

ADDENDUM TO NOTICE OF APPEAL
With Request for Stay

Executive Summary:

In spite of Verizon *doubling the depth of the massive foundation* for this tower TRPA has approved it as a “minor modification” in spite of the following:

- 1.) This is clearly a *major expansion*, not a minor modification.
- 2.) Any excavation greater than 5 feet requires mandatory investigations and reports that were not done.
- 3.) The project is immediately adjacent to an SEZ, and the foundation is virtually certain to intercept groundwater in violation of TRPA’s clear prohibitions, and its mandate to protect water quality.
- 4.) A new full application and checklist is required for this project, as a major expansion simply cannot be approved without a full review of the impacts as required.
- 5.) The project does not fit any exception to this requirement:
 - a. No building Code requires a particular depth for this structure.
 - b. On balance, the project is a threat to public health and safety. Verizon’s interest is in private profit, and not in the public interest. Even if it were a health and safety project, TRPA’s mandates would require that negative impacts on the environment be minimized.
- 6.) Once again, TRPA is willfully blind to its obligations when it comes to private telecom projects, and appears to collude with the telecoms to evade even a pretense of analyzing and addressing very real significant impacts on the environment that individually and cumulatively threaten TRPA’s ability to attain and maintain its Thresholds.

This Notice of Appeal is from the staff decision of August 5, 2022, attached to this Notice as Exhibit “A”, and is the final action by TRPA to approve a major expansion to the previously approved tower project. This appeal is jointly done by David Benedict (3585 Needle Peak Road, S Lake Tahoe CA 96150), Benjamin Lebovitz (3661 Regina Road, S Lake Tahoe CA 96150) and Alan Miller, and all have a vital interest in this project.

As will be detailed in the Appellant’s Statement of Appeal, this staff decision is in complete and total dereliction of TRPA’s duties under the Compact, its Code of Ordinances, and applicable State and Federal laws. The major expansion of the foundation authorized is a new “project” as defined, is not exempt or qualified exempt, and amounts to yet again another grant of a blank check to the for-profit telecom industry to ignore potentially serious effects on the environment and the adopted threshold carrying capacities for the Tahoe Region.

As of Friday, August 19, 2022, it appears that work has commenced. The Appellant accordingly requests a Stay as authorized by TRPA’s Rules of Procedure at Section 11.3. The sworn affidavit of Alan Miller is submitted in support of this request.

AFFIDAVIT UNDER PENALTY OF PERJURY

I, Alan Miller, swear under penalty of perjury the following information to be true and accurate to the best of my current knowledge and recollection.

I am a long-time resident of the City of South Lake Tahoe, and I am a licensed California civil engineer with many years of experience in dealing with water quality issues here at Lake Tahoe. This affidavit is submitted in support of our request for a stay which accompanies our Notice of Appeal.

The Staff Letter Waiving Prohibitions

During a review of TRPA documents online I discovered a staff letter from a TRPA Senior Planner dated August 5, 2022 (Exhibit “A”, attached) waiving prohibitions for excavation potentially affecting ground water for the approved Verizon 112’ monopine tower at 1360 Ski Run Blvd. As the staff letter states, requirements for prohibited excavation activities are waived “pursuant to TRPA Code of Ordinances Sections 33.3.6.A.2.a (accommodation of engineering requirements for above-ground structures) and 33.3.6.A.2.d (public health and safety).” The subject waiver was issued without making any findings of fact, just citing the categories above, with limited information provided in support of these assertions. TRPA has approved this waiver improperly, in violation of the law in a number of ways, as this Appeal will make clear.

The Appeal

This Appeal is concerned with the August 5, 2022 staff letter misinterpreting and misapplying the laws and regulations governing the Tahoe Regional Planning Agency (TRPA) by the TRPA, as formalized in the Acknowledged Permit for the Project posted online on August 19, 2022 in reliance on the August 5, 2022 staff letter. On March 23, 2022 the TRPA Governing Board denied the Appeal by Eisenstecken, et al., of the TRPA Hearing Officer’s October 2021 decision to issue the TRPA Permit to Verizon for the above-cited Project. On May 6, 2022 TRPA issued its Final Permit (per the file name in online documents) to Verizon for the tower planned at 1360 Ski Run Boulevard, City of South Lake Tahoe, CA. During all the time prior to the Governing Board’s denial of the Appeal on March 23, 2022, the Project plan specifications always specified that “Grading will not exceed 5’ [5 feet] below ground” for the tower foundation, located on TRPA’s most-sensitive Class 1 lands. I became concerned with impacts to ground water when I saw the August 5, 2022 staff letter from TRPA approving revised Project plans for excavation to a depth of 13.5 feet, lacking any stated evidentiary support or fact finding for the record of approval other than citing Code sections.

As we know, the tower itself is on Class 1a land (due to steepness), with sensitive 1b Stream Environment Zone (SEZ) lands surrounding, both SEZ lands associated with Bijou Park Creek that are excessively over-covered with impervious surfaces on the Project site, and those that remain more or less natural and/or functional to the east and downslope of the Project site. The quote in the paragraph above is from the approved 2021 plans showing a small spread or mat foundation approx. three feet thick and terminating five feet below ground at the *shallowest* point, a slab on earth, approximately three feet thick, with a riser 3 feet above it. Thus, excavation beyond five feet (to 7.5 feet), which is prohibited if not in accordance with Code of Ordinances section 33.3.6., letters A. and B., was proposed, evaluated, and made a part of the Permit approval record, as documented in the Eisenstecken, et al., Appeal Statement, the denial and subsequent Final Permit.

Through the Appeal, TRPA asserted the Project was not in significant conflict with the cited Code sections, for the Project as described and approved by the Governing Board, and so concerns, comments, and findings concerning ground water impacts from the foundation by the public, including myself, were limited. In fact, an early letter in the Project record from 2019 has Verizon expressly citing that the design was such that excavation would go beyond five feet, to 7.5 feet deep due to slope, though mostly less than five feet, with the clear implication that Verizon was fully aware of the five-foot excavation limitation as a basis for design. In response to the Verizon letter, on August 27, 2019 TRPA issued an approval letter that differs from the August 5, 2022 letter (Exhibit "A") only by changing the allowed excavation depth from 7 feet 6 inches to 13.5 feet, and the date of issuance. This indicates excavation to 13.5 feet was of no more concern to TRPA than excavation to 7.5 feet, in the absence of findings other than provided in 2019.

The Initial Environmental Checklist (IEC) in the Project record states "No" concerning impacts related to: "Land. 1.d. Changes to the undisturbed soil or native geologic substructures or grading in excess of 5 feet?; Water Quality. 3.e. Discharge into surface waters, or any alteration in surface water quality, including but not limited to temperature, turbidity, or dissolved oxygen? 3.f. Alterations in the direction or flow of groundwater? 3.g. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer through cuts or excavations? and 3.j. The discharge of contaminants to the groundwater, or any alteration to groundwater quality? 3.k. Is the project located within 600 feet of a drinking water source?" (There are at least two domestic wells within 350 feet, at the residence of co-Appellant David Benedict.) Under the revised plans, all of these Checklist responses (and there may be others) would change to either "Yes" or "Data Insufficient" under the revised foundation proposal, as only improper evaluation has been done out of the public eye, and no mitigation has been proposed, improperly ignoring the certified finding of no significant effect (FONZE). Unless potential impacts are mitigated to insignificant levels an Environmental Impact Report is required.

The implication is that Verizon deliberately chose a relatively benign foundation design with regard to potential ground water impacts for the Environmental Review/Permitting/Appeal process, got to the end of that approval process, and then changed the Project description expecting TRPA would work behind the scenes to approve the significant design change before

anyone noticed and the 21-day statute of limitations for appealing the TRPA decision passed. That had worked before at 7.5 feet, so why not 13.5 feet?

This is not a minor structural change. It is a major change, and the basis for it is not explained. It is so substantial, for instance, in terms of foundation design and earthwork that it is not credible that the design change was not foreseen by the tower designers between 2019 and the March 23, 2022 Appeal Hearing/Denial, and subsequent Final Permit issuance, and the implication is that the change was planned and postponed to be approved after-the-fact by TRPA staff in the exact manner applied before, in 2019 when proposed excavation was to 7.5 five feet, knowing full well from TRPA that such a foundation to 13.5 feet potentially intruding on ground water could be challenged in a public environmental review process as required under the TRPA Compact. Leaving the 13.5 foot excavation out of the Project description thus eased the way to Permit approval.

The Proposed Permit Revision

Having won the March 2022 Appeal, Verizon received its Final Permit from TRPA, based on plans dated September 29, 2021, on or about May 6, 2022. It appears that shortly after TRPA denied the Appeal in favor of Verizon, Verizon set wheels in motion for very significant changes to the tower foundation design, to support an amendment or revision or change (as it may be called) to the TRPA Permit. On or around August 2, 2022, Verizon submitted to TRPA a revised Plan sheet application to redesign the approved shallow footing to extend that same mat foundation footing 13.5 feet below grade, nearly two times deeper than the approved Final Permit. This was accepted as a “New Application” and subsequently approved as a minor modification or plan change under the prior approval with the August 5, 2022 staff letter and Acknowledged Permit posted on August 19, 2022. (See screen capture on page following.) I assert that is improper, voiding the prior project approval. A new or revised IEC was not prepared as required in the Code and TRPA Rules of Procedures, or was not available online if one was prepared, and that is where TRPA erred. Staff should have said, “This is very different with regard to reasonably potential adverse effects on ground water, as disclosed in the revised geotechnical report, and we will have to re-evaluate effects with a new or revised IEC.”

Doubling the excavation depth for the foundation makes it proportionally larger volumetrically by 2 times the original excavation of 80 cubic yards for the foundation, to be backfilled with 50 cubic yards of the disturbed excavated soil, with 30 cubic yards taken offsite for disposal. So we now have excavation estimated on the order of $80 \times 2 = 160$ cubic yards, and $50 \times 2 = 100$ cubic yards to be stockpiled onsite prior to backfilling, possibly using larger equipment for the deeper excavation, on the small shed foundation and small parking lot for the sled hill and adjacent area for the tower shed location, for this is where the previous plans cited in the Final Permit indicate all Project staging and construction activity must be done. How this excess decompacted, loose earth will be managed to prevent environmental impact hasn't been disclosed or demonstrated as far as I can tell, and impacts could be significant if mismanaged. The approval letter is silent on these matters involving potentially significant water quality and environmental impacts from the proposed Project changes, or any revised conditions or mitigation measures.

The foundation change was accompanied by a revised geotechnical report (RGR, dated April 19, 2022) and a revised structural engineering report (RSER, dated May 3, 2022, though the original SER from August 20, 2019 is not posted online). I don't know exactly when TRPA received these revised plans and reports but they were not a part of the Final Permit issued May 6, 2022.

Record Status: Acknowledged

Record Info ▾

Payments ▾

Work Location

1360 SKI RUN BLVD
SOUTH LAKE TAHOE CA

Record Details

Project Description:

025-580-07
FILE ATTACHED
Increased excavation depth for tower design. Electronic Application 8/16/2022 TLS Original permit (#ERSP2019-0389) acknowledged. Plans stamped as Plan Revision #1.

▼ **More Details**

Related Contacts

Application Information

GENERAL

General Scope:	New Application
Project Type:	Public Service
Associated Fees:	027 - Linear Public Facilities Section IV.B., Section 18.3 Code
Project Description:	New Monopine telecommunication facility
Code Section 30.4.6:	No

Parcel Information

The Ordinances

The applicable ordinances with respect to excavation follow:

Ordinance 33.3.6. Excavation Limitations (emphasis added)

“The following limitations to excavation shall apply:

A. Groundwater Interception

Groundwater interception or interference is prohibited except as set forth below:

1. Excavation is prohibited that interferes with or intercepts the seasonal high water table by:
 - a. Altering the direction of groundwater flow;
 - b. Altering the rate of flow of ground water;

c. Intercepting ground water; d. Adding or withdrawing ground water; or e. Raising or lowering the water table.

2. TRPA may approve exceptions to the prohibition of groundwater interception or interference if TRPA finds that: a. Excavation is required by the International Building Code (IBC) or local building code for minimum depth below natural ground for above ground structures; b. Retaining walls are necessary to stabilize an existing unstable cut or fill slope; c. Drainage structures are necessary to protect the structural integrity of an existing structure; d. It is necessary for the public safety and health; e. It is a necessary measure for the protection or improvement of water quality; f. It is for a water well;

B. Excavations

Excavations in excess of five feet in depth or where there exists a reasonable possibility of interference or interception of a water table shall be prohibited unless TRPA finds that:

1. A soils/hydrologic report prepared by a qualified professional, which proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of groundwater will occur as a result of the excavation;”

The first thing to note is that the staff letter cites Code section 33.3.6.A.2., is waived for “accommodation of engineering requirements for above-ground structures,” a colloquial shorthand, I suppose, for the *actual* requirement, as stated above. The staff did not provide a thoroughly reasoned analysis with a rational conclusion for the waiver, simply assertions without supporting facts or substantial evidence, so a deeper look is required.

Excavation is Not a Legal Requirement

The ICB is incorporated into the California Building Code (CBC), and will be referred to as IBC/CBC herein with regard to California Building Code 2019 (Vol 1 & 2). The claim that, “Excavation is required by the International Building Code (IBC) or local building code for minimum depth below natural ground for above ground structures” is not supported by findings in the staff letter or record, as follows. The IBC/CBC does not prescribe the manner of compliance with its requirements:

“1.2.3 Alternative Materials, Design and Methods of Construction and Equipment”

“The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.” (underlines are hyperlinks)

TRPA is not the “building official” and so would have to apply the requirements of the City of South Lake Tahoe, which has approved a Building Permit to build the tower. (At this time it is unknown to me if the City has approved the subject plan revision, or whether this is pending.) Because the code does not prevent or prohibit *any* design that complies with the code requirements to the satisfaction of the building official the proposed design is just one of many that could be applied. The RGR indicates that one or more foundation types (pilings, slab,

combo) are supported by the report findings (unchanged by 2022 revisions). Verizon originally designed a spread slab footing with excavation of generally five feet or less, to 7.5 feet maximum. Verizon then had a spread slab footing redesigned with 13.5 feet of excavation, and submitted the design change, which was accepted by TRPA after misapplying the CBC/IBC requirements and allowances cited above, assuming requirements where none exist. Any conceivable number of foundation designs no more than five feet below ground, or entirely above ground could support the tower, including a concrete monolith (perhaps with façade). Designs are only limited by imagination, materials, money and time, and this is simply Verizon's proposed illegal design, for it intrudes on ground water, or may, as disclosed in the Revised Geotechnical report (RGR) and August 5, 2022 staff letter.

The basis for the arbitrary selected design change is unknown, but it is not a requirement of the IBC/CBC unless TRPA can prove otherwise. Therefore, 33.3.6.2.A. is not a valid criterion based on the CBC/IBC. Nor does it appear that this additional deep excavation is a requirement of the local CSLT building official, per the latter part of the Code. No "local building code for minimum depth below natural ground for above ground structures" is cited in the record, and I doubt one exists that would be applicable in this case, given the frost line limits.

However, let us assume for the sake of argument that, unknown to me, there is a local building department requirement (not just allowance) for excavation to 13.5 feet that is supported because, unrelated to health and safety, TRPA finds that excavation is required by the . . . "local building code for minimum depth below natural ground for above ground structures." I assert that Code section 33.3.6.A.2. is merely permissive, providing only that the activity is not prohibited provided *all other applicable requirements of TRPA are met*. TRPA's action in this amendment approval is in effect asserting that a local building department requirement somehow supersedes all other laws and TRPA regulatory requirements. We are expected to believe that no other TRPA requirements apply. There is nothing in the law to support that interpretation.

The U.S Congress in its infinite wisdom, passed the Act establishing the Compact and the TRPA for the protection and responsible development of the Lake Tahoe region, under which the TRPA Governing Board of elected representatives and others, in their infinite wisdom, established the Code of Ordinances, and Rules of Procedure, including applicable Project application and environmental review procedures. However, the laws and regulations enacted are only as good as their application by the agency, which is flawed in this case. I will discuss the specifics of the Compact more below, but from a general viewpoint, if an activity that may affect the environment is not prohibited under the TRPA Code it may proceed under the applicable review procedures. In this case, unelected, appointed TRPA staff treats the amended Project application as if the exception to allow the Project changes under Code section 33.3.6.A.2. is a mandate of some sort for the unneeded commercial Project, and literally a "free pass" to ignore every other legal requirement imposed by the Congress on down because of a local building department

requirement. Shall the Congress be informed that their will has been thwarted due to a decision by the City of South Lake Tahoe Building Department staff, which appears to have simply approved the proposed design submitted by Verizon without question or mandate? The position that TRPA's mighty hands are tied in this case is legally untenable, for it makes a mockery of the Compact and everything that flows from it. The Project may proceed under the exception only in compliance with all laws and regulations TRPA is charged to implement and enforce, just as for any new Project.

The Exception to the Prohibition Against Ground Water Interception or Interference is Not Necessary for Public Safety

TRPA's citation that the excavation affecting ground water ". . . is necessary for the public safety and health" is incorrect. Verizon is a private, for profit, corporation, a provider of convenience mobile phone and internet services, not a provider of necessary public health and safety services, or a utility such as sewer, water and electrical services, for which the Ordinances were ostensibly designed. One need do no more than look at the proposed Verizon tower design to see that it was designed as a non-essential facility with regard to public health and safety: it is designed as a Class II facility under the cited design standard. In addition to the IBC/CBC requirements, the RSR cites: "Structural design is based on the California Building Code, 2019 Edition (2018 IBC) and the TIA-222-H standard." (Note the latter is not a code, but an industry-derived design "standard" of practice with no force of law, developed by the tower industry and the American Society of Civil Engineers (of which I am a member)). The standard places towers into Classes according to public safety and reliability considerations.

Of relevance here are structure Classes II and III. Both Classes II and III qualify as a "significant hazard to human life and/or property" if a tower fails. Significant with respect to human life means a structure failure could result in injury or casualties, but very limited in Class II, i.e., due to exposure or remoteness, whereas in Class III a tower failure could also potentially impact other services, such as power, water, transportation, firefighting, ambulance, etc., that are considered essential to human life. Additionally, structure Class III can be justified solely on the basis that a high risk to life or safety or property damage is threatened in the event of a failure of the structure. I have included as Exhibit "B" (attached) the industry white paper "Classification of Tower Structures per ANSI/TIA-222-G, IBC and ASCE 7" (National Association of Tower Engineers, 2017) which explains further (emphasis added):

Structure Class II:

Structures that due to height, use or location, represent a significant hazard to human life and/or damage to property in the event of failure and/or used for services that may be provided by other means.

ANSI/TIA-222-G, Addendum 2 Annex A Section A.2.2 further defines Class II structures based on reliability criteria: Structures used for services that may be provided by other means such as: commercial wireless communications; television and radio broadcasting; cellular, PCS, CATV, and microwave communications.

Commentary: Failure of a structure defined as Structure Class II presents significant hazard to human life and/or property if a tower fails. Significant with respect to human life means failure of the structure could result in injury or casualties, but it's very limited in practicality or exposure to more than a few individuals (e.g. Significant with respect to property means property surrounding the tower could be damaged or destroyed. With respect to reliability, the phrase "Used for services that may be provided by other means" signifies redundancy exists within the network to support temporary loss of service due to a specific site. This redundancy is present in almost all public wireless service, including E911 networks.

Structure Class III: Structures that due to height, use or location represent a substantial hazard to human life and/or damage to property in the event of failure and/or used primarily for essential communications.

ANSI/TIA-222-G, Addendum 2 Annex A Section A.2.2 further defines Class III structures based on reliability criteria: Structures used primarily for essential communications such as civil or national defense, emergency, rescue, or disaster operations, military and navigation facilities.

Commentary: With respect to reliability, Class III structures represent towers for which the owner/provider cannot tolerate any loss of the network/signal, due to either types of services provided or zero redundancy existing in the network. Beyond zero redundancy, failure could also potentially impact other services, such as power, water, transportation, etc. that are considered essential to human life. Finally, Structure Class III can be quantified when a high risk to life/safety exists in the event of a failure of the structure. The risk is exemplified when the public venue is not mobile (e.g. hospital, school, large public emergency gathering facility).

Based on the Class II standard, the facility is not "necessary for public health and safety." It is redundant for essential safety services and it would be improper and specious for TRPA to assert otherwise and impose its own "necessity" standard with regard to public health and safety, for it is not a health and safety agency and has no particular expertise in that area. It is a planning agency that should rely on the determinations of others in matters of public safety and health, professionals such as the standards developers, professionals who are so charged to protect the public, and with particular engineering and other expertise. To the contrary, this exercise of independent judgment by TRPA concerning public health and safety is arbitrary and capricious, for the purpose of a blatantly illegal permit give-away to this particular private telecom Verizon, ignoring all Compact and TRPA Code requirements. The tower is not necessary for public health and safety.

Rather, the proposed tower is a new danger in the community. For the record, the tower is designed (and approved) as a Class II facility when it also meets criteria for a Class III tower, which carries a higher engineering safety standard. This is a disappointment in my view, for the tower itself represents a substantial danger to the public, relative to no tower. Class II is a lesser (cheaper) engineering design standard that seems more appropriate out in a forest somewhere, with no one around, though even a falling tower in that setting, as here, is an extreme fire danger.

At 1360 Ski Run Blvd., the falling tower may impact other structures, and/or injure or kill people, and/or affect transportation or vital services, as the tower is sited adjacent Needle Peak Road above Hansen's Resort, a commercial sled hill for children and their adults, a resort/residence there, and with the at-times heavily trafficked Ski Run Boulevard adjacent, right at the edge and downhill of the tower fall zone, which provides vital ingress and egress for the Heavenly Valley Ski Area California Base Lodge (used as a critical multi-agency fire incident command center/support center during the 2021 Caldor Fire, as well as a heavy tourist route). The threat of wildfire if the tower were to fall during high winds does not seem to be considered at all with regard to engineering safety factors, like it could never happen. The design Class II was not chosen and applied with the public safety uppermost in mind, only on the basis that it is redundant with regard to telecommunications.

Further, the manner in which the building official critically examined the RSER appears questionable. (And where is the SER original for comparison? Not found online.) I find that RSER to be rather frightening in certain regards. However wise or self-serving the TIA-222-H criteria may be, even that does not appear to be followed for this tower. The default Class II designation appears to me accepted by the building official without due concern for public health and safety.

Notably, in my view, the design does not account for any ice loading, stating on p 2: "*Ice*: None per the TIA-222-H standard." As ridiculous as that sounds to me as a professional civil engineer with understanding of structures and weather forces in our Lake Tahoe environment, where ice loading (combined with wind) can be quite substantial, that is apparently what is proposed by Verizon and approved by our local building official based on the following.

The Standard is not a Code and it's also necessary to check whether the structure is to be built in a county where "special conditions" apply to wind or ice loading, or if the building official requires a higher wind speed or ice thickness than provided for in the Standard. It appears in this case wind loads without ice required for El Dorado County were applied, and ice loading was not applied, though "special ice regions" are specified in the Standard (<https://wirelessestimator.com/content/standards>). Even so, no ice loading/thickness criteria are specified in the Standard, only winds to 30 miles per hour are specified (120 mph was used for the design). So the ice thickness/load is left to the designer, Vector Structural Engineering of Arizona, Limited Liability Partnership, and its registered California Structural Engineer of record, who chose zero (at its discretion), and the building official who approved that, despite standards calling for ground snow loads of 150 pounds per square foot (<https://www.cityofslt.us/123/Building-Design-Criteria>). Clearly, western El Dorado County generally has no ice, whereas eastern El Dorado County (Tahoe) has a lot of ice (and snow), and the basis for the specified design is unclear. I defer to the structural engineers and City of South Lake Tahoe building official if all these things were considered and documented, but it does not appear so. An iced-up monopine tower weighs much more than one without ice, with tremendous overturning forces at the base and unbalanced loads against wind forces. Is it any wonder the telecom industry is replete with tower collapses? Will this tower, if built, be just one icy windstorm away from collapse? At what cost to human life and property?

In summary here, the tower is not necessary for public health and safety. Public safety was not given due regard for this tower, per my above comments, and the approvals evince a lack of concern by public officials for our community at TRPA and the City of South Lake Tahoe, also complicit in this illegal change, nullifying their own California Environmental Quality Act (CEQA) documentation and finding of CEQA exemption, just as TRPA has under the Compact. This tower fits the Class II well so far as being unnecessary and redundant with other available telecommunications structures and area services, including emergency services, and that designation is allowable; the tower is clearly **not needed** for public health and safety. It is my ongoing contention this tower is a danger to the public in all respects, just one of many such towers approved by TRPA. **It will be a clear detriment to the public health and safety if it is built, including its 10,000 lbs of toxic PVC plastics, which degrade to microplastics and become toxic litter and water pollution on and off the leased area/project site due to wind and snowstorms; its electromagnetic microwave radiation poisoning of all biological organisms including people, animals and vegetation (pine trees, aspen trees, frogs); it's grave fire threat to the community and Lake Tahoe region; all impacts unrecognized and ignored by TRPA in service to its client Verizon, blind to the laws and science, and deaf to the public outcry.**

The Waiver and the Geotechnical Report

Having asserted, to its satisfaction alone, that one or more criteria in section 33. 3.6.A.2. were met, and bypassing section A.1 entirely, which describes potential effects on ground water (part 1, letters a. – e), TRPA approved the waiver, stating “ground water is not expected to be encountered.” The basis is unclear, since this contrary to the RGR reportedly reviewed prior to approval, and is improper for the reasons discussed previously. The approval letter concludes by stating: “Please note that it is possible that variations in the soil or ground water conditions could exist that are different than what has been investigated or reported. If conditions are found to be wetter than expected, contact TRPA immediately to discuss options for dewatering.” This caveat should say, “If ground water is encountered during excavation please cease all excavation activity and contact this office, because interference with the ground water is prohibited.” That would be proper under the Code, at a minimum.

While part A. applies to any excavation affecting ground water, part B. applies to excavations deeper than five feet: “where there exists a reasonable possibility of interference or interception of a water table [excavation] shall be prohibited unless TRPA finds that: 1. A soils/hydrologic report prepared by a qualified professional, which proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of ground water will occur as a result of the excavation;” This provision applies to both temporary and permanent interference with the ground water, so even if ground water isn't encountered during construction, that is no basis to conclude, based on the RGR, that “no interference or interception of ground water will occur as a result of excavation.” TRPA is exercising its independent judgment here in ignoring ground water effects, either misinterpreting the RGR or not giving it due regard.

The RGR is a soils/hydrologic report by a qualified professional as described in the Code. In my over 25 years of work at Lake Tahoe as a water resource control engineer (in various capacities)

and long-time senior supervisor of the North Lahontan Basin Regulatory Unit of the California Regional Water Quality Control Board, Lahontan Region, I reviewed literally hundreds, if not thousands, of such geotechnical reports, drilling reports, ground water investigations, wetland and SEZ delineations, soil reports, etc., so I am well within my area of expertise. It is unlikely the proposed content and methodology were reviewed and approved in advance by TRPA, as required (for the proposal to excavate to 13.5 feet) as there was no proposal for excavation below 7.5 feet before 2022 triggering the above cited requirement, as discussed on page 1, above. To investigate soils for evidence of ground water for excavation to such depths (13.5 feet), usually a test pit is dug with a backhoe to evaluate soil layers in a more-or-less undisturbed state. Soil investigations for evidence of the presence or absence of ground water called for by TRPA in 2019 (when the proposal specified no more than 7.5 feet of excavation) were unchanged in 2022 when the plan change was proposed to excavate to 13.5 feet. However, the 2022 revisions to the 2019 GR, mainly related to seismic provisions, did not affect the RGR sections concerning potential ground water occurrence, the borehole investigation, soil types and related subjects covered in the RGR, so that information must inform the decision of whether to approve the excavation.

The methodology applied was a single borehole, eight inches in diameter, from which samples were extracted using a split-spoon sampler, two inches in diameter, at intervals, and two bulk samples from near the ground surface. It is unsurprising that ground water was not encountered in the boring to drill penetration refusal at 19 feet, due to encountering rocks or bedrock, in mid-summer, July 2019 (when the drilling work was done) in these thin, porous soils above bedrock. You can't really tell a lot from a single borehole about subsurface ground water hydrology and flow regimes, soil mottling by water, other hydric soil indicators, etc., and more information should have been required for the new proposal, but the RGR contains enough information to make an informed conclusion that there is a "reasonable possibility of interference or interception of a water table."

First, the RGR notes the soil layer, 10 feet thick, above refusal (bedrock) is "Bryan Meadow Grandiorite," a granitic meadow soil, and this is consistent with the soil map unit shown in Appendix A extending southward and outward to encompass the Heavenly ski area and more. "Meadow" soils by definition generally develop under, and exhibit characteristics from, contact with water. I have knowledge and experience with the areas surrounding the Heavenly Valley Ski Area California Base, and the Bijou Park Creek that literally "springs" forth below their parking lot and municipal street access (covered SEZs). That area and below the Heavenly CA Base, with these mapped Bryan Meadow Grandiorite soils, is prone to exhibit surfacing springs when underground fissures in the sloped bedrock beneath the shallow soil layer and soil interstices fill and discharge ground water to the land surface during and following wet periods and high water years.

On pages 1 and 2 of the RGR the advice is to plan on encountering granite bedrock 19 feet below ground surface (bgs) if foundation drilling will be employed, and stipulates: "Ground water was not encountered during the field investigation. However, Ground water levels will fluctuate with seasonal climatic variations and changes in the land use." Since the excavation will come within 5.5 feet of the bedrock, the above means any ground water above that level that may occur seasonally will encounter the foundation or excavation and will be intercepted and interfered

with. With regard to “seasonal climatic variations,” I believe this comment refers to changes in the wetter and dryer cycles and seasons, and changes in land use such as proposed with the tower. The foundation will displace the soil from the ground water table during periods of seasonal ground water flow. Any ground water flowing more than 5.5 above bedrock will have to flow through the excavation (when in progress) or around the foundation (when completed).

In section “4.0 Site Conditions” the report cites, “There are no water features present in the vicinity of the Project site.” That may be true for the *drilling* site, but indicates that the qualified professional(s) responsible for the RGR missed Bijou Park Creek entirely, which is an ephemeral SEZ easily visible on maps. It is also easily visible from the drilling site and Project site, to the east across Ski Run Blvd., where it crosses underground westerly to the Project site, resurfaces and passes directly below the Project site. Missing such an important drainage feature, which TRPA is or should be well-aware of, has major implications for the final “Limitations” section of the report for it indicates the investigators did not fully understand the site surface and subsurface hydrology and how the surrounding topography relates to nearby ground water flows. Therefore, they felt a need for all their disclaimers. For example, the Project site surface drainage is not dissipated by overland sheet flow, at least not very far, but actually by sheet flow directly to Bijou Park Creek, so that was misstated in the RGR, also.

Text on p. 8 discusses drainage for “walls” (e.g., a flat surface perpendicular to the ground such as a foundation face) indicating a variety of subsurface drainage elimination systems may be needed to reroute and and/or eliminate ground water “near the bottom of the wall” to prevent ground water surcharges and earth pressures on the foundation due to water accumulation in the subsurface from flow blockage. The RGR is warning that there will be ground water interception to consider, and that it must be planned for, including (preferably) replacing soil with gravel 12-24 inches thick around the “wall.” Such replacement would increase the amount of excavation and soil replacement from my above estimates, and further alter ground water flow patterns, which is the intent.

On page 9 of the RGR there is a discussion of temporary drainage measures, notably, “If standing water does accumulate, it should be removed by pumping as soon as possible.” This is a clear reference to standing ground water at the bottom of the excavation, which could become contaminated with concrete wastes, for example. On page 10, section 8.6 discusses “Ground Water,” noting again that, “Subsurface drains may be needed to intercept seasonal ground water seepage.” Code section 33.3.6.A.1. says “Excavation is prohibited that interferes with or intercepts the seasonal high water table by: a. Altering the direction of groundwater flow; b. Altering the rate of flow of ground water; c. Intercepting ground water; d. Adding or withdrawing ground water; or e. Raising or lowering the water table.” All of these changes are threatened by the enlarged foundation and the proposed drainage measures. What would become of this drainage, how it would be managed and disposed of, is not disclosed.

The RGR goes on (p. 9), “Ground water seepage may occur several years after construction of the project if the rainfall rate or drainage changes in the vicinity of the project site.” And again it calls out the potential need for French drains (subsurface drains for ground water). P. 10 cites and concludes with a number of “Limitations” based on the very limited scope of the investigation (a single bore hole), uncertainties in site conditions, and other things not

uncommon in such reports. Clearly, the RGR is concerned with seasonal and other subsurface ground water tables and flows, and the recommendations with regard to these remained unchanged from the original report, when excavation no greater than 7.5 feet was proposed..

TRPA did not refute the information provided in the RGR, instead supporting it with its dewatering contact requirement. Despite all of this information and more, all the changes to ground water threatened by intrusions and alterations, and with an RGR that adequately demonstrates that interference or interception of ground water will potentially or very likely occur as a result of the excavation, TRPA nonetheless approved the waiver with the staff letter. Clearly TRPA saw in the RGR the potential for ground water interference in requiring notification if ground water was encountered and/or dewatering was to be proposed or undertaken. The exception was granted even though the legal criterion was not met, presumably thinking, in error, that an exception under Code 33.3.6.A.2 somehow supersedes and nullifies all other requirements. It does not. I earlier opined that those findings do not withstand legal scrutiny; if I am proven wrong, I still insist that Code 33.3.6.B. and its requirements can't simply be ignored on that basis, as I discuss below.

Impacts Due to Excavation Are Unmitigated, and Can't Be Fully Mitigated

I suspect the extra depth for the foundation may have been proposed because the RSER discloses, perhaps for the first time, that well over 10,000 pounds of PVC plastics will be deployed on the structure, 112 feet tall, with its significant weight and wind resistance, bringing the total weight to around 15,000 pounds, unloaded by ice. I noted the doubling of excavation amounts earlier, and add that extending the foundation to 13.5 feet provides a deeper "wall" section profile to interfere with ground water flows occurring through the meadow soils above the bedrock, and displaces soils closer to the bedrock surface that provide filtration for ground water. Thus, some soil filtering capacity for ground water will be sacrificed. It also places the foundation fully in the soil layer above bedrock (starting roughly nine feet below the ground surface at the borehole) cited as "Bryan Meadow Grandiorite", whereas before the foundation was above that soil layer. The deeper foundation will replace this soil volumetrically with impermeable concrete estimated at 48 cubic yards or more. It must be noted that the foundation is a buried impervious surface that appears to escape TRPA "coverage" analysis, though it will impede the downward flow of precipitation through soil pores above the foundation, which I estimate is around 432 square feet or more in plan-view area. Precipitation and snowmelt, including that captured by the tower above, will become interstitial flow through the soil pores above the foundation, but will have to flow over and/or around the foundation edges to enter ground water at or below the foundation, all impacting and interfering with ground water flows on the Project site.

Let me address the Project site conditions from my perspective. The Project site is a parcel containing only Class 1 lands, the most sensitive land class or capability TRPA has, including steep lands (1A) and SEZ (1B), and the parcel is substantially in excess of allowable coverage, mitigated (offsite) by a \$5000 payment to TRPA for excess coverage mitigation. That payment mitigates the historical coverage impacts. It does not mitigate or ameliorate the degraded site drainage conditions or mitigate any potentially significant impacts associated with the de facto Permit amendment granted by the TRPA for prohibited excavation activities. As noted in the

RGR, bedrock is 19 feet below ground near the tower location, which is on a 1A slope above the SEZ lands, and underlain by soils permeable to water flow over bedrock. The area to the south of the tower is Needle Peak Drive, a municipal street covering the steep adjacent lands and carrying drainage to Bijou Park Creek below the Project site. Given the shallow soil layer underlain by bedrock, there is literally nowhere for precipitation on the Project site to go but overland to Bijou Park Creek, or through the soil to Bijou Park Creek. Bijou Park Creek is literally the surface expression of its dominant hydromorphologic feature, the inflow of ground water from the upslope surroundings, its hydrology near the land surface, which is what sustains it.

Subsurface drainage generally follows the slope of the land. The land surface at the tower site is located about 75 feet directly upslope of the SEZ boundary shown on the plans with the Final Permit, at an elevation of 6374 feet relative to the SEZ boundary at 6362 feet, the difference in these elevations being 12 feet. Therefore, excavation to 13.5 feet will actually be to 1.5 feet *below* the elevation of the SEZ boundary, at 6360.5 feet. The occurrence of ground water at the SEZ boundary was not investigated or required to be investigated by TRPA, though ground water may flow just below the land surface at or below the SEZ boundary, that is to say above 6260.5 feet, especially during and following periods of heavy precipitation or snowmelt, when ground water levels can easily rise on the order of feet in such areas. Also, the slope of the underlying bedrock can't be known from a single borehole investigation. The elevation to Bijou Park Creek below the Project site is not disclosed in the Project Permit documentation, but is below 6262 feet. Therefore, the fate of all the precipitation that occurs on the Project site, averaging around 54 inches of water annually or thereabouts, is to flow overland to Bijou Park Creek (through the over-covered parcel) or by ground water flow through the soils on the Project site to Bijou Park Creek.

Because the onsite SEZ and steep lands have been degraded, interfered with, and altered by existing foundations, structures and other impervious surfaces for parking, land grading for sledding, etc., which impacts surface and subsurface drainage and has not been fully mitigated onsite, any additional impacts that would alter or interfere with ground water flows must be considered potentially very significant in light of the ongoing water quality challenges in Lake Tahoe. Remember, also, that the Bijou Park Creek SEZ receives excess runoff from the impervious surfaces on the Project site because of difficulties with infiltrating runoff in areas with high water tables (SEZ), and that saturated SEZ soils also provide limited or impaired runoff filtering using typical infiltration "Best Management Practices," again making any adverse changes to the Project site and ground water flow regime potentially significant.

Administrative Procedures Have Been Violated; Stay Request

This Appeal includes a request for an immediate stay calling a halt to any ground disturbance in excess of five feet below the existing natural grade in light of the information and concerns in the prior sections, until this decision is formally reviewed. Nothing is more fundamental to TRPA's mission than water quality in my view, it is the reason for its formation: to protect and restore the heavily impacted and degraded environment drastically affecting Lake Tahoe water clarity and quality. Among the most heavily impacted resources are the SEZs, as recognized widely, due to historic impacts such as those at the Hansen's Resort tower site. That is why the TRPA put in place strong ordinances to protect these critical resources and the ground water that sustains them

and allows them to perform their functions, however impacted or degraded they may be. I have knowledge of TRPA rigorously applying the subject prohibition requirements against public and private persons in many settings, denying permits by the hundreds, if not thousands, for the least intrusion by excavation into ground water in furtherance of its mission. However, it seems to have abandoned doing so in this case for its telecom partner, Verizon, to which only the loosest legal interpretation applies, flawed as it is. TRPA is totally inconsistent here and giving Verizon favored treatment under the law, by essentially ignoring the law as it applies to them. This not just a little deck pier, or a minor intrusion into ground water by excavation, which TRPA has often denied exceptions for. This is a major intrusion into ground water with a foundation of 48 cubic yards or more, and it is outrageous that it has been approved such as it is.

I am asked, “if possible, to provide written evidence of the hardship caused by a stay.” With the foregoing considerations in mind, I would like to speak of the hardships to water quality imposed on the Bijou Pack Creek and on-site SEZ already, the difficulties in meeting environmental thresholds for SEZs basinwide, the irreversible impacts to water quality that will occur if construction is allowed to proceed as proposed. The additional harm to water quality from disturbing the soils and ground water flows and patterns above the SEZ from the revised deep foundation is significant and can’t be fully mitigated if allowed to proceed as authorized by the staff letter. The harm to water quality will be done, and the impacts will last. If allowed to proceed without a stay, it will not be possible to fully undo the damage, even if tower removal and site restoration is later required. The staff approval completely nullifies the TRPA environmental documentation and finding of no significant effect for the Project as approved by the Governing Board.

I am also personally distressed by the potential effects from this Project on Lake Tahoe, where I swim, it’s surrounding environment, where I live, and aggrieved by the lack of opportunity for public comment on this proposed activity and staff-level approval significantly affecting water quality on this Project of substantial known public controversy, whose approval by TRPA is currently being litigated in Federal District Court in Sacramento. I did not work for 25 years holding the line on water quality at Lake Tahoe as best I could to willingly or idly endure this malfeasance. No opportunity for public comment was announced, and the only opportunity to formally comment is by filing this Appeal. It was difficult to locate information online (which would sometimes disappear under various disclaimers) to evaluate, however scanty, or TRPA findings (as above), comment or raise objections concerning substantially increased excavation that may affect the ground water adversely, evaluate impacts from excavation dewatering and/or waste discharges, or assess potential adverse affects on the surrounding SEZ, prior to the action taken by TRPA. No public notice of availability of the Project plans or Permit changes was provided; I found the August 5, 2022 staff letter waiver approval by chance online among other historic Project documents.

In balancing public interest, equities and environmental protection, one of the things I’ve noticed to be guarded against by regulatory and planning agencies such as TRPA has been the tendency to treat “orthodoxy” as evidence. It seems to be popular mythology that cellular and digital services are presumed to be in the public interest, and therefore worth sacrificing ground water quality to some extent on this over-covered parcel with its overdeveloped SEZs, without regard to cumulative impacts or the laws. But in a courtroom, before the TRPA Board, or now with the

Chairman of the Board, I assert the need to actually “balance the equities” using real evidence, and not simply default to orthodox beliefs based upon faulty assumptions. The Compact demands that a process be followed. There is zero evidence that we have seen on “public health and safety,” only a presumption. Verizon’s hardship rests on profits, which are not my concerns, and should hardly be TRPA’s. Can one really think Verizon would be motivated to place this tower at great expense for health and safety, when the chosen design standard doesn’t support that claim? TRPA regularly puts applicants through regulatory hell for simple commercial projects but telecoms such as Verizon, in this case, get a pass.

We have the TRPA staff not only approving the excavation, allegedly in violation of law, but requiring notification to staff from the Project proponent if ground water is encountered or dewatering is needed. And all this was done outside the public forum, as will be discussed below. As a result I have been impelled to act under short timelines to interrupt the proposed illegal activity, in the absence of certain Project information, and pay exorbitant fees to appeal the illegal action carried out from the recesses of the agency, when I should have been provided full opportunity to comment at no cost in the public forum on a new or revised IEC, as required under the TRPA Rules of Procedure for a new application. That is unjust and improper under the law, an abuse of authority and discretion, and unequal treatment of applicants under the law. My due process rights under law were violated and I was charged for the privilege. I should be given a refund.

Review Standards: What the TRPA Compact and Code of Ordinances Require

The changes to the approved Project threaten very significant water quality impacts due to excavation intruding on ground water, against Code Limitations, and without going through formal review procedures. Here are some relevant review standards from the compact:

ARTICLE VII. – ENVIRONMENTAL IMPACT STATEMENTS

(a) The Tahoe Regional Planning Agency when acting upon matters that have a significant effect on the environment shall:

(1) 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 decisionmaking which may have an impact on man’s environment;

(2) Prepare and consider a detailed environmental impact statement before deciding to approve or carry out any project. The detailed environmental impact statement shall include the following:

(A) The significant environmental impacts of the proposed project;

(B) Any significant adverse environmental effects which cannot be avoided should the project be implemented;

(C) Alternatives to the proposed project;

(D) Mitigation measures which must be implemented to assure meeting standards of the region;

(E) The relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity;

F) Any significant irreversible and irretrievable commitments of resources which would be involved in the proposed project should it be implemented; and

(G) The growth-inducing impact of the proposed project;

(3) Study, develop and describe appropriate alternatives to recommended courses of

action for any project which involves unresolved conflicts concerning alternative uses of available resources;

(4) Make available to States, counties, municipalities, institutions and individuals, advice and information useful in restoring, maintaining and enhancing the quality of the region's environment; and

(5) Initiate and utilize ecological information in the planning and development of resource-oriented projects.

In the case of the tower at 1360 Ski Run Boulevard, the Project Permit was approved under a Finding of No Significant Effect (FONSE), an exemption from preparation of an environmental impact statement (EIS). However, the revised foundation plan, with excavation intruding against prohibitions and limitations into ground water, was not included in the Project description. Changing the Project description, in this case, nullifies certain findings in the FONSE such that the FONSE no longer applies to the Project due to potentially significant impacts. I have no issue not already before the Court if Verizon wishes to construct the foundation as proposed in 2021 plans approved before August 2022. If, however, the Final Permit is to be amended it must be pursuant to applicable review procedures, not with a wink and a nod from staff in a letter after the ink is barely dry on the Final Permit.

ARTICLE VI(b) "No project other than those to be reviewed and approved under the special provisions (d), (e), (f), and (g) may be developed in the region without obtaining the review and approval of the agency and no project may be approved unless it is found to comply with the regional plan and with the ordinances, rules and regulations enacted pursuant to a subdivision (a) to effectuate that plan. The agency may approve a project in the region only after making the written findings required by this subdivision or subdivision (g) of Article V. Such findings shall be based on substantial evidence in the record."

The Project as revised does not comply with the TRPA ordinances, rules, and regulations, incorporating my comments above. It can't be considered a mere add-on to the approved Project, but constitutes a revision requiring an entirely new IEC or Environmental Assessment (EA), conducted in the public forum.

ARTICLE VI(j)(5) "In any legal action filed pursuant to this subdivision which challenges an adjudicatory act or decision of the agency to approve or disapprove a project, the scope of judicial inquiry shall extend only to whether there was prejudicial abuse of discretion. Prejudicial abuse of discretion is established if the agency has not proceeded in a manner required by law or if the act or decision of the agency was not supported by substantial evidence in light of the whole record. In making such a determination the court shall not exercise its independent judgment on evidence but shall only determine whether the act or decision was supported by substantial evidence in light of the whole record. In any legal action filed pursuant to the subdivision which challenges a legislative act or decision of the agency (such as the adoption of the regional plan and the enactment of implementing ordinances), the scope of the judicial inquiry shall extend only to the questions of whether the act or decision has been arbitrary, capricious or lacking substantial evidentiary support or whether the agency has failed to proceed in a manner required by law."

The waiver in the staff letter is not supported by substantial evidence in the record. The opposite is true; the RGR supports my contentions that ground water will be interfered with against the prohibition, and the staff letter provides no credible contrary evidence, in fact, anticipating interference with ground water. The TRPA has failed to proceed in the manner required by law,

arbitrarily and capriciously approving the amendment without following the Compact and Code of Ordinances requirements for environmental and public review.

ARTICLE VII(d)

In addition to the written findings specified by agency ordinance to implement the regional plan, the agency shall make either of the following written findings before approving a project for which an environmental impact statement was prepared:

- (1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less significant level; or
- (2) Specific considerations, such as economic, social or technical, make infeasible the mitigation measures or project alternatives discussed in the environmental impact statement on the project.

A separate written finding shall be made for each significant effect identified in the environmental impact statement on the project. All written findings must be supported by substantial evidence in the record."

Since the TRPA can't make the written findings cited above before approving the Project change, either the application by Verizon must be withdrawn (the Project may proceed as approved on or about May 6, 2022), or approval of the amendment for the foundation change must be revoked and an EIS must be prepared. An EIS is required for the proposed Project change, as it stands.

The Proposed Activity is Not Exempt from Environmental Review

ARTICLE VII(f) "The agency shall adopt by ordinance a list of classes of projects which the agency has determined will not have a significant effect on the environmental and therefore will be exempt from the requirement for the preparation of an environmental impact statement under this article. Prior to adopting the list, the agency shall make a written finding supported by substantial evidence in the record that each class of projects will not have a significant effect on the environment."

The exemptions pursuant to Article VII(f) are specified in Code section 2.3, and upon review do not include excavation such as proposed with the revised foundation plan. Therefore the Project Permit amendment is fully subject to the review procedures specified in Code section 2.2. for: "Activities that may have a substantial effect on the land, air, water, space, or any other natural resources in the Tahoe region." These requirements were completely overlooked by TRPA in issuing the approval in the staff letter, and must be followed. Since the Project is substantially modified by the proposed Plan change, an entirely new environmental review is required to be carried out, examining all the potentially significant effects from the proposed Project, and can't rest on the prior FONZE, though it may help inform a new IEC or EA document.

Subscribed to and sworn this 21st day of August, 2022, at South Lake Tahoe, California.



Alan Miller

Exhibit "A": August 5, 2022 TRPA Staff Letter, "Revised: Soil Hydrologic Approval Waiver"
Exhibit "B": "Classification of Tower Structures per ANSI/TIA-222-G, IBC and ASCE 7"
(National Association of Tower Engineers, 2017)



**TAHOE
REGIONAL
PLANNING
AGENCY**

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

August 5, 2022

Michelle Duarte
333 University Ave., Suite 200
Sacramento, CA 95825
Michelle.Fernandes@sacw.com

**REVISED: SOIL HYDROLOGIC APPROVAL - WAIVER
1360 SKI RUN BOULEVARD, CITY OF SOUTH LAKE TAHOE, CALIFORNIA
APN 025-580-07, TRPA FILE NUMBER LCAP2019-0189**

Dear Ms. Duarte:

The Tahoe Regional Planning Agency (TRPA) staff has reviewed the Soils/Hydrologic Scoping Report Application submitted in association with a monopine cell tower and equipment shelter. The proposed excavation is **13.5 feet below ground surface**. It is not expected that groundwater will be encountered in this location and the excavation is allowed pursuant to TRPA Code of Ordinances Sections 33.3.6.A.2.a (accommodation of engineering requirements for above-ground structures) and 33.3.6.A.2.d (public health and safety).

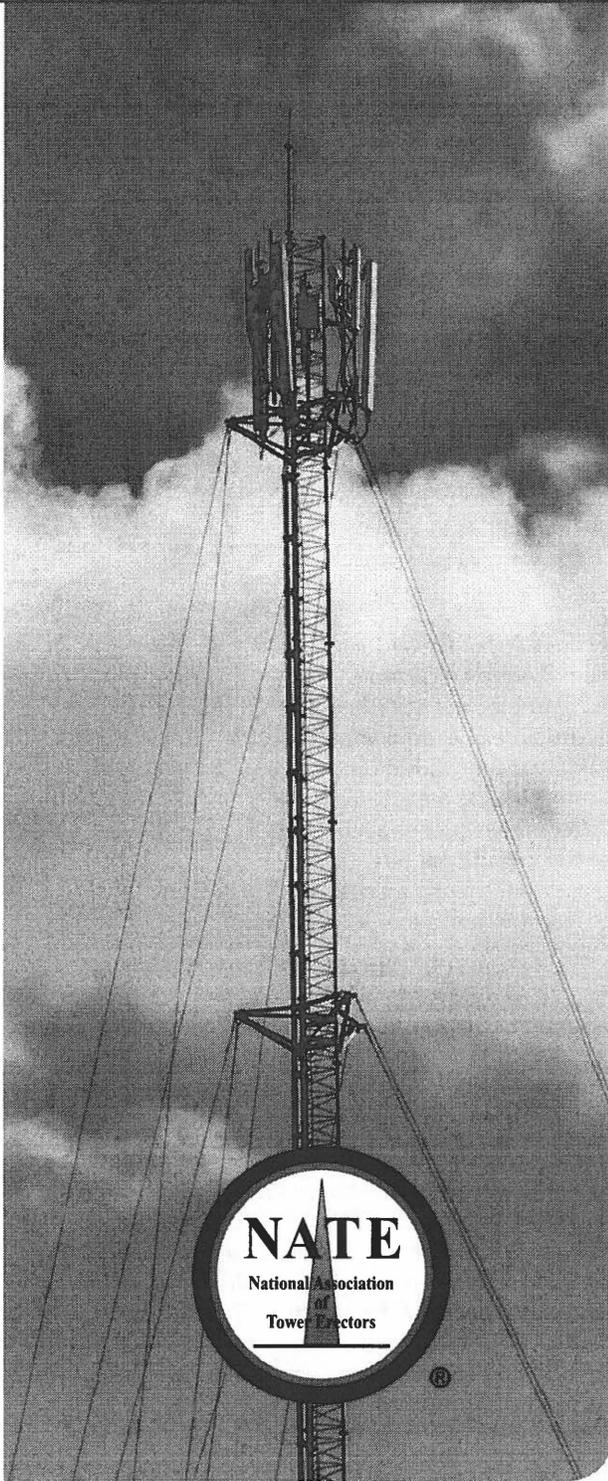
Please note that it is possible that variations in the soil or groundwater conditions could exist that are different than what has been investigated or reported. If conditions are found to be wetter than expected, contact TRPA immediately to discuss options for dewatering.

If you have any questions, please contact me by phone at (775) 589-5247 or by email at jroll@trpa.org.

Sincerely,

A handwritten signature in black ink that reads "Julie Roll".

Julie Roll
Senior Planner



Classification of Tower Structures per ANSI/TIA-222-G, IBC and ASCE 7

Preface

Application of ANSI/TIA-222-G structure classes to communication tower design and analysis is frequently misapprehended. Risk categorization established within ASCE 7 and IBC are historically related to building occupancy among other factors has inconsistent correlation to communication tower use and function. Furthermore, the comprehensive application of Class III categorization to communication towers with the intention of increasing the reliability of wireless networks during emergency situations frequently fails to achieve the desired result and does not match the intent of the ANSI/TIA-222 Standard, as accepted by the IBC.

This white paper explains structure classification relationships between ANSI/TIA-222-G, *Structural Standard for Antenna Supporting Structures and Antennas*, the *International Building Code*, and ASCE 7, *Minimum Design Loads for Buildings and Other Structures*. It identifies the variables involved in structure classification and further defines how those requirements are to be applied per requirements with ANSI/TIA-222-G.

Definition of Structure Class – ANSI/TIA-222-G

The definition of Structure Class, per ANSI/TIA-222-G, with additional commentary by the authors, is provided below:

ANSI/TIA-222-G Definitions:

Structure Class I:

Structures that due to height, use or location represent a low hazard to human life and damage to property in the event of a failure and/or used for services that are

CONTINUED ON PAGE 46

Authors: **Bryan Lanier, P.E., S.E., C.W.I.** (Senior Manager, Operations Engineering – American Tower Corporation), **William Garrett, PE, SECB,** (Chief Engineer – American Tower Corporation). The members of the PAN Advisory Group who are involved in the writing and researching each PAN topic include: **John Erichsen Principal EET PE,** Chairman TIA committee TR 14), **Scott Kisting** (Senior Vice President – MUTI-Sabre Industries Telecom Services), **Richard Cullum** (Program Manager – Crown Castle), **Jeremy Buckles** (Safety and Compliance Officer – International, SBA Communications Corporation), **Craig Snyder** (President, Sioux Falls Tower & Communications), and **Stephanie Brewer** (Compliance Coordinator – MUTI-Sabre Industries Telecom Services).

PLANNING ADVISORY NOTICE *(CONTINUED)*

welfare associated with damage or failure by nature of occupancy or use. Once Risk Category is established, importance factors are to be applied based on ASCE 7-10, Table 1.5-2. These importance factors are included in the derivation of design loads for flood, wind, snow, earthquake, and ice applied to the structure during design and analysis. The different Risk Categories can be paraphrased/commented as follows:

Risk Category I: Failure results in low hazard to the public.

Risk Category II: Structures that do not fall within Risk Categories I, III and IV.

Risk Category III: Failure results in a substantial risk to the public. These structures can be thought of as being needed during times of emergency (e.g. hospitals, police stations, water treatment facilities) or supporting large population centers (e.g. malls, schools). Failure, while creating significant problems to the public, can be remediated. These structures can be considered as an essential facility.

Risk Category IV: Failure results in substantial hazard to the public. Failure of these structures typically means

harm to the public extends well beyond the site of the failure. Often remediation cannot be completed due to the nature of the failure (e.g. nuclear facility). Failure of these structures also typically ensures failure of additional multiple systems critical to the public (e.g. loss of power results in loss of water and transportation). These structures can be considered as an essential facility.

Previous versions of the ACSE-7 used a parameter called Occupancy Category to define the appropriate risk category of a building or other structure. Occupancy Category, as used within the building codes, relates primarily to issues associated with life, safety, and fire protection across a number of building systems, like electrical, mechanical, etc. This use has caused some confusion as Risk Category's purpose is to appropriately derive the expected reoccurrence of environmental loads (wind, earthquake, ice, etc.) and the risks associated with structural failure.

Chapter 16 of the International Building Code addresses Risk Category within section 1604.5. The section is brief and relies on interpretation of the nature of occupancy in order to assign the appropriate risk cate-

CONTINUED ON NEXT PAGE

PLANNING ADVISORY NOTICE *(CONTINUED)*

defined difference between essential communications or Class III structures with limited or zero redundancy and Class II structures that deliver inherent redundancy.

Conclusion

Structure Class definitions have been incorporated into the ANSI/TIA-222 Standard to provide accurate and reasonable classification of tower structures. The IBC specifically recognizes the ANSI/TIA-222 Standard as the guideline for communication tower design and analysis and fundamentally accepts the ANSI/TIA-222 structure classification as the basis required for telecommunication and broadcast towers. Use of the ANSI/TIA-222-G definitions allows for more appropriate application of assessing risk, when considering factors like public safety, service and network redundancy.

Inherent redundancy exists in the vast majority of wireless tower supported networks, including networks that support emergency services such as E911. Because of this redundancy, application of higher structure classes to individual towers typically has little effect on the resiliency of overall network performance. Although a significant total of the population may be potentially (or "be" here) impacted by the loss of service of a wireless provider, the loss of an individual wireless site does not consistently compromise the entire wireless network, nor eliminate the service provided in a specific location. Therefore, the potential impact to the public typically is actually very small, as opposed to what might initially be estimated.

Higher structure classes may be warranted when the failure of the tower implies significant physical consequences to the surrounding area, affects essential services, such as water, power, transportation, etc. or when loss of specific wireless service at a location significantly comprises the overall network or eliminates designated emergency service in a specific geographic location.

In effort to truly enhance the reliability of a wireless site in these scenarios, strengthening of all aspects of the wireless network, including individual antennas, mounts and connections, coax or fiber lines (backhaul for data), back-up power, water intrusion resiliency, and radio cabinet design is likely appropriate. Instituting a Structure Class III requirement only on the tower structure would likely result in a non to minimal improvement in reliability in comparison to the expectation of overall improved network performance and reliability. ■