAK GROVE RD
- TURN LEFT ONTO OAK GROVE RD
- TURN LEFT ONTO TREAT BLVD
- TURN RIGHT ONTO BUSKIRK AVE
- USE THE LEFT LANE TO TAKE THE I-880 N RAMP
- KEEP LEFT AT THE FORK TO STAY ON I-880 N PARTIAL TOLL ROAD
- TAKE EXIT 71A TOWARD I-80 E/SACRAMENTO
- KEEP LEFT AT THE FORK TO STAY ON I-80 E
- KEEP LEFT AT THE FORK TO CONTINUE ON I-80 E/I-50 E/CAPITAL CITY FREEWAY, FOLLOW SIGNS FOR INTERSTATE 80 BUSINESS/SACRAMENTO/SOUTH LAKE TAHOE
- CONTINUE ONTO US-50 E
- PASS BY KFC (ON THE RIGHT IN 40.8 MI)
- TURN RIGHT ONTO PIONEER TRAIL
- TURN RIGHT ONTO NEEDLE PEAK RD
- TURN LEFT AT THE 1ST CROSS STREET ONTO SKI RUN BLVD
- DESTINATION WILL BE ON THE LEFT

PROJECT DESCRIPTION

THIS PROJECT IS A VERIZON WIRELESS UNMANNED TELECOMMUNICATION WIRELESS FACILITY, IT WILL CONSIST OF THE FOLLOWING:

- NEW VERIZON WIRELESS 24'-0" X 26'-0" LEASE AREA
- NEW VERIZON WIRELESS 18'- 10" X 15'-0" EQUIPMENT SHELTER ON NEW CONCRETE PAD
- NEW VERIZON WIRELESS 30KW GENERAC STANDBY GENERATOR W/132 GALLON DIESEL TANK (UL142)
- (1) NEW VERIZON WIRELESS GPS ANTENNA
- (1) NEW VERIZON WIRELESS ELECTRICAL METER MOUNTED ON NEW EQUIPMENT SHELTER
- (1) NEW VERIZON WIRELESS FIBER BOX MOUNTED ON NEW EQUIPMENT SHELTER
- (1) NEW VERIZON WIRELESS 112'-0" HIGH MONOPINE
- (8) NEW VERIZON WIRELESS 8' TALL PANEL ANTENNAS
- (8) NEW VERIZON WIRELESS RRRUS
- (4) NEW VERIZON WIRELESS 6627 RAYCAPS
- (2) NEW VERIZON WIRELESS HYBRID CABLES

PROJECT SUMMARY

APPLICANT/LESSEE
verizon
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598
OFFICE: (925) 279-6000

ASSESSOR'S PARCEL NUMBER
025-580-07-100

APPLICANT'S REPRESENTATIVE
SAC WIRELESS, LLC.
8880 CAL CENTER DRIVE
SUITE 170
SACRAMENTO, CA 95826
CONTACT: MICHELLE FERNANDES
TELEPHONE: (916) 337-4133
MICHELLE.FERNANDES@SACW.COM

PROPERTY OWNER:
OWNER: NEL GUILLIAM
ADDRESS: PO BOX 19531
SOUTH LAKE TAHOE, CA 96150
CONTACT: NEL GUILLIAM
EMAIL: Info@hansensresort.com

PROPERTY INFORMATION:
SITE NAME: SKI RUN BLVD
SITE NUMBER: 444780
SITE ADDRESS: 1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150
JURISDICTION: CITY OF SOUTH LAKE TAHOE

CONSTRUCTION INFORMATION
AREA OF CONSTRUCTION: 24'-0" x 34'-0" = 816 SQ FT
OCCUPANCY: U
TYPE OF CONSTRUCTION: V-B
CURRENT ZONING: R
ACCESSIBILITY REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, ACCESSIBILITY NOT REQUIRED.

GENERAL CONTRACTOR NOTES

DO NOT SCALE DRAWINGS IF NOT FULL SIZE (24 X 36)

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE SAME.

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. ALL WORK SHALL CONFORM TO 2019 EDITION TITLE 24, CALIFORNIA CODE OF REGULATIONS, NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2019 CALIFORNIA ADMINISTRATIVE CODE
- 2019 CALIFORNIA BUILDING CODES
- 2019 CALIFORNIA ELECTRICAL CODE
- 2019 CALIFORNIA FIRE CODE
- 2019 CALIFORNIA ENERGY CODE
- CITY & COUNTY ORDINANCES

VERIZON WIRELESS SIGNATURE BLOCK

DISCIPLINE:	SIGNATURE:	DATE:
SITE ACQUISITION:		
CONSTRUCTION:		
RADIO:		
MICROWAVE:		
TELCO:		
EQUIPMENT:		
PROJECT ADMINISTRATOR:		
WO ADMINISTRATOR:		

SHEET	DESCRIPTION
T-1	TITLE SHEET
C-1	SITE SURVEY
BMP-1	EROSION CONTROL PLANS, BEST MANAGEMENT PRACTICES NOTES & LEGEND
BMP-2	BEST MANAGEMENT PRACTICES DETAILS & NOTES
A-1	SITE PLAN & ENLARGED SITE PLAN
A-1.1	EXISTING SITE PLAN & COVERAGE DATA
A-2	EQUIPMENT & ANTENNAS LAYOUTS
A-3	NORTHEAST & SOUTHEAST ELEVATIONS
A-4	SOUTHWEST & NORTHWEST ELEVATIONS

ZONING DRAWINGS

SAC WIRELESS SIGNATURE BLOCK

DISCIPLINE:	SIGNATURE:	DATE:
SITE ACQUISITION:		
PLANNER:		
CONSTRUCTION:		
LANDLORD:		

NOTE: THE ORIGINAL SIZE OF THIS DRAWING IS 24" X 36". SCALE SHOULD NOT BE USED FOR REDUCED OR ENLARGED SHEET SIZES.

NOTES

APN: 025-580-07-100

OWNER(S): NEL GUILLIAM, AN UNMARRIED MAN

THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY OF ANY PARCEL OF LAND, NOR DOES IT IMPLY OR INFER THAT A BOUNDARY SURVEY WAS PERFORMED. THIS IS A SPECIALIZED TOPOGRAPHIC MAP WITH PROPERTY AND EASEMENTS BEING A GRAPHIC DEPICTION BASED ON INFORMATION GATHERED FROM VARIOUS SOURCES OF RECORD AND AVAILABLE MONUMENTATION. PROPERTY LINES AND LINES OF TITLE WERE NEITHER INVESTIGATED NOR SURVEYED AND SHALL BE CONSIDERED APPROXIMATE ONLY. NO PROPERTY MONUMENTS WERE SET.

THE EASEMENTS (IF ANY) THAT APPEAR ON THIS MAP HAVE BEEN PLOTTED BASED SOLELY ON INFORMATION CONTAINED IN THE CONDITION OF TITLE REPORTS BY: FIRST AMERICAN TITLE COMPANY, FILE NO. 5628064, DATED JANUARY 17, 2018. WITHIN SAID TITLE REPORT THERE ARE TEN (10) EXCEPTIONS LISTED, NONE (0) OF WHICH ARE EASEMENTS.

THE UNDERGROUND UTILITIES (IF ANY) THAT APPEAR ON THIS MAP HAVE BEEN LOCATED BY FIELD OBSERVATION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES STATE THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD RATE MAP FOR COMMUNITY NO. 060040, PANEL NO. 0380F, DATED APRIL 3, 2012 SHOWS THAT THE LOCATION OF THIS SITE FALLS WITHIN ZONE X, WHICH ARE AREAS DETERMINED OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

THE LATITUDE AND LONGITUDE AT THE LOCATION AS SHOWN WAS DETERMINED BY GPS OBSERVATIONS.

LAT. 38° 56' 14.60" N. NAD 83
 LONG. 119° 57' 00.55" W. NAD 83
 ELEV. 6374.5' NAVD 88 (BASIS OF DRAWING)

The information shown above meets or exceeds the requirements set forth in FAA order 8260.19D for 1-A accuracy (± 20' horizontally and ± 3' vertically). The horizontal datum (coordinates) are expressed as degrees, minutes and seconds, to the nearest tenth of a second. The vertical datum (heights) are expressed in feet and decimals thereof and are determined to the nearest 0.1 foot.

LESSOR'S PROPERTY LEGAL DESCRIPTION PER TITLE REPORT:

REAL PROPERTY IN THE CITY OF SOUTH LAKE TAHOE, COUNTY OF EL DORADO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

BEGINNING AT A 3/4 INCH CAPPED IRON PIPE SET IN THE WESTERLY LINE OF BIJOU PARK BOULEVARD, FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 2 BEARS NORTH 29°50' WEST 30.0 FEET, AND NORTH 55°42' 30" 782.6 FEET; THENCE FROM POINT OF BEGINNING AND ALONG SAID WESTERLY LINE OF BIJOU PARK BOULEVARD, SOUTH 29°50' EAST 300.0 FEET A 3/4 INCH CAPPED IRON PIPE; THENCE LEAVING SAID LINE SOUTH 60°18' WEST 275.0 FEET A SIMILAR PIPE; THENCE NORTH 29°50' WEST 300.0 FEET A SIMILAR PIPE; THENCE NORTH 60°18' EAST 275.0 FEET TO THE POINT OF BEGINNING.

PROPOSED VERIZON WIRELESS DEMISED PREMISE DESCRIPTION:

ALL THAT PORTION OF THE HEREON DESCRIBED LESSOR'S PROPERTY, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EASTERLY MOST CORNER OF SAID LESSOR'S PROPERTY, THENCE S 59°18'12" W, ALONG THE SOUTHEAST LINE OF SAID LESSOR'S PROPERTY, A DISTANCE OF 116.05 FEET; THENCE LEAVING SAID SOUTHEAST LINE, N 30°41'48" W, A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING;

COURSE 1) THENCE S 59°18'12" W, A DISTANCE OF 26.00 FEET;
 COURSE 2) THENCE N 30°41'48" W, A DISTANCE OF 24.00 FEET;
 COURSE 3) THENCE N 59°18'12" E, A DISTANCE OF 26.00 FEET;
 COURSE 4) THENCE S 30°41'48" E, A DISTANCE OF 24.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 624 SQUARE FEET, MORE OR LESS.

PROPOSED LESSEE ACCESS & UTILITY EASEMENT RIGHT-OF-WAY DESCRIPTION:

A 5.00 FOOT WIDE STRIP OF LAND, LYING 2.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCING AT THE EASTERLY MOST CORNER OF SAID LESSOR'S PROPERTY, THENCE S 59°18'12" W, ALONG THE SOUTHEAST LINE OF SAID LESSOR'S PROPERTY, A DISTANCE OF 134.55 FEET TO THE POINT OF BEGINNING;

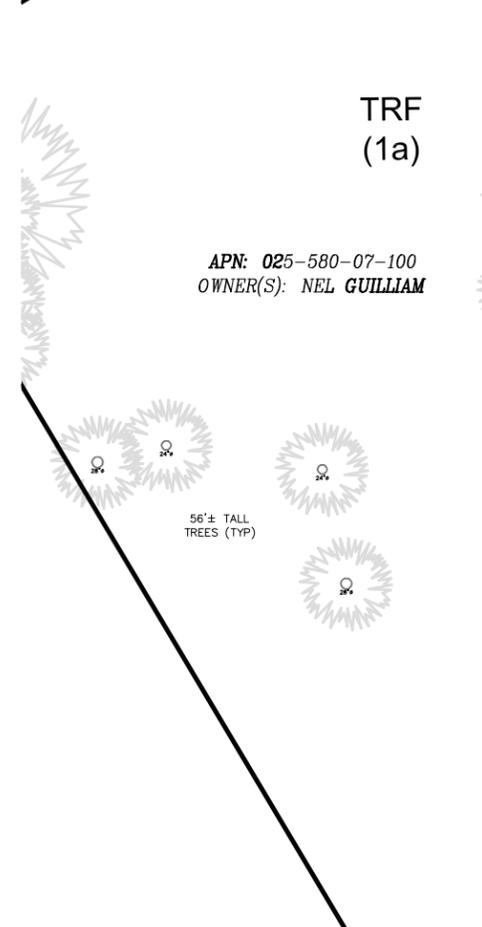
COURSE 1) THENCE N 30°41'48" W, A DISTANCE OF 20.00 FEET TO THE TERMINUS OF THIS DESCRIPTION.

TOGETHER WITH A 12.00 FOOT WIDE STRIP OF LAND, LYING 6.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCING AT THE EASTERLY MOST CORNER OF SAID LESSOR'S PROPERTY, THENCE S 59°18'12" W, ALONG THE SOUTHEAST LINE OF SAID LESSOR'S PROPERTY, A DISTANCE OF 143.51 FEET TO THE POINT OF BEGINNING;

COURSE 1) THENCE N 30°41'48" W, A DISTANCE OF 20.00 FEET TO THE TERMINUS OF THIS DESCRIPTION.

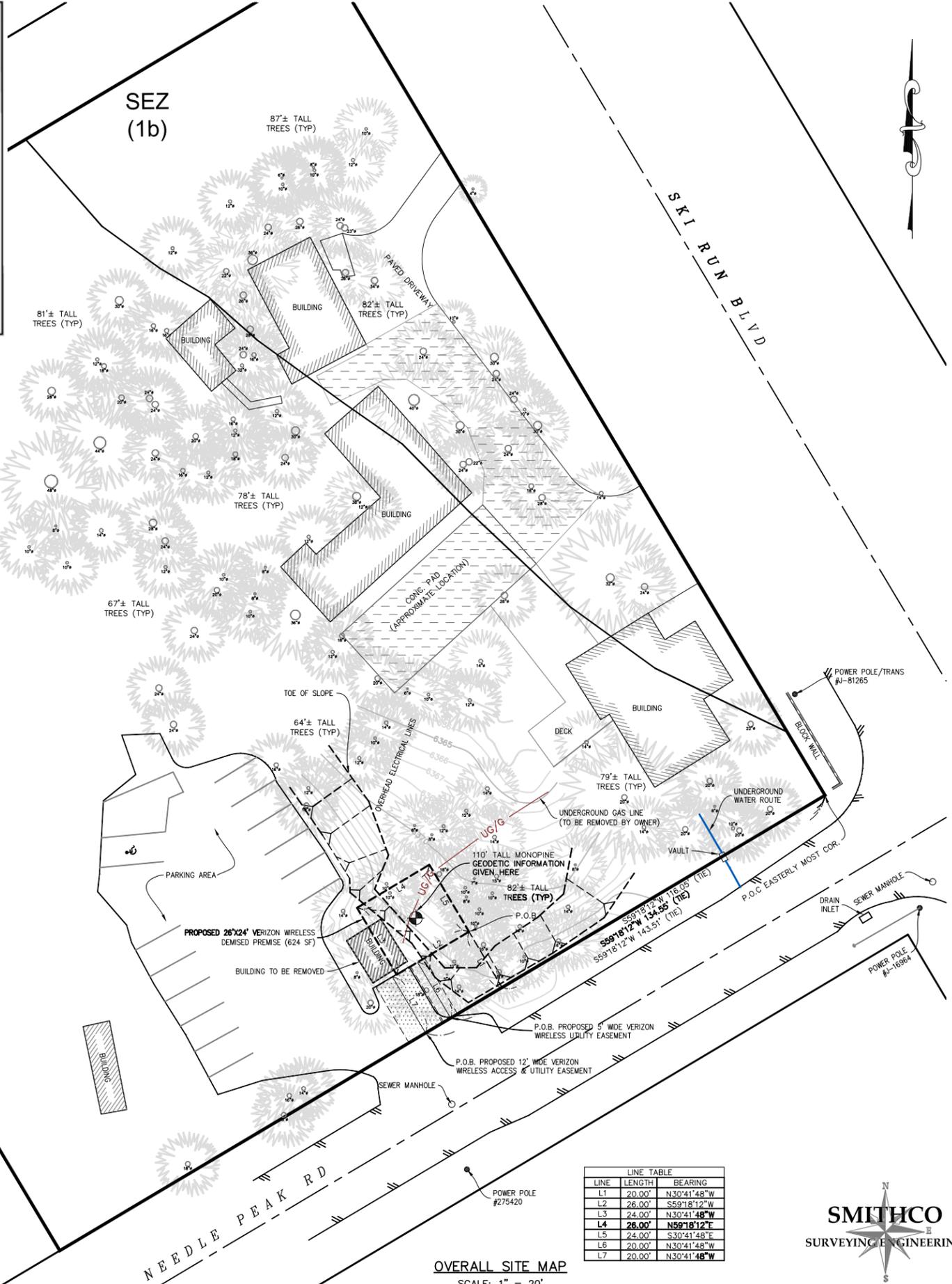
COVERAGE DATA		
TOTAL LOT AREA:	84,411 SQ FT	1,938 ACRES
CLASS 1a (TRF):	67,676 SQ FT: 1%	677 SQ FT
CLASS 1b (SEZ):	16,735 SQ FT: 1%	167 SQ FT
BASE ALLOWABLE COVERAGE:		844 SQ FT
CLASS 1b		
	EXISTING	PROPOSED
(PREVIOUSLY APPROVED)		
BUILDINGS/STRUCTURES	1,166	1,166
ASPHALT	3,640	3,640
CONCRETE WALKWAYS	921	921
CLASS 1b SUBTOTAL:	5,727	5,727
CLASS 1a		
	EXISTING	PROPOSED
BUILDINGS	3,663	3,153
ASPHALT	6,403	6,403
PAVED PARKING (NEEDLE PEAK)	170	0
CONCRETE WALKWAYS	2,945	2,800
SNACK SHACK	64	0
EXPANDED EQUIPMENT SHELTER	0	432
CELL TOWER FOOTING	0	304
CLASS 1a SUBTOTAL:	3,245	13,192
TOTAL CLASS 1a and CLASS 1b: 18,972		18,919
BANKED CLASS 1a:	0	53
TOTAL COVERAGE:	18,972	18,972



APN: 025-580-07-100
 OWNER(S): NEL GUILLIAM

LEGEND

- SITE BOUNDARY LINE
- OVERHEAD UTILITY LINES
- PROPERTY LINE (PER RECORD)
- POWER POLE
- GROUND ELEVATION
- EDGE OF PAVEMENT
- UG/T UNDERGROUND COMM.
- UG/G UNDERGROUND GAS
- UG/E UNDERGROUND ELEC.
- UG/SS UNDERGROUND SEWER
- UG/W UNDERGROUND WATER
- UNKNOWN UNDERGROUND
- POB POINT OF BEGINNING
- POC POINT OF COMMENCEMENT
- ① EXCEPTION #
- CONCRETE PAD



LINE TABLE		
LINE	LENGTH	BEARING
L1	20.00'	N30°41'48"W
L2	26.00'	S59°18'12"W
L3	24.00'	N30°41'48"W
L4	26.00'	N59°18'12"E
L5	24.00'	S30°41'48"E
L6	20.00'	N30°41'48"W
L7	20.00'	N30°41'48"W

ISSUE STATUS

REV	DATE	DESCRIPTION	BY
0	01/22/18	PRELIMINARY	EJ
2	03/19/18	ADD TITLE NOTES	DA
3	04/03/18	ADD LEASE LABELS	DA
4	06/06/18	STAMP & SIGN	DA
5	01/31/19	REDLINES	SL
6	09/23/19	REVISION	EJ
7	09/24/19	ADD TREE HEIGHTS	SL
8	10/01/19	ADD TREE HEIGHTS	SL
9	03/03/20	REVISION	EJ
10	03/31/20	REVISION	EJ

SOC WIRELESS ENGINEERING GROUP
 5015 SHOREHAM PL, SUITE 150
 SAN DIEGO, CA 92122
 www.socw.com
 619.736.3766

PROPRIETARY INFORMATION
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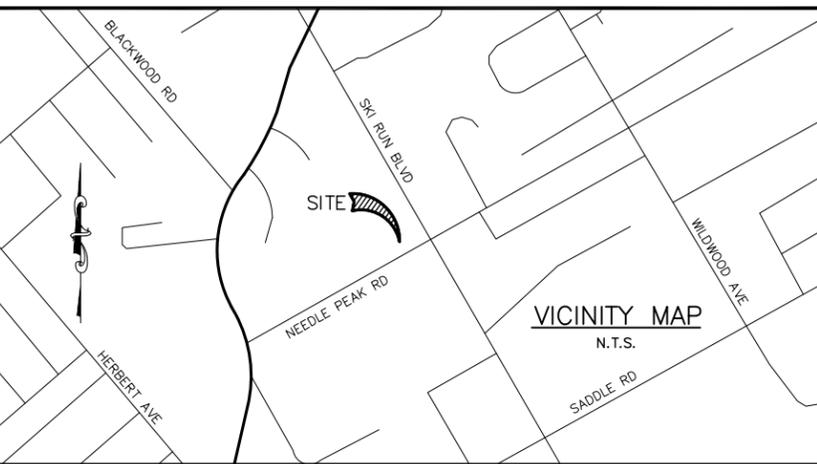
verizon
 2785 MITCHELL DRIVE, BLDG 9
 WALNUT CREEK, CA 94598

444780
 SKI RUN BLVD

1360 SKI RUN BLVD
 SOUTH LAKE TAHOE, CA 96150
 EL DORADO COUNTY

SHEET TITLE:
SITE SURVEY
 FOR EXAMINATION ONLY

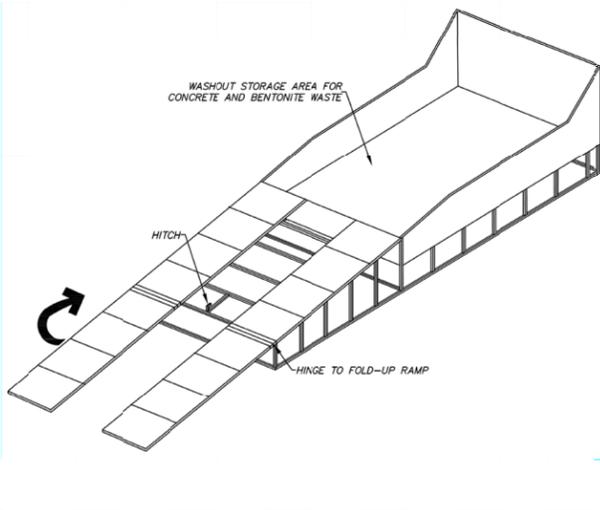
C-1
 AGENDA ITEM NO. VIII. B.



SMITHCO SURVEYING ENGINEERING

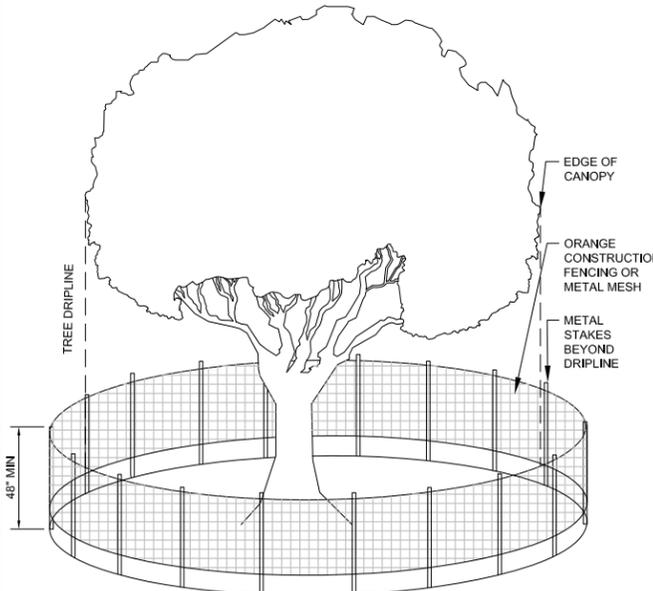
P.O. BOX 81626 BAKERSFIELD, CA 93380
 PHONE: (661) 393-1212

OVERALL SITE MAP
 SCALE: 1" = 20'

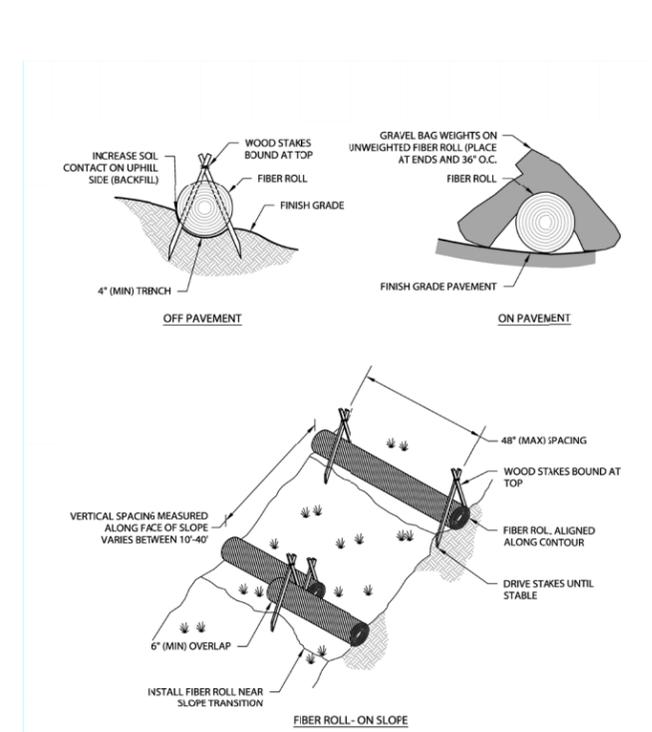


THE TAHOE REGIONAL PLANNING AGENCY (TRPA) SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS DETAIL.

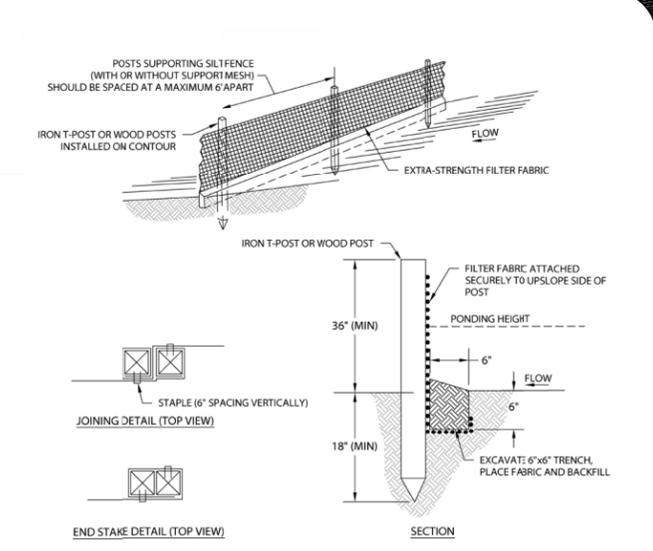
WASHOUT STATION SCALE N.T.S. 8



TREE PROTECTION & MITIGATION SCALE N.T.S. 6



FIBER ROLL SCALE N.T.S. 4



NOTES:
 1. USED IN AREAS WHERE SHEET FLOW OCCURS.
 2. DO NOT USE IN STREAMS, CHANNELS, OR ANYWHERE FLOW IS CONCENTRATED. DO NOT USE SILT FENCES TO DIVERT FLOW.
 3. DO NOT USE BELOW SLOPES SUBJECT TO CREEP, SLUMPING, OR LANDSLIDES.
 4. SILT FENCE SHOULD BE WOVEN POLYPROPYLENE WITH A MINIMUM WIDTH OF 36 INCHES AND A MINIMUM TENSILE STRENGTH OF 100 LB FORCE.
 5. INSTALL ALONG A LEVEL CONTOUR SO WATER DOES NOT POND MORE THAN 1.5 FEET AT ANY POINT ALONG THE SILT FENCE.
 6. THE MAXIMUM LENGTH OF SLOPE DRAINING TO ANY POINT ALONG THE SILT FENCE SHOULD BE 200 FEET OR LESS.
 7. THE MAXIMUM SLOPE PERPENDICULAR TO THE FENCE LINE SHOULD BE 1:1.
 8. PROVIDE SUFFICIENT ROOM FOR RUNOFF TO POND BEHIND THE FENCE AND TO ALLOW SEDIMENT REMOVAL EQUIPMENT TO PASS BETWEEN THE SILT FENCE AND TOES OF SLOPES OR OTHER OBSTRUCTIONS.
 9. TURN THE ENDS OF THE FILTER FENCE UPHILL TO CREATE A "J" SHAPE, TO PREVENT STORMWATER FROM FLOWING AROUND THE FENCE.
 10. LEAVE AN UNDISTURBED OR STABILIZED AREA IMMEDIATELY DOWN SLOPE FROM THE FENCE WHERE FEASIBLE.
 11. SILT FENCES SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.
 12. REMOVE SEDIMENT WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.

SILT FENCE SCALE N.T.S. 2

BEST MANAGEMENT PRACTICES TABLE

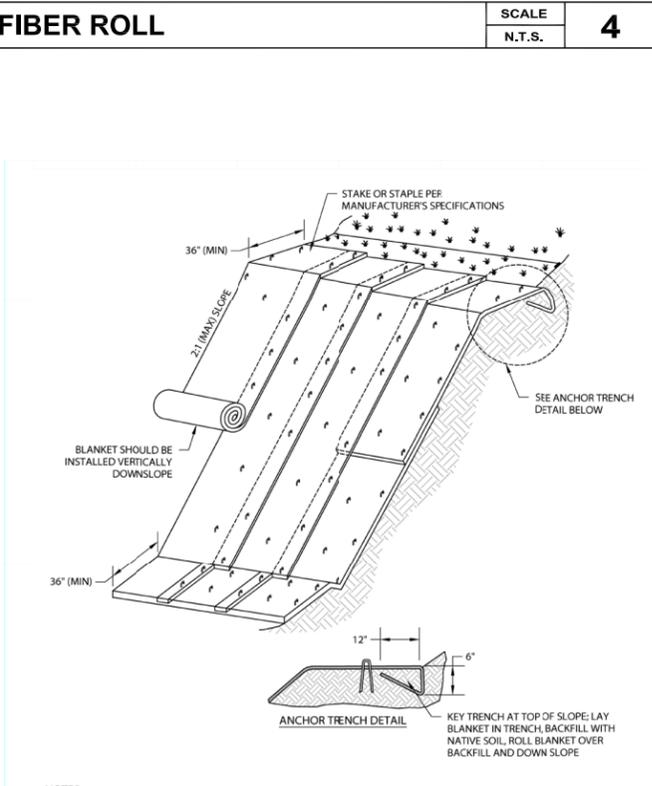
BEST MANAGEMENT PRACTICES	LOCATION	SCHEDULE IMPLEMENTATION	MAINTENANCE SCHEDULE
PRESERVING EXISTING VEGETATION	AROUND PERIMETER OF PROJECT SITE	CONTINUOUS UNTIL CONSTRUCTION IS COMPLETED	EDUCATE EMPLOYEES AND SUBCONTRACTORS REGARDING IMPORTANCE OF MAINTAINING EXISTING VEGETATION TO PREVENT EROSION AND FILTER OUT SEDIMENT IN RUNOFF FROM DISTURBED AREAS ON THE CONSTRUCTION SITE. INSPECT SITE PERIMETER MONTHLY TO VERIFY THE OUTSIDE VEGETATION IS NOT DISTURBED.
PROTECT GRADED AREAS AND SLOPES FROM WASHOUT AND EROSION	THROUGHOUT PROJECT SITE	CONTINUOUS	INSPECT GRADED AREAS AND SLOPES ON AT LEAST A MONTHLY BASIS TO CHECK FOR EROSION. THE GRADE TRIBUTARY AREAS OR INSTALL SAND DIKES AS NECESSARY TO PREVENT EROSION.
PINE NEEDLE ROLLS	SEE NOTE 3 OF EROSION & CONTROL NOTES	CONTINUOUS	INSPECT AFTER EACH STORM. REMOVE SEDIMENT DEPOSITED BEHIND PINE NEEDLE ROLLS WHENEVER NECESSARY TO MAINTAIN EFFECTIVENESS.
SEEDING	REMEDiated COVERAGE AREAS & POLE FTG FILL, ANY DISTURBED AREAS	IN PLACE DURING BY OCT. 15	INSPECT SLOPES ON AT LEAST A MONTHLY BASIS TO CHECK FOR EROSION. IF EROSION IS NOTED, SPREAD NEEDLE MULCH OVER AFFECTED AREAS.
WIND EROSION CONTROL PRACTICES	WHEREVER NECESSARY THROUGHOUT PROJECT SITE	CONTINUOUS UNTIL GRADING IS COMPLETED AND SOILS HAVE STABILIZED	INSPECT SITE DURING WINDY CONDITIONS TO IDENTIFY AREAS WHERE WIND AND EROSION IS OCCURRING AND ABATE EROSION AS NECESSARY.
GOOD HOUSEKEEPING MEASURES	THROUGHOUT PROJECT SITE	CONTINUOUS UNTIL CONSTRUCTION IS COMPLETED	INSPECT SITE ON AT LEAST A MONTHLY BASIS TO VERIFY GOOD HOUSEKEEPING PRACTICES ARE BEING IMPLEMENTED.
PROPER CONSTRUCTION MATERIAL STORAGE	DESIGNATED AREA	CONTINUOUS UNTIL CONSTRUCTION IS COMPLETED	INSPECT SITE ON AT LEAST A WEEKLY BASIS TO VERIFY THAT CONSTRUCTION MATERIALS ARE STORED IN A MANNER WHICH COULD NOT CAUSE STORM WATER POLLUTION.
PROPER CONSTRUCTION WASTE STORAGE AND DISPOSAL INCLUDING	DESIGNATED COLLECTION AREA AND CONTAINERS	CONTINUOUS UNTIL CONSTRUCTION IS COMPLETED	INSPECT SITE ON AT LEAST A WEEKLY BASIS TO ASSURE WASTE IS STORED PROPERLY AND DISPOSED OF AT LEGAL DISPOSAL SITE, DAILY.
CONCRETE SPILL CLEANUP PAINT & PAINTING SUPPLIES	MATERIAL HANDLING AREAS	IMMEDIATELY AT TIME OF SPILL	INSPECT MATERIAL HANDLING AREAS ON AT LEAST A MONTHLY BASIS TO VERIFY PROPER SPILL CLEANUP.
VEHICLE FUELING, MAINTENANCE & CLEANING	DESIGNATED AREA WITH SECONDARY CONTAINMENT	CONTINUOUS	KEEP AMPLE SUPPLIES OF SPILL CLEANUP MATERIALS ON-SITE & INSPECT ON REGULAR SCHEDULE.
STREET AND STORM DRAINAGE FACILITIES MAINTENANCE DEFINITIONS	STREETS AND STORM DRAINAGE FACILITIES	CONTINUOUS UNTIL CONSTRUCTION IS COMPLETED	MAINTAIN STORM DRAINAGE FACILITIES AND PAVED STREETS CLEAR OF SEDIMENT AND DEBRIS.

1. WET SEASON: ENTIRE PERIOD BETWEEN OCTOBER 1 THROUGH APRIL 30. CONTRACTOR SHALL ALSO IMPLEMENT WET SEASON MEASURES IF WET WEATHER IS EXPECTED DURING THE DRY SEASON
 2. PHASES OF GRADING
 INITIAL: WHEN CLEARING AND GRUBBING ACTIVITIES OCCUR.
 ROUGH: WHEN CUT AND FILL ACTIVITIES OCCUR AND THE SITE IMPROVEMENTS ARE CONSTRUCTED, INCLUDING UNDERGROUND PIPING, STREETS, SIDEWALKS, AND OTHER IMPROVEMENTS.
 FINAL: WHEN FINAL ELEVATION IS SET, AND SITE IMPROVEMENTS ARE COMPLETED AND READY FOR CITY ACCEPTANCE.

BMP TABLE SCALE N.T.S. 7

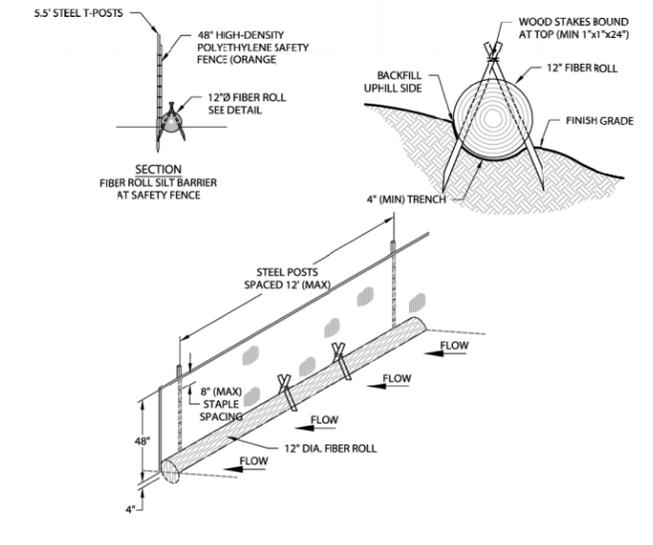
- THE CONTRACTOR SHALL FOLLOW TYPICAL GUIDELINES FOR GRADING, EROSION AND SEDIMENT CONTROL FOR THE MEASURES SHOWN OR STATED ON THESE PLANS.
- CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM. CONTRACTOR SHALL HAVE ALL EROSION AND SEDIMENT CONTROL MEASURES IN PLACE FOR THE WINTER MONTHS PRIOR TO OCTOBER 1.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF A REPRESENTATIVE OF THE DEPARTMENT OF UTILITIES.
- THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF A REPRESENTATIVE OF THE DEPARTMENT OF UTILITIES.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
- CONTRACTOR SHALL MAINTAIN A LOG AT THE SITE OF ALL INSPECTIONS OR MAINTENANCE OF BMPs, AS WELL AS, ANY CORRECTIVE CHANGES TO THE BMPs OR EROSION AND SEDIMENT CONTROL PLAN.
- IN AREAS WHERE SOIL IS EXPOSED, PROMPT REPLANTING WITH NATIVE COMPATIBLE, DROUGHT-RESISTANT VEGETATION SHALL BE PERFORMED. NO AREAS WILL BE LEFT EXPOSED OVER THE WINTER SEASON.
- THE CONTRACTOR SHALL USE EXISTING PARKING AREA FOR CONSTRUCTION ENTRANCE ONLY.
- ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY OR AS NECESSARY.
- CONTRACTOR SHALL PLACE GRAVEL BAGS AROUND ALL NEW DRAINAGE STRUCTURE OPENINGS IMMEDIATELY AFTER THE STRUCTURE OPENING IS CONSTRUCTED. THESE GRAVEL BAGS SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- CONTRACTOR SHALL IMPLEMENT HOUSEKEEPING PRACTICES AS FOLLOWS:
 - SOLID WASTE MANAGEMENT:** PROVIDE DESIGNATED WASTE COLLECTION AREAS AND CONTAINERS. ARRANGE FOR REGULAR REMOVAL AND DISPOSAL. CLEAR SITE OF TRASH INCLUDING ORGANIC DEBRIS, PACKAGING MATERIALS, SCRAP OR SURPLUS BUILDING MATERIALS AND DOMESTIC WASTE DAILY.
 - MATERIAL DELIVERY AND STORAGE:** PROVIDE A DESIGNATED MATERIAL STORAGE AREA WITH SECONDARY CONTAINMENT SUCH AS BERMING, STORE MATERIAL ON PALLETS AND PROVIDE COVERING FOR SOLUBLE MATERIALS. RELOCATE STORAGE AREA INTO BUILDING SHELL WHEN POSSIBLE. INSPECT AREA WEEKLY
 - CONCRETE WASTE:** PROVIDE A DESIGNATED AREA FOR A TEMPORARY PIT TO BE USED FOR CONCRETE TRUCK WASH-OUT. DISPOSE OF HARDENED CONCRETE OFFSITE. AT NO TIME SHALL A CONCRETE TRUCK DUMP ITS WASTE AND CLEAN ITS TRUCK INTO THE CITY STORM DRAINS VIA CURB AND GUTTER. INSPECT DAILY TO CONTROL RUNOFF, AND WEEKLY FOR REMOVAL OF HARDENED CONCRETE.
 - PAINT AND PAINTING SUPPLIES:** PROVIDE INSTRUCTION TO EMPLOYEES AND SUBCONTRACTORS REGARDING REDUCTION OF POLLUTANTS INCLUDING MATERIAL STORAGE, USE, AND CLEAN UP. INSPECT SITE WEEKLY FOR EVIDENCE OF IMPROPER DISPOSAL.
 - VEHICLE FUELING, MAINTENANCE AND CLEANING:** PROVIDE A DESIGNATED FUELING AREA WITH SECONDARY CONTAINMENT SUCH AS BERMING. DO NOT ALLOW MOBILE FUELING OF EQUIPMENT. PROVIDE EQUIPMENT WITH DRIP PANS. RESTRICT ON-SITE MAINTENANCE AND CLEANING OF EQUIPMENT TO A MINIMUM. INSPECT AREA WEEKLY.
 - HAZARDOUS WASTE MANAGEMENT:** PREVENT THE DISCHARGE OF POLLUTANTS FROM HAZARDOUS WASTES TO THE DRAINAGE SYSTEM THROUGH PROPER MATERIAL USE, WASTE DISPOSAL AND TRAINING OF EMPLOYEES. HAZARDOUS WASTE PRODUCTS COMMONLY FOUND ON-SITE INCLUDE BUT ARE NOT LIMITED TO PAINTS & SOLVENTS, PETROLEUM PRODUCTS, FERTILIZERS, HERBICIDES & PESTICIDES, SOIL STABILIZATION PRODUCTS, ASPHALT PRODUCTS AND CONCRETE CURING PRODUCTS.

EROSION & SEDIMENT CONTROL NOTES SCALE N.T.S. 5



NOTES:
 1. SLOPE SURFACE SHALL BE FREE OF ROCKS, VEGETATION, STICKS, AND DEBRIS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT. SCARIFY AND/OR TILL SLOPE SURFACE 12" DEEP BEFORE LAYING BLANKET.
 2. LAY BLANKETS LOOSELY AND STAKE OR STAPLE AS NEEDED TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH OR TWIST.
 3. EROSION CONTROL BLANKETS SHOULD BE USED IN CONJUNCTION WITH REVEGETATION (CONTAINER OR PLUG PLANTING) TO SPECIFICATIONS OF REVEGETATION PLAN FOR PROJECT.
 4. HAND WALK BLANKET DOWN SLOPE AS BLANKET IS STAKED OR STAPLED TO PREVENT STRETCHING.
 5. DO NOT WALK ON BLANKET/COE IN PLACE.
 6. ALL ANCHORS SHALL BE INSTALLED PERPENDICULAR TO SLOPE.

EROSION CONTROL BLANKET SCALE N.T.S. 3



NOTES:
 1. FIBER ROLL SHALL NOT BE MADE FROM STRAW. FIBER ROLLS SHALL BE BOUND BY HIGH STRENGTH COIR NETTING, AND HAVE A MINIMUM WEIGHT OF 5 LBS PER LINEAL FOOT.
 2. ORANGE SAFETY FENCE IS INTENDED TO PROTECT FIBER ROLLS FROM COMPRESSION BY VEHICLES, CONSTRUCTION EQUIPMENT, ECT. FENCES SHALL BE HIGH DENSITY POLYETHYLENE WITH A MESH OPENING OF APPROXIMATELY 1 INCH BY 4 INCHES AND A MINIMUM HEIGHT OF 4 FEET. SAFETY FENCE MAY BE OMITTED IN LOW TRAFFIC AREAS.
 3. FIBER ROLL SILT BARRIER SHALL BE INSTALLED ALONG CONTOUR AND ON SLOPES 5H:1V OR FLATTER UNLESS OTHERWISE APPROVED BY TRPA.
 4. THE INSTALLATION CONFIGURATION SHALL PREVENT RUNOFF FROM LEAVING THE SITE OR ENTERING A WATERCOURSE WITHOUT PASSING THROUGH A SILT BARRIER.
 5. THE MAXIMUM LENGTH OF SLOPE DRAINING TO THE SILT BARRIER SHALL BE 100 FEET.
 6. FIBER ROLL SHALL BE INSTALLED BY SHAPING A 4 INCH DEEP FURROW TO MATCH THE SHAPE OF THE LOG, SECURING IN FURROW WITH WOOD STAKES, AND TAMPING THE GROUND AROUND THE FIBER ROLL TO FILL VOIDS BETWEEN THE LOG AND THE GROUND.

FIBER ROLL SILT BARRIER SCALE N.T.S. 1

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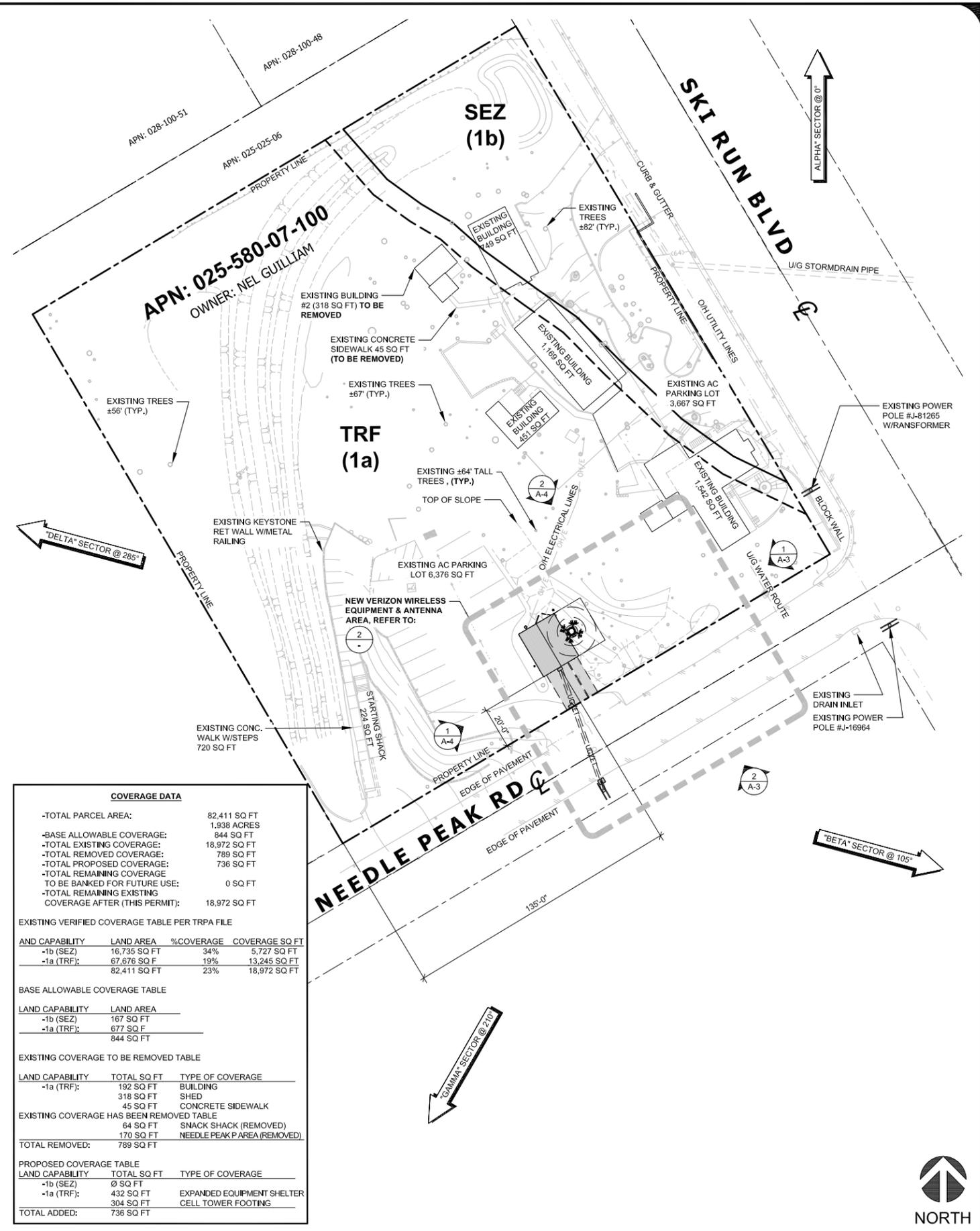
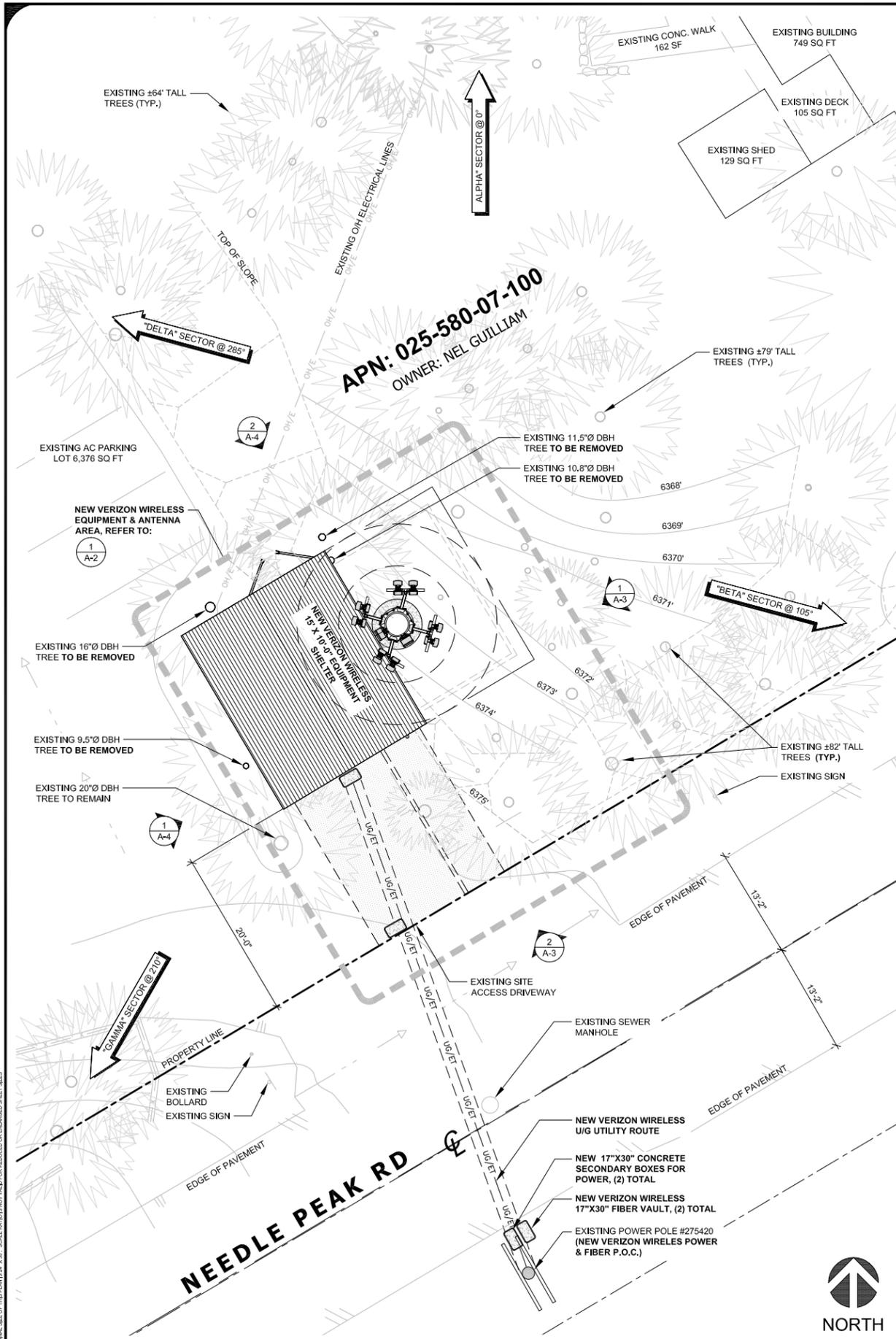


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SHEET TITLE:
BEST MANAGEMENT PRACTICES DETAILS & NOTES

BMP-2
 FROM NO. VIII. B.



COVERAGE DATA

- TOTAL PARCEL AREA: 82,411 SQ FT / 1,938 ACRES
- BASE ALLOWABLE COVERAGE: 844 SQ FT
- TOTAL EXISTING COVERAGE: 18,972 SQ FT
- TOTAL REMOVED COVERAGE: 789 SQ FT
- TOTAL PROPOSED COVERAGE: 736 SQ FT
- TOTAL REMAINING COVERAGE TO BE BANKED FOR FUTURE USE: 0 SQ FT
- TOTAL REMAINING EXISTING COVERAGE AFTER (THIS PERMIT): 18,972 SQ FT

EXISTING VERIFIED COVERAGE TABLE PER TRPA FILE

AND CAPABILITY	LAND AREA	%COVERAGE	COVERAGE SQ FT
-1b (SEZ):	16,735 SQ FT	34%	5,727 SQ FT
-1a (TRF):	67,676 SQ FT	19%	13,245 SQ FT
	82,411 SQ FT	23%	18,972 SQ FT

BASE ALLOWABLE COVERAGE TABLE

LAND CAPABILITY	LAND AREA
-1b (SEZ)	167 SQ FT
-1a (TRF):	677 SQ FT
	844 SQ FT

EXISTING COVERAGE TO BE REMOVED TABLE

LAND CAPABILITY	TOTAL SQ FT	TYPE OF COVERAGE
-1a (TRF):	192 SQ FT	BUILDING
	318 SQ FT	SHED
	45 SQ FT	CONCRETE SIDEWALK

EXISTING COVERAGE HAS BEEN REMOVED TABLE

64 SQ FT	SNACK SHACK (REMOVED)
170 SQ FT	NEEDLE PEAK P AREA (REMOVED)
TOTAL REMOVED:	789 SQ FT

PROPOSED COVERAGE TABLE

LAND CAPABILITY	TOTAL SQ FT	TYPE OF COVERAGE
-1b (SEZ)	0 SQ FT	
-1a (TRF):	432 SQ FT	EXPANDED EQUIPMENT SHELTER
	304 SQ FT	CELL TOWER FOOTING
TOTAL ADDED:	736 SQ FT	

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verizon
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WALNUT CREEK, CA 94598

verizon

SKI RUN BLVD
PSL# 444780
1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150

SHEET TITLE:
SITE PLAN & ENLARGED SITE PLAN

A-1

ENLARGED SITE PLAN

SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)

2

SITE PLAN

SCALE: 1" = 30'-0" (24x36)
(OR) 1/2" = 30'-0" (11x17)

1

AGENDA ITEM NO. VIII. B.

ISSUE STATUS

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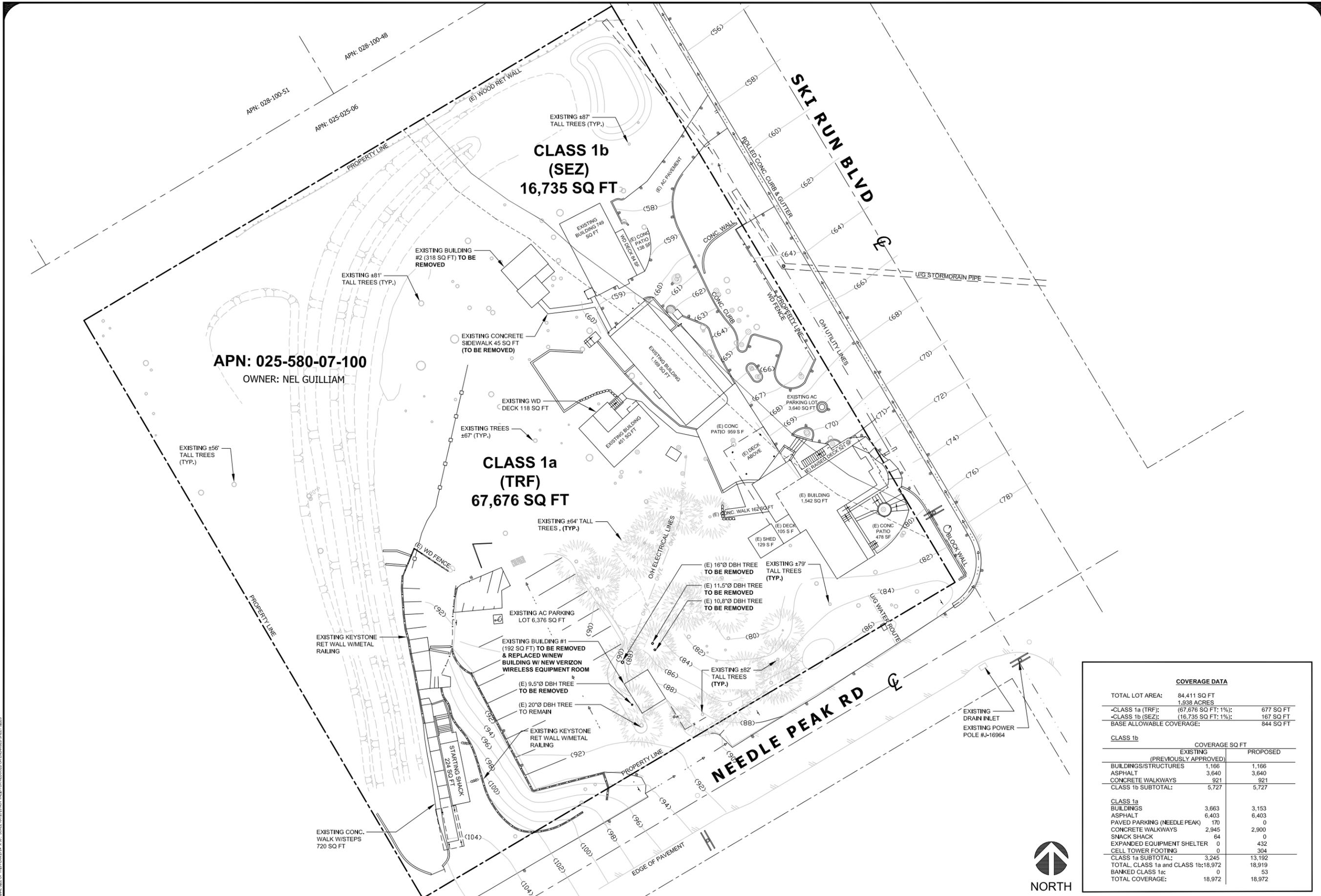
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PSL# 444780

1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150

SHEET TITLE:
EXISTING SITE PLAN & COVERAGE DATA

A-1.1



COVERAGE DATA		
TOTAL LOT AREA:	84,411 SQ FT	
	1.938 ACRES	
-CLASS 1a (TRF):	(67,676 SQ FT; 1%):	677 SQ FT
-CLASS 1b (SEZ):	(16,735 SQ FT; 1%):	167 SQ FT
BASE ALLOWABLE COVERAGE:		844 SQ FT
CLASS 1b	COVERAGE SQ FT	
	EXISTING	PROPOSED
	(PREVIOUSLY APPROVED)	
BUILDINGS/STRUCTURES	1,166	1,166
ASPHALT	3,640	3,640
CONCRETE WALKWAYS	921	921
CLASS 1b SUBTOTAL:	5,727	5,727
CLASS 1a		
BUILDINGS	3,663	3,153
ASPHALT	6,403	6,403
PAVED PARKING (NEEDLE PEAK)	170	0
CONCRETE WALKWAYS	2,945	2,900
SNACK SHACK	64	0
EXPANDED EQUIPMENT SHELTER	0	432
CELL TOWER FOOTING	0	304
CLASS 1a SUBTOTAL:	3,245	13,192
TOTAL CLASS 1a and CLASS 1b:	18,972	18,919
BANKED CLASS 1a:	0	53
TOTAL COVERAGE:	18,972	18,972



SCALE: 1" = 20'-0" (24x36)
(OR) 1/2" = 20'-0" (11x17)

EXISTING SITE PLAN

NOTE: THE ORIGINAL SIZE OF THIS DRAWING IS 24" X 36". SCALE SHOULD NOT BE USED FOR REDUCED OR ENLARGED SHEET SIZES.

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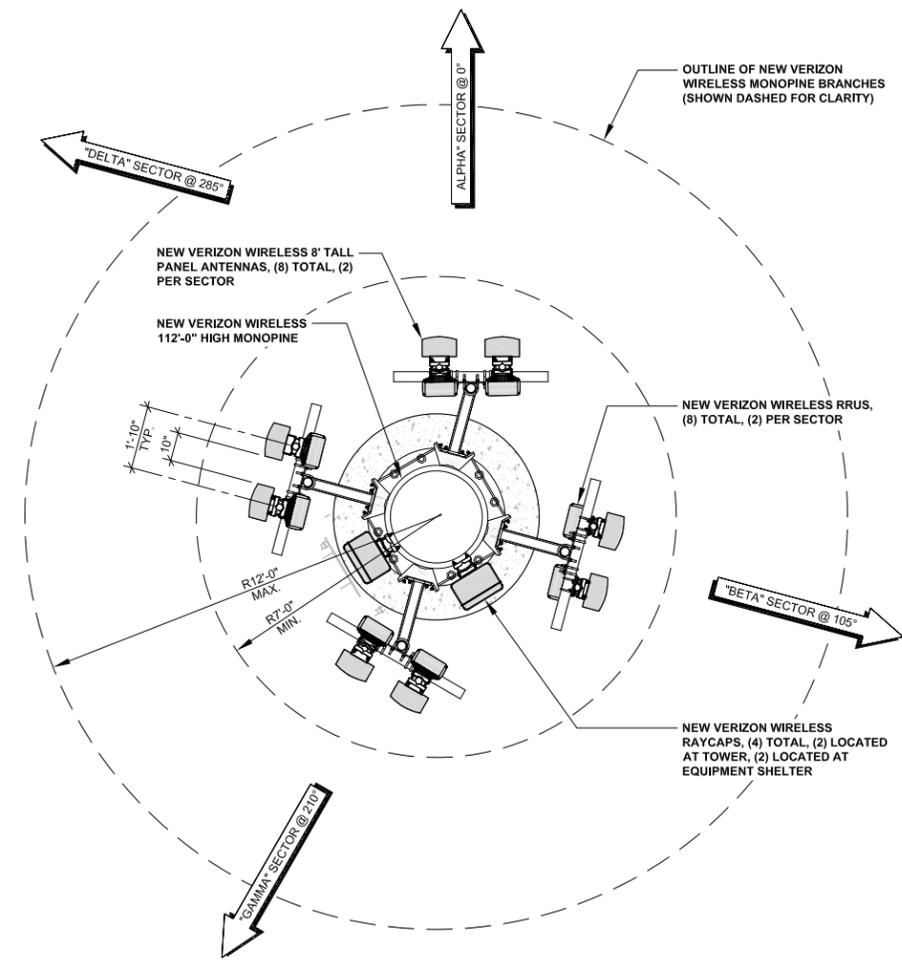
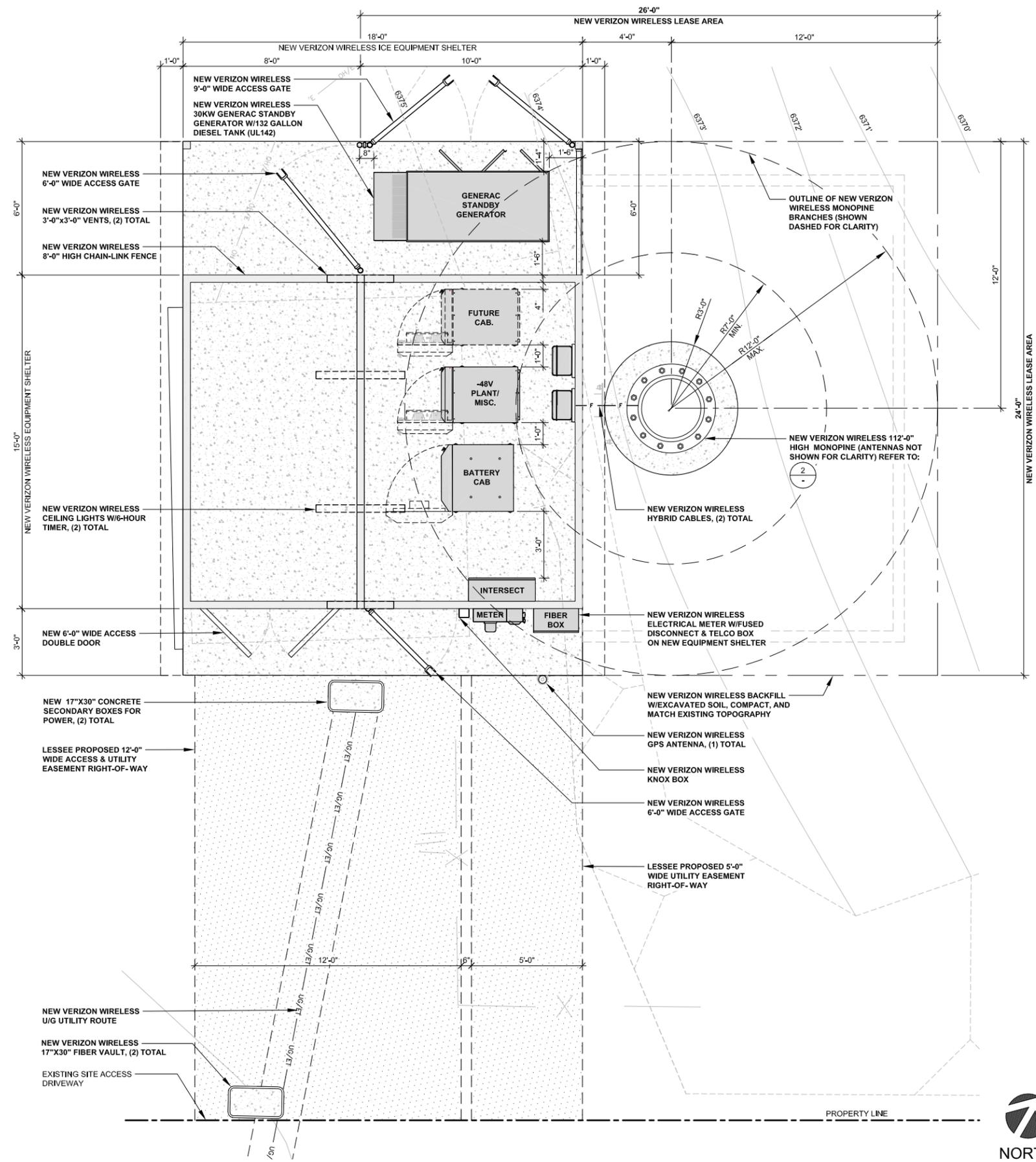
SKI RUN BLVD

PSL# 444780

1360 SKI RUN BLVD
 SOUTH LAKE TAHOE, CA 96150

SHEET TITLE:
EQUIPMENT & ANTENNA LAYOUTS

A-2



PANEL ANTENNA LAYOUT

SCALE: 3/8" = 1'-0" (24x36)
 (OR) 3/16" = 1'-0" (11x17)

2

EQUIPMENT LAYOUT

SCALE: 3/8" = 1'-0" (24x36)
 (OR) 3/16" = 1'-0" (11x17)

1

NOTE: THE ORIGINAL SIZE OF THIS DRAWING IS 36" X 36". SCALE SHOULD NOT BE USED FOR REDUCED OR ENLARGED SHEET SIZES.

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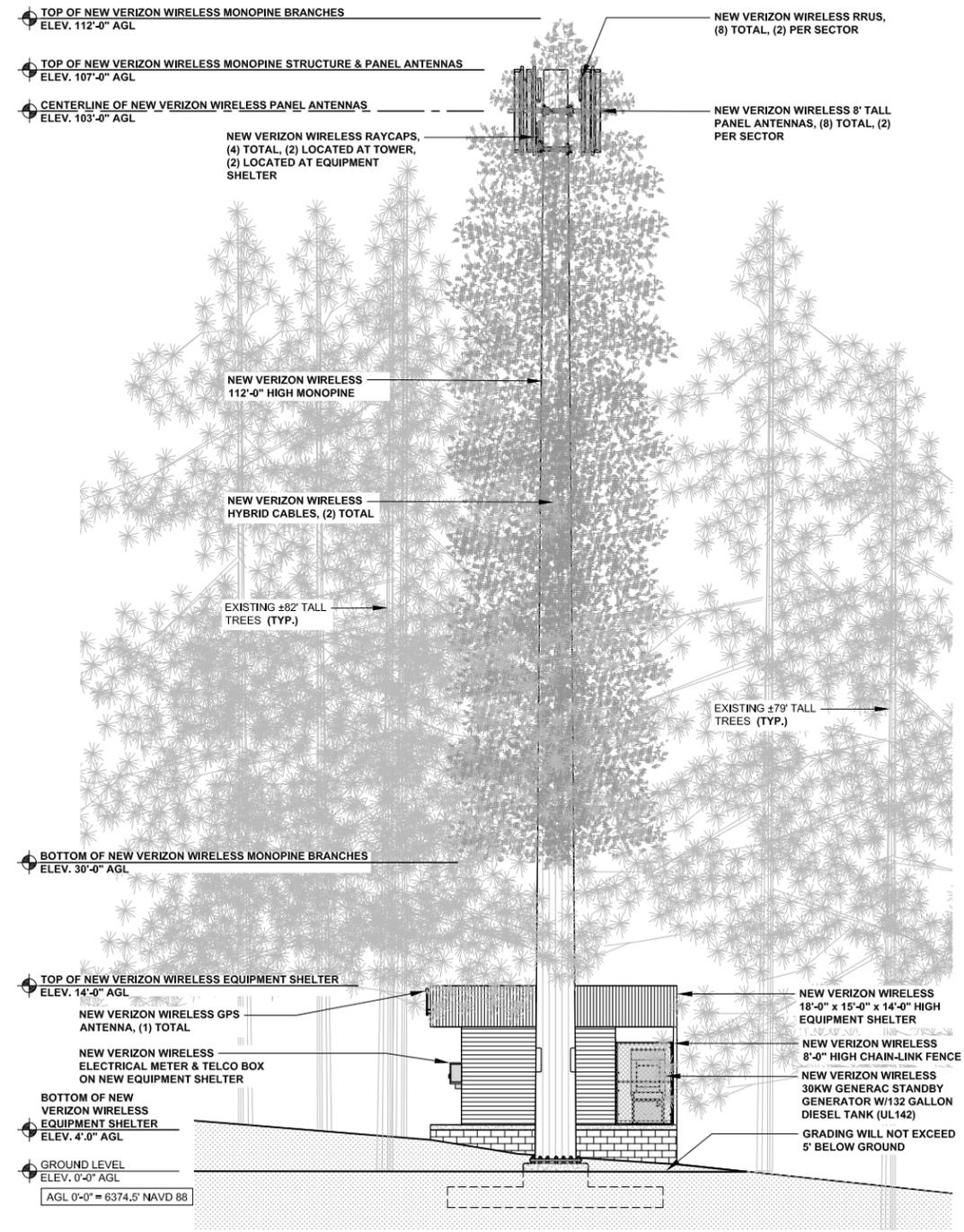
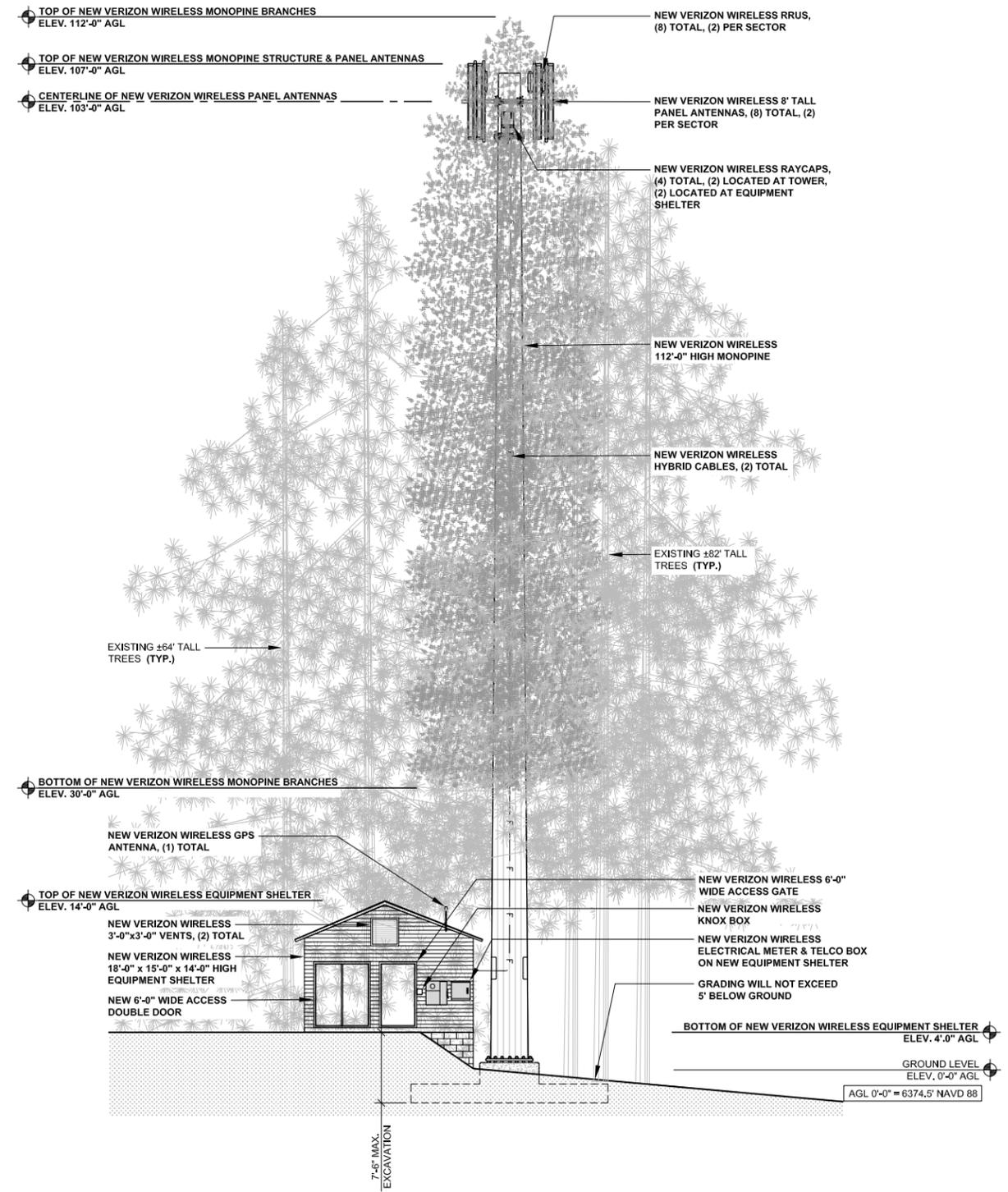
PSL# 444780

1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150

SHEET TITLE:
NORTHEAST & SOUTHEAST ELEVATIONS

A-3

NOTE:
PAINT ALL NEW VERIZON WIRELESS EQUIPMENT ON TOWER TO MATCH MONOPINE



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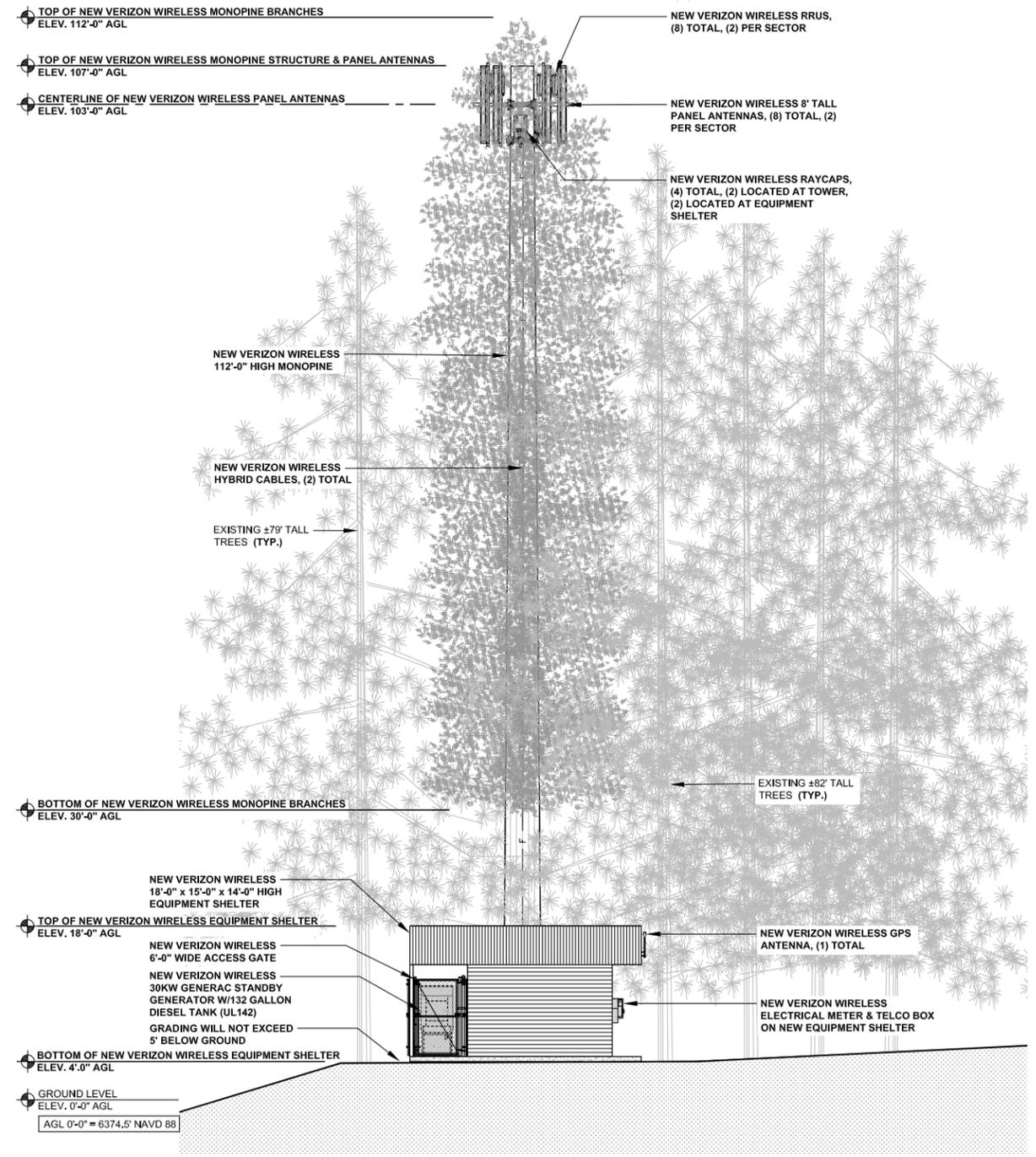
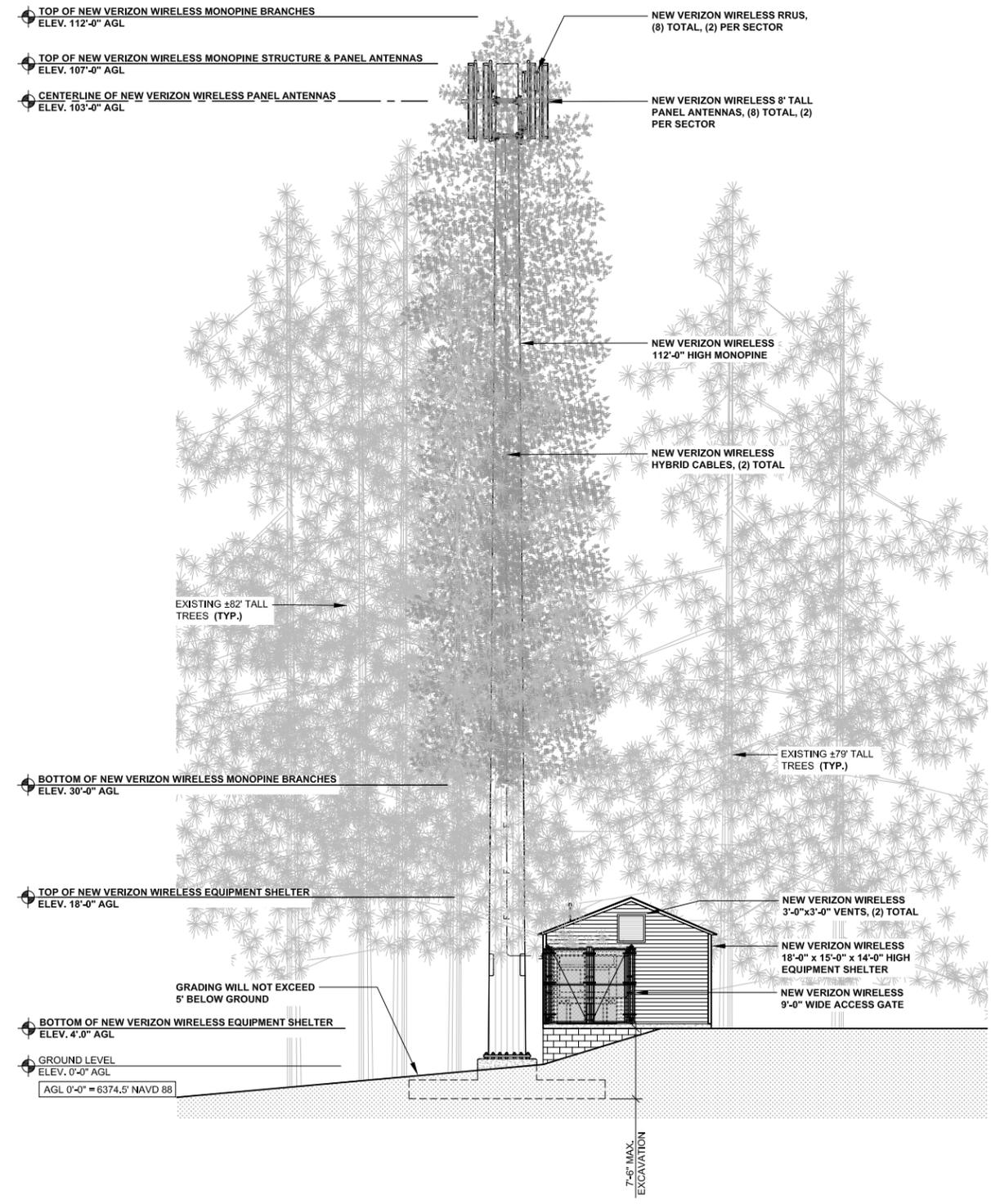
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PSL# 444780
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SHEET TITLE:
SOUTHWEST & NORTHWEST ELEVATIONS

A-4

NOTE:
PAINT ALL NEW VERIZON WIRELESS EQUIPMENT ON TOWER TO MATCH MONOPINE



NORTHWEST ELEVATION

0 2' 4' 8'
SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)

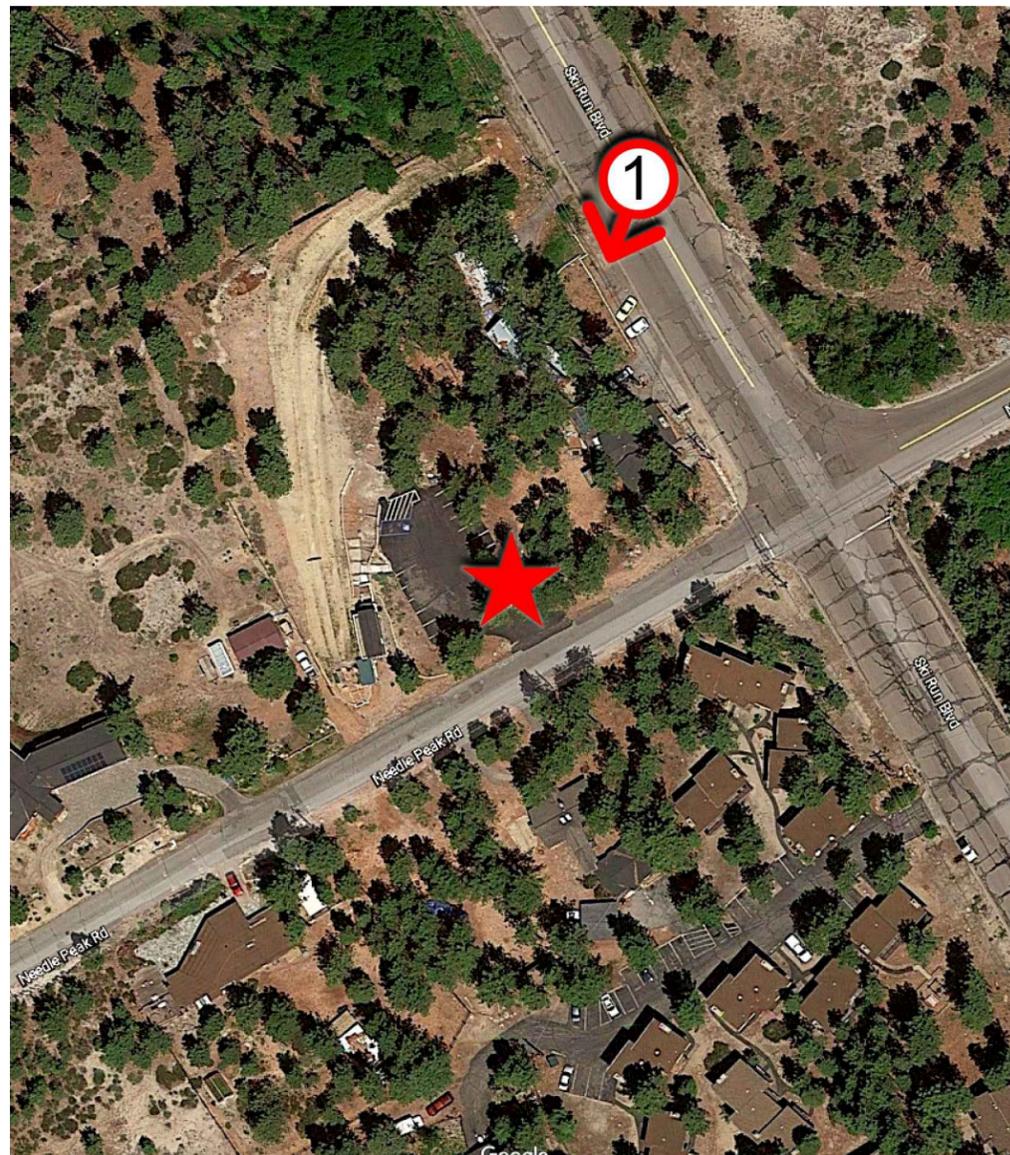
2 **SOUTHWEST ELEVATION**

0 2' 4' 8'
SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)

AGENDA ITEM NO. VIII. B.

NOTE: THE ORIGINAL SIZE OF THIS DRAWING IS 36" X 48". SCALE SHOULD NOT VARY FOR REDUCED OR ENLARGED SHEET SIZES.

PHOTOSIMULATION VIEWPOINT 1



NEW

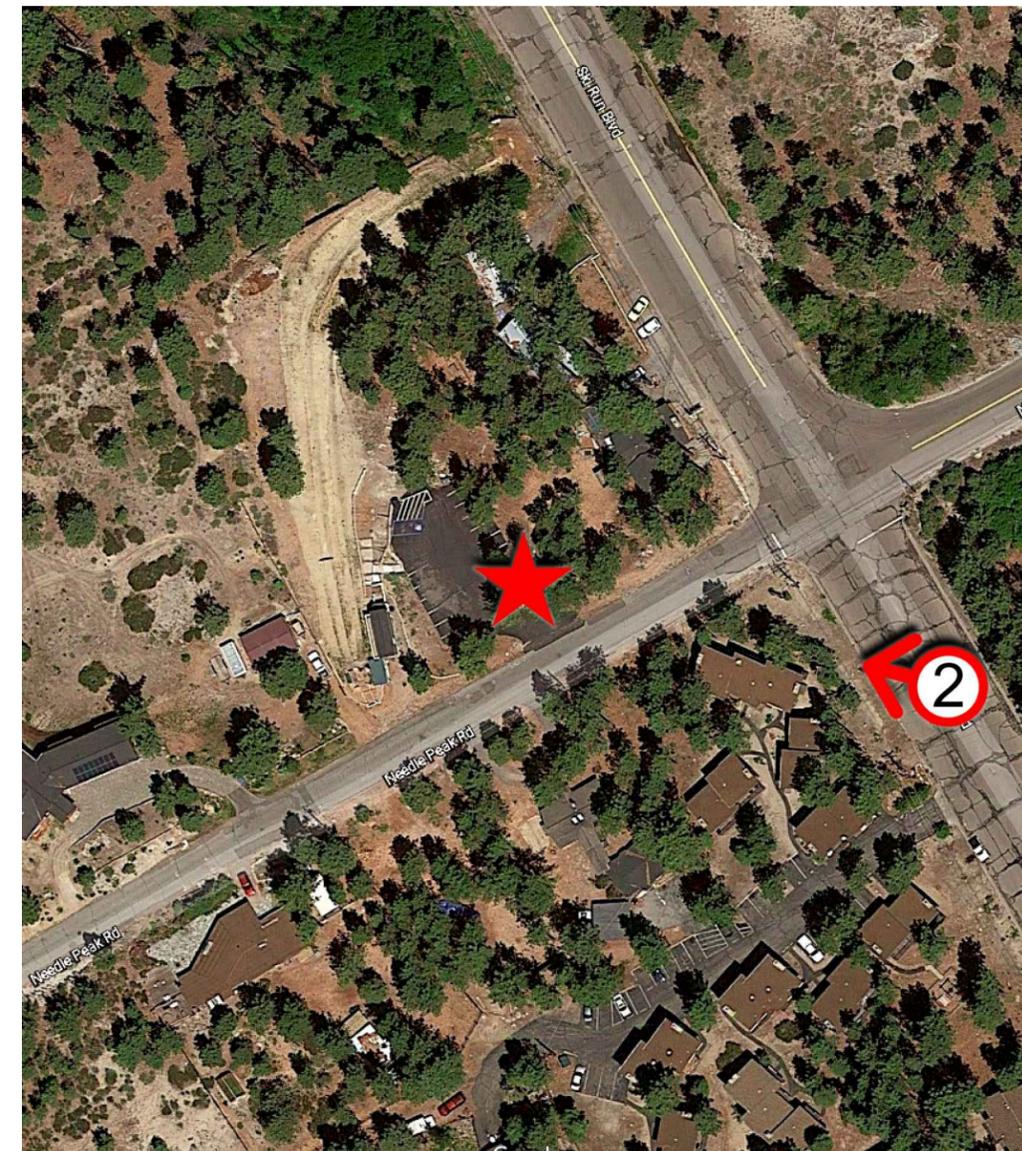


EXISTING



AGENDA ITEM NO. VIII. B.

PHOTOSIMULATION VIEWPOINT 2



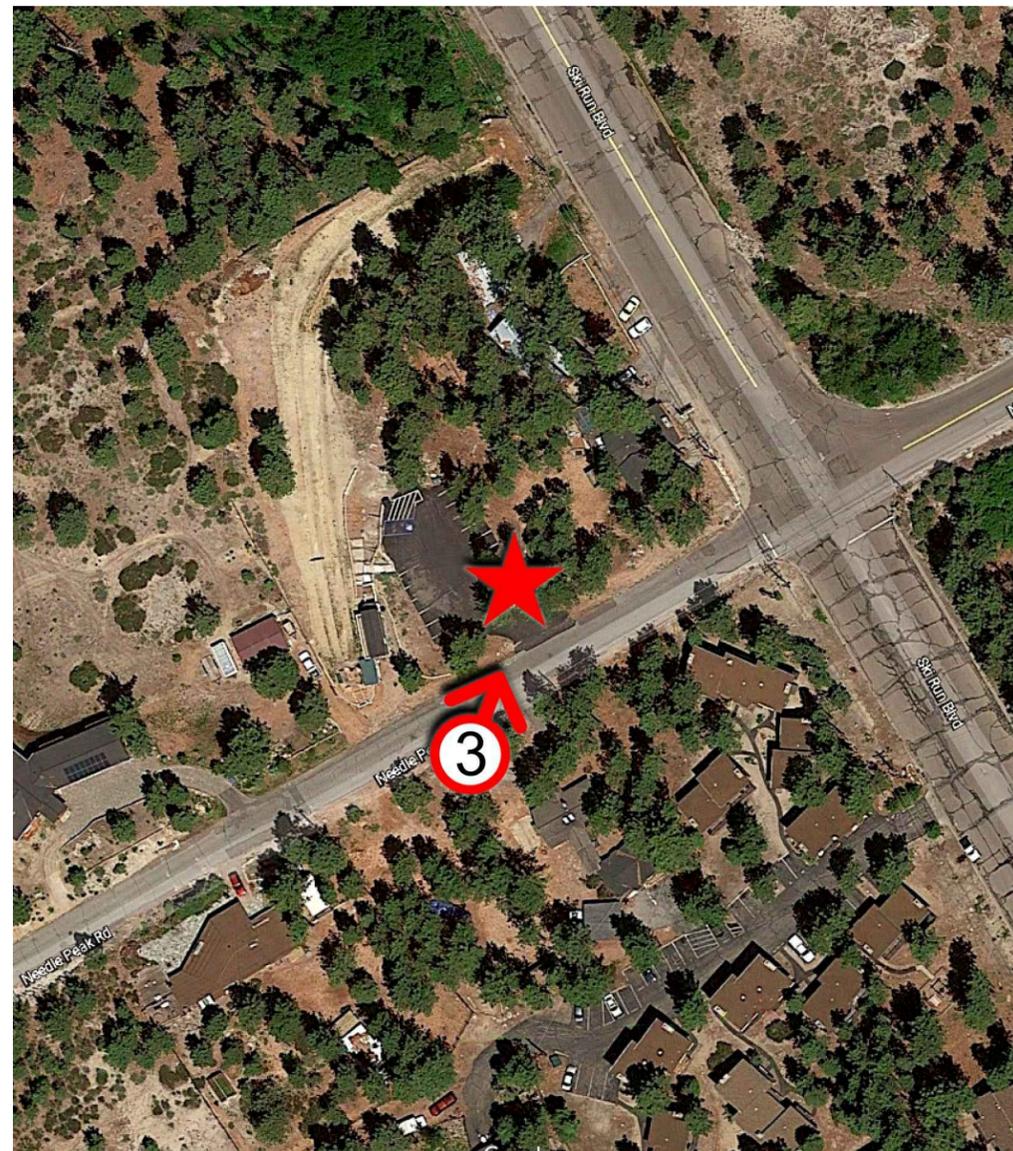
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PHOTOSIMULATION VIEWPOINT 3



AGENDA ITEM NO. VII. B.

DISCLAIMER: THIS PHOTOSIMULATION IS INTENDED AS A GRAPHICAL REPRESENTATION OF EXISTING AND PROPOSED SITE CONDITIONS BASED ON THE PROJECT / DRAWING PLANS. IT IS NOT INTENDED FOR CONSTRUCTION. ACTUAL, FINAL CONSTRUCTION MAY VARY

Attachment C
Alternatives Analysis



Alternatives Analysis

Ski Run Boulevard

1360 Ski Run Boulevard, South Lake Tahoe



December 19, 2019

**Summary of Site Evaluations
Conducted by SAC Wireless
Compiled by Mackenzie & Albritton LLP**

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Map of Alternatives

I. Executive Summary

Verizon Wireless must fill a significant gap in service in South Lake Tahoe. Based on the review of 32 alternatives set forth in the following analysis, Verizon Wireless believes that placing antennas on a tower camouflaged as a pine tree (the “Proposed Facility”) constitutes the least intrusive feasible alternative to provide service to the identified gap in network service based on the values expressed the South Lake Tahoe City Code (the “Code”).

II. Significant Gap

There is a significant gap in Verizon Wireless network service in the Heavenly Valley and Bijou Park areas of South Lake Tahoe. Reliable AWS LTE in-building and in-vehicle service is lacking in the area, which includes residences, visitor accommodations and businesses. Additionally, the existing Verizon Wireless network serving the area is reaching capacity exhaustion, which compromises communication in a greater area for residents and visitors as well as emergency service personnel. (Collectively, the “Significant Gap”) The Significant Gap is described in detail in the *Statement of Verizon Wireless Radio Frequency Design Engineer Jennifer Valencia* (the “RF Engineer’s Statement”). The coverage and capacity issues are not cured after Verizon Wireless’s recently-approved small cells have been activated in the greater vicinity. The small cells were designed to cover small target zones where there were either coverage or capacity needs. To remedy the Significant Gap, Verizon Wireless must place a new macro facility to ensure sufficient reliable network service.

III. Methodology

Once a significant gap has been determined, Verizon Wireless seeks to identify a location and design that will provide required network service through the “least intrusive means” based upon the values expressed by local regulations. In addition to seeking the least intrusive alternative, sites proposed by Verizon Wireless must be feasible. In this regard, Verizon Wireless reviews the available height and equipment space, radio frequency propagation, proximity to end users, access, elevation, terrain and other critical factors such as a willing landlord in completing its site analysis.

According to the various TRPA plan area statements for the gap area and the local Tourist Core Area Plan, transmission and receiving facilities are allowed with a special use permit approved by the City. Use permit findings include that a proposed use is necessary or desirable for the parcel, and not injurious to the neighborhood. Code § 6.55.620(B).

IV. Analysis

Collocation Review

Verizon Wireless first reviewed the area of the Significant Gap for existing wireless towers on which to collocate its antennas, but identified no such facilities within the gap area.

The closest existing tower locations identified are beyond the gap area. One is at the top of the Heavenly Gunbarrel Express lift, 1.2 miles southeast of the Proposed Facility and over 1,950 feet greater in elevation. There is already a Verizon Wireless facility on one of the towers at this location, the Angel's Roost facility. Its antennas face south and serve a different coverage objective. North-facing antennas could not serve the Significant Gap due to distance and elevation, as they would overshoot the gap area. They also would introduce substantial signal interference for other Verizon Wireless facilities around Lake Tahoe due to the high elevation.

Another site 1.2 miles to the west, by the South Lake Tahoe Police Department, 1362 Johnson Boulevard, already hosts Verizon Wireless's Tahoe PD facility. That facility does not serve the Significant Gap due to distance. The existing facilities coverage map on Page 6 demonstrates how these facilities do not provide service to the gap area.

Lacking any nearby collocation opportunities, Verizon Wireless explored placement of a new facility within the gap area.

Verizon Wireless's Review of Alternatives

Verizon Wireless first reviewed the area of the Significant Gap for suitable parcels to place a tower facility, and also considered placement of antennas on multi-unit buildings. Verizon Wireless readily identified the following optimal location at the center of the gap.

1. Proposed Facility

Address: 1360 Ski Run Boulevard
Elevation: 6,375 Feet

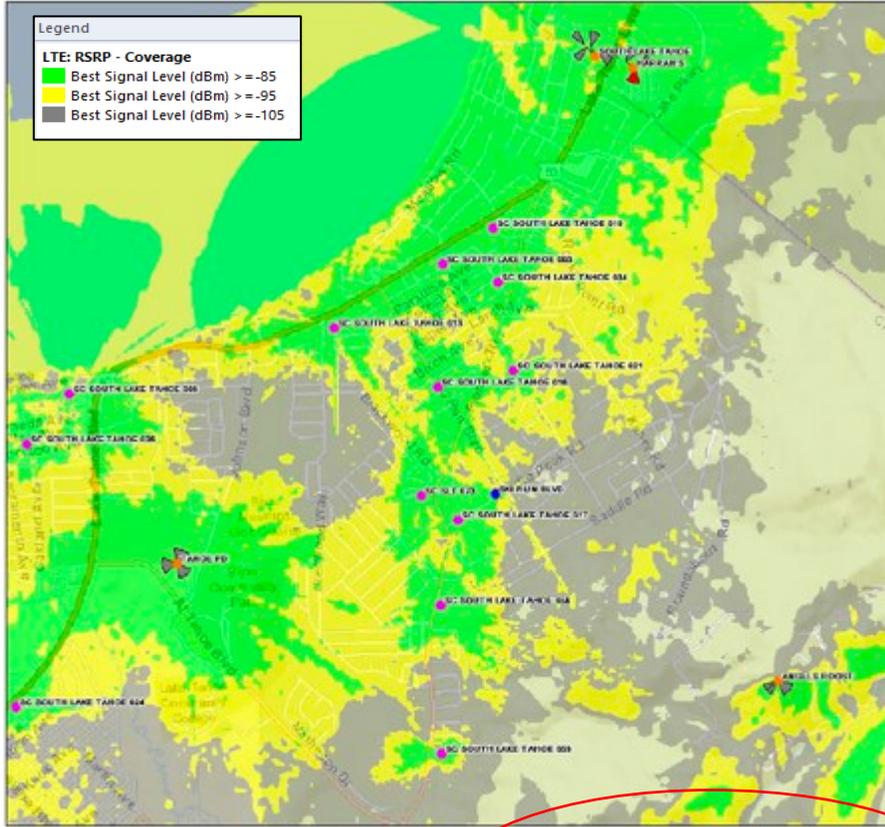
The Proposed Facility has been thoughtfully designed to minimize any impact to the adjacent community. Verizon Wireless proposes to conceal its panel antennas within a 112-foot tower facility camouflaged as a pine tree. Antennas will be concealed within faux foliage and branches, and branches will extend beyond and above the antennas, providing a realistic tapered crown. Antennas will be covered with pine needle socks for further concealment. The treepole will be placed within a 624 square foot leased area, next to a new 270 square foot equipment shelter designed as a small shed with a pitched roof and slatted siding. Behind the shed, away from the road, a backup generator will provide continued service in case of power outages or emergencies. The treepole has been designed to accommodate collocation by additional wireless carriers.



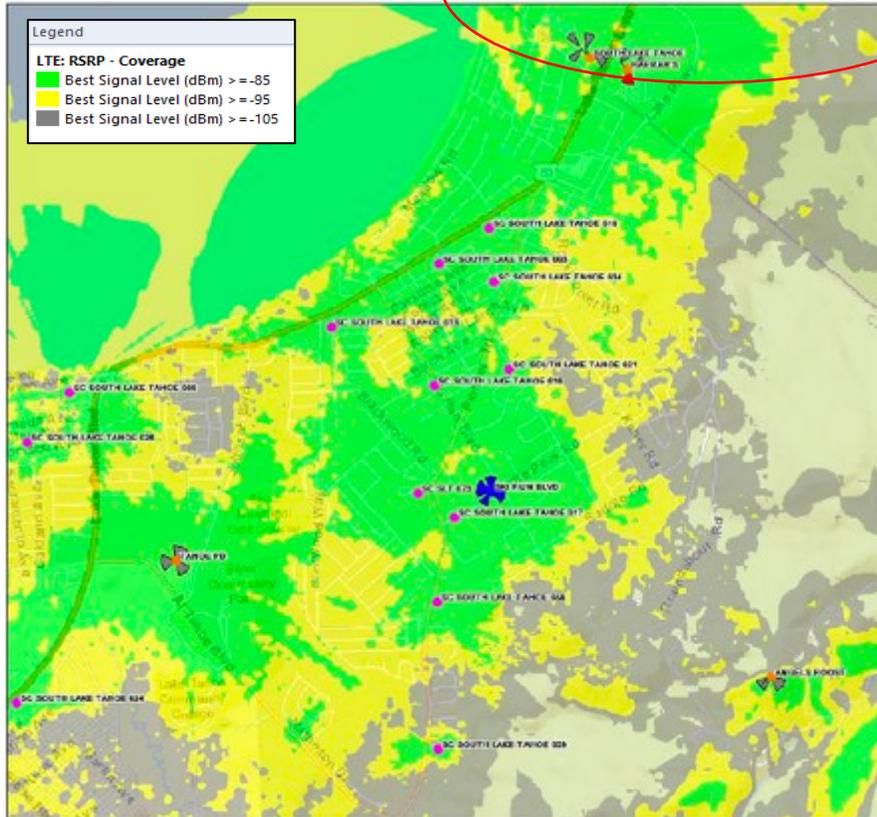
With antennas elevated to a 103-foot centerline at this optimal location, the Proposed Facility will provide new reliable Verizon Wireless AWS LTE service to the Significant Gap. As shown in the following coverage maps, the Proposed Facility will provide new reliable in-building coverage to the Heavenly Valley and Bijou Park areas, plus additional new in-vehicle coverage to a larger area. It also will provide new network capacity to relieve the existing network that is reaching capacity exhaustion. An analysis comparing existing and proposed service is found in the RF Engineer's Statement. This is Verizon Wireless's preferred location and design for the Proposed Facility.

Coverage plot maps like those on the following page provide important information regarding the anticipated level of signal, and therefore the projected coverage provided by a site at a given location. The areas in green reflect good coverage that meets or exceed thresholds to provide consistent and reliable network coverage in homes and in vehicles. The areas in yellow and gray depict decreasing levels of coverage, respectively, with yellow areas generally representing reliable in-vehicle coverage only, and gray areas depicting poor service areas with marginal coverage unsuitable for in-vehicle use. Unshaded areas do not receive reliable Verizon Wireless service.

AWS LTE Coverage Map – Existing Facilities



Coverage with Proposed Facility – 103 Foot Antenna Centerline



103-feet is the centerline of the highest antenna.

2. Heavenly Parking Lot

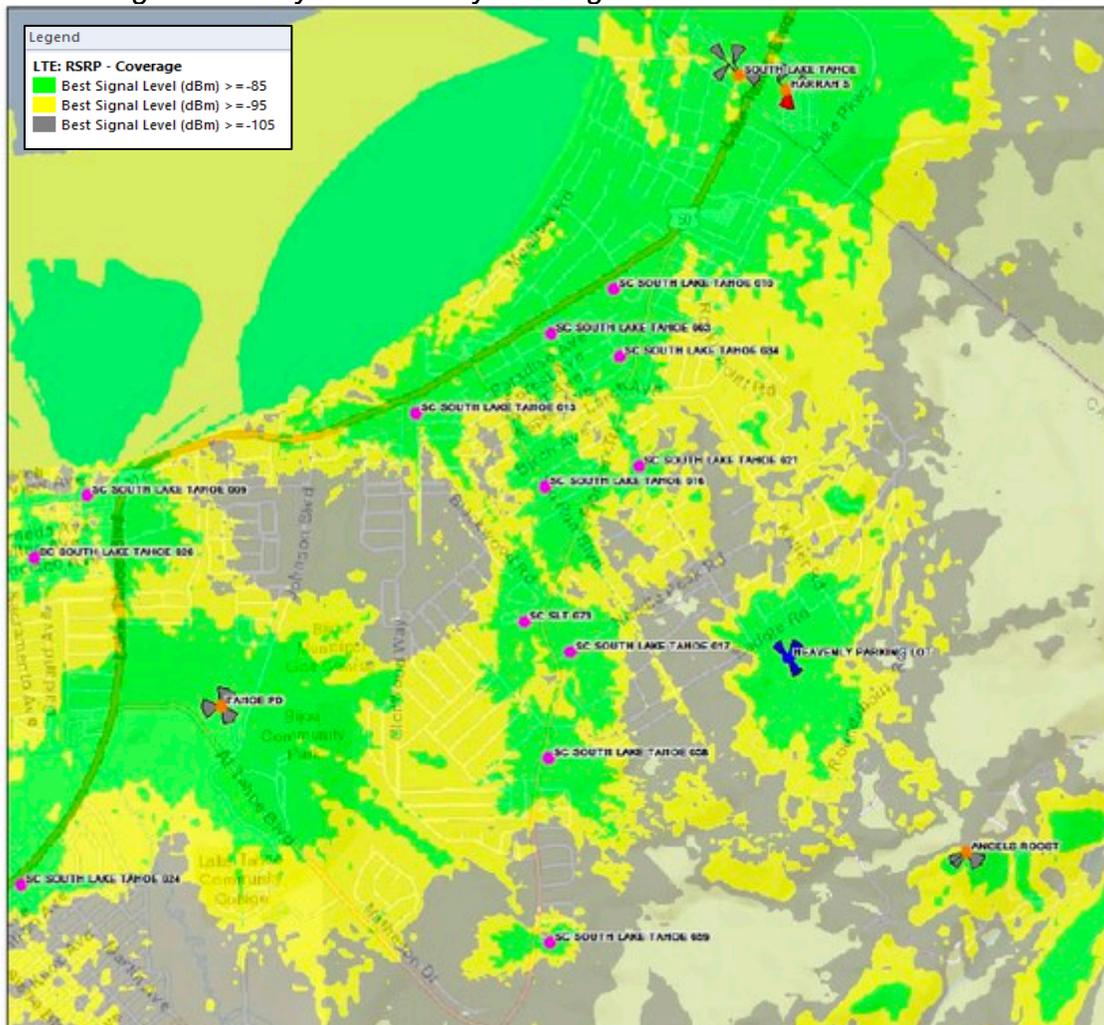
Address: 3860 Saddle Road
Elevation: 6,570-6,665 Feet

Verizon Wireless reviewed this large, sloping parking lot 0.5 miles southeast of the Proposed Facility with a varying elevation approximately 200 to 300 feet greater. The parking lot is at the base of a 59.73 acre parcel in unincorporated El Dorado County. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap primarily due to



distance. As shown in the following coverage map, a coverage gap would remain in the western Heavenly Valley area and the Bijou Park area. Also, at this location, it is very difficult to minimize the interference with other facilities due to directly pointing a sector toward the water. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Heavenly Parking Lot – 40 Foot Antenna Centerline



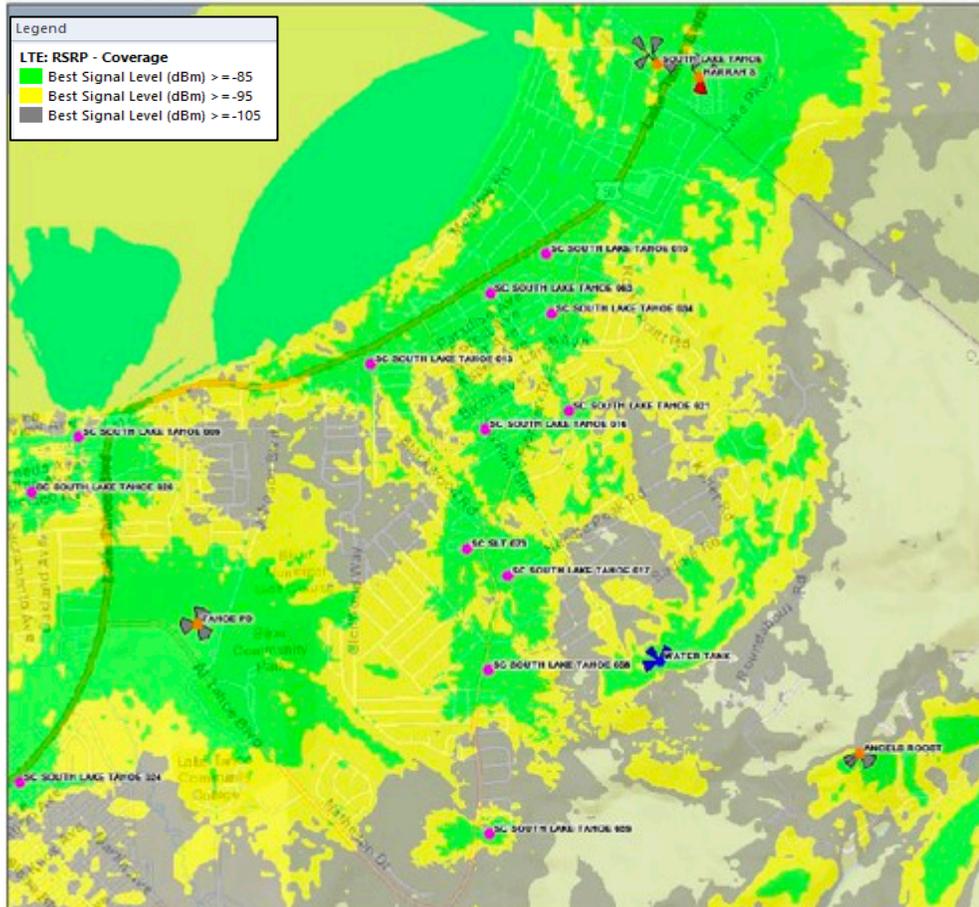
3. Water Tank

Address: 1581 Ski Run Boulevard
Elevation: 6,790 Feet

Verizon Wireless reviewed placement of antennas on this water tank 0.5 miles southeast of the Proposed Facility and approximately 415 feet greater in elevation. Verizon Wireless engineers determined that a facility mounted to the water tank cannot serve the Significant Gap due to distance and the excessive elevation of this location, from which signal would overshoot the gap area. As shown in the following coverage map, coverage would be spotty in much of the gap area, with little overall improvement. A coverage gap would remain in the Heavenly Valley and Bijou Park areas. Also, at this location, it is very difficult to minimize the interference with other facilities due to directly pointing a sector toward the water. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Water Tank – 30 Foot Antenna Centerline



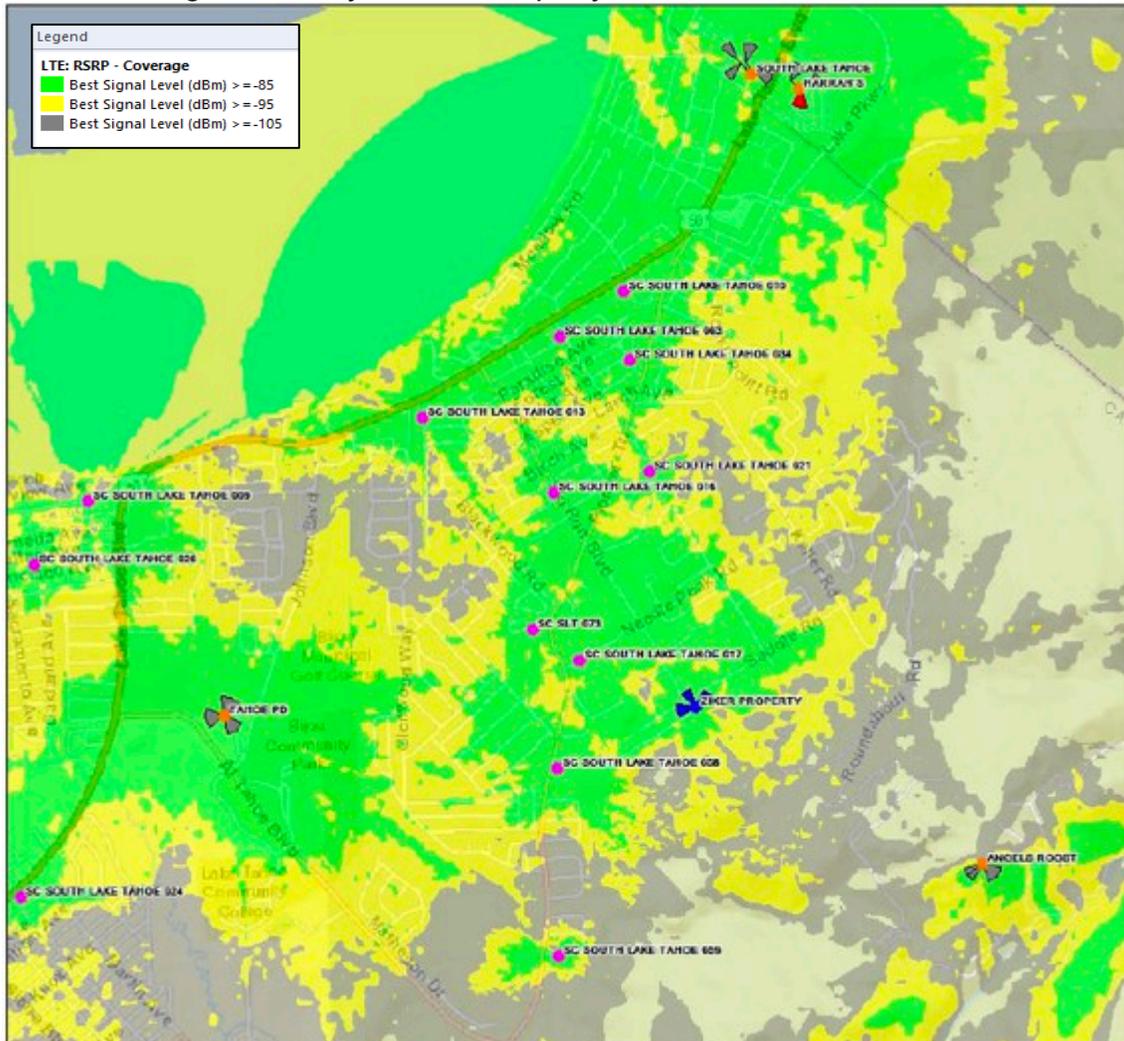
4. Ziker Property

Address: 1495 Ski Run Boulevard
Elevation: 6,550 Feet

Verizon Wireless reviewed this 1.25 acre property 0.3 miles southeast of the Proposed Facility and approximately 175 feet greater in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with a 103-foot antenna centerline. As shown in the following coverage map, a coverage gap would remain, notably in the western Bijou Park area. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Ziker Property – 103 Foot Antenna Centerline



5. Don Trout Property

Address: 3540 Pioneer Trail South
Elevation: 6,310 Feet

Verizon Wireless reviewed this undeveloped 1.58 acre property 0.2 miles northwest of the Proposed Facility and approximately 65 feet lower in elevation. Verizon Wireless contacted the property owner regarding placement of a facility on the property, but the owner was considering other



redevelopment plans and could not offer a specific location with sufficient room required for a tower and ground equipment area. As a result, Verizon Wireless was unable to secure a timely commitment for a lease agreement. This is not a feasible alternative to the Proposed Facility.

6. South Tahoe Public Utility District Property

Address: David Lane
Elevation: 6,340 Feet

Verizon Wireless reviewed this 0.12 acre property 0.2 miles north of the Proposed Facility and 35 feet lower in elevation. The narrow parcel is only approximately 35 feet wide, and a small utility building and ground cabinets occupy most of the width of the parcel. To access the undeveloped rear of the parcel, a new access road would be required around those obstructions, and it would need to traverse a neighboring parcel held by the California Tahoe Conservancy, requiring tree removal and grading. The Conservancy has confirmed to Verizon Wireless that it is not entertaining requests for wireless siting on its properties. Lacking legal access to the developable area of this parcel, this is not a feasible alternative to the Proposed Facility.



7. Fire Station 1

Address: 1252 Ski Run Boulevard

Elevation: 6,295 Feet

Verizon Wireless reviewed this 0.61 acre property 0.3 miles northwest of the Proposed Facility and approximately 80 feet lower in elevation. Verizon Wireless approached the City of South Lake Tahoe Fire Department regarding placement of a facility on the property, but the Department declined to lease space. Lacking a willing landlord, this is not a feasible alternative to the Proposed Facility.



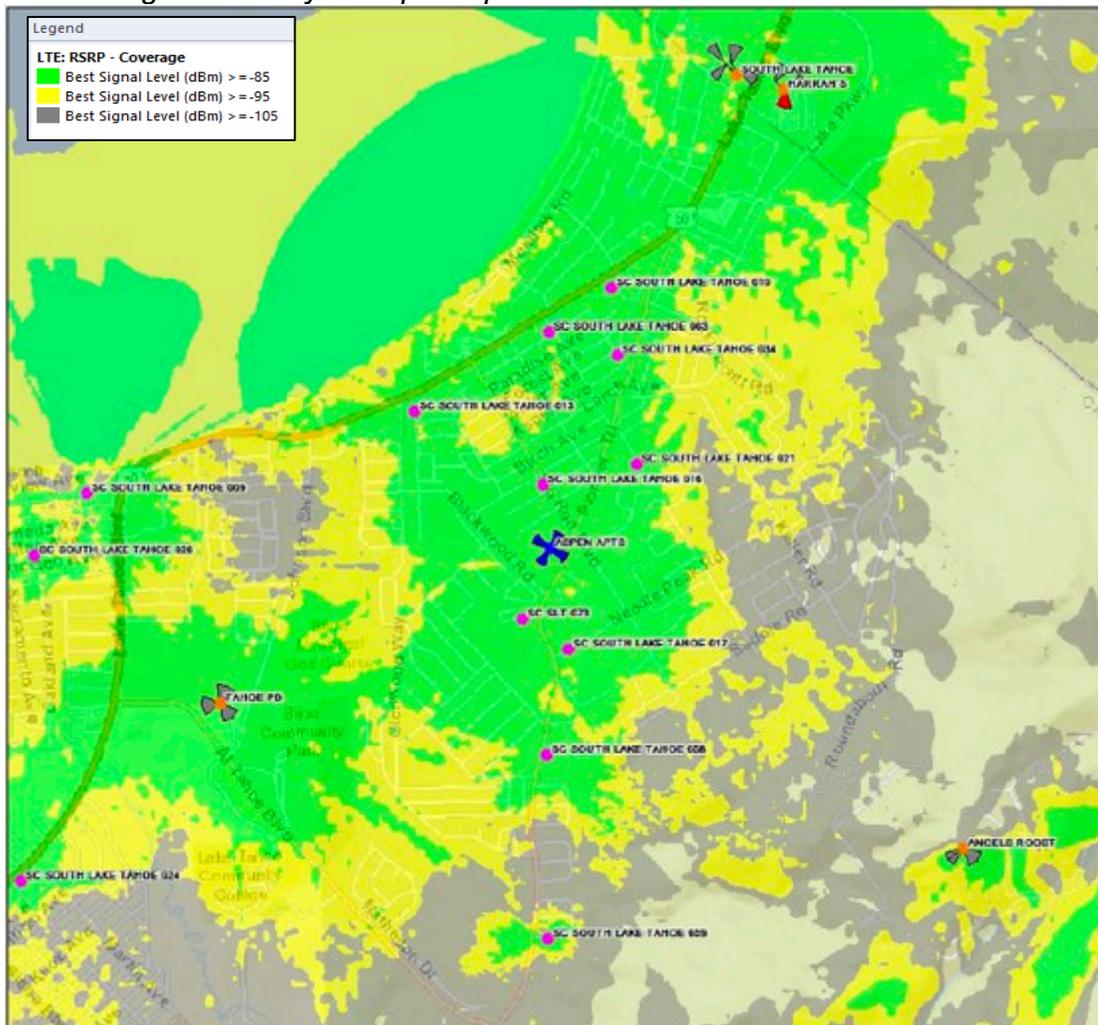
8. Aspen Apartments

Address: 3521 Pioneer Trail South
Elevation: 6,295 Feet

Verizon Wireless reviewed this 4.85 acre property 0.3 miles northwest of the Proposed Facility and approximately 80 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with an antenna centerline 13 feet greater than the Proposed Facility. As shown in the following coverage map, there would remain a lack of coverage in the southern portions of the gap. Further, a tall tower on this parcel would be immediately adjacent to the apartment buildings that occupy most of the property, and with fewer screening trees nearby, it would pose more visual impact than the Proposed Facility. This is neither a feasible nor less intrusive alternative to the Proposed Facility.



Coverage of Facility at Aspen Apartments – 116 Foot Antenna Centerline



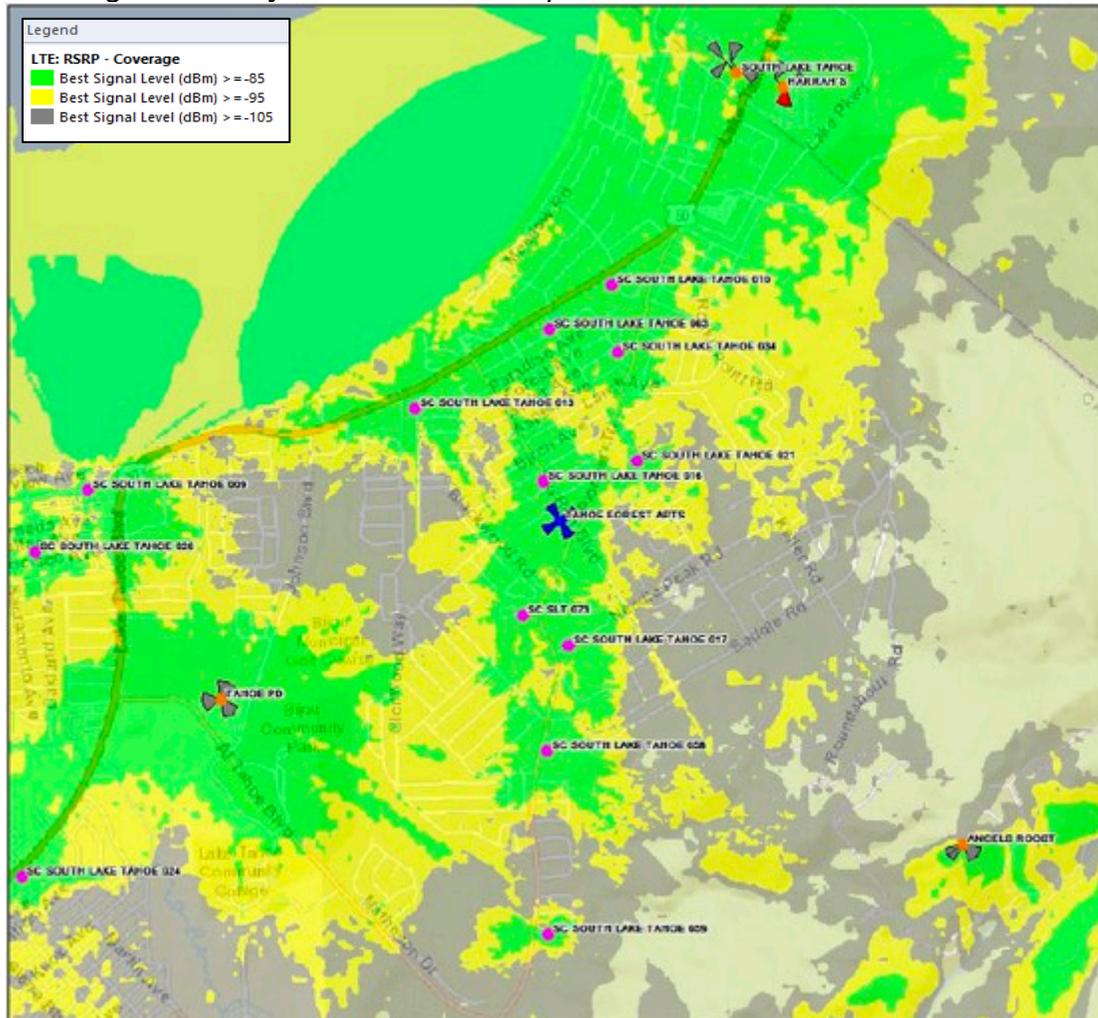
9. Tahoe Forest Apartments

Address: 1232 Ski Run Boulevard
Elevation: 6,290 Feet

Verizon Wireless reviewed this 1.0 acre property 0.3 miles northwest of the Proposed Facility and approximately 85 feet lower in elevation. Because the two-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 25 feet. As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Tahoe Forest Apartments – 25 Foot Antenna Centerline



10. Lynch Property

Address: 3616 Terry Lane South
Elevation: 6,285 Feet

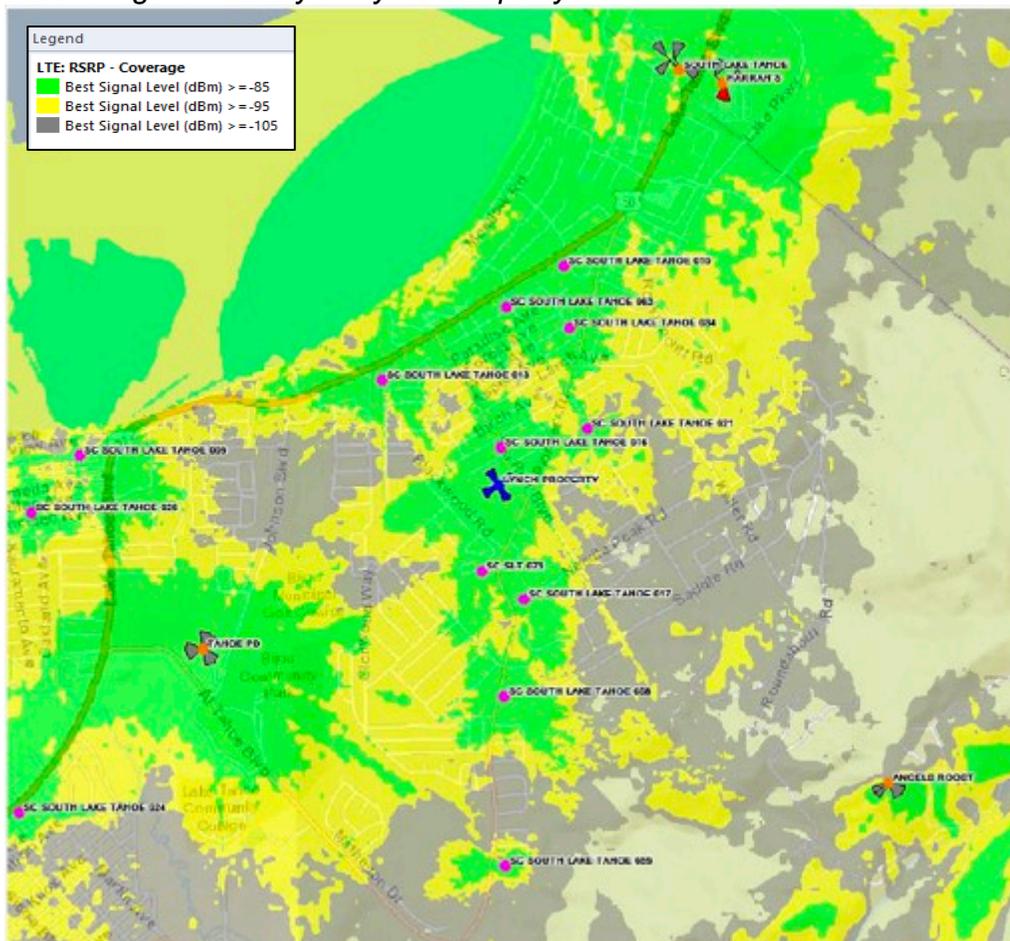
Verizon Wireless reviewed this 0.28 acre property 0.35 miles northwest of the Proposed Facility and approximately 90 feet lower in elevation. Because the existing two-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop.



Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 25 feet.

As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Lynch Property – 25 Foot Antenna Centerline



11. Bart's Inn

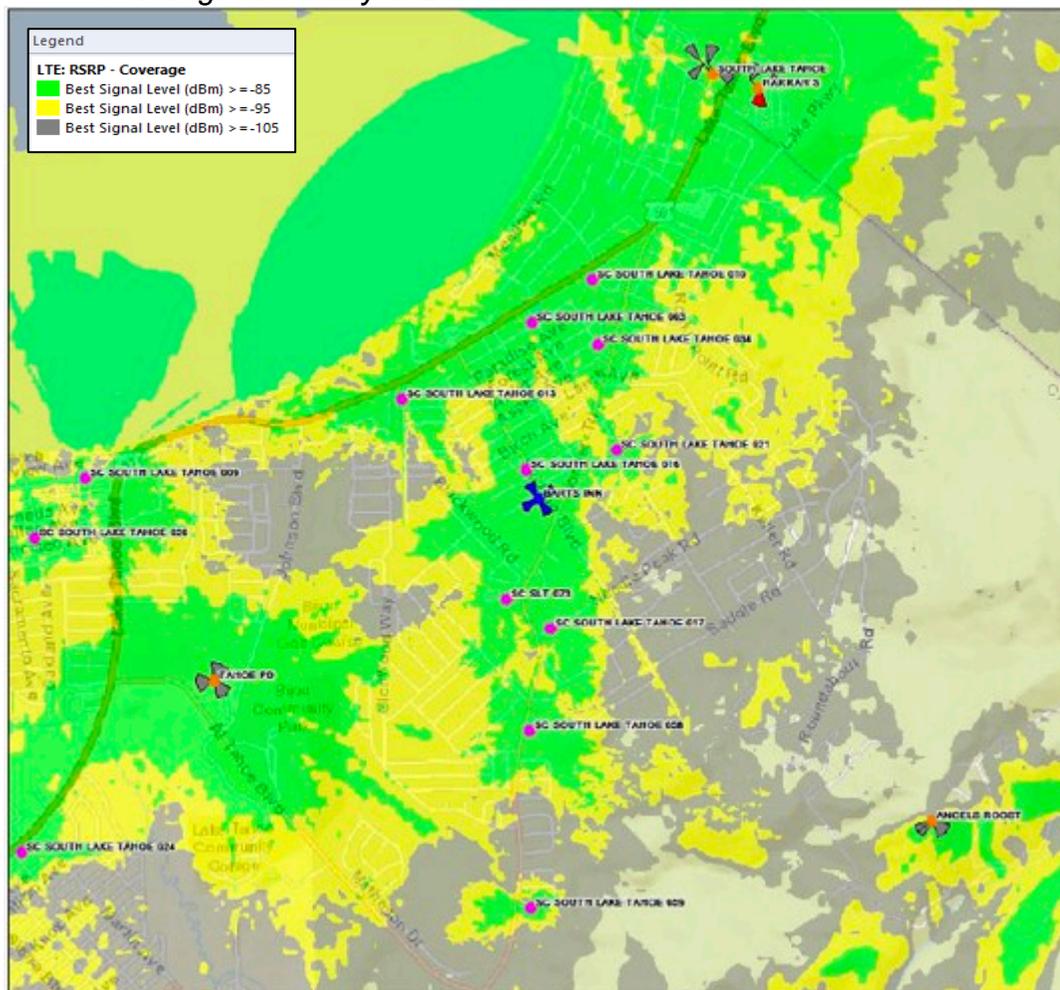
Address: 1224 Ski Run Boulevard
Elevation: 6,285 Feet

Verizon Wireless reviewed this 0.82 acre property 0.35 miles northwest of the Proposed Facility and approximately 90 feet lower in elevation. Because the existing three-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop.



Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 40 feet. As shown in the following coverage map, a coverage gap would remain in most of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Bart's Inn – 40 Foot Antenna Centerline



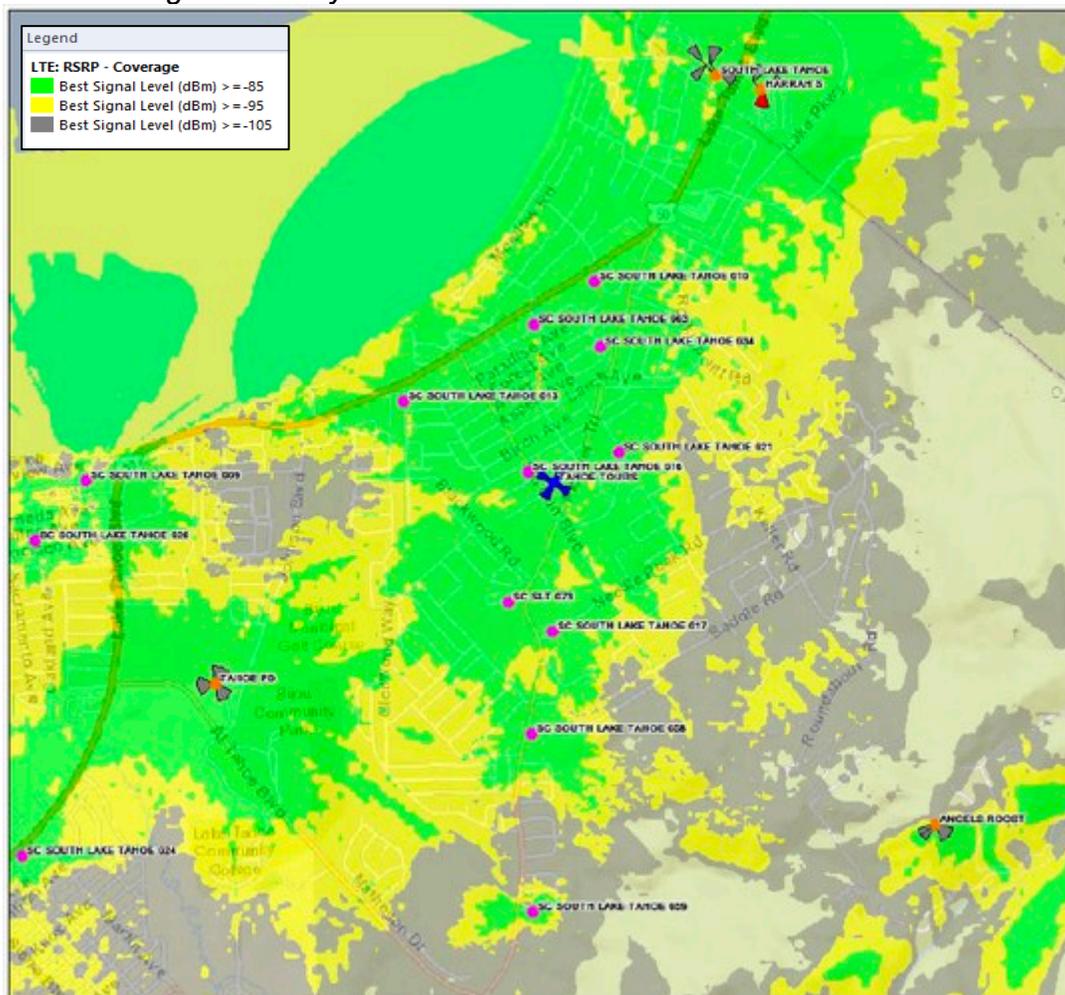
12. Tahoe Tours

Address: 3672 Willow Avenue South
Elevation: 6,290 Feet

Verizon Wireless reviewed this 0.23 acre property 0.4 miles north of the Proposed Facility and approximately 85 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with an antenna centerline 13 feet greater than the Proposed Facility. As shown in the following coverage map, a coverage gap would remain in southern portion of the gap in much of the Heavenly Valley area. Further, a tall tower on this small parcel would be immediately adjacent to homes on either side, posing more visual impact than the Proposed Facility. This is neither a feasible nor less intrusive alternative to the Proposed Facility.



Coverage of Facility at Tahoe Tours – 116 Foot Antenna Centerline



13. Harding Property

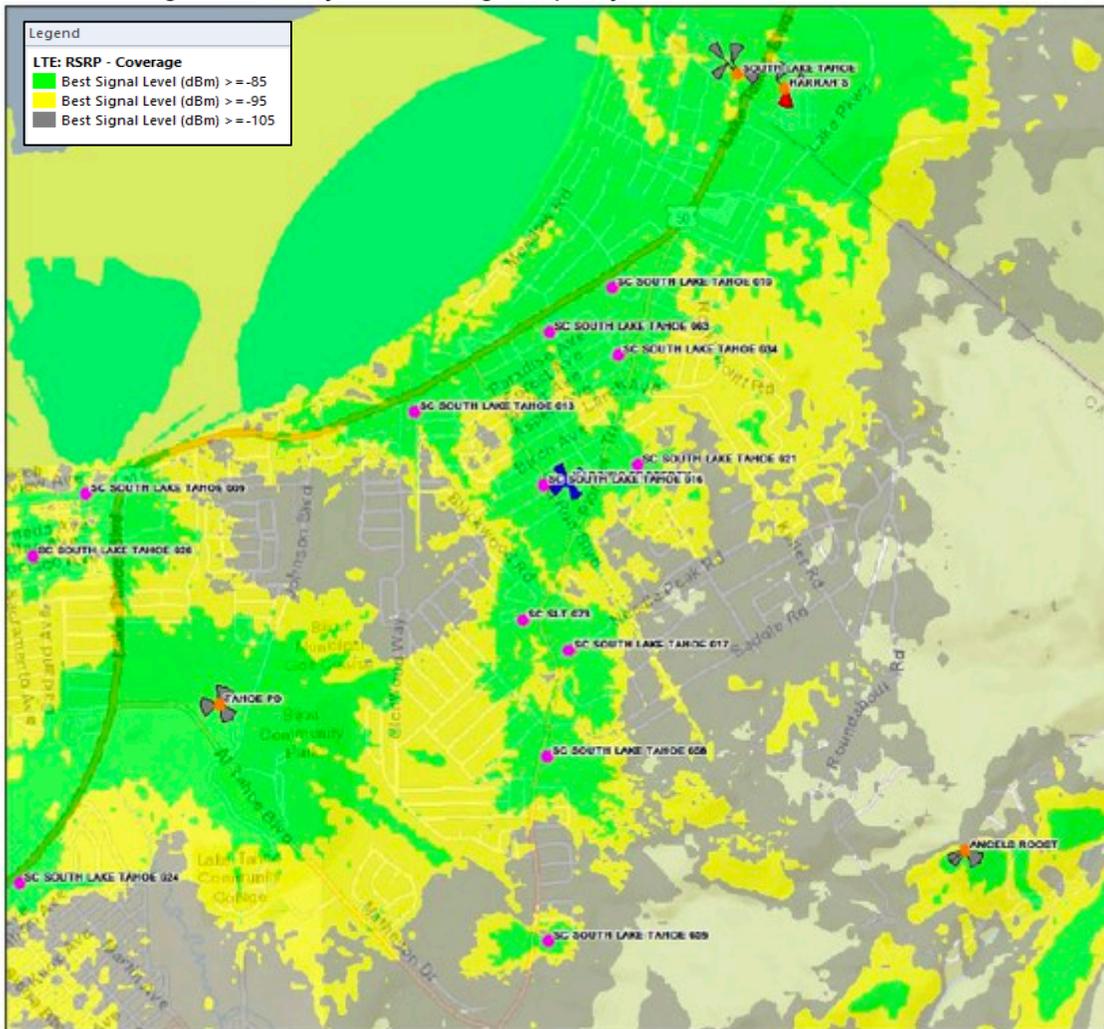
Address: 3668 Spruce Avenue South
Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.34 acre property 0.4 miles north of the Proposed Facility and approximately 95 feet lower in elevation. Because the existing two-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low



elevation and a low antenna centerline of 25 feet. As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Harding Property – 25 Foot Antenna Centerline



16. Sun Garden Apartments

Address: 1160 Bowers Avenue

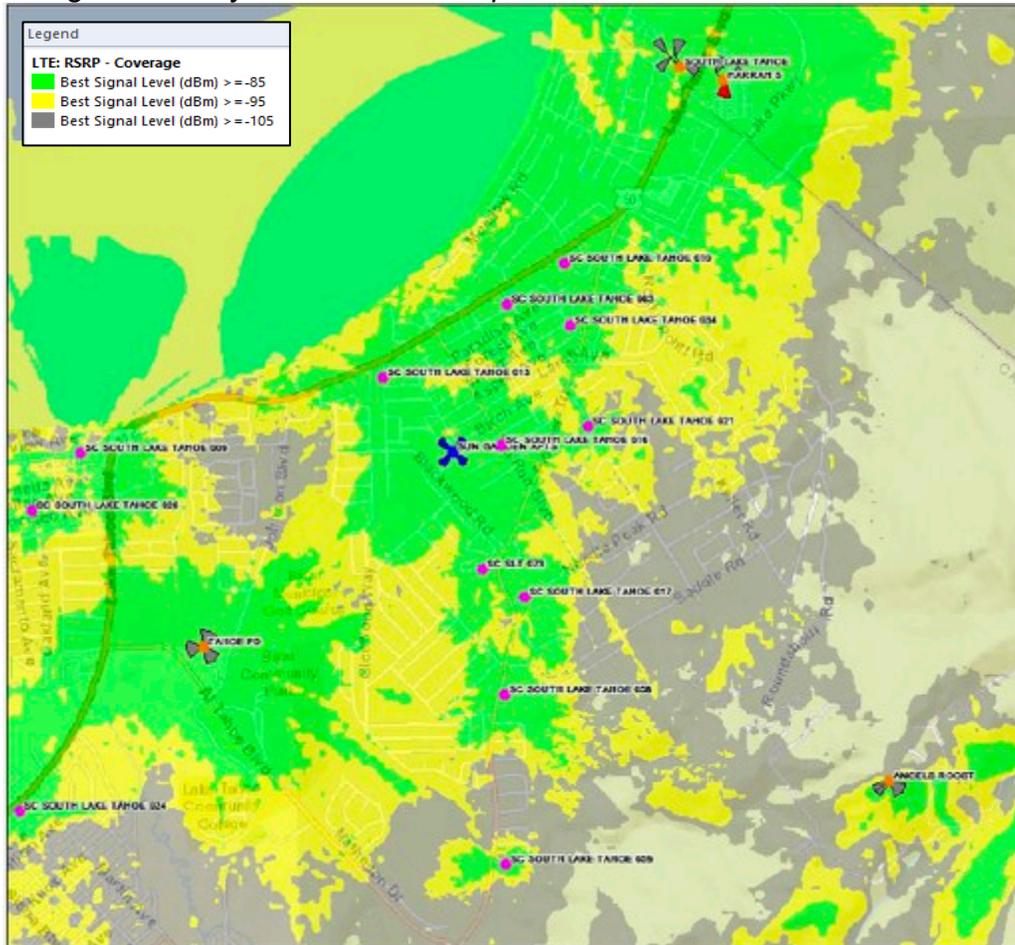
Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.82 acre property 0.5 miles northwest of the Proposed Facility and approximately 95 feet lower in elevation. Because the existing two-story buildings and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop.



Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 25 feet. As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Sun Garden Apartments – 25 Foot Antenna Centerline



17. KRLT Radio Tower

Address: 3621 Blackwood Road

Elevation: 6,255 Feet

Verizon Wireless reviewed this radio tower on a 1.83 acre property 0.55 miles northwest of the Proposed Facility and approximately 120 feet lower in elevation. Generally, radio towers are not compatible for cellular antennas. In particular, such guyed lattice towers cannot support the weight of Verizon Wireless's panel antennas and other structure-mounted transmission equipment required for service.



Further, the tower is in a low-lying drainage basin that leads toward the lake and generally is undeveloped. The present tower would need to be removed and reconstructed with a more robust monopole structure, and a deep tower caisson foundation and ground equipment area would be required. There may be a high water table that would pose construction issues for a tower foundation and ground equipment area. Construction would pose environmental impacts.

Due to structural limitations, impediments to construction on the property, and environmental impacts, this is not a feasible alternative to the Proposed Facility.

Alternatives Raised by the City

In working with the City to review possible locations for a new facility, Verizon Wireless reviewed four City-owned property locations raised by City staff. Unfortunately, these were determined to pose insurmountable construction issues, present excessive visual impact, or cannot serve the Significant Gap.

18. City Pioneer Trail Property

Address: 3500 Pioneer Trail South

Elevation: 6,300 Feet

Verizon Wireless reviewed this 0.24 acre property 0.2 miles northwest of the Proposed Facility and approximately 75 feet lower in elevation. This City Department of Public Works property is fully within a grove of trees, in the same low-lying drainage basin as the KRLT tower described under Alternative 17. There may be a high water table that would pose construction issues for a tower foundation and equipment area. The property is fully within a TRPA Land Capability Class 1B area (Stream Environment Zone), with an IPES Coverage Score of 0, and allowable base coverage of 0%. Due to major impediments to construction on the property, this is not a feasible alternative to the Proposed Facility.



19. City Tamarack Avenue Property

Address: 3576 Tamarack Avenue

Elevation: 6,285 Feet

Verizon Wireless reviewed this 0.98 acre property 0.5 miles northwest of the Proposed Facility and approximately 90 feet lower in elevation. This City Department of Public Works property is located within the same low-lying drainage basin as Alternatives 17 and 18 above, posing the same potential construction issues. The property is fully within a TRPA Land Capability Class 1B area (Stream Environment Zone), with allowable base coverage of 1%, too little room for a wireless facility compound. Due to major impediments to construction on the property, this is not a feasible alternative to the Proposed Facility.



20. City Spruce Avenue Property

Address: 3681 Spruce Avenue

Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.11 acre property 0.45 miles north of the Proposed Facility and approximately 95 feet lower in elevation. This very small, narrow City Department of Public Works property is sandwiched between homes, and a very tall tower and ground equipment area would pose substantial visual impact compared to the Proposed Facility. This cannot be considered a less intrusive alternative to the Proposed Facility.



21. City Saddle Road Property

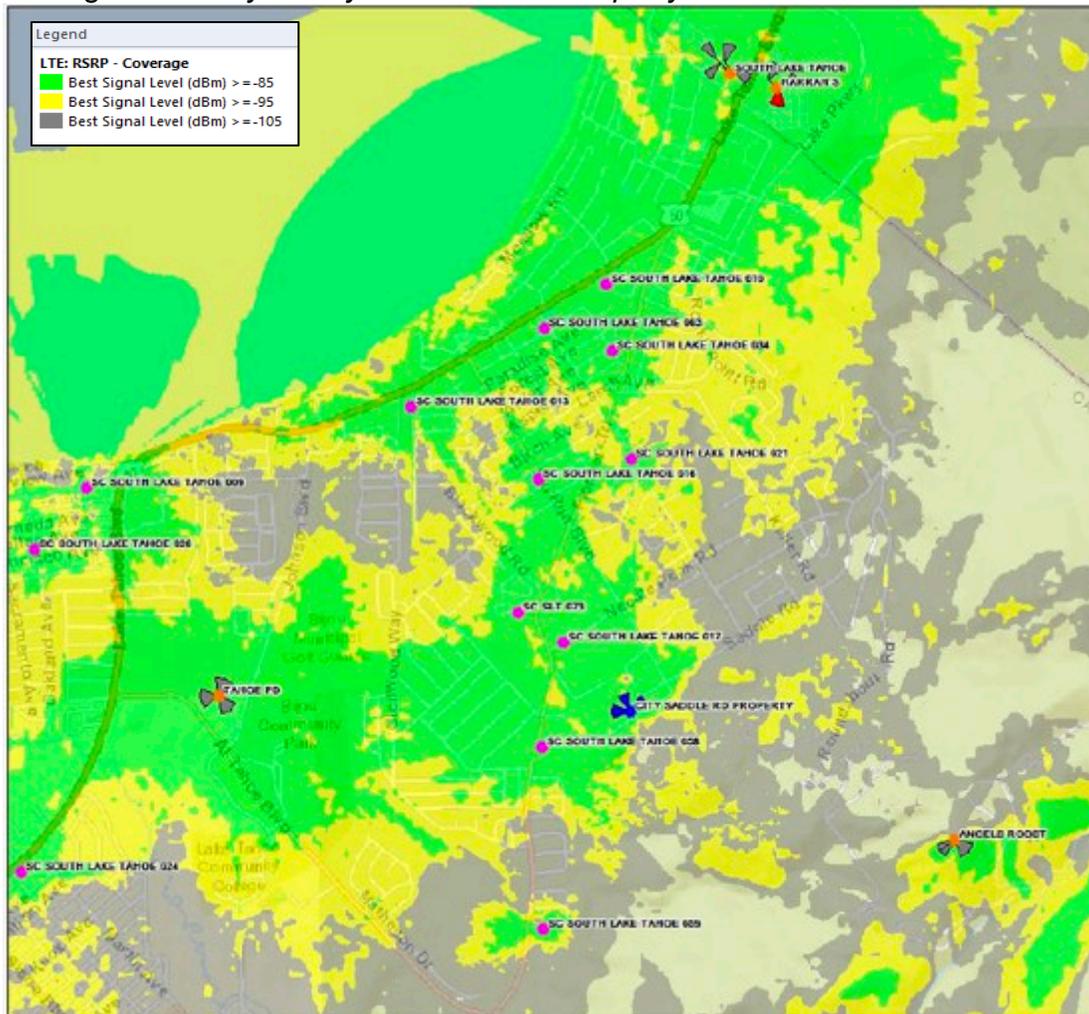
Address: 3590 Saddle Road

Elevation: 6,500 Feet

Verizon Wireless reviewed this 0.31 acre property 0.3 miles south of the Proposed Facility and approximately 125 feet greater in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with a 100 foot antenna centerline. As shown in the following coverage map, coverage would be spotty in much of the gap area, leaving various coverage gaps, notably in the Bijou Park area. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at City Saddle Road Property – 100 Foot Antenna Centerline



Alternatives Raised by Appellant

In a letter to the City dated August 6, 2019, an attorney for the appellant of the Proposed Facility raised numerous distant alternatives as possible locations, none of which are feasible to serve the Significant Gap due to factors such as distance, low elevation and terrain. Many of those locations are near Lake Tahoe Boulevard, approximately one mile north of the Proposed Facility, with some close to Verizon Wireless's existing Harrah's facility in Stateline.

In addition to specific locations reviewed below, appellant's counsel mentioned the various USDA Forest Service lands around the greater vicinity. In recent consultation with the Forest Service regarding placement of wireless facilities on its properties, the Forest Service requested that Verizon Wireless seek private property landlords in the area. The Forest Service is presently unwilling to dedicate resources to wireless facilities.

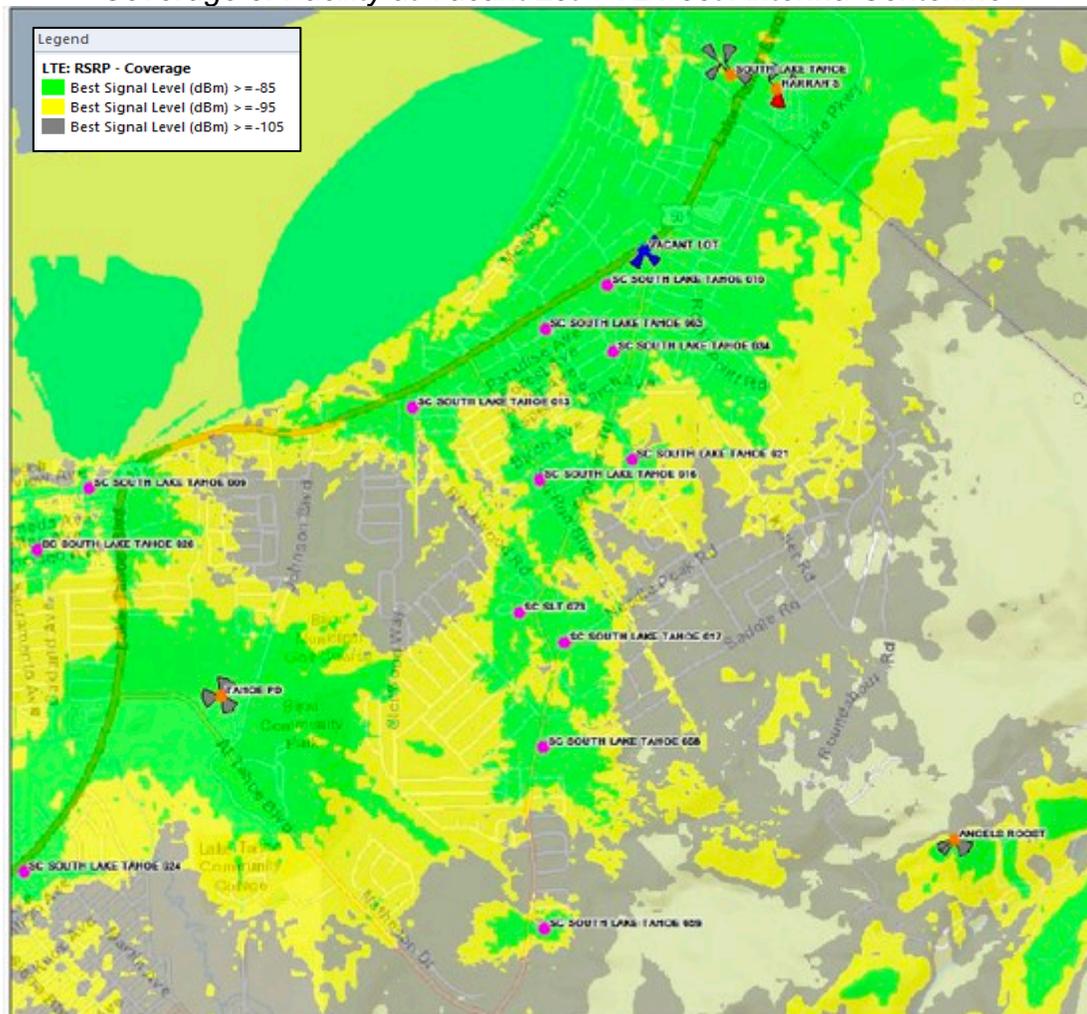
22. Vacant Lot, Lake Tahoe Boulevard

Address: 3908 Lake Tahoe Boulevard
Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.82 acre parcel 1.1 miles northeast of the Proposed Facility and approximately 95 feet lower in elevation. Only 0.5 miles south of Verizon Wireless's existing Harrah's facility, a new facility at this location would duplicate its coverage and introduce signal interference, compromising network design. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance and low elevation. As shown in the following coverage map, a coverage gap would remain in much of the gap area in the Heavenly Valley and Bijou Park areas. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Vacant Lot – 72 Foot Antenna Centerline



23. Raley's

Address: 4000 Lake Tahoe Boulevard
Elevation: 6,305 Feet

Verizon Wireless reviewed the rear parking lot of Raley's, 1.2 miles northeast of the Proposed Facility and approximately 70 feet lower in elevation. Only 0.35 miles south of Verizon Wireless's existing Harrah's facility, a new facility at this location would duplicate its coverage and introduce signal interference, compromising network design. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, similar to Alternative 22 nearby. This not a feasible alternative to the Proposed Facility.

**24. Public Parking**

Address: 1 Bellamy Court
Elevation: 6,310 Feet

Verizon Wireless reviewed this three-story parking garage 1.3 miles northeast of the Proposed Facility and approximately 65 feet lower in elevation. Only 0.2 miles south of Verizon Wireless's existing Harrah's facility, a new facility at this location would duplicate coverage and introduce signal interference, compromising network design. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, similar to Alternative 22 nearby. This not a feasible alternative to the Proposed Facility.



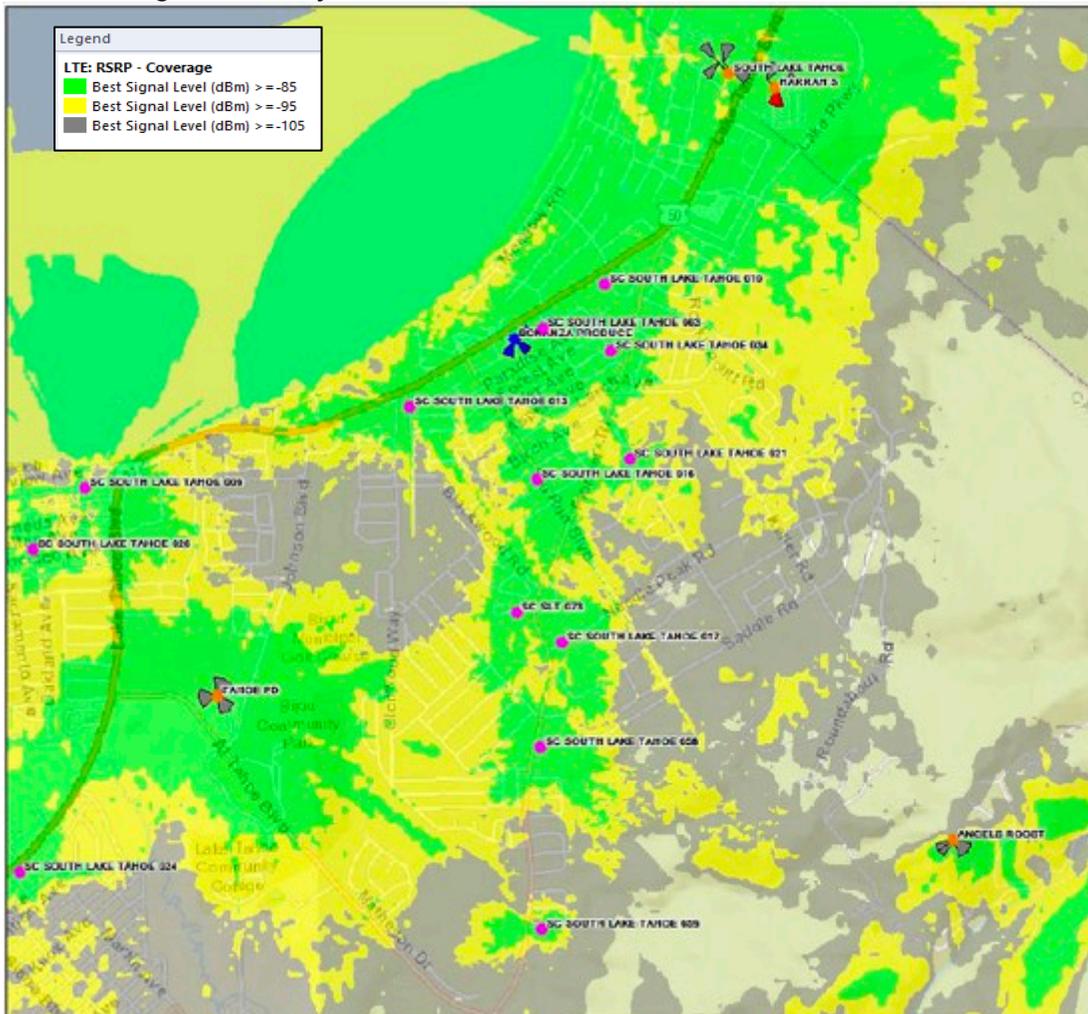
25. Bonanza Produce

Address: 3717 Osgood Avenue
Elevation: 6,250 Feet

Verizon Wireless reviewed this two-story building 0.8 miles north of the Proposed Facility and approximately 125 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline. As shown in the following coverage map, coverage gaps would remain in the Heavenly Valley and Bijou Park areas. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Bonanza Produce – 26 Foot Antenna Centerline



26. First Baptist Church

Address: 1053 Wildwood Avenue
Elevation: 6,255 Feet

Verizon Wireless reviewed this two-story church building 0.8 miles north of the Proposed Facility and approximately 120 feet lower in elevation. Because the existing church building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop. As it is only one block east of Alternative 25, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.

**27. Super 8 Motel (Iglesia Ni Christo)**

Address: 3838 Lake Tahoe Boulevard
Elevation: 6,260 Feet

Verizon Wireless reviewed the two-story buildings on this property 1.0 mile north of the Proposed Facility and approximately 115 feet lower in elevation. As it is only two blocks east of Alternative 25, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.



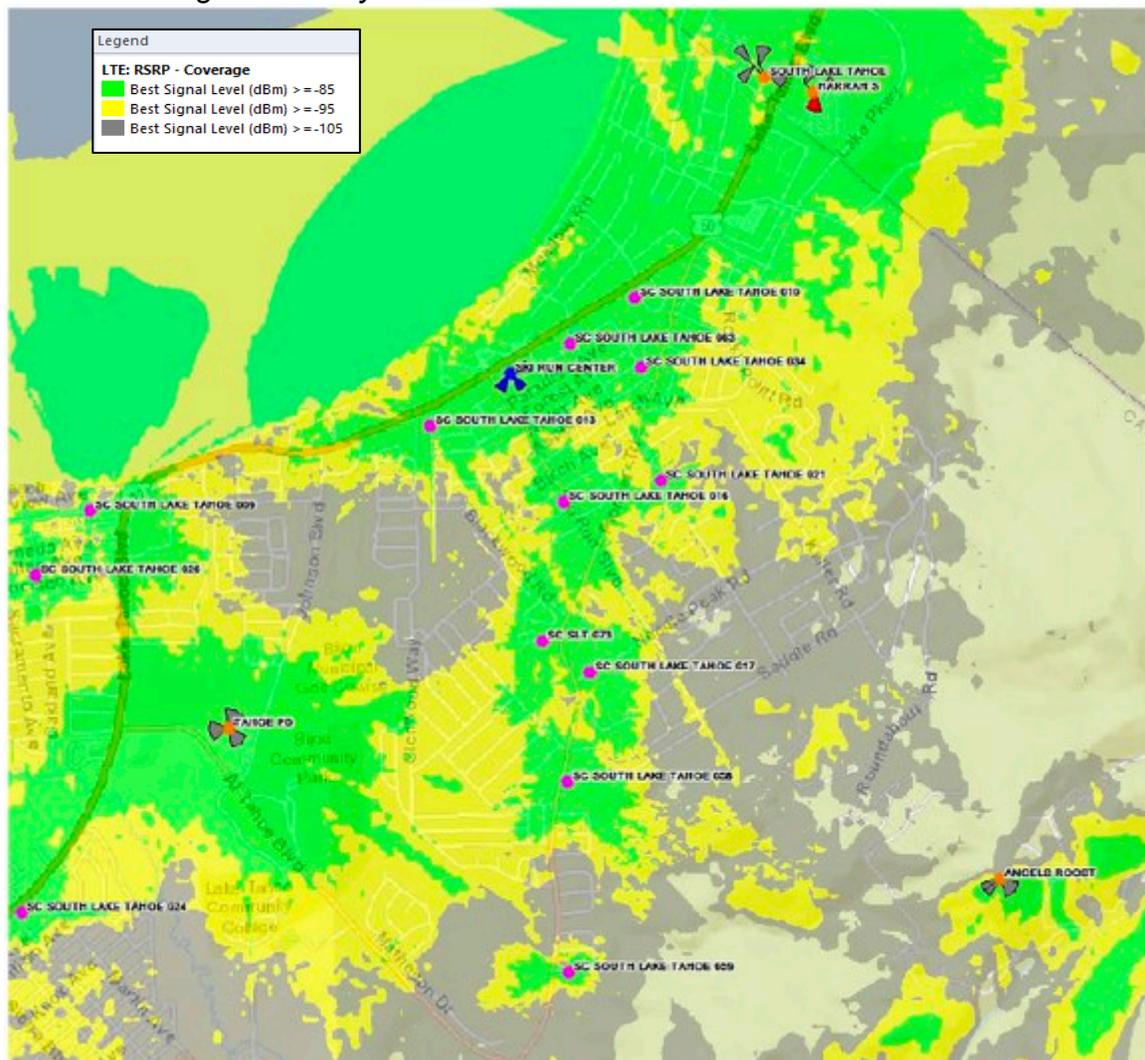
28. Ski Run Center (Laundromat)

Address: 3668 Lake Tahoe Boulevard
Elevation: 6,250 Feet

Verizon Wireless reviewed one-story buildings at this retail center 0.85 miles northwest of the Proposed Facility and approximately 125 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline. As shown in the following coverage map, a coverage gap would remain in the Heavenly Valley area and much of the Bijou Park area. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Ski Run Center – 30 Foot Antenna Centerline



29. Panda Express

Address: 3640a Lake Tahoe Boulevard

Elevation: 6,250 Feet

Verizon Wireless reviewed this one-story building 0.85 miles northwest of the Proposed Facility and approximately 125 feet lower in elevation. As it is only one block west of Alternative 28, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.



30. Seventh Day Adventist Church / Church of Christ

Address: 3609 Vanda Lee Way

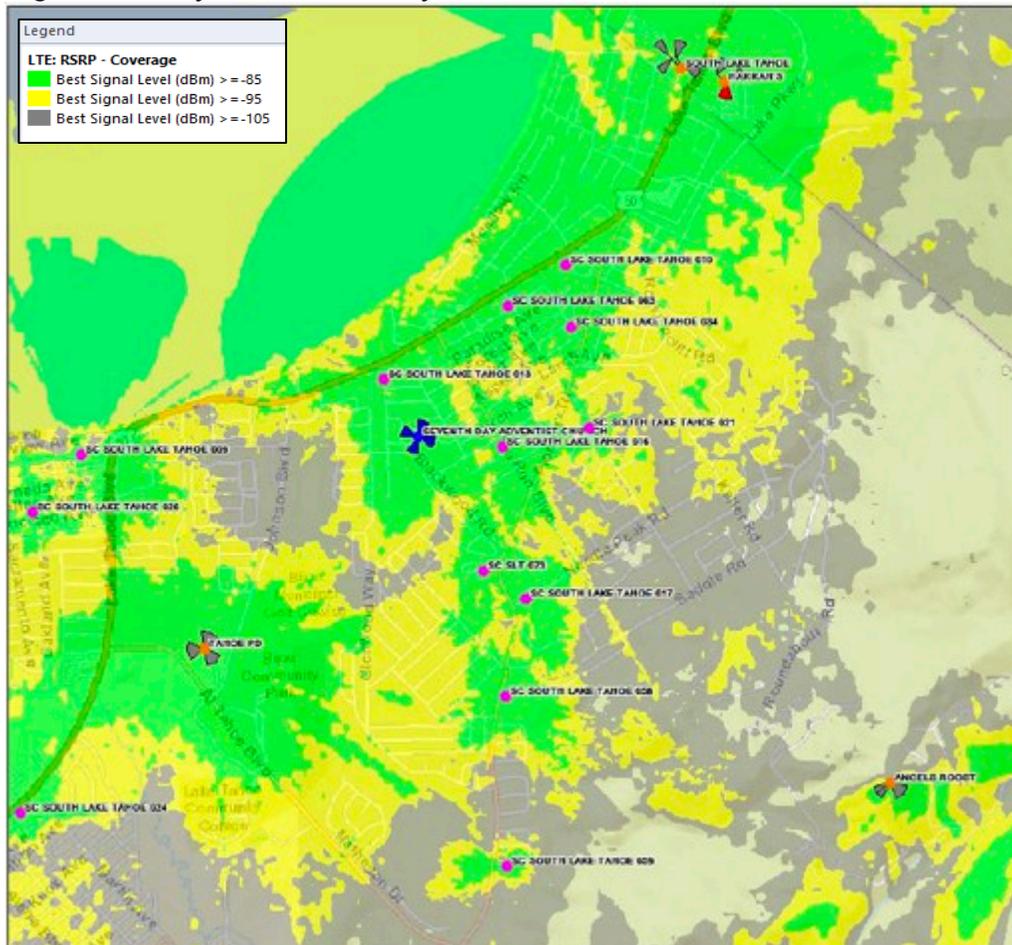
Elevation: 6,260 Feet

Verizon Wireless reviewed placement of a freestanding steeple or clock tower facility at this church property 0.65 miles northwest of the Proposed Facility and approximately 115 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the



Significant Gap due to distance and low elevation. As shown in the following coverage map, coverage gaps would remain in the Heavenly Valley area and much of the Bijou Park area. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Seventh Day Adventist Church – 35 Foot Antenna Centerline



31. Lake Tahoe Christian Fellowship

Address: 3580 Blackwood Road

Elevation: 6,265 Feet

Verizon Wireless reviewed placement of a freestanding steeple or clock tower facility at this church property 0.6 miles northwest of the Proposed Facility and approximately 110 feet lower in elevation. As it is only one block south of Alternative 30, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.



32. Temple Bat Yam

Address: 3260 Pioneer Trail
Elevation: 6,345 Feet

Verizon Wireless reviewed this 4.69 acre property 0.5 miles southwest of the Proposed Facility and approximately 30 feet lower in elevation. The property owner initially expressed interest in hosting a wireless facility. Two locations on this property were analyzed, but the lower-elevation candidate was preferred by the property owner. Directly east of the two locations, there is a 175-foot increase in elevation and a mountain that

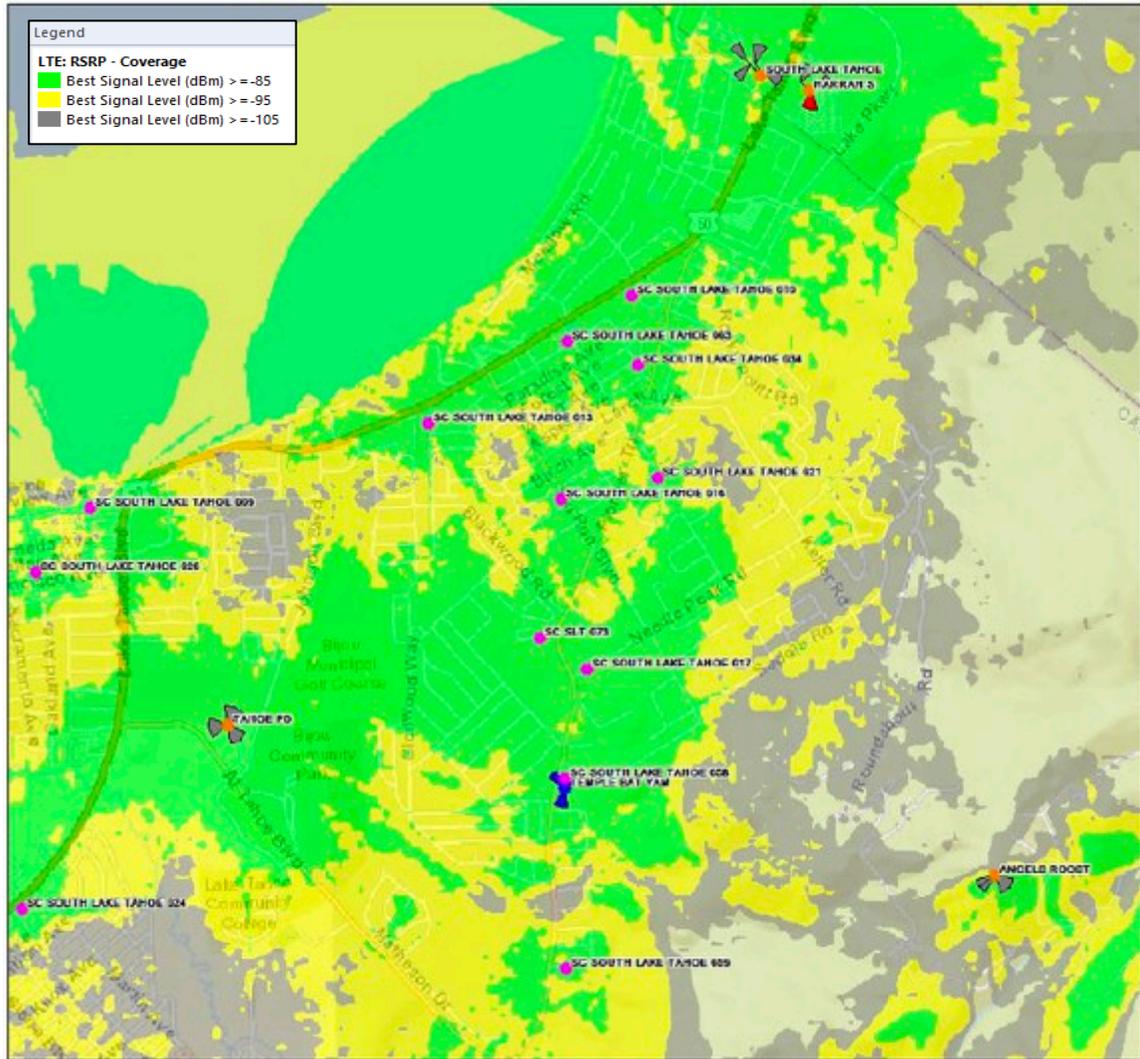


blocks signal. Therefore, to be able to cover the Heavenly Valley area within the gap, a 180-foot antenna centerline would be required, to direct signal above terrain to reach at least some of the gap area. Verizon Wireless engineers determined that such a very tall facility could adequately serve only the southern portion of the gap. As shown in the following coverage map, coverage gaps would remain, including in portions of the Bijou Park area. Further, such a tall facility could pose a risk for aircraft using the nearby airport.

In a December 3, 2019 email to SAC Wireless Project Manager Casey Ogata-Tran, TRPA planner Bridget Cornell indicated that such a tall tower would be “tough to approve” and that “tree canopies in that area are much shorter than that.” This neither a feasible nor less intrusive alternative to the Proposed Facility.

See Alternative 32 Coverage Map on Next Page

Coverage of Facility at Temple Bat Yam – 180 Foot Antenna Centerline



V. Conclusion

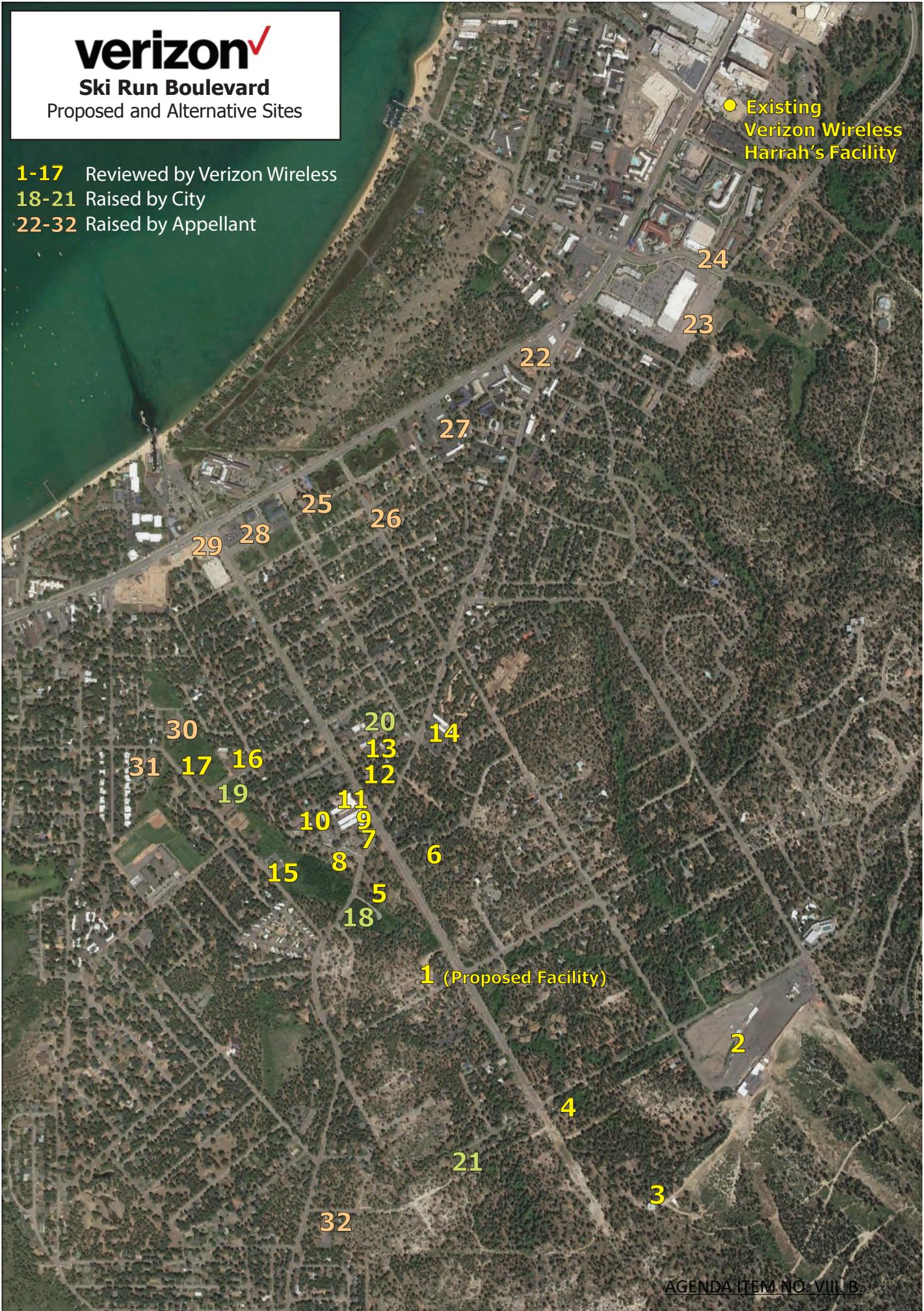
Verizon Wireless has reviewed 32 alternative locations to fill the Significant Gap in service in the Heavenly Valley and Bijou Park areas of South Lake Tahoe. Based upon the values expressed in City regulations, the Proposed Facility clearly constitutes the least intrusive feasible location for Verizon Wireless's facility.



Ski Run Boulevard Proposed and Alternative Sites

- 1-17 Reviewed by Verizon Wireless
- 18-21 Raised by City
- 22-32 Raised by Appellant

● Existing
Verizon Wireless
Harrah's Facility



Attachment E

Statement of Appeal, dated December 1, 2021

Statement of Appeal by Monica Eisenstecken and David Benedict, individuals, Tahoe Stewards LLC, Tahoe for Safer Tech, and Environmental Health Trust (EHT) from Hearings Officer, Marsha Burch’s October 14, 2021 Decision Granting Verizon Special Use Permit

Before the Tahoe Regional Planning Agency, Hearings Officer in the Matter of the Verizon Wireless Special Use Permit Application for the 112 Foot Tall Monopine at 1360 Ski Run Boulevard - TRPA File # ERSP 2019-0389 1360 Ski Run Blvd.

SUMMARY

Appellants, Monica Eisenstecken, David Benedict, Tahoe Stewards LLC, Tahoe for Safer Tech, and Environmental Health Trust (EHT), hereby challenge the October 14, 2021 ruling made by Tahoe Regional Planning Agency (TRPA) Planning Department Hearings Officer, Marsha Burch, on a Verizon permit application (TRPA File Number ERSP2019-0389) for the installation and operation of a Verizon macro tower at 1360 Ski Run Boulevard, South Lake Tahoe, California.¹ This appeal urges that TRPA reverse this decision and table it until TRPA itself complies with the terms of the Interstate Compact (Compact) and its own Regional Plan. These require TRPA to prepare a Comprehensive Programmatic Environmental Impact Statement (EIS) covering the specific consequences of the present permit application. The EIS must also address the cascading and cumulative environmental effects on the entire Tahoe Region of hundreds of permits already allowed or envisioned under the Connected Tahoe Wireless Plan (“Connected Tahoe”)², of which the instant application is a prominent example.

This present Verizon application, if permitted, will establish a critical and irreversible precedent. It cannot legally, and must not, be treated in isolation. Over

¹ The Hearings Officer granted Verizon’s application for a 112 foot tall monopine cell tower with “faux” plastic branches and pine needles that will initially house Verizon antennas and accessory equipment. The tower will be capable of supporting the antennas and equipment of more carriers in the future. Additionally, a 30 kW back-up power generator and 132 gallon diesel fuel tank will also be installed and utilized. The tower is proposed on the snow play portion of the parcel at 1360 Ski Run Blvd. right above where children will be playing. See [2021-10-7 Staff Report Ski Run Tower.pdf](#) and this [Dropbox folder](#) for TRPA Hearing Materials hereby incorporated as a reference in this Appeal.

² [Connected Tahoe, Update: Connected Tahoe](#)

the coming years, unless reversed, the Hearing Officer's decision granting the permit will actively encourage hundreds, if not thousands of similar projects across Tahoe. Together, they will expose tens of thousands of residents and tourists to dangerous levels of Radiofrequency Radiation (RFR) and Electromagnetic Fields (EMF), contaminate Lake Tahoe's drinking water supply with well-established carcinogens and other toxic compounds, dramatically decrease the water quality and clarity of Lake Tahoe, increase the likelihood of major fires such as the Caldor conflagration, and consume inordinate amounts of energy. These terrible environmental injuries which will be inflicted upon the sensitive Tahoe Region are directly contrary to TRPA's mandate under the Compact, and are forbidden by TRPA's ordinances and federal and state laws. Moreover, they are exactly opposite of the goals being strongly encouraged by the Biden Administration to address the urgent and immediate global challenges of climate change.

TRPA has in recent years been the subject of continuing public criticism and investigation concerning conflicts of interest,³ which this present Appeal continues to challenge. In addition, Appellants allege that the applicant and its agents have submitted inaccurate, misleading, and false statements in its application, upon which the Hearings Office has relied. This basis alone is sufficient grounds for reversing the Hearings Officer Marsha Burch's arbitrary decision. Finally, Appellants request the following TRPA Board members: John Friedrich, Sue Novasel, Cindy Gustafson, and William Yeates to recuse themselves from the present hearing because they each have disqualifying conflicts of interest for the reasons herein stated.

³ See [Appendix I](#) for TRPA Board members as of 11/28/2021.

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I.

The October 14, 2021 Ruling by the Hearings Officer, Marsha Burch, is Arbitrary and Capricious.

The October 14, 2021 ruling by Hearings Officer Marsha Burch is arbitrary and capricious, and in violation of the Interstate Compact, the Regional Plan, the Administrative Procedure Act, and recent federal court decisions.

On October 13, 2021, Appellants submitted a detailed brief objecting to an October 7, 2021 report of TRPA Planning Department allowing Verizon a permit application (TRPA File Number ERSP2019-0389) in anticipation of the public hearing scheduled for October 14, 2021.⁴ Appellants presented legal arguments and an extensive record referencing over 4,000 pages of environmental and scientific studies detailing the harms from wireless radiation transmitted from cell towers and cell phones. These studies are directly applicable to the propriety of TRPA's issuance of permits for similar macro and small cell towers and antennas, which taken collectively, are inflicting tremendous harm upon the entire Tahoe Region and its fragile environment. Appellants urged Hearings Officer Burch to pause and to consider carefully the fundamental purpose of establishing the Tahoe Interstate Compact in the first place, before rendering a decision that could well have irreversible and disastrous consequences for the entire region.

On October 5, 2021 Appellants were notified that Andrew Strain was designated as the Hearings Officer in the present case. On October 8, 2021, Appellants, through co-counsel, Robert J. Berg, Julian Gresser, and Gregg Lien, objected to Andrew Strain's designation, based on his substantial and patent conflicts of interest. Counsel's letter is hereby incorporated in the record as [Appendix II](#). On October 11, 2021 TRPA acceded to Petitioners' request by appointing attorney, Marsha Burch, as TRPA's substitute Hearings Officer for this matter.

Directly at the end of the Hearing, Officer Burch issued her ruling and approved Verizon's application for the monopine tower at 1360 Ski Run Boulevard. She read a prepared statement adopting the TRPA Staff Report, but provided no other explanation. She did not address any of Appellants' arguments, including the lapse of the prerequisite City of South Lake Tahoe special use permit based upon Verizon's failure to "use" the City permit within one year after

⁴ [Opponents' Statement for Oct. 14 Hearing](#) is hereby incorporated into this Appeal.

issuance, gross failures within Verizon's application itself, and the grave environmental concerns raised by the Appellants. Although the Hearings Officer asserted that she had read all the papers submitted, such a feat was not humanly possible. Ms. Burch less than two days before the hearing had just received Appellants' extensive brief and record which contained over 4,000 pages of scientific and other studies on the adverse health and environmental effects of the telecom industry's Connected Tahoe Plan, along with voluminous public comments opposing the Verizon application and other materials demonstrating the visual blight the tower would cause. Instead of lying about reading all the materials on file regarding this application, the proper unbiased action by Ms. Burch would have been to postpone her decision and take adequate time to review and evaluate the materials and the law before issuing a decision. To date she has not even provided a reasoned written opinion. There is no way for Petitioners, the general public, or this Governing Board to understand the basis for her conclusions, except to understand them in the light of her arbitrary and capricious decision-making. Without any reasoned record, we may draw the plausible inference that her mind was made up before the October 14 Hearing even began.

An exchange exemplifying such conclusionary and arbitrary decision making occurred just before the Hearings Officer rendered her decision. At 16:53:41, Hearings Officer Marsha Burch said, "Okay, I also have a question related to the SEZ, there was a comment. There were actually a couple of comments suggesting that the tower will be located within the SEZ. And that is not how I'm reading that site plan and, and the depiction and it's just a clarification on that." At which point, there was the following response: "Yes, sorry, this is Bridget Cornell speaking again, you are correct this site is comprised of a combination of both class 1B land capability, which is Stream Environment Zone (SEZ) and Class 1A; and the proposed cell tower and the equipment shelter will only be in Class 1A. So, this will have there is actually there, [sic] there is nothing that will be happening within the Class 1B portion of this parcel related to this project. And in fact, some of the coverage that will be removed is closer to the Streaming Zone and will be located further away from that."

The above exchange is also an example of the TRPA Hearings Officer endorsing at a micro-level the same illegal practice of piecemealing and segmentation which Appellants describe in II. Essentially, the TRPA staff is factually incorrect by saying that there are no impacts on the SEZ on the Project parcel, and the immediately adjacent SEZ if the tower is located outside the SEZ. The TRPA Planning Department and Hearings Officer failed to cite any supporting evidence for this arbitrary decision. The specific development site and adjacent

SEZ are all still part of the “project area.” (See [TRPA Code Section 30.4.1.C.2](#) p.30-9). It is an accessory use, and the entire parcel must be evaluated as a whole. Inside or outside the SEZ, the impacts on the SEZ must be evaluated. They have not been. Impacts on adjacent parcels also must be evaluated. They have not been either. As a Staff Officer, Ms. Cornell has a responsibility to be so informed. As a Hearings Officer, Ms. Burch should have found material error because of Staff’s failure to consider the impact on the entire parcel and on adjacent parcels. The permit should not have been approved unless and until such showings were made.

This kind of arbitrary and capricious conduct by a public official charged with important responsibilities is violative of the federal Administrative Procedure Act and the August 13, 2021 decision of the DC Circuit Court of Appeals in *Environmental Health Trust and Children’s Health Defense v. FCC*, 9 F.4th 893 (D.C. Cir. 2021), which establishes a clear standard of review of actions by federal administrative agencies. This legal standard is equally applicable to TRPA, since TRPA was established by an Act of Congress. As TRPA itself has conceded in prior filings, it is bound by federal law. The applicable federal law is that neither the TRPA, nor any of its officers, are permitted simply to issue arbitrary conclusions. There must be a clear record of fair consideration and review, and a decision supported by the law and substantial evidence in the record.

[Environmental Health Trust/Children’s Health Defense v. FCC](#)

On August 13, 2021, the DC Circuit Court of Appeals established the appropriate legal standard under the Administrative Procedure Act which is directly applicable to the TRPA’s Hearings Officer and any subsequent administrative and judicial review of his decision.

The essence of the Court’s ruling is that an agency produce a record of reasoned decision making to support its conclusions, as the TRPA Staff Report has *not* done in this case. It cannot simply issue unfounded and unsupported decisions or recommendations.

The most pertinent ruling and explanatory obiter opinion is the following passage, 9 F.4th at 904-905:

“We do not agree that these statements provide a reasoned explanation for the Commission’s decision to terminate its notice of inquiry. Rather, we find them to be of the conclusory variety that we have previously

rejected as insufficient to sustain an agency’s refusal to initiate a rulemaking.

The statements from the FDA on which the Commission’s order relies are practically identical to the Secretary’s statement in *American Horse* and the Commission’s statement in *American Radio*. They explain that the FDA has reviewed certain information—here, “all,” “the weight,” or “the totality” of “scientific evidence.” And they state the FDA’s conclusion that, in light of that information, exposure to RF radiation at levels below the Commission’s current limits does not cause harmful health effects. But they offer “no articulation of the factual . . . bases” for the FDA’s conclusion. *Am. Horse*, 812 F.2d at 6 (internal quotation marks omitted). In other words, they do not explain why the FDA determined, despite the studies and comments that Opponents cite, that exposure to RF radiation at levels below the Commission’s current limits does not cause harmful health effects. Such conclusory statements “cannot substitute for a reasoned explanation,” for they provide “neither assurance that the [FDA] considered the relevant factors nor [do they reveal] a discernable path to which the court may defer.” *Am. Radio*, 524 F.3d at 241. They instead represent a failure by the FDA to address the implication of Opponents’ studies: The factual premise—the non-existence of non-thermal biological effects—underlying the current RF guidelines may no longer be accurate.”

As discussed in II.4, the very record upon which the TRPA staff based its recommendations was based on incomplete and blatantly false statements. Applicants are required to attest to the truthfulness of matters submitted in a permit application to the TRPA. This is a reversible error which the Hearings Officer failed to address and then remand to the TRPA staff to investigate and to correct.

In sum, TRPA cannot operate in a vacuum, as a law unto itself. It may not defy federal statutory law and court decisions, in this instance simply to advance the interests of its telecom company patrons.

II.

TRPA Continues to Violate its Sacred Public Trust to Protect the Tahoe Region as a National Treasure.

The Hearings Officer's action is only the latest example of a consistent, systematic, and continuing defiance and betrayal by TRPA of its Public Trust responsibilities to Congress and the American people. Public Law 96-551 which authorized the Interstate Compact establishes the highest fiduciary standard of a Public Trust, against which all other federal and state laws, as well as judicial decisions, must be interpreted. For the many reasons described below, the Hearings Officer's decision must be reversed.

Public Law 96—551

On December 19, 1980, the 96th Congress enacted Public Law 96—551 establishing the California/Nevada Interstate Compact. Public Law 96 is clear in its core mission which is to recognize and safeguard the Tahoe Region as a national treasure in Public Trust forever. The Mission of the Compact is set forth plainly in Article I which finds that:

- (1) The waters of Lake Tahoe and other resources of the region are threatened with deterioration or degeneration, which endangers the natural beauty and economic productivity of the region...

- (3) The region exhibits unique environmental and ecological values which are irreplaceable...

- (6) Maintenance of the social and economic health of the region depends on maintaining the significant scenic, recreational, educational, scientific, natural and public health values provided by the Lake Tahoe Basin...

- (7) There is a public interest in protecting, preserving and enhancing these values for the residents of the region and for visitors to the region...

- (8) Responsibilities for providing recreational and scientific opportunities, preserving scenic and natural areas, and safeguarding the

public who live, work and play in or visit the region are divided among local governments, regional agencies, the States of California and Nevada, and the Federal Government...

(9) In recognition of the public investment and multistate and national significance of the recreational values, the Federal Government has an interest in the acquisition of recreational property and the management of resources in the region to preserve environmental and recreational values...

(10) In order to preserve the scenic beauty and outdoor recreational opportunities of the region, there is a need to insure an equilibrium between the region's natural endowment and its manmade environment.

In brief, wise stewardship, balance, and care for this unique natural treasure are key. TRPA is in the process of systematically betraying and dismantling its Public Trust, expressed clearly in the Compact and embodied in great detail in its Regional Plan.

The concept of the Public Trust is also enshrined as part of the bedrock of California jurisprudence as articulated by the California Supreme Court in its seminal 1983 decision in *National Audubon Society v. Superior Court*, 33 Cal.3d 419 (Cal. 1983): "*The public trust... is an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands...*" Another important case is [*Environmental Law Foundation v. State Water Resources Board*, 26 Cal. App.5th 844, 854 \(Ct. App. 2018\)](#)⁵ which recognized that counties share responsibilities for administering the Public Trust.

The following subsections provide specific examples of the systematic ways in which TRPA is betraying its Public Trust.

II.1. Unauthorized Discharge of Toxic Monopine Waste is Illegal.

This Verizon project approval, if sustained, will contribute to the already massive amount of polluting waste in the form of plastic monopine "pine needles" and "branches" which contain potentially toxic and carcinogenic chemical compounds, including epoxies, plastics, and other hazardous materials, to be

⁵ <https://www.leagle.com/decision/incaco20180829045>.

discharged into soil and pavement on and off the Project site, deposited by wind-borne dispersal to a Stream Environment Zone (SEZ) on and adjacent to the Project site, and thereafter to Lake Tahoe by way of ground water and/or storm water runoff. These plastic pine needles and branches are brittle and rapidly deteriorate in the harsh mountain environment surrounding Lake Tahoe. Subjected to high winds, extreme temperature variations, huge amounts of snow and ice, and high UV exposure, the monopines shed prodigious amounts of their faux branches and pine needles. The TRPA staff analysis in the October 7, 2021 staff report (Section F) mentions Special Condition 3.J requiring a “scenic monitoring fee” reviewing the quality of the branches and bark. The TRPA is acknowledging the tower’s leaves and bark can deteriorate, and will need to be maintained or replaced, but they make no discussion of solid waste management or disposal of the fallen plastic debris. The branches and pine needles fall from the towers, and depending upon the wind, they may be carried a considerable distance from the tower itself. Upon landing, the fragile needles and branches break up readily into ever smaller bits of plastic, and they either press into the soil, or get carried away in stormwater or snowmelt before winding up in short order in streams flowing into the Lake. The monopine plastic waste pollution will thereby contaminate Tahoe’s drinking water supply, and water used for sustenance by people, animals and plants, including endangered species and plants. This is an example of the dangers of piecemealing the dozens of monopine towers, with dozens more to come if it is not stopped.

The Clean Water Act of 1972 empowers the states to designate certain bodies of waters as “Outstanding National Resource Waters” (ONRWs). California has [recognized Lake Tahoe as an ONRW](#). ONRWs are high quality waters of the United States that are designated as a unique and precious National treasure, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance. As an ONRW, high quality water of this kind is afforded the greatest protection under the Clean Water Act through implementation of federal anti-degradation policy, 40 CFR131.12., which prohibits the degrading of water quality in an ONRW except to accommodate limited activities that result in temporary and short-term water quality change.

As noted above, the proposed Verizon monopine will produce substantial amounts of polluting waste. [Appendix IV](#) lists the potential contents of monopine waste, including various toxins. If uncollected, this waste will penetrate the Bijou Park Creek SEZ (as defined in the TRPA Code of Ordinances section 53.9), the

SEZ boundaries and setbacks, and the associated 100-year floodplain of Bijou Park Creek, and will eventually be discharged indirectly into Lake Tahoe by way of subterranean flow of groundwater, or more directly to Lake Tahoe, approximately one mile directly downslope from the Project, by way of storm water runoff from the Project site and surrounding areas through the City of South Lake Tahoe's municipal storm water system for Ski Run Boulevard, and the City's Bijou Park Creek conveyance system. The City's municipal storm water discharges are regulated pursuant to California law under Section 402 of the Clean Water Act through a National Pollutant Discharge Elimination System (NPDES) permit that prohibits trash discharges to the storm water system.⁶

The [Lahontan Water Board \(LWB\)](#) is a California state agency established by and charged to implement the [Porter-Cologne Water Quality Control Act of 1969](#), as amended, a predecessor of the Federal Clean Water Act (which has a similar regulatory structure), but notably extends protections to ground waters, a subset of "waters of the State" (as contrasted with surface "waters of the Nation"). Under Porter-Cologne, the Water Board implements both State and Federal laws through issuing permits (called waste discharge requirements or WDRs) in accord with both laws, which may also serve as NPDES permits under federal law. These laws prohibit certain defined and general "discharges" of "waste" and "pollutants" and "deleterious materials" in the absence of a permit, or waiver of a permit, as in many minor cases where Best Management Practices (BMP) or other conditions are applied. For example, discharges to state waters, both surface and ground, of toxic substances in toxic amounts, violating an adopted standard and degrading the water quality for "beneficial uses," such as drinking water supply or wildlife support or the protection of endangered species, are generally prohibited.

Porter-Cologne authorizes the Water Board to enforce numeric and narrative water quality objectives and prohibit waste discharges of certain types and/or in particular areas to support and maintain prescribed beneficial uses such municipal supply, wildlife-support purposes of various kinds and other uses. This program of control is implemented through its Water Quality Control Plan for the [Lahontan Region Basin Plan](#), and regulations and implementing permits (waste discharge requirements), where prohibition exemptions are allowed. Taken together, the objectives, beneficial uses, and prohibitions are considered water quality standards. The Basin Plan is certified by the US Environmental Protection Agency (EPA)

⁶ [Clean Water Act, Section 402: National Pollutant Discharge Elimination System.](#)

where applicable to “waters of the United States” under CWA section 208. TRPA has also been designated by US EPA as a CWA Section 208 [Water Quality Planning Authority](#).⁷

The principle of zero tolerance of discharges to the environment of solid wastes, litter and toxic waste is recognized not only by the LWB in its Regional Water Quality Control Plan (called Basin Plan), but also by TRPA, which has parallel and joint authority in its own Code of Ordinances and its Tahoe Regional Plan. The specific prohibitions, and the manner in which TRPA is legally mandated to implement the California water quality regulations, are set out in detail below.

As mentioned, at times, TRPA operates under a Code of Ordinances it has adopted for itself. Section 4.4.1. sets forth the “findings necessary to approve any project,” including letter C, which states:

“C. Wherever federal, state, or local air and water quality standards apply for the region, the strictest standards shall be attained, maintained, or exceeded pursuant to Article V(d) of the Tahoe Regional Planning Compact.”

Code section 16.10 augments this, as follows:

Pursuant to Article V(d) of the Tahoe Regional Planning Compact, TRPA shall provide for attaining and maintaining local, state, and federal air and water quality standards, whichever are strictest, in the portions of the region where they are applicable. To the extent that such standards are more stringent than the TRPA thresholds, TRPA shall monitor and ensure the attainment and maintenance of such standards consistent with the provisions of this chapter.

Note the use of the word “shall” in the requirements above; these are not discretionary requirements pursuant to Code section 90.1.10, which provides:

Mandatory and Discretionary Terms The words ‘shall,’ ‘will,’ and ‘must’ are always mandatory. The words ‘may’ and ‘should’ are advisory and discretionary terms.

⁷ See Certification Letter: <https://www.trpa.gov/regional-plan/#code>, and this letter: <https://www.trpa.gov/wp-content/uploads/documents/archive/US-EPA-208-Certification-Letter-June19-2013.pdf>.

Code section 60.1.3.D, prohibits the following:

The discharge of toxic or hazardous waste to Lake Tahoe, other lakes in the region, their tributaries, the ground waters of the Tahoe region, the lands of the Tahoe region, or the Truckee River within the Tahoe region is prohibited.

The language here is specific to “hazardous and toxic waste” as referenced to various legal definitions. However, the LWB Basin Plan, section 5.2, has among its prohibitions, the following no. 5: “The discharge of garbage or other solid waste to lands within the Lake Tahoe Basin is prohibited.”

No discharge of solid waste to the environment, which is precisely what the monopine plastic “needles” are, is allowed.

Since the LWB’s regulation is the more stringent prohibition and standard, that is the controlling regulation which TRPA must enforce. And we don’t have to concern ourselves here with the specifics of whether the solid wastes contain toxic or hazardous substances, or may result in a water quality objective being violated. **It is sufficient that the waste is solid to prohibit its discharge.** These prohibitions were enacted in recognition of issues with uncontrolled trash and litter, and with recognition of the absolute interconnection of ground water flows with Lake Tahoe, and Lake Tahoe’s extraordinary “residence time for water” where a drop of water may reside in the lake on average for 600 years.

Pollutants may also accumulate, so uncontrolled pollutant discharges of all kinds must be prevented entirely. All solid wastes collected are exported for proper disposal at authorized sites *outside* the Lake Tahoe watershed basin. **NO EXEMPTIONS. The discharge of solid wastes which will fall from the monopine tower will constitute an undisclosed and uncontrolled discharge of solid wastes in violation of the prohibition and must not be allowed.**

Lahontan Water Board and TRPA Memorandum of Understanding

In order to coordinate joint regulatory activities and prevent regulatory overlap and duplication, where possible, and/or prevent work at cross purposes, the LWB and TRPA Executive officers entered into a formal Memorandum of Understanding in 2003.⁸ In the MOU, the LWB generally defers to TRPA to make

⁸ https://www.waterboards.ca.gov/rwqcb6/board_decisions/adopted_orders/2003/docs/r6t-2003-0012_trpa_mou_resolution.pdf

the necessary findings to approve and permit minor projects, such as those involving land disturbance of less than one acre, such as the Verizon tower Project. However, there are many cases where permits and prohibition exemptions are issued by both LWB and TRPA for projects of all sizes involving waste or pollutant discharges to waters of the State or the nation, and SEZs and their 100-year floodplains or high water marks, as the case may be. Under the MOU, the LWB retains all of its authorities to regulate and control waste discharges that may affect Water Quality *independently* of what the TRPA may or may not do. The MOU is a convenience, which TRPA may choose to ignore, as it has shown a willingness to do this in other cases, such as the Angel's Roost telecommunications tower, which has been discovered to be a source of uncontrolled and unregulated solid waste, with potentially toxic and hazardous elements. This facility has nonetheless been allowed in violation of the prohibition, without LWB involvement because of LWB's expectation that TRPA will act in accordance with its legal duties.

In cases such as here, however, the LWB retains its full range of enforcement remedies under the CA Water Code, not limited to administrative Orders to cease and desist discharges, clean up and abate discharges, or require violators to pay administrative civil liabilities for damages to the environment and/or other enforcement purposes as a result of discharges. While the MOU expected TRPA to uphold its obligations to protect Lake Tahoe's water quality and to prevent solid waste discharges into the Lake, now it is coming to light that TRPA, in its primary-permitting role with the telecoms, is woefully failing to fulfill its duties on this and other monopine projects in the California portions of the Lake Tahoe watershed basin. Should the Governing Board fail to reverse the Hearing Officer's decision, the LWB will be petitioned to address the illegal solid waste discharges that will result from TRPA's permitting of monopine telecom towers in the California area of the Lake Tahoe Region, including, but not limited to removing and abating the sources of solid waste already unlawfully allowed by TRPA.

In Verizon's TRPA permit application and its Environmental Assessment Questionnaire responses for the subject tower, Verizon never disclosed the extent of maintenance and replacement activities associated with the upkeep of the "monopine" look desired and necessary to meet TRPA scenic-quality thresholds. Likewise, TRPA, in its application review, did not evaluate the Project and application for such prohibited waste discharges, or require additional information

in that regard within applicable time limits. As a result, the specifications regarding the materials to be used for *this* monopine tower are not disclosed with regard to their potential toxicity or breakdown products, the amount of materials requiring periodic and/or ongoing replacement. But the websites of commercial manufacturers of such faux branches and pine needles designed for cell tower monopines show that the branches and pine needles are composed of a variety of epoxies and plastics.⁹ As noted above, these materials deteriorate rapidly, fall from the towers, and remain as solid waste which eventually winds up in the Lake.¹⁰

The uncontrolled discharge of solid waste from the proposed monopine tower must be prohibited and requires reversal of the Hearing Officer's decision. The shards of litter from the proposed monopine tower will emit or discharge uncontrolled "garbage or other solid waste," showers of litter on the private and public lands on and off the Project site (streets, National forests, wetlands, SEZs, soil). Due to wind-borne dispersal in all directions, there will be, in essence, a "debris field" of monopine needle deposits extending hundreds of feet or more. The plastic fragments are extremely brittle, difficult to collect once deposited without causing more land disturbance and intrusion on neighboring properties, are friable and subject to deterioration into smaller and smaller particles identified as microplastics, which are prohibited from being discharged into the Lake.

Heavily-traveled Ski Run Blvd. is adjacent to the Project site, and it is not speculative to expect that monopine plastic needles from the tower will fall on that and other traveled ways, and be further pulverized and dispersed to the environment. Bijou Park Creek SEZ is the drainage adjacent to the tower at the corner of Needle Peak, and has an associated 100-year floodplain beyond the creek boundaries, more extensive and beyond what the City culverts can contain. The areas within these boundaries will be within the zone of the debris field, and where such discharges are further prohibited by the LWB regulations. Litter fall could also be swept away to Lake Tahoe during creek flooding erosion, and by scour of deposits in Bijou Park Creek and its 100-year floodplain. TRPA has floodplain and SEZ maps and has the responsibility to require the developer, in this case Verizon, to demonstrate there will be no or minimal impact as a result of prohibition violations. Neither TRPA nor the developer has done so.

⁹ [The bizarre history of cellphone towers disguised as trees](#): "plastic, fiberglass, or acrylic 'bark,' 'branches,' and 'needles'".

¹⁰ See this [movie](#) captured in Lake Tahoe on 11/4/21.

The Basin Plan has additional applicable prohibitions which must be addressed by TRPA on this and other monopine tower projects, including but not limited to, the following:

Discharge Prohibitions for the Lake Tahoe Hydrologic Unit (HU)

1. The discharge attributable to human activities of any waste or deleterious material to surface waters of the Lake Tahoe HU is prohibited.
2. An exemption to this prohibition may be granted whenever the Regional Board finds all of the following:
 - a. The discharge of waste will not, individually or collectively, directly or indirectly, adversely affect beneficial uses, *and*
 - b. There is no reasonable alternative to the waste discharge, and
 - c. All applicable and practicable control and mitigation measures have been incorporated to minimize potential adverse impacts to water quality and beneficial uses.
3. The discharge attributable to human activities of any waste or deleterious material to land below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe is prohibited.
4. The discharge attributable to human activities of any waste or deleterious material to Stream Environment Zones (SEZs) in the Lake Tahoe HU is prohibited.

The solid wastes are also potentially deleterious to water quality objectives, wildlife protection and other prescribed values. TRPA takes an approach through its regulation of principally examining the impacts of land disturbances like grading and excavation in surface waters, including wetlands and SEZ lands, and 100-year floodplains. The regulations TRPA is charged by law to implement require a broader look, such as has been pointed out above. The wind-borne dispersal of any solid waste must be prevented or controlled, if there is allowance for it at all, from this and all other monopine towers.

As noted in this Appeal and in the ongoing litigation *Einsenstecken et. al v. Tahoe Regional Planning Agency*, TRPA has the burden to make the required administrative findings that the proposed Permit, and other monopine permits it

has already approved for monopine towers in Lake Tahoe, are exempted under the Clean Water Act and the California implementing regulations, cited herein. It has not done so. A federal Interstate Agency, TRPA, charged with the highest public responsibility and trust by Congress, cannot simply issue a naked conclusion under *EHT v. FCC* without establishing the foundation in a considered record of careful deliberation on the adverse impacts upon the purpose of this trust, the preservation of Lake Tahoe.

For example, the Basin Plan requires findings for “public service facilities” like the tower, as follows:

(3) For public service facilities if all of the following findings can be made:

(a) The project is necessary for public health, safety or environmental protection;

(b) There is no reasonable alternative, including spans, that avoids or reduces the extent of encroachment;

(c) The impacts are fully mitigated;

(d) SEZ lands are restored in an amount 1.5 times the area of SEZ developed or disturbed by the project; and

(e) Wetlands are restored in an amount at least 1.5 times the area of wetland disturbed or developed. Certain wetlands may require restoration of greater than 1.5 times the area disturbed or developed.

Effects of Microplastics Pollutants on Water Clarity

Microplastics are breakdown products of manufactured materials of many types. As the name implies, “micro” particles are those on the micrometer (μm) scale, one millionth of a meter in diameter. This is important because this is the size scale of particles (generally clay and algae cells) that are significantly causing ongoing declines in Lake Tahoe water clarity. Particles less than 20 μm are of greatest effect on water clarity, down to smaller sizes in the nanoparticle range, billionths of a meter. Water clarity as measured by average secchi depth continues to decline in Lake Tahoe, with the last several years being among the worst on

record since 1968 (UC Davis, Tahoe Environmental Research Group, [Clarity/Secchi | Tahoe Environmental Research Center](#)).

Plastic product wastes discharged to the environment break down under the influence of weathering and oxidation by wind, water and ice, exposure to ultraviolet (UV) light, and attack by vermin, bacteria, etc. It is probable that uncontrolled microplastic pollutants will be both dissolved and suspended in waters. They will be discharged to soil, or travel with ground water, storm water runoff, or stream flows and thereby enter Lake Tahoe, the ultimate receiving water. Plastics products are of variable composition and properties may vary. They may be heavier or lighter than water, and thus float or sink, or may remain suspended in the water column in the case where the plastic microparticles are neutrally buoyant or have poor settling characteristics. These are the greatest threat to Lake Tahoe water clarity, as they may remain suspended for long periods, maintained in suspension by lake currents and upwellings, when waters from the bottom rise to the surface due to temperature effects. Particles that sink to the bottom will become mixed with natural sediments, or may return to the shoreline mixed with sand and other larger sand-like and colored plastic particles.

Thus, microplastics and nanoplastics may contaminate soil, ground and surface waters, and sediments, where they are subject to accumulation and biological uptake into the water supply and food web. Plastics are addressed in the US EPA's published "Priority Pollutant List" of toxic constituents ([Toxic and Priority Pollutants Under the Clean Water Act | US EPA](#)), 126 toxic items, of which plastics are a subset. The discharge of toxins to surface waters from plastics manufacturing is addressed in effluent guidelines for industrial permits issued under the NPDES, so this indicates that toxic constituents are involved in the manufacture of plastics of various types and may be associated with breakdown products.

Microplastics, along with other human and natural sources of microparticles, will cause or contribute to ongoing clarity losses, and thereby long-term and ongoing degradation of Lake Tahoe water quality in violation of protection policies for this designated ONRW. The toxic contribution to declining water clarity, measured at 62.9 feet on average in 2020, from the subject Project and record of other prior monopine tower approvals, can't be ignored. Microparticulate and nanoparticulate pollution may also bioaccumulate in organisms, such as the mysid shrimp and daphnia (water fleas) that are part of the food web for lake trout and other fish. Fish are in turn eaten by people and other animals such as the American Bald Eagle which, like the osprey, is a "fish eagle," as fish is a major part of the

diet. Fish and other benthic organisms (bottom-dwellers) are also eaten by bears, shorebirds and water birds, and other animals and organisms.

Pollution of Lake Tahoe by plastics and other trash and wrecked equipment from uncontrolled sources is not an unknown problem at Lake Tahoe. Concerns with trash in the nearshore areas of Lake Tahoe has been in the regional press on repeated occasions in recent years and months due to the efforts of a private non-profit group, Clean Up The Lake (<https://cleanupthelake.org/>) which has to date removed over 18,000 pounds of trash of all types, including plastics, by painstaking SCUBA diving efforts along 43 miles of the 72-mile shoreline. Their leader, Colin West, reportedly spoke at a recent annual conference of the California Storm Water Quality Association concerning the problems with plastics pollution in municipal storm water runoff.

II.2. The Hearing Officer’s decision must be guided by and be consistent with a Comprehensive Programmatic Environmental Impact Statement (EIS), as required by Article VII of the Interstate Compact, and TRPA’s own Regional Plan and Code of Ordinances.

Background: The Connected Tahoe Wireless Plan

The present Verizon permit application, and the hundreds of other similar applications currently being approved piecemeal by the TRPA’s Planning Staff and Governing Board are part of a larger strategic, comprehensive action, the Connected Tahoe Wireless Plan, that has been, and is currently being implemented outside the public eye, without disclosure, transparency, public hearings, debate, or review. The Connected Tahoe Wireless Plan is itself an instrument designed to dovetail with Tahoe’s [2015 ITS Strategic Plan](#) which envisions autonomous vehicles and other 21st century technologies that will irreversibly transform the Tahoe Region. ([Appendix VII](#) references communications by Heidi Hill-Drum, TPC CEO, on this non-transparent Connected Tahoe Wireless Plan. Ms. Hill-Drum emphasizes that the Ski Run Tower must be built in that location because it is important for the Connected Tahoe Wireless Plan. Also reference this [video](#) by Hill-Drum of an April 2, 2019 presentation before the City of South Lake Tahoe City Council (starting at 24:30, slides are [here](#)). Below is a Liberty Utilities GIS map indicating some present installed small cell towers and possibly future cell towers under the Connected Tahoe Wireless Plan.)



From a legal perspective the Connected Tahoe Wireless Plan is fatally deficient because its formulation and implementation is being made in violation of federal and California state law, in particular well-established provisions and precedents that require a formal process of public disclosure, consultation, review, hearings, comprehensive environmental assessment and debate. Such public review is critical, especially because the TRPA has impermissibly delegated its Compact authority to the TPC, a private lobbying arm of the wireless telecom industry, effectively to become the lead agency in developing the Connected Tahoe Wireless Plan for the entire region.¹¹ High level public discourse on a matter which will determine the future of Tahoe lies at the core of TRPA’s highest Public Trust responsibilities noted above. It cannot be dismissed as window dressing, as the telecom industry and TRPA currently are doing. The Connected Tahoe Wireless

¹¹ See https://www.trpa.gov/wp-content/uploads/documents/archive/2/Adopted-Regional-Plan_20190722.pdf pg. 48 for flow chart showing the Prosperity Plan under External Factors. The regional plan of the TRPA incorporates by reference, thereby makes the TPC plan an integral part of the Regional Plan, with no authority to do so. This attempt to undermine and circumvent the Public Trust responsibilities in the Compact, without the consent of Congress, is blatantly illegal.

Plan is predicated on a series of unchallenged assumptions advanced solely by the wireless purveyors, without any fair consideration by the TRPA Planning Staff or Governing Board of immediately available, environmentally protective, more secure, balanced, energy efficient, and climate change friendly alternatives. This procedural defect is fundamental. It cannot be cured by being papered over. The only solution is for TRPA to comply with the law.

TRPA's Failure to Comply with the Charter and its Own Regional Plan and Code of Ordinances

TRPA has failed to prepare a Comprehensive Programmatic EIS on the overall Tahoe Wireless Plan in compliance with this basic protective requirement in its own Charter, Regional Plan, and Code of Ordinance. In their Opposition filed on October 13, 2021, Petitioners incorporated into the record over 4,000 pages of scientific studies and other references to the devastating environmental impacts of the proposed Verizon macro tower. The instant application exemplifies the basic tactic of piecemealing currently employed by telecom companies like Verizon. Applicants' clear intention is with TRPA's blessing to escape liability for the larger environmental devastation almost guaranteed by the Connected Tahoe Plan. These studies are incorporated by reference in this appeal to the TRPA.

Report on Significant Impact to the Human Environment

Pursuant to PUBLIC LAW 96-551 Art. VII, the Tahoe Regional Planning Agency shall utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment when acting upon matters that have a significant effect on the environment, and prepare and consider a detailed environmental impact statement before deciding to approve or carry out any project. In the spirit of the law, here is a report finding the significant effect(s) the 112-foot Ski Run cell tower, hereinafter, the "Antenna," will pose on the environment. In light of the issues raised in this report, TRPA's finding of no significant effect or impact (FONSE/FONSI) on the environment is unsubstantiated, entirely fails to consider an important aspect of the problem, offers no explanation for its decision that runs counter to the evidence before the agency, and is so implausible that it could not be ascribed to a difference in view or the product of agency expertise, if not outright conclusory. Moreover, any TRPA conclusion, or so-called "Negative Declaration" by TRPA must be supported by some plausible evidentiary basis, which is entirely

absent in the present case. Appellants’ “[Tahoe Report on Antenna’s Significant Impact to the Environment](#)” is hereby incorporated in its entirety.¹²

II.2.a. Special Note on the Disfavored Practice of Segmentation and Piecemealing

The Verizon application and its unquestioned acceptance by TRPA staff exemplify the practice of segmentation or piecemealing which is strongly disfavored under federal court decisions under NEPA and various California court decisions under the California Environmental Quality Act (CEQA).¹³ The central principle recognized in these cases and under CEQA regulations is to discourage the tactic by project promoters to divert administrative attention, in this instance TRPA’s attention, by representing a project as disconnected to a larger scheme, and thereby asserting that its environmental impacts are trivial and *de minimis*. This is precisely what is happening with the present Verizon application and the acceptance by the Hearings Officer of TRPA staff’s recommendations. This [CSLT Verizon-Liberty Cell Tower Project Map](#)¹⁴ shows the clear overall wireless tower plan for the region which is being piecemealed.

A major reason why segmentation and piecemealing is not permitted is that it distracts decision makers from scrutinizing cumulative impacts.¹⁵ Both federal and California state courts have called out this critical defect and insisted that cumulative impacts be directly addressed in any competent EIS process. TRPA’s own Regional Plan highlights the importance of examining cumulative impacts.

The present Verizon application blithely accepted by TRPA’s Planning Staff and Hearings Officer epitomizes the very worst example of piecemealing and the tendency to discount or ignore cumulative impacts.

¹² See

<https://www.dropbox.com/s/ad64cok6mkv7g1h/Antenna%27s%20Significant%20Impact%20on%20the%20Environment%20III.pdf?dl=0> for a comprehensive analysis.

¹³ e.g. [The Gap Between Informational Goals and the Duty to Gather Information: Challenging Piecemealed Review under the Washington State Environmental Policy Act; CEQA generally prohibits an agency from piecemealing](#); [EarthJustice v. CEQA](#); [Piecemealing Blog - Arthur F. Coon](#); [Project Segmenting Not Permitted](#).

¹⁴ Original at

<https://cslt.maps.arcgis.com/apps/mapviewer/index.html?webmap=a037fc6cd4db4a81b7854b0807c54070>

¹⁵ e.g. [NEPA | National Environmental Policy Act - Cumulative Effects](#); [TRPA SEC. 19 CUMULATIVE IMPACTS](#); [CA/Nevada Interstate Compact and Cumulative Impacts](#).

II.2.b. The Monopine’s Faux Branches and Pine Needles Shed Prodigious Quantities of Pollutants which enter the Lake.

TRPA’s allowance for monopine waste from Verizon’s macro tower, the subject of its present application, multiplied in hundreds of other sites, represents a major federal action as this term is defined by the Compact and the National Environmental Policy Act of 1970. As such it must be addressed by TRPA in a Comprehensive Programmatic Environmental Impact Statement as required by Article VII of the Compact and the TRPA’s own Regional Plan and Code of Ordinances.

This particular Verizon project, if sustained, will allow designated carcinogenic and other hazardous materials to be discharged into a Stream Environment Zone (SEZ) and thereafter into Lake Tahoe, thereby contaminating Tahoe’s drinking water supply. It is a particularly egregious example of what has become consistent, although illegal, TRPA practice.

II.2.c. The approved project and many others like it will create an imminent fire hazard, when Tahoe is especially vulnerable to fires and is just now recovering from the Caldor fire.

Macro cell towers on the scale proposed by Verizon present two classes of significant fire risks. First, as illustrated in [Fire Hazards of Cell Towers](#), hereby incorporated, cell towers themselves can explode or catch on fire, collapse and start fires, attract lightning, or overheat due to the large consumption of electricity.

Second, RFR/EMF emissions from cell towers, such as the Verizon tower, cause an increase in terpene production in plants.¹⁶ See [Appendix VI](#) for a memorandum from Dr. Martin Pall, Professor Emeritus of Biochemistry and Basic Medical Sciences, Washington State University.¹⁷ Trees produce terpenes, volatile oils and combustible compounds that are aerosols, under normal conditions. When trees are stressed or injured, they emit more terpenes. Increased volatile oils due to wireless radiation exposure will create a more flammable environment for fire.

¹⁶ [Influence of microwave frequency electromagnetic radiation on terpene emission and content in aromatic plants](#). Maria-Loredana Sorana, Manuela Stana, Ülo Niinemetsb, and Lucian Copolovicib. J Plant Physiol. 2014 September 15; 171(15): 1436–1443. doi:10.1016/j.jplph.2014.06.013.

<https://drive.google.com/file/d/1X4y238P1rQ28YYxBTfgpOxct4FvOwYN1/view?usp=sharing>

¹⁷ Also see [Pall Letter to TRPA - Feb. 25, 2020](#).

TRPA's failure to address the fire risks of macro towers, as in the present Verizon application, will place the entire Tahoe community at risk.¹⁸ (See [Alan Miller Letter Oct. 12, 2021](#), pg. 7: Threats Due to Fire Associated with the Tower Must Be Mitigated.) TRPA's failure even to consider, much less to assess the fire risks of cell towers in a Comprehensive Programmatic EIS is more than legally sufficient to justify an immediate moratorium on the implementation of the overall Connected Tahoe Plan.

II.2.d. TRPA's EIS Must Address Other Adverse Environmental Impacts on Endangered Species and Special Habitats.

The EIS must address the environmental impacts of the proliferation of macro cell towers throughout the Tahoe Region, of which the present Verizon application is a prominent example. These impacts include adverse scenic impacts, dangers to endangered species,¹⁹ riparian vegetation impacts, and adverse impacts on 128 threshold standards relevant to the Bijou region.²⁰

TRPA is not monitoring the Bijou Park Creek stream habitat, and likely has not been for decades. On January 10th 2014, the US FWS published in the Federal Register ([79 FR 1805 1810](#)) that it had adopted [endangered species status for the Sierra Nevada Yellow-legged Frog](#) (SNLF) ([50 C.F.R. § 17.11](#)). In the near decade since the status was [first proposed in 2013](#), TRPA has unconscionably still not designated threshold capacities for SNLF protection, despite maintaining protections for Goshawk, Osprey, Bald Eagle, Golden Eagle, Peregrine, and Waterfowl which are not endangered (Tahoe Regional Planning Agency, *Threshold Standards and Regional Plan*, [p.23](#) (2019)). It is evident that TRPA is not even monitoring the condition of the Bijou Park Creek habitat, which [it has identified as suitable habitat for SNLF](#). Gregory J. Cook's engineering survey (see [Appendix III](#)) documents some of the SEZ area that was previously neglected by the TRPA GIS department.

II.3. The Proposed Project Exceeds Land Capability and Coverage Limitations

¹⁸ E.g. [Fire Hazards of Cell Towers.pdf](#) and [Alan Miller Letter Oct. 12, 2021](#).

¹⁹ E.g. [Sierra's yellow-legged frog still threatened, but officials have hope](#) | Tahoe Daily Tribune.

²⁰ See [TRPA Threshold Standards and Regional Plan](#) https://www.trpa.gov/wp-content/uploads/documents/archive/Thresholds_Regional-Plan_Amended_2019_4_24.pdf.

The project area is already massively over-covered.²¹ In addition, the Applicant is attempting to characterize the demolition of a storage shed, and the construction of a radio equipment building, as a mere enlarging of an existing structure. It is not. The Verizon project contemplates the construction of a new building in steep "environmentally sensitive" Class 1A land directly above a SEZ.

Importantly, the land capability mapping has a complex history, but it appears that the SEZ boundary was moved in a way more favorable to the Applicant. In investigating further, the latest TRPA Land Capability and Coverage Verification was done for Hansen's Resort in 2005. The Cook survey depended on the very rough handwritten SEZ line from the 2005 Verification, but the land capability was [verified](#) and documented with different "internal" [data](#). The net result is that there are major inconsistencies in the excess land coverage assessment. The TRPA GIS file is "[Land Capability Verification](#)"²²

If for some reason, the TRPA actually moved the "1A-1B" land verification boundary assessment on Hansen's Resort parcel, as indicated in that odd hand-drawn marker line, then under the Administrative Procedure Act (APA) TRPA ought to provide some sort of "reasoned analysis for the change" (*Motor Vehicle Manufacturers Association v. State Farm Auto Mutual Insurance Co.*, 463 U.S. 29, 42 (1983). See also, *FCC v. Fox Television Stations*, 556 U.S. 502, 515-516 (2009)). If this change happened for no reason other than to allow this tower to get approved, that is arbitrary and capricious decision making.²³

II.4. Verizon Has Presented Misleading and Erroneous Evidence in its Application.

Verizon has inserted questionable, if not outright erroneous, evidence into the record. [Appendix V](#) presents an inventory of these misleading and false statements. An application replete in this way with inaccuracies, misleading and false statements is invalid on its face and must be denied. TRPA has failed to do so.

²¹ The parcel is only allowed 1% coverage (any surface that prevents water from percolating in). Anything over that is over allowed coverage. But what was legally existing prior to 1986 is grandfathered in. Hence, hugely over-covered.

²² See also <https://www.tahoependata.org/datasets/stream-environment-zone-sez/explore?location=38.936919%2C-119.949945%2C16.62>)

²³ Upon reviewing TRPA's "Threshold Evaluations"; it appears that [Bijou Park Creek was not even given a stream habitat rating](#).

Verizon's simulations misrepresent the proposed Ski Run cell tower's location by over 2,000 feet and hence are patently incorrect. [Appendix V](#) includes photos substantiating this assertion. TRPA Staff and Hearings Officer have a legal duty to investigate obvious misleading and false claims being presented by an applicant, and certainly are obliged to discount such claims when they are documented to be untrue or misleading. See [State Farm Auto Mutual Insurance Co.](#), 463 U.S. 29, 42-44 (holding an agency decision is arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise; a court should [...] invalidate agency determinations that fail to "examine the relevant data and articulate a satisfactory explanation for [the] action including a 'rational connection between the facts found and the choice made.'" When reviewing that determination, courts must "consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment").

II.5. TRPA and Tahoe Prosperity Center (TPC) Have Made Misleading, Unsubstantiated, and/or False Claims relating to the Purported Benefits of Wireless Networks on Climate Change.

Recently, the wireless industry and its proponents have begun to assert that wireless networks, including macro cell towers, will actually enhance environmental quality, save energy, and contribute to ameliorating climate change.

There is considerable evidence that such claims are without scientific merit. In fact, just the opposite is the case. The [IEEE](#) has been studying this issue for some years, and has expressed serious concerns with how energy wasteful wireless networks are.

A recent Swedish study reaches the staggering conclusion that 5G will necessitate an increase of energy consumption by 160% in 10 years. According to this [joint study](#) by InterDigital, a mobile and video technology research and development company, and ABI Research, the 5G ecosystem alone will require the

expected equivalent of all the energy consumption of Sweden.²⁴ Similar findings are described in Tim Schoechle’s [Reinventing Wires](#) (Chapter 6). The critical point is this: TRPA must not accept either view on blind faith. It has a legal obligation, especially given that climate change policy is now of highest national priority, to address the climate change challenge as it applies to the proliferation of wireless devices and antennas throughout the Tahoe Region. TRPA is obligated to do this without bias and as part of its Compact Article VII obligation to prepare a Comprehensive Programmatic EIS.

II.6. TRPA Has Responsibility to Study Immediately Available Alternatives to the Connected Tahoe Plan.

There is no evidence whatsoever that the TRPA Hearings Officer or TRPA itself has been interested to inquire, much less have assessed, as part of its EIS process, immediately available, more environmentally protective, balanced, energy efficient, cost effective, climate change friendly alternatives to the Connected Tahoe Plan. A careful cost/benefit analysis of viable alternatives is a basic requirement of any competent EIS process. An essential first step would be for TRPA in its EIS to consider the benefits and cost savings of optical fiber broadband networks to the premises, which is already designated a high priority in the Biden Administration’s new Critical Infrastructure Plan.²⁵ In collaboration with the Tahoe Prosperity Center, which has just received a \$165,000 grant to support Tahoe’s resilience, TRPA should also assess the benefits of vigorously implementing [Intelligent Solar Microgrids](#) that can effectively address five critical challenges for Tahoe simultaneously: a) grid power outages; b) fire; c) climate change risks resulting from over dependence on non-sustainable and energy wasteful energy sources; d) resident health and safety jeopardized by RFR/EMF; and e) cyber-insecurity and invasion of personal privacy. These are all fatal weaknesses of the Connected Tahoe Plan.

In sum, if TRPA properly complies with its environmental responsibilities as set forth in the Compact, its Regional Plan, and Code of Ordinances, it is almost certainly would not — and cannot — legally approve the present Verizon cell

²⁴ (pg. 3): “This would be equivalent to the total energy consumption of Sweden or Norway, or roughly the same amount consumed by all the households in Australia or the United Kingdom in 2030.” [ABI Environmentally Sustainable 5G Deployment 1 Nov2020.pdf](#).

²⁵ See [Connecting America: The National Broadband Plan](#) and [Making the technical personal: How fiber is changing communities](#).

tower application which, for the additional reasons cited in Appellants' Opposition, is invalid on its face.

III. Several TRPA Governing Board Members Must Recuse Themselves

Summary. City Council Member John Friedrich, who is also the City representative to TRPA, must recuse himself from the present TRPA Governing Board Hearing on this appeal. Mr. Friedrich has been employed and is currently actively engaged with both the Tahoe Prosperity Center and Liberty Utilities, which is partnering with Verizon on the small cell wireless deployment. Other conflicted members who share responsibilities on both TRPA and Tahoe Prosperity Center (TPC) Boards are Sue Novasel and Cindy Gustafson, who must also recuse themselves. Appellants believe that Board Member Bill Yeates is also conflicted because he has previously owned stock in a telecommunications company(ies) and on this basis has in the past recused himself from an important TRPA Board decision. (Appellants have not been able to determine whether Mr. Yeates currently owns the stock of public telecommunications companies.) Appellants hereby request that all other Board members of TRPA or [TPC](#) who are currently owners of stock in public telecommunications companies also disclose their ownership and recuse themselves.

Appellants allege that these named persons have collaborated with and supported telecom companies in developing the "Connected Tahoe Wireless Plan." That Plan, as noted, is currently being implemented by discrete individual piecemeal actions, as exemplified in the present application for a 1360 Ski Run Blvd Tower. The TPC has lobbied for this particular Verizon tower, and others, to realize its Plan.

Detailed Analysis of Conflicts of Interest

Appellants believe that if any comprehensive planning was done at all in the Tahoe Region with regard to wireless facilities, it was done behind closed doors under the auspices of Tahoe Prosperity Center ("TPC"). TPC, which purports to be a federally registered 501(c)(3) not-for-profit organization, is funded in part directly by governmental entities with regulatory authority in the Tahoe Region, including TRPA, El Dorado County, Placer County, and the City of South Lake Tahoe. TPC's Board of Directors included (until January 2021) two members of TRPA Board, Sue Novasel (currently an El Dorado County Supervisor) and Marsha Berkbigler (who, until 2021, was a member of TRPA's Board and also a Washoe County Supervisor; she lost her re-election bid for Washoe County

Supervisor in the November 3, 2020 election, and thus lost her Board seat on TRPA's Governing Board as well). TRPA's Executive Director, Defendant Marchetta, and a former TRPA employee and current member of the City Council of the City of South Lake Tahoe, Devin Middlebrook, who also serves as Mayor Pro Tem, also are TPC Board Members, among others. The Verizon tower project at 1360 Ski Run Boulevard is located in the City of South Lake Tahoe. TPC has as a core part of its primary mission reflected in its "Connected Tahoe" Project, the goal to bring the highest levels of broadband and cellular service to the Tahoe Region. As part of its planning process, TPC solicited each of the primary telecoms, including Verizon, to provide TPC with the telecoms' preferred locations for all cell towers and other facilities. This information was provided on the understanding that it would not be made public to protect the competitive advantage of each telecom. TPC then prepared internal documents, including maps, which included the aggregated wish lists of each telecom in terms of project sites, and their priority in terms of timing.

For at least the past several years, TPC has actively lobbied the regulators in the Tahoe Region, including the City of South Lake Tahoe, and TRPA, to streamline their regulatory processes to allow each telecom, including Verizon, to implement their projects as quickly as possible. Moreover, TPC, by its Chief Executive Officer, Heidi Hill Drum, has aggressively campaigned for the approval of specific cell towers and wireless transmission facilities throughout the Tahoe Region, including the proposed Verizon cell tower at 1360 Ski Run Boulevard. For example, on August 5, 2019, the day before the scheduled South Lake Tahoe City Council hearing on Plaintiff Eisenstecken's appeal of the Planning Commission's granting of the special use permit for the Verizon cell tower at 1360 Ski Run Boulevard, Heidi Hill Drum sent an email to members of the City Council, including Devin Middlebrook, who simultaneously serves as a Director of TPC (and who, despite this obvious conflict of interest, never recused himself from the decision-making). In her email, Ms. Drum writes:

I somehow missed this on my agenda review when I sent my support letter for the other items. *But I wanted to express my sincere hope that you uphold your planning commission's approval of the cell tower on Ski Run Boulevard.* As you are well aware it is almost impossible to send a text in the heavy summer visitation periods. Cell coverage has diminished greatly over the past couple of years. In addition, many members of our community no longer have a landline and rely solely on cell phone service as their only means of communication.

You will recall from our presentation in April with the cell phone providers that many people are using cell phones as their means of downloading data as well as phone service. This means that we are in a challenging situation when cell towers are not approved as it puts lives in danger. Two independent experts also testified that there are no health ramifications from the towers and there is no cause for concern in that regard. Your planning commission thoroughly reviewed this cell tower site and approved it appropriately. To reverse their decision diminishes their authority and we hope that you uphold their decision.

Finally, and most importantly, I hope you consider the public safety ramifications of reversing the installation of the cell tower that is so desperately needed. With people using their cell phones only and not having land lines, in the event of a wildfire or other public emergency people would not be able to reach their families to let them know about the danger. That could cause catastrophic harm and loss of life. Your fire department brought this up during their codes of coverage issue previously as well.

The Tahoe Prosperity Center supports this cell tower and site for a monopine that will fit well into the area and provide the much-needed coverage for our residents, businesses and community. (Emphasis added).

Notably, the April presentation referred to in Ms. Drum's August 5, 2019 email was a lengthy April 2, 2019 presentation Ms. Drum organized for the South Lake Tahoe City Council to address broadband and wireless communications in the Tahoe Region and TPC's Connected Tahoe project to expand such coverage. At this presentation, Ms. Drum spoke along with Tellus Venture Associates, who Ms. Drum introduced as TPC's independent expert, and representatives from Verizon, T-Mobile, and AT&T. Ms. Drum stated that the three telecommunications companies are all TPC's "partners" in the Connected Tahoe project. Ms. Drum and TPC serve as the telecommunications companies' cheerleader to the regulators, legislators, and the public, touting and seeking approval of their expansive wireless infrastructure deployment plans.

Ironically, when publicly challenged by residents concerned about the dangerous "rubber-stamping" of permit approvals for cell towers and other wireless infrastructure facilitated by TPC's "unholy" seeding of several of its Directors on the TRPA Board and Executive staff and the South Lake Tahoe City

Council, TPC cried foul. In a press release reported in South Tahoe [Now.com](#), dated April 16, 2021, Frank Gerdeman, TPC's Chairman, asserted: "The Tahoe Prosperity Center believes that adding a small number of strategically located, environmentally appropriate cell towers to improve coverage for our community is an important goal for public safety and improved communications. We shared that in public comment in January 2020 at a City Council meeting and for that, we were sued. Our CEO has been continually harassed since then and this lawsuit is another attempt at silencing our organization on this important matter." Mr. Gerdeman protests too much. He admits TPC's pro-telecom pro-cell tower expansion platform. He freely acknowledges TPC pushed this platform before the City Council on which TPC's own Director, City Councilman Devin Middlebrooks, orchestrated the majority vote which resulted in the issuance of the special use permit by the City of South Lake Tahoe for the 112 foot tall cell tower at 1360 Ski Run Boulevard which was opposed by Appellants Eisenstecken and Benedict and by hundreds of other South Lake Tahoe residents.

In that same press release, Ms. Drum complains: "I have been publicly attacked for more than a year -- simply for doing my job and communicating an opinion that differs from plaintiffs in this case. This intimidation has also continued against TPC board members, as well as numerous other community leaders since each of us spoke up at a City Council meeting and stated that better cell coverage is needed in the Lake Tahoe Basin." Ms. Drum, too, is mistaken. Public officials simply have no business sitting as directors of organizations which lobby aggressively before them in their official capacities. That's just basic ethics, enforced by conflict-of-interest policies and laws of TRPA, the City of South Lake Tahoe, the Compact, and federal and state law.

TPC, through its CEO, certainly has a First Amendment right to lobby government, though as a 501(c)(3) not-for-profit organization, it needs to tread very carefully when engaging in political activity lest it jeopardize its tax-deductible status with the Internal Revenue Service. Nevertheless, when TPC and its CEO actively lobby before government regulators and urge them to approve specific cell projects -- and those same government regulators include current TPC Board members, such as Devin Middlebrook, the sitting City of South Lake Tahoe Councilman, Mr. Middlebrook faced a blatant conflict of interest and he was required to recuse himself from participating in the proceeding at hand -- in this case, the appeal of the Planning Commission grant of the special use permit. However, Mr. Middlebrook failed to recuse himself. Indeed, at the January 12, 2020 hearing when the City Council denied the appeal, Mr. Middlebrook took a

lead role in persuading a majority of the Council to join him in voting to deny the appeal.

TPC seeds its Board of Directors with Directors who simultaneously are employed by government regulators and legislative bodies that issue the necessary permits for wireless infrastructure, including cell towers and small cell facilities in the Tahoe Region. Besides Mr. Middlebrook, TPC's Board includes Joanne Marchetta, the Executive Director of TRPA, and Sue Novasel, El Dorado County Supervisor. Until January 2021 (following her November 2020 election loss), Marsha Berkbigler, served as a Washoe County Supervisor while she was both a TPC Director and a Director of TRPA. None of these TPC Directors recused themselves from permit decision-making or legislating regarding cell towers and wireless infrastructure when sitting in their official government capacities. Given TPC's strong positions supporting ever-expanding wireless infrastructure deployment throughout the Tahoe Region and equally strong support for Verizon, T-Mobile, and AT&T, TPC's Directors should have recused themselves from any participation in all such matters when sitting in their official government capacities because of the blatant conflict of interest presented, but they each failed to do so. Sue Novasel, a sitting Governor of TRPA and a current Director of TPC, must recuse herself from these proceedings on appeal. Joanne Marchetta, Executive Director of TRPA and a current Director of TPC, must recuse herself from these proceedings on appeal.

John Friedrich, a current South Lake Tahoe City Councilmember and a Governor on the Board of TRPA, until recently was employed by Liberty Utilities, where he managed renewable energy, energy efficiency, and electrical vehicle programs. Liberty Utilities is public utility which provides electric power to the Tahoe Region. As such, Liberty Utilities has, for many years, been involved with each of the telecom companies that has erected and operated wireless telecommunications facilities in the Tahoe Region because all such facilities are powered by electricity. Given Mr. Friedrich's lengthy executive level employment at Liberty Utilities for years during the deployment of the Region's wireless infrastructure, Mr. Friedrich must recuse himself from these proceedings on appeal.

The TRPA Compact, at Article III(a)(5) sets forth standards to govern conflicts of interests by its Board members and employees:

- 5) Each member and employee of the agency shall disclose his economic interests in the region within 10 days after taking his seat on

the governing board or being employed by the agency and shall thereafter disclose any further economic interest which he acquires, as soon as feasible after he acquires it. As used in this paragraph, “economic interests” means:

(A) Any business entity operating in the region in which the member or employee has a direct or indirect investment worth more than \$1,000.

(B) Any real property located in the region in which the member or employee has a direct or indirect interest worth more than \$1,000.

(C) Any source of income attributable to activities in the region, other than loans by or deposits with a commercial lending institution in the regular course of business, aggregating \$250 or more in value received by or promised to the member within the preceding 12 months; or

(D) Any business entity operating in the region, which the member or employee is a director, officer, partner, trustee, employee or holds any position of management.

No member or employee of the agency shall make, or attempt to influence, an agency decision in which he knows or has reason to know he has an economic interest. Members and employees of the agency must disqualify themselves from making or participating in the making of the agency when it is reasonably foreseeable that the decision will have a material financial effect, distinguishable from its effect on the public generally, on the economic interests of the member or employee.”

Chapter 8 of TRPA’s Rules of Procedure echo the above requirements, and at Section 8.4, at least as to employees, clarifies that the intent is to prevent anything that gives rise to “an actual conflict of interest, or that creates the appearance of an actual conflict of interest.” TPC functions as a business entity, notwithstanding its non-profit status, at least in part to advance the interests of the telecom industry. As members of TPC’s Board of Directors, Ms. Marchetta and Ms. Novasel owe a fiduciary duty to TPC that creates an actual conflict and/or an appearance of a conflict of interest with their fiduciary duties as members of the Board or employees of TRPA to follow the dictates of the Compact and the Regional Plan.

TRPA's Rules of Procedure also prohibit ex-parte communications for its Board members when they act upon a matter in their quasi-judicial capacity. To the extent that a TPC Board member, or any other TRPA Board member, receives specific information about preferred wireless sites and the reasoning therefore, prior to a hearing in their capacity as a TRPA Board member, that information must be disclosed or the TRPA Board member is in violation of Section 2.15.1 of the Rules of Procedure. That provision requires "Prior to taking action on a quasi-adjudicative matter, a Board member shall publicly disclose on the record the existence and essential content of any material ex parte communications on the matter under consideration." TPC and its CEO, Heidi Hill-Drum received proprietary information from at least Verizon, T-Mobile, and AT&T about each of their preferred sites for cell towers in the Tahoe Basin. Ms. Drum agreed to keep the identities of the companies anonymous, but prepared for internal use a map of these preferred cell tower sites. Ms. Drum set forth this information in an email to Appellant Eisenstecken, dated October 15, 2019 (See Appendix VII), in which she wrote:

"Hello Monica. The cell tower maps are not printed and they are for internal use only as part of our Connected Tahoe project. I can share the screen shot of the green dot (#11) on the image below, which is the tower at 1360 Ski Run Blvd. Green dots means a priority site. None of the dots, nor numbers outline which provider, because, in order to ensure that each provider was able to maintain their competitive business advantage, we agreed to code them. I am happy to meet with you in person (as I also offered to do with Ben) and show you the maps on my computer, but they are for internal planning use only. They are also a few years old now as we started this project five years ago."

Appellants believe that Berkbigler and Novasel and any other TRPA Board members that have received such information have not complied with this requirement.

Marchetta is TRPA's Executive Director, and therefore an employee of TRPA. According to TRPA's Rules of Procedure, the Executive Director administers all affairs of TRPA, directs and hires staff, directs Legal Counsel for TRPA, and creates the staff summary for projects to be heard, including recommendations for approval or rejection. (Rules of Procedure at Section 1.5, and Section 5.11.) Because Marchetta is also on the Board of TPC, her recommendations to approve applications by telecoms, at the very least, "create the appearance of an actual conflict of interest" (Rules of Procedure at Section 8.4).

Appellants believe that paid elected government officials, appointed government officials, and key TRPA staff members believe it is in their best interests to appear to support TPC's agenda in order to maintain the economic advantages of employment and the support of the pro-economic growth faction in the community who are politically powerful with regard to winning elections and plum political appointments. This inherent conflict of interest is magnified by voluntarily agreeing to be on the Board of an unapologetically pro-telecom lobbying business entity like TPC. Once again, the façade of TPC as a publicly-spirited, tax-exempt, non-profit entity is directly contradicted by the promotional actions TPC takes on behalf of the telecom companies. Indeed, TPC is the telecom companies' regional cheerleader-in-chief.

By way of example, this conflict of interest likely inhibits conflicted individuals from calling for a proper needs assessment, including a forensic audit of the extent of existing fiber optic infrastructure, who owns it, who paid for it, and whether such data and communications services can be provided without more wireless facilities that create adverse impacts. Under Subsection (D) of Article III(a)(5), therefore, Marchetta and Novasel have an economic interest that is required to be disclosed. Appellants believe that no such disclosures have been made as required. Finally, Marchetta has an economic interest in keeping her job. It appears she has been installed to do the telecom companies' bidding and likely would be immediately replaced if they started to act independently.

Appellants' Due Process and Other Rights and TRPA's and the Tahoe Prosperity Center's (TPC) Open Meeting Responsibilities

Appellants' basic due process right to an unbiased tribunal has been recognized by several courts. (See *United States v. Mississippi Valley Generating Co.*, 364 U.S. 520, n.14 (1961) ("no man can serve two masters")). TRPA is a political subdivision of CA ([GOV § 67040](#); *Lake Country Estates, Inc. v. Tahoe Regional Planning Agency*, 440 U.S. 391, 401 (1979) ("TRPA is described in Art. III(a) as a 'separate legal entity' and in Art. VI(a) as a 'political subdivision'").²⁶

²⁶ For additional cases, see: *Snyder v. Massachusetts*, 291 U.S. 97, 116, 117 (1934)(Due process of law requires that the proceedings shall be fair).

See also *Buchalter v. New York*, 319 U.S. 427, 429 (1943).

Lisenba v. California, 314 U.S. 219, 236 (1941)(denial of due process is the failure to observe that fundamental fairness essential to the very concept of justice).

Smith v. Phillips, 455 U.S. 209 (1982) (juror had job application pending with prosecutor's office during trial); *Remmer v. United States*, 347 U.S. 227 (1954) (bribe offer to sitting juror); *Dennis v. United States*, 339 U.S. 162, 167-72 (1950) (government employees on jury).

TRPA must be in harmony with and not be in a conflict with laws prohibiting vote trading and use of public funds for political purposes and holding incompatible offices (Cal. Penal Code §86; Cal. Gov. Code §§ 1099, 1126 & 8314). *Petrovich Development Company, LLC v. City of Sacramento*, 48 Cal.App.5th 963, 973 (2020) (The law does not require the disappointed conditional use permit applicant to prove actual bias; rather, there must not be an unacceptable probability of actual bias on the part of a municipal decision maker; A party must show either actual bias on the part of an administrative decision maker or show a situation in which experience teaches that the probability of actual bias on the part of the decision maker is too high to be constitutionally tolerable); *Clark v. City of Hermosa Beach*, 48 Cal.App.4th 1152, 1170-1171 (1996) (“A public officer is impliedly bound to exercise the powers conferred on him with disinterested skill, zeal, and diligence and primarily for the benefit of the public. Actual injury is not the principle the law proceeds on. Fidelity in the agent is what is aimed at, and as a means of securing it the law will not permit him to place himself in a position in which he may be tempted by his own private interests to disregard those of his principal. This doctrine is generally applicable to private agents and trustees, but to public officers it applies with greater force, and sound policy requires that there be no relaxation of its stringency in any case that comes within its reason....”; Common-law doctrine against conflict of interest, prohibiting public officials from participating in governmental decision in which they know they have interest, extends to noneconomic conflicts of interest, while Political Reform Act focuses on financial conflicts of interest); *People v. Honig*, 48 Cal.App.4th 289, 313-314 (1996) (“The conflict-of-interest statutes are based upon the truism that a person cannot serve two masters simultaneously, which is regarded as a self-evident truth, as trite and impregnable as the law of gravitation. The duties of public office demand the absolute loyalty and undivided, uncompromised allegiance of the individual who holds the office”); *Thomson v. Call*, 38 Cal.3d 633 (1985); *Stigall v. City of Taft*, 58 Cal.2d 565 (1962); *Stockton Plumbing & Supply Co. v. Wheeler*, 68 Cal.App. 592 (1924); *President and Trustees of City of San Diego v San Diego and Los Angeles R Co*, 44 Cal. 106 (1872) (The general principle is, that no man can faithfully serve two masters, whose interests are or may be in conflict).

The Tahoe Prosperity Center's Connected Tahoe Plan was developed clandestinely by the telecom companies working in concert with the TPC and TRPA . (With regard to rules for open meetings, see Cal. Gov. Code §§

Rippo v. Baker, 239 U.S. 807 (2017)(Due Process Clause may sometimes demand recusal even when a judge 'ha[s] no actual bias').

54952(c)(1)(B), 54953, & 54959.)²⁷ As TPC is functioning as a parallel quasi-governmental organization, it is bound to hold open meetings (see *Press-Enterprise Co. v. Superior Court*, 478 U.S. 1, 8 (1986) (the Court extended the right of access to preliminary proceedings in addition to trials, and introduced a two-part test considering whether "the place and process have historically been open to the press and the general public," and whether "public access plays a significant positive role in the functioning of the particular process in question"). An executive agency, board, or commission (such as TRPA or City of SLT) cannot avoid the application of state open meetings laws simply by delegating their fact-finding authority to a proxy (such as TPC) (Christopher B. McNeil, [*The Public's Right of Access to "Some Kind of Hearing": Creating Policies that Protect the Right to Observe Agency Hearings*](#), 68 La. L. Rev. 1121,1125 (2008)).

IV. Requested Relief

Appellants make the following requests:

1. TRPA Governing Board must reverse the Hearings Officer October 14, 2021 decision.
2. TRPA must publicly recognize and call out the inaccurate, misleading, and false claims made by the Applicant Verizon and inserted in the public record.
3. TRPA must declare a moratorium on all new cell tower permits until it has completed a Comprehensive Programmatic Environmental Impact Statement on the "Connect Tahoe Wireless Telecommunications Facilities Deployment Plan" and ensured consistency with its EIS findings, its own Regional Plan, and Code of Ordinances.

²⁷ Under the California Government Code Sections 54952(c)(1)(B) and 6252(a), the Tahoe Prosperity Center is "a legislative body" subject to the Brown Act and Public Records Act. As a nonprofit corporation it "[r]eceives funds from a local agency and the membership of whose governing body includes a member of the legislative body of the local agency appointed to that governing body as a full voting member by the legislative body of the local agency." It is long overdue for TRPA and for a reviewing federal court to shed light upon and to correct the self-dealing mess that is placing Tahoe's unique national treasure on the chopping block.

4. TRPA must recognize the public health hazard of unpermitted discharges of toxic materials in waste discharges into Lake Tahoe from Verizon and other cell towers, and take immediate measures to ensure full compliance with all federal and state water quality, clarity objectives and clean drinking water laws.
5. As a condition of all permit applications, TRPA must require full disclosure by permit applicants of any toxic chemicals, compounds and materials contained in monopines.
6. TRPA must make specific findings, supported by convincing scientific evidence based on peer reviewed studies, that macro and small cell towers and other wireless devices either constitute, or do not constitute, an imminent hazard to the health and wellbeing of Tahoe's residents and environment.
7. TRPA must immediately assess and determine the viability of optical fiber to the premises, paved optical fiber, intelligent solar microgrids, and other immediately available alternative technologies in establishing the Tahoe Region as a climate change friendly, resilient showcase for the country and the world.

Respectfully submitted,

Julian Gresser
Gregg Lien
Robert J. Berg
Counsel for Appellants

APPENDIX I

TRPA Board Members (as of 11/28/2021)

Mark Bruce – Chair
Cindy Gustafson – Vice Chair
Shelly Aldean
Barbara Cegavske
Ashley Conrad-Saydah
Belinda Faustinos
John Friedrich
A.J. Bud Hicks
Alexis Hill
Vince Hoenigman
James Lawrence
Sue Novasel
Wesley Rice
Hayley Williamson
Bill Yeates

TRPA Governing Board Staff

Joanne Marchetta, TRPA Executive Director
John Marshall, TRPA General Counsel
Marja Ambler, Clerk to the Board

APPENDIX II

Appellants' Request To Remove Andrew Strain As Hearings Officer

<p>ATTORNEYS AT LAW</p> <p>SWANKIN & TURNER</p> <p>5614 CONNECTICUT AVE., N.W. #339 WASHINGTON, D.C. 20015 TEL. 202 462-8800 FAX 202 315-2501</p>	<p>DAVID A. SWANKIN JAMES S. TURNER BETSY E. LEHRFELD CHRISTOPHER B. TURNER JULIAN GRESSER, of Counsel (California only)</p>
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October 7, 2021

BY E-MAIL

Joanne S. Marchetta Executive
Director, TRPA John L.
Marshall, Esq.
TRPA General Counsel
P.O. Box 5310
Stateline, Nevada 89449

**Re: TRPA File # ERSP2019-0389
Proposed Verizon monopine cell tower at 1360 Ski Run Boulevard**

Dear Ms. Marchetta and Mr. Marshall:

As you know, we represent Monica Eckenstein, David Benedict, the Environmental Health Trust, Tahoe Stewards, LLC, and Tahoe for Safer Tech in proceedings in opposition to TRPA File # ERSP2019-0389, the proposed Verizon monopine cell tower at 1360 Ski Run Boulevard, South Lake Tahoe City.

We understand that Andrew Strain has been assigned as the TRPA Hearings Officer for the October 14, 2021 Public Hearing on this file. Due to Mr. Strain's current simultaneous employment as both TRPA Hearings Officer and Vice President of Development at the Tahoe Beach Club, and his position as a Member of the Government Affairs Committee of the Tahoe Chamber of Commerce, Mr. Strain has extremely serious conflicts of interest that preclude his serving as a TRPA Hearings Officer on this file. We hereby request that the TRPA immediately appoint a truly independent Hearings Officer whose impartiality cannot be reasonably questioned.

The conflict-of-interest provisions of the Bi-State Compact relevant to TRPA employees such as TRPA Hearings Officer Strain are set forth in Article III(a)(5) of the Bi-State Compact which provide, in relevant part:

(5) Each member and employee of the agency shall disclose his economic interests in the region within 10 days after taking his seat on the governing board or being employed by the agency and shall thereafter disclose any further economic interest which he acquires, as soon as feasible after he acquires it. As used in this paragraph, “economic interests” means:

(A) Any business entity operating in the region in which the member or employee has a direct or indirect investment worth more than one thousand dollars (\$1,000).

(B) Any real property located in the region in which the member or employee has a direct or indirect interest worth more than one thousand dollars (\$1,000).

(C) Any source of income attributable to activities in the region, other than loans by or deposits with a commercial lending institution in the regular course of business, aggregating two hundred fifty dollars (\$250) or more in value received by or promised to the member within the preceding 12 months.

(D) Any business entity operating in the region in which the member or employee is a director, officer, partner, trustee, employee or holds any position of management.

No member or employee of the agency shall make, or attempt to influence, an agency decision in which he knows or has reason to know he has an economic interest. Members and employees of the agency must disqualify themselves from making or participating in the making of any decision of the agency when it is reasonably foreseeable that the decision will have a material financial effect, distinguishable from its effect on the public generally, on the economic interests of the member or employee. (Emphasis added).

Mr. Strain, when he serves as a TRPA Hearings Officer, is an employee of the agency. The Compact language above emphatically prohibits TRPA employees, including Mr. Strain, “from making or participating in the making of any decision of the agency when it is reasonably foreseeable that the decision will have a material financial effect, distinguishable from its effect on the public generally, on the economic interests of the member or employee.”

At the same time as he serves as a TRPA Hearings Officer, Mr. Strain remains employed as Vice President of Development at the Tahoe Beach Club, a 143-unit ultra-luxury condominium project with a private members’ club on the shores of Lake Tahoe in Stateline, Nevada. This high-end real estate development enjoyed a record price-setting condominium sale this past summer of \$6 million for a unit located at 17 Beach Club Drive. As the Vice President of Development, Mr. Strain’s duties undoubtedly involve development matters and projects that implicate the TRPA Code of Ordinances and/or require TRPA permitting. As a senior executive of a major real estate developer in the Lake Tahoe Region, it’s rather astonishing, then, that Joanne Marchetta, TRPA’s Executive Director, has appointed Mr. Strain as a TRPA Hearings Officer, given the obvious inherent conflicts of interest between the two simultaneously-held positions.

Mr. Strain’s decisions as a TRPA Hearings Officer, even in matters ostensibly unrelated to those directly affecting his employer, inevitably have a material financial effect on the economic interests of his employer, and therefore, upon himself. To the extent Mr. Strain’s hearing decisions establish TRPA precedent, they affect the course of development of the lands within TRPA’s jurisdiction, including, of course, the properties owned by the Tahoe Beach Club. So it’s difficult to understand how Mr. Strain can serve as a TRPA Hearings Officer in any matter.

But the conflict-of-interest situation is even more egregious in connection with TRPA File # ERSP2019-0389. That’s because Mr. Strain’s boss, Patrick Rhamey, the Chief Executive Officer of the Tahoe Beach Club, has publicly expressed his support for expanding cell tower deployment in the Lake Tahoe Region. Indeed, Mr. Rhamey submitted a written public comment to the City Council of the City of South Lake Tahoe, in an email on May 11, 2020, in advance of the May 12, 2020 City Council meeting. Mr. Rhamey’s written public comment was directed to Agenda Item #12, “Policy Document for Wireless Facility Colocation Modification Submitted for Eligible Facilities Requests.” Mr. Rhamey’s written public comment states as follows:

From: Patrick Rhamey
To: Public Comment
Subject: Support for Agenda Item #12
Date: Monday, May 11, 2020 6:51:50 PM

Please vote yes on Agenda Item #12, cell tower ordinance. It is important for the safety of our residents, visitors, and first responders that they have reliable cell service.

It’s reasonable to infer from Mr. Rhamey’s public comment supporting a wireless telecommunications facility resolution that promotes the expanded deployment of such installations that Mr. Rhamey is predisposed to support the monopine cell tower proposed at 1360 Ski Run Boulevard. Mr. Strain can be expected to act in the interests of his boss and to follow his boss’s lead with respect to Mr. Rhamey’s desire for more reliable cell service in the Lake Tahoe Region. Mr. Strain’s conflict – his need to uphold Mr. Rhamey’s position that the Tahoe Region must support a massive increase in mobile device coverage by approving more cell towers, imposes a fatal bias that poisons his ability to carry out his duty to act as an impartial TRPA Hearings Officer. This bias prevents Mr. Strain from acting in any balanced way as a TRPA Hearings Officer to protect the Public Trust enshrined in the Compact.

Moreover, Mr. Strain may well have an ownership interest in the business that owns/operates the Tahoe Beach Club, and pursuant to Article III(a)(5)(A)-(D), you need to disclose to us Mr. Strain’s “economic interests” in the region immediately.

To make matters even worse, Mr. Strain currently serves as a Member of the Government Affairs Committee of the Tahoe Chamber of Commerce. The Tahoe Chamber partners with the Tahoe Prosperity Center, and the Tahoe Chamber supports and facilitates the Connected Tahoe Initiative, a goal of which is increased cell tower densification in the Lake Tahoe region, no matter the health risks to people and the environment.

Given Mr. Rhamey's public comments supporting an ordinance that furthers expansion of the cellular network footprint in the region, and in particular, cell towers to improve cell service, Mr. Strain's contemporaneous position as Vice President of the Tahoe Beach Club, and his active involvement on the Government Affairs Committee of the Tahoe Chamber, we respectfully demand that Mr. Strain be disqualified from participating in this matter as the TRPA Hearings Officer.

Please let us know immediately whether you intend to replace Mr. Strain as the TRPA Hearings Officer for this matter, and if so, who the new TRPA Hearings Officer will be.

Very truly yours,

/s/Julian Gresser

Robert J. Berg

Gregg R. Lien

APPENDIX IV Further Explanation of Toxic Chemicals and Compounds Associated with Monopines

Dear Heather Segale, M.S., Education and Outreach Director of Tahoe Environmental Research Center, all other addressed, copied, or otherwise interested parties;

It has come to my direct awareness that a concealment technique used to camouflage monopole cell towers to disguise them as a pine tree—named by the portmanteau word "monopine"—has become a prolific source of microplastics (MP) pollution in the Tahoe Basin. We have actually collected pounds of microplastics ribbons below the so-called "monopines." The culprit is a specialized type of plastic that can be manufactured to mimic pine needles, but is also transparent to cell tower radio-frequency radiation (RF). Here is a vendor's image of the material:

- RF-friendly materials yield extremely low insertion and return loss properties.



Comparison of foliage colors and diameters.

Like actual pine needles, these plastic ribbons are continuously and pervasively shed from their support branches. In fact, continuously [replacing "monopine" branches](#) is a cottage industry in and of itself; there are nearly a hundred branches on a 15-story tall "monopine." Each branch in turn contains several pounds worth of plastic ribbons, which completely "defoliate" over a period of two or three years. However, unlike pine needles, the faux plastic ribbons are not compostable and merely degrade into smaller and smaller particles. Moreover, because of strong opposition to the placement of cell towers in residential neighborhoods, political expedience has dictated these "monopines" be placed in parklands and areas with no residential development value—usually because of environmental sensitivity such as a stream environmental zone (SEZ). *E.g.*, there is a proposed "monopine" adjacent to Bijou Park Creek at 1360 Ski Run Blvd in South Lake Tahoe. The continuous and pervasive shedding of brittle plastic ribbons into a debris field that completely spans a stream zone, creates a direct and foreseeable source of microplastic (MP) introduction into the lake. Research has repeatedly shown that tiny plastic particulates, with their enhanced surface area, are particularly effective at leaching toxins into the water and microplastic particles also get directly ingested by fish, wildlife, and then enter the food chain, which eventually results in human consumption.[1] Toxins in plastic can have a wide range of effects from cancer to reproductive harm (*e.g.*, Bisphenol A (BPA)).

In Lake Tahoe, we have a more rarefied and cleaner atmosphere than the rest of the nation, often with a highly reflective snowpack, which yields intense levels of ambient ultraviolet light which is commonly known to degrade plastic. We also have extreme mountain winds—we get dozens of wind events each year with ridgetop winds in excess of 120-140 mph. This cumulatively results debris fields under each "monopine" of individual plastic ribbons, branch tips, and occasionally parts of the antenna sock. In one well documented example, a ridgetop cell tower at 8,371 ft (Angel's Roost), had a debris field with a radius in excess of 700 feet. The plastic ribbons get brittle and decompose on the tower as well as further degrade after they fall onto the ground.



Branch Replacement
Before and After

"Monopines" are generally inaccessible to equipment required to perform cosmetic maintenance for most of the winter. It is not uncommon for "monopines" to resemble the below left image in the spring:

I hope I have provided you with a good overview of the problem sufficient enough for you to take interest in the pounds of microplastics we have collected from the base of local "monopines." Perhaps we could provide you samples, for which Professor Jenessa Gjeltrema[2] could oversee identification of toxins[3][4][5][6][7] in the plastics, and perhaps assess their degradation into smaller particles[8]—rating their threat to dust aerosolization[9] or fine particle hydrologic suspension.

Your expert findings could have tangible public policy ramifications in the appropriate performance of environmental assessment for "monopines" under the National Environmental Policy Act (NEPA), and help characterize the extent to which this concealment technique may have a significant effect on the environment.[10] I look forward to your response. Thank you for your time and consideration.

Monica Eisenstecken

Footnotes

[1] *Infra* notes 3-7.

[2] Jenessa Gjeltrema, Principal Investigator, Optimization of Raman Analysis for Evaluation of Microplastic Particles, Small Grants in Aid of Research, (Principal Investigator), University of California Davis Committee on Research.

- [3] Fen Wang, Charles S. Wong, Da Chen, Xingwen Lu, Fei Wang, Eddy Y. Zeng, "Interaction of toxic chemicals with microplastics: A critical review," *Water Research*, Volume 139, 2018, pp. 208-219, ISSN 0043-1354, <https://doi.org/10.1016/j.watres.2018.04.003>.
- [4] Jingyi Li, Huihui Liu, J. Paul Chen, "Microplastics in freshwater systems: A review on occurrence, environmental effects, and methods for microplastics detection," *Water Research*, Volume 137, 2018, Pages 362-374, ISSN 0043-1354, <https://doi.org/10.1016/j.watres.2017.12.056>.
- [5] Gallo, F., Fossi, C., Weber, R. et al. "Marine litter plastics and microplastics and their toxic chemicals components: the need for urgent preventive measures." *Environ Sci Eur* 30, 13 (2018). <https://doi.org/10.1186/s12302-018-0139-z>
- [6] Pauline Pannetier, Bénédicte Morin, Florane Le Bihanic, Laurence Dubreil, Christelle Clérandeau, Fannie Chouvellon, Kim Van Arkel, Morgane Danion, Jérôme Cachot, "Environmental samples of microplastics induce significant toxic effects in fish larvae," *Environment International*, Volume 134, 2020, 105047, ISSN 0160-4120, <https://doi.org/10.1016/j.envint.2019.105047>.
- [7] Rios Mendoza Lorena M., Jones Patrick R. (2015) "Characterisation of microplastics and toxic chemicals extracted from microplastic samples from the North Pacific Gyre." *Environmental Chemistry* 12, 611-617. <https://doi.org/10.1071/EN14236>
- [8] Win Cowger, Andrew Gray, Silke H. Christiansen, Hannah DeFrono, Ashok D. Deshpande, Ludovic Hemabessiere, Eunah Lee, Leonid Mill, Keenan Munno, Barbara E. Ossmann, Marco Pittroff, Chelsea Rochman, George Sarau, Shannon Tarby, and Sebastian Primpke, "Critical Review of Processing and Classification Techniques for Images and Spectra in Microplastic Research," *Appl. Spectrosc.* 74, 989-1010 (2020).
- [9] Razegheh Akhbarizadeh, Sina Dobaradaran, Mehdi Amouei Torkmahalleh, Reza Saeedi, Roza Aibaghi, Fatemeh Faraji Ghasemi, "Suspended fine particulate matter (PM2.5), microplastics (MPs), and polycyclic aromatic hydrocarbons (PAHs) in air: Their possible relationships and health implications," *Environmental Research*, Volume 192, 2021, 110339, ISSN 0013-9351, <https://doi.org/10.1016/j.envres.2020.110339>.
- [10] 42 U.S.C. §§ 4331 *et seq.*; 15 U.S.C. §§ 2601 *et seq.*; 33 U.S.C. §§ 1251 *et seq.*; 42 U.S.C. §§ 7401 *et seq.*; 40 C.F.R. §§ 1501.1 *et seq.*; **47 C.F.R. § 1.1307**; 50 C.F.R. §§ 17.11 & 402.01 *et seq.*

APPENDIX V

Monica Eisenstecken and Alex Mackenzie

A. Misleading and False Claims by Applicant Verizon

Misrepresentations of Gap Coverage

Verizon misrepresented the viability of alternative sites in its analysis²⁸ that it presented to the city, and hid or failed to disclose²⁹ the extent of the cell coverage by its existing tower sites;³⁰ there are omitted material facts that are fatal to Verizon’s material claims that “there are no superior alternatives to the approved facility.”³¹ Verizon has “demonstrated a significant gap in service,”³² and “the approved facility is the least intrusive means to fill the significant gap in service.”³³ Macro cell towers have a powerful broadcast radius potential of 30 km (18.5 mi), but more commonly reach to 20 km (12 mi) because of terrain, capacity, energy, and radiation exposure issues.³⁴ It is unconvincing for Verizon to claim huge coverage differences between potential sites that are within a two-mile radius to service two gap areas within a one-mile radius; this is especially so without a substantial difference in elevation, aspect, or obstructive terrain on the proposed sites to service this “gap.” Verizon is simply minimizing its own internal cost of implementing cell coverage with callous disregard of the real transfer of these costs to neighboring residences—with the obvious ancillary benefit of permanent right-of-way acquisitions in a very valuable real estate market. Verizon stated it will need to trench fiber optic cable to the tower,³⁵ and hence construction will be less expensive for them to deploy a tower in a residential neighborhood adjacent to an arterial roadway.

To visualize this issue with RF propagation modeling,³⁶ there are several coverage images appended to EXHIBIT A. The Longley-Rice Irregular Terrain

²⁸ See [Verizon’s Alternative Cell Tower Sites Analysis](#)

²⁹ See [Verizon’s purported Coverage Maps](#)

³⁰ Cellmapper.net. See [public information on the surrounding cell towers](#), including antenna orientation (azimuth).

³¹ SLT Verizon Wireless Response to Appeal, File 19-026, [page 3](#).

³² SLT Verizon Wireless Response to Appeal, File 19-026, [page 8](#).

³³ [Ibid.](#)

³⁴ See [JPL’s Wireless Communication Reference Website](#)

³⁵ SLT General Planning Application, Ski Run Tower, [Page 3](#).

³⁶ For a brief overview of RF modeling methods, [follow this link](#).

Model (ITM)³⁷ shows the viability of “*Angels Roost*,” and the “*Water Tower*” sites as superior options in terms of minimizing injury to wetlands and neighborhoods, while servicing their so-called “gap in coverage.”¹¹ The “*Bat Yam*” site modeling also shows that a viable tower could be built there without needing to be a prohibitive 180-foot tall tower as purported by Verizon.¹² EXHIBIT A’s “Best Sites for Coverage of Bijou Park and Heavenly Valley” grades the landscape on its potential to cover Verizon’s alleged “significant gap” on a 90% to 100% coverage scale.³⁸ As should be expected, there is a large area in which placement of a macro tower would cover this gap. There is a sizable subset within this area that is far away from residences, and within the jurisdiction of city limits; there is also a very large portion of this area that is within US Forest Service jurisdiction and is very far away from any residence. Furthermore, when AT&T evaluated and declined the Ski Run site in 2013,³⁹ they subsequently placed their Macro Tower at 1066 Lyons Avenue⁴⁰— the north end of the South Tahoe Middle School⁴¹—which is on the edge of the land zone able to provide 100% coverage to both *Bijou Park* and *Heavenly Valley*.⁴²

Distortions of Data

Second, Verizon’s modeling appears to have used defective antenna orientations, heights, and receiving antenna sensitivity at the alternative sites⁴³ in order to support their preferred outcome—this is material fraud.

Verizon failed to disclose, hid, or misrepresented the existing level of service in its alleged coverage cap.⁴⁴ Residents performed their own signal measurements tests and were continuously able to make calls throughout the entire areas that Verizon claimed to the City did not have service.⁴⁵ The RF modeling of cell coverage by existent towers⁴⁶ exposes the current coverage of the “gap,” and the

³⁷ The [ITM was federally developed](#) by the National Telecommunications and Information Administration (NTIA). ¹¹ See EXHIBIT A(e) ¹² *Ibid*.

³⁸ See EXHIBIT A(c)

³⁹ ASR Registration [No. 1287635](#)

⁴⁰ See SLT [Wireless Telecommunications Facility Table](#)

⁴¹ See SLT [Wireless Telecommunications Facility Map](#)

⁴² See EXHIBIT A(c)

⁴³ SLT Verizon Ski Run Blvd Coverage maps, File 19-026, [all page](#).

⁴⁴ See MyStreetMyChoice [“Proof of No Significant Gap in Verizon Wireless Telecommunications Coverage”](#)

⁴⁵ *Ibid*.

⁴⁶ See EXHIBIT A(A)(e)

empirical call tests⁴⁷ validate the model output. Verizon appears to have altered and hid the orientations of its existent cell panel antennas in its own analysis— which substantially differ from that in the public record²³—in a material misrepresentation contributing to the City government’s belief that the Ski Run macro tower site is necessary to close its contrived “service gap.”

Misrepresentations of Visual Impact

Third, Verizon grossly misrepresented the visual impact the proposed tower would have on the neighborhood in its photo simulations.⁴⁸ This crucial point is material to a determination by city planners that the tower would not be injurious to the neighborhood, is consistent with its existing character, or otherwise “will pose only minimal impact on neighboring properties.”^{49,50} The tower will initially be 112-feet tall, with statutory²⁶ allowance for extension to 132 feet that the lessee intends to implement. The tallest trees are all located substantially downhill from the tower, giving them a relative height that is substantially below the purported maximum height of 82 feet.^{51,52} Verizon led the city to believe the tower will only extend 30 feet above the treeline, but because it appears to have fabricated tree heights⁵³ of the steep slope, it will effectively outlie by nearly 50-feet, before the inevitable co-location extension to a functional 70-foot height differential.³⁰ This gross misrepresentation is material to the city’s findings on negligible impact and injury to neighborhood.

Misrepresentations of SEZ Impacts

Fourth, it appears that Verizon failed to disclose, hid, and misrepresented descriptions of the construction project that are material to whether the facility would have “a potentially substantial adverse change in the environment.”⁵⁴ Verizon completely neglected the legal significance of a Stream Environment Zone

⁴⁷ See MyStreetMyChoice “[Proof of No Significant Gap in Verizon Wireless Telecommunications Coverage](#)”

²³ See [Cell Tower Mapper](#)

⁴⁸ SLT Verizon Wireless Response to Appeal, File 19-026, [Exhibit A](#)

⁴⁹ SLT Verizon Wireless Response to Appeal, File 19-026, [page 4](#)

⁵⁰ U.S.C. § 1455(a)

⁵¹ SLT Verizon Wireless Response to Appeal, File 19-026, [Exhibit D](#).

⁵² See EXHIBIT A(A)(a)

⁵³ See EXHIBIT A(A)(a). See also TRPA LiDAR tree heights, and 2013 AT&T measured tree heights

³⁰ See EXHIBIT A(A), Figure a.

⁵⁴ [CA. PRC. § 21068](#)

(SEZ)⁵⁵ within 120 feet directly downhill of the site. There will be construction, a permanent diesel tank⁵⁶ which runs against the city’s stream/water quality/HAZMAT policy,⁵⁷ pertaining to a stream which flows directly into Lake Tahoe. This is material to whether a study under the California Environmental Quality Act (CEQA)⁵⁸ is a prerequisite to permit approval and commencing construction. California regulation sets threshold requirements for exemptions for “residential infill projects,” one of which is that the site of the project “does not contain wetlands.”⁵⁹ The parcel certainly contains wetlands and demolition and construction are planned to occur in the SEZ in order to reallocate TRPA coverage⁶⁰ therein to the tower facility. It would be absurd to conclude there is no potential for substantial, adverse change in the environment,⁶¹ as a leak or spill from the diesel tank would foreseeably seep down the steep slope, contaminating the soil, the upper streambed of the Bijou Park Creek Watershed and SEZ Restoration Project⁶²—within which is an apparent TRPA-designated waterfowl population site,⁶³ and then inevitably Lake Tahoe. Whatever the risk, the consequence would be *catastrophic*. Additionally, substandard, ignorant, or unmitigated construction practices could leave loose or contaminated soil that would cause toxic turbidity⁶⁴ in the creek.

False Claims

Fifth, Verizon claimed the nearest home is 250 feet away,⁶⁵ but it measures around 89 feet away. This is close enough to have adverse insurability and FHA loan implications⁶⁶—which is material to the issue of injury. Having been

⁵⁵ SLT General Plan, [Policy NCR-2](#)

⁵⁶ SLT Verizon Wireless Response to Appeal, File 19-026, [GPA Page 4](#)

⁵⁷ SLT General Plan, [Policy NCR-2.2](#)

⁵⁸ [California Public Resources Code § 21000 et seq.](#), and [California Code of Regulations Title 14 § 15000 et seq. 14 CCR § 15192](#)

⁵⁹ *ibid.*

⁶⁰ Land coverage is an essential element of the TRPA’s environmental plan to protect Lake Tahoe. See [link](#).

⁶¹ [CA. PRC. § 21068](#)

⁶² Upper Bijou Park Creek Watershed and SEZ Restoration Project, [TRPA Project No. 01.01.01.0118](#)

⁶³ TRPA 2015 Threshold Evaluation – Wildlife, [Page 8-6](#)

⁶⁴ EPA website on [Water Monitoring & Assessment](#)

⁶⁵ SLT Verizon Wireless Response to Appeal, File 19-026, [GPA Page 4](#)

⁶⁶ See EXHIBIT A, Campanelli Brief, [page 9 & footnote 5](#)

challenged, Verizon then blatantly misinformed the City⁶⁷ by trying to spin the distance *exclusive* of homes into an *inclusive range*,⁶⁸ which is clearly not what they initially claimed.

Finally, Verizon frivolously asserted the Ski Run cell tower will cause no increase in emissions, and that opponents are confused about the difference between particle and radiation emissions.⁶⁹ Federal, state, and local governments^{70,71} are allowed to regulate *particle* emissions which do impact the environment. Dirty diesel generators certainly release noxious particle emissions,⁴⁹ as well as electrically associated greenhouse gas emissions to continuously run a transmitter with 47,090 watts⁷² of *effective* radiative power (or 187.2 kilowatt-hours per day)—a sizeable fraction per day of the power a household will use in an entire month.⁷³ The city policy is to reduce net power consumption,⁷⁴ and there was no analysis of the impact on the city’s energy consumption goals.⁵³

B. VERIZON’S PRESENTATION OF MISLEADING AND FALSE EVIDENCE

Below is a presentation which shows that Verizon presented false and misleading evidence from its “expert witnesses” and reports. It also demonstrates that neither the TRPA staff officer nor the Hearings Officer performed due diligence. At a minimum, the staff officer or the hearings officer ought to have physically printed-out [Verizon's visual simulations](#) and actually taken them to the physical vantage points for an actual comparison. They would have discovered that the simulations misplace the Cell Tower's location by over 2,000 feet, and hence are patently untrue:

⁶⁷ SLT Verizon Wireless Response to Appeal, File 19-026, [GPA Page 4](#)

⁶⁸ SLT Verizon Wireless Response to Appeal, File 19-026, [page 6](#)

⁶⁹ *ibid.*

⁷⁰ SLT General Plan, [Policy NCR-5](#)

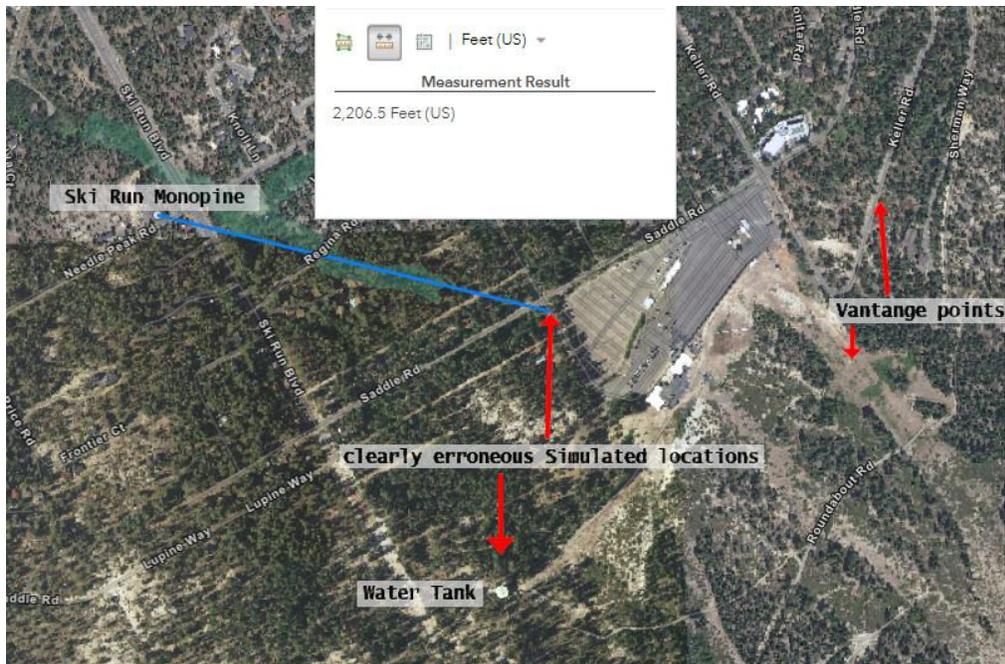
⁷¹ [U.S.C. §7412\(b\)](#)

⁷² See Exhibit A(g)(iv), Hammett & Edison, Inc., [evaluation of 1360 Ski Run Blvd small cell](#).

⁷³ US Energy Information Administration reports [average monthly electricity consumption as 914 kWh per home](#).

⁷⁴ SLT General Plan, [Policy NCR-5.12](#) *et. seq.* ⁵³

SLT General Plan, [Policy NCR-6](#)



The photo simulations ought to appear **clearly erroneous** even to the layperson such as a jury; whereas Verizon has long made its bread and butter counting on public officials not being able to recognize highly technical electrical and network engineering falsehoods that are **clearly erroneous** to the "technically literate." This erroneous photo impeaches the veracity of Verizon's experts, including its electrical and network engineers who are engaging in the same conduct. In any case, the TRPA may not rely on **clearly erroneous** or outright **implausible** assertions of fact by the applicant in making its own findings:

See, [*Motor Vehicle Manufacturers Association v. State Farm Auto Mutual Insurance Co.*](#), 463 U.S. 29, 42-44 (1983) (holding an agency decision is arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise; a court should [...] invalidate agency determinations that fail to “examine the relevant data and articulate a satisfactory explanation for [the] action including a ‘rational connection between the facts found and the choice made.’” When reviewing that determination, courts must “consider whether the decision was based

on a consideration of the relevant factors and whether there has been a clear error of judgment”).

See also, United States v. Dierckman, 201 F.3d 915, 926 (7th Cir. 2000) (quoting *Bagdonas v. Dep’t of the Treasury*, 93 F.3d 422, 426 (7th Cir. 1996)); *Allied-Signal, Inc. v. Nuclear Reg. Comm’n*, 988 F.2d 146, 152 (D.C. Cir. 1993) (agency must be able to provide the “essential facts upon which the administrative decision was based” and explain what justifies the determination with actual evidence beyond a “conclusory statement”).

Also, [the staff officer wrongly stated](#), "TRPA has not received any such proof of adverse impacts of RF particular to Tahoe and therefore will not reexamine the determinations of the FCC." (TRPA staff recommendation to hearings officer, p.4). Notwithstanding the legal threshold of "proof," the TRPA **does not** need us to prove certainty to show that RF radiation or microplastic pollution will or actually is affecting the environment—under NEPA:

[40 C.F.R. § 1508.1\(b\)](#) (Affecting means will or may have an effect on); [American Bird Conservancy, Inc. v. F.C.C.](#), 516 F.3d 1027, 1033-1034 (2008) (a precondition of certainty before initiating NEPA procedures would jeopardize NEPA's purpose to ensure that agencies consider environmental impacts before they act rather than wait until it is too late); [Sierra Club v. Norton](#), 207 F.Supp.2d 1310, 1336 (2002) (Under NEPA, an agency cannot use the lack of existing information as a basis for acting without preparing an EIS).

The TRPA uploaded, at the last moment before the October 14 hearing, [new photosimulations \(Oct. 12, 2021\)](#) to the [hearings materials](#). These simulations are not only deficient, but patently false. We point out the outrageous errors:

PHOTOSIMULATION VIEWPOINT 4



DISCLAIMER: THIS PHOTOSIMULATION IS INTENDED AS A GRAPHICAL REPRESENTATION OF EXISTING AND PROPOSED SITE CONDITIONS BASED ON THE PROJECT / DRAWING PLANS. IT IS NOT INTENDED FOR CONSTRUCTION. ACTUAL FINAL CONSTRUCTION MAY VARY.

The photo simulations (above and below), by [SAC Wireless](#) were rushed out recently. It is unclear whether or not the company took these photographs themselves or were provided the photographs by local Verizon employees or the Tahoe Prosperity Center, but what is indisputable is that: (1) they did not know the location of the proposed site from the vantage point and their photographer did not know how to use a map and compass or a [theodolite app](#) to take a basic bearing to the well mapped intersection of Ski Run and Needle Peak, and did not care; or (2) they intentionally made a false claim. It is astonishing how a photosimulation by a so-called visual expert could be so recklessly inaccurate, and calls into grave doubt the validity of any of the testimony by their so-called experts. The TRPA Governing Board and the District Court should know that Verizon will put their expert's credibility on the line by paying them to make outrageously false claims.

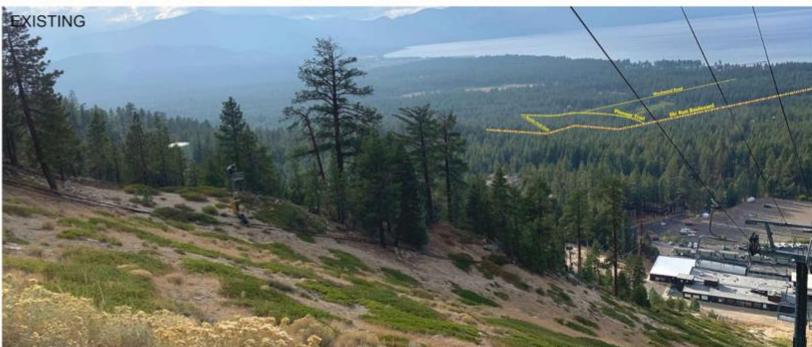
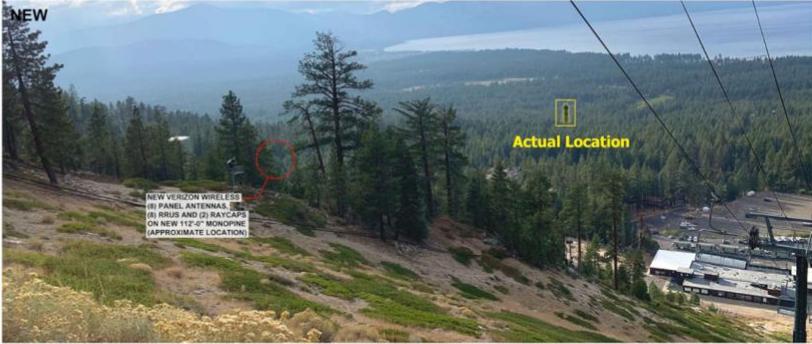
We have drawn the roads onto their photo simulations as a georeference, to show just how incredibly inaccurate their testimony is:

DATE: 10/12/2021

verizon
SKI RUN BLVD
PSL # 444780
1360 SKI RUN BLVD
SOUTH LAKE TAHOE, CA 96150

SOC
WIRELESS
3455 ACTIVITY ROAD
SAN DIEGO, CA 92130
www.soc.com

PHOTOSIMULATION VIEWPOINT 5



DISCLAIMER: THIS PHOTOSIMULATION IS INTENDED AS A GRAPHICAL REPRESENTATION OF EXISTING AND PROPOSED SITE CONDITIONS BASED ON THE PROJECT / DRAWING PLANS. IT IS NOT INTENDED FOR CONSTRUCTION. ACTUAL FINAL CONSTRUCTION MAY VARY.

This is not a new playbook. The federal caselaw is full of evidence where telecoms have presented photographs from carefully selected angles that would minimize the tower's apparent visibility in the neighborhood, which were dispelled by photo simulations from the vantage point of adjacent residences proving actual injury (*AT&T Wireless PCS, Inc. v. Winston-Salem Zoning Bd. of Adjustment*, 172 F.3d 307, 315-316 (4th Cir. 1999)):

[11] The record indicates that the Zoning Board, in its denial of AT & T's application, considered the tower's visual impact on the surrounding neighborhood and its effect on the historical value of the Hanes House. As to visibility, the record shows that the tower would only be 500 feet away from the nearest residence. The 148-foot tower would be the first of its kind in the area and would rise well above the tree line of 60-85 feet in the neighborhood. Eight neighborhood residents testified that the tower would have negative impact on the aesthetics and overall integrity of the neighborhood. They expressed their legitimate concern that the neighborhood would become less desirable with the tower and that there would be a detrimental impact on local homeowners. One resident testified that, in his experience as a mortgage banker, the tower would adversely affect the resale value of the homes surrounding it.⁵ The record shows *316 that, AT & T's evidence to the contrary, the tower would become increasingly visible as one moved farther away from the site or if one viewed the tower from the local roads. There was evidence that AT & T took photographs from carefully selected angles that would minimize the tower's apparent visibility in the neighborhood and that, in reality, the tower would be in plain sight from neighborhood homes. There was testimony that the tower's visibility would increase during the winter months as the local, deciduous trees lost their leaves. And, the Zoning Board considered a petition signed by 145 local residents who opposed AT & T's application.

APPENDIX VI
Memorandum From Dr. Martin Pall

Role of low intensity electromagnetic fields (EMFs) on levels of plant terpenes and terpene peroxides: Probable role in California and other “wildfires.”

Document prepared by Martin L. Pall, Professor Emeritus of Biochemistry and Basic Medical Sciences, Washington State University.

There are two main concerns explored here:

1. EMFs can raise the levels of terpenes in plants, including the levels of monoterpenes and sesquiterpenes which are highly volatile and highly flammable. Consequently EMF exposed plant materials may burn at much higher temperatures than would non-exposed plant materials.
2. EMFs also raise oxidative stress in plants and the free radicals involved in oxidative stress can, in the presence of molecular oxygen from the air, cause terpenes to undergo autoxidation to form terpene hydroperoxides which are explosive. Consequently, EMF exposed plant materials may burn explosively, leading to extremely rapid spread of fires.

Accordingly, the primary mechanism of action of low intensity EMFs in plants will be discussed, how that mechanism leads to increased terpene production in plants and also how that primary mechanism can lead to the production of terpene hydroperoxides which can burn explosively.

The primary mechanism by which EMFs produce effects in plants:

Goldsworthy 2006 reviewed studies showing that many EMF plant effects involved increased intracellular calcium. Pall, 2016 showed that calcium influx through a channel produced those EMF effects.

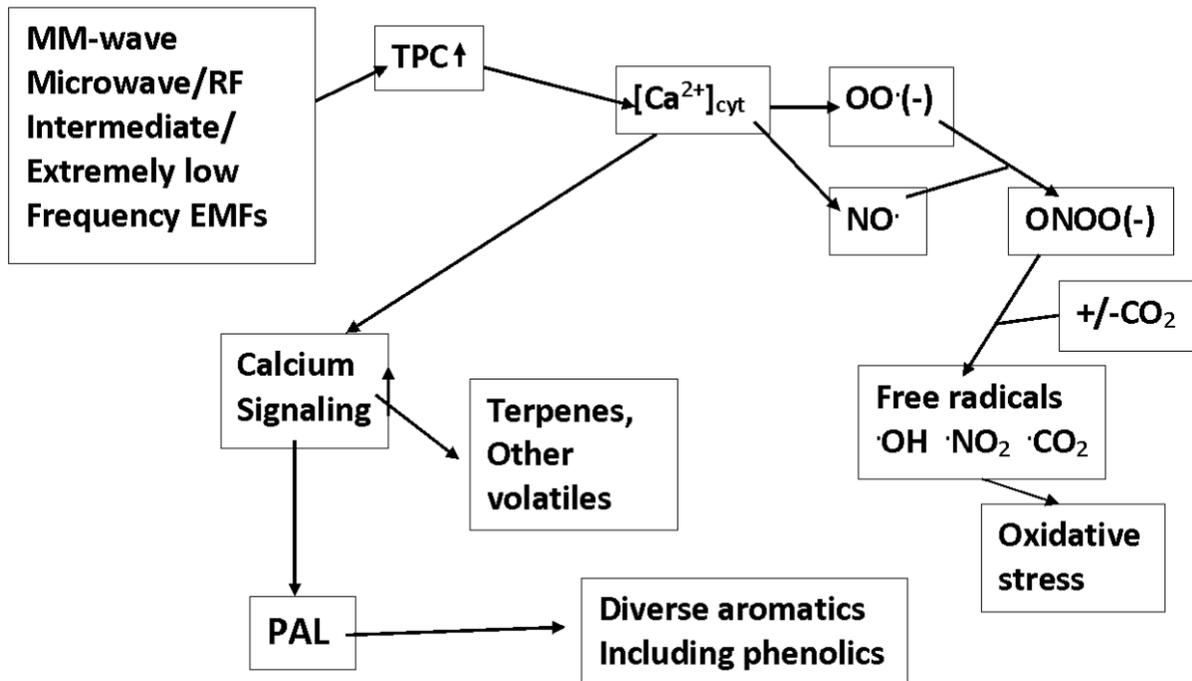


Figure 1. Several responses produced by EMFs in plants that relate to flammability and fires.

[Ca²⁺]_{cyt} = intracellular calcium; NO· = nitric oxide; OO·(-) = superoxide; ONOO(-) = peroxynitrite; ·OH = hydroxyl radical; ·NO₂ = NO₂ radical.

The parts of this Figure most relevant to this document are the increased production of terpenes and the peroxynitrite/free radical/oxidative stress pathway.

Pall, 2016 showed that EMF effects in plant cells and tissues could be blocked by putting cells into calcium-free medium or by putting a calcium chelator into the medium or by using a calcium channel blocker. These findings showed that EMF effects in plants acted by activating a plasma membrane calcium channel, a conclusion also supported by findings that EMF exposures in plant cells and tissues produced large increases in measured intracellular calcium levels. It has been shown that electronically generated low intensity EMFs are coherent, producing vastly higher electric and magnetic forces than do natural, incoherent EMFs (Pall, 2021). Those forces act on the voltage sensor controlling voltage gated calcium channels (VGCCs) in animal cells, opening up the VGCCs and producing increased intracellular calcium. The plant findings (Pall, 2016) were interpreted, suggesting that the so-called TPC channels in plants which contain a similar voltage sensor were also activated by electronically generated EMFs such that EMFs act in plants, similarly to how they act in animals.

Several effects of EMFs in plants are diagrammed in Fig. 1, showing how increased intracellular calcium levels in plants produce each effect shown.

Review articles on EMF-caused effects in plants cited here show that low intensity EMF produce large increases in calcium signaling (Kaur et al 2021, Vian et al, 2006 & 2016), increases in

oxidative stress (Halgamuge 2017, Kaur et al 2021, Vian et al, 2006 & 2016), increases in terpenes and other volatiles (Halgamuge 2017, Kaur et al 2021, Vian et al, 2006 & 2016).

Calcium in plants act to increase the enzyme activity of enzymes involved in terpene synthesis (Hu et al, 2015; Mohanta et al, 2012; Pintus et al, 2010; Vian et al, 2006 & 2016). It follows from this that we not only know that EMFs acting via increased intracellular calcium to produce increased terpenes, and we also know how the increased terpene levels are produced.

EMFs Greatly Increase the Production of Terpene Hydroperoxides and Secondary Oxidized Terpene Metabolites

Terpenes are very highly susceptible to autoxidation (also known as peroxidation) in the presence of oxygen in the air, forming high amounts of hydroperoxyl radicals and also hydroperoxides, each of which can break down to form secondary oxidation metabolites (Bäcktorp et al, 2008; Christensson et al, 2010; Calandra & Wang, 2020). The chemistry of terpene autoxidation is particularly well described by (Bäcktorp et a, 2008). The initial step is that a CH group in the hydrocarbon chain undergoes hydrogen abstraction cause by attacks of free radical. Hydroxyl radicals are particularly active in producing hydrogen abstraction. Hydroxyl radicals are breakdown products of peroxyxynitrite whose levels are very greatly elevated by EMFs acting via excessive intracellular calcium in plants, as shown in Fig. 1. Other free radicals including carbonate radical and peroxy radicals can cause hydrogen abstraction, as well. CH bonds, when they occur in CH groups adjacent to carbon-carbon double bonds in 5 carbon rings are extraordinarily susceptible to hydrogen abstraction because of the stresses on the structures involved. These and other stressed structures in terpenes are what makes them especially susceptible to hydrogen abstraction causing terpenes, in turn, to be very highly susceptible to autoxidation (peroxidation). As discussed in Bäcktorp et a, 2008, the terpene carbon centered radicals produced by hydrogen abstraction react with molecular oxygen (O₂) from the air to produce a terpenoid peroxy radical. The peroxy radical can subsequently produce hydrogen abstraction from another terpene, producing large chain reactions (Bäcktorp et a, 2008). Secondary oxidation products including terpenoid epoxides and formates are also produced from the terpene hydroperoxides.

A very large number of organic peroxides are explosive and how explosive they are when they burn can be predicted from their chemical structure (Sato et al, 2011; Yoshida et al, 1985). The hydroperoxides produced from monoterpenes and sesquiterpenes can be predicted to be quite explosive from the ratio of reductive to oxidative activity of these terpene hydroperoxides (Sato et al, 2011; Yoshida et al, 1985).

Citations:

Bäcktorp C, Hagvall L, Börje A, Karlberg A-T, Norrby P-O, Nyman G. 2008. Mechanism of air oxidation of the fragrance terpene geraniol. *J Chem Theory Comput* 4:101-106.

Calandra MJ, Wang Y. 2020. Oxidative decarboxylation of 2-oxoacids by hydroperoxides can be used to lower peroxide values in citrus oils. *Flavour Fragr J* 35: 107-113.

Christensson JB, Matura M, Gruvberger B, Bruze M, Karlberg AT. 2010 Linalool--a significant contact sensitizer after air exposure. *Contact Dermatitis* 62:32-41.

Goldsworthy A. 2006. Effects of electrical and electromagnetic fields on plants and related topics. Chapter 11 in *Plant Electrophysiology – Theory and Methods* (Volkov, ed.), Springer-Verlag Berlin Heidelberg, 2006, pp 247-267.

Halgamuge MN, 2017. Review: weak radiofrequency radiation exposure from mobile phone radiation on plants. *Electromag Biol Med* 36: 213-235.

Hu ZH, et al. 2015. Ca²⁺ signal contributing to the synthesis and emission of monoterpenes regulated by light intensity in *Lilium 'siberia.'* *Plant Physiol Biochem* 91: 1-9.

Kaur S, Vian A, Chandel, S, Singh HP, Batish DR, Kohli RK. 2021. Sensitivity of plants to high frequency electromagnetic Radiation: cellular mechanisms and morphological changes. *Rev Environ Sci Biotechnol* 20: 55-74.

Mohanta TK, et al. 2012. *Ginkgo biloba* responds to herbivory by activating early signaling and direct defenses. *PLOS One* 7(3), e32822.

Pall ML. 2016. Electromagnetic fields act similarly in plants as in animals: Probable activation of calcium channels via their voltage sensor. *Curr Chem Biol* 10: 74-82.

Pall ML. 2021. Millimeter (MM) wave and microwave frequency radiation produce deeply penetrating effects: the biology and the physics. *Rev Environ Health*

Pintus F et al. 2010. *Euphorbia latex* biochemistry: Complex interactions in a complex environment. *Plant Biosys* 144: 381-391.

Sato, Y; Akiyoshi, M; Miyake, A Matsunaga, T. 2011. Prediction of explosibility of self-reactive materials by calorimetry of a laboratory scale and thermochemical calculations. *Science Technol Energetic Mater* 72: 97-105.

Vian A, Roux D, Girard S, et al 2006. Microwave irradiation affects gene expression in plants. *Plant Signal Behav* 1: 67-70.

Vian A, Davies E, Gendraud M, Bonnet P. 2016. Plant responses to high frequency electromagnetic fields. *BioMed Res Int* 2016; Article ID 1830262.

Yoshida T, Muranaga K, Matsunaga T, Tamura M. 1985. Evaluation of explosive properties of organic peroxides with a modified MK-III ballistic mortar. *J Hazard Mater* 12: 27-41.

APPENDIX VII

Heidi Hill-Drum Email October 15, 2019

Subject: Heidi Hill-Drum to Monica Oct. 15, 2019 re: Cell Tower Maps
Date: Wednesday, December 1, 2021 at 10:19:05 AM Mountain Standard Time
From: Ben Levi
Attachments: image001.png, image002.png

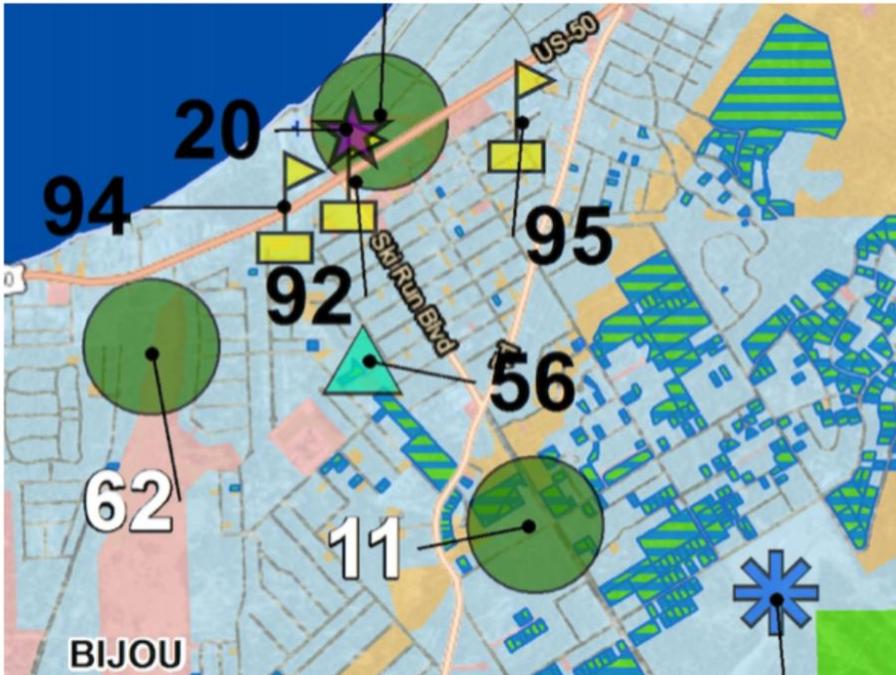
From: Heidi Hill Drum <heidi@tahoeprosperty.org>
To: Monica Eisenstecken <monicalaketahoe@yahoo.com>
Cc: Frank Rush <frush@cityofslt.us>; Ben Lebovitz <benjaminlebovitz@gmail.com>
Sent: Tuesday, October 15, 2019, 03:25:56 PM PDT
Subject: Re: Maps

Hello Monica,

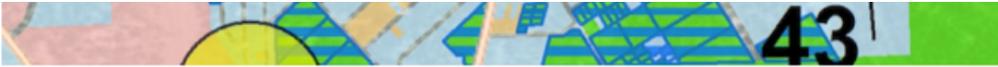
The cell tower maps are not printed and they are for internal use only as part of our Connected Tahoe project. I can share the screen shot of the green dot (#11) on the image below, which is the tower at 1360 Ski Run Blvd. Green dots means a priority site. None of the dots, nor numbers outline which provider, because, in order to ensure that each provider was able to maintain their competitive business advantage, we agreed to code them. I am happy to meet with you in person (as I also offered to do with Ben) and show you the maps on my computer, but they are for internal planning use only. They are also a few years old now as we started this project five years ago.

For reference:

Site 43 on the map is an existing tower at Heavenly, but does not provide coverage to all of Ski Run or inside the buildings. It is a co-located tower, which we required as part of our agreement with the providers. The yellow flags are micro-towers on rooftops, but they do not provide the level of coverage needed for everyone, nor the capacity for our heavy visitation periods. Site 56 (teal triangle) is a KRLT radio tower. You will also note that the other green dots (62 and 20) are priorities as this part of town is generally underserved. I can speak to that as my kids attended Bijou and none of our cell phones worked inside the school.



Page 1 of 2



Expansion Site Priority

-  Long Term
-  Medium Term
-  Short Term
-  Site ID Code
-  Tower Site ID Code

Again, as Frank has mentioned, we are working with other property owners to see if we can find a suitable, alternate location for Verizon and move the tower away from your neighborhood. But, if we are unsuccessful, I hope at least you know that much time, research and thought has gone into each proposed site. It has been an ongoing project for us for five years with, unfortunately little success due to the lengthy permit process, additional TRPA regulations, and the normal engineering and planning that happens here in Lake Tahoe.

Heidi Hill Drum

CEO, www.tahoeprosperty.org



T: 775-298-0265

M: 530-545-9095

E: heidi@tahoeprosperty.org



Uniting Tahoe's Communities to Strengthen Regional Prosperity

Attachment F

Verizon Wireless Letter, dated March 4, 2022

MACKENZIE & ALBRITTON LLP

155 SANSOME STREET, SUITE 800
SAN FRANCISCO, CALIFORNIA 94104

TELEPHONE 415 / 288-4000
FACSIMILE 415 / 288-4010

March 4, 2022

VIA EMAIL

Governing Board
Tahoe Regional Planning Agency
128 Market Street
Stateline, Nevada 89449

Re: Verizon Wireless Response to Appeal, File No. ERSP2019-0389
Telecommunications Facility, 1360 Ski Run Boulevard, South Lake Tahoe
Governing Board Agenda, March 23, 2022

Dear Board Members:

We write on behalf of Verizon Wireless to request that you uphold the Hearing Officer's approval of a wireless facility camouflaged as a pine tree (the "Approved Facility") and deny the appeal filed by Monica Eisenstecken *et al.* ("Appellants"). The Approved Facility will provide new, reliable wireless service to the Heavenly Valley and Bijou Park areas of South Lake Tahoe. The Hearing Officer confirmed that the Approved Facility satisfies all requirements for approval by the Tahoe Regional Planning Agency ("TRPA") set forth in the Code of Ordinances (the "Code"). In 2019, the South Lake Tahoe City Council approved the facility, rejecting an appeal filed by the same principal appellant.

The Board should uphold the Hearing Officer's decision and deny the appeal because the Approved Facility complies with all Code requirements and the Hearing Officer's decision was supported by substantial evidence. The appeal does not identify any legitimate basis for overturning the Hearing Officer's decision. Furthermore, because the Approved Facility will fill a significant gap in Verizon Wireless service, and there is no less intrusive feasible alternative, denial would violate the federal Telecommunications Act. We urge you to reject the appeal and approve the Approved Facility.

I. Project Description

After identifying a significant gap in its service coverage in the Heavenly Valley and Bijou Park areas of South Lake Tahoe, Verizon Wireless searched for the ideal location for a new tower facility to serve the area. The Approved Facility has been thoughtfully designed to minimize any impact to the community. Verizon Wireless proposes to place its panel antennas on a 112-foot tower camouflaged as a pine tree. The

antennas will be concealed within faux foliage and branches, and branches will extend above and beyond the antennas, providing a realistic tapered crown. Antennas will be covered with pine needle socks for further concealment. The tree pole will be placed within a 624 square foot leased area, next to a new 270 square foot equipment shelter designed as a small shed, with a pitched roof and slatted siding. Behind the shed, away from the road, a backup generator will provide continued service in case of power outages or emergencies. The monopine has been designed to accommodate collocation of additional antennas by another wireless carrier beneath Verizon Wireless's antennas. AT&T has informed TRPA that it plans to collocate on the Approved Facility.

A report by Hammett & Edison, Inc., Consulting Engineers, attached as Exhibit A, confirms that radio frequency exposure from the Approved Facility will fully comply with Federal Communications Commission ("FCC") guidelines.

II. The Approved Facility Satisfies All TRPA Code Requirements.

As confirmed by the Hearing Officer, the Approved Facility satisfies all requirements for approval according to the Code. Transmission and receiving facilities are permitted with a special use permit in Plan Area 085–Lakeview Heights. The facility height of 112 feet is necessary to elevate the antennas installed by Verizon Wireless and the future collocating carrier above surrounding trees. There are no other feasible alternatives, as confirmed by the Alternatives Analysis and Supplemental Alternatives Analysis attached as Exhibits B and C. For these reasons, TRPA can approve findings for increased height for a communication tower. Code §§ 37.6.2, 37.7.4, 37.7.7.

As to scenic quality, the Approved Facility will pose minimal impact from distant vantage points along Pioneer Trail and the Heavenly Valley Ski Resort. The tower will be designed to resemble a pine tree with a tapered form, ample branch density and bark cladding to achieve a realistic appearance. The tree pole will be placed among numerous established evergreen trees on the property ranging up to 85 feet in height south of the facility along Needle Peak Boulevard, and 98 feet farther east along Ski Run Boulevard. Tree heights are shown in the site plan attached as Exhibit D.

The Approved Facility meets all TRPA findings of approval, including the Chapter 4 general findings, the Chapter 21 special use findings, and the Chapter 50 public service facility findings. For example, the Approved Facility will not adversely affect the Regional Plan, including the land use and scenic quality elements, as confirmed by the Hearing Officer. Code § 4.4.1. The facility will have a footprint of only 624 feet and it will employ a camouflaged design, with a location among tall established evergreen trees. Therefore, the Approved Facility will be limited in scale, density and intensity, and will be an appropriate use for the parcel and surroundings. Likewise, it will not be injurious to the health, safety, or general welfare of the neighborhood, nor will it change neighborhood character. Code § 21.2.2. There is a need for this public service facility because there is a significant gap in Verizon Wireless service in the vicinity, and customer data demand is increasing rapidly, as confirmed by the *Statement of Verizon*

Wireless Radio Frequency Design Engineer Charlie Schwartz, attached as Exhibit E.
Code § 50.8.1.

In sum, the Approved Facility complies with all TRPA approval requirements.

III. The Hearing Officer’s Decision Was Based on Substantial Evidence, and Appellants Do Not Provide Any Substantial Evidence to Warrant Denial.

The Code requires that the Board’s findings “shall be in writing and shall be supported by substantial evidence in the record of review.” Code § 4.3.1. Findings must include “a brief statement of the facts and rationales upon which they are based.” Code § 4.3.2.

Similarly, the federal Telecommunications Act requires that a state or local government’s denial of a wireless facility application must be based on substantial evidence in a written record. *See* 47 U.S.C. § 332(c)(7)(B)(iii). As interpreted under controlling federal court decisions, this means that denial of an application must be based on requirements set forth in the local code and supported by evidence in the record. *See Metro PCS, Inc. v. City and County of San Francisco*, 400 F.3d 715, 725 (9th Cir. 2005) (denial of application must be “authorized by applicable local regulations and supported by a reasonable amount of evidence”). While a local government may regulate the placement of wireless facilities based on aesthetics, mere generalized concerns or opinions about aesthetics or compatibility with a neighborhood do not constitute substantial evidence upon which a local government could deny a permit. *See City of Rancho Palos Verdes v. Abrams* (2002) 101 Cal.App.4th 367, 381.

While Appellants submitted numerous arguments challenging the Approved Facility, they did not present any substantial evidence that warrants denial. Below, we respond to Appellants’ arguments.

A. The Approved Facility Complies with TRPA’s Land Coverage and Capability Requirements.

Appellants attempt to sow doubt about the boundary of land capability classes 1a and 1b (stream environment zone) on the subject parcel, implying that the boundary was moved to accommodate the Approved Facility. However, the boundary was verified in 2005 (File 20050471STD) as shown on the site plan attached as Exhibit D, and it has not changed since. Verizon Wireless’s survey of land coverage, approved by TRPA on May 11, 2021, and attached as Exhibit F, also depicts that boundary established in 2005. Contrary to Appellants’ claim, Verizon Wireless’s proposal will not impact the Class 1b district that occupies approximately one-quarter of the parcel along the northeast side, over 100 feet away from the Approved Facility.

Appellants also allege that the subject parcel is “massively over-covered,” but they concede that much of the allowed land coverage is grandfathered. Staff’s May 11, 2021 verification of land coverage corrected prior inaccuracies and confirmed the existing coverage in both the Class 1a and 1b land capability districts on the parcel.

According to the Hearing Officer’s Staff Report, the approximately 736 square feet of coverage required for the Approved Facility will be reallocated from elsewhere in the parcel’s Class 1a district by removal of buildings, a concrete walkway, and a parking area. In fact, the proposal will result in a net reduction of 53 square feet of land coverage. The Staff Report also confirmed that all changes in land coverage will be confined within the Class 1a land capability district, with none in the Class 1b district.

In sum, the Approved Facility will comply with TRPA’s land capability and coverage standards, and Appellants’ unfounded claims must be dismissed.

B. The Code Requires That the Approved Facility Be Evaluated on Its Own Merits.

Appellants claim throughout their appeal that the Approved Facility is part of a larger initiative, and, if approved, the Approved Facility will set some sort of irreversible precedent. These claims are frivolous and non-sensical.

First, Appellants misdirect an attack on the Tahoe Prosperity Center’s “Connected Tahoe” project at TRPA and the Approved Facility. Appellants’ complaints regarding “Connected Tahoe” are perplexing, as it is not a TRPA regulation, initiative, or plan. Appellants claim that “TRPA Has Responsibility to Study Immediately Available Alternatives to the Connected Tahoe Plan,” which is impossible, when TRPA has adopted no such plan. Appeal at p. 28.

Appellants’ claims regarding the precedential value of the Approved Facility are similarly unsupported. Indeed, even in making this claim, Appellants contradict their own claims. They claim that the Approved Facility “will establish a critical and irreversible precedent” while also complaining about the “hundreds of permits already allowed or envisioned” in “the entire Tahoe Region.” Appeal at p. 1.

TRPA’s Compact requires it to review every application on its own merits. Indeed, TRPA must “review or approve any project, public or private” and take “final action by vote, where to approve, to require modification or reject such project, within 180 days after the application for such project is accepted as complete by the agency in compliance with the agency’s rules and regulations. . . .” TRPA Compact § III(g); Code Rules of Procedure § 5.5.

C. The National Environmental Policy Act is Irrelevant to TRPA’s Decision.

As a preliminary matter, the National Environmental Policy Act (42 U.S.C. §§ 4321-4347) (“NEPA”) and its requirements regarding environmental impact statements do not apply to TRPA. 42 U.S.C § 4332(2) (applying NEPA to “all agencies of the Federal Government”); *Glenbrook Homeowners Ass’n v. Tahoe Regional Planning Agency*, 425 F.3d 611, 615 (9th Cir. 2005) (finding that TRPA is not a federal agency to which NEPA applies). However, TRPA’s compact provides for its own environmental review. TRPA has prepared an Initial Environmental Checklist, and the Hearing Officer made a finding of no significant effect, as recommended by staff. *See Staff Report to TRPA Hearings Officer*, File No, ERSP2019-0389, October 7, 2021, pp. 1, 2; TRPA Code of Ordinances, Chapter 4. The City of South Lake Tahoe also reviewed the Approved Facility with respect to the California Environmental Quality Act (Pub. Res. Code § 21000 *et seq.*) (“CEQA”), and it found the Approved Facility to be categorically exempt from further environmental review. Finally, the FCC, a federal agency subject to NEPA, issued a finding of no significant impact for the Approved Facility. *See FCC Antenna Structure Registration Application A1103190.*

D. The Approved Facility Will Not Pose a Toxic Waste Hazard.

Appellants claim that plastic needles falling from the Approved Facility will pose a toxic hazard and pollute Lake Tahoe. These claims are refuted in a technical memorandum by Integral Consulting Inc., attached as Exhibit G. The faux tree tower components, made of durable PVC, are “unlikely” to result in “significant breakdown . . . into microplastics that would lead to pollution of waterways.” Exhibit G, p. 1. Specifically, the report found that:

- The type of material used for monopine needles (PVC) is not a predominant source of microplastics found in water bodies.
- There is no evidence that monopine needles used on cell towers generate microplastics or pose a significant risk to water quality, fish, or wildlife.
- Migration of monopine needles from the proposed tower site into Lake Tahoe is unlikely.
- In the unlikely event that monopine needles would migrate downgradient, existing management plans to manage runoff, trash, and plastics will prevent transport plastics from the proposed tower via surface water transport to Lake Tahoe.
- Existing local barriers and planned maintenance will minimize any plastic accumulation or potential migration.

Exhibit G, p. 1.

The report concluded that “due to the nature of the materials (which are designed to be durable), the lack of environmental conditions that would facilitate degradation, the lack of transport pathways, and measures in place to reduce inputs from the watershed to the lake, pollution of the lake from monopine needles at the cell phone tower proposed for 1360 Ski Run Boulevard is unlikely.” Exhibit G, p. 1.

E. The Approved Facility Will Comply with Applicable Fire Safety Regulations.

Appellants allege that the Approved Facility will pose a fire hazard. Such concerns will be addressed by the local fire district because TRPA generally defers to local fire protection standards. Verizon Wireless must secure a building permit from the City of South Lake Tahoe Building Division. The Building Division will route the application to South Lake Tahoe Fire Rescue, where the City’s Fire Safety Inspector will evaluate fire safety requirements and well as compliance with the California Fire Code and National Fire Protection Association standards.

The property owner removed 30 trees on the parcel in 2021 that were identified by a forester as hazards because they were dead, dying or within defensible space. *See* TRPA Tree Removal Permit No. TREE2020-1260. The Approved Facility will improve emergency response during fires by ensuring reliable communication for residents, visitors, and emergency response personnel.

F. The Approved Facility Will Not Impact Endangered Species or Special Habitats.

Appellants request an environmental impact statement to address endangered species and special habitats, but this is not warranted. As discussed above in Section III(C), NEPA does not apply to TRPA. More importantly, the Approved Facility consists of a tower and equipment shed confined to a lease area of only 624 square feet on a developed property. The Approved Facility is not within a stream environment zone, and there are no special habitats designated on the site. Appellants’ complaints about monitoring of stream habitats in the greater area are irrelevant to this Approved Facility.

IV. Appellants Purposefully Misrepresent Verizon Wireless’s Application Materials.

While Appellants claim that Verizon Wireless and TRPA made misleading, erroneous or false claims, the Hearing Officer based their decision on accurate information carefully vetted by TRPA staff.

Appellants claim that cell towers have a “broadcast radius” of 12 to 18.5 miles, and they prepared their own coverage maps based on the “Longley-Rice Irregular Terrain Model” which was developed in the 1960s for broadcast television. Cellular networks provide two-way communications, and so work differently than broadcast television

which provides one-way communication. Most importantly, cell towers must receive low-power signals from cellular phones and other mobile devices, in addition to providing reliable signal to those devices. Verizon Wireless provides much of its data capacity with higher frequencies than used for broadcast television, and because higher frequencies do not travel as far, cellular facilities must be closer to users.

Verizon Wireless designs its network with advanced coverage modeling software that optimizes use of the frequencies it has licensed from the FCC by reusing those frequencies in geographically unique “cells” to create a “cellular network.” As the network matures, the size of each cell and the signal range of each facility is reduced to accommodate increased demand. Over time, cellular networks require more facilities closer together in order to meet the data demands of each user with the limited frequency spectrum available.

Appellants’ irrelevant maps exaggerate the coverage footprints of alternative sites, and they propose locations that are too close to existing and proposed Verizon Wireless facilities and cannot serve the significant gap, as explained in the Supplemental Alternatives Analysis attached as Exhibit C.

Opponents conducted their own signal level call tests, attempting to disprove Verizon Wireless’s coverage gap, but several federal courts have confirmed that such anecdotal data does not constitute substantial evidence of the absence of a network gap, particularly when such evidence conflicts with scientifically based propagation mapping and similar engineering data provided by the carrier. *See, e.g., T-Mobile Northeast LLC v. City of Lawrence*, 755 F. Supp. 2d 286, 292 (D. Mass 2010) (overturning denial based on lay opinion that existing coverage was adequate; “Unscientific, anecdotal evidence will not suffice to controvert the plaintiff’s evidence of a coverage gap”); *Nextel Communs. of the Mid-Atlantic, Inc. v. Town of Sudbury*, 2003 WL 543383 (D. Mass. 2003), 11-12 (overturning denial based on town’s “semi-scientific” test of coverage).

The project plans show an available antenna centerline of 90 feet for future collocation by another wireless carrier below Verizon Wireless’s antennas, so there is no need to increase the tower height, contrary to Appellants’ baseless accusation.

Appellants speculate, without support, that the diesel tank for the generator could leak and contaminate the nearby environment. The proposed Generac industrial diesel generator includes a double-walled fuel tank that complies with the UL-142 standard for above-ground liquid fuel storage, as required by the National Fire Protection Association. Appellants are wrong that the generator will be the sole power source for the Approved Facility. Aside from power outages or emergencies, the generator would be run only for occasional testing. For this reason, emissions from the generator will be minimal. Emergency generators are exempt from TRPA’s determinations of whether emissions sources have a significant adverse environmental impact. Code § 65.1.6(E).

V. Radio Frequency Exposure Complies with FCC Exposure Limits.

The Federal Communications Commission (“FCC”) has “comprehensive powers” over all types of radio communications and “federal primacy” over the technical aspects of such communications. See *Cohen v. Apple, Inc.*, 2020 WL 6342922, at *3, *10 (N.D. Cal. 2020) (describing the background of FCC regulation). Congress has determined that “it is in the national interest that uniform, consistent requirements, with adequate safeguards of the public health and safety” be established, and it tasked the FCC with adopting regulations that would “ensure an appropriate balance in policy” between the objectives of safety and the rapid deployment of wireless telecommunications services. *Id.* at *10.

While Congress preserved traditional state and local zoning authority, it expressly prohibited states, or instrumentalities thereof, from regulating radio frequency (“RF”) emissions based on health or environmental impacts in the 1996 amendments to the Communications Act. 47 U.S.C. section 332(c)(7)(B)(iv) establishes that “[n]o State or local government or instrumentality thereof may regulate . . . personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [FCC’s] regulations concerning such emissions.”

“Environmental effects” as used in this section includes both impacts on human health and the wider environment, including plants and wildlife. *T-Mobile Northeast, LLC v. Town of Ramapo*, 701 F. Supp. 2d 446, 460 (S.D.N.Y. 2009) (includes human health concerns); *Jaeger v. Cellco Partnership*, 2010 WL 965730, * 10 (D. Conn. 2010) (“The plain meaning of the term ‘environmental effects’ incorporates adverse effects on all biological organisms”).

In this case, a third-party engineering firm, Hammett & Edison, Inc., prepared a report evaluating the Approved Facility for compliance with the FCC’s exposure standards, attached as Exhibit A. Using “several ‘worst-case’ assumptions” that are “expected to overstate actual power density levels from the proposed operation,” the study found that the maximum calculated RF exposure for a person anywhere on the ground is 4.6% of the FCC’s exposure limits. Hammett & Edison Report at p. 2. The maximum calculated level at the second-floor elevation of any nearby building is 5.7% of the FCC’s public exposure limit. *Id.* at p. 3. Consequently, TRPA’s inquiry of RF emissions ends with this confirmation of compliance with the FCC’s standards.

VI. Approval is Required in Order to Avoid an Unlawful Prohibition of Service.

A local government’s denial of a permit for a wireless facility violates the “effective prohibition” clause of the federal Telecommunications Act if the wireless provider can show two things: (1) that it has a “significant gap” in service; and (2) that the proposed facility is the “least intrusive means,” in relation to the land use values

embodied in local regulations, to address the gap. *See T-Mobile USA, Inc. v. City of Anacortes*, 572 F.3d 987 (9th Cir. 2009).

If a provider proves both elements, the local government *must* approve the facility, even if there is substantial evidence to deny the permit under local land use provisions (which there is not in this case). This is because the provider has met the requirements for federal preemption; i.e., denial of the permit would “have the effect of prohibiting the provision of personal wireless services.” 47 U.S.C. § 332(c)(7)(B)(1)(ii); *T-Mobile v. Anacortes*, 572 F.3d at 999. To avoid such preemption, the local government must show that another alternative is available, technologically feasible, and less intrusive than the proposed facility. *T-Mobile v. Anacortes*, 572 F.3d at 998-999.

A. Verizon Wireless Has Demonstrated a Significant Gap in Service.

Verizon Wireless has identified a significant gap in service in the Heavenly Valley and Bijou Park areas of South Lake Tahoe, described in the *Statement of Verizon Wireless Radio Frequency Engineer Charlie Schwartz* attached as Exhibit E (the “RF Engineer’s Statement”). As shown through coverage maps included in the RF Engineer’s Statement, reliable in-building and in-vehicle coverage is lacking in these areas. Further, the existing Verizon Wireless network serving the area experiences high demand from visitors, particularly during winter ski season and summer holidays, which exhausts network resources and further degrades service for residents, workers, visitors, and emergency service personnel. As confirmed in letters attached as Exhibit H, public safety agencies serving the Lake Tahoe area support improved Verizon Wireless service, including El Dorado County Sheriff John d’Agostini.

B. The Approved Facility Is the Least Intrusive Means to Fill the Significant Gap in Service.

To address the significant gap, Verizon Wireless has evaluated 38 specific alternatives, including numerous distant locations raised by Appellants. This review is described in the comprehensive 2019 Alternatives Analysis and the 2022 Supplemental Alternatives Analysis, attached as Exhibits B and C. Verizon Wireless discounted alternatives that cannot serve the significant gap, are infeasible, or are more intrusive. The alternatives review confirms that the Approved Facility is the least intrusive feasible means to provide wireless service to the significant gap.

In short, Verizon Wireless has identified a significant gap in coverage and has shown that the Approved Facility is the least intrusive means to address it. Under these circumstances, Verizon Wireless has established that denial of the Approved Facility would constitute an unlawful prohibition of service.

VII. Conclusion

Verizon Wireless has worked diligently to identify the ideal location and design for a new facility to serve South Lake Tahoe. The Hearing Officer's approval confirmed that the Approved Facility complies with all TRPA Code requirements. Appellants have not provided any substantial evidence to contradict that approval. We strongly encourage you to reject the appeal and grant final approval for the Approved Facility.

Very truly yours,



Paul B. Albritton

cc: John Marshall, Esq.
Bridget Cornell

Schedule of Exhibits

- Exhibit A: Statement of Hammett & Edison, Inc., Consulting Engineers Regarding Radio Frequency Exposure
- Exhibit B: Alternatives Analysis, December 2019
- Exhibit C: Supplemental Alternatives Analysis, March 2022
- Exhibit D: Site Plan
- Exhibit E: Statement of Verizon Wireless Radio Frequency Design Engineer Charlie Schwartz
- Exhibit F: Land Coverage Survey, Approved May 11, 2021
- Exhibit G: Integral Consulting, Inc., Technical Memorandum
- Exhibit H: Support Letters

**Verizon Wireless • Proposed Base Station (Site No. 444780 “Ski Run Boulevard”)
1360 Ski Run Boulevard • South Lake Tahoe, California**

Exhibit A

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 444780 “Ski Run Boulevard”) proposed to be located at 1360 Ski Run Boulevard in South Lake Tahoe, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas on a new tall pole, configured to resemble a tree, to be sited behind Hansen’s Resort located at 1360 Ski Run Boulevard in South Lake Tahoe. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. A summary of the FCC’s exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	“Uncontrolled” Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm ²	5.0 mW/cm ²
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
BRS (Broadband Radio)	2,490 MHz	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
[most restrictive frequency range]	30–300	0.20	1.0

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables.



**Verizon Wireless • Proposed Base Station (Site No. 444780 “Ski Run Boulevard”)
1360 Ski Run Boulevard • South Lake Tahoe, California**

A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, “Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation,” dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna’s radiation pattern is not fully formed at locations very close by (the “near-field” effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the “inverse square law”). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Verizon, including zoning drawings by SAC AE Design Group, Inc., dated March 14, 2019, it is proposed to install twelve CommScope directional panel antennas – six Model NHH-65C and six Model NHH-45C – on a new 107-foot steel pole,* configured to resemble a pine tree, to be sited near the east side of the parking lot behind Hansen’s Resort located at 1360 Ski Run Boulevard in South Lake Tahoe. The antennas would employ up to 8° downtilt, would be mounted at an effective height of about 103 feet above ground, and would be oriented in groups of three: the -45C antennas toward 0°T and 210°T, and the -65C antennas toward 105°T and 285°T. The maximum effective radiated power in the 0°T and 210°T directions would be 47,090 watts, representing simultaneous operation at 19,060 watts for AWS, 5,000 watts for PCS, 12,030 watts for cellular, and 11,000 watts for 700 MHz service. The maximum effective radiated power in the 105°T and 285°T directions would be 30,750 watts, representing simultaneous operation at 11,750 watts for AWS, 5,000 watts for PCS, 7,080 watts for cellular, and 6,920 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.025 mW/cm², which is 4.6% of the applicable public exposure limit.

* Foliage atop the pole puts the overall height at 112 feet.



**Verizon Wireless • Proposed Base Station (Site No. 444780 “Ski Run Boulevard”)
1360 Ski Run Boulevard • South Lake Tahoe, California**

The maximum calculated level at the second floor elevation of any nearby building[†] is 5.7% of the public exposure limit. It should be noted that these results include several “worst-case” assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

No Recommended Mitigation Measures

Due to their mounting location and height, the Verizon antennas would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that Verizon will, as an FCC licensee, take adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned’s professional opinion that operation of the base station proposed by Verizon Wireless at 1360 Ski Run Boulevard in South Lake Tahoe, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-18063, which expires on June 30, 2019. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

May 22, 2019



Rajat Mathur
Rajat Mathur, P.E.
707/996-5200

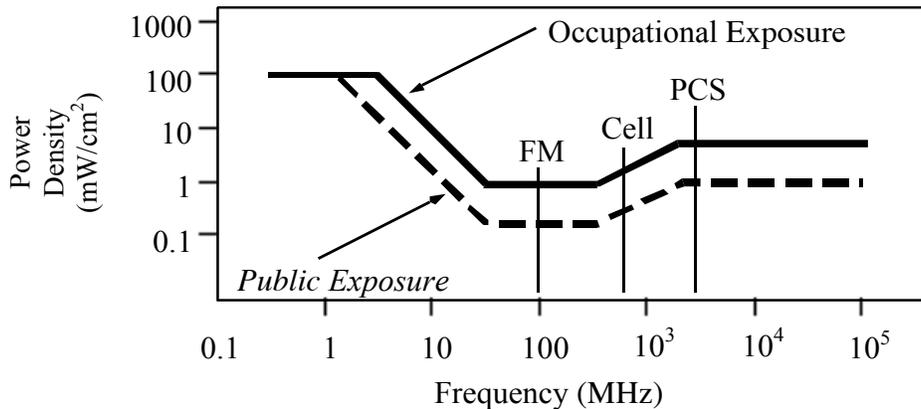
[†] Including the residences located at least 110 feet away, based on photographs from Google Maps.

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.



RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm²,

where θ_{BW} = half-power beamwidth of antenna, in degrees,

P_{net} = net power input to antenna, in watts,

D = distance from antenna, in meters,

h = aperture height of antenna, in meters, and

η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm²,

where ERP = total ERP (all polarizations), in kilowatts,

RFF = three-dimensional relative field factor toward point of calculation, and

D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings, to obtain more accurate projections.



Alternatives Analysis

Ski Run Boulevard

1360 Ski Run Boulevard, South Lake Tahoe



December 19, 2019

**Summary of Site Evaluations
Conducted by SAC Wireless
Compiled by Mackenzie & Albritton LLP**

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Map of Alternatives

I. Executive Summary

Verizon Wireless must fill a significant gap in service in South Lake Tahoe. Based on the review of 32 alternatives set forth in the following analysis, Verizon Wireless believes that placing antennas on a tower camouflaged as a pine tree (the “Proposed Facility”) constitutes the least intrusive feasible alternative to provide service to the identified gap in network service based on the values expressed the South Lake Tahoe City Code (the “Code”).

II. Significant Gap

There is a significant gap in Verizon Wireless network service in the Heavenly Valley and Bijou Park areas of South Lake Tahoe. Reliable AWS LTE in-building and in-vehicle service is lacking in the area, which includes residences, visitor accommodations and businesses. Additionally, the existing Verizon Wireless network serving the area is reaching capacity exhaustion, which compromises communication in a greater area for residents and visitors as well as emergency service personnel. (Collectively, the “Significant Gap”) The Significant Gap is described in detail in the *Statement of Verizon Wireless Radio Frequency Design Engineer Jennifer Valencia* (the “RF Engineer’s Statement”). The coverage and capacity issues are not cured after Verizon Wireless’s recently-approved small cells have been activated in the greater vicinity. The small cells were designed to cover small target zones where there were either coverage or capacity needs. To remedy the Significant Gap, Verizon Wireless must place a new macro facility to ensure sufficient reliable network service.

III. Methodology

Once a significant gap has been determined, Verizon Wireless seeks to identify a location and design that will provide required network service through the “least intrusive means” based upon the values expressed by local regulations. In addition to seeking the least intrusive alternative, sites proposed by Verizon Wireless must be feasible. In this regard, Verizon Wireless reviews the available height and equipment space, radio frequency propagation, proximity to end users, access, elevation, terrain and other critical factors such as a willing landlord in completing its site analysis.

According to the various TRPA plan area statements for the gap area and the local Tourist Core Area Plan, transmission and receiving facilities are allowed with a special use permit approved by the City. Use permit findings include that a proposed use is necessary or desirable for the parcel, and not injurious to the neighborhood. Code § 6.55.620(B).

IV. Analysis

Collocation Review

Verizon Wireless first reviewed the area of the Significant Gap for existing wireless towers on which to collocate its antennas, but identified no such facilities within the gap area.

The closest existing tower locations identified are beyond the gap area. One is at the top of the Heavenly Gunbarrel Express lift, 1.2 miles southeast of the Proposed Facility and over 1,950 feet greater in elevation. There is already a Verizon Wireless facility on one of the towers at this location, the Angel's Roost facility. Its antennas face south and serve a different coverage objective. North-facing antennas could not serve the Significant Gap due to distance and elevation, as they would overshoot the gap area. They also would introduce substantial signal interference for other Verizon Wireless facilities around Lake Tahoe due to the high elevation.

Another site 1.2 miles to the west, by the South Lake Tahoe Police Department, 1362 Johnson Boulevard, already hosts Verizon Wireless's Tahoe PD facility. That facility does not serve the Significant Gap due to distance. The existing facilities coverage map on Page 6 demonstrates how these facilities do not provide service to the gap area.

Lacking any nearby collocation opportunities, Verizon Wireless explored placement of a new facility within the gap area.

Verizon Wireless's Review of Alternatives

Verizon Wireless first reviewed the area of the Significant Gap for suitable parcels to place a tower facility, and also considered placement of antennas on multi-unit buildings. Verizon Wireless readily identified the following optimal location at the center of the gap.

1. Proposed Facility

Address: 1360 Ski Run Boulevard
Elevation: 6,375 Feet

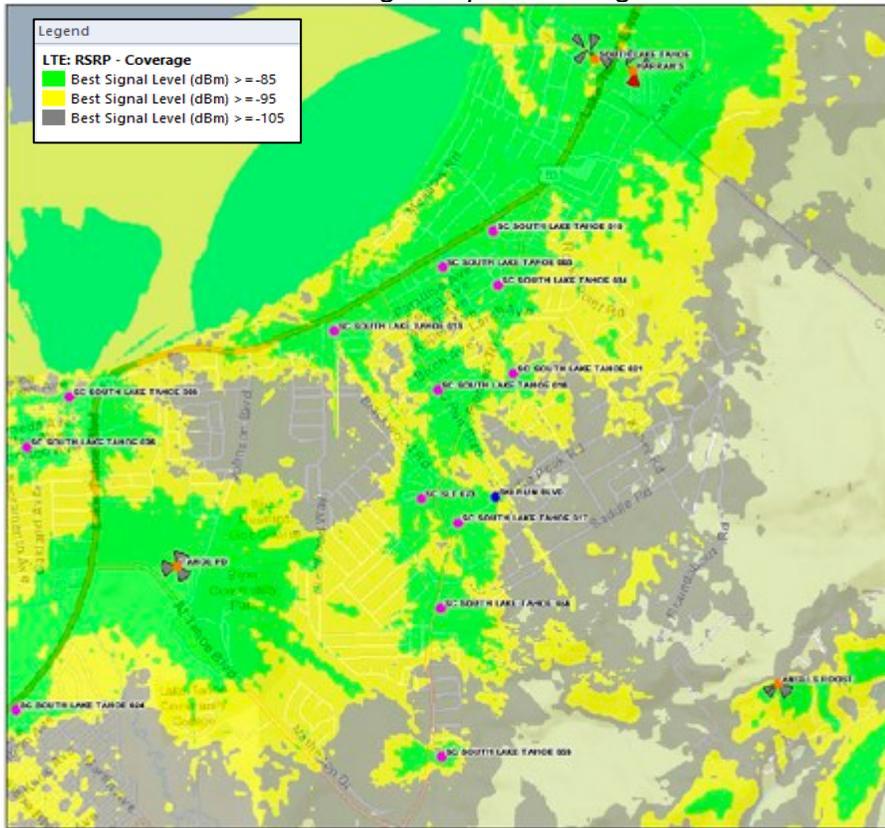
The Proposed Facility has been thoughtfully designed to minimize any impact to the adjacent community. Verizon Wireless proposes to conceal its panel antennas within a 112-foot tower facility camouflaged as a pine tree. Antennas will be concealed within faux foliage and branches, and branches will extend beyond and above the antennas, providing a realistic tapered crown. Antennas will be covered with pine needle socks for further concealment. The treepole will be placed within a 624 square foot leased area, next to a new 270 square foot equipment shelter designed as a small shed with a pitched roof and slatted siding. Behind the shed, away from the road, a backup generator will provide continued service in case of power outages or emergencies. The treepole has been designed to accommodate collocation by additional wireless carriers.



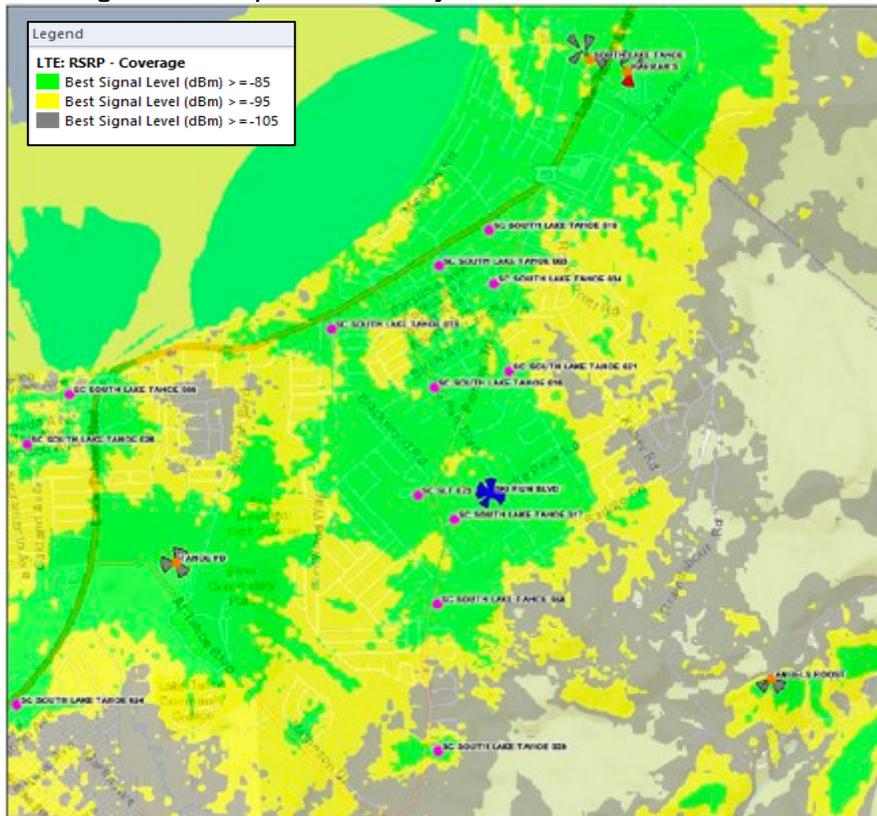
With antennas elevated to a 103-foot centerline at this optimal location, the Proposed Facility will provide new reliable Verizon Wireless AWS LTE service to the Significant Gap. As shown in the following coverage maps, the Proposed Facility will provide new reliable in-building coverage to the Heavenly Valley and Bijou Park areas, plus additional new in-vehicle coverage to a larger area. It also will provide new network capacity to relieve the existing network that is reaching capacity exhaustion. An analysis comparing existing and proposed service is found in the RF Engineer's Statement. This is Verizon Wireless's preferred location and design for the Proposed Facility.

Coverage plot maps like those on the following page provide important information regarding the anticipated level of signal, and therefore the projected coverage provided by a site at a given location. The areas in green reflect good coverage that meets or exceed thresholds to provide consistent and reliable network coverage in homes and in vehicles. The areas in yellow and gray depict decreasing levels of coverage, respectively, with yellow areas generally representing reliable in-vehicle coverage only, and gray areas depicting poor service areas with marginal coverage unsuitable for in-vehicle use. Unshaded areas do not receive reliable Verizon Wireless service.

AWS LTE Coverage Map – Existing Facilities



Coverage with Proposed Facility – 103 Foot Antenna Centerline



2. Heavenly Parking Lot

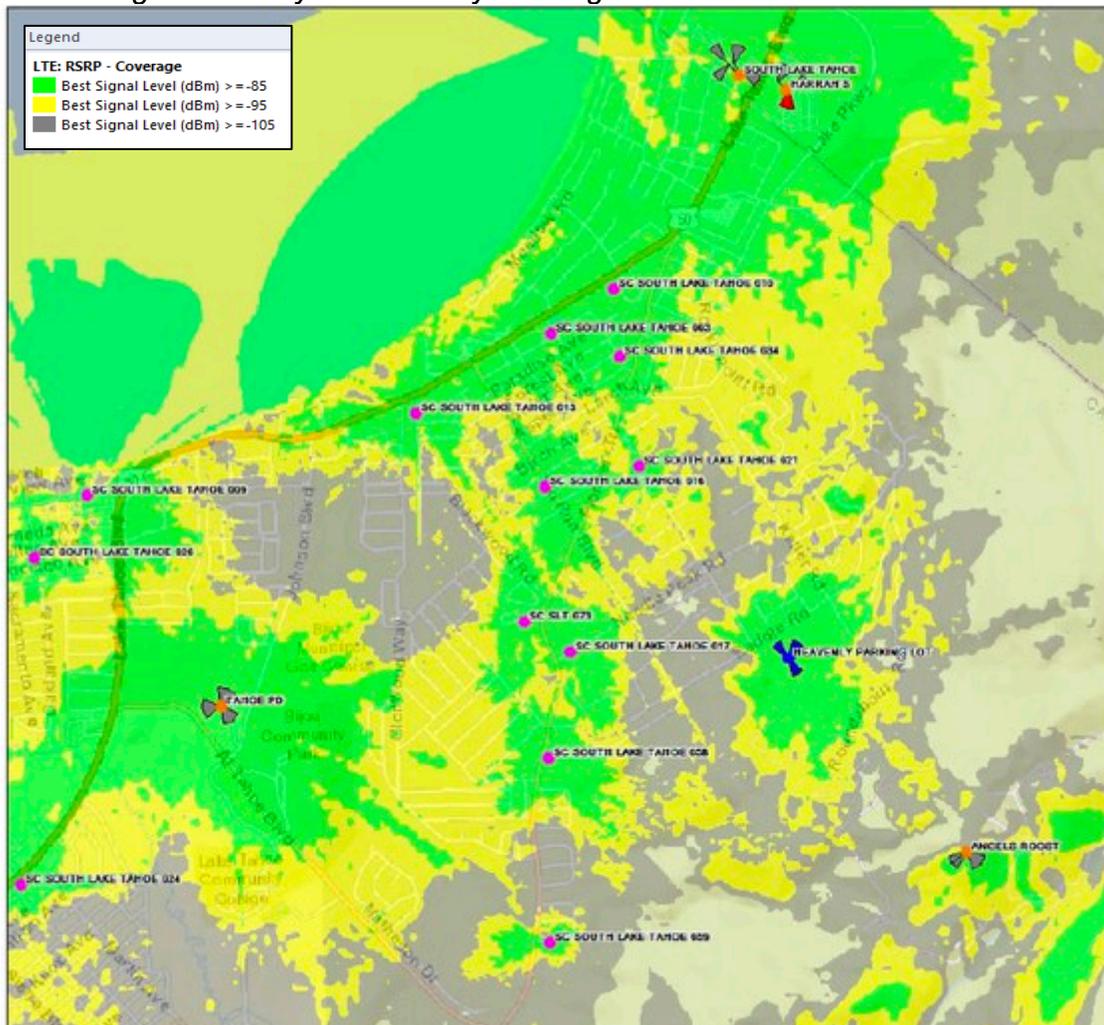
Address: 3860 Saddle Road
Elevation: 6,570-6,665 Feet

Verizon Wireless reviewed this large, sloping parking lot 0.5 miles southeast of the Proposed Facility with a varying elevation approximately 200 to 300 feet greater. The parking lot is at the base of a 59.73 acre parcel in unincorporated El Dorado County. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap primarily due to



distance. As shown in the following coverage map, a coverage gap would remain in the western Heavenly Valley area and the Bijou Park area. Also, at this location, it is very difficult to minimize the interference with other facilities due to directly pointing a sector toward the water. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Heavenly Parking Lot – 40 Foot Antenna Centerline



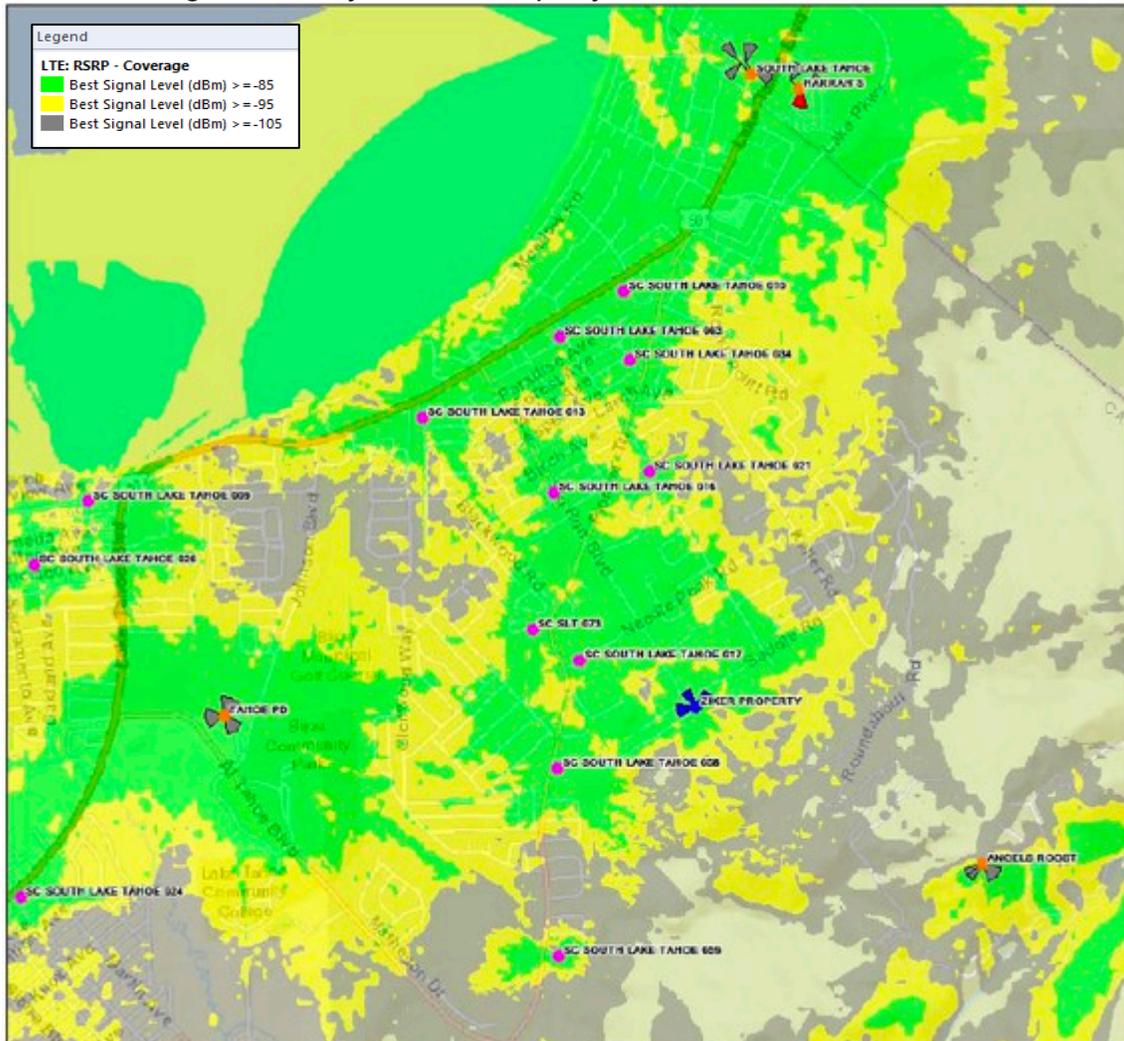
4. Ziker Property

Address: 1495 Ski Run Boulevard
Elevation: 6,550 Feet

Verizon Wireless reviewed this 1.25 acre property 0.3 miles southeast of the Proposed Facility and approximately 175 feet greater in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with a 103-foot antenna centerline. As shown in the following coverage map, a coverage gap would remain, notably in the western Bijou Park area. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Ziker Property – 103 Foot Antenna Centerline



5. Don Trout Property

Address: 3540 Pioneer Trail South
Elevation: 6,310 Feet

Verizon Wireless reviewed this undeveloped 1.58 acre property 0.2 miles northwest of the Proposed Facility and approximately 65 feet lower in elevation. Verizon Wireless contacted the property owner regarding placement of a facility on the property, but the owner was considering other



redevelopment plans and could not offer a specific location with sufficient room required for a tower and ground equipment area. As a result, Verizon Wireless was unable to secure a timely commitment for a lease agreement. This is not a feasible alternative to the Proposed Facility.

6. South Tahoe Public Utility District Property

Address: David Lane
Elevation: 6,340 Feet

Verizon Wireless reviewed this 0.12 acre property 0.2 miles north of the Proposed Facility and 35 feet lower in elevation. The narrow parcel is only approximately 35 feet wide, and a small utility building and ground cabinets occupy most of the width of the parcel. To access the undeveloped rear of the parcel, a new access road would be required around those obstructions, and it would need to traverse a neighboring parcel held by the California Tahoe Conservancy, requiring tree removal and grading. The Conservancy has confirmed to Verizon Wireless that it is not entertaining requests for wireless siting on its properties. Lacking legal access to the developable area of this parcel, this is not a feasible alternative to the Proposed Facility.



7. Fire Station 1

Address: 1252 Ski Run Boulevard

Elevation: 6,295 Feet

Verizon Wireless reviewed this 0.61 acre property 0.3 miles northwest of the Proposed Facility and approximately 80 feet lower in elevation. Verizon Wireless approached the City of South Lake Tahoe Fire Department regarding placement of a facility on the property, but the Department declined to lease space. Lacking a willing landlord, this is not a feasible alternative to the Proposed Facility.



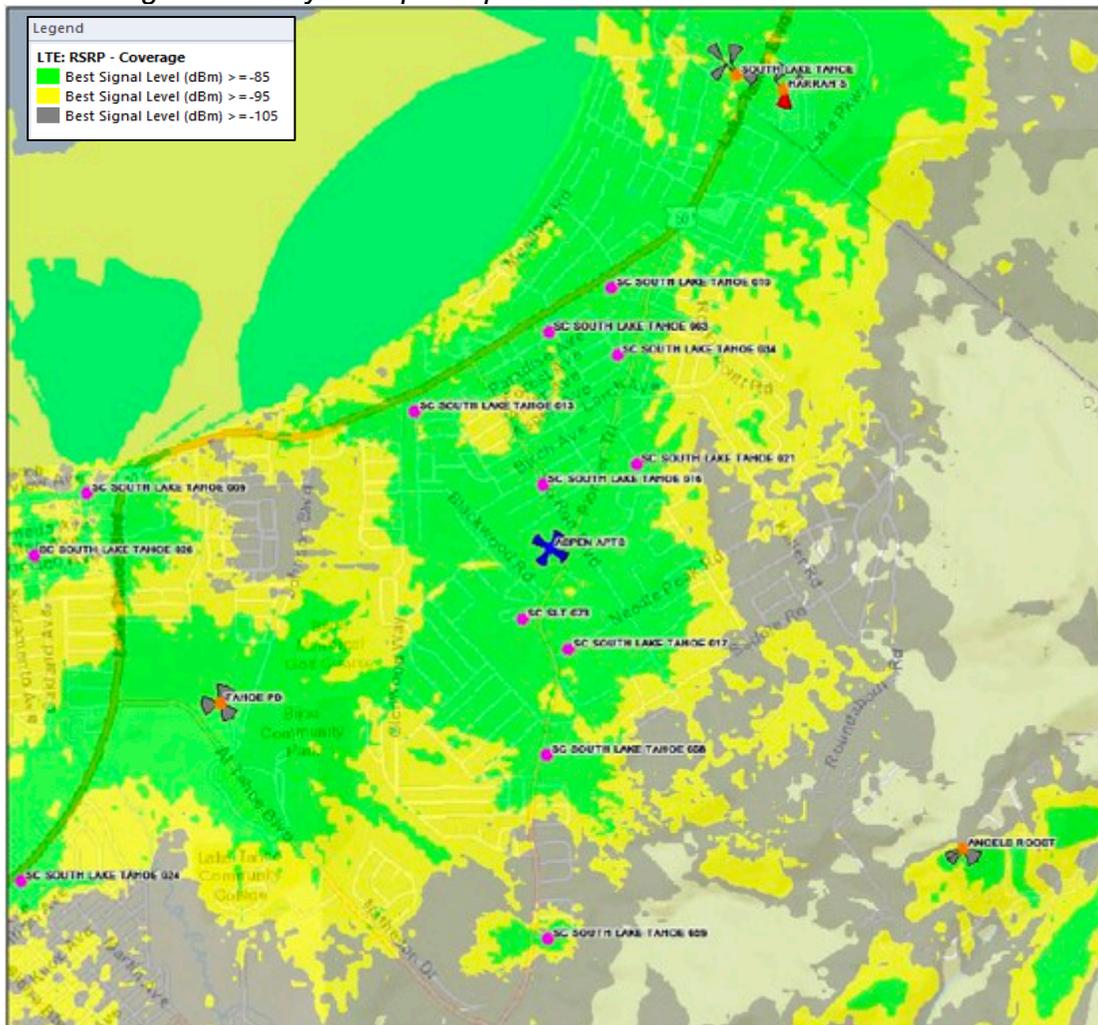
8. Aspen Apartments

Address: 3521 Pioneer Trail South
Elevation: 6,295 Feet

Verizon Wireless reviewed this 4.85 acre property 0.3 miles northwest of the Proposed Facility and approximately 80 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with an antenna centerline 13 feet greater than the Proposed Facility. As shown in the following coverage map, there would remain a lack of coverage in the southern portions of the gap. Further, a tall tower on this parcel would be immediately adjacent to the apartment buildings that occupy most of the property, and with fewer screening trees nearby, it would pose more visual impact than the Proposed Facility. This is neither a feasible nor less intrusive alternative to the Proposed Facility.



Coverage of Facility at Aspen Apartments – 116 Foot Antenna Centerline



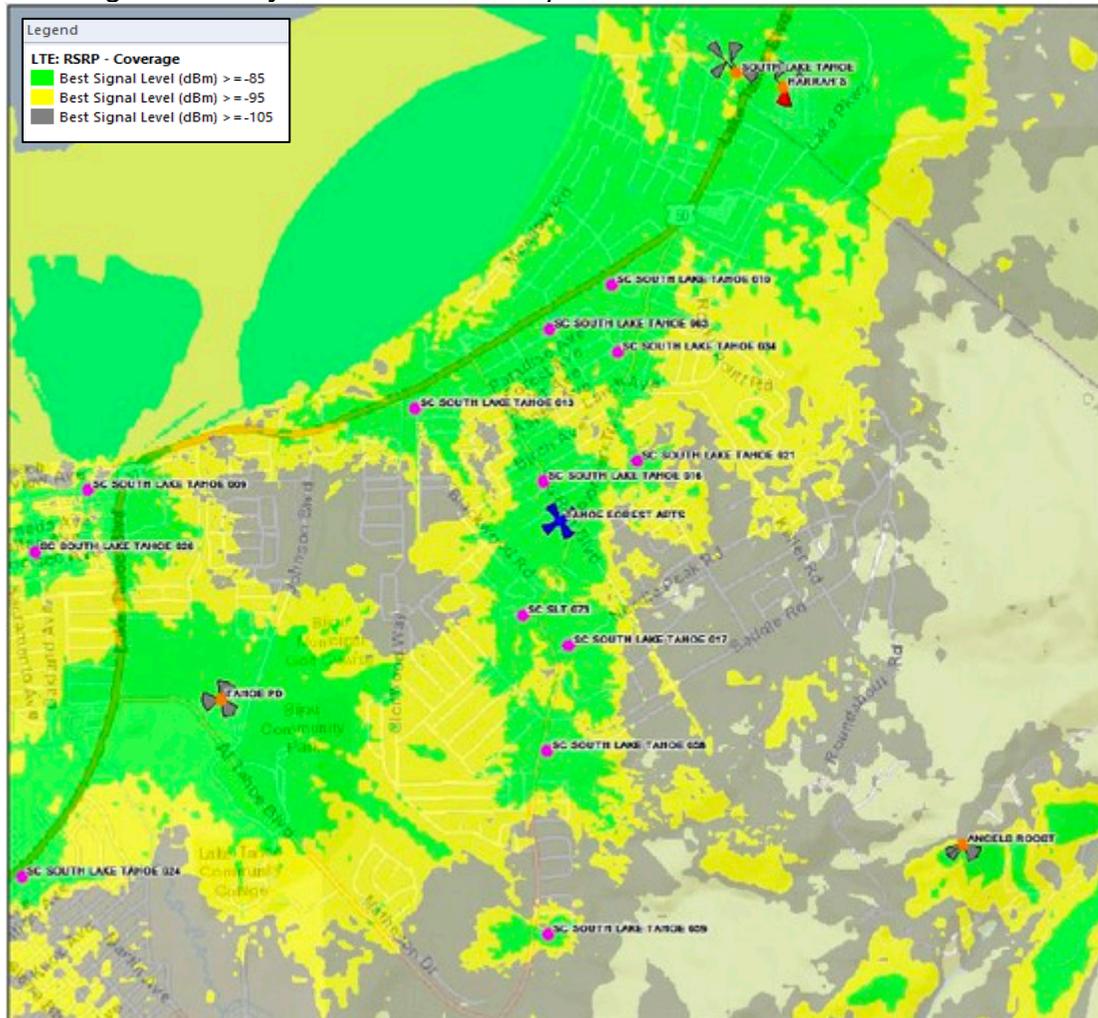
9. Tahoe Forest Apartments

Address: 1232 Ski Run Boulevard
Elevation: 6,290 Feet

Verizon Wireless reviewed this 1.0 acre property 0.3 miles northwest of the Proposed Facility and approximately 85 feet lower in elevation. Because the two-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 25 feet. As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Tahoe Forest Apartments – 25 Foot Antenna Centerline



10. Lynch Property

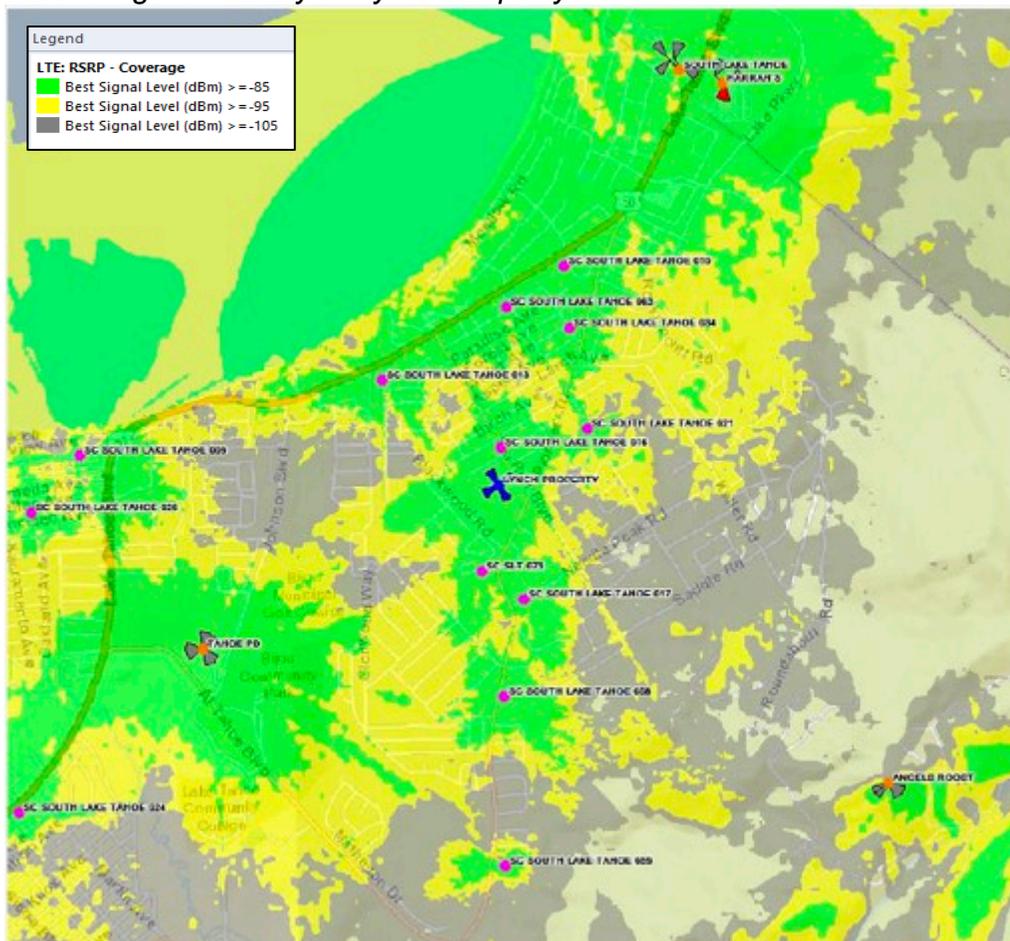
Address: 3616 Terry Lane South
Elevation: 6,285 Feet

Verizon Wireless reviewed this 0.28 acre property 0.35 miles northwest of the Proposed Facility and approximately 90 feet lower in elevation. Because the existing two-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop.



Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 25 feet. As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Lynch Property – 25 Foot Antenna Centerline



11. Bart's Inn

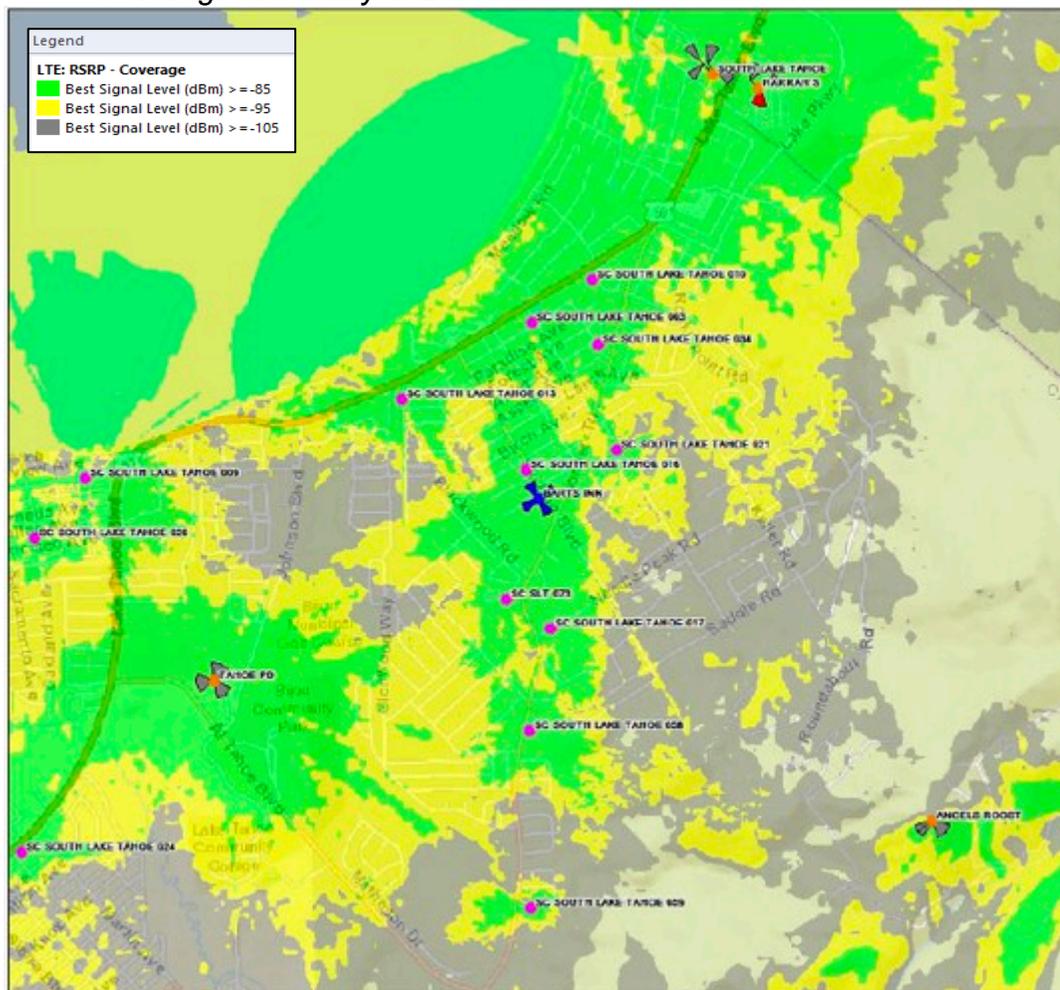
Address: 1224 Ski Run Boulevard
Elevation: 6,285 Feet

Verizon Wireless reviewed this 0.82 acre property 0.35 miles northwest of the Proposed Facility and approximately 90 feet lower in elevation. Because the existing three-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop.



Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 40 feet. As shown in the following coverage map, a coverage gap would remain in most of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Bart's Inn – 40 Foot Antenna Centerline



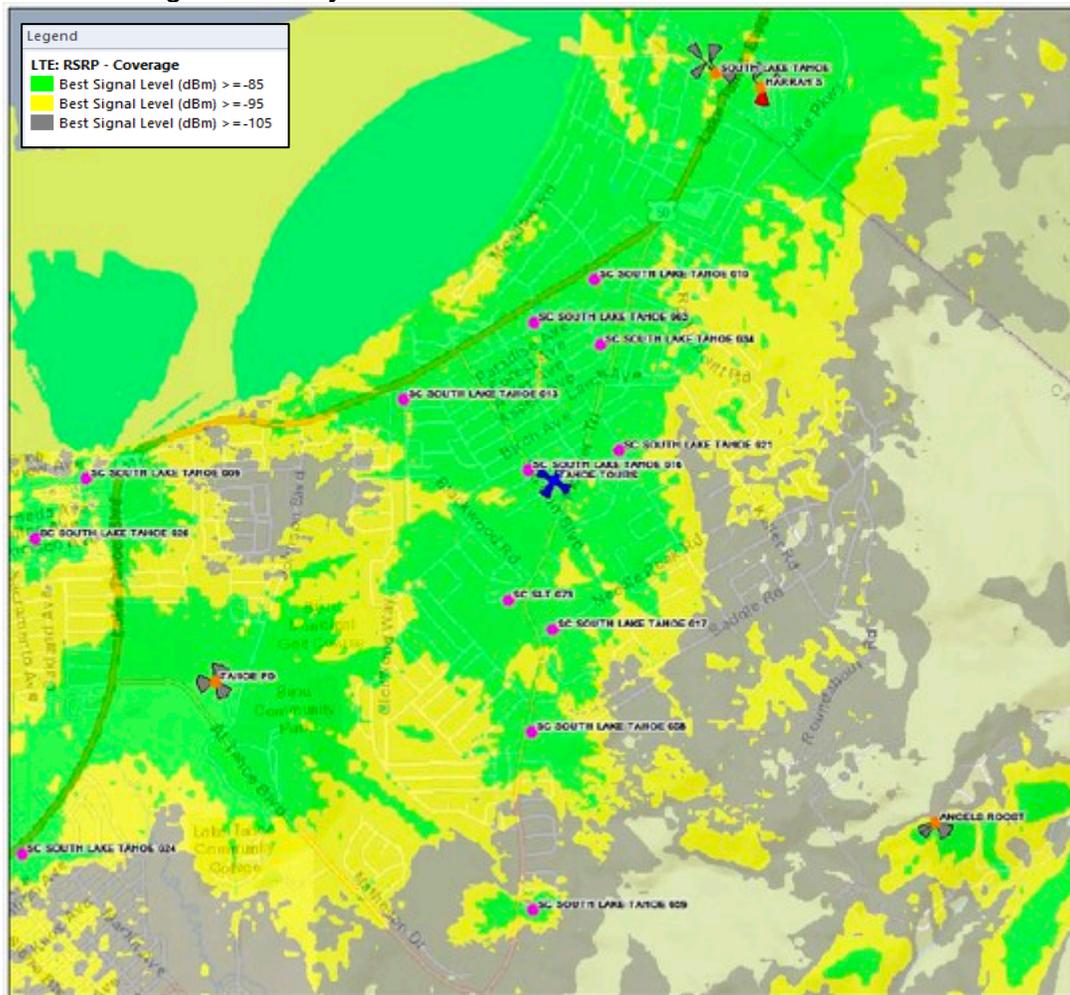
12. Tahoe Tours

Address: 3672 Willow Avenue South
Elevation: 6,290 Feet

Verizon Wireless reviewed this 0.23 acre property 0.4 miles north of the Proposed Facility and approximately 85 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with an antenna centerline 13 feet greater than the Proposed Facility. As shown in the following coverage map, a coverage gap would remain in southern portion of the gap in much of the Heavenly Valley area. Further, a tall tower on this small parcel would be immediately adjacent to homes on either side, posing more visual impact than the Proposed Facility. This is neither a feasible nor less intrusive alternative to the Proposed Facility.



Coverage of Facility at Tahoe Tours – 116 Foot Antenna Centerline



13. Harding Property

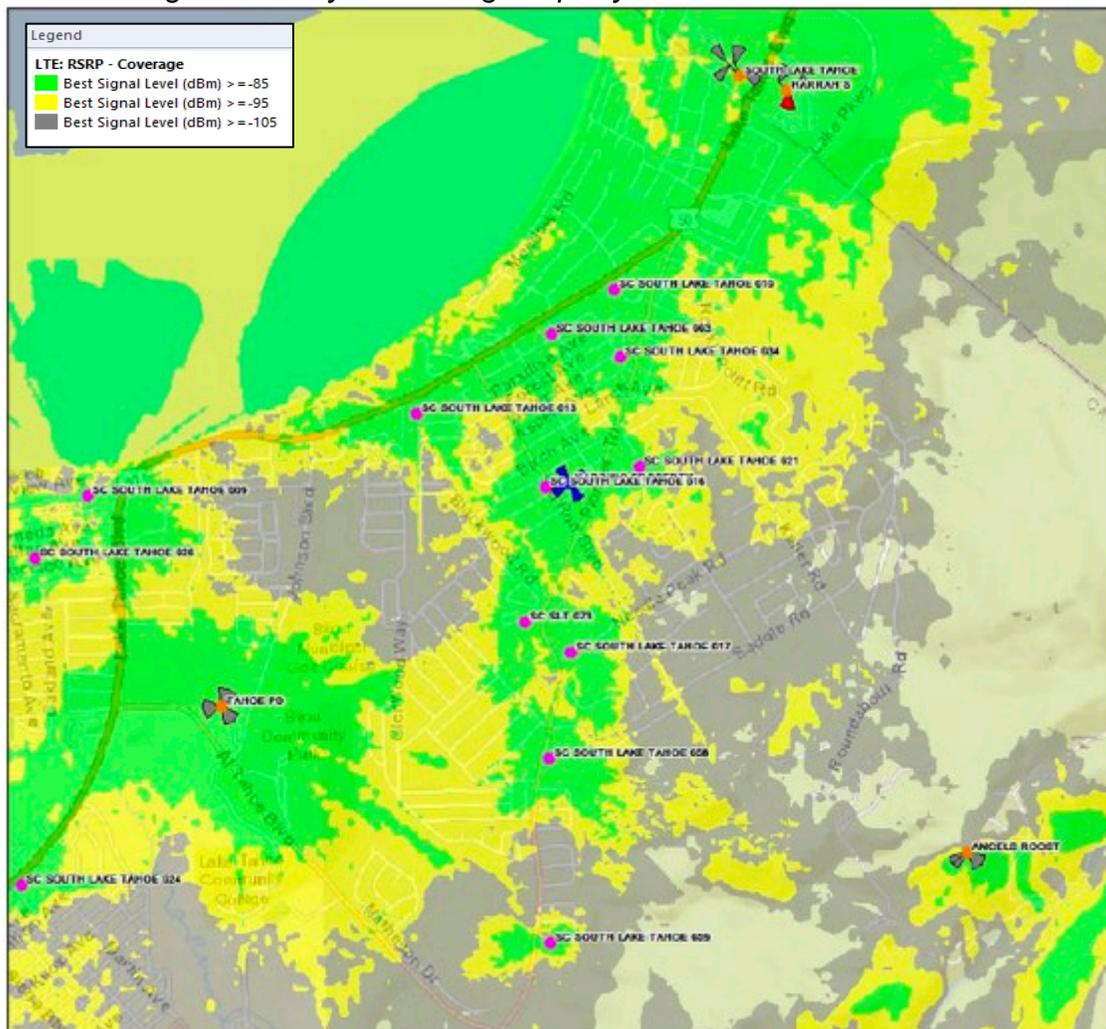
Address: 3668 Spruce Avenue South
Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.34 acre property 0.4 miles north of the Proposed Facility and approximately 95 feet lower in elevation. Because the existing two-story building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low



elevation and a low antenna centerline of 25 feet. As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Harding Property – 25 Foot Antenna Centerline



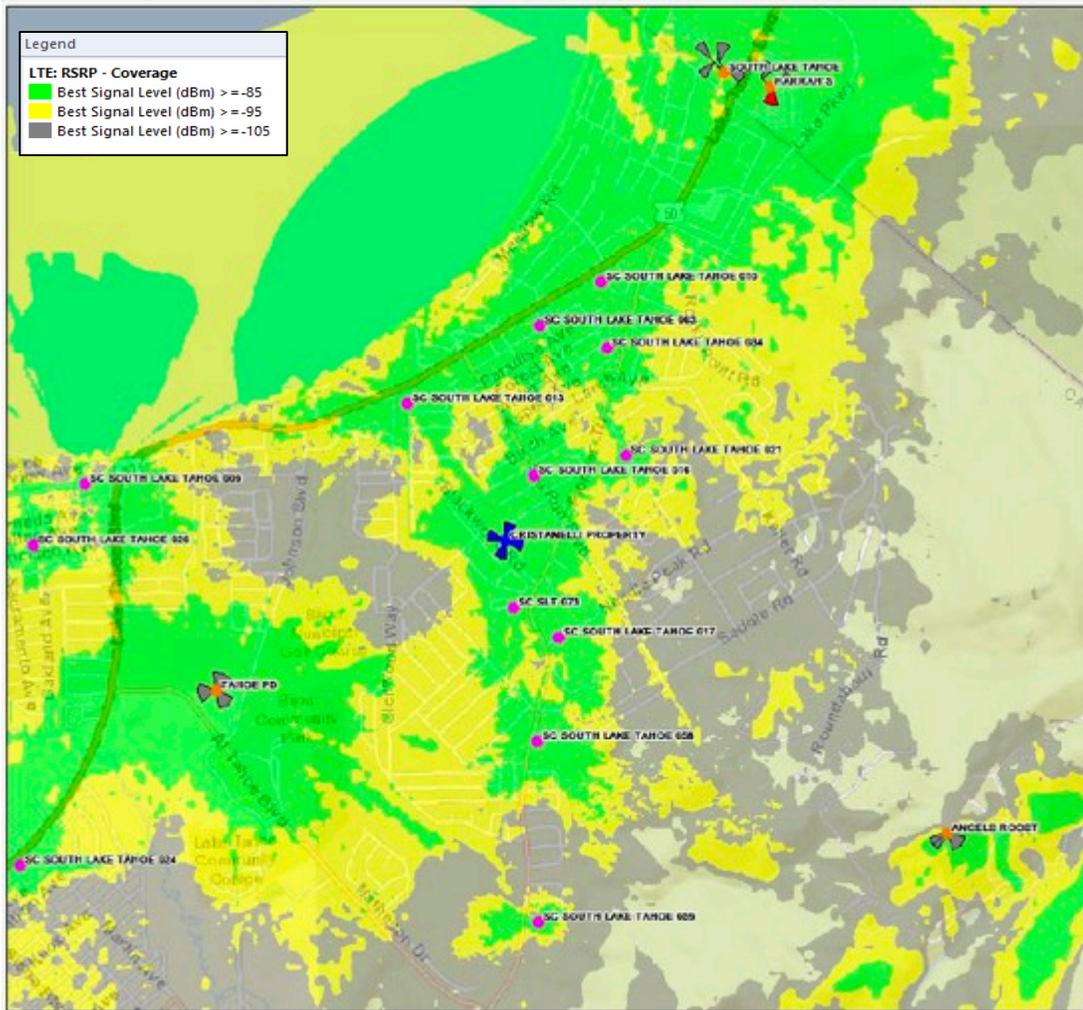
15. Cristanelli Property

Address: 3715 Blackwood Road
Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.63 acre property 0.35 miles northwest of the Proposed Facility and approximately 95 feet lower in elevation. Because the existing one- and two-story buildings, parking lot and a small lawn preclude a tower and ground equipment area, a wireless facility would be limited to a rooftop. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline of 25 feet. As shown in the following coverage map, a coverage gap would remain in much of the gap area, with the Heavenly Valley area receiving no new coverage. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Cristanelli Property – 25 Foot Antenna Centerline



17. KRLT Radio Tower

Address: 3621 Blackwood Road

Elevation: 6,255 Feet

Verizon Wireless reviewed this radio tower on a 1.83 acre property 0.55 miles northwest of the Proposed Facility and approximately 120 feet lower in elevation. Generally, radio towers are not compatible for cellular antennas. In particular, such guyed lattice towers cannot support the weight of Verizon Wireless's panel antennas and other structure-mounted transmission equipment required for service.



Further, the tower is in a low-lying drainage basin that leads toward the lake and generally is undeveloped. The present tower would need to be removed and reconstructed with a more robust monopole structure, and a deep tower caisson foundation and ground equipment area would be required. There may be a high water table that would pose construction issues for a tower foundation and ground equipment area. Construction would pose environmental impacts.

Due to structural limitations, impediments to construction on the property, and environmental impacts, this is not a feasible alternative to the Proposed Facility.

Alternatives Raised by the City

In working with the City to review possible locations for a new facility, Verizon Wireless reviewed four City-owned property locations raised by City staff. Unfortunately, these were determined to pose insurmountable construction issues, present excessive visual impact, or cannot serve the Significant Gap.

18. City Pioneer Trail Property

Address: 3500 Pioneer Trail South

Elevation: 6,300 Feet

Verizon Wireless reviewed this 0.24 acre property 0.2 miles northwest of the Proposed Facility and approximately 75 feet lower in elevation. This City Department of Public Works property is fully within a grove of trees, in the same low-lying drainage basin as the KRLT tower described under Alternative 17. There may be a high water table that would pose construction issues for a tower foundation and equipment area. The property is fully within a TRPA Land Capability Class 1B area (Stream Environment Zone), with an IPES Coverage Score of 0, and allowable base coverage of 0%. Due to major impediments to construction on the property, this is not a feasible alternative to the Proposed Facility.



19. City Tamarack Avenue Property

Address: 3576 Tamarack Avenue

Elevation: 6,285 Feet

Verizon Wireless reviewed this 0.98 acre property 0.5 miles northwest of the Proposed Facility and approximately 90 feet lower in elevation. This City Department of Public Works property is located within the same low-lying drainage basin as Alternatives 17 and 18 above, posing the same potential construction issues. The property is fully within a TRPA Land Capability Class 1B area (Stream Environment Zone), with allowable base coverage of 1%, too little room for a wireless facility compound. Due to major impediments to construction on the property, this is not a feasible alternative to the Proposed Facility.



20. City Spruce Avenue Property

Address: 3681 Spruce Avenue

Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.11 acre property 0.45 miles north of the Proposed Facility and approximately 95 feet lower in elevation. This very small, narrow City Department of Public Works property is sandwiched between homes, and a very tall tower and ground equipment area would pose substantial visual impact compared to the Proposed Facility. This cannot be considered a less intrusive alternative to the Proposed Facility.



21. City Saddle Road Property

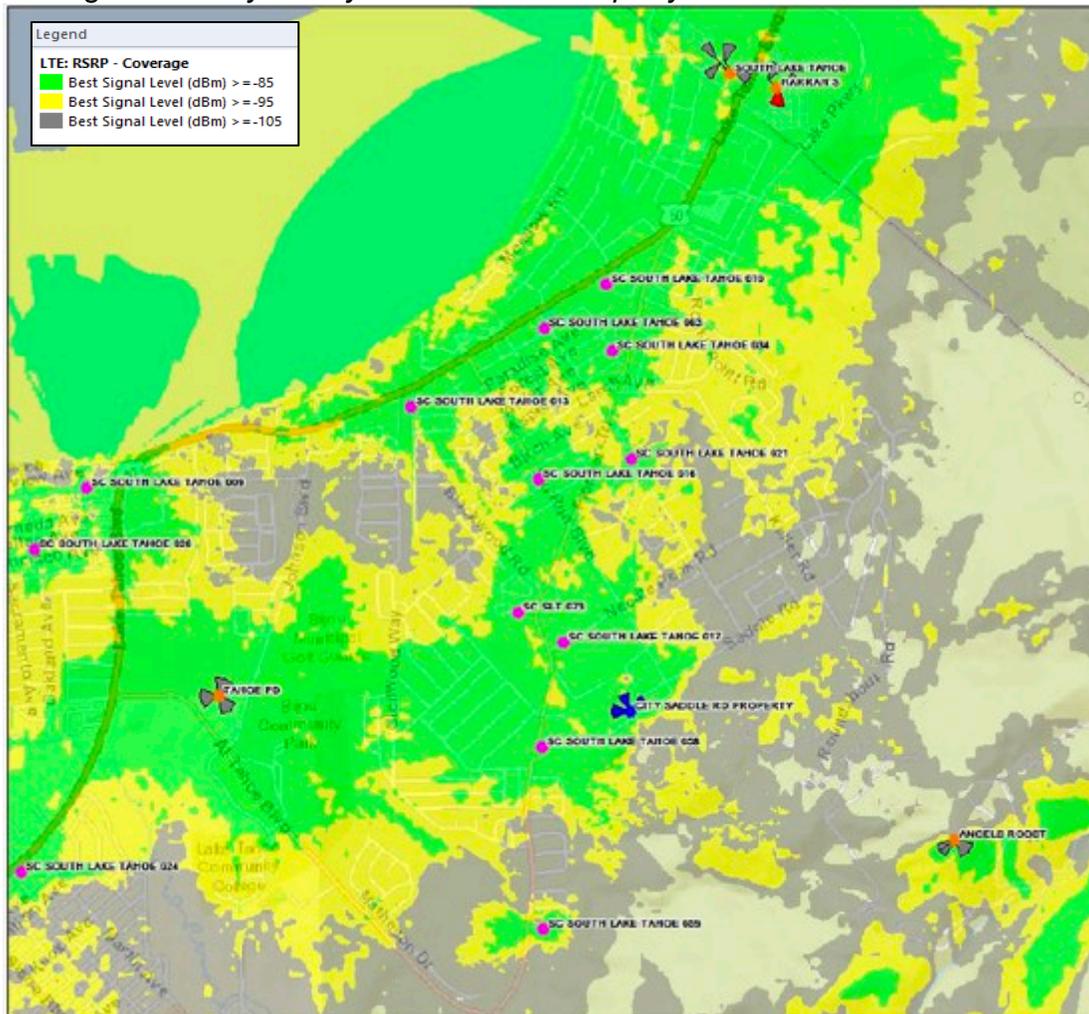
Address: 3590 Saddle Road

Elevation: 6,500 Feet

Verizon Wireless reviewed this 0.31 acre property 0.3 miles south of the Proposed Facility and approximately 125 feet greater in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, even with a 100 foot antenna centerline. As shown in the following coverage map, coverage would be spotty in much of the gap area, leaving various coverage gaps, notably in the Bijou Park area. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at City Saddle Road Property – 100 Foot Antenna Centerline



Alternatives Raised by Appellant

In a letter to the City dated August 6, 2019, an attorney for the appellant of the Proposed Facility raised numerous distant alternatives as possible locations, none of which are feasible to serve the Significant Gap due to factors such as distance, low elevation and terrain. Many of those locations are near Lake Tahoe Boulevard, approximately one mile north of the Proposed Facility, with some close to Verizon Wireless's existing Harrah's facility in Stateline.

In addition to specific locations reviewed below, appellant's counsel mentioned the various USDA Forest Service lands around the greater vicinity. In recent consultation with the Forest Service regarding placement of wireless facilities on its properties, the Forest Service requested that Verizon Wireless seek private property landlords in the area. The Forest Service is presently unwilling to dedicate resources to wireless facilities.

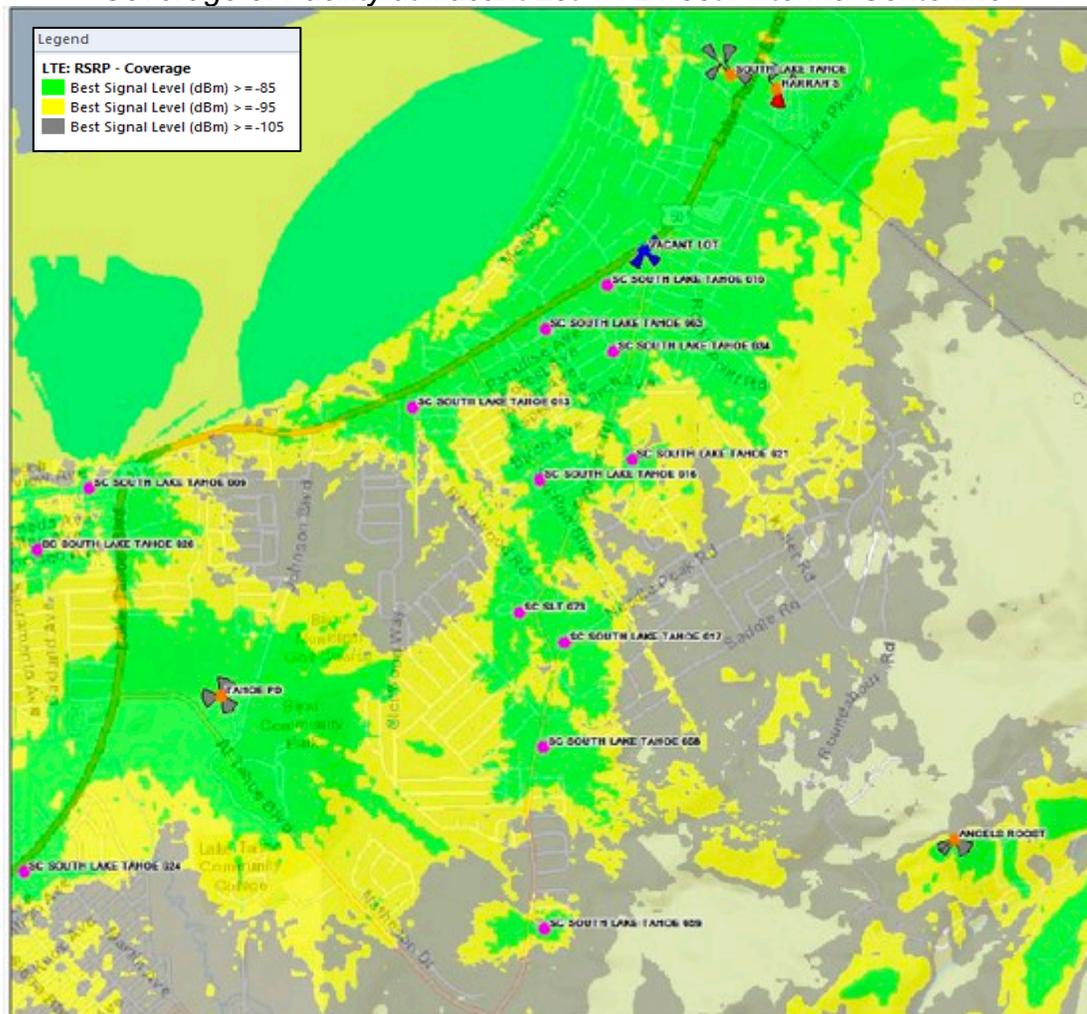
22. Vacant Lot, Lake Tahoe Boulevard

Address: 3908 Lake Tahoe Boulevard
Elevation: 6,280 Feet

Verizon Wireless reviewed this 0.82 acre parcel 1.1 miles northeast of the Proposed Facility and approximately 95 feet lower in elevation. Only 0.5 miles south of Verizon Wireless's existing Harrah's facility, a new facility at this location would duplicate its coverage and introduce signal interference, compromising network design. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance and low elevation. As shown in the following coverage map, a coverage gap would remain in much of the gap area in the Heavenly Valley and Bijou Park areas. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Vacant Lot – 72 Foot Antenna Centerline



23. Raley's

Address: 4000 Lake Tahoe Boulevard
Elevation: 6,305 Feet

Verizon Wireless reviewed the rear parking lot of Raley's, 1.2 miles northeast of the Proposed Facility and approximately 70 feet lower in elevation. Only 0.35 miles south of Verizon Wireless's existing Harrah's facility, a new facility at this location would duplicate its coverage and introduce signal interference, compromising network design. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, similar to Alternative 22 nearby. This not a feasible alternative to the Proposed Facility.

**24. Public Parking**

Address: 1 Bellamy Court
Elevation: 6,310 Feet

Verizon Wireless reviewed this three-story parking garage 1.3 miles northeast of the Proposed Facility and approximately 65 feet lower in elevation. Only 0.2 miles south of Verizon Wireless's existing Harrah's facility, a new facility at this location would duplicate coverage and introduce signal interference, compromising network design. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap, similar to Alternative 22 nearby. This not a feasible alternative to the Proposed Facility.



26. First Baptist Church

Address: 1053 Wildwood Avenue
Elevation: 6,255 Feet

Verizon Wireless reviewed this two-story church building 0.8 miles north of the Proposed Facility and approximately 120 feet lower in elevation. Because the existing church building and parking lot preclude a tower and ground equipment area, a wireless facility would be limited to the rooftop. As it is only one block east of Alternative 25, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.

**27. Super 8 Motel (Iglesia Ni Christo)**

Address: 3838 Lake Tahoe Boulevard
Elevation: 6,260 Feet

Verizon Wireless reviewed the two-story buildings on this property 1.0 mile north of the Proposed Facility and approximately 115 feet lower in elevation. As it is only two blocks east of Alternative 25, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.



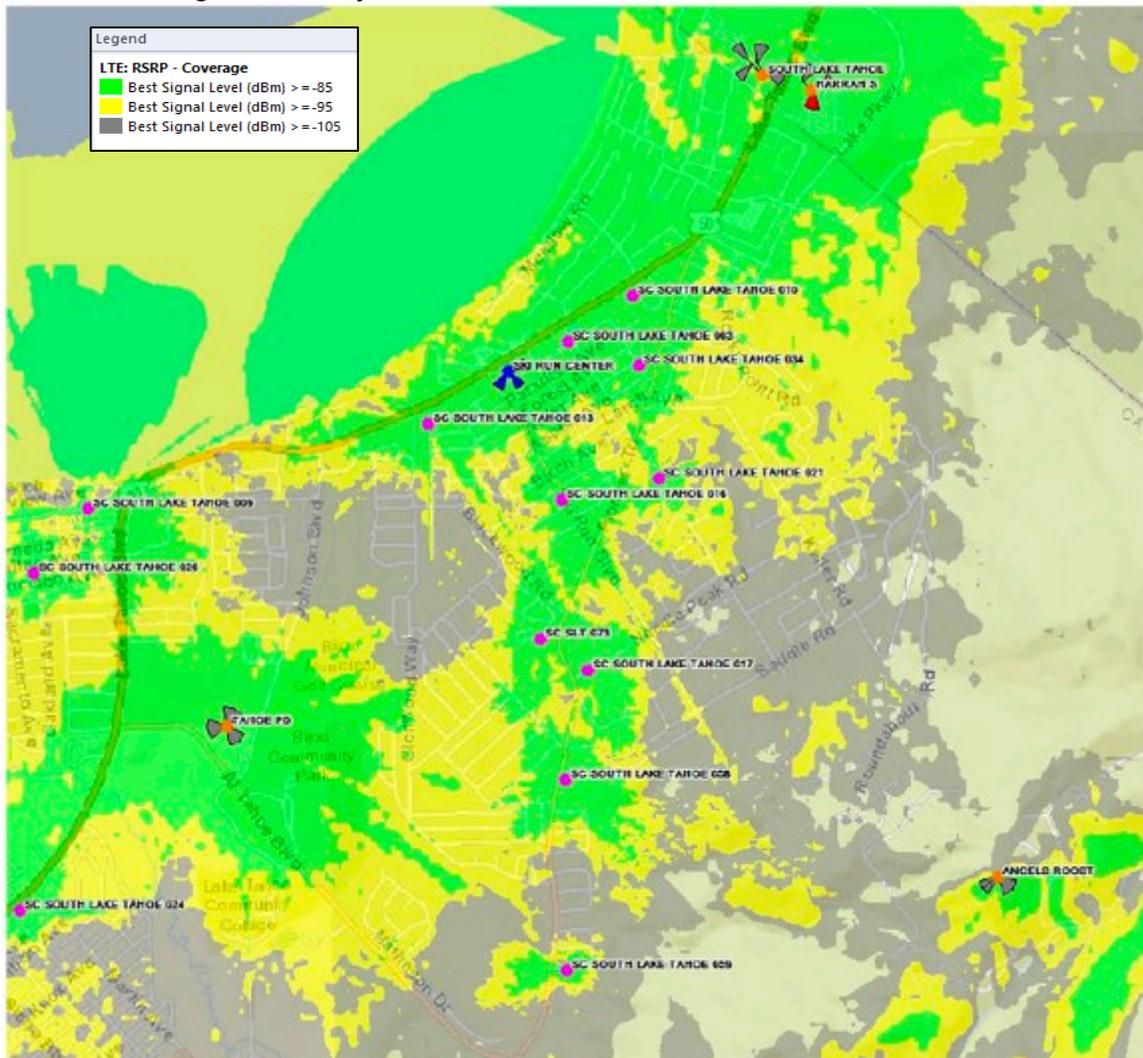
28. Ski Run Center (Laundromat)

Address: 3668 Lake Tahoe Boulevard
Elevation: 6,250 Feet

Verizon Wireless reviewed one-story buildings at this retail center 0.85 miles northwest of the Proposed Facility and approximately 125 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the Significant Gap due to distance, low elevation and a low antenna centerline. As shown in the following coverage map, a coverage gap would remain in the Heavenly Valley area and much of the Bijou Park area. This not a feasible alternative to the Proposed Facility.



Coverage of Facility at Ski Run Center – 30 Foot Antenna Centerline



29. Panda Express

Address: 3640a Lake Tahoe Boulevard

Elevation: 6,250 Feet

Verizon Wireless reviewed this one-story building 0.85 miles northwest of the Proposed Facility and approximately 125 feet lower in elevation. As it is only one block west of Alternative 28, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.



30. Seventh Day Adventist Church / Church of Christ

Address: 3609 Vanda Lee Way

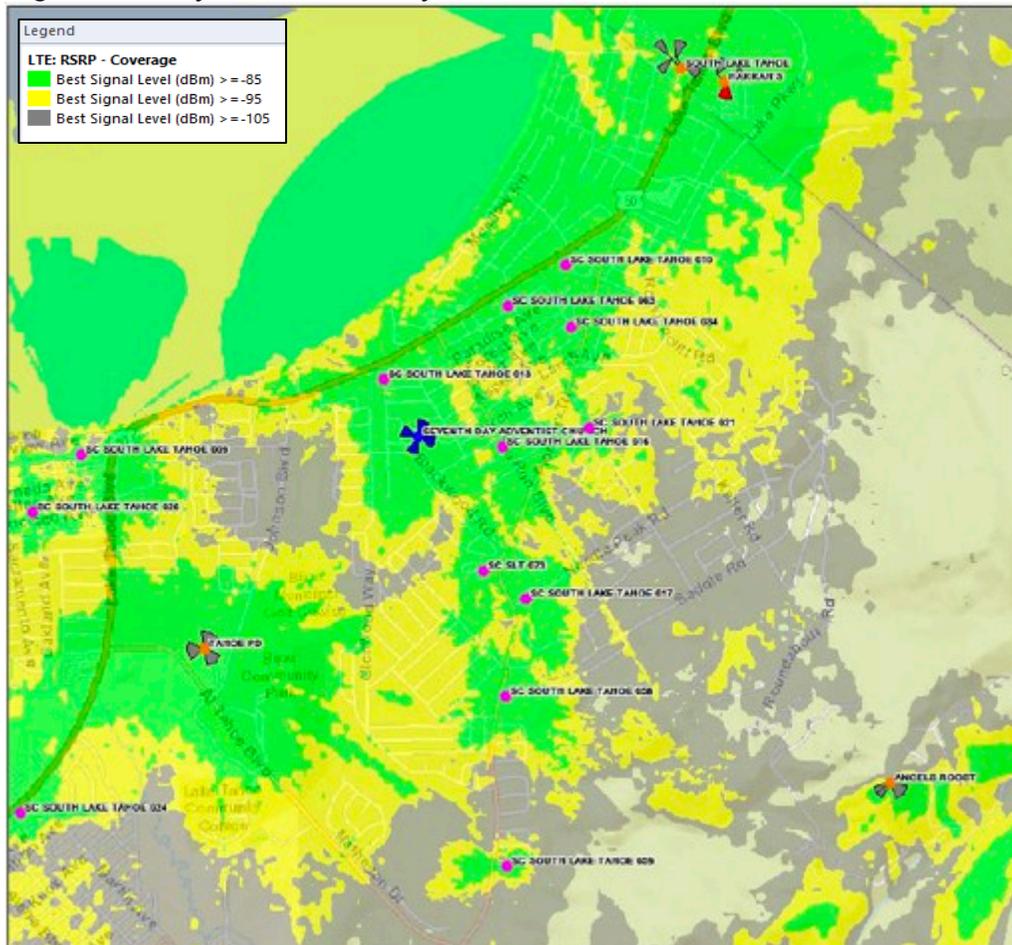
Elevation: 6,260 Feet

Verizon Wireless reviewed placement of a freestanding steeple or clock tower facility at this church property 0.65 miles northwest of the Proposed Facility and approximately 115 feet lower in elevation. Verizon Wireless engineers determined that a facility at this location cannot serve the



Significant Gap due to distance and low elevation. As shown in the following coverage map, coverage gaps would remain in the Heavenly Valley area and much of the Bijou Park area. This not a feasible alternative to the Proposed Facility.

Coverage of Facility at Seventh Day Adventist Church – 35 Foot Antenna Centerline



31. Lake Tahoe Christian Fellowship

Address: 3580 Blackwood Road

Elevation: 6,265 Feet

Verizon Wireless reviewed placement of a freestanding steeple or clock tower facility at this church property 0.6 miles northwest of the Proposed Facility and approximately 110 feet lower in elevation. As it is only one block south of Alternative 30, Verizon Wireless engineers determined that a facility at this location also cannot serve the Significant Gap. This not a feasible alternative to the Proposed Facility.



32. Temple Bat Yam

Address: 3260 Pioneer Trail
Elevation: 6,345 Feet

Verizon Wireless reviewed this 4.69 acre property 0.5 miles southwest of the Proposed Facility and approximately 30 feet lower in elevation. The property owner initially expressed interest in hosting a wireless facility. Two locations on this property were analyzed, but the lower-elevation candidate was preferred by the property owner. Directly east of the two locations, there is a 175-foot increase in elevation and a mountain that

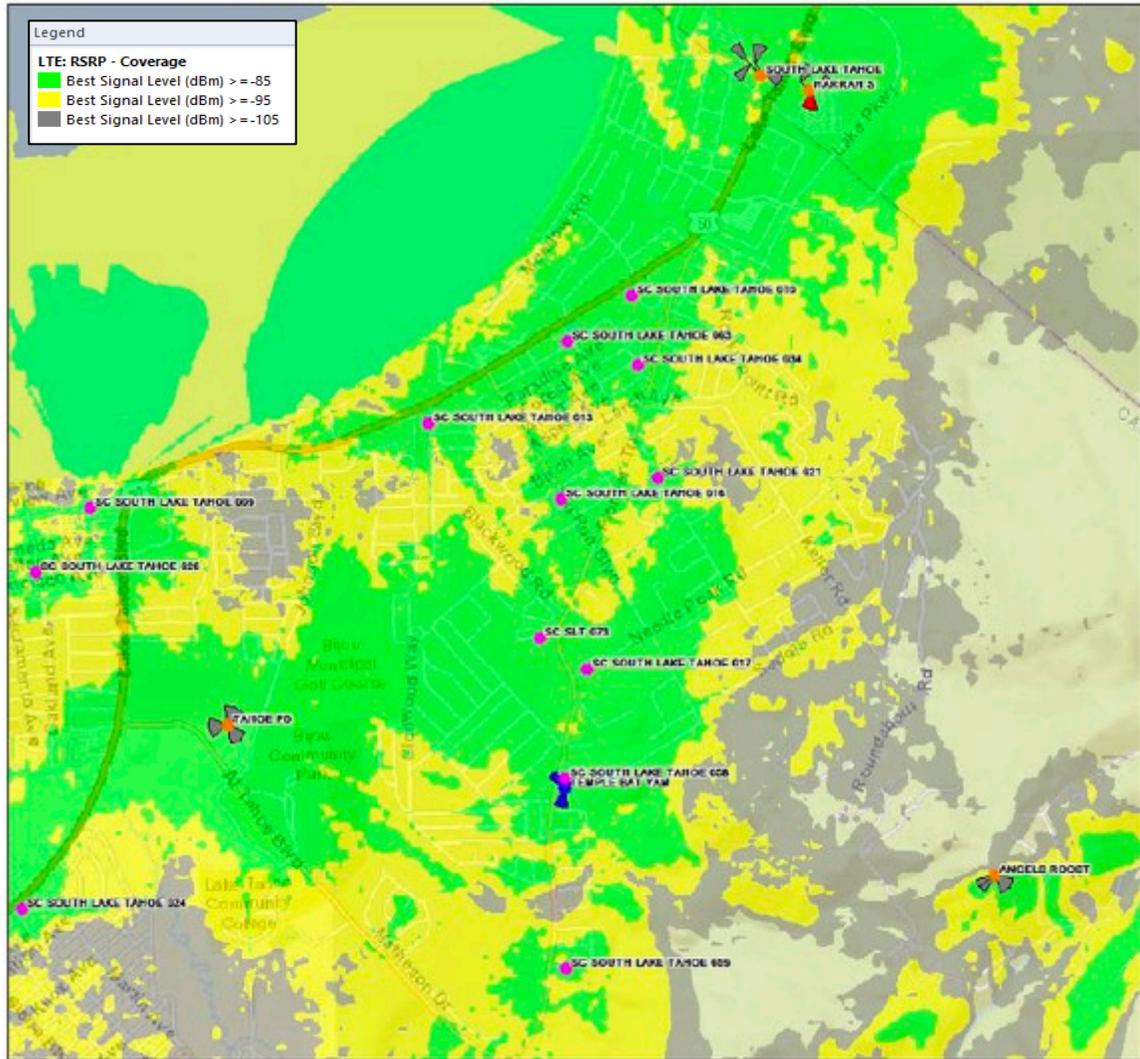


blocks signal. Therefore, to be able to cover the Heavenly Valley area within the gap, a 180-foot antenna centerline would be required, to direct signal above terrain to reach at least some of the gap area. Verizon Wireless engineers determined that such a very tall facility could adequately serve only the southern portion of the gap. As shown in the following coverage map, coverage gaps would remain, including in portions of the Bijou Park area. Further, such a tall facility could pose a risk for aircraft using the nearby airport.

In a December 3, 2019 email to SAC Wireless Project Manager Casey Ogata-Tran, TRPA planner Bridget Cornell indicated that such a tall tower would be “tough to approve” and that “tree canopies in that area are much shorter than that.” This neither a feasible nor less intrusive alternative to the Proposed Facility.

See Alternative 32 Coverage Map on Next Page

Coverage of Facility at Temple Bat Yam – 180 Foot Antenna Centerline



V. Conclusion

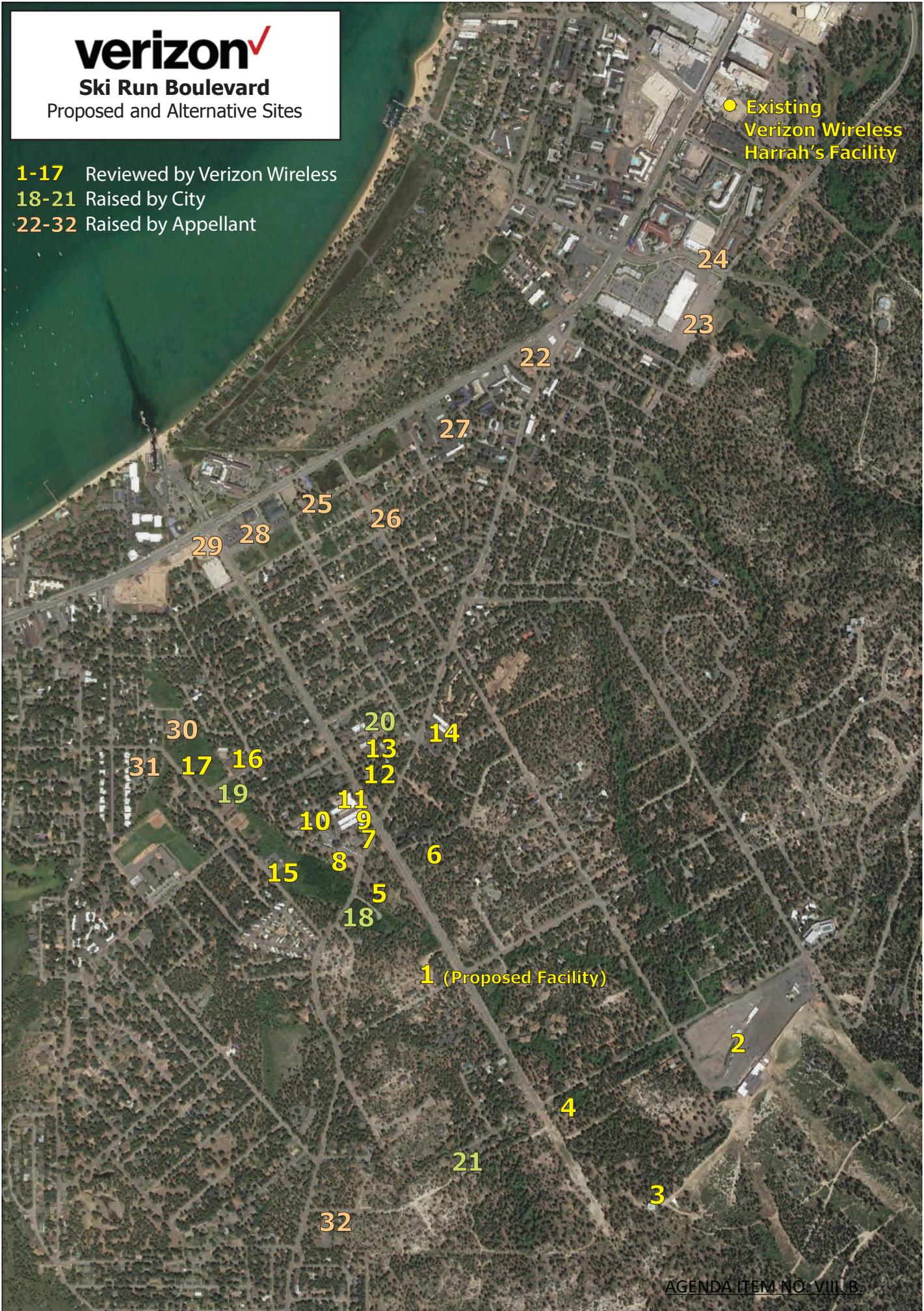
Verizon Wireless has reviewed 32 alternative locations to fill the Significant Gap in service in the Heavenly Valley and Bijou Park areas of South Lake Tahoe. Based upon the values expressed in City regulations, the Proposed Facility clearly constitutes the least intrusive feasible location for Verizon Wireless's facility.



Ski Run Boulevard Proposed and Alternative Sites

- 1-17 Reviewed by Verizon Wireless
- 18-21 Raised by City
- 22-32 Raised by Appellant

● Existing
Verizon Wireless
Harrah's Facility





**Supplemental
Alternatives Analysis**

**Ski Run Boulevard
1360 Ski Run Boulevard, South Lake Tahoe**

March 3, 2022

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Map of Alternatives

Attachment:

October 12, 2021 Statement of Verizon Wireless RF Engineer Charlie Schwartz

I. Executive Summary

This document supplements Verizon Wireless’s Alternatives Analysis of December 19, 2019, which reviewed 32 alternatives for the proposed facility at 1360 Ski Run Boulevard in South Lake Tahoe (the “Proposed Facility”). The City of South Lake Tahoe approved the Proposed Facility in January 2020. The Tahoe Regional Planning Agency (“TRPA”) Hearings Officer approved the Proposed Facility in October 2021, but that decision has been appealed to the TRPA Governing Board.

This supplement provides updated information for three alternatives reviewed in the 2019 Alternatives Analysis (2, 5 and 7), and also addresses six additional alternatives raised by the Appellants in 2021. This Supplemental Alternatives Analysis affirms the conclusion that the Proposed Facility is the least intrusive feasible alternative to provide service to the identified gap in network service in South Lake Tahoe.

II. Significant Gap

There is a significant gap in Verizon Wireless network service in the Heavenly Valley and Bijou Park areas of South Lake Tahoe, originally described in the *Statement of Verizon Wireless Radio Frequency Design Engineer Jennifer Valencia, 2019* (the “Significant Gap”).

Since 2019, Verizon Wireless has constructed new facilities in the greater vicinity around the gap area, including the Heavenly Adventure Hub Node 0.6 miles east. Near that, another facility proposed at the Tahoe Seasons Resort was approved by the City of South Lake Tahoe and is pending review by TRPA.

Existing Verizon Wireless facilities, including these new and pending facilities, cannot serve the Significant Gap, as described in the *Statement of Verizon Wireless Radio Frequency Design Engineer Charlie Schwartz, 2022*.

Mr. Schwartz also confirmed that coverage maps included in the 2019 Alternatives Analysis continue to accurately depict coverage deficiencies of certain alternatives, even considering recently-constructed and pending facilities, as described in his October 12, 2021 statement attached to this analysis.

III. Analysis

Updated Information for Previously-Reviewed Alternatives

2. Heavenly Parking Lot

Address: 3860 Saddle Road

Elevation: 6,570-6,665 Feet



This large parking lot is 0.5 miles southeast of the Proposed Facility with a varying elevation approximately 200 to 300 feet greater. As described in the 2019 Alternatives Analysis, a facility at this location cannot serve the significant gap due to distance. Further, since 2019, Verizon Wireless constructed its new Heavenly Adventure Hub Node facility directly adjacent to this parking lot, at the bottom of the Heavenly World Cup lift, with small antennas installed primarily to serve the parking lot and ski facilities. Verizon Wireless also received the City of South Lake Tahoe's approval of a new facility at Tahoe Seasons Resort, across the street from this parking lot and 0.6 miles east of the Proposed Facility, which is pending review by TRPA. A new facility at this location would duplicate the service of the Heavenly Adventure Hub Node and the Tahoe Seasons Resort facilities. This continues to be an infeasible alternative to the Proposed Facility.

5. Ski Run Crossing Property (formerly Don Trout Property)

Address: 3540 Pioneer Trail South

Elevation: 6,310 Feet



Verizon Wireless reviewed this undeveloped 1.58 acre property 0.2 miles northwest of the Proposed Facility and approximately 65 feet lower in elevation. The property was recently purchased by Ski Run Crossing LLC. Verizon Wireless sent letters of interest to Ski Run Crossing LLC, but received no reply. Lacking landlord interest, this is not a feasible alternative to the Proposed Facility.

7. Fire Station 1

Address: 1252 Ski Run Boulevard
Elevation: 6,295 Feet



Verizon Wireless reviewed this 0.61 acre property 0.3 miles northwest of the Proposed Facility and approximately 80 feet lower in elevation. Over several years, Verizon Wireless has approached the City of South Lake Tahoe Fire Department regarding placement of a facility on the property, but the City declined. In a January 14, 2022 letter to Verizon Wireless representative Michelle Fernandes, the City's Director of Development Services, Hilary Roverud, wrote that the City "is not interested in leasing property at this location for a telecommunications facility due to space limitations." Lacking landlord interest, this is not a feasible alternative to the Proposed Facility.

New Alternatives Raised by Appellants

Appellants raised six specific alternative locations in their 2021 appeal to the TRPA Governing Board, reviewed below.

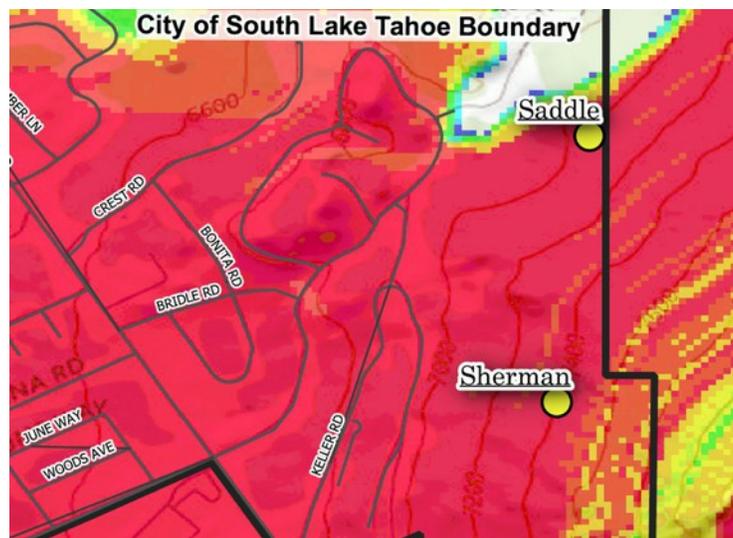
Appellants also raised three sites already discounted in the 2019 Alternatives Analysis: Verizon Wireless’s Angel’s Roost Facility at the top of the Heavenly Gunbarrel Express lift, the Water Tank property at 1581 Ski Run Boulevard, and the Temple Bat Yam at 3260 Pioneer Trail. Those sites cannot serve the Significant Gap as described in the 2019 analysis (Collocation Review, and Alternatives 3 and 32).

33. Saddle
Address: East of Saddle Road
Elevation: 7,050 feet

Appellants raised this location on the hillside east of Saddle Road, approximately 1.0 mile northeast of the Proposed Facility and 675 feet greater in elevation. This location is well east of the Significant Gap, and in fact east beyond Verizon Wireless’s existing Heavenly Adventure Hub Node and the pending Tahoe Seasons facility which serve distinct coverage objectives. A facility at this distant location would duplicate the coverage of the existing and pending facilities, constituting inefficient network design. As explained in the original Alternatives Analysis, new high-elevation facilities would introduce substantial signal interference for other Verizon Wireless facilities around Lake Tahoe. (This is why Verizon Wireless’s Angel’s Roost facility at the top of the Heavenly Gunbarrel Express lift does not have antenna sectors facing north toward the lake.) Verizon Wireless RF engineers determined that a facility at this location cannot serve the Significant Gap due to distance and the inability to direct antennas southwest toward the gap because of interference.

Additionally, this location is on sloped, undeveloped U.S. Forest Service property, where a new tower foundation, equipment area, access road and fiber/electric utility lines would require substantial grading and removal of trees, posing substantial environmental impacts, if feasible at all. This location is within TRPA Land Capability District 1A, where new land coverage or disturbance is prohibited, unless there is no reasonable alternative that avoids or reduces encroachment in Districts 1-3. The Proposed Facility, located on a developed parcel next to existing access, will not result in new net land coverage. This is neither a feasible nor less intrusive alternative to the Proposed Facility.

Excerpt of Appellants’ Map of Saddle and Sherman Locations



34. Sherman

Address: East of Sherman Way

Elevation: 7,400 feet

Appellants raised this location on the hillside east of Sherman Way, approximately 0.9 miles east of the Proposed Facility and 1,025 feet greater in elevation. This location is well east of the Significant Gap, and in fact east beyond Verizon Wireless's existing Heavenly Adventure Hub Node and the pending Tahoe Seasons facility which serve distinct coverage objectives. A facility at this distant location would duplicate the coverage of the existing and pending facilities, constituting inefficient network design. As explained in the original Alternatives Analysis, new high-elevation facilities would introduce substantial signal interference for other Verizon Wireless facilities around Lake Tahoe. Verizon Wireless RF engineers determined that a facility at this location cannot serve the Significant Gap due to distance and the inability to direct antennas west toward the gap because of interference.

Additionally, this location is on steeply-sloped, undeveloped U.S. Forest Service property, where a new tower foundation, equipment area, access road and fiber/electric utility lines would require substantial grading and removal of trees, posing substantial environmental impacts, if feasible at all. This location is within TRPA Land Capability District 1A, where new land coverage or disturbance is prohibited, unless there is no reasonable alternative that avoids or reduces encroachment in Districts 1-3. The Proposed Facility, located on a developed parcel next to existing access, will not result in new net land coverage. This is neither a feasible nor less intrusive alternative to the Proposed Facility.

35. World Cup Lower/Upper

Address: Heavenly Mountain Resort

Elevation: 6,675-7,000 feet



Appellants raised these locations at the bottom and top of the Heavenly World Cup lift. The lower location is 0.6 miles east of the Proposed Facility, 300 feet greater in elevation, and the site of Verizon Wireless's existing Heavenly Adventure Hub Node. The upper location is 0.8 miles east of the Proposed Facility and 625 feet greater in elevation.

These locations are well southeast of the Significant Gap, and at or beyond Verizon Wireless's existing Heavenly Adventure Hub Node and the pending Tahoe Seasons facility which serve distinct coverage objectives east of the Significant Gap. A facility at these distant locations would duplicate the coverage of the existing and pending facilities, constituting inefficient network design. As explained in the original Alternatives Analysis, new high-elevation facilities (such as the upper lift location) would introduce substantial signal interference for other Verizon Wireless facilities around Lake Tahoe. Verizon Wireless RF engineers determined that a facility at these locations cannot serve the Significant Gap due to distance, and, for the upper lift location, the inability to direct antennas northwest toward the gap because of interference. These are not feasible alternatives to the Proposed Facility.

36. Top of Tram

Address: Heavenly Mountain Resort
Elevation: 8,200 feet



Appellants raised this location at the top of the Heavenly aerial tramway, 1.2 miles southeast of the Proposed Facility and 1,825 feet greater in elevation. This location is southeast beyond the Heavenly Adventure Hub Node and Tahoe Seasons facilities. This is also the site of Verizon Wireless Heavenly nodes with small low-power antennas that serve the immediate surroundings such as the tram building and Lakeview Lodge. Additionally, this location is only 700 feet northeast of Verizon Wireless's Angels Roost facility which serves the ski area to the south.

A new facility at this location would duplicate the coverage of these existing facilities, constituting inefficient network design. As explained in the original Alternatives Analysis, new high-elevation facilities would introduce substantial signal interference for other Verizon Wireless facilities around Lake Tahoe. This is why the Angel's Roost facility does not have antenna sectors facing north toward the lake. Verizon Wireless RF engineers determined that a facility at this location cannot serve the Significant Gap due to distance and the inability to direct antennas northwest toward the gap because of interference. This is not a feasible alternative to the Proposed Facility.

37. Sitzmark Knoll

Address: 1528 Wildwood Avenue

Elevation: 6,680 feet



Appellants raised this small hill on an undeveloped 5-acre parcel owned by Heavenly Resort, 0.3 miles east of the Proposed Facility and approximately 305 feet greater in elevation. This location is near Verizon Wireless's existing Heavenly Adventure Hub Node and the pending Tahoe Seasons facility which serve distinct coverage objectives east of the Significant Gap. A facility at this distant location would duplicate the coverage of the existing and pending facilities, constituting inefficient network design.

This location is on sloped, undeveloped property, where a new tower foundation, equipment area, access road and fiber/electric utility lines would require grading and removal of trees, posing substantial environmental impacts, if feasible at all. This hill is within TRPA Land Capability District 2, where new land coverage or disturbance is prohibited, unless there is no reasonable alternative that avoids or reduces encroachment in Districts 1-3. The Proposed Facility, located on a developed parcel next to existing access, will not result in new net land coverage. This is neither a feasible nor less intrusive alternative to the Proposed Facility.

38. Powerline

Address: South of Saddle Road, Northeast of Bode Drive
Elevation: 6,400 feet

Appellants raised this location at the west end of an electric powerline spanning utility poles along U.S. Forest Service property, 0.5 miles southwest of the Proposed Facility and 25 feet greater in elevation. This location is 350 feet east of the Temple Bat Yam, reviewed as Alternative 32 in the 2019 Alternatives Analysis, where RF engineers determined that a facility with a very high 180-foot antenna centerline could not serve the entire extent of the Significant Gap. While this powerline location is 55 feet greater in elevation than the Temple Bat Yam site, it is closer to the topographic obstructions to the northeast that would block signal.

TRPA has designated the land use of this property as conservation. This location is on steeply-sloped property, undeveloped aside from the powerline. A new tower foundation, equipment area, access road and fiber utility line would require grading and likely removal of trees, posing substantial environmental impacts. All land along the powerline uphill farther east is within TRPA Land Capability Districts 1A and 2, where new land coverage or disturbance is prohibited, unless there is no reasonable alternative that avoids or reduces encroachment in Districts 1-3, such as the Proposed Facility. This is not a less intrusive alternative to the Proposed Facility.

Excerpt of Appellants' Map of Powerline Location



IV. Conclusion

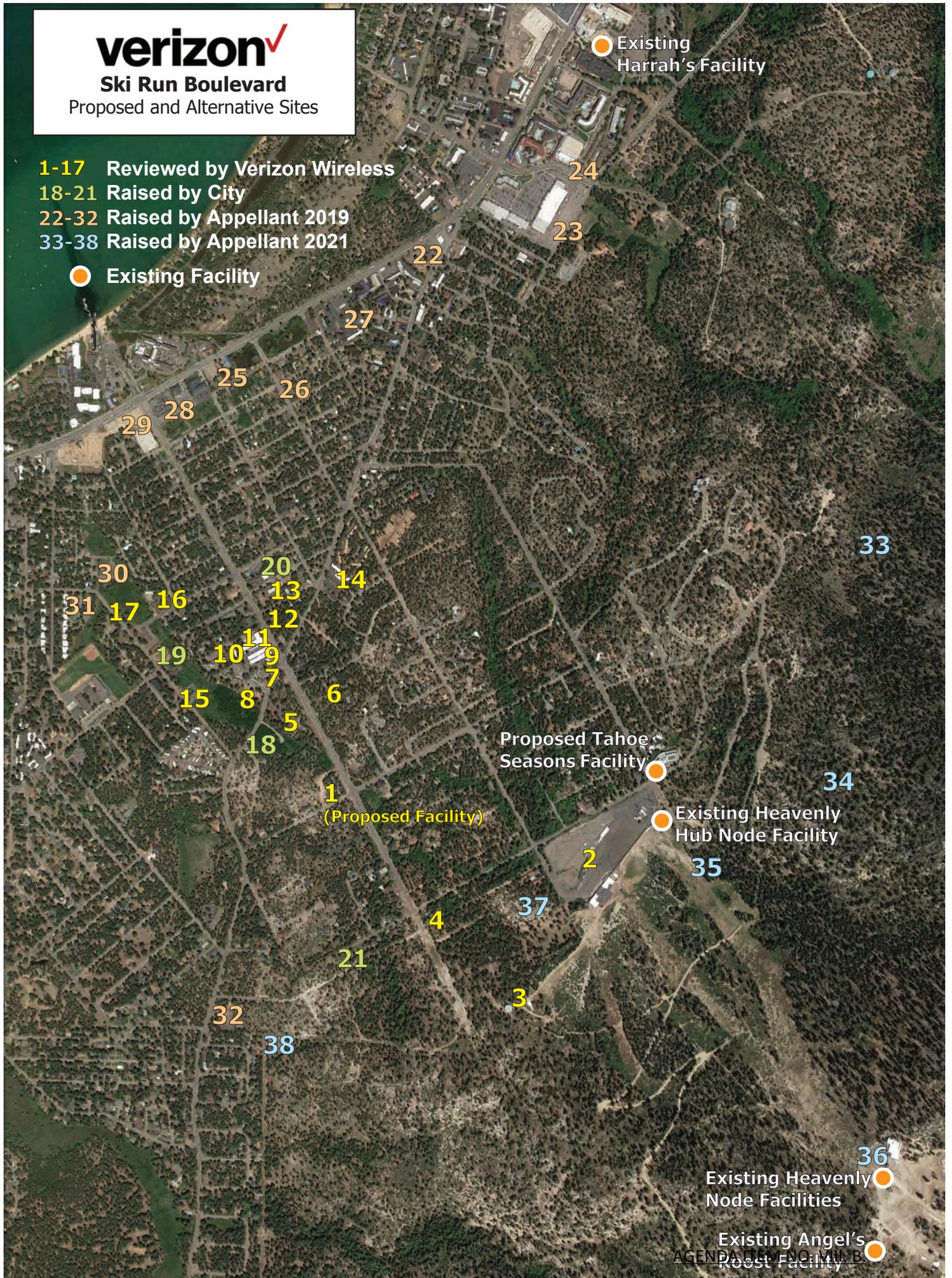
Updated information about Alternatives 2, 5 and 7 continues to confirm that those alternatives are infeasible, and new alternatives raised by Appellants are infeasible and/or more intrusive than the Proposed Facility. The conclusion of the 2019 Alternatives Analysis remains the same, that the Proposed Facility is the least intrusive feasible alternative to serve the Significant Gap.



Ski Run Boulevard Proposed and Alternative Sites

- 1-17 Reviewed by Verizon Wireless
- 18-21 Raised by City
- 22-32 Raised by Appellant 2019
- 33-38 Raised by Appellant 2021

● Existing Facility





October 12, 2021

To: Tahoe Regional Planning Agency

**From: Charlie Schwartz, Radio Frequency Engineering Manager
Verizon Wireless Global Network and Technology**

**Subject: Statement Regarding Verizon Wireless's Proposed Facility
1360 Ski Run Boulevard**

I manage Verizon Wireless's radio frequency engineering department for Northern California and Northern Nevada, and I oversee network design including selection of new facility locations.

I have reviewed the current status of Verizon Wireless network coverage and capacity in the South Lake Tahoe area. My review confirms the continued need for Verizon Wireless's proposed facility at 1360 Ski Run Boulevard to serve a significant gap in service in the Heavenly Valley and Bijou Park areas. Even with the recently-constructed and approved facilities 0.6 miles east at the Heavenly World Cup ski lift and Tahoe Seasons Resort, there will remain a significant gap in Verizon Wireless network coverage in these areas.

Additionally, the proposed facility is required to meet the rapidly-increasing demand on Verizon Wireless network capacity. Customer data usage in the south shore area has more than doubled in the last two years.

I also have reviewed Verizon Wireless's Alternatives Analysis dated December 19, 2019. For those alternatives discounted due to inability to serve the significant gap, I have confirmed that the coverage maps continue to accurately depict their coverage deficiencies compared to the proposed facility at 1360 Ski Run Boulevard. The recently-constructed and approved facilities to the east cannot cure the coverage and capacity deficiencies of those alternative sites. In particular, tower alternatives downslope to the north could not provide the broad coverage of the proposed facility that is needed to serve the significant gap, even with an antenna centerline similar to the proposed facility (Alternative 8, 3521 Pioneer Trail South, and Alternative 12, 3672 Willow Avenue South).

Respectfully submitted,

A handwritten signature in cursive script that reads "Charles H. Schwartz".

Charlie Schwartz
Radio Frequency Engineering Manager
Verizon Wireless



March 3, 2022

To: Tahoe Regional Planning Agency

**From: Charlie Schwartz, Radio Frequency Design Engineer
Verizon Wireless Network Engineering Department**

**Subject: Statement in Support of Verizon Wireless’s Proposed Facility
1360 Ski Run Boulevard**

Executive Summary

Verizon Wireless has identified a significant gap in service in the Heavenly Valley and Bijou Park areas of South Lake Tahoe. The existing and proposed Verizon Wireless macro facilities in the greater vicinity are too distant to provide coverage and strong dominant signal to the gap area. Small cell facilities in the vicinity provide additional network capacity only to targeted areas with a small coverage footprint.

Further, accelerated growth in voice and data use by Verizon Wireless customers has increased the demand on the existing Verizon Wireless network in a manner that compromises network accessibility and reliability. Due to the high number of visitors to the area, the network already experiences spikes in demand during winter ski season and summer holidays that exhaust network resources and degrade service. During June 2021, downlink data volume was more than 2.5 times the volume during June 2019.

In the South Lake Tahoe area, 36 percent of Verizon Wireless’s bandwidth currently in use is in the mid-band AWS (2100 MHz) and PCS (1900 MHz) frequencies. 64 percent is in the low-band frequencies (700 and 850 MHz). With higher frequencies, the mid-band service provides much greater data capacity. However, the mid-band frequencies do not travel as far as low-band frequencies, and require facilities closer together and closer to the end user to provide reliable service.

Verizon Wireless recently licensed mid-band frequencies in the CBRS and C-band ranges (3550-4000 MHz) and will begin deploying these soon. However, with even higher frequencies, CBRS and C-band signal do not travel as far as low-band frequencies, and have less range than the AWS and PCS bands. Once C-Band is fully deployed, over 80 percent of the available bandwidth in the South Lake Tahoe area will be within the mid-band range. Verizon Wireless designs its networks to ensure that mid-band frequencies can provide adequate capacity as well as coverage.

The coverage gap and capacity issues described below constitute the “significant gap” Verizon Wireless seeks to serve (the “Significant Gap”). To provide reliable service and avoid further degradation of Verizon Wireless service in the Heavenly Valley and Bijou Park areas, the Significant Gap must be remedied through construction of a new stealth tower facility at 1360 Ski Run Boulevard (the “Proposed Facility”).

Verizon Wireless Services

Verizon Wireless provides personal wireless services, a category of “telecommunications services,” which includes voice services that allow users of mobile, handheld telephones to place and receive calls to other mobile and landline telephone users through the national, switched telephone network using conventional telephone numbers. This includes the ability of such users to connect to emergency personnel through dialing 911. Verizon Wireless’s network also provides information services through its wireless facilities, including the Proposed Facility. These information services include wireless broadband, mobile data networks, and connection to the internet, which Verizon Wireless provides using the same infrastructure as its personal wireless services.

Current Network Status

The Significant Gap in the Heavenly Valley and Bijou Park areas currently receives inadequate service coverage from existing Verizon Wireless macro facilities: the Tahoe PD macro facility 1.25 miles west of the proposed facility, the Kokanee facility 1.25 miles southwest, the Harrah’s facility 1.5 miles northeast, and the South Lake Tahoe (Harvey’s) facility 1.6 miles northeast.

There are five Verizon Wireless small cells in public rights-of-way in the vicinity of the Proposed Facility. Each has a small coverage footprint that provides needed Verizon Wireless network capacity to a targeted area, which will continue after the Proposed Facility is in service. Small cells cannot provide the ubiquitous umbrella coverage required to close a significant gap, which is provided by macro facilities.

- Node 016 – 0.25 miles northwest of the Proposed Facility
- Node 021 – 0.45 miles north
- Node 017 – 0.15 miles southwest
- Node 058 – 0.45 miles southwest
- Node 073 – 0.25 miles west

Other facilities in the greater vicinity cannot serve the gap. The Heavenly Adventure Hub Node 0.6 miles east is low height, with small antennas that primarily serve the Heavenly parking lot, but not the gap area. The Angel’s Roost macro facility near the top of the Heavenly Gunbarrel Express lift, 1.25 miles southeast, does not serve the gap because it is over 1,900 feet greater in elevation with antenna sectors facing the opposite direction.

The Tahoe Seasons facility (approved by the City of South Lake Tahoe in 2020, and pending review by TRPA) will be 0.6 miles east, beyond the gap area, and it will not provide sufficient service coverage to the gap.

Coverage Gap

Verizon Wireless is experiencing a gap in its service coverage in the Heavenly Valley and Bijou Park areas (the “Coverage Gap”). To the west of the Proposed Facility, reliable AWS in-building service is lacking in an area roughly bounded by Glenwood Way to the west, Deer Lane and Tamarack Avenue to the north, Heavenly Valley Mobile Estates to the east, and Gilmore Lake Road to the south. There is also a lack of in-vehicle service in and around this area, extending as far west as a stretch of Johnson Boulevard south of Highway 50.

To the north, east and south of the Proposed Facility, there will remain a lack of reliable AWS in-building service even after the Tahoe Seasons facility is in service, extending east to some residential areas along Wildwood Avenue and south along Saddle Road. Pockets in these areas lack reliable in-vehicle service.

The Proposed Facility will provide new reliable AWS in-building coverage to those areas where lacking, as well as new reliable in-vehicle service to a larger area. In total, the Proposed Facility will provide reliable service to an area of 1.1 square miles and a population of 2,895. While the network provides service to local residents, it also must serve the many visitors to South Lake Tahoe, estimated in the millions annually, who need reliable service when traveling.

A graphic description of the predicted coverage gap is shown in the first coverage map. The second coverage map includes the improved coverage to be provided by the Proposed Facility. The third map includes coverage of the Proposed Facility and the Tahoe Seasons Facility that is pending review by TRPA.

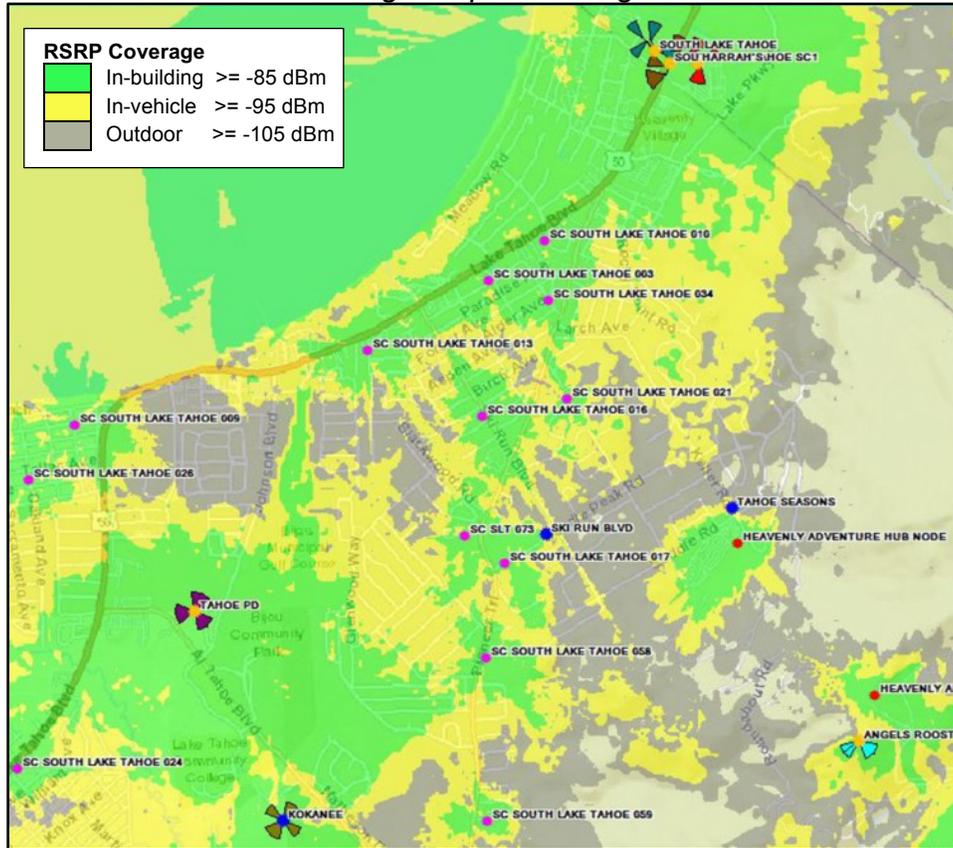
The coverage maps have been prepared using the AWS (2100 MHz) frequency band. The AWS and PCS (1900 MHz) bands use similar frequencies and have similar propagation characteristics, and currently provide the majority of Verizon Wireless service capacity in the area.

Referenced signal receive power (RSRP) is a measurement of signal level in decibels (dBm), which is a negative number that decreases due to distance and other factors. For the coverage maps, the AWS RSRP coverage thresholds are:

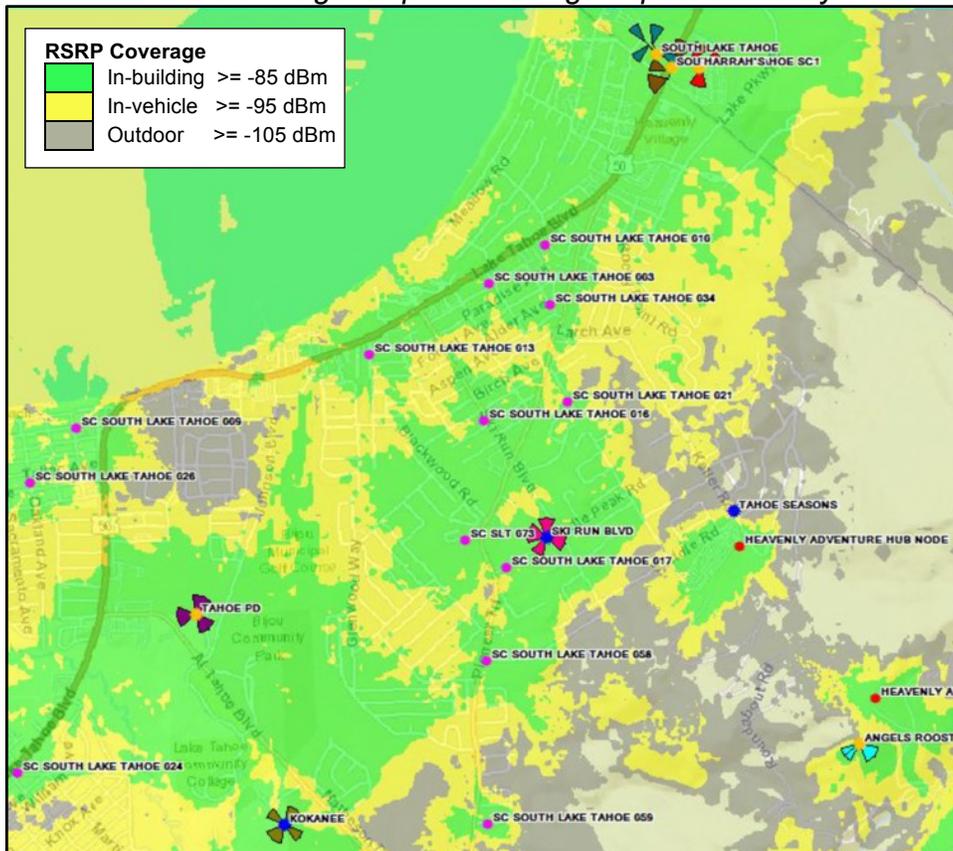
	In-building \geq -85 dBm. Green depicts good coverage that meets or exceeds thresholds for reliable network coverage in homes and vehicles.
	In-vehicle \geq -95 dBm. Yellow depicts reliable in-vehicle coverage only.
	Outdoor \geq -105 dBm. Gray depicts reliable outdoor service only.

Unshaded areas do not receive reliable service levels.

AWS Coverage Map – Existing Facilities



AWS Coverage Map – Including Proposed Facility



A lack of reliable dominant signal compromises system performance for Verizon Wireless customers, including those in transit, resulting in unreliable service, particularly during busy hours. This affects the reliability of Verizon Wireless service for residents, workers and visitors as well as for communications with emergency services personnel.

At times of high traffic volume, the coverage area of Verizon Wireless facilities shrinks to accommodate an increasing number of mobile devices closer to each facility. As a result, the coverage gap expands and is exacerbated during times of high customer usage. This contraction of coverage has become more relevant as the volume of voice and data services used by wireless customers has increased rapidly over time. According to CTIA's *2021 Annual Survey Highlights*, mobile wireless data traffic has more than doubled since 2016.

As shown on the second best server plot, the Proposed Facility is strategically located to provide strong new dominant signal to the gap area. This will relieve demand on the distant macro facilities and local small cells, allowing each facility to concentrate its resources on users closer to each location.

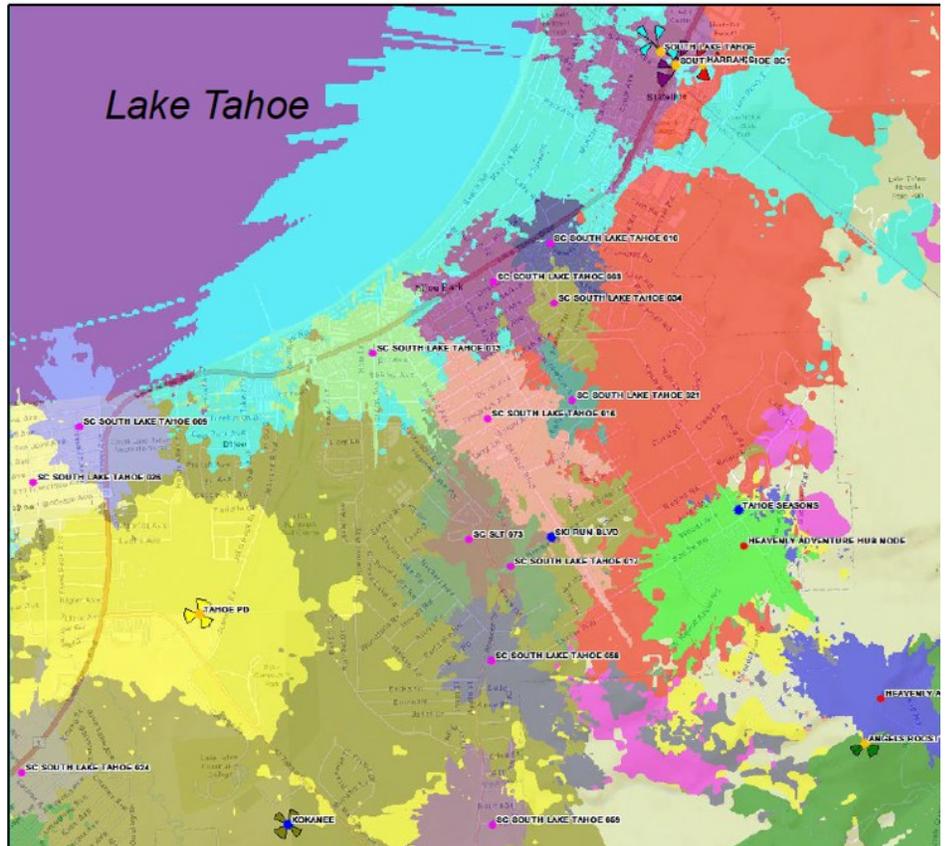
The third best server plot adds the dominant signal of the Tahoe Seasons facility that is pending approval. Its dominant signal will be confined to a distinct area east of the Significant Gap to be served by the Proposed Facility.

Best Server Map – Existing Facilities

AWS Best Server Maps

Existing facilities serving gap

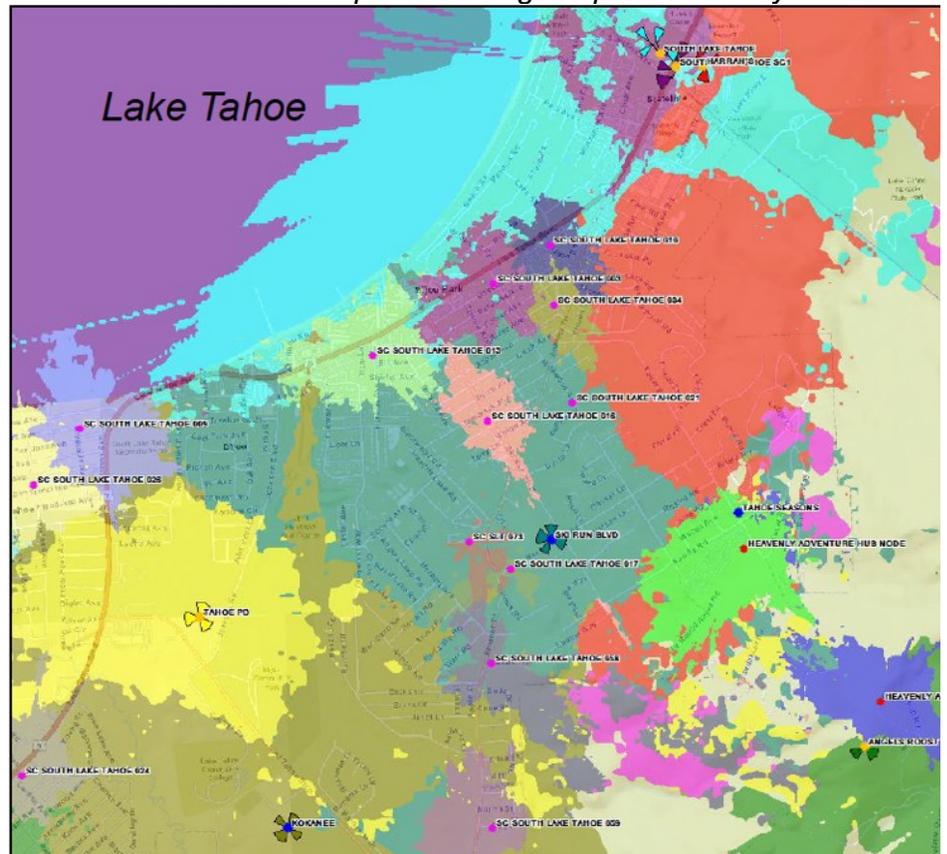
	Kokanee Facility
	Tahoe PD Facility
	Harrah's Facility
	SLT Facility (Harvey's)
	Heavenly Adventure Hub
	Small Cell Node 016
	Small Cell Node 017
	Small Cell Node 021
	Small Cell Node 058
	Small Cell Node 073



Best Server Map – Including Proposed Facility

Proposed facility

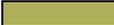
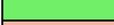
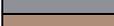
	Ski Run Boulevard Facility
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Best Server Map – Including Proposed Facility and Tahoe Seasons Facility

AWS Best Server Maps

Existing facilities serving gap

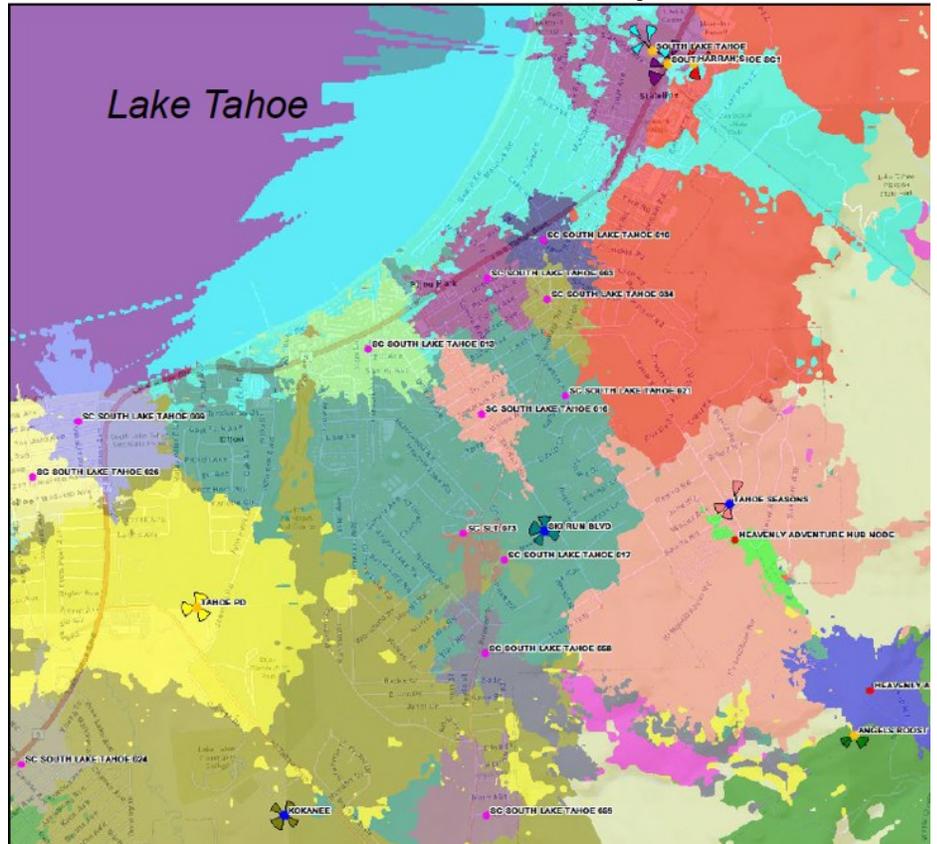
	Kokanee Facility
	Tahoe PD Facility
	Harrah's Facility
	SLT Facility (Harvey's)
	Heavenly Adventure Hub
	Small Cell Node 016
	Small Cell Node 017
	Small Cell Node 021
	Small Cell Node 058
	Small Cell Node 073

Proposed facility

	Ski Run Boulevard Facility
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Pending approval

	Tahoe Seasons Facility
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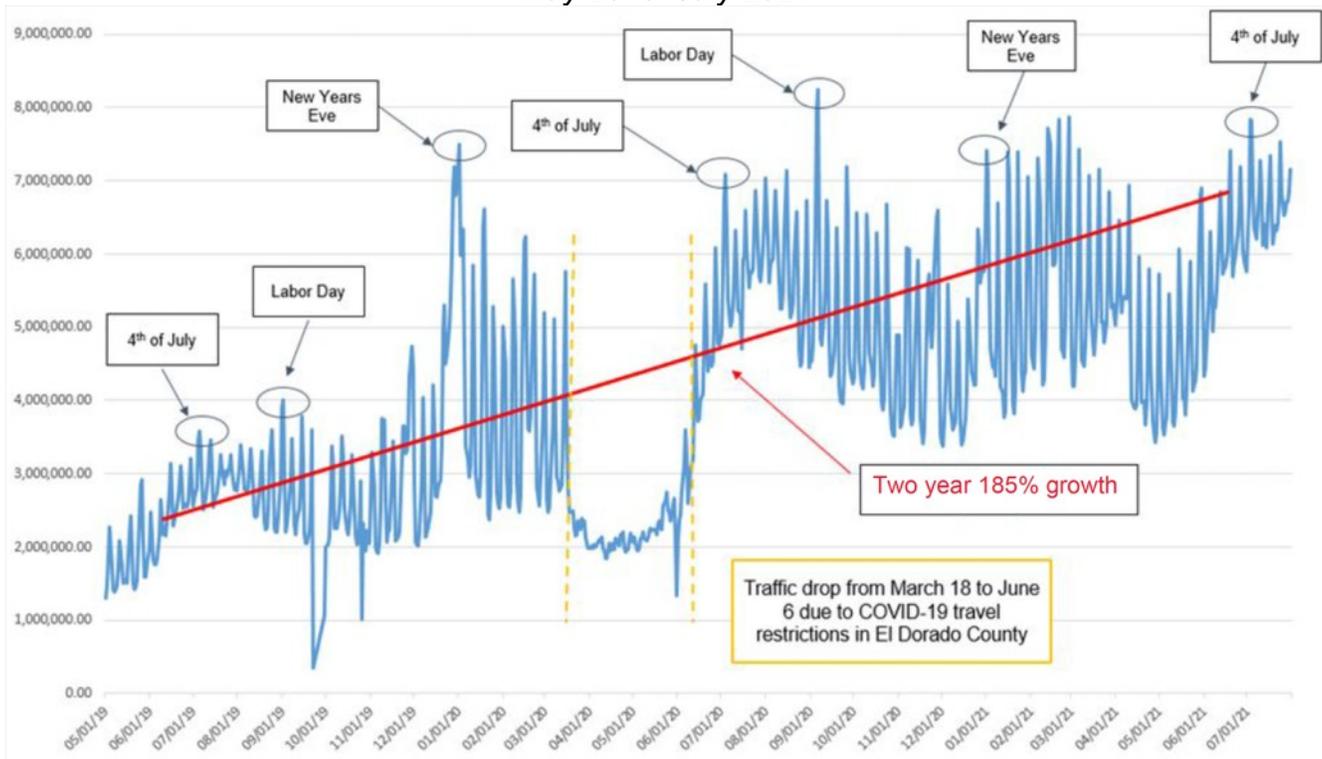


Capacity Demand

While the network provides service to local residents and workers, it also must serve the many visitors to South Lake Tahoe, estimated in the millions annually in a typical year. Visitor accommodations in particular require reliable in-building service, as do travelers on local roadways.

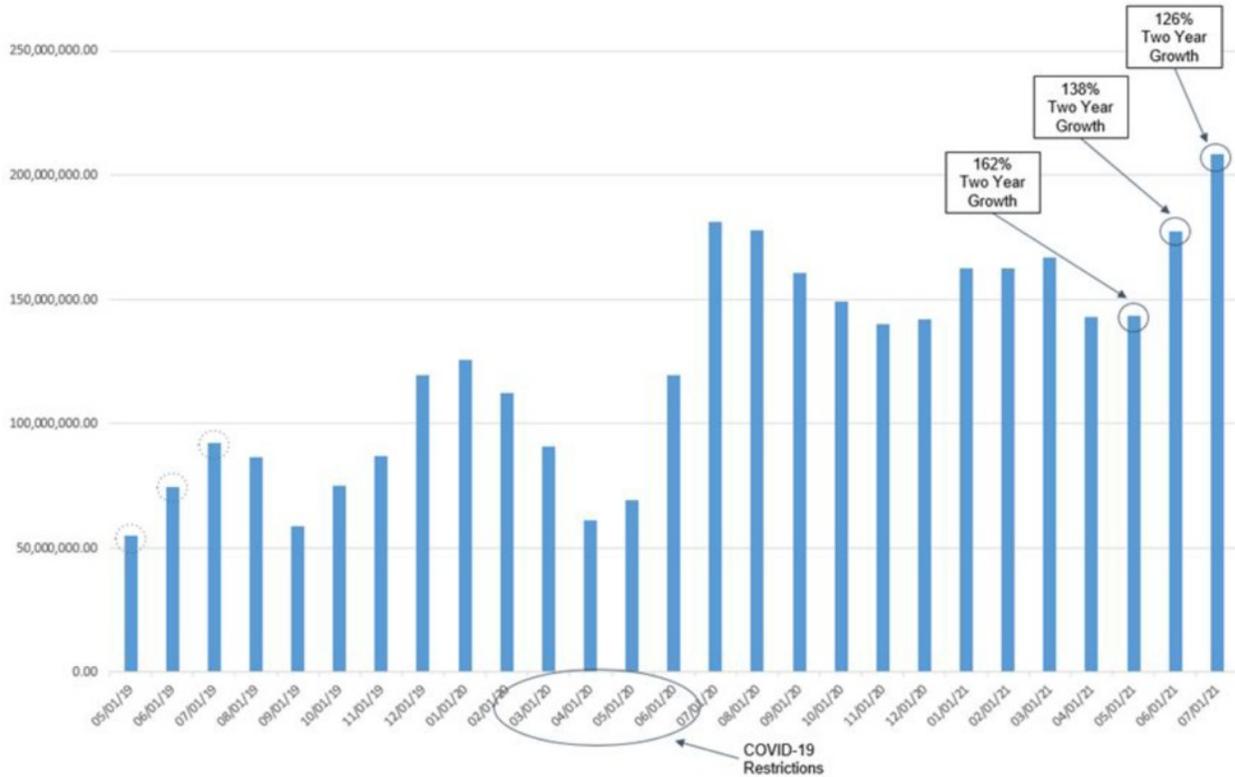
The following graph depicts daily downlink data volume over 26 months through July 2021 for Verizon Wireless facilities serving the south shore area (nine macro facilities and 31 small cells). The red line shows the two-year growth trend, demonstrating that demand increased 185 percent over two years, despite the three-month drop during Spring 2020 due to COVID-19 restrictions. There are significant spikes in demand during holidays, such as New Year's Eve and the Fourth of July (Independence Day).

*Daily Downlink Data Volume in Megabytes
Verizon Wireless Facilities Serving South Shore Area
May 2019–July 2021*



The next chart depicts monthly downlink data volume during the same 26-month period for the Verizon Wireless facilities serving the south shore area, showing a marked increase in data use over two years. As compared to the same period in 2019, the months of May through July 2021 showed significant increases in monthly data volume, as much as a 162 percent increase from June 2019 to June 2021. Data use during July 2021 was higher than any previous month.

*Monthly Downlink Data Volume in Megabytes
Verizon Wireless Facilities Serving South Shore Area
May 2019–July 2021*



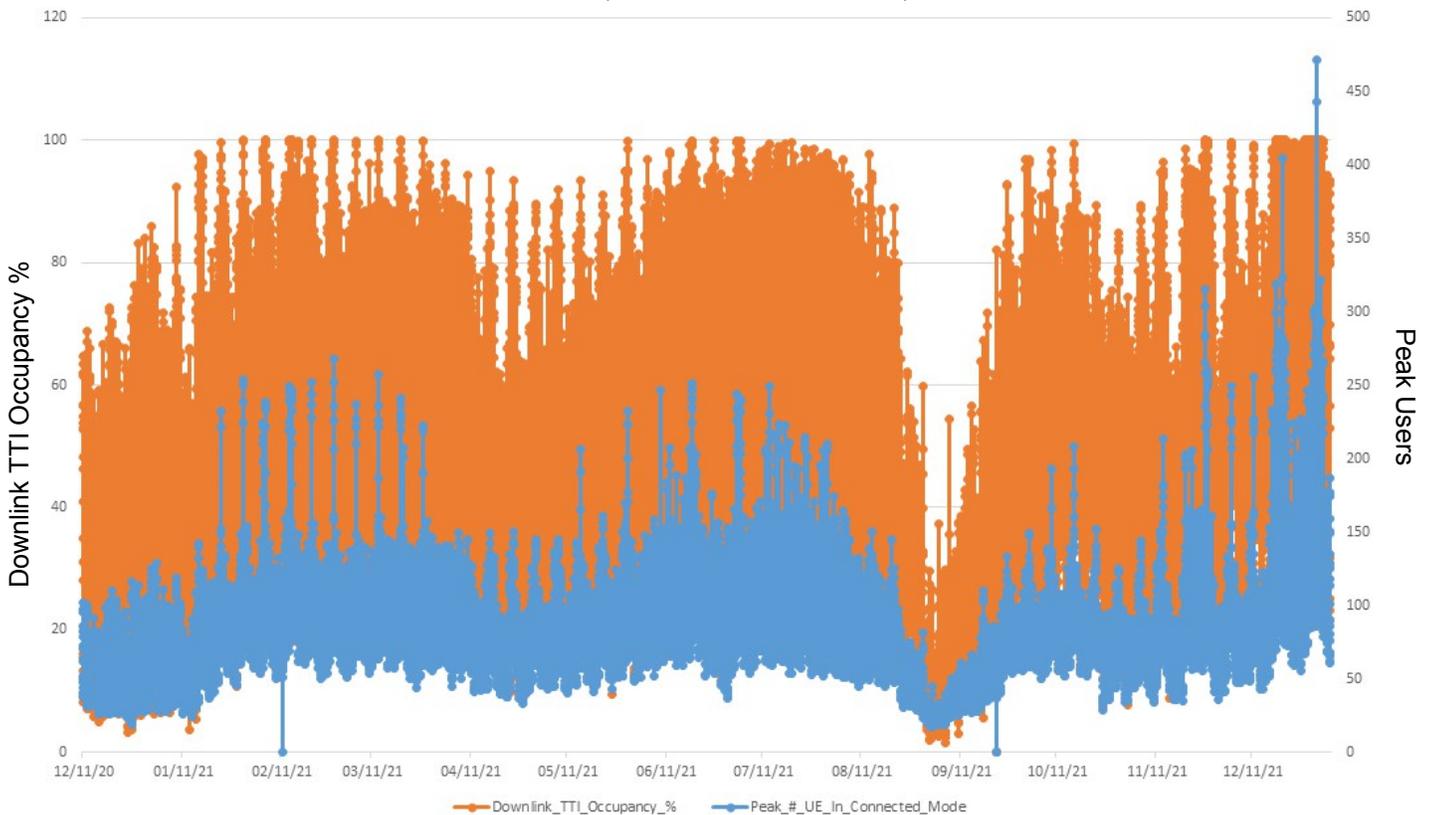
Seasonal high demand exhausts the existing Harrah’s facility, 1.5 miles northeast of the Proposed Facility. Its Gamma (southwest-facing) antenna sector serves a broad area, including a portion of the gap and the busy Heavenly Village.

The following chart shows two types of data for the Harrah’s facility Gamma sector:

- **Peak TTI Occupancy:** The peak downlink channel TTI occupancy within a one-hour period. Transmission time interval (TTI) occupancy is the percentage of the sector’s data resource blocks that is in use within a fixed timeframe.
- **Peak Users:** The peak number of users connected with a one-hour period.

The chart shows data over a one-year period through December 2021 for the AWS frequency band that currently provides the majority of Verizon Wireless’s data capacity in the area. Each vertical line represents one day, and each dot represents a one-hour period, with the peak hourly data results higher on each line.

*Peak Downlink TTI Occupancy and Peak Users per Hour
Harrah’s Facility Gamma (Southwest-facing) Antenna Sector, AWS Band
December 11, 2020–December 31, 2021*



When TTI occupancy exceeds 95 percent, connectivity is very unstable and the facility cannot complete connections. Users attempting new connections to the facility are rejected, resulting in the inability to make calls or transmit text messages. Within this one-year period, there were 436 hours during which peak TTI occupancy exceeded 95 percent.

The chart demonstrates that demand is greatest during the winter ski season and summer recreation season. For example, during late December 2021, peak TTI occupancy was very high, reaching 100 percent (the maximum) on most days. The peak number of users was correspondingly high.

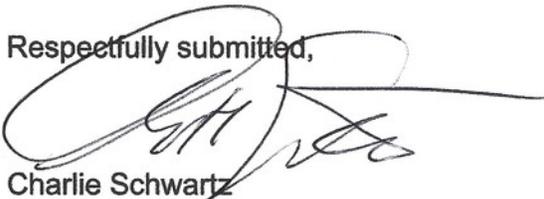
As shown on the best server maps, the Proposed Facility will provide new service to the area currently served by the Harrah's facility Gamma sector. This will relieve demand on the Harrah's facility, allowing it to concentrate its data resources on users nearby.

Conclusion

As cellular networks mature, the network must be supplemented with more sites closer to customers, in large measure due to the increase in usage of the network. The technology used by Verizon Wireless to provide fourth-generation service requires facilities closer to customers, and this service cannot be provided adequately by the existing facilities that serve the gap area. These coverage and capacity challenges have resulted in the Significant Gap in Verizon Wireless coverage and network capacity in the Heavenly Valley and Bijou Park areas of South Lake Tahoe. Verizon Wireless must deploy the Proposed Facility to provide reliable service to customers and to avoid further degradation of its network in the area of the Significant Gap.

Please feel free to contact me with any questions or comments regarding Verizon Wireless's proposed facilities.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'CS', with a large, sweeping flourish extending to the right.

Charlie Schwartz
RF Engineering Manager
Network Engineering Department
Verizon Wireless

My responsibilities include planning, design and implementation of improvements to network infrastructure to provide reliable service. I have 27 years of experience in the wireless telecommunications industry. I received my Associates Degree in Applied Science in electronic systems from the Community College of the United States Air Force.

Evaluation of Monopine Needles
Verizon Wireless Monopine, 1360 Ski Run Boulevard

Special Use Permit File # 19-026

Prepared for
Verizon Wireless



Bridgette Deshields, Principal Scientist
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Bridgette Deshields

A handwritten signature in black ink, appearing to read "Sean Culkin".

Sean L. Culkin, P.G., C.H.G.

March 3, 2022

INTRODUCTION

In the context of a permitting effort for a new cell phone tower at 1360 Ski Run Boulevard (APN 025-580-07), we were asked to evaluate whether the synthetic monopine needle structures used in the production of faux tree towers that provide stealthing to wireless communications facilities raise plastic pollution concerns, particularly with respect to nearby Lake Tahoe. The monopine needles are made of polyvinyl chloride (PVC), a type of hard plastic. The specific issue we have assessed is whether the plastic needles, which are “macroplastics” (i.e., large pieces of plastic) and can shed/fall from faux tree tower structures over time, could degrade to smaller pieces over time (i.e., become “microplastics”) and possibly discharge to Lake Tahoe and impact water quality, fish, and wildlife.

In summary, because of their composition, the material specifications, and the methods of usage and maintenance, significant breakdown of monopine needles into microplastics that would lead to pollution of waterways is unlikely. Specifically:

- The type of material used for monopine needles (PVC) is not a predominant source of microplastics found in water bodies.
- There is no evidence that monopine needles used on cell towers generate microplastics or pose a significant risk to water quality, fish, or wildlife.
- Migration of monopine needles from the proposed tower site into Lake Tahoe is unlikely.
- In the unlikely event that monopine needles would migrate downgradient, existing management plans to manage runoff, trash, and plastics will prevent transport plastics from the proposed tower via surface water transport to Lake Tahoe.
- Existing local barriers and planned maintenance will minimize any plastic accumulation or potential migration.

In summary, due to the nature of the materials (which are designed to be durable), the lack of environmental conditions that would facilitate degradation, the lack of transport pathways, and measures in place to reduce inputs from the watershed to the lake, pollution of the lake from monopine needles at the cell phone tower proposed for 1360 Ski Run Boulevard is unlikely.

Resumes (Curriculum vitae) for the authors, Bridgette DeShields and Sean Culkin, are attached.

PVC AND MONOPINE NEEDLES

Monopine needles consist of a spine and “needles” that mimic the appearance of a pine tree. Based on information from the manufacturer, the spine and the needles are made of PVC. They

are designed to be relatively durable in the environment, although the materials can “shed” from the structure over time.

PVC is a widely used plastic (the third-most widely produced synthetic plastic polymer, after polyethylene and polypropylene).¹ It is commonly used for infrastructure (e.g., pipes, decking, siding) and a variety of molded products (household products, medical devices) because it is stable, maintains its integrity, and resists degradation.

Studies have shown that major mechanisms of microplastic generation within surface water bodies are either by weathering on beaches² or mechanical stress and photo- or bio-degradation in the water body itself.³ A study by U.C. Santa Barbara indicated that large, rigid plastic pieces may not be major sources of microplastics and nanoplastics to water bodies.⁴ Therefore, relatively large, rigid plastics like the majority of the components on the PVC branches and monopine needles on faux tree tower structures have less potential for breakdown to microplastics in the relatively static, upland environment in which they would be deposited, as is observed at the proposed site at Ski Run Boulevard.

PLASTICS IN THE ENVIRONMENT

Plastic pollution is of global concern, particularly in surface water bodies. Several studies and management plans to address trash, including plastics, are ongoing in California and the Lake Tahoe region and discussed below.

Lake Tahoe Region Microplastics Studies

Studies of microplastics in Lake Tahoe are in progress and detailed study reports providing the data have yet to be published. However, there are overviews and summary information available for the studies in progress.⁵ In summary, the available information shows:

- A wide variety of types of plastics have been found in the lake. The type of plastic used for monopine needles, PVC, is not a major contributor of the plastics found in the lake (see Figures 1 and 2 below).
- The main sources of microplastics from studies in Lake Tahoe (and elsewhere) include clothing fibers, microbeads, rubber, cigarette filters, toys, food packaging, disposable

¹ <https://www.sciencedirect.com/topics/materials-science/polyvinyl-chloride>

² <https://www.sciencedirect.com/science/article/pii/S0025326X11003055?via%3Dihub>

³ <https://pubs.rsc.org/en/content/articlehtml/2021/em/d0em00446d>

⁴ <https://pubs.acs.org/doi/10.1021/acssuschemeng.9b06635>

⁵ https://lands.nv.gov/uploads/documents/CUTL_2020_REPORT_Version_1.pdf

containers and cups, and plastic bottles and bags. Also, prevalent plastics are those generated from items from boats and recreational activities (including fiberglass).

- Predominant plastic constituents include polyethylene and plastic fibers (e.g., nylon polyester and acrylic).

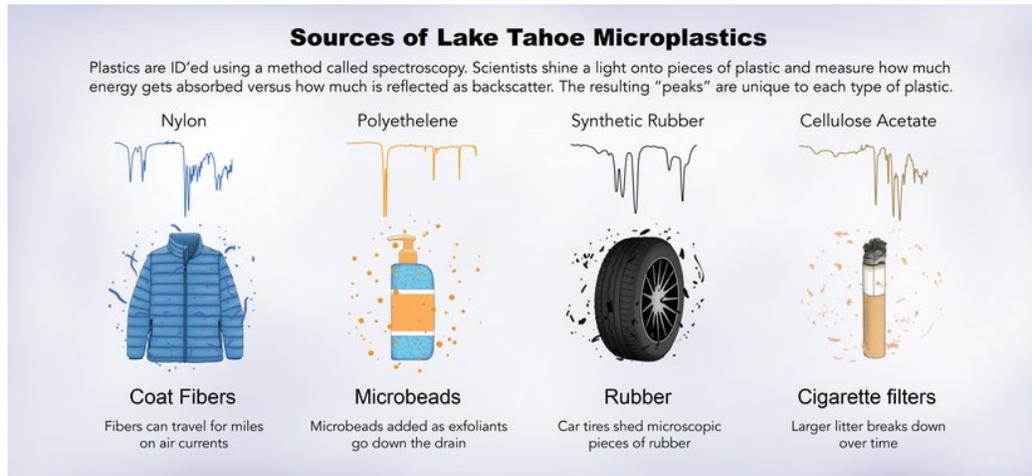
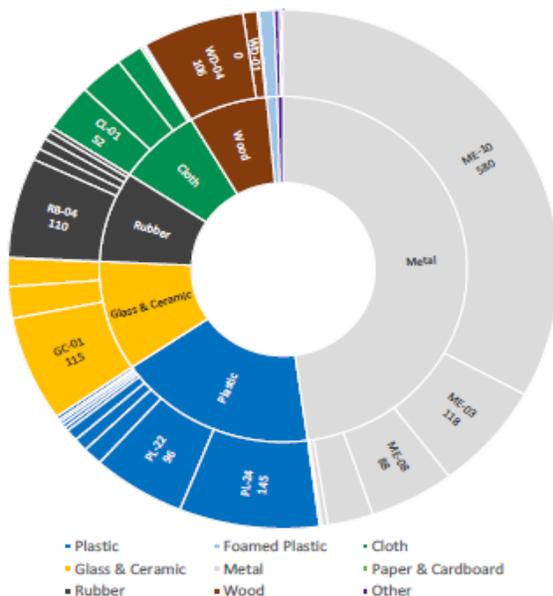


Figure 1. Sourced from "Lake Tahoe's pristine legacy threatened by microplastics": <https://ucscsciencenotes.com/feature/lake-tahoes-pristine-legacy-threatened-by-microplastics/>.



From a pollutant stand point, it is important to note that items in the rubber and cloth material categories are often comprised of plastic. Rubber tires are partially or entirely made of synthetic rubbers, which are polymers similar to plastics. Synthetic and synthetic blend clothing (e.g. polyester, elastics) and ropes are composed of plastic fibers.

Figure 2: Sourced from "A Clean Up The Lake Report: Results of the 2020 Lake Tahoe SCUBA-Enabled Litter Cleanup Dives" (March 24, 2021)⁵ showing litter removed by weight per material (inner ring) and material sorting category (outer ring). Major categories include the category ID and total weight removed over the 6-mile cleanup (data labels).

Other Microplastics Studies

Because limited data are available from the ongoing microplastics studies in Lake Tahoe, we examined other more comprehensive and complete studies for water bodies in California. Although PVC is widely used, as discussed above, studies show no evidence that PVC fragments are a significant contributor of microplastics to these water bodies since they are not found in high abundance relative to other types of plastic. This may be due to the lower degradation rate of PVC relative to other plastics.⁶

A relevant study for San Francisco Bay⁷ provides a large and comprehensive data set expected to be representative of other large water bodies. Similar to Lake Tahoe, several tributaries and storm drain systems empty into San Francisco Bay. San Francisco Bay is more developed and urban than Lake Tahoe, so it is likely that it receives a higher volume of plastic pollution. However, the types of plastic pollution are likely similar, although there could be more sources of PVC given its widespread usage in the Bay Area. The Bay Area also likely has many more cell towers with monopine needles. In fact, based on information from Verizon Wireless, there are approximately seven times more cell towers with monopine needles in the Bay Area than in the Tahoe basin.

In summary, the San Francisco Bay microplastics study (Figures 3 and 4) showed:

- Stormwater showed that fragments (59%) and fibers (39%) are the main microplastic items found, with nearly half of the fragments consisting of rubber.
- In surface water, the dominant microplastic particle type was fibers. Polyethylene and polypropylene fragments, polystyrene foams, and polyethylene and polypropylene films made up a majority of the microparticles (likely from single-use plastic items, packaging, and plastic bags). Polyethylene beads were also identified, possibly linked to microbeads found in personal care and cleaning products.
- The predominant type of microplastics found in fish were also fibers.
- PVC was not listed as a predominant source of microplastics.

⁶ <https://pubs.acs.org/doi/10.1021/acssuschemeng.9b06635>

⁷ https://www.sfei.org/sites/default/files/biblio_files/Microplastic%20Levels%20in%20SF%20Bay%20-%20Final%20Report.pdf

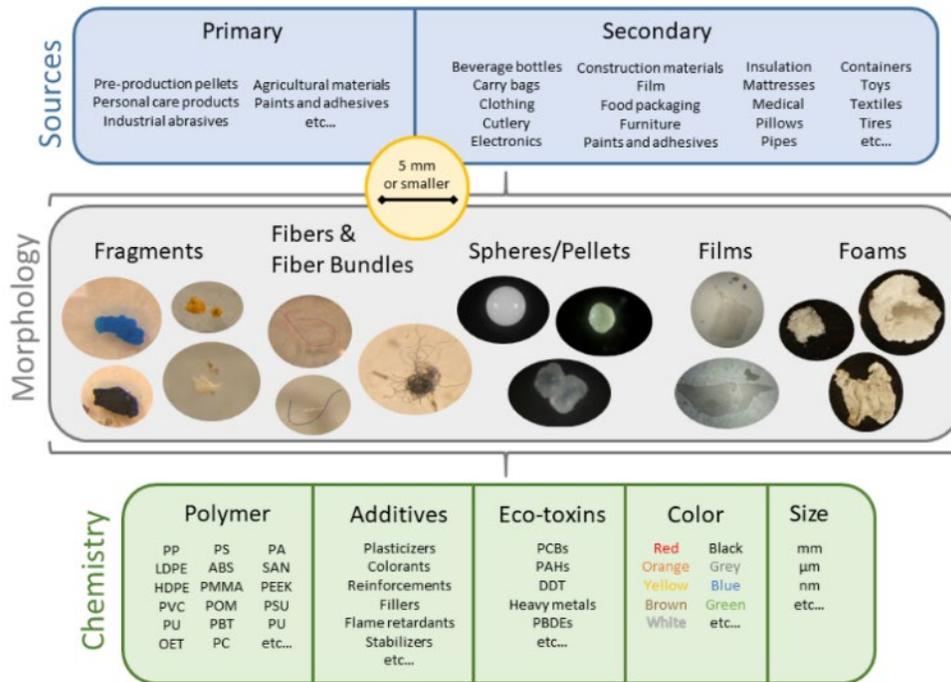


Figure 1.1. Microplastics are a diverse class of contaminants. Figure adapted from Rochman et al., 2019; Tanaka and Takada, 2016; and Wessel et al., 2016.

Figure 3. Sourced from: “Understanding Microplastic Levels, Pathways, and Transport.”:
https://www.sfei.org/sites/default/files/biblio_files/Microplastic%20Levels%20in%20SF%20Bay%20-%20Final%20Report.pdf

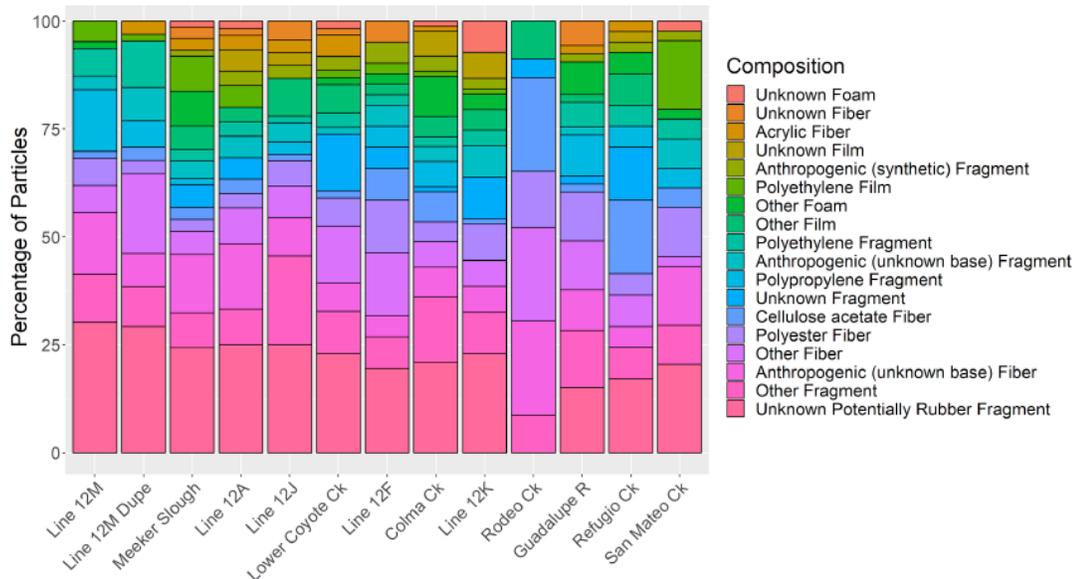


Figure 2.5. Polymer type distribution for microparticles. Polyethylene, polypropylene, cellulose acetate, polyester, and rubber are considered plastic. The most abundant 14 categories of particles are listed, while the abundances of all other particles are combined into the categories labeled “Other.”

Figure 4. Sourced from: “Understanding Microplastic Levels, Pathways, and Transport.”:
https://www.sfei.org/sites/default/files/biblio_files/Microplastic%20Levels%20in%20SF%20Bay%20-%20Final%20Report.pdf

Although there are no specific estimates of the mass of plastics entering Lake Tahoe, the potential mass load of plastic from the proposed tower is expected to be very small due to limited potential for migration (see below). Furthermore, based on the findings of the studies summarized above and the nature of the materials (PVC, which resists degradation), monopine needles are not likely to be a significant source of microplastics to surface water.

SURFACE WATER MIGRATION POTENTIAL

Significant migration of monopine needles from the proposed tower site to Lake Tahoe via existing surface water pathways is unlikely, as outlined below. If any monopine needle pieces were to migrate outside the enclosure, very few would be likely to end up in Lake Tahoe because:

- There is no readily observable pathway for plastic falling in the immediate vicinity of the proposed tower to enter Bijou Park Creek via surface water runoff (see Figures 6 and 7 below).
 - The site of the proposed faux tree tower is currently occupied by a shed, which will be removed prior to construction of the tower, on the property of Hansen’s Snow Tube & Saucer Hill. The shed is at the edge of a slope that angles down towards Ski Run Boulevard. Verizon Wireless will construct a new shelter immediately adjacent to the tower.
 - Between the shed and Ski Run Boulevard are several buildings consisting of a motel, retaining wall, and other structures that would act as local barriers to surface water flow and any associated plastic transport.
 - The shed is approximately 330 linear feet from the uppermost section of Bijou Park Creek drainage area, which is off the property in the north-northwest direction. Separating the watershed from the creek drainage area is a sled/tubing run that appears in photos as a built-up berm that would also act as a barrier to surface water flow downslope of the proposed tower across the property line to the northeast (see image below).
 - The location of the proposed tower is not in the Bijou Park Creek Stream Environmental Zone (see Figure 8 below).
 - The location of the proposed tower is not within the documented 100-year flood inundation area of the creek (see Figure 9 below).
 - The location of the proposed tower is not within areas documented to be prone to flooding (see Figure 10 below).
 - The potential offsite surface water flow direction was observed to be predominantly in the direction of Ski Run Boulevard from the proposed tower site.

- The potential pathway for plastics from the uppermost drainage area of Bijou Park Creek through the creek to the outfall near Lake Tahoe Harbor is a distance of approximately 1.1 miles, and includes highly vegetated surface drainages that would act as a barrier to plastic monopine needle transport.
- The **Bijou Park Creek Watershed Restoration Project** is currently under development. When completed, the project would provide additional barriers for potential transport of plastic needles from the site of the proposed tower via Ski Run Boulevard or Bijou Park Creek. These proposed restoration activities include sediment traps, reduced stream gradient for upper Bijou Park Creek, and diversion of stormwater away from the Ski Run/Needle Peak intersection to an existing treatment basin.



Figure 5: View of proposed tower site from Needle Peak Road.



Figure 6: Proposed tower site.



Figure 7: View of the Hansen's Snow Tube & Saucer Hill from Ski Run Boulevard.

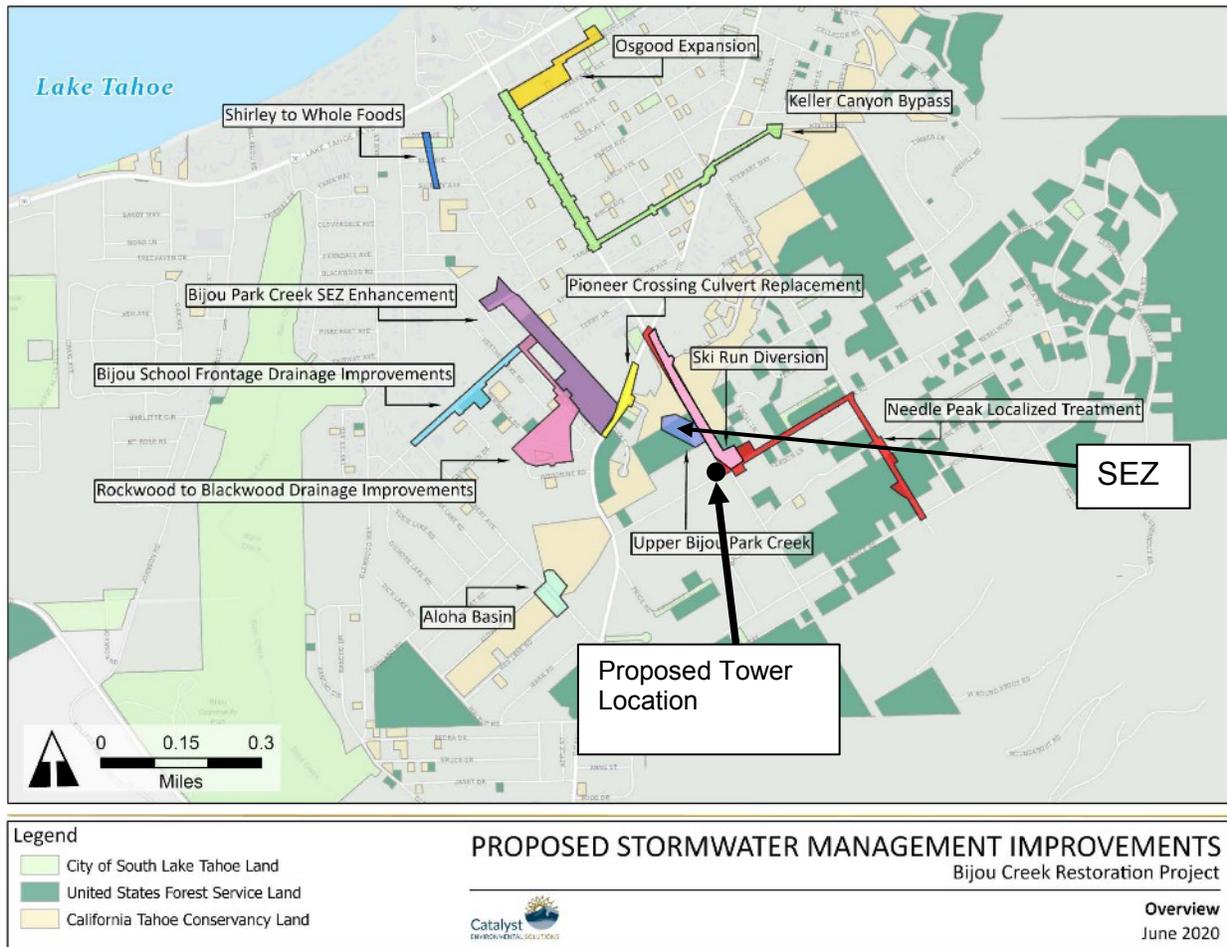


Figure 8: Map showing planned improvements for the Bijou Park Creek Stream Environment Zone (source: City of South Lake Tahoe 2020⁸).

⁸ City of South Lake Tahoe. 2020. Public meeting for the Bijou Park Creek Watershed Restoration Project. PowerPoint presentation. City of South Lake Tahoe, CA.

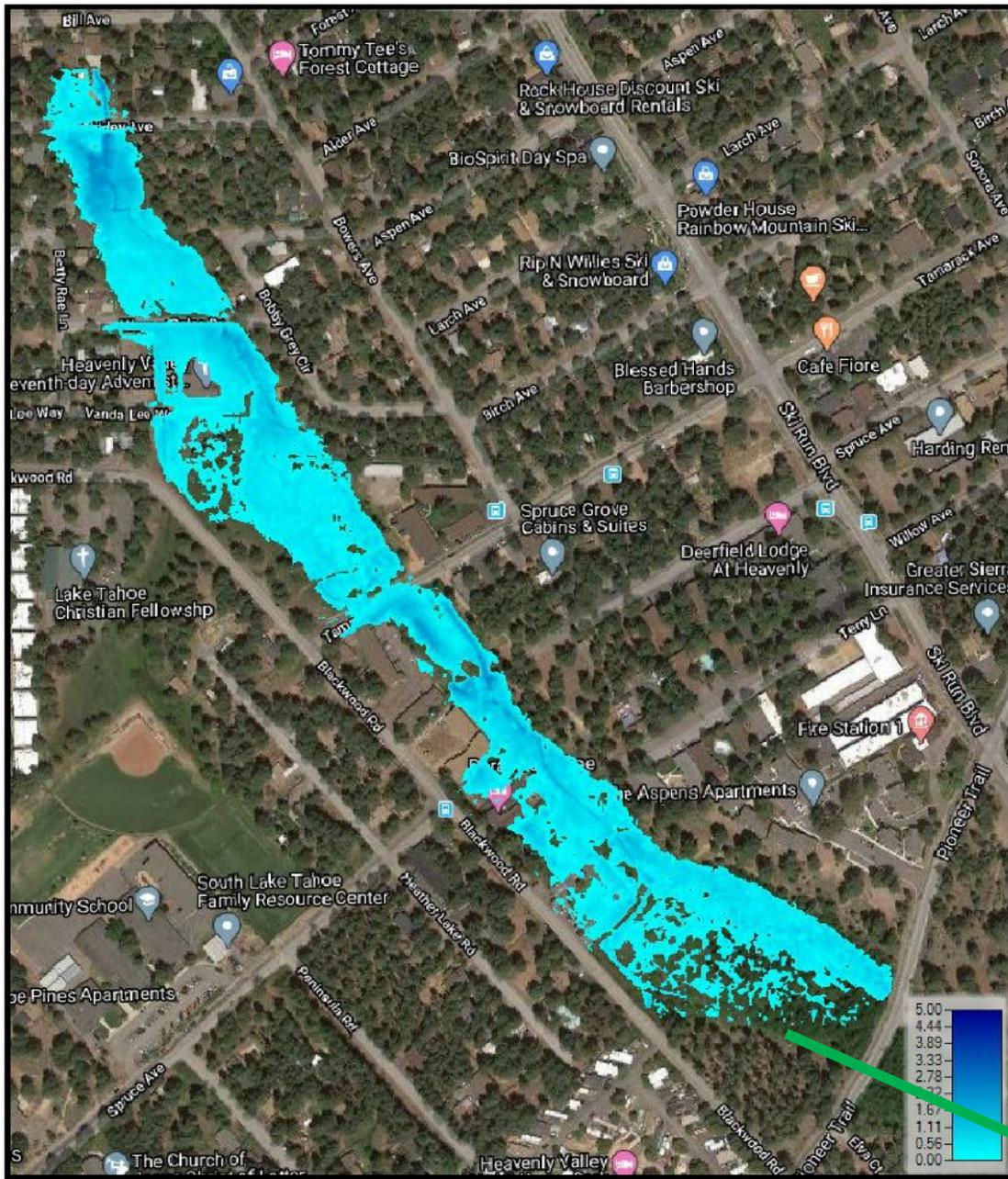


Figure 14. Bijou Park Creek Meadow 100-year flood inundation.

Figure 9: Bijou Park Creek Meadow 100-year flood inundation

NOTE: The proposed tower is off the map to the southeast (source: Wildscape 2020⁹).

⁹ Wildscape. 2020. Bijou Park Creek Watershed Restoration Project – Preliminary Design Report. Prepared for Public Works Department, City of South Lake Tahoe, CA. Wildscape Engineering Inc., South Lake Tahoe, CA. September 4.

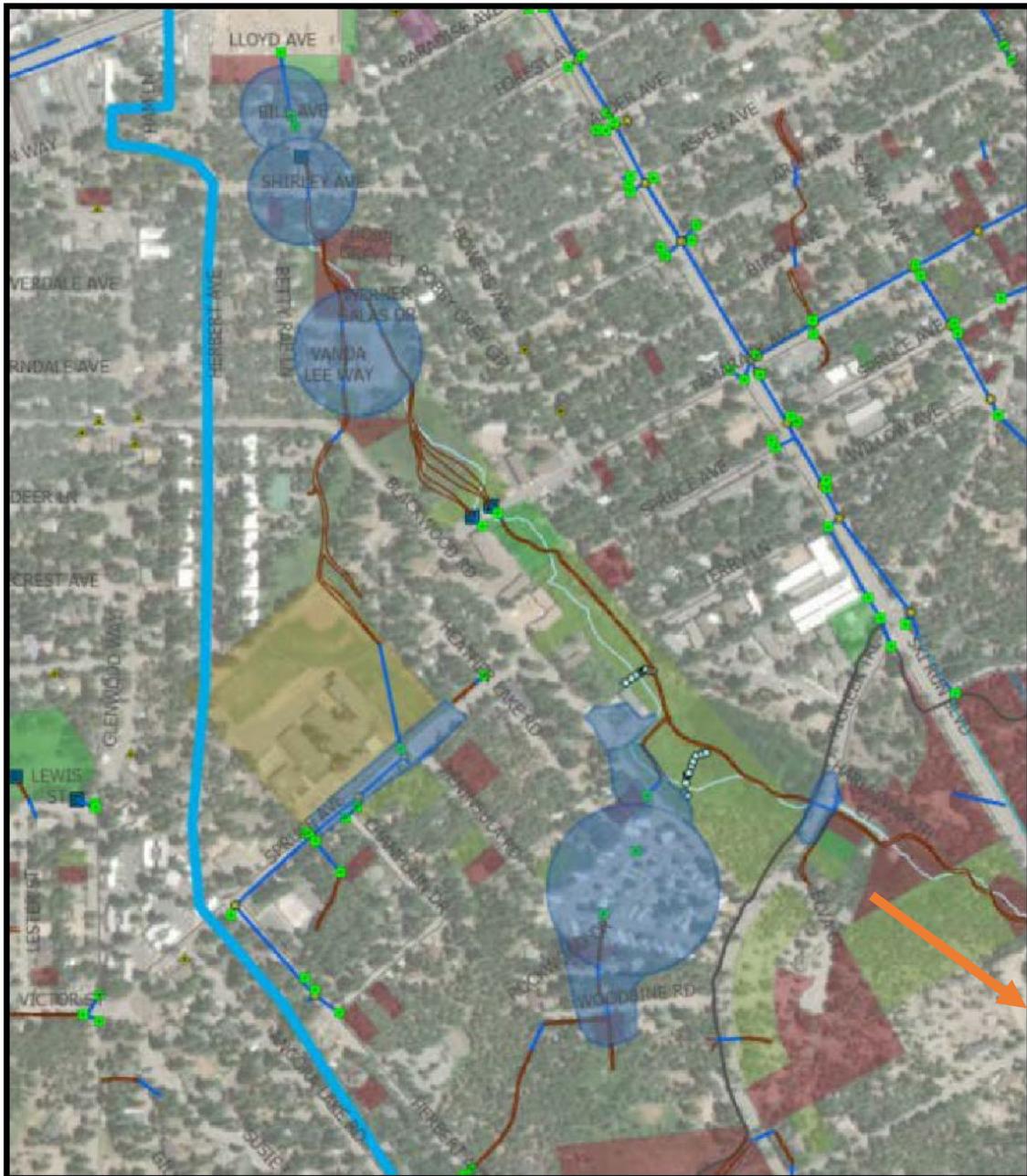


Figure 15. Flood prone areas shown in blue.

Figure 10: Flood prone areas shown in blue.

NOTE: The proposed tower is off the map to the southeast (source: Wildscape 2020⁹).

There is a low likelihood of monopine needles from the proposed faux tree tower leading to microplastic contamination of Lake Tahoe via surface water transport. The lack of an obvious,

observable transport pathway for monopine needles from the proposed site to nearby surface water channels corresponds with a low likelihood of needles reaching the lake. As a result, the mechanical and chemical degradation processes associated with beach and open water body environments, that in turn can lead to microplastic contamination, would not occur on monopine needles that fall from the proposed tower. The environment in the vicinity of the proposed tower, which is “static” (in contrast to dynamic aquatic environments) and covered by snow for a portion of the year, does not have high potential for facilitating these degradation processes.

PLASTIC AND TRASH MANAGEMENT IN THE LAKE TAHOE REGION

The recognized litter problem in the Tahoe area is the focus of management efforts. In addition, there is a statewide trash total maximum daily load (TMDL) program aimed at reducing pollution in the form of trash. In 2015, the State Water Resources Control Board adopted statewide trash provisions to address trash impacts to the state’s surface waters.

In 2017, the Lahontan Water Board issued an order to implement the statewide trash provisions, which include design and implementation of full capture systems (responsibility of local municipal stormwater agencies, industrial and construction stormwater permittees, and the California Department of Transportation).¹⁰ For the Tahoe region, plans for trash management include street sweeping, capturing trash to prevent it from reaching streams and the lake, cleanup events, and banning single use plastic items. There is also a focus on reducing sedimentation to streams and the lake.

Other programs in the Tahoe region to manage trash include:

- Nevada Tahoe Conservation District
- City of South Lake Tahoe (street sweeping, particle capture, etc.)
- South Lake Tahoe Stormwater Management Program;
www.cityofslt.us/342/Stormwater-Program
- Collaboration with Nevada Division of Environmental Protection (NDEP);
<https://ndep.nv.gov/uploads/water-tahoe-docs/tahoe-improve-pamphlet.pdf>
- The NDEP 2020-2024 Nonpoint Source State Management Plan:
https://ndep.nv.gov/uploads/water-nonpoint-docs/FINAL_2020-2024_NV_NPS_State_Management_Plan_9.20.pdf.

¹⁰ https://www.waterboards.ca.gov/lahontan/board_info/agenda/2021/oct/item7.pdf

Tahoe area stormwater and trash management practices and programs are meant to limit plastics/trash/sediment inputs to the lake overall. This would further limit any transport of plastics from the tower area to the lake.

OTHER PATHWAYS¹¹

Wind is an unlikely pathway for significant dispersal of plastics from monopine needles because it mainly entrains smaller pieces (such as fibers). In a study of snow samples, there was a dominance of fibers over other types of plastic carried on the wind. The study states that only the lightest pieces are carried by wind, including synthetic fibers such as nylon, polyester and acrylic, which make up more than 60% of clothing materials today.¹²

CONCLUSION

In summary, due to the nature of the materials (which are designed to be durable), the lack of environmental conditions that would facilitate degradation, the lack of transport pathways, and measures in place to reduce inputs from the watershed to the lake, pollution of the lake from monopine needles at the cell phone tower proposed for 1360 Ski Run Boulevard is unlikely.

¹¹ The potential for groundwater impacts from leaching of plastics for the monopine needles is low; there is no evidence that groundwater in the South Lake Tahoe region is significantly impacted by plastic constituents, especially with so many sources of plastic in the environment. South Tahoe Public Utility District water quality reports (see Appendix D in <https://stpud.us/asset/8955/>) have shown very infrequent detections of indicator chemicals associated with plastics such as phthalates (when detected, concentrations are below water quality thresholds). No phthalates were been detected in the Tahoe Basin study unit in the most recent U.S. Geological Survey California Groundwater Ambient Monitoring and Assessment (GAMA) report (<https://pubs.usgs.gov/sir/2011/5216/pdf/sir20115216.pdf>).

¹² <https://ucscsciencenotes.com/feature/lake-taho-es-pristine-legacy-threatened-by-microplastics/>

Attachment A

Resumes



Bridgette R. DeShields

Principal

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Education & Credentials

M.S., Environmental Management, University of San Francisco, San Francisco, California, 1998

B.S., Biochemistry, University of California, Davis, California, 1986

Continuing Education

Hazardous Waste Operations and Emergency Response 40-Hour Certification (1994; refreshers 1995–present)

Loss Prevention System

Certified Project Manager

Professional Affiliations

Society for Environmental Toxicology and Chemistry

Bay Planning Coalition

Western Dredging Association

Ms. Bridgette DeShields has more than 35 years of experience and is a specialist in regulatory strategy, site investigation, site remediation, sediment and water quality management, environmental toxicology, and environmental permitting and planning. She has managed programs ranging from large site investigations to screening and quantitative ecological and human health risk assessments. She also designed and participated in dredging program management, field evaluations, bioaccumulation studies, literature reviews, and specially designed study programs. Her work has been focused on sediment assessments and waterfront projects with natural resource components and complex regulatory frameworks. She also has extensive experience in navigating California regulatory and permitting programs. Ms. DeShields also has expertise in prepared environmental documents under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).

Ms. DeShields has provided litigation support and expert testimony in the areas of water quality, regulatory compliance, human and ecological risk assessment, waste disposal under California and federal regulations, and Superfund cost allocation. She has developed excellent working relationships with regulatory agency staff, including federal agencies, state agencies in California and Oregon, natural resource trustees and local agencies.

Ms. DeShields represents the interests of the Bay Area refineries on San Francisco Bay water and sediment quality issues as a representative for the Western States Petroleum Association, serving as chair of the Regional Monitoring Program (RMP) Technical Review Committee since January 2000. She has taught courses on risk assessment, sediment assessment and remediation, and TSCA compliance.

Relevant Experience

LITIGATION SUPPORT

Litigation Support for Contaminated Sediments, San Francisco Bay, California — Provided expert support on a 3-party litigation case involving an advocacy group and metals contamination in an estuary.

Litigation Support for Contract Dispute, East Bay Area, California — Testified in a case involving trucking of soils from a construction site and disposal of those soils. Provided expert testimony on the requirements for waste characterization in California and the definition of “clean soils” under California and federal regulations and common practices.

Litigation Support for Contract Dispute, San Diego, California — Provided an support for a mediation process involving a dispute over payment for disposal of materials as hazardous waste. Required knowledge of California and federal waste regulations.

Litigation Support for PCBs — Consulting expert for multiple cases involving PCB contamination.

HUMAN HEALTH RISK ASSESSMENT

Assessment of Lead in Soil, Santa Rosa, California — Conducted a risk assessment for soils along the Santa Rosa Creek corridor for the Sonoma County Environmental Health and Sonoma County Water Agency. Evaluated risks for a residential property adjacent to the creek as well as within the creek corridor itself. The primary issue was lead in soils from placement of fill material.

Development of Approach for Assessing Risks to Livestock for Petroleum Hydrocarbons, Nationwide — Developed a framework to determine when livestock should be included in a risk evaluation, and estimated risks of petroleum hydrocarbon exposure to livestock. A conceptual site model was developed to assess whether complete and significant exposure pathways exist at a given site. To estimate potential risks, TRVs, and drinking water and soil, RBSLs for petroleum hydrocarbons,

including crude oil, benzene, toluene, ethylbenzene, and xylene, and PAHs were developed for a variety of livestock receptors. The TRVs and RBSLs developed for this framework were comparable to human health RBSLs and other published livestock guidelines. The approach can be adapted for assessing other chemicals (i.e., metals, PCBs, pesticides).

Human Health and Ecological Risk Assessment at a Former Petroleum Refinery, Lawrenceville, Illinois —

Prepared work plans for the human health and ecological risk assessment, including a problem formulation document. Conducted a baseline ecological risk assessment and baseline human health risk assessment (BHHRA) using the data collected as part of the remedial investigation. Provided strategic consulting related to the remedial investigation and risk drivers for remediation. Participated in agency meetings with Illinois EPA regarding risk assessment tasks. Several unique and innovative approaches were used, including use of area-weighting with Thiessen polygons to estimate exposure point concentrations, which overall improved risk estimates; site-specific prey tissue data; site-specific bioassays; and lead bioavailability testing, which also provided more site-specific estimates of bioavailability and risks and overall lower risk estimates. The risk assessment assumed a presumptive remedy area that also resulted in an overall more favorable impression of residual site risks. A site-specific assessment of lead bioavailability was also conducted.

Human Health Risk Evaluation, Redevelopment Project, Newark, California —

Assessed risks and assisted in the development of remedial action plans for a site that is part of a large transit-oriented development. Site includes multiple parcels that were former industrial sites. Contaminants include pentachlorophenol, volatile organic compounds (VOCs), metals, and dioxins/furans. Scope also included development of a risk management plan, soil management plan, community protection plan (including an air quality monitoring program for protection of offsite residents), and health and safety plans and guidelines and well as assessment of risks due to VOCs in air during and post-construction. Developed guidelines for utility workers that could be exposed to contaminated groundwater and soil (as well as vapor in trenches) during installation and maintenance of infrastructure. Evaluated soils for offsite disposal, including profiling of soils for landfill disposal and conducting an evaluation if RCRA listed wastes.

Risk Assessment of Expedited Remedial Action Program, Golden Technology Site, Santa Rosa, California —

Complete site assessment and risk assessment activities, primarily for VOCs, at a site consisting of three parcels of land located in the southern portion of the City of Santa Rosa zoned for commercial use. DTSC was the lead agency for the program.

Risk Assessments for Perchlorate at Space and Missile Propulsion System Test Facility, California —

Performed three risk assessments to assess potential perchlorate exposures. The first risk assessment, submitted to DTSC, was conducted to provide support for the Resource Conservation and Recovery Act post-closure permit application process for a former onsite station and three surface impoundments. Human health-based screening levels (HBSLs) for perchlorate in soil were developed based on a range of regulatory recommended provisional toxicity criteria for various exposure scenarios. The second risk assessment was submitted to the California RWQCB and consisted of both human health and ecological risk evaluations of potential exposures to perchlorate in soil and groundwater at three onsite areas. HBSLs for perchlorate in soil were developed based on direct contact exposures; protection of groundwater; and provisional toxicity criteria recommended by both Cal/EPA's Office of Environmental Health Hazard Assessment and EPA. The third risk assessment was conducted to support potential compliance issues associated with the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Risk assessment methodologies were used to characterize and assess potential releases of perchlorate from onsite operations in order to evaluate notification responsibilities specified under Proposition 65 regulations. RBSLs were developed for ecological and human health receptors to support a site-wide RAP. Supported real-time decision-making during remediation and conducted a post-remedial risk assessment for this 5,000-acre site. The sitewide risk assessment assessed excavation and regraded areas and included land use restrictions where necessary to specify acceptable future uses. Assessed both human and ecological receptors, soil, groundwater, and surface water.

Risk Evaluations for Forest Products Sites, California — Conducted risk-based screening assessments at several sites in Northern California on former sawmill sites. Sites include both Water Board and DTSC lead and evaluation of future residential and commercial land uses. Contaminants include petroleum products, metals, and dioxins/furans as well as some VOCs and semivolatile organic compounds (SVOCs). Also assessed waste management options for soil.

Risk-Based Assessment at a Former Tannery Site, Santa Cruz, California — Conducted a risk assessment for former tannery based on specific site development plans. Evaluated potential

exposures to chemicals in soil and groundwater for future residents and office and construction workers. Chemicals of concern included chromium(VI) and arsenic as well as VOCs and TPH. The risk assessment was used to inform the redevelopment plan. Provided target cleanup levels for soil and participated in public outreach programs, including presentations at city planning and city council meetings. Lead agency was the California DTSC. Site has now been built out as a mixed use live-work arts center.

Toxicology Evaluation of Remedial Action Objectives, California — Conducted an in-depth assessment of outdated remedial action objectives for a specific contaminated site in California. Reevaluated the toxicology and quantitative risk assessment for a specific unregulated contaminant of concern at the site. Calculated new screening levels based on updated risk assessment methodologies to ensure that remediation actions remain protective of public health.

REMEDIAL DESIGN

Engineering Evaluation and Cost Analysis (EE/CA) and Remedial Design for Yosemite Slough, San Francisco, California —

Supported the PRP group in coordinating with the EPA Region 9 effort to develop an EE/CA for this site. Assisted EPA's consultant by developing work plans and reports to support the EE/CA and assisting in the development of cleanup goals and permitting strategies. Also involved with risk evaluations, source investigations, and historical data evaluations, as well as the development of remedial alternatives. Studies conducted include geotechnical assessments, evaluations of the biologically active zone, and natural attenuation. Currently engaged in pre-design studies for the remedy.

Sediment Capping Design for a New Ferry Terminal, San Francisco, California — As part of the design team, working on a project involving development of a new ferry terminal. Because of the presence of contaminated sediments, additional dredging and a sediment cap will be required. The team designed the sediment cap and developed specifications. Provided input on remedial strategy and permitting considerations and mitigation planning. Integral also led the field oversight for capping of contaminated sediments.

Sediment Remediation and Upland Source Tracing Activities, Electrical Generating Station, Hawaii — Since 2014, Integral has been providing a range of technical services to a private party in association with the planned Superfund cleanup of PCB-impacted sediments in Pearl Harbor. Activities have included review and comment on RI/FS documents prepared by others for the U.S. Navy, sediment transport modeling to ensure remedy efficacy, and site-specific ecological risk assessment to support selection of alternative remedial action levels. The risk assessment included co-located sediment and invertebrate biota sampling to support site-specific risk calculations. The net result of these activities is a better, less costly proposed remedy and expected additional improvements to the final remedy during remedial design. Current work includes remedial design, permitting, and TSCA compliance. Other activities include developing a permitting plan for source removals in upland areas, outfalls and other conveyances.

Waterfront Sediment and Upland Area Remedial Action, Eureka, California — Led a team for a sediment investigation and remedial action planning program to address offshore sediments and upland soils contaminated with metals and PCBs in downtown Eureka. PCB contamination was managed with oversight from the RWQCB (no involvement necessary from EPA's TSCA group). Developed risk-based cleanup goals, an RAP, and an implementation plan, as well as mitigation plans for avian species and eelgrass. Successfully negotiated approval of the RAP with the North Coast RWQCB. Ultimately, the site will be redeveloped as open space and waterfront commercial development.

FEASIBILITY STUDIES

Environmental Investigation, Feasibility Study, Risk Assessment, and Related Services at a Former Industrial Facility, San Francisco Bay Area, California —

Led the investigation, risk assessment, and feasibility study for a 10-acre parcel containing two freshwater lagoons adjacent to San Francisco Bay. Constituents of concern include metals, thiocarbamate, organochlorine pesticides (OCPs), and PCBs. Assessment included a treatability study to evaluate the effectiveness of carbon amendment to reduce leachability and bioavailability of constituents. Lead agency was DTSC with involvement from EPA on TSCA compliance. Also conducted human and ecological risk assessments and developed a feasibility study that included a combination of excavation, treatment, and capping/cover. Several natural resource trustee agencies were also involved in the project due to the proximity to sensitive habitats that support special-status species, including California clapper rail. Led the regulatory and permitting strategy efforts for the project as

well

WATER MANAGEMENT

Evaluation of TMDLs in the Los Angeles Area — Did a comprehensive literature review and evaluation of TMDLs for contaminants, bacteria and trash in the LA region as part of litigation support. Prepared technical reports evaluating best management practices. Also reviewed fish consumption advisories, TMDL target development, toxicity evaluations, and proposed management measures.

Mercury Total Maximum Daily Load (TMDL) Review, San Francisco Bay, California — Reviewed the draft TMDL for mercury document prepared by the San Francisco Regional Water Board and provided review comments relative to technical approach and evaluations as well as implementation issues. Issues of concern identified included bioaccumulation into fish tissues and research required to adequately characterize the levels and processes associated with methylmercury content in bay sediments, surface water, and fish/shellfish tissues. Source characterization and control was also an issue of concern.

San Francisco Bay Regional Monitoring Program, San Francisco Bay, California — Has served on the Regional Monitoring Program (RMP) Technical Review Committee (TRC) since January 2000 and has been the committee chair for over 10 years. Provides technical review and oversight of the monitoring and related research programs. Areas of focus include sediment, water and biota tissue characterization; PCBs, mercury, nutrients, PAHs, pesticides, and selenium; stormwater runoff, emerging contaminants (including PFAS and microplastics); fate and transport modeling as well as identifying sources, pathways and loadings.

Shell Mounds Project, Ventura, California — Reviewed technical reports regarding shell mounds offshore that remained after removal of drilling rigs. The public and the Coastal Commission want the structures removed. Assessed chemical and biological data and provided recommendations.

VAPOR INTRUSION

Risk Communication and Risk Assessment, San Francisco, California — Evaluated site data (soil, groundwater, soil vapor and indoor air) for a daycare center that was formerly a dry cleaner site. Assessed the potential for adverse health effects to daycare workers and children through site-specific risk assessment. Developed a communication plan and talking points and presented findings at a meeting with parents and daycare workers. Assisted in the development of recommended actions/next steps.

Soil Vapor and Indoor Air Evaluation, Napa, California — Assessed risk and developed risk communication plans for a large former dry cleaner site with a plume extending under homes and a bed & breakfast. Developed a communication plan, fact sheet and talking points for residents and other neighbors. Also assisting in the development of soil vapor and indoor air sampling plans. Constituents of concern were TCE, PCE and vinyl chloride. Site is under the lead of the SF RWQCB. Remedial action planning is ongoing.

Soil Vapor and Indoor Air Evaluation, Oakland, California — Assessed risk for a large former UST site with residual NAPL and benzene. The groundwater plume extended under an apartment building with a basement and adjacent commercial buildings. The property owner of the apartment was concerned about residents; an indoor air sampling program was developed. Met with the regulatory agency to discuss the next steps and additional data needs to support a risk assessment and site cleanup plan. Additional characterization and remedial action planning is ongoing.

Vapor Intrusion Evaluations — Working on several sites in northern and southern California where chlorinated VOCs are chemicals of concern (COCs). Services include site assessment, indoor and outdoor air monitoring, risk evaluations, regulatory agency negotiations, and developing mitigation plans. Projects range from operating facilities to commercial/industrial and residential redevelopment projects. Sites include those under both the Regional Water Quality Control Board (RWQCB) and California Department of Toxic Substances Control (DTSC) lead, as well as some sites under County lead. Sites are in Oakland, South San Francisco, Sunnyvale, Mountain View, and Napa. Also working on two sites in the Los Angeles/Orange County areas. Issues range from characterization of soil vapor and indoor air, to determination of remedial needs and mitigation measures. Also assessed Proposition 65 notification requirements for two sites and provided guidance on risk communication. Several sites are contaminated due to releases from former dry cleaners with chlorinated VOCs.

SITE INVESTIGATION

Comprehensive Investigation and Remedial Planning and Implementation, Antioch, California — Served



as project manager for a comprehensive investigation and remediation project at a closed paper mill. Developed work plans and technical reports in support of investigation activities under the AB2061 program. In addition, risk-based screening levels (RBSLs) were developed and presented in a report as were background levels. The background level report developed upper-bound background concentrations for metals using DTSC guidance but also presented an approach and rationale for determining whether dioxins/furans detected onsite were due to ubiquitous anthropogenic sources or site-related sources. Site investigations were conducted at eight properties. Chemicals evaluated included metals, dioxins/furans, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), PAHs, OCPs, and herbicides. Risk evaluations were conducted for each of the subject properties based on an unrestricted land use scenario to support sale/transfer of the properties. Completed an RI/FS work plan to assess soil and groundwater and an underground utility investigation. Also, developed an RAP and a California Environmental Quality Act document and completed activities pursuant to DTSC's Public Participation Guidance Manual, including developing a mailing list and an initial fact sheet and community survey; interviewing community members and local officials; developing a public participation plan (which included a community profile); and conducting a public meeting and responsiveness summary.

Environmental Investigation, Remediation, Risk Assessment, and Related Services at a Former Sawmill in Northern California, Fort Bragg, California —

Managed a multiyear, multisite investigation and remediation project at a former sawmill site in northern California slated for mixed use redevelopment. Primary constituents of concern were PCBs, VOCs, dioxins/furans and petroleum hydrocarbons. The assessment included both the 415-acre mill site as well as a ranch area offsite. Tasks included site investigations at five operable units (including sediments within a complex of ponds) and offshore sediments, risk assessment (human and ecological), background evaluations, dioxin characterization, pond and offshore sediment sampling, remedial planning, construction, demolition, and oversight, and negotiations with multiple regulatory agencies. The site is a high profile project managed by DTSC, but with input from RWQCB, CDFW, USFWS, NOAA, city and county agencies, and CCC. The project included multiple regulatory and permitting requirements specific to the coastal zone of California that require integration of archaeologists, Native American monitors, biologists, botanists, marine mammal specialists, and geotechnical and other engineering disciplines. Completed multiple investigation and monitoring reports, a remedial investigation, two remedial action plans (RAPs), and a risk assessment. Implemented 3 years of remedial actions for soil and groundwater including bioremediation of the petroleum-impacted soils. Also conducted a complex quantitative analysis to develop background levels for dioxins as well as a method for source identification. Conducted site-specific bioaccumulation assessments for metals and dioxins/furans in upland soils and pond sediments. Successes include a no further action for large areas of the site and the offshore sediments, implementation of various remedial measures, and a strategy to address pond sediments and the jurisdictional dam. Also achieved site certification for the offsite ranch and coastal portion. The coastal portion was sold/transferred to the city to create a coastal trail.

Site Assessment and Screening Evaluation, Former Machine Shops, Alameda, California — Conducted several rounds of investigation, both upland and offshore, for a 4 acre site in Alameda that had been used as a machine shop for over 50 years. Contaminants included metals, PCBs, TPH and VOCs. Developed a risk-based screening framework for evaluating potential site redevelopment and in support of due diligence efforts.

Site Assessment, Remediation, and Facility Closure at a Former Chemical Plant, Elk Grove Area, California —

Led a team in conducting site investigation and developing plans and implementing remedial activities at a former resin manufacturing facility. Chemicals of concern included phenolics, toluene, ethylbenzene and xylenes. Developed site-specific cleanup goals protective of groundwater, soil vapor, and human exposure. Developed a demolition and facility closure plan and implemented a sampling program. Developed a remedial action plan and managed the excavation activities. Negotiated entrance into DTSC's voluntary cleanup program and achieved closure from both DTSC and Sacramento County with no land use restrictions by demonstrating acceptable post-remedial conditions.

SEDIMENT INVESTIGATION

Baypoint Oil Spill, Pittsburg, California — Compiled data on the nature and extent of PAH and petroleum contaminants in sediment and surface water resulting from the spill. Staff conducted a toxicological and spatial analysis to determine the degree and spatial extent of the impacts. In addition, used PAH profiling (i.e., expanded PAH analysis) to evaluate the source of PAHs detected at



various locations to distinguish impacts from the spill material from ambient conditions and other potential sources. Identified two distinct source materials.

Extended Site Sediment Investigation, Sausalito, California — Developed both a work plan and a sampling and analysis/quality assurance plan for the collection of Horseshoe Bay sediment data as part of an extended site inspection in support of the base realignment, closure of the U.S. Army East Fort Baker Facility, and transfer of the property to the National Park Service. Managed sampling efforts and conducted aquatic bioassays and chemical analyses of sediments. The study was designed to determine if historical East Fort Baker operational practices had caused any adverse impact to the adjacent Horseshoe Bay sediments of sufficient magnitude to warrant dredging. Assessed the data to describe the presence and extent of sediment contamination and associated risks to aquatic biota and wildlife, and presented an extended site investigation report. Risks were shown to be minimal and no action was concluded based on the risk evaluation.

Maintenance Dredging Program, Moss Landing Harbor District, California — Managed the maintenance dredging program for Moss Landing Harbor, the largest fishing port between San Francisco and Los Angeles, for more than 4 years, including the successful preparation and implementation of SAPs, dredging plans, testing reports, and post-dredge reports. The main COC in sediments was DDT. Worked with USACE, CCC, and RWQCB in establishing a multiyear permit. Also responsible for designing, constructing, and operating an upland disposal site and restoring the site into a visitor-serving recreational area, including restoration of native coastal dune habitats, and working with USFWS pursuant to designation of the area as critical habitat. . Developed a CEQA document for the North Harbor expansion project which involved addressing coastal erosion issues and protection of eelgrass beds. Gave presentations at public meetings, interfaced with the press, and worked with a local congressman, as well as EPA's congressional liaison. An assessment was conducted to support a dredged material management plan for navigational dredging of Moss Landing Harbor. Developed a work plan, summarized background information, and conducted a screening-level modeling analysis to estimate concentrations of pesticides in offshore sediments following a hypothetical set of dredging events. The results of the model were used to estimate ecological effects of dredged material placement over time. Analysis included a review and compilation of available information and literature for the site, evaluation of transport dynamics in the highly complex canyon environment, screening-level modeling of the mixing conditions at the disposal location (DCORMIX), transport and deposition of the suspended material plume (SSFATE), and recovery analysis (RECOVERY). The preliminary risk assessment and the supporting screening-level modeling analysis were summarized in a draft report and submitted for independent peer review. Peer review findings recommended additional data collection and modeling work to further support the conclusions of the screening-level study. Revisions to the report were in response to requests by the peer review panel. The conclusions of the report support the continued dredging and aquatic disposal of the dredged material, with no unacceptable risks.

Maintenance Dredging Project, Port of San Francisco, California — Managed the port's dredging program for 3 years, including designing and implementing sampling and analysis plans (SAPs), applying for and negotiating permits, designing and managing upland disposal of sediment, managing and inspecting dredging contractors, and conducting water-quality and circulation studies. Represented the port at meetings of local stakeholder working groups, including the long-term management strategy for San Francisco Bay meetings and the sediment quality guidelines working group. Negotiated dredged material suitability and permit conditions with the Division Material Management Office (DMMO), consisting of USACE, EPA, the Bay Conservation and Development Commission, RWQCB, CDFW, and the National Marine Fisheries Service. Prepared budgets, evaluated alternatives for dredged material disposal, and managed a project to design an upland rehandling facility for PAH-contaminated sediments.

Portland Harbor Superfund Site Investigations, Portland, Oregon — Represented a client on the Portland Harbor Light Products Study Group. This group is investigating the distribution and potential effects on PAHs and other petroleum-related compounds in sediments within Portland Harbor as part of the Portland Harbor Superfund site investigations. Conducted a spatial analysis of the extent of PAH contamination within Portland Harbor to evaluate whether elevated levels of PAHs could be associated with light petroleum products terminals.

San Mateo-Hayward Bridge Seismic Retrofit Project, San Mateo, California — Assisted with environmental review and permitting. Key environmental issues included potential contamination of bay sediments; associated water-quality impacts; impacts to seasonal wetland habitat; temporary alteration or closure of public facilities; potential entrainment of steelhead trout during hydraulic dredging; and potential impacts to fish and marine mammals from noise, vibrations, and turbidity

during construction. Conducted studies to assess the level of contamination of bay sediments to be dredged as part of the construction. Consulted with member agencies of the DMMO, investigated on-land and aquatic disposal options, and developed detailed cost estimates for these options. In addition, reviewed environmental databases, California Department of Transportation (Caltrans) maintenance records, and effluent data from outfalls in the vicinity of the bridge to investigate the potential for sediment contamination. Prepared a SAP for sampling and testing sediments in accordance with DMMO requirements (Tier II), which was approved by the DMMO and Caltrans. The results of the sediment testing were incorporated into agency permit application packages. Assisted in preparing the public notice to support an individual permit application from USACE under Section 404 of the federal Clean Water Act.

Sediment Assessment and Remediation Evaluation, Portland, Oregon — Supported sediment assessment, risk assessment and remedial design effort for a former industrial property on the Willamette River. Assisted in developing a work plan for conducting a field investigation that includes sediment sampling, bioassay testing, coring, and passive sampling. The site was a former pesticide and chlor-alkali manufacturer, and COCs included DDT, monochlorobenzene, dioxins/furans, sodium perchlorate, and hexavalent chromium. Also evaluated the cleanup goals for PCBs.

Sediment Assessment, San Diego, California — Evaluated sediment chemistry and toxicity in marine sediments at a site where the main COCs included PCBs and metals. Assessed the data relative to California's Sediment Quality Objectives (SQO) program and negotiated an approach with the RWQCB. Also participated in the SQO stakeholder advisory committee.

Sediment Investigation and Bioavailability Assessment, Kansas — Led an effort to characterize sediments in drainage channels leading from a former smelter site to a river in Kansas. Chemicals of concern included arsenic, cadmium, lead, and zinc. The field program included bulk sediment and porewater, including measures of acid volatile sulfide and simultaneously extracted metals and other parameters that were used in a weigh-of-evidence approach to assess risks to human and aquatic receptors. Successfully applied the approach to limit the findings of impacts to areas just downstream from the former facility.

Sediment Investigation, Pittsburg, California — Conducted a sediment sampling and analysis program to evaluate potential risks to aquatic receptors offshore of a petroleum coke loading terminal. Sediment cores were collected, examined for the presence of coke, segmented, and analyzed for metals and PAHs. Used the results to evaluate whether aquatic communities exposed to offshore sediments were at risk from the presence of coke, and whether any remedial activities were needed. Conducted solid-phase bioassays on the samples with elevated coke content. Showed that the sediment, although containing high levels of coke, were not toxic to aquatic life and that chemical contaminant levels were at or below screening level. No remedial activities were deemed necessary.

PERMITTING

Categorical Exemption for a Former Resins Plant, Elk Grove Area, California — Worked with DTSC's CEQA group to develop a categorical exemption (CatEx) for a remedial measure at the facility involving phenolics and solvents in subsurface soil. In order to move forward with the CatEx, cultural resources and biological resources at the site needed to be investigated. Also developed fact sheets and a community mailing list.

CEQA and Coastal Permitting for Remediation at a Waterfront Site, Eureka, California — Completed a CEQA document (mitigated negative declaration) for a remedial action program to address offshore sediments and upland soils contaminated with metals and PCBs in downtown Eureka. Project included upland excavation and dredging. Worked with various permitting agencies including the City of Eureka (lead CEQA agency), North Coast Regional Water Quality Board (lead remediation agency), USACE, CCC, the local Harbor District, CDFW, USFWS, and NOAA to issue project permits. Obtained a Nationwide 38 permit and water quality certification as well as a coastal development permit. Project included restoration of shoreline habitat and addressing impacts to benthic communities. Ultimately, the site will be redeveloped as open space and waterfront commercial development.

CEQA and Coastal Zone Permitting for Remediation at a Former Sawmill, Fort Bragg, California — Developed CEQA documents (categorical exemptions and mitigated negative declarations) for three separate interim remediation projects, developed fact sheets and a project website, attended and presented at public meetings, and led negotiations with multiple regulatory agencies. The site was a high profile project managed by DTSC and included multiple regulatory and permitting requirements specific to the coastal zone of California that required integration of archaeologists (due to sensitive subsurface cultural resources on the site), Native American monitors, biologists, botanists, marine

mammal specialists, and geotechnical and other engineering disciplines. The CEQA documents supported two remedial action plans (RAPs). Also worked with City land use planners to incorporate the final remediation projects into a Specific Plan and EIR for the site reuse. The coastal portion was sold/transferred to the city to create a coastal trail. The three interim remedial measures were completed successfully.

CEQA and Permitting for PAH Remediation Site, San Francisco, California — Lead consultant for CEQA and permitting for a project involving multiple pier areas along the San Francisco Waterfront. The project will include dredging and capping of PAH-contaminated sediment with the RWQCB as the lead agency for CEQA. Permitting agencies include the USACE, Water Board and BCDC with consultations on essential fish habitat and endangered species with the CDFW, NOAA/NMFS and USFWS.

CEQA and Permitting for Remediation at a Former Wastewater Plant, Larkspur, California — Developed a California Environmental Quality Act (CEQA) document (mitigated negative declaration) for a former wastewater plant with PCB contamination. The lead cleanup agency is EPA Region 9 (for TSCA) but the Ross Valley Sanitary District was the lead for CEQA. The assessment included an evaluation of air quality impacts using CalEEMod and greenhouse gas impacts as well as tribal consultations under AB52. Also updated the site's wetland delineation and worked with the USACE to evaluate seasonal wetland impacts and related requirements. Follow-on work included obtaining grading and other permits for implementation of the remediation with the City of Larkspur and Marin County. Also closed out an existing construction stormwater permit.

CEQA and Permitting, Sewer Rehabilitation Projects, Ross Valley Sanitary District — Lead on all permitting and CEQA work for RVSD. Includes obtaining permit from the USACE, CDFW (e.g., streambed alteration permits), and others for sewer rehabilitation, sewer replacements, sewer extensions and other related projects. Also conducts CEQA compliance reviews and CEQA documents, as needed. These have included Notice of Exemptions and Initial Study/Mitigated Negative Declarations.

CEQA and Public Participation for Two Former Mills, Antioch, California — Developed a CEQA document (mitigated negative declaration) for DTSC for an interim remedial measure at a former pond, including assessment of two federally endangered plant species and cultural resources. Also completed activities pursuant to DTSC's Public Participation Guidance Manual, including developing a mailing list and an initial fact sheet and community survey; interviewing community members and local officials; developing a public participation plan (which included a community profile); and conducting a public meeting and responsiveness summary.

Remedial Strategy, CEQA and Permitting for a Harbor Renovation and Remediation Project, San Francisco, California —

Work has included remedial strategy, determining the adequacy of CEQA documents and the need for a CEQA addendum, and permitting for a remediation project on the San Francisco Waterfront that also involves marina renovation. Developed a Categorical Exemption and obtained permits from the San Francisco Bay Conservation and Development Commission, USACE, and the RWQCB for an interim remedial measure. Working on permitting and pre-CEQA studies for the next phase.

Risk Evaluation for Placement of Dredged Sediments at Winter Island, Winter Island Reclamation District, Sacramento Delta, California —

Developed "acceptability" criteria for placing contaminated sediments along levees at Winter Island. The Winter Island Reclamation District needed 500,000 yd³ of sediments to rehabilitate levees and, particularly, needs silty material to "cap" the levees and prevent erosion. Worked with the San Francisco RWQCB to develop levels of contaminants acceptable for material placed on levees, and also developed management and engineering practices to prevent erosion and migration of placed material to a nearby wetland. Contaminants evaluated included metals, PAHs, PCBs, and DDT.

ECOLOGICAL RISK ASSESSMENT

Ecological Assessment of Petroleum Hydrocarbons, San Francisco, California — Provided technical review of Tier 1 and Tier 2 screening levels for ecological receptors in the marine ecological protection zone of the San Francisco Airport developed by RWQCB. Reviewed and commented on the 3-dimensional migration models and bioassay tests used to develop TPH cleanup levels. Reevaluated the likelihood of petroleum hydrocarbons (TPH-diesel and benzene) in groundwater and soil detected near terminals at San Francisco Airport to migrate to San Francisco Bay. Estimated effects of TPH and benzene on aquatic receptors in the bay using site-specific information. Revised cleanup developed based on the results of this evaluation.

Ecological Assessment of Stormwater Runoff to a Freshwater Marsh, Fairfield, California — Conducted a screening ecological assessment to evaluate the effects of metals and organic compounds in



stormwater runoff and seepage from a natural spring on aquatic and terrestrial receptors at a freshwater marsh. Conducted a biological inventory to select indicator species for the assessment. Developed screening criteria based on applicable state and federal freshwater sediment and surface-water criteria. Identified areas of concern and recommended additional site characterization.

Ecological Risk Assessment for Sulphur Bank Mercury Mine, Clear Lake Oaks, California — Conducted a terrestrial ecological risk assessment for the upland portions of the mine site. Mercury is the main contaminant of concern, although other metals with elevated levels were evaluated as well. Evaluation included assessing spatial scale of risks in relation to native plant populations and balancing restoration goals with cleanup efforts. Developed risk-based action levels for seven receptors and incorporating information about speciation/bioavailability of metals onsite. An assessment of cultural issues (ceremonial uses of plants and ingestion of game animals) important to the adjacent tribe was included. Tribe members participated in the scoping process, and the ultimate remedy was negotiated with EPA and the tribe representatives.

Ecological Risk Assessment in a Desert Environment, Topock, California — Technical lead for an ecological risk assessment for several dry wash areas in the Mohave Desert near an operating facility. Main chemical of interest is chromium (total and hexavalent) as well as a number of other metals. Developed a conceptual site model and risk assessment work plan and contributed to site characterization work. Completed a groundwater risk assessment.

Ecological Risk Assessment, Presidio of San Francisco, California — Conducted a basewide study to develop cleanup levels for aquatic and terrestrial receptors for the feasibility study to support future uses and redevelopment of the Presidio. Developed cleanup levels for metals, pesticides, PCBs, VOCs, and SVOCs as well TPH constituents. Negotiated the approach with the regulatory agencies and presented the cleanup levels at public meetings (restoration advisory board and other community work groups). Provided technical review and oversight of other contractors' assessments, including other ecological risk evaluations and several studies to develop action levels for TPH. Conducted an evaluation to develop site-specific cleanup levels for TPH diesel and fuel oil in the freshwater riparian zone. Crissy Field Area: Conducted an HHRA for recreational receptors theoretically exposed to soil excavated from one area onsite to create a wetland, and disposed of at areas on site slated for future recreational use. Chemicals of concern included metals and PAHs. Used information from the risk assessment to finalize construction plans for the wetland. Lobos Creek Area: Conducted a data review and remedial investigation that recommended no further action for the creek and watershed.

Fort Ord Ecological Risk Assessments, Monterey, California — Performed quantitative human health and ecological risk assessment at 41 sites. Human receptors included residential, commercial/industrial, and recreational users. Ecological receptors included aquatic life, mammals, birds, reptiles, insects, and plants. Developed toxicity reference values (TRVs) and site-specific exposure assessments. Evaluated the results of bioassays on aquatic organisms and plants. Assessed possible impacts to special status species, characterized sites, conducted fate and transport analyses, and modeled exposure and effects. Site-specific studies included butterfly and lizard population surveys; collection and analysis of site-specific plant, reptile, and mammal tissues; a plant health and condition study; a leaf litter study; and an enhanced preliminary assessment for the offshore marine environment. Primary contaminants of concern were lead and other heavy metals associated with small arms, dioxins in burn-pit areas, petroleum hydrocarbons from motor pools (a site-specific total petroleum hydrocarbon [TPH] cleanup level was developed), and explosive compounds. Pesticides and PCBs were also found at some of the sites. Worked with the regulatory agencies (mainly EPA and DTSC, but with selected and focused involvement of USFWS, CDFW, and NOAA for specific aspects) in a cooperative manner, such that the agencies have been very supportive of innovative techniques for site characterization and risk assessment. Made presentations at public and technical group meetings and have presented data jointly with agency at scientific meetings. Worked with U.S. Army Center for Health Promotion and Preventative Medicine (USACHPPM) to develop methods to evaluate the bioavailability of lead and site-specific conditions at small arms firing ranges. The record of decision has been signed for all sites at Fort Ord. Additional work was undertaken at the unexploded ordnance range site, where the risk evaluation was conducted. Site-specific field studies on lead uptake into plants, insects, lizards, and small mammals have been conducted as well as site-specific bioavailability jointly with USACHPPM. The risk assessment included using this site-specific data and an approach aimed at balancing site cleanup, risk reduction, and preservation of rare and declining habitats is being used. This analysis was used to develop site-wide cleanup levels and a site-wide cleanup approach for this 8,000-acre area.

Milepost 68 Oil Spill, Utah — Conducted an ecological risk assessment to evaluate potential effects on aquatic and wildlife receptors potentially exposed to petroleum products in freshwater marsh

sediments due to a pipeline break. A cleanup level of 20,000 parts per billion for total PAH was negotiated with EPA, USFWS, and the State of Utah.

Sediment Investigations and Ecological Risk Assessment, Oakland Army Base, Oakland, California —

Managed a program to evaluate potential risks to ecological receptors from contaminants in offshore marine sediments and a small freshwater marsh habitat as well as upland areas. Developed an ecological risk assessment work plan and sediment SAP, including a tiered chemical and biological testing program designed to focus the investigation on the areas and chemicals of most concern, thus reducing costs. Conducted bioassay and bioaccumulation tests at 12 stormwater outfalls to evaluate potential impacts to aquatic receptors, amphibians, birds, mammals, and plants potentially exposed to chemicals. Risks from ubiquitous anthropogenic contamination were factored out. Successfully negotiated approval of these plans, as well as the risk assessment results, with EPA, DTSC, RWQCB, and resources agencies including CDFW, USFWS, and NOAA. This work supported current redevelopment efforts by the City and Port of Oakland. Currently supporting East Bay Regional Parks, who will receive a portion of Parcel 1 at the Former Oakland Army Base, in working with the Army, the RWQCB, and DTSC to develop a mutually agreeable remedy for offshore sediments. The main contaminant is PCBs. Developed a technical framework, providing technical assistance, and facilitating discussions between parties to complete a record of decision.

Site Remediation Project, Casmalia, California —

Developed work plans, developed biological and endangered species reports, and negotiated an ecological risk assessment approach for the Casmalia Site Remediation Project, a former hazardous waste landfill site in central California. Conducted a multipathway, multispecies ecological risk assessment to address residual contamination from closed ponds and pads and areas around multiple capped landfills that held metals, solvents, PCBs, pesticides, sludges, and oily wastes. Species of concern at the site included red-legged frogs, western spadefoot toad, southwestern pond turtle, and other threatened and endangered species in both upland and aquatic areas. The ecological remedial assessment is designed to focus on areas that will not undergo presumptive remedies (i.e., landfill caps), mainly the liquid impoundments and some upland portions of the site used for disposal of waste. The approach focused on functional groups of receptors representing important components of the food web and will be conducted on a site-wide basis and in a phased manner. Participated in subcommittee meetings with the regulatory agencies and with the technical committee. Assisted the PRP group with issues related to natural resource damages and habitat restoration/mitigation. Produced a biological species and habitat survey report and an assessment of risks to burrowing mammals through inhalation of burrow air as part of the interim progress report for the RI/FS. Site-specific background levels, selection of chemicals of potential concern, and the ecological risk assessment have been completed and approved. A site-specific study of bioaccumulation and bioavailability was conducted. Following approval of the remedial investigation, developed cleanup goals and provided input to the Feasibility Study and selection of remedial alternatives.

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DeShields, B.R., M. Pattanayek, G.M. DiMundo, and N. Navarro. 2004. Uptake of antimony, copper, and lead into plants, invertebrates, reptiles and mammals at a small arms firing range in central California. Presented at the 25th Annual Society of Environmental Toxicology and Chemistry Conference, Portland, OR.

DiMundo, G.M., B.R. DeShields, and N. Navarro. 2002. Heavy metal uptake into plants, lizards, and mammals from soil at a small arms firing range. Presented at the 24th Annual Society of Environmental Toxicology and Chemistry Conference, Austin, TX.

DeShields, B.R., J.J. Gravenmier, M. Pattanayek, and C.F. Kemos. 2001. A framework for developing sediment screening levels. Presented at the Society of Environmental Toxicology and Chemistry 22nd Annual Conference, Baltimore, MD.

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DeShields, B.R., D. Griffin, and J. Stilwell. 1998. Dredging Moss Landing Harbor: Stuck in the Mud. Presented at the Society of Environmental Toxicology and Chemistry 20th Annual Conference, Charlotte, NC.

DeShields, B.R., S. Book, R. Wood, and D. Griffin. 1996. Comparison of methods used to assess human health and ecological risks from petroleum releases. Presented at the Society of Environmental Toxicology and Chemistry 17th Annual Meeting, Washington, DC.

DeShields, B.R., E.T. Hawkins, and W.R. Alsop. 1995. Site-specific water quality criteria—case studies of available methodologies. Presented at the Society of Environmental Toxicology and Chemistry 2nd Annual World Congress, Vancouver, BC.

DeShields, B.R., M.E. Stelljes, E.T. Hawkins, and W.R. Alsop. 1995. Ecological risk assessment: lessons learned. Presented at the Society of Environmental Toxicology and Chemistry 2nd Annual World Congress, Vancouver, BC.

DeShields, B.R., M.E. Stelljes, E.T. Hawkins, W.R. Alsop, and W. Collins. 1995. An evaluation of the



contaminant impacts on plants serving as habitat for an endangered species. Presented at the Society of Environmental Toxicology and Chemistry 2nd Annual World Congress, Vancouver, BC.

DeShields, B.R., M.E. Stelljes, W.R. Alsop, and E.T. Hawkins. 1995. Ecological risk assessment at Fort Ord: uncertainties related to critical toxicity values. Presented at the Society of Environmental Toxicology and Chemistry 5th Annual Meeting of NorCal, Santa Cruz, CA.

DeShields, B.R., J.J. Gravenmier, and S.R. Hansen. 1993. A step-wise treatability study on a refinery effluent. Presented at the Society of Environmental Toxicology and Chemistry 3rd Annual Meeting of NorCal, Oakland, CA.





Sean L. Culkin, P.G., C.H.G.

Consultant

(415) 787-6304

san francisco, CA

sculkin@integral-corp.com

Mr. Sean Culkin is a consulting professional with more than 10 years of experience serving a diverse range of clients. He is a California registered professional geologist and certified hydrogeologist who leverages his skills in analytical and quantitative hydrogeology to support a wide range of projects for private and public sector clients. His experience includes site characterization, water resources management, project management, conceptual site model development, soil and groundwater remediation, remedy optimization, and regulatory compliance. He has developed a solid track record of successful project execution and has provided technical guidance and oversight for numerous projects throughout the United States. Mr. Culkin has extensive experience with industry-standard groundwater modeling software applications, and has used site-specific numerical and analytical groundwater models to support both remediation system design and evaluation, geotechnical operations, and basin-wide resource management planning for groundwater and surface water supplies.

Education & Credentials

M.S., Geosciences, Pennsylvania State University, University Park, Pennsylvania, 2007

B.A., Earth and Planetary Sciences, Johns Hopkins University, Baltimore, Maryland, 2005

Professional Geologist: California (License No. 8845)

Certified Hydrogeologist: California (License No. 990)

Continuing Education

Hazardous Waste Operations and Emergency Response 40-Hour Certification (2007; refreshers 2008 through 2017)

First Aid and CPR Certified (2008)

QSP/QSD Training (2011)

Professional Affiliations

Groundwater Resources Association of California

National Ground Water Association

Relevant Experience

LITIGATION SUPPORT

Construction Dewatering Effects on Groundwater Flow, Seattle, Washington — Analyzed the impact of numerous construction dewatering projects on groundwater flow and contaminant transport in the vicinity of an urban redevelopment project. Performed groundwater drawdown and capture analysis. The revised hydrogeologic conceptual model supported expert testimony on site contamination transport history.

Groundwater Investigation, Santa Cruz County, California — Led groundwater pumping well, stream/aquifer interaction, and sampling investigations in response to state inquiries in Santa Cruz County, resulting in successful resolution with the state for the agricultural landowner.

Groundwater Modeling Related to Residential Development, San Francisco, California — Lead expert hydrogeologist on a team of geotechnical and structural engineers supporting litigation related to a high-profile residential development in San Francisco. Constructed site-specific groundwater models for analysis of local hydrogeology and construction dewatering. Gave formal presentations of technical findings to the mediation group. Quickly developed a detailed conceptual site model of the downtown San Francisco groundwater basin. Worked with geotechnical engineer partners to develop a 3-dimensional time history of subsurface material property changes in the vicinity of the building. These efforts contributed to a favorable settlement for the property developer.

PFAS Litigation Support, Various Locations, Nationwide — Provided technical analysis of PFAS fate and transport in the vicinity of various industrial facilities. Reviewed hydrologic data and developed analytical models to calculate riverine contaminant flux time histories.

Superfund Site, Portland, Oregon — Produced expert report for litigation surrounding a specific parcel of a large industrial Superfund site. Worked with counsel to refine and redevelop a complex fate and transport conceptual site model of interconnected surface water and groundwater pathways at this multiparty site. Case ongoing.

REMEDIAL DESIGN

Agricultural Well Investigation, Northern California — Performed ambient and dynamic down-hole flow logging at wells on an organic farm that had been impacted with chlorinated solvents. Calculated groundwater and contaminant mass flux through screen intervals for other flow pathways. Characterized well construction and hydrostratigraphy through a video log of open rock boreholes. Oversaw pump reinstallation and well maintenance. The resulting analysis provided the basis for successful ongoing well operations to maintain groundwater availability from the wells.

Characterization and Groundwater Remediation of a Former Chemical Production Facility, Los Angeles, California —

Led the monitoring/reporting program for remediation of a chlorinated solvent site and directed subcontractors. Used geospatial analysis to implement sampling frequency reduction for the monitoring well network and reduce costs. Characterized local hydrostratigraphy via well logs and an in-well transducer network. Assessed injection well operations for the West Coast Basin Barrier Project to address concerns about potential interaction with contaminants in coastal aquifers.

Characterization and Groundwater Remediation of a Former Chemical Production Facility, Los Angeles, California —

Employed analytical element modeling to assist groundwater remediation system design. These models provided an efficient platform for design of injection/extraction well configuration and operations. Acted as groundwater monitoring and reporting program leader and directed the industrial client's offsite data management contractors, which resulted in substantial cost savings for routine analysis and reporting.

Former Wood Treating Facilities, Various Locations, United States — Lead hydrogeologist for characterization and remediation of former wood treating sites in a variety of geologic settings, including riparian, coastal, and shallow karst environments. Developed site characterization work plans for feasibility studies and data gaps analysis. Prepared technical documentation on the fate and transport of dense nonaqueous-phase liquid and remediation feasibility. Developed site-specific groundwater models to assess fate and transport of PAHs and support remedy alternative design. Provide strategic and technical support of existing consultant teaming partners.

Groundwater Remediation Operations, Superfund Site, San Fernando Valley, California — Contributed to ongoing updates to the basin conceptual site model via well log analysis/correlation and evaluation of depositional histories. Acted as team leader for extensive hydrogeological field investigation, including aquifer testing, slug testing, and down-hole electromagnetic flow logging. These analyses, along with review of available well logs, contributed to a successful update of the conceptual site model and remedial strategy. Delineated contaminant distribution of chlorinated solvents, metals, and 1,4-dioxane through geostatistical interpolation that filled significant data gaps and improved understanding of plume delineation.

Hydrogeologic Assessment at a PFAS Site, Confidential Location — Supported hydrogeologic assessment of a site impacted by per- and polyfluoroalkyl substances (PFAS). Performed aquifer test analysis, groundwater model updates, and containment system optimization.

Perchlorate Groundwater Remediation Project, San Francisco Bay Area, California — Provided technical oversight for the assessment and remediation of a sedimentary basin contaminated with perchlorate resulting in impacts to private and municipal water users. Characterized basin hydrostratigraphy and contributed to conceptual model development via sonic core logging, aquifer pumping and injection tests, monitoring of a basin-wide transducer network, pneumatic slug testing, and lateral/vertical plume delineation from a network of nested monitoring wells and domestic pumping wells. Characterized basin groundwater flow, as well as groundwater–surface water interactions, via chemical and isotope analysis. Developed the conceptual design and performance estimates for an innovative remediation well network via analytical solutions, flow and transport modeling, and model optimization techniques. Efforts significantly reduced client implementation costs. Led the team that designed and implemented an efficient groundwater monitoring network to meet stringent regulatory requirements. Developed a regional groundwater flow model to support of treatment system design and remedial optimization. Performed statistical analysis for evaluating an approved natural attenuation remedy for a portion of the basin. These efforts contributed to substantial reduction of monitoring time and expenditure by the client and successful remediation of private water supply wells.

RCRA Corrective Action, Brunswick, Georgia — Used density-dependent groundwater flow and transport modeling to assist project team's reinterpretation of the conceptual site model for offsite migration of VOCs for a revised corrective action approach. Updated previous consultant's model to more accurately simulate coastal aquifer dynamics. Used particle tracking and 1-dimensional transport and attenuation models to support offsite plume characterization.

Remediation of a Brownfield Site, San Francisco Bay Area, California — Characterized site geology, hydrogeology, and extent of solvent and metals contamination via direct-push sampling and logging. Oversaw an *in situ* bioremediation pilot study for enhanced reductive dechlorination that led to successful full-scale injection operations and eventual site closure and redevelopment.

Remediation of Current and Former Military Facilities, California and Nevada — Developed work at a portfolio of military facilities through longstanding partnership with 8(a) contractor and U.S. Army

Corps of Engineers. Work included construction of a calibrated flow and transport model in a regional coastal aquifer system. Used calibrated models as the basis for a groundwater model optimization effort to maximize the effectiveness of the extraction/injection well network for active remediation of chlorinated solvents. These efforts successfully informed efficient installation and operation of capture wells concurrent with a treatment system redesign. Used flow models to perform ongoing capture zone analysis to assess ongoing successful treatment system performance, as well as fate and transport models to demonstrate long-term migration of contaminants.

Soil and Groundwater Remediation of a Former Chemical Production and Storage Facility, San Francisco Bay Area, California —

Led groundwater monitoring program on dynamic, multi-consultant site with ongoing *in situ* remediation of chlorinated solvents. Responsible for RCRA regulatory compliance and was lead author on report deliverables. Oversaw aquifer testing and characterization, including short-term pumping tests and slug tests. These tests provided relatively low-cost, efficient characterization of aquifer properties of contaminated areas with minimal waste generation that contributed to *in situ* remediation design.

WATER MANAGEMENT

Groundwater Resources Management, Santa Cruz County, California — Provided project and task management for a group of public clients utilizing a shared groundwater resource within Santa Cruz County. Coordinated with environmental impact report team of consultants and agencies for planned supplemental water supply projects within the basin. Authored documents pursuant to the California Sustainable Groundwater Management Act that resulted in acceptance of basin boundary modifications by the California Department of Water Resources, and promoted sustainable groundwater management through basin consolidation. Led construction of groundwater–surface water models in conjunction with the U.S. Geological Survey and made presentations to the basin Technical Advisory Committee. This model will provide a robust platform to test a number of groundwater management alternative strategies within the basin. Developed and ran site-specific flow and transport models to evaluate impact of seawater intrusion, resulting in updated management objectives for the basin that improved on previous methods.

Simulation of Groundwater Flow, Hawaii — Used groundwater models to simulate groundwater flow and seawater intrusion dynamics in a coastal volcanic aquifer. These models were used to assess the ecological risk of heated wastewater discharged to offshore through the aquifer. This work was performed in support of discharge permitting for a proposed bioenergy facility.

Water Budget Study, City of Oakland, California — Developed an analytical tool to estimate average water demand for public properties based on landscaping type and evapotranspiration data. Estimated values were generally corroborated by water use data from the city. Results were used to inform future water use strategies.

Water Resources Management, Olympic Valley, California — Acted as project manager and lead groundwater modeler to support the public utility client and associated private property developers, including developments undergoing environmental impact studies. Acted as a technical resource for the client at public-facing meetings. Performed groundwater model calibration and utilized the updated model for long-term planning operations for client. Successfully developed criteria for estimating long-term maximum groundwater supply within the valley that refined and improved on previous investigations. Provided review and evaluation of local hydrogeology to assist developers with property dewatering and construction operations.

GEOTECHNICAL

Construction Dewatering Projects, Los Angeles Basin, California — Oversaw all phases of planning, scoping, permitting (including NPDES), performance, and data collection associated with aquifer characterization to aid in dewatering design and subsurface construction plans. Analyzed pumping and slug test data to evaluate projected inflow during construction dewatering. Results of the investigations led to substantial improvements over the dewatering contractor recommendations and averted large future costs and engineering difficulties for the clients. Utilized analytical element and traditional numerical flow models to evaluate the effects of dewatering systems on the local hydrogeology. Used models to perform forensic analysis to improve the clients' understanding of unsuccessful dewatering designs.

Transit and Utility Alignment Projects, Los Angeles Basin, California — Provided technical support for aquifer tests associated with dewatering activities for subsurface transit alignments. These projects included the Westside Subway Extension, as well as water pipeline alignments.



Publications

Culkin, S. 2013. Use of genetic algorithm optimization for operational management of extraction wells within a mature groundwater plume, Monterey Bay, California. *MODFLOW and More 2013*.

Chamberlain, W.C., S. Culkin, and X. Xu. 2012. Hydrogeologic characterization in the development of underground structures—Los Angeles Basin, California. *Environmental and Engineering Geoscience* 18(3):295–308.

Culkin, S. 2008. Implications of rate-limited mass transfer for aquifer storage and recovery efficiency. *Ground Water* 46(4):591–601.

Presentations / Posters

Culkin, S. 2019. Evaluation saltwater–freshwater dynamics in coastal aquifer conceptual site model development and groundwater management. Platform presentation at AEHS 29th Annual International Conference on Soil, Water, Energy, and Air, San Diego, CA. March 18–21.

Culkin, S. 2017. Using cross-sectional models to develop proxy measurable thresholds for seawater intrusion. SGMA Conference, Tools for Developing a GSP, Groundwater Resources Association of California, Modesto, CA.

Culkin, S. 2016. Using cross-sectional models to develop measurable objectives for saltwater intrusion. 2016 Annual Meeting Program, Modeling Extremes: Drought to Flood and In-Betweens, California Water and Environmental Modeling Forum, Folsom, CA.

Culkin, S. 2013. Hydrogeological characterization in the development of underground structures—Los Angeles Basin, California. 2013 Annual Meeting Program with Abstracts, Association of Environmental & Engineering Geologists, Seattle, WA.

Culkin, S. 2007. Understanding aquifer storage and recovery efficiency in a clastic-limestone aquifer, Charleston, South Carolina. Geological Society of America Abstracts with Programs, Vol. 39. No. 1.

Culkin, S., and A.M. Franzese. 2004. Distinguishing between provenance changes and sorting effects on the Rb-Sr systematics in glacial and Holocene South Atlantic sediments. AGU Fall Meeting Abstracts.





Exhibit H

JOHN D'AGOSTINI
SHERIFF - CORONER - PUBLIC ADMINISTRATOR
COUNTY OF EL DORADO
STATE OF CALIFORNIA

REPLY TO:

HEADQUARTERS
300 FAIR LANE
PLACERVILLE
CA 95667
530 621-5655
FAX 626-8091

JAIL DIVISION
300 FORNI ROAD
PLACERVILLE
CA 95667
530 621-6000
FAX 626-9472

TAHOE PATROL
1360 JOHNSON BLVD., SUITE 100
SOUTH LAKE TAHOE
CA 96150
530 573-3000
FAX 544-6809

TAHOE JAIL
1051 AL TAHOE BLVD.
SOUTH LAKE TAHOE
CA 96150
530-573-3031
FAX 541-6721

May 30, 2018

Verizon Wireless

Dear Director,

On behalf of the El Dorado County Sheriff's Office, I am writing in support of continued placement of cell sites throughout El Dorado County. Public Safety agencies now rely heavily on wireless communications in the county, and we have noticed that cell & data speeds in many areas of the county are below reliable standards, and in some areas, nearly non-existent. As cellular providers continue to expand and improve their coverage throughout El Dorado County, it enhances our officer safety through better communication with our patrol vehicles and allows citizens better access to public safety resources through their personal cell phones. Each new site allows us to provide better service to the public and increased officer safety.

We appreciate Verizon's commitment to serve our residents and first responders. EL Dorado County has many rural areas, which need reliable cellular service. During past emergencies and natural disasters, Verizon has assisted with mobile sites and other technical resources. Reliable data communication aids with command and control functions.

The need for a reliable, survivable high speed wireless infrastructure throughout El Dorado County is vital and I strongly support the placement of cell sites throughout the county.

Thank you for your continuing efforts to expand your network. Please do not hesitate to contact me if you require addition support in the approval process.

Respectfully,

JOHN D'AGOSTINI
Sheriff ~ Coroner
Public Administrator



North Tahoe and Meeks Bay Fire Protection Districts



**222 Fairway Drive
P.O. Box 5879
Tahoe City, CA 96145
530.583.6913
Fax 530.583.6909**

Michael S. Schwartz, Fire Chief

June 5, 2018

Tahoe Regional Planning Agency
Attention: Paul Nielsen
128 Market St.
Stateline, NV 89410

Re: Cellular Site Development

Dear Mr. Nielsen:

I am writing this letter to express our support for the continued placement of cell sites throughout the Lake Tahoe/Truckee Region. Public safety agencies now rely heavily on wireless communications, and we have noticed that cell and data speeds in many areas of Placer County are far below reliable standards, and in some areas, nearly non-existent. My own cellular service in the North Tahoe region has been inconsistent and at times non-functional. As the Fire Chief for the District, I am on call 24/7, so being accessible in emergencies has always been an issue. In addition, I am the California Office of Emergency Services Operational Area Coordinator for the Tahoe Basin and often times deal with natural disasters and report to the CAL OES Warning Center. With the limited cellular service in the Lake Tahoe Basin, public safety suffers as a result.

The District is currently a customer of Verizon Wireless. I have had the privilege to work side by side with Verizon teams and have seen first hand their commitment to serve the public and first responders during the wildland fires throughout the states of California and Nevada. Verizon Wireless consistently goes above and beyond to assist in any way they can. A recent example is the deployment of a cellular-on-wheels unit to provide temporary cell service enhancement for the summer season, including the Fourth of July holiday period. The unit was placed at our Kings Beach station in 2017, and Verizon is planning on providing the same for 2018. This was made possible by Verizon without fiscal impacts to the District.

As mentioned earlier, the public safety agencies in the Tahoe basin rely on cell phone and high speed data communications for many purposes. Some potential uses of voice and data include: command and control during large incidents as well as day-to-day emergency response, routing of emergency apparatus through electronic mapping, accessing critical pre-incident planning information, relaying of patient information to hospitals and communicating with allied agencies.

Tahoe Regional Planning Agency

June 5, 2018

Page 2

The need for a reliable, survivable high-speed wireless infrastructure throughout the Lake Tahoe basin is vital, and I strongly support the placement of cell sites in and around the Tahoe/Truckee area.

Thank you for your attention to this matter. Please do not hesitate to contact me with any questions or concerns you may have.

Respectfully,

A handwritten signature in blue ink, appearing to read "M. Schwartz", written over a horizontal line.

Michael Schwartz

Fire Chief

SM:km



PLACER COUNTY SHERIFF CORONER-MARSHAL



MAIN OFFICE
2929 RICHARDSON DRIVE
AUBURN, CA 95603
PH: (530) 889-7800 FAX: (530) 889-7899

SOUTH PLACER STATION
6140 HORSESHOE BAR ROAD, SUITE D
LOOMIS, CA 95650
PH: (916) 652-2400 FAX: (916) 652-2424

NORTH LAKE TAHOE STATION
P.O. BOX 1710
TAHOE CITY, CA 96145
PH: (530) 581-6300 FAX: (530) 581-6377

DEVON BELL
SHERIFF-CORONER-MARSHAL

WAYNE WOO
UNDERSHERIFF

Verizon Wireless
Dear Director,

On behalf of the Placer County Sheriff's Office, I am writing this letter to express our support for the continued placement of additional cell sites throughout the north shore region of Lake Tahoe. The Lake Tahoe area is a destination for recreational visitors from across the country and the world, and during the peak recreational seasons it is not uncommon to have 100,000 plus visitors on the North Shore alone. Basin wide, untold numbers of both day visitors and longer term vacationers visit throughout the year, and this can frequently have an impact on the ability of existing cell towers to accommodate the fluctuating number of users.

Public safety agencies rely heavily on wireless communications for both traditional communications as well as wireless data systems that support our public safety mission. Our patrol vehicles, deputies and dispatch tools utilize wireless data to keep first responders up to date on calls for service, emergency incidents and locations where incidents are occurring. The importance of reliable cellular communications with respect to providing public safety cannot be understated.

The combination of mountains, valleys, canyons and forests surrounding our region frequently interfere with reliable communications for our first responders. Additionally, the influx of recreational visitors using the same towers can, and has, impacted the reliability of our law enforcement systems. To address this issue during specific peak events, Verizon has on two occasions and at their own expense, deployed temporary cell towers normally used during emergency situations and disasters. Both deployments occurred during the 4th of July time period, when the number of visitors at Lake Tahoe exceeded the capacity of key cell towers and our local public safety systems went down for extended periods. I appreciate Verizon's commitment to our public safety mission and the safety of our visitors and community.

It is my understanding that Verizon is in the application process for additional cell tower locations within the Tahoe Region. Please accept this letter as our support for their continued efforts to expand reliable coverage within the Tahoe region.

Respectfully,

Captain Dennis Walsh, Tahoe Station Commander
Placer County Sheriff's Office
North Lake Tahoe Station

Attachment G

Verizon Scenic Simulation Update, dated March 14, 2021

MACKENZIE & ALBRITTON LLP

155 SANSOME STREET, SUITE 800
SAN FRANCISCO, CALIFORNIA 94104

TELEPHONE 415 / 288-4000
FACSIMILE 415 / 288-4010

March 14, 2022

VIA EMAIL

Governing Board
Tahoe Regional Planning Agency
128 Market Street
Stateline, Nevada 89449

Re: Verizon Wireless Response to Appeal, File No. ERSP2019-0389
Telecommunications Facility, 1360 Ski Run Boulevard, South Lake Tahoe
Governing Board Agenda, March 23, 2022

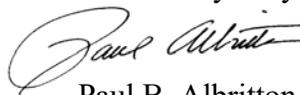
Dear Board Members:

We write again on behalf of Verizon Wireless in response to the appeal of its proposed monopine facility approved by the Hearing Officer in October 2021, which will be heard on your March 23 agenda. Due to the changing seasons and passage of time, and in response to the appellants' comments regarding previously submitted photosimulations, Verizon Wireless requested that a specialist consultant, Previsualists Inc., prepare new photosimulations. Previsualists used advanced drone technology to confirm the monopine's placement and height as viewed from multiple vantage points both near and far.

The new photosimulations prepared by Previsualists are attached to this letter, and they confirm that the monopine will pose little visual impact where placed among established evergreen trees on the subject property. As seen from multiple distant vantage points, the monopine will not be visible at all.

A representative of Previsualists will be available at the March 23 TRPA Governing Board meeting to answer any questions you may have about the drone technology and digital modeling method used to prepare the attached photosimulations.

Very truly yours,



Paul B. Albritton

Attachment

cc: John Marshall, Esq.
Bridget Cornell

Photosimulation Package

Prepared March 13, 2022

by

Don Carmickle

CA Licensed Landscape Architect LA4102

FAA Licensed Commercial UAV pilot

Contents:

Page 0	Cover Page
Page 1	Drone Explanation
Pages 2-4	Views from Drone
Page 5	Photo Location Map
Pages 6-19	Existing and Proposed Sims
Pages 20-27	Views Toward Project

Process:

The site was located and confirmed by GPS coordinates and landmarks that matched the 100% Zoning Drawings dated Nov. 19, 2021. A DJI Mavic Pro drone was launched from a location of a matching ground elevation as the proposed monopine, moved to directly over the proposed tower foundation spot, and raised to 112 ft. A screen grab was taken of the controller screen.

Photographs were taken from all locations from which the drone was visible. At each photo location the drone elevation was confirmed to be stable. Numerous additional photographs were taken from requested locations that clearly had no view of the drone. Returning to the site, views from the drone were captured using the onboard 4k camera, rotating in a panoramic manner. All ground photographs were taken using a Canon EOS 6D Mark II using a standard focus lens to provide a "normal" field of view per CEQA guidelines.

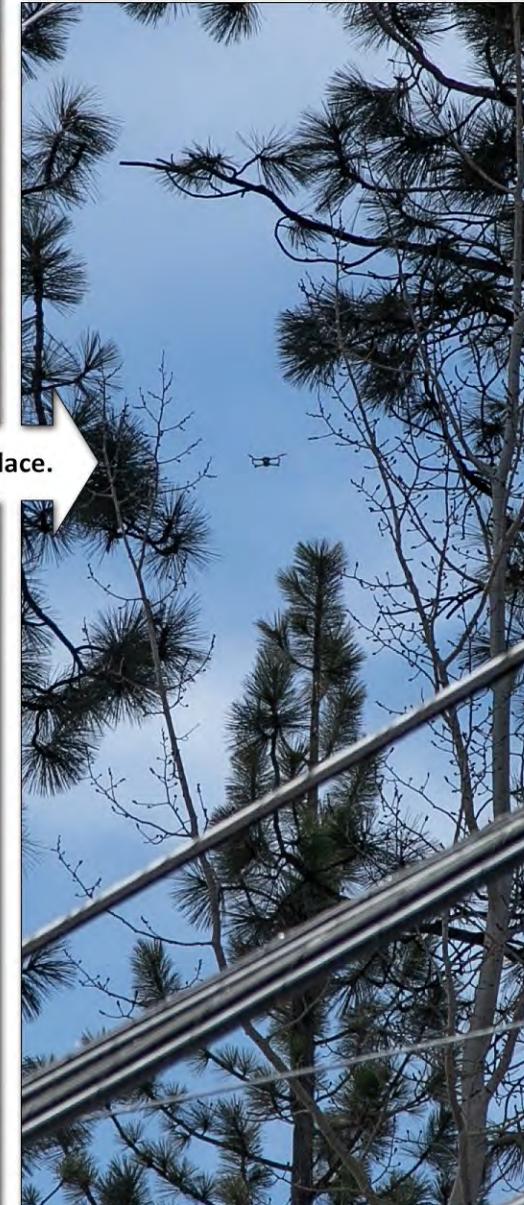
Digital representation of the monopine uses a built Verizon monopine from a different location, and photographed using the same camera.

About:

Don Carmickle has over 25 years experience providing tens of thousands of photosimulations and visual analysis throughout the Western United States. His reputation for unbiased and highly accurate photosimulations is the foundation for his business, Previsualists Inc.

Ski Run Blvd
1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon VZW - 444780



The drone used for scale and placement.

Flight controller screen during all site photography.

Drone locked in place.



This photograph shows landmarks that are visible from the top of the monopine.
In order for a specific location to be able to see the top of the monopine, that road / trail / home would need to be visible in this view.
If a specific location is not visible in this photograph, then from that location the monopine will not be visible.

Ski Run Blvd
1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon VZW - 444780

Photograph from a drone at the height of the highest branch tip of the proposed monopine,
looking to the southwest from 112 ft above ground level.



Southwest
▼

Nearby tree
higher than the monopine,
244 feet away

Pioneer Trail is not visible

Photosimulation provided from here

This photograph shows landmarks that are visible from the top of the monopine.
In order for a specific location to be able to see the top of the monopine, that road / trail / home would need to be visible in this view.
If a specific location is not visible in this photograph, then from that location the monopine will not be visible.

Ski Run Blvd
1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon VZW - 444780

Photograph from a drone at the height of the highest branch tip of the proposed monopine,
looking to the northwest from 112 ft above ground level.



This photograph shows landmarks that are visible from the top of the monopine.
In order for a specific location to be able to see the top of the monopine, that road / trail / home would need to be visible in this view.
If a specific location is not visible in this photograph, then from that location the monopine will not be visible.

Ski Run Blvd
1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon VZW - 444780

Photograph from a drone at the height of the highest branch tip of the proposed monopine,
looking to the east from 112 ft above ground level.



Upper Needle Peak Rd is not visible

Heavenly lodge area is not visible

Photosimulation viewpoints

Photosimulation viewpoints

East

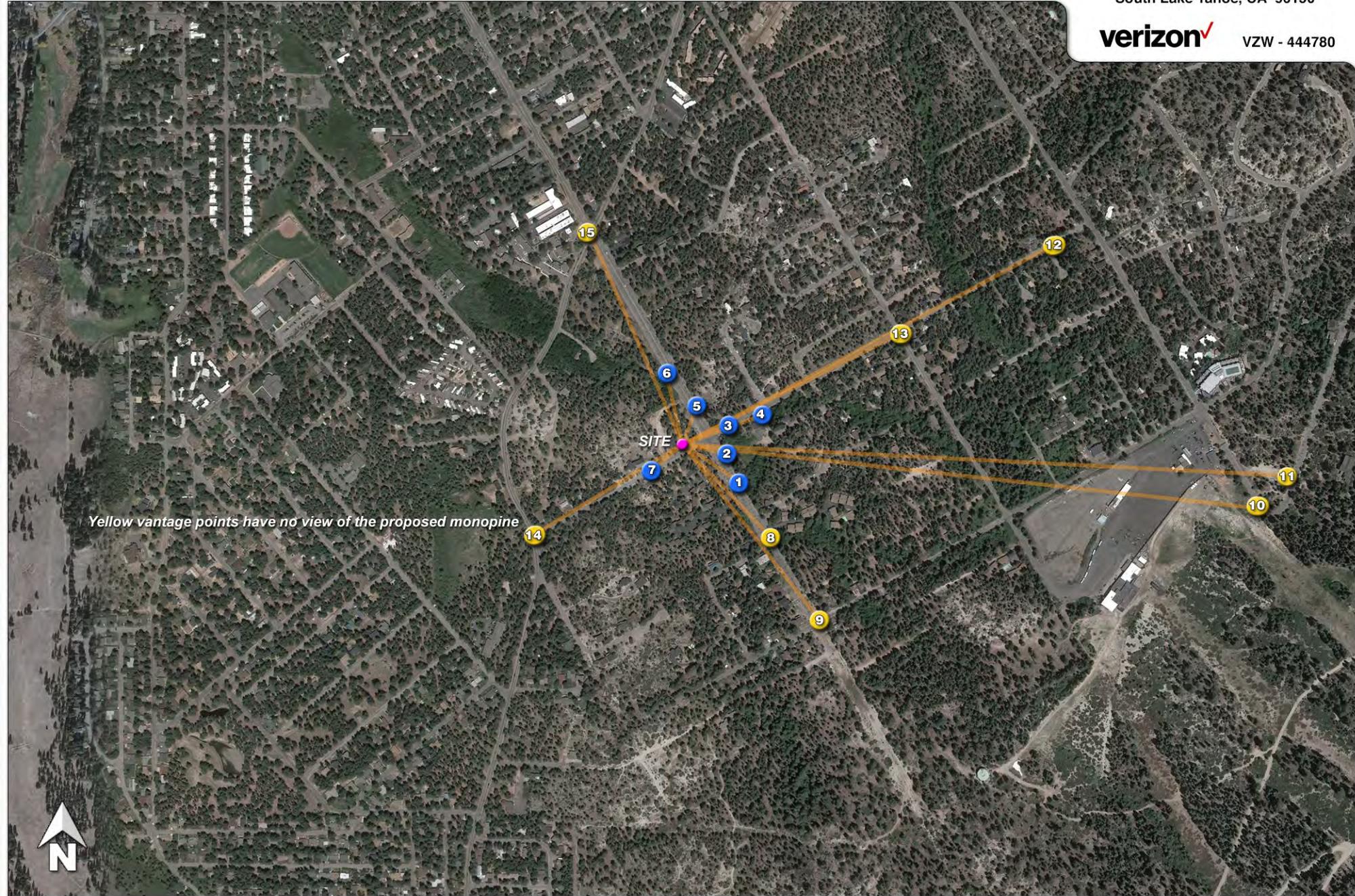
Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Aerial photograph showing the viewpoints for the photosimulations.



Yellow vantage points have no view of the proposed monopine



Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Existing view looking west-northwest from Ski Run Blvd, approaching Needle Peak Road.

1

Stationary drone locked at 112 ft AGL,
for exact height and placement



Existing

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon

VZW - 444780

Photosimulation of the view looking west-northwest from Ski Run Blvd, approaching Needle Peak Road.

1

Proposed Verizon monopine

Proposed

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Existing view looking due west from across Ski Run Blvd just south of Needle Peak Road.

2

Stationary drone locked at 112 ft AGL,
for exact height and placement



Existing

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking due west from across Ski Run Blvd just south of Needle Peak Road.

2

Proposed Verizon monopine

Proposed

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon

VZW - 444780

Existing view looking west-southwest from Needle Peak Road approaching Ski Run Blvd.

3

Stationary drone locked at 112 ft AGL,
for exact height and placement



Existing

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking west-southwest from Needle Peak Road approaching Ski Run Blvd.

3

Proposed Verizon monopine

Proposed

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon

VZW - 444780

Existing view looking west-southwest from Verdon Lane at Needle Peak Road.

4

Stationary drone locked at 112 ft AGL,
for exact height and placement



Existing

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking west-southwest from Verdon Lane at Needle Peak Road.

4

Proposed Verizon monopine

WINTER WONDERLAND
EST. 1967
OPEN
SKI & BOARD RENTALS
FULL TUNES • REPAIRS
SNOW CLOTHING RENTALS
\$19.95 PACKAGES
1/2 DAY = 1/2 PRICE!



Proposed

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Existing view looking southwest from across Ski Run Blvd.

5

Stationary drone locked at 112 ft AGL,
for exact height and placement



Existing

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking southwest from across Ski Run Blvd.

5

Proposed Verizon monopine



Proposed

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Existing view looking south along Ski Run Blvd.

6

Stationary drone locked at 112 ft AGL
for exact height and placement



Existing

Photosimulation of the view looking south along Ski Run Blvd.

Ski Run Blvd
1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon VZW - 444780

6

Proposed Verizon monopine

Proposed

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Existing view looking northeast along Needle Peak Road.

7

Stationary drone locked at 112 ft AGL,
for exact height and placement



Existing

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking northeast along Needle Peak Road.

7

Proposed Verizon monopine

Proposed

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon

VZW - 444780

Photosimulation of the view looking northwest from Ski Run Blvd, across from Mackedie Way.

8

*Location of the proposed monopine.
Not visible, completely blocked from view.*

Existing and Proposed (no visible change)

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking northwest from Saddle Road at the terminus of Ski Run Blvd.

9



Location of the proposed monopine.
Not visible, completely blocked from view.

Existing and Proposed (no visible change)

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking almost due west from the edge of the ski area along the shoulder of Keller Road.

10

*Location of the proposed monopine.
Not visible, completely blocked from view.*

Existing and Proposed (no visible change)

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150



VZW - 444780

Photosimulation of the view looking west from Keller Road, uphill and overlooking the California Lodge parking lot.

11

*Location of the proposed monopine.
Not visible, completely blocked from view.*

Existing and Proposed (no visible change)

Photosimulation of the view looking southwest from Needle Peak Road at Timberlake Place.

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon✓

VZW - 444780

12

*Location of the proposed monopine.
Not visible, completely blocked from view.*

Existing and Proposed (no visible change)

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon✓

VZW - 444780

Photosimulation of the view looking southwest from the intersection of Wildwood Ave and Needle Peak Road.

13

*Location of the proposed monopine.
Not visible, completely blocked from view.*

Existing and Proposed (no visible change)

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon

VZW - 444780

Photosimulation of the view from the intersection of Needle Peak Road and Pioneer Trail.

14

*Location of the proposed monopine.
Not visible, completely blocked from view.*

ROAD
CLOSED
NOV 1
THRU APR 15

Existing and Proposed (no visible change)

Ski Run Blvd

1360 Ski Run Blvd
South Lake Tahoe, CA 96150

verizon

VZW - 444780

Photosimulation of the view looking up Ski Run Blvd from the intersection with Pioneer Trail.

15

*Location of the proposed monopine.
Not visible, completely blocked from view.*

Existing and Proposed (no visible change)

Attachment H

Initial Environmental Checklist



OFFICE
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HOURS
Mon. Wed. Thurs. Fri
9 am-12 pm/1 pm-4 pm
Closed Tuesday
New Applications Until 3:00 pm

Print Form

**INITIAL ENVIRONMENTAL CHECKLIST
FOR DETERMINATION OF ENVIRONMENTAL IMPACT**

I. Assessor's Parcel Number (APN)/Project Location

Project Name County/City

Brief Description of Project:

Verizon Wireless to install 110' stealth monopine wireless facility. Ground equipment to be located within existing maintenance shed on the property, which shed will be ~~extended~~ ^{expanded} to accommodate Verizon's use. Extension of the shed will be consistent with its aesthetic character. Tower will be placed next to the shed. 736 SQ FT of coverage to be added with ~~737~~ ⁷⁸⁹ SQ FT to be removed with a net reduction of ~~+~~ ⁵³ SQ FT in coverage.

Revised and Submitted to TRPA 6/11/19

The following questionnaire will be completed by the applicant based on evidence submitted with the application. All "Yes" and "No, With Mitigation" answers will require further written comments. Use the blank boxes to add any additional information. If more space is required for additional information, please attach separate sheets and reference the question number and letter.

II. ENVIRONMENTAL IMPACTS:

1. Land

Will the proposal result in:

a. Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)?

Land coverage will exceed base allowable for this land capability, but will stay within that previously verified onsite. There will be a net reduction in onsite land coverage.

- Yes
- No, With Mitigation
- No
- Data Insufficient

b. A change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions?

- Yes
- No
- No, With Mitigation
- Data Insufficient

c. Unstable soil conditions during or after completion of the proposal?

- Yes
- No
- No, With Mitigation
- Data Insufficient

d. Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet?

- Yes
- No
- No, With Mitigation
- Data Insufficient

e. The continuation of or increase in wind or water erosion of soils, either on or off the site?

- Yes
- No
- No, With Mitigation
- Data Insufficient

f. Changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake?

- Yes No
 No, With Mitigation Data Insufficient

g. Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards?

- Yes No
 No, With Mitigation Data Insufficient

2. Air Quality

Will the proposal result in:

a. Substantial air pollutant emissions?

- Yes No
 No, With Mitigation Data Insufficient

b. Deterioration of ambient (existing) air quality?

Intermittent testing of emergency generator.

- Yes No
 No, With Mitigation Data Insufficient

c. The creation of objectionable odors?

- Yes No
 No, With Mitigation Data Insufficient

d. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

- Yes No
 No, With Mitigation Data Insufficient

e. Increased use of diesel fuel?

Site includes 20kw backup generator for emergency use. Will have intermittent testing.

- Yes No
 No, With Mitigation Data Insufficient

3. Water Quality

Will the proposal result in:

a. Changes in currents, or the course or direction of water movements?

- Yes No
 No, With Mitigation Data Insufficient

b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site?

- Yes No
 No, With Mitigation Data Insufficient

c. Alterations to the course or flow of 100-year flood waters?

- Yes No
 No, With Mitigation Data Insufficient

d. Change in the amount of surface water in any water body?

- Yes No
 No, With Mitigation Data Insufficient

e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?

- Yes No
 No, With Mitigation Data Insufficient

f. Alteration of the direction or rate of flow of ground water?

[Empty text box for response]

- Yes
- No
- No, With Mitigation
- Data Insufficient

g. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

[Empty text box for response]

- Yes
- No
- No, With Mitigation
- Data Insufficient

h. Substantial reduction in the amount of water otherwise available for public water supplies?

[Empty text box for response]

- Yes
- No
- No, With Mitigation
- Data Insufficient

i. Exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches?

[Empty text box for response]

- Yes
- No
- No, With Mitigation
- Data Insufficient

j. The potential discharge of contaminants to the groundwater or any alteration of groundwater quality?

[Empty text box for response]

- Yes
- No
- No, With Mitigation
- Data Insufficient

k. Is the project located within 600 feet of a drinking water source?

No known drinking water source near site.

- Yes
- No
- No, With Mitigation
- Data Insufficient

4. Vegetation

Will the proposal result in:

- a. Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system?

Four trees to be removed. DBHs of 9.5", 16", 11.5", 10.8"

- Yes
- No
- No, With Mitigation
- Data Insufficient

- b. Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table?

- Yes
- No
- No, With Mitigation
- Data Insufficient

- c. Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species?

- Yes
- No
- No, With Mitigation
- Data Insufficient

- d. Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)?

One tree, roughly 10" DBH to be removed

- Yes
- No
- No, With Mitigation
- Data Insufficient

- e. Reduction of the numbers of any unique, rare or endangered species of plants?

- Yes
- No
- No, With Mitigation
- Data Insufficient

f. Removal of stream bank and/or backshore vegetation, including woody vegetation such as willows?

- Yes No
 No, With Mitigation Data Insufficient

g. Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications?

- Yes No
 No, With Mitigation Data Insufficient

h. A change in the natural functioning of an old growth ecosystem?

- Yes No
 No, With Mitigation Data Insufficient

5. Wildlife

Will the proposal result in:

a. Change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)?

- Yes No
 No, With Mitigation Data Insufficient

b. Reduction of the number of any unique, rare or endangered species of animals?

- Yes No
 No, With Mitigation Data Insufficient

c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?

- Yes No
 No, With Mitigation Data Insufficient

d. Deterioration of existing fish or wildlife habitat quantity or quality?

- Yes No
 No, With Mitigation Data Insufficient

6. Noise

Will the proposal result in:

a. Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan?

- Yes No
 No, With Mitigation Data Insufficient

b. Exposure of people to severe noise levels?

- Yes No
 No, With Mitigation Data Insufficient

c. Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold?

- Yes No
 No, With Mitigation Data Insufficient

d. The placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible?

- Yes No
 No, With Mitigation Data Insufficient

e. The placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses?

- Yes No
 No, With Mitigation Data Insufficient

f. Exposure of existing structures to levels of ground vibration that could result in structural damage?

- Yes No
 No, With Mitigation Data Insufficient

7. Light and Glare

Will the proposal:

a. Include new or modified sources of exterior lighting?

4 service lights with 6-hour timers

- Yes
- No
- No, With Mitigation
- Data Insufficient

b. Create new illumination which is more substantial than other lighting, if any, within the surrounding area?

- Yes
- No
- No, With Mitigation
- Data Insufficient

c. Cause light from exterior sources to be cast off -site or onto public lands?

- Yes
- No
- No, With Mitigation
- Data Insufficient

d. Create new sources of glare through the siting of the improvements or through the use of reflective materials?

- Yes
- No
- No, With Mitigation
- Data Insufficient

8. Land Use

Will the proposal:

a. Include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan?

- Yes
- No
- No, With Mitigation
- Data Insufficient

b. Expand or intensify an existing non-conforming use?

- Yes No
 No, With Mitigation Data Insufficient

9. Natural Resources

Will the proposal result in:

a. A substantial increase in the rate of use of any natural resources?

- Yes No
 No, With Mitigation Data Insufficient

b. Substantial depletion of any non-renewable natural resource?

- Yes No
 No, With Mitigation Data Insufficient

10. Risk of Upset

Will the proposal:

a. Involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions?

Generator will have 132 gallon diesel fuel tank.

- Yes No
 No, With Mitigation Data Insufficient

b. Involve possible interference with an emergency evacuation plan?

- Yes No
 No, With Mitigation Data Insufficient

11. Population

Will the proposal:

- a. Alter the location, distribution, density, or growth rate of the human population planned for the Region?

- Yes
- No
- No, With Mitigation
- Data Insufficient

- b. Include or result in the temporary or permanent displacement of residents?

- Yes
- No
- No, With Mitigation
- Data Insufficient

12. Housing

Will the proposal:

- a. Affect existing housing, or create a demand for additional housing?

To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions:

- (1) Will the proposal decrease the amount of housing in the Tahoe Region?

- Yes
- No
- No, With Mitigation
- Data Insufficient

- (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households?

- Yes
- No
- No, With Mitigation
- Data Insufficient

Number of Existing Dwelling Units: _____

Number of Proposed Dwelling Units: _____

b. Will the proposal result in the loss of housing for lower-income and very-low-income households?

- Yes No
 No, With Mitigation Data Insufficient

13. Transportation/Circulation

Will the proposal result in:

a. Generation of 100 or more new Daily Vehicle Trip Ends (DVTE)?

- Yes No
 No, With Mitigation Data Insufficient

b. Changes to existing parking facilities, or demand for new parking?

- Yes No
 No, With Mitigation Data Insufficient

c. Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities?

- Yes No
 No, With Mitigation Data Insufficient

d. Alterations to present patterns of circulation or movement of people and/or goods?

- Yes No
 No, With Mitigation Data Insufficient

e. Alterations to waterborne, rail or air traffic?

- Yes No
 No, With Mitigation Data Insufficient

f. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

- Yes No
 No, With Mitigation Data Insufficient

14. Public Services

Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?

a. Fire protection?

Site will require fire protection.

- Yes No
 No, With Mitigation Data Insufficient

b. Police protection?

Site will require police protection. Confirm

- Yes No
 No, With Mitigation Data Insufficient

c. Schools?

- Yes No
 No, With Mitigation Data Insufficient

d. Parks or other recreational facilities?

- Yes No
 No, With Mitigation Data Insufficient

e. Maintenance of public facilities, including roads?

- Yes No
 No, With Mitigation Data Insufficient

f. Other governmental services?

- Yes No
 No, With Mitigation Data Insufficient

15. Energy

Will the proposal result in:

a. Use of substantial amounts of fuel or energy?

- Yes No
 No, With Mitigation Data Insufficient

b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

- Yes No
 No, With Mitigation Data Insufficient

16. Utilities

Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:

a. Power or natural gas?

- Yes No
 No, With Mitigation Data Insufficient

b. Communication systems?

- Yes No
 No, With Mitigation Data Insufficient

c. Utilize additional water which amount will exceed the maximum permitted capacity of the service provider?

- Yes No
 No, With Mitigation Data Insufficient

d. Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider?

- Yes No
 No, With Mitigation Data Insufficient

e. Storm water drainage?

- Yes No
 No, With Mitigation Data Insufficient

f. Solid waste and disposal?

- Yes No
 No, With Mitigation Data Insufficient

17. Human Health

Will the proposal result in:

a. Creation of any health hazard or potential health hazard (excluding mental health)?

- Yes No
 No, With Mitigation Data Insufficient

b. Exposure of people to potential health hazards?

- Yes No
 No, With Mitigation Data Insufficient

18. Scenic Resources/Community Design

Will the proposal:

- a. Be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe?

Site is partially visible from Pioneer Trail. Scenic simulations show that tower will blend in with surrounding trees.

- Yes
- No
- No, With Mitigation
- Data Insufficient

- b. Be visible from any public recreation area or TRPA designated bicycle trail?

Site is partially visible from Heavenly Ski Area. Due to presence of trees of varying heights in the foreground and middleground, the visibiltiy of the monopine will not significantly change the viewshed.

- Yes
- No
- No, With Mitigation
- Data Insufficient

- c. Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area?

[Empty text box]

- Yes
- No
- No, With Mitigation
- Data Insufficient

- d. Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan?

[Empty text box]

- Yes
- No
- No, With Mitigation
- Data Insufficient

- e. Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines?

[Empty text box]

- Yes
- No
- No, With Mitigation
- Data Insufficient

19. Recreation

Does the proposal:

a. Create additional demand for recreation facilities?

- Yes No
 No, With Mitigation Data Insufficient

b. Create additional recreation capacity?

- Yes No
 No, With Mitigation Data Insufficient

c. Have the potential to create conflicts between recreation uses, either existing or proposed?

- Yes No
 No, With Mitigation Data Insufficient

d. Result in a decrease or loss of public access to any lake, waterway, or public lands?

- Yes No
 No, With Mitigation Data Insufficient

20. Archaeological/Historical

a. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building?

- Yes No
 No, With Mitigation Data Insufficient

b. Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records?

- Yes No
 No, With Mitigation Data Insufficient

c. Is the property associated with any historically significant events and/or sites or persons?

- Yes No
 No, With Mitigation Data Insufficient

d. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?

- Yes No
 No, With Mitigation Data Insufficient

e. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area?

- Yes No
 No, With Mitigation Data Insufficient

21. Findings of Significance.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory?

- Yes No
 No, With Mitigation Data Insufficient

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)

- Yes No
 No, With Mitigation Data Insufficient

c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?)

- Yes No
 No, With Mitigation Data Insufficient

d. Does the project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly?

- Yes No
 No, With Mitigation Data Insufficient

DECLARATION:

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature: (Original signature required.) Joseph Sharp, SAC Wireless obo Verizon Wireless

Michelle
Fernandes

Digitally signed by Michelle
Fernandes
Date: 2021.10.07 13:35:57 -07'00'

Person Preparing Application

At Sacramento
County

Date: 2/8/19

Applicant Written Comments: (Attach additional sheets if necessary)

Print Form

FOR OFFICE USE ONLY

Date Received: _____ By: _____

Determination:

On the basis of this evaluation:

- a. The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.

Yes

No

- b. The proposed project could have a significant effect on the environment, but due to the listed mitigation measures which have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules and Procedures.

Yes

No

- c. The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with Chapter 3 of the TRPA Code of Ordinances and the Rules of Procedure.

Yes

No

Signature of Evaluator

Date: _____

Title of Evaluator

ADDENDUM FOR TRANSFERS/CONVERSIONS OF USE

The following is to be used as a supplemental checklist for the Tahoe Regional Planning Agency Initial Environmental Checklist (IEC). It is to be used when reviewing any development right transfer pursuant to Chapter 34 of the Code of Ordinances or Conversion of Use pursuant to Chapter 33 of the Code of Ordinances. Any question answered in the affirmative will require written documentation showing that the impacts will be mitigated to a less than significant level. Otherwise, an environmental impact statement will be required.

The asterisk (*) notes threshold subjects.

* No Dev. Right transfers *

a) Land*

Does the proposal result in any additional land coverage?

This is all relocated from existing

Coverage to be removed on parcel to bring project compliant with established limits.

- | | |
|---|--|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input checked="" type="checkbox"/> No, With Mitigation | <input type="checkbox"/> Data Insufficient |

b) Air Quality*

Does the proposal result in any additional emission?

Emergency backup generator will be tested intermittently and operated during power outages.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input type="checkbox"/> No, With Mitigation | <input type="checkbox"/> Data Insufficient |

c) Water*

Does the proposal result in any additional discharge that is in violation of TRPA discharge standards?

- | | |
|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> No, With Mitigation | <input type="checkbox"/> Data Insufficient |

d) Does the proposal result in an increase in the volume of discharge?

- | | |
|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> No, With Mitigation | <input type="checkbox"/> Data Insufficient |

e) Noise*

Does the proposal result in an increase in Community Noise Equivalency Level (CNEL)?

- | | |
|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> No, With Mitigation | <input type="checkbox"/> Data Insufficient |

f) Aesthetics

Does the proposal result in blockage of significant views to Lake Tahoe or an identified visual resource?

- Yes No
 No, With Mitigation Data Insufficient

g) Recreation*

Does the proposal result in a reduction of public access to public recreation areas or public recreation opportunities?

- Yes No
 No, With Mitigation Data Insufficient

h) Land Use

Does the converted or transferred use result in a use that is not consistent with the goals and policies of the Community Plan or Plan Area Statement?

- Yes No
 No, With Mitigation Data Insufficient

i) Population

Does the proposal result in an increase in the existing or planned population of the Region?

- Yes No
 No, With Mitigation Data Insufficient

j) Housing

Does the proposal result in the loss of affordable housing?

- Yes No
 No, With Mitigation Data Insufficient

k) Transportation

Does the proposal result in the increase of 100 Daily Vehicle Trip Ends (DVTE)?

- Yes No
 No, With Mitigation Data Insufficient

l) Does the proposal result in a project that does not meet the parking standards?

- Yes No
 No, With Mitigation Data Insufficient

m) Utilities

Does the proposal result in additional water use?

- Yes No
 No, With Mitigation Data Insufficient

n) Does the proposal result in the need for additional sewer treatment?

- Yes No
 No, With Mitigation Data Insufficient

o) Historical

Does the proposal result in the modification or elimination of a historic structure or site?

- Yes No
 No, With Mitigation Data Insufficient

DECLARATION:

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature: **(Original signature required.)**

_____ At _____ Date: _____
Person Preparing Application County

Applicant Written Comments: (Attach additional sheets if necessary)

Print Form