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BY EMAIL

Honorable Chair Felipe Hernandez and
Board of Supervisors of County of Santa Cruz
County of Santa Cruz
701 Ocean Street, Suite 500
Santa Cruz, CA 95060
c/o Clerk of the Board of Supervisors

**Re: Application Number 221049
Opposition of Bonny Doon Residents for Responsible Cell Coverage to
Appeal of Planning Commission Grant of Appeal and Denial of Wireless
Communication Facility at 186 Summit Drive (APN 080-062-02)**

Executive Summary:

The proposed tower fails to meet legal and factual standards for approval.

- (1) No significant gap in coverage exists;
- (2) a viable co-location option is available nearby; and
- (3) the project poses significant visual and environmental harm. Accordingly, the Board should deny the appeal.

Dear Honorable Chair Hernandez and Supervisors:

My co-counsel, Gary Patton, Esq., and I represent Bonny Doon Residents for Responsible Cell Coverage, a grassroots group led by Timothy Richards, who resides, with his wife and two young children at 531 Summit Drive, Santa Cruz, just a few hundred feet from the proposed site of the 140-foot tall monopine cell tower at 186 Summit Drive. Bonny Doon Residents for Responsible Cell Coverage strongly opposes the appeal of CTI Towers, Inc. ("CTI" or the "Applicant") of the Santa Cruz County Planning Commission's decision on February 12, 2025 to grant project opponents' appeal of the Zoning Administrator's January 24, 2024 decision to approve said cell tower application. Following a publicly noticed hearing, and after considering the record evidence, the Planning Commission voted 3-2 to grant the appeal, thereby denying CTI's cell tower application. The Planning Commission issued a written decision,

supported by substantial evidence in the record, explaining its reasons for granting the appeal which follow the provisions of the County zoning ordinances governing wireless communications facilities, Santa Cruz County Code 13.10.660, 13.10.661, and 13.10.664, California law, and conform with Section 332 of the Telecommunications Act of 1996, 47 U.S.C. §332.

On February 25, 2025, CTI appealed the Planning Commission's decision, and requested that the Board of Supervisors ("BOS") take jurisdiction of the appeal. On May 6, 2025, at its regular meeting, the BOS held a public hearing and acted and took jurisdiction of the appeal. The BOS has set a *de novo* hearing for June 10, 2025 at 9:00.

This letter sets forth the legal and factual reasons why CTI fails to meet its burden of proof to demonstrate that its application complies with the Santa Cruz County Code requirements for issuance of the development permit for its proposed 140-foot tall monopine cell tower. The letter further explains the broad latitude the County enjoys in exercising its zoning powers over the siting, design, and placement of wireless communication facilities under Section 332 of the Telecommunications Act of 1996, 47 U.S.C. §332, and why this BOS should, after hearing and reviewing all of the evidence, deny CTI's appeal.

As you consider CTI's application *de novo*, please be open to the *new evidence* that we are presenting for the first time for this hearing. Bonny Doon Residents for Responsible Cell Coverage has retained new counsel who focuses his practice on wireless communications law. The group's new counsel is highly experienced with the underhanded tactics wireless carriers and cell tower developers use to dupe land use administrators, land use boards, and reviewing boards into granting unwarranted permits for cell towers and other wireless communication facilities. As the evidence we present will clearly show, CTI and AT&T Mobility ("AT&T") have fooled County Staff and the Zoning Administrator, but not the Planning Commission. Don't let CTI and AT&T bamboozle you.

Our evidence will establish three main factual findings: (1) AT&T does not have a significant gap in wireless coverage in the Bonny Doon region in the vicinity of 186 Summit Drive; (2) even assuming *arguendo* that AT&T does have a significant gap in coverage here, a 140-foot tall monopine cell tower located at 186 Summit Drive is not the least intrusive alternative to solve that gap; and (3) CTI's proposed monopine tower will inevitably shed several thousand pounds of solid waste in the form of PVC fake pine needles and fragments which will shed from the fake pine tree tower and be carried off by wind, rain, and run-off over a very wide debris field. This illegal dumping of plastic waste will pollute the surrounding neighborhood, penetrate into the soil, run off into the drainage basin, and create an environmental time bomb that cannot be remediated.

At the outset of this letter, I first address the key factual finding that really should just end the inquiry with the BOS denying CTI's application: AT&T does not have a significant gap in wireless coverage in Bonny Doon which would necessitate placing AT&T wireless antennas on a tall cell tower in the vicinity of 186 Summit Drive.

Bonny Doon Residents for Responsible Cell Coverage is fortunate to be able to present to you an expert report from Dr. Kent Chamberlin, Professor Emeritus and Former Chair of the Department of Electrical and Computer Engineering at the University of New Hampshire. Dr. Chamberlin is one of the world's foremost experts on radio frequency ("RF") signal propagation and modeling. Dr. Chamberlin has developed, used, studied, and reviewed RF propagation models for analyses of communication towers, navigation, and other uses for nearly half a century. Dr. Chamberlin has examined the materials CTI and AT&T have submitted in support of their application for the proposed cell tower at 186 Summit Drive. Dr. Chamberlin has also reviewed publicly available data submitted by AT&T and other wireless carriers to the Federal Communications Commission ("FCC") and the California Public Utilities Commission ("CPUC") regarding the personal wireless service coverage in the Bonny Doon region where AT&T now asserts in the instant proceeding that its network has a "significant gap in coverage."

Dr. Chamberlin's Expert Report and his Curriculum Vitae are submitted together with my letter. Dr. Chamberlin concludes, in his expert opinion, that AT&T does not presently have a significant gap in coverage in its wireless network in the area AT&T seeks to cover with AT&T's antennas mounted on CTI's proposed cell tower to be located at 186 Summit Drive. Dr. Chamberlin further concludes that AT&T's submitted RF propagation study in support of CTI's application for this tower is fatally flawed and is insufficient to meet the applicant's burden of proof in demonstrating a significant gap in coverage. Dr. Chamberlin opines that AT&T's submitted "drive test" study in support of CTI's application for this tower is likewise fatally flawed and is insufficient to meet the applicant's burden of proof in demonstrating a significant gap in AT&T's wireless coverage.

Dr. Chamberlin demonstrates in his expert report that AT&T actually has robust wireless coverage for its network in a broad area of the Bonny Doon region, and in particular, in the very area AT&T is presently claiming AT&T has a significant gap in coverage. To reach this expert conclusion, Dr. Chamberlin examined the easily accessible, publicly available data actually provided by AT&T itself to both the FCC on an ongoing biannual basis, and to the CPUC during 2023 through 2024 in a proceeding instituted by AT&T. Both the data that AT&T provided to the FCC and the data it provided to the CPUC completely contradict AT&T's present unsubstantiated assertion that AT&T has a "significant gap in coverage" for its personal wireless services in the area it proposes to serve via CTI's proposed cell tower at 186 Summit Drive. Simply put, the proposed cell tower is not needed. There already is adequate cell coverage in the area, and in particular, adequate AT&T cell coverage. CTI and AT&T are trying to mislead the BOS into issuing an unwarranted cell tower permit based on false or unsubstantiated evidence.

The FCC requires all Internet Service Providers ("ISPs"), including wireless carriers, to provide to the FCC for its National Broadband Map bi-annual (twice per year) data showing their service coverage areas throughout the entire United States. This data is extremely granular, and goes down to the street address and building level. Providers are required by law to provide truthful and accurate information and to follow and report pursuant to consistent propagation model standards established by the FCC which are set forth in the regulations. *See Broadband DATA Act*, 47 U.S.C. §643 (It is "unlawful for an entity or individual to willfully and knowingly,

or recklessly, submit information or data under this subchapter that is materially inaccurate with respect to the availability of broadband internet access service or the quality of service with respect to broadband internet access service."). With each data filing, FCC regulations require providers to include "a certification signed by a corporate officer of the provider that the officer has examined the information contained in the submission and that, to the best of the officer's actual knowledge, information, and belief, all statements of fact contained in the submission are true and correct." 47 C.F.R. §1.7004(d).

Dr. Chamberlin has examined the FCC's National Broadband Map. Dr. Chamberlin has scrolled in and has focused on the precise Bonny Doon area in the vicinity of 186 Summit Drive where AT&T now claims it has a significant gap in coverage. **Dr. Chamberlin explains in his expert report that completely contrary to what AT&T is attesting to this Board, AT&T has certified to its federal regulator, the FCC, that AT&T has robust outdoor wireless coverage throughout the Bonny Doon area.** Moreover, that very same FCC National Broadband Map shows that Verizon and T-Mobile also offer robust wireless coverage throughout the Bonny Doon area. Further, several companies offer fixed broadband coverage or satellite broadband coverage throughout the Bonny Doon area, including Xfinity, HughesNet, Starlink, Viasat, GeoLinks, and Verizon. So, Dr. Chamberlin has shown that AT&T has certified to the FCC under penalty of law (subject to serious enforcement action by its regulator if AT&T misrepresents its wireless coverage data), that AT&T has robust wireless network coverage throughout the vicinity of 186 Summit Drive.

But that's not all. Dr. Chamberlin also demonstrates that AT&T provided very similar data showing that AT&T enjoys full wireless coverage in this same area throughout Bonny Doon in a proceeding AT&T itself instituted before the CPUC in 2023-2024. In that CPUC proceeding, AT&T attempted unsuccessfully to terminate its "Carrier of Last Resort" ("COLR") obligation to continue to provide landline wired service in many remote areas of California, including Bonny Doon. AT&T argued to the CPUC that wired landline service is obsolete and very costly for AT&T to maintain. AT&T further contended that customer demand for that service has greatly declined because of the ubiquity of its excellent expanded wireless service network and alternate methods of telephony (e.g., voice over Internet and WiFi-enabled calling inside a building serviced by fixed broadband Internet). AT&T provided its wireless network coverage map for the Bonny Doon area to the CPUC, and argued that its robust wireless coverage throughout this area justified the CPUC removing AT&T's COLR obligation. The AT&T wireless network coverage map submitted to the CPUC comports very closely with the coverage map data AT&T has supplied to the FCC for the FCC National Broadband Map. Both maps show that AT&T does, in fact, already have robust wireless network coverage throughout this area. Dr. Chamberlin thus concludes that the coverage map that AT&T submitted to the CPUC demonstrates that AT&T does not have a significant gap in coverage here.

Please read Dr. Chamberlin's expert report carefully. We encourage the Board to engage with Dr. Chamberlin when he appears as an expert witness by telephone at the *de novo* hearing on June 10, 2025. Dr. Chamberlin's incontrovertible finding that AT&T does not have a significant gap in coverage should end the inquiry. The BOS should deny CTI's application on this basis alone. Nevertheless, I will cover all the bases by continuing with a fulsome discussion of the law and facts.

**CTI and the County Staff Misstate the Legal Framework Underlying the Planning
Commission's Consideration of the Application**

**A General Warning to the BOS and the "Real Deal" on the BOS' Tremendous
Power to Enforce its Zoning Ordinance to Regulate the Siting, Construction, and
Modification of Wireless Communication Facilities, as Expressly Preserved by Section
332(c)(7) of the Federal Telecommunications Act of 1996**

Both the County Staff and CTI provide a highly misleading analysis of the applicable law and facts which they contend caused the Planning Commission to erroneously deny CTI's permit for the 140-foot tall monopine cell tower at 186 Summit Drive. I respectfully offer the BOS the following comments. I am a graduate of the University of Chicago (J.D./M.B.A. 1983), and I have practiced law for 42 years. I am admitted to the bars of the States of New York and New Jersey and numerous federal district and appellate courts. For the past several years, I have focused my practice almost exclusively on representing clients across the country who are trying to protect their families, businesses, and communities from the uncontrolled and unsafe deployment of wireless communications facilities within their communities.

The wireless industry is insatiable in its quest to blanket the entire nation in an endless, willy-nilly sprawl of cell towers and small cell facilities. The wireless industry is deaf to the concerns of the residents who live and work near the industry's desired wireless communication facility sites. According to statistics published by the Wireless Infrastructure Association on May 7, 2025, at the end of 2024, 154,800 purpose-built macro cell towers were in operation in the United States. There were 248,050 macro cell sites, and 197,850 outdoor small cells in operation, with 802,500 indoor small cell and DAS nodes in use. AT&T, as the third largest wireless carrier in the United States, with 118 million subscribers as of the end of the first quarter of 2025, is one of the worst offenders I come across when it comes to the irresponsible siting of cell towers. AT&T simply doesn't care what disruption its facilities cause to *your* community – the degradation of views, the destruction of property values, the desecration of neighborhood character, and the public safety dangers its towers pose to nearby persons and property from icefall, falling debris, fire, and tower collapse.

You have been appointed to the BOS to safeguard the lives and properties of your fellow residents and to protect the future of your County from development that is inconsistent with the County's General Plan and Zoning Code. Your responsibilities to oversee development in the County and to ensure that the General Plan and Zoning Code are followed with respect to development projects are very broad and important. Residents of the County are fortunate that the BOS has had the wisdom and foresight to enact a comprehensive wireless telecommunications code within the County Code that encourages -- yet responsibly regulates -- the placement, design, and construction of wireless communications facilities within the County of Santa Cruz, fully consistent with the federal Telecommunications Act of 1996 (the "TCA") and State and federal law. *See* SCCC 13.10.660(A) Purpose:

The purpose of this section through SCCC 13.10.664 is to establish regulations for the siting, aesthetics, operation, construction, and modification of wireless communication facilities in the unincorporated areas of Santa Cruz County, while minimizing adverse visual and operational effects of such facilities. The regulations in these sections are intended to be consistent with State and Federal law, particularly the Federal Telecommunications Act of 1996, in that they are not intended to: (1) be used to unreasonably discriminate among providers of functionally equivalent services; (2) have the effect of prohibiting the siting of wireless communication facilities on the basis of the environmental/health effects of radiofrequency emissions, to the extent that the services and facilities comply with the regulations of the Federal Communications Commission concerning such emissions.

At its May 6, 2025 public hearing in this matter, pursuant to SCCC 18.10.340(C), once the BOS determined to take jurisdiction of this appeal, it had the choice to (1) grant a public hearing limited to the record of the entire proceedings; or (2) conduct the proceedings as if no other hearing had been held (as a *de novo* hearing). The BOS wisely decided to hold a *de novo* public hearing. This means that the BOS will consider *new evidence* and hear the testimony of *new witnesses*, in addition to considering whatever portions of the record of the prior proceedings the parties choose to submit. As members of the BOS hearing this appeal as a *de novo* hearing, you have the sworn duty and responsibility to ensure that CTI *has met its burden of proof* in meeting the criteria set forth in SCCC 13.10.660 through 664.

You are sitting as a regulatory board when considering CTI's application for a development permit to construct and operate the proposed 140-foot tall monopine cell tower. You act as the trier of facts and make factual and legal determinations based on the evidence and legal arguments presented to you by the applicant, by the County Staff, and by my client, Timothy Richards, who resides on Summit Drive, just a few hundred feet away from the proposed cell tower site and who was the appellant before the Planning Commission, by Mr. Richards' attorneys and expert, and by residents and other members of the public. Your job is extremely important, and you will greatly impact the lives of your fellow residents and the future development of your County.

I also warn you that CTI and AT&T may well try to intimidate this Board by threatening to bring an action against the County in federal court for violation of the TCA should this Board deny CTI's application for the development permit for its proposed cell tower. AT&T and cell tower developers such as CTI make this threat -- and, indeed, act upon it -- frequently. So what? Many local governments and their attorneys buckle under these malicious coercive efforts because they fail to understand the very broad powers that federal law provides local governments to control the siting and operation of wireless communications facilities within their boundaries.

But more importantly, local governments and their attorneys are terrified that if they lose a lawsuit brought by the deep-pocketed telecommunications companies, their governmental entities may be liable for many millions of dollars in damages and attorneys' fees. This is a completely baseless fear. Twenty years ago, the United States Supreme Court definitively ruled that *a wireless carrier can never sue for and recover from a State or local government monetary*

damages or attorneys' fees if the State or local government refuses to allow the carrier to build and operate a requested wireless communications facility, even if a court eventually decides the State or local government actually has violated the TCA. As to the latter point, **the United States Supreme Court has expressly held, in *City of Rancho Palos Verdes v. Abrams*, 544 U.S. 113 (2005), that neither monetary damages nor attorneys' fees are available to a prevailing plaintiff in an action brought under the TCA.** So even if CTI and/or AT&T sues the County in federal court for denying a development permit -- and the County somehow loses that lawsuit -- the County can never be liable for monetary damages or CTI's or AT&T's attorneys' fees. The worst that could happen is that the County would be required to issue the development permit for the project. **Any fears or implied threats that a wireless carrier will bankrupt the County through litigation if the County denies a permit for a wireless communications facility are completely unfounded.**

So, as you do your sworn duty and conduct this *de novo* public hearing, know that the federal TCA fully empowers States and local governments to exercise their zoning powers to control the placement, construction, and operation of wireless communication facilities, including macro cell towers, subject only to limited, express statutory constraints. Section 332(c)(7) of the TCA, 47 U.S.C. §332(c)(7) is the controlling provision at issue. To my very point, Section 332 is titled "Mobile services." Subsection (c) is titled "REGULATORY TREATMENT OF MOBILE SERVICES." Subpart (7) is titled "PRESERVATION OF LOCAL ZONING AUTHORITY."

Section 332(c)(7)(A), titled "General authority," provides:

Except as provided in this paragraph, nothing in this chapter shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless service facilities.

Subpart (7)(A) thus broadly preserves State and local zoning powers over the placement, construction, and modification of personal wireless service facilities, including cell towers. The only limitations on State and local zoning powers on such facilities are laid out in Subpart (7)(B) and they are actually quite few and restricted in scope.¹ In short, don't discriminate *unreasonably*

¹ 47 U.S.C. §332(c)(7)(B) provides in full: **(B) Limitations**

(i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof—

(I)

shall not unreasonably discriminate among providers of functionally equivalent services; and

(II)

shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

(ii) A State or local government or instrumentality thereof shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request.

(iii)

Any decision by a State or local government or instrumentality thereof to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.

(iv)

among providers of functionally equivalent services; don't prohibit or effectively prohibit the provision of personal wireless services; act on an application within a reasonable period of time; if you deny an application, you must do so in a written opinion supported by substantial evidence in the record; and you cannot regulate the placement, construction, and modification of personal wireless service facilities on the basis of environmental effects of radio frequency emissions to the extent that such facilities comply with the Federal Communications Commission's regulations concerning such emissions. That's all folks! Except for this smattering of limitations, the County is free to apply its normal zoning and development regulations to applications to cell towers fully consistent with the federal TCA. As the statute's subheading boldly pronounces, the federal TCA expressly provides for the "PRESERVATION OF LOCAL ZONING AUTHORITY." 47 U.S.C. §332(C)(7).

County Staff Blew Their Analysis of CTI's Monopine Application and then Wrongly Accused the Planning Commission of Committing Error when the Planning Commission Properly Reversed the Zoning Administrator's Approval of the Cell Tower Permit. The Facts and the Law Require the BOS to Deny CTI's Application.

With all due respect to County Staff, they did not thoroughly vet the applicant's supporting material for veracity. County Staff failed to conduct an independent investigation of their own. Nor did County Staff hire independent experts as consultants to evaluate the highly specialized, technical materials that are required to make an informed decision as to the "need" for this macro cell tower, its environmental impact, its visual impact in this rural, scenic residential neighborhood, and its effects on surrounding property values. Instead, County Staff relied upon the work product of applicant's hired guns -- wireless industry consultants -- and AT&T's own self-interested, biased RF engineers. Unsurprisingly, these putative experts generated reports that concluded that AT&T's wireless network provides virtually no coverage in the vicinity of 186 Summit Drive. CTI's landscape architects predict that this soaring 140-foot tall plastic-covered, giant "toilet bowl brush" of a fake pine tree cell tower will blend seamlessly into the surrounding forest, and no human will notice (and thus, property values will not be diminished) -- and everyone will live happily ever after. County Staff took the bait -- hook, line, and sinker.

County Staff seem to have largely "checked the boxes" to make sure the applicant papered the file completely. Instead, County Staff's duty was to critically evaluate the proposed project on its merits and then ensure that the applicant proved that it meets the stringent criteria of the County wireless ordinance and General Plan for approval of a development permit to construct and operate a brand new tall macro cell tower in a residential neighborhood. Rather egregiously, County Staff failed to investigate the easily accessible publicly available data

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.

(v)

Any person adversely affected by any final action or failure to act by a State or local government or any instrumentality thereof that is inconsistent with this subparagraph may, within 30 days after such action or failure to act, commence an action in any court of competent jurisdiction. The court shall hear and decide such action on an expedited basis. Any person adversely affected by an act or failure to act by a State or local government or any instrumentality thereof that is inconsistent with clause (iv) may petition the Commission for relief.

actually provided by AT&T itself to the FCC for the FCC's National Broadband Map and to the CPUC for last year's widely followed COLR proceeding. AT&T's coverage data submitted to both agencies completely contradict AT&T's present unsubstantiated assertion to the BOS that AT&T has a "significant gap in coverage" for its personal wireless services in the area it proposes to serve via CTI's proposed cell tower at 186 Summit Drive.

Indeed, in its Memorandum to the BOS recommending that the BOS take jurisdiction of the appeal of Application Number 221049, in advance of the May 6, 2025 jurisdictional hearing, the Community Development and Infrastructure Department had the audacity to argue:

a) The Planning Commission made an error in determining that no gap in coverage exists by relying on AT&T's less accurate public website wireless service coverage maps, rather than the more sophisticated and widely accepted radio frequency propagation analysis provided by the project's radio frequency engineer. According to County Code Section 13.10.660(B), a 'significant gap' in wireless coverage is defined as a gap in a provider's own services, as certified by the carrier.

b) The Planning Commission erred in finding that there is a co-location alternative to the proposed project located at Patrick Road based on an improper determination that equal wireless coverage could be provided at 150 feet in height by both the Summit Drive and Patrick Road sites. However, the propagation coverage maps provided to the Commission demonstrate that the proposed facility at Summit Drive would substantially fill the gap in coverage at 150 feet in height, whereas the alternative site at Patrick Road would only achieve similar or equal coverage at approximately 210 feet in height. Thus, equal coverage would not be provided by the Patrick Road site at 150 feet in height.

As you will see in Dr. Chamberlin's expert report, County Staff could not be more wrong. AT&T's RF engineer generated specious RF propagation analyses for both the 186 Summit Drive site and the alternative 125 Patrick Road site that are totally at odds with the propagation analyses of the same areas that AT&T has submitted to the FCC and the CPUC under penalty of law. Today, in a blatant effort to have the BOS approve an unwarranted cell tower permit that violates County Code, AT&T "certifies" that it has a significant gap in its wireless coverage, while contemporaneously, AT&T is certifying to the FCC twice each year that AT&T offers nearly complete wireless coverage over the exact same geographic area.

Who do you think AT&T would rather lie to? The FCC - its federal regulator which has the power to fine AT&T for violating federal law by providing false information about AT&T's coverage and to take other enforcement action against it? Or how about the CPUC, from which AT&T last year tried to weasel out of its Carrier of Last Resort obligation in this area by demonstrating to the CPUC that AT&T has complete wireless coverage in the exact same geographic area? I place my bet that AT&T is trying to dupe you honorable members of the BOS.

And given that AT&T does not face a significant gap in coverage in the vicinity of Summit Drive, if the BOS goes rogue, and insists for some arbitrary and capricious reason that

AT&T needs to have wireless antennas in that specific area, then the existing, almost brand new 150-foot tall lattice structure communication tower only 1,000 feet away on nearby Patrick Road stands ready and able to do the job of accommodating AT&T. Indeed, the owner of that new tower, Matthew Kaufman, sent an email confirming that very fact to the BOS on June 4, 2025 at 1:38 p.m. In his email to the BOS, Mr. Kaufman describes the history of the existing tower at the 186 Summit Drive site -- a 70-foot tall steel lattice tower presently owned by CTI but initially built in 1969 for use as a cable tv receive site which CTI now wants to tear down and replace with the proposed 140 foot-tall monopine cell tower. Mr. Kaufman also chronicled the former 180-foot tall cell tower at 125 Patrick Road which Mr. Kaufman owned after buying the property in 2014. That tower was used for paging and two-way radio transmissions until the tower was destroyed in the CZU fire in 2020. Mr. Kaufman recounts how he overcame zoning, permitting, and legal objections, and finally built a replacement 150-foot tall communication tower at the site in October 2023 which presently stands, with 200 amps of electrical power available at the site.

Most importantly, Mr. Kaufman offers his existing 150-foot tall tower as a co-location option for AT&T or other wireless providers. Mr. Kaufman's email to the BOS states:

Co-location options for AT&T or other wireless providers:

1. I am open to a discussion with any carrier interested in co-locating on my replacement tower. The original tower was a Rohn 55 tower, 18" face made of 11 gauge tubular steel with point guying. The existing replacement is a Magnum tower, also 18" face but made of solid steel rod with star guying as an anti-torque measure. This makes it substantially stronger and able to support more antenna load than might be assumed, though whether it is sufficient for what the carrier needs would need to be determined. However, the tower is currently 150 feet tall, which limits coverage to the south due to topography and trees that are a lot taller than they were in 1971 when the original tower was built. Zoning approval is required to install cellular antennas, though the existing 1994 use permit could potentially simplify that approval.
2. For carriers that are not served by a 150 foot tower but would be at 180 feet, my existing replacement tower was engineered for a total height of 180 feet, the guy anchors have additional attachment points for one additional set of guys, and the additional 30 feet of tower is fabricated and at the property. Zoning approval is of course required to extend the tower and install cellular antennas. At the extended height, the total wind loading the tower can support is lower, and so whether that is sufficient for what the carrier needs would need to be determined...

CTI and AT&T seem to have already hoodwinked County Staff. Besides falling for the fable that AT&T has a significant gap in coverage, County Staff has also bought into AT&T's **nonsensical rejection** of Mr. Kaufman's existing 150-foot tall lattice-structure communications tower located at 125 Patrick Road as a co-location alternative to a brand new 140-foot tall monopine cell tower at 186 Summit Drive. But County Code Section 13.10.660(E) sets forth the "Siting Requirements for Wireless Communication Facilities Outside of Public Rights-of-Way." Subpart (1) governs "Co-location" and provides:

Co-location. New wireless communication facilities **shall be required to be co-located onto existing facilities**, base stations, or utility poles, unless there is no existing facility that would provide substantially similar coverage and the proposed facility is visually screened, camouflaged, or otherwise integrated into the surrounding character or scenic resource. (Bold added).

The Planning Commission, faithfully applying the County Code, based on the factual record then before it, quite properly found the co-location alternative at Mr. Kaufman's existing 150-foot tall communication tower to provide largely the same coverage as the proposed tower at 186 Summit Drive based on the propagation maps submitted. The Planning Commission determined that while the Summit Drive site would provide more coverage to the south, the Patrick Road site would provide more coverage to the north. Very significantly, the Planning Commission found that the County Code **requires co-location** if there is an existing facility with the potential to be used for co-location. And yet, County Staff, blindly accepting AT&T's self-interested RF engineer's self-generated propagation maps and assertions, contends that the Planning Commission's factually and legally sound findings constitute error, and warranted the BOS asserting jurisdiction over the appeal. **One has to wonder why County Staff is fighting so hard to place two giant communications towers within a stone's throw of one another (merely 1,000 feet apart) -- when one already exists and has space available for AT&T's wireless antennas -- and AT&T's own certified data provided to the FCC and CPUC plainly demonstrate that AT&T does not have any significant gap in coverage in this area?**

CTI, the applicant, owns the small 2.216 acre parcel at 186 Summit Drive, which its affiliate, CTI Towers Assets II, LLC, purchased from Comcast Santa Cruz, Inc. on or about November 17, 2016 for \$200,000. CTI is one of the largest private wireless communications tower companies in the United States. CTI owns, manages, and/or markets over 1,800 wireless communications towers across the U.S., and leases space on its towers to the major wireless carriers, including AT&T, DISH, T-Mobile, and Verizon. CTI is owned by Palistar Capital LP, an alternative asset manager and private equity firm with approximately \$3 billion in assets under management. On January 14, 2025, Palistar announced the combination of CTI with its pool of wireless assets managed by its dedicated cell site acquisition affiliate, Symphony Wireless, LLC, generating a merged entity known as Symphony Towers Infrastructure ("Symphony Towers"). The transaction creates one of the five largest private telecom infrastructure platforms in the U.S., controlling 3,000 wireless communications towers across the country. *See* <https://www.prnewswire.com/news-releases/palistar-capital-announces-combination-of-us-wireless-assets-302350144.html>.

Query whether County Staff is simply caving in to pressure from a powerful, wealthy private equity firm to favor its project -- despite the County Code's requirement for co-location on an existing facility (assuming *arguendo* that a wireless carrier has proven a significant gap in coverage). No legitimate rational basis springs to mind. Here, AT&T cannot show a significant gap in coverage. AT&T has already certified under penalty of law to the FCC and the CPUC that it has no significant gap in coverage in the area around 186 Summit Drive. And even if a gap existed, a virtually brand new, steel 150-foot tall communications tower stands tall just 1,000 feet

away at 125 Patrick Road. Personally, in my experience, I have never seen as preposterous a case being urged by public servants on behalf of a rich private developer when the factual record is so overwhelmingly clear and the applicant's and AT&T's arguments are so self-serving and trumped up.

Now, granted, County Staff did not have the benefit of Dr. Chamberlin's expertise nor the facts presented herein. But that just proves my point -- County Staff needed independent expert advice, and instead, let the fox guard the hen house. Please don't fall into the same trap. The bottom line, then, is: there is no need for CTI's cell tower at 186 Summit Drive because AT&T does not have a significant gap in coverage there. Even if AT&T had a significant gap in coverage in that area, County Code requires AT&T to co-locate on Mr. Kaufman's existing communications tower.

The applicant's proposed 140-foot tall industrial "Frankenpine" cell tower will be a blight upon the surrounding long-established rural, sparsely developed residential neighborhood. The soaring monopine cell tower -- even though it will be dressed out as a giant fake plastic pine tree -- will assault the neighborhood with a glaring unnatural visual intrusion, destroying the rural mountain residential viewshed of the immediate neighbors, and decimating their property values. In my experience, fake plastic pine tree cell towers look like giant toilet bowl brushes piercing high in the sky over the surrounding tree canopy -- as they must, because cell towers work through line of sight transmission of RF signals which cannot be blocked by a thick stand of trees of the same or greater height. Indeed, in many cell tower proceedings in which I am involved, the applicants themselves state that they are not proposing a monopine tower because the monopine towers fool no one and are actually much uglier and more visually intrusive than unpainted weathered steel cell towers of equal height. CTI's industrial cell tower will be an eyesore to residents and visitors to this residential neighborhood and will significantly alter its residential character. The cell tower will generate no revenues for the County. To suggest, as CTI does, that the tower presents just a "minimal intrusion" to the community, is a lie. You and your constituents have to live here; CTI and AT&T do not.

CTI's "Frankenpine" Cell Tower Will Pollute the Site and the Neighborhood with Thousands of Pounds of PVC Fragments and Debris

One of the nefarious tricks the wireless carriers and cell tower developers pull is to convince local land use, municipal, and county boards that they can effectively mitigate the serious visual impact of their grotesque industrial cell towers by camouflaging them as fake pine trees that blend seamlessly into a bucolic background. Far too many local governments have succumbed to this deception, and, indeed, have actually created a preference in their wireless facility zoning ordinances for monopines with the misbegotten conviction that they are improving the "public good" by mitigating the visual intrusion of the cell tower through the use of the "innocuous" camouflage of a fake pine tree.

The reality, of course, is that putting lipstick on a pig doesn't make her pretty. A tall, ugly industrial steel cell tower with multiple levels of antenna arrays often looks worse when gussied up with fake PVC pine needles glued onto fake fiberglass reinforced plastic or PVC pine boughs, limbs, and branches. These Frankenpines tower over any surrounding natural tree canopy --

indeed, they must inasmuch as the wireless antennas only work via line of sight, and must, therefore, be mounted above the tree line in order to transmit the cell signals effectively. But much more nefariously, as will be explained below, the monopines are cloaked with thousands of pounds of PVC plastic pine needles which are glued on to faux pine branches. The PVC pine needles rapidly degrade and become weak and brittle in the harsh outside environment. The PVC pine needles then shed from the fake pine boughs and branches as they are buffeted by winds and pelted by precipitation. The PVC needles may fragment into small particles, and they are dispersed by wind, gravity, and run-off in a totally uncontrolled manner over a wide debris field. Much of the PVC debris shed from the monopine cell towers is simply unrecoverable as it is carried off-site by these natural forces. Monopines are thus a terrible source of uncontrolled and illegal solid waste disposal.

Monopines are a serious environmental hazard -- a fact which the wireless carriers and cell tower developers never bring up when they apply for permits to build and operate cell towers. And sadly, local government land use officials and staff are oblivious to this major environmental problem. I make sure that this major source of plastic and microplastic pollution is considered by land use boards whenever monopines are proposed as a "have your cake and eat it too solution" for tall cell towers proposed for installation in visually sensitive locations.

Unfortunately, the Santa Cruz BOS has been seduced by the wireless industry's Sirens' song of the monopine tower as a viable "[c]amouflage...to mask or blend a wireless communication facility with the surrounding environment in such a manner to minimize its visual intrusion on the surrounding environment." *See* Santa County Code 13.10.660(B)(5); 13.10.660(E)(5) ("Telecommunication towers camouflaged to look like trees (e.g., 'monopines') may be favored on wooded sites with existing similar looking trees where they can be designed to adequately blend with and/or mimic the existing trees.").

CTI's proposed 140-foot tall monopine cell tower will be cloaked with several thousand pounds of PVC faux pine needles. Unfortunately, CTI fails to provide any detailed information about its monopine camouflaging plan for the proposed tower at 186 Summit Drive. CTI's application materials include lovely site plan engineering documents showing engineering renderings of the monopine cell tower "camouflaged" with a fake pine tree dressing. Woefully missing is any specific information about the monopine materials intended for use on the cell tower. A monopine cell tower generally consists of a traditional monopole cell tower outfitted with several levels of masts onto each of which a wireless antenna array from a co-locating wireless carrier is mounted. The monopole and its multi-level arrays of wireless antennas are then cloaked within a fake pine tree assemblage of fake plastic or epoxy pine tree limbs and branches. The fake pine tree limbs often are attached to steel bands which girdle the monopole at various heights. Fake plastic or epoxy pine tree branches are affixed to the fake pine tree limbs. And the pièce de résistance -- the PVC faux pine needles -- are simply glued on or tied into sprigs with wire onto the fake pine tree branches.

On CTI's proposed 140-foot tall monopine, what company is going to manufacture it? What will the fake pine tree boughs be made of? How many will be used? What will the combined weight of the fake pine tree boughs be? How will they be attached to the tower? What will the fake pine tree limbs be made of? How many will be used? What will the combined

weight of the fake pine tree limbs be? How will the fake pine tree limbs be attached to the fake pine tree boughs? What will the fake pine tree branches be made of? How many will be used? What will the combined weight of the fake pine tree branches be? How will the fake pine tree branches be attached to the fake pine tree limbs? What will the fake pine tree needles be made of? How many will be used? What will the combined weight of the fake pine tree needles be? How will the fake pine tree needles be attached to the fake pine tree branches?

What will the PVC be made of? What company will be the source of the PVC? Will only domestic U.S. PVC be used? Will any of the PVC contain lead? Many Chinese manufacturers and other manufacturers of PVC use lead as a stabilizer to enhance its thermal qualities, improve weather resistance, and electrical insulation properties. How will CTI guarantee that lead will not be contained in any of the PVC components or fake pine tree components used in the monopine? CTI provides absolutely no information in its project plans about these critically important questions.

Although PVC faux pine needles are supposedly treated to be UV-resistant, a monopine cell tower stands outside in the harsh environment 24/7 365 days per year. In the Santa Cruz mountains near Bonny Doon, the environmental conditions can be harsh, especially at the Summit on Summit Drive, which is the highest point in Santa Cruz County. The summer months are hot, with many days in excess of 100 degrees, and dry with high UV exposure, and the winters are cold with frequent atmospheric river rainfall events and strong winds exceeding 90 miles per hour.

The harsh and changeable environmental conditions in the Santa Cruz mountains will play havoc with the thousands of pounds of PVC fake pine needles cloaking CTI's proposed monopine cell tower. Because of this intense environmental exposure, the PVC fake pine needles degrade rapidly. Despite the purported UV-resistant treatment, the intense, never-ending sun exposure and the substantial temperature variations break down the PVC fake pine needles and cause them to become brittle. Wind and precipitation then cause the PVC fake pine needles to fall off the faux pine branches, either in sprigs or individually, or even in fragments. More than the PVC fake pine needles fall from the monopines. Sometimes the fake pine branches or limbs, or portions of them break off from the tower, especially during windstorms or other stormy weather conditions. The net result is that every monopine cell tower develops a debris field around the base where PVC fake pine needles and fragments and pieces of fake pine branches or limbs are scattered. This debris constitutes solid waste and is litter or is otherwise illegally dumped solid waste. Rarely is the debris confined to the cell tower site. Falling from a height, here of 140 feet, detached PVC fake pine needles, fragments, and debris are likely to be carried by the wind a considerable distance from the tower site.

Moreover, because the fragments are often so small and widely dispersed, they cannot be remediated. They fall onto the ground, or wind up in drainage basins or ditches, or in the street, or on other private properties. Inevitably, tiny PVC fragments will wind up in the San Vicente Creek and Fall Creek drainage basins and into the creeks themselves. CTI and AT&T would have no ability to clean up all of the PVC debris that detached from its Frankenpine over the uncontrolled and wide debris field. Even if they wanted to, CTI and AT&T have no right to trespass on other private properties to attempt to recover tiny PVC fragments. And much of the

fragmentary debris would be blown down the streets, into the stormwater system, or embedded in the soil or brush wherever it lands. **The bottom line is that a monopine, besides being an unsightly monstrosity, will create a major illegal source of solid waste pollution, which is hazardous, especially if the PVC contains lead.**

This is true for every outdoor monopine cell tower wherever located. The wireless carriers know this and try to cover up the fact that they are knowingly illegally dumping solid waste materials into the environment -- which waste cannot be recovered. The cell tower developers know this too, and they pooh-pooh the problem as well. Sadly, local governments are largely ignorant about this serious pollution issue -- many willfully ignorant. At the forthcoming *de novo* public hearing, Mr. Richards will make a "show and tell" presentation to the BOS. At my direction, Mr. Richards and other Bonny Doon residents searched for and identified four existing monopine cell towers in Santa Cruz County, CA. They physically travelled to each of the monopine towers and scoured the debris fields I had correctly predicted they would find around the base of each monopine tower. They found pieces of broken fake pine tree branches, fake pine tree needles, and fragments, and in some instances, broken fake pine tree limbs. Mr. Richards and his colleagues collected some of these materials from the four debris fields and documented the same. Mr. Richards will present a sample of these materials to you at the hearing on June 10, 2025 for your examination.

During Bonny Doon Residents for Responsible Cell Coverage's earlier efforts to fight this monopine tower below, the group appealed the Zoning Administrator's approval of CTI's application for the monopine tower with conditions, raising the pollution issue in the Appeal. The Planning Commission directed County Staff on March 27, 2024 to prepare an Initial Study of the environmental impact of the project. As part of the Initial Study preparation, the applicant submitted a material safety data sheet for the PVC plastic proposed for the monopine's bark and needles, along with a plastic analysis from a similar monopine facility near Lake Tahoe that purportedly utilized the same PVC needles. The plastics "study" evaluated the likelihood that PVC needles would raise plastic pollution concerns, including whether the PVC could degrade from macroplastics to microplastics over time and possibly discharge and impact water quality, fish, and wildlife. The "study" determined PVC needles do not result in the release of hazardous materials.

As directed by the Planning Commission, the Initial Study was completed for the proposed Summit Drive project application pursuant to the California Environmental Quality Act (CEQA). The project was reviewed by the County's Environmental Coordinator on October 4, 2024. Potential environmental impacts were evaluated, including, but not limited to, aesthetics, noise, cultural resources, biological resources, hazardous materials, air quality, etc. The project was determined not to result in significant environmental impacts with the exception of a potential impact to nesting birds protected by the Federal Migratory Bird Treaty Act.

In response to Commissioner Barton's interest in examining the potential for microplastics and based on the information available about the type of plastic used in the proposed monopine needles, as outlined in the Plastics Study, the project was anticipated to result in a limited release of WCF needles into the environment. This limited release was not considered a source of hazardous materials as the proposed PVC material used for the monopine

is not currently listed as a hazardous material. Furthermore, the proposed project was not anticipated to result in a significant source of microplastics since County Staff concluded that the proposed PVC material does not readily break down and is inert in solid form. Thus, County Staff determined that the proposed project is not anticipated to result in significant impacts to the public or the environment.

County Staff's abdication of their duty to conduct a fair-minded, independent, competent investigation of the microplastics issue shocks my conscience. County Staff seem to have relied entirely on a study of a similar proposed monopine facility near Lake Tahoe that purportedly used the same PVC needles, which study purportedly determined that the PVC needles do not release hazardous materials. County Staff should have actually done some homework. Staff would have discovered that the ersatz "study" is simply a consultant's report prepared for Verizon Wireless in connection with the appeal of a permit issued by a hearing officer appointed by the Tahoe Regional Planning Agency ("TRPA") for the construction and operation of a 120-foot tall monopine cell tower on Ski Run Boulevard near the base of Heavenly Valley Ski Area in South Lake Tahoe. I happen to be co-lead counsel for the opponents of that monopine cell tower, and I brought that appeal, as well as the federal lawsuit, *Eisenstecken, et al. v. Tahoe Regional Planning Agency, et al.*, No. 2:20-cv-02349-DJC-CKD (E.D. Cal.), filed in November 2020 regarding that monopine cell tower which continues to this day, nearly five years later. Verizon Wireless submitted its "study" in an effort to challenge our submission in that case to the Board of Governors of the TRPA for the hearing on the appeal that, as here, other monopine cell towers in the immediate neighborhood of the proposed Ski Run Boulevard monopine tower, shed prodigious amounts of PVC debris, including PVC pine needles and fragments, broken PVC limbs, and broken PVC branches, over wide debris fields around the bases of the towers.

Verizon's Ski Run monopine "study" was not an independent peer-reviewed scientific study for publication in a scientific journal. Rather, it was a one-sided, litigation document prepared to sway the TRPA's Board of Governors. I submitted a pointed rejoinder to that monopine study, which County Staff never references, and I'm sure, never bothered to suss out of the public record or obtain from CTI.

Before going on to that rejoinder, please be aware that the TRPA Board of Governors denied our appeal with an oral vote alone, and failed to issue any opinion, despite the multifaceted issues raised on the appeal before it. So no one knows the basis for the denial, not even the Governors themselves.

I incorporate herein the entirety of my arguments to the TRPA Board of Governors concerning the disastrous environmental impacts caused by monopine cell tower installations in California. These arguments are essential for the BOS to read and consider since County Staff relied entirely on the study Verizon Wireless paid for and commissioned for use in this very hearing before the TRPA Board of Governors. Once you read our side of the story, you will realize that once again, County Staff has been duped by CTI and AT&T. Please click on the video links embedded in the document. You will see how the outrageous PVC shedding results in the creation of a widespread debris field at the base of an AT&T monopine tower in South Lake Tahoe.

A monopine cell tower at 186 Summit Drive would be an environmental time bomb and an ecological outrage. Very significantly, despite having messed up and approved the monopine at Ski Run Boulevard, TRPA has apparently learned its lesson from its fights with me and my clients. At an April 2025 public meeting of a TRPA Committee addressing microplastic pollution in Lake Tahoe, TRPA's new Executive Director, Julie Regan, stated that TRPA is no longer approving the use of monopine cell towers in the Lake Tahoe Basin as one of the ways TRPA seeks to reduce microplastic pollution.

Please incorporate the following into the record of the BOS proceedings on this appeal:

**Verizon's Monopine is a Microplastic "Time Bomb" Which will
Disperse Tons of Toxic Microplastic Wastes into Stormwater Catchments
and Waterways and then into Nearby Lake Tahoe**

Verizon describes its proposed cell tower at 1360 Ski Run Boulevard as "a 112-foot tower camouflaged as a pine tree. The antennas will be concealed within faux foliage and branches, and branches above and beyond the antennas, providing a realistic tapered crown. Antennas will be covered with pine needle socks for further concealment." *See* Verizon's March 4 Letter at 1-2. "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." *Id.* at 2.

In its latest submission, a March 14, 2022 letter from Verizon to the Governing Board ("Verizon's March 14 Letter), Verizon submits a "Photosimulation Package" which Verizon absurdly contends confirms 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."

Of course, any reasonable person looking at Proposed Photos 2, 3, 4, 5, and 7 of the Photosimulation Package -- the photosimulation of the monopine *in situs* -- will immediately recognize that this is a *fake pine tree*, with an unnaturally shaped, massively-rounded crown, rather than the normal pointed pyramid-shaped top of a real, natural pine tree. With respect to microplastic pollution, these Proposed Photos demonstrate the massive quantities of faux PVC branches and PVC pine needles that will adorn Verizon's metallurgical monstrosity. Proposed Photo 2 shows scores of faux PVC branches, each laden with thousands of faux PVC pine needles, just waiting to break off of the monopine in the next major windstorm or snowstorm, and thereafter, fly down into a widely-dispersed debris field below the tower.

In our Statement of Appeal, at pages 10-20, we explain at considerable length that Verizon's proposed monopine presents a toxic microplastic time bomb that will quickly detonate and discharge prodigious quantities of microplastic PVC detritus over a wide dispersal zone surrounding the tower site at 1360 Ski Run Boulevard. The microplastic PVC debris will inevitably find its way into the adjacent Bijou Park Creek drainage basin and into the Ski Run Boulevard stormwater collection system, before discharging into nearby Lake Tahoe as microplastic PVC pollution.

If “a picture is worth a thousand words,” then the short video we attached to our Statement of Appeal at page 16, footnote 10 is worth millions. *See* [link](#). This four minute, 38 second-long video was filmed by long-time South Lake Tahoe resident Robert Aaron on November 4, 2021 at the site of a New Cingular Wireless (AT&T) monopine cell tower located at 1857 Hekpa Drive next to Pioneer Drive at Washoan Boulevard. AT&T’s 30.8 meter-tall monopine is extremely similar to Verizon’s proposed monopine at 1360 Ski Run Boulevard. AT&T’s monopine cell tower was built in or about 2002, and AT&T apparently replaced the existing equipment with new equipment in or about 2018. *See* TRPA Record QEXE 2018-0155. For some reason, TRPA does not allow the public access to the records or application for this AT&T cell tower, and does not provide any explanation for why these records are being withheld from the public. *See* <https://aaweb.trpa.org/CitizenAccess/Cap/CapDetail.aspx?Module=Building&TabName=Building&agencyCode=TRPA&capID1=18HIS&capID2=00000&capID3=00656>. Specifically, TRPA has blocked from public viewing the site plans for the 2018 replacement project, but the 2002 site plans remain available for public access. *See* <https://parcels.laketahoeinfo.org/AccelaCAPRecord/Detail/20021335STD>. The 2002 site plans show that AT&T intended to construct a 95 foot-tall monopine cell tower, with the branches beginning at the 40-foot height level above ground. The site plans state: “BRANCH DISPERSION: HEAVY COUNT.” They further state: “EXACT TREE AND BRANCH DESIGN BY MONOPOLE SUPPLIER.” We assume that AT&T replaced the original 2002 era monopine concealment faux branches and pine needles with new faux branches and pine needles at least one or more times since construction, and did so again when AT&T replaced its equipment after receiving TRPA’s permit in 2018.

On November 4, 2021, Mr. Aaron, appellant Monica Eisenstecken, and her friend, Laura, went to the area surrounding the base of AT&T’s monopine at 1857 Hekpa Drive, and found an enormous debris field comprised of many pounds of fallen PVC plastic faux pine branches, many with faux PVC pine needles attached. Clumps of faux PVC pine needles were strewn widely around the debris field, with vast numbers of individual whole and partial PVC pine needles scattered about, often interspersed with whatever natural vegetation is in the area. The investigators demonstrate in the video the extreme brittleness of the PVC pine needles. Mr. Aaron shows how easily the PVC pine needles snap into tiny pieces.

The 1857 Hekpa Drive site is a relatively protected site located at the base of the mountains not far from Lake Tahoe, and it is less exposed than the 10-foot taller proposed 112-foot tall Verizon monopine proposed at a slightly higher altitude on the flank of Heavenly Valley Ski Resort a few blocks from the base of the tram station (California Lodge base area). Yet AT&T’s monopine faux PVC pine branches and needles experienced severe damage and degradation from the elements – primarily constant exposure to the winds, extreme UV exposure, tremendous temperature variations, and heavy snow and ice burdens. The huge amount of PVC detritus that Mr. Aaron and his team found at the 1857 Hekpa Drive site likely represents just a small percentage of the PVC pine needles and branches that have broken off the tower since 2018. In particular, the massive quantities of falling PVC pine needles are carried by the wind substantial distances, and these brittle, delicate PVC needles rapidly break down into tiny PVC particles, which degrade further into PVC microplastics.

Looking at a topographical map, scattered PVC pine needles and particles from AT&T's 1857 Hekpa Drive monopine will eventually run off into either the Saxon Creek drainage basin on one side or else onto Pioneer Drive and into its stormwater system on the other. (The 2002 site plan includes a topographical map showing that the site drops steeply into the Saxon Creek drainage basin on the side away from Pioneer Drive.) In both instances, these PVC pine needle microplastics will wind up in Lake Tahoe, adding to the toxic microplastic problem.

Our November 4, 2021 video incontrovertibly shows that monopines such as the one Verizon proposes at 1360 Ski Run Boulevard pose a very serious environmental hazard and are a source of very substantial illegal solid waste pollution. Our November 4, 2021 video was filmed after one of our supporters, acting on a hunch, had taken a hike up the mountain at Heavenly Valley to a ridgeline where a cell tower is located. In the area surrounding the base of that cell tower, he found broken faux PVC pine branches and PVC pine needles scattered in a vast debris field, with the PVC pine needles strewn far and wide as they had been dispersed by the extreme winds at that exposed high-altitude site. He filled two large lawn-size garbage bags with the PVC debris, and brought it to our Zoom session, leaving us shell-shocked, and leading us to commission Mr. Aaron to film the November 4, 2021 video.

In an effort to gain some understanding of the quantity of PVC plastics that will be used to adorn Verizon's proposed 112-foot-tall monopine, on March 8, 2022, Attorney Robert Berg contacted Valmont Structures, one of the leading manufacturers of monopines and other camouflaged wireless communications towers in the U.S. In fact, Valmont claims that its Larson group created the first monopine in 1992. Mr. Berg spoke with Marcello Posada, a regional sales representative for Structures and Small Cell/5G Sales. Mr. Posada explained that monopines are custom-designed for each customer's particular site. A monopine is simply a camouflaged version of a monopole cell tower. Because the camouflaging materials cannot interfere with the RF signals, they cannot be made out of metal. The monopine faux pine branches must be "invisible" to the RF signals. Thus, Valmont and most other monopine manufacturers construct the faux pine branches out of PVC tubing. Use of PVC results in extremely low insertion and return loss which is required for today's wireless technology to work properly. The PVC pine branches are coated or wrapped with epoxy resin to harden. Sometimes, the faux pine branches are molded or cast with solid epoxy resin.

The faux pine needles are typically made from recycled PVC. They are very similar to the faux PVC pine needles consumers receive when they purchase an artificial Christmas tree. The faux pine needles are cut from strips of PVC plastic, and then they are shredded to resemble pine needles which are held together by a center spine. A machine cuts through the artificial pine needle strands to achieve the desired length.

Short videos demonstrating parts of the manufacturing process of the faux PVC monopine branches and pine needles can be found on the website of another monopine and cell tower manufacturer, Ehresmann Engineering. *See* <https://ehresmannengineering.com/towers-and-poles/monopines/>.

Mr. Posada, the Valmont Regional Sales Manager, explained that the Larson brand monopine branches are available in four different lengths: 4 foot; 6 foot; 10 foot; and 12 foot. A

four-foot branch laden with pine needles weighs about 20 to 25 pounds. Valmont's Larson monopine brochure can be found at https://www.valmontstructures.com/docs/librariesprovider97/default-document-library/valmont-larson-pine-tree-solutions.pdf?sfvrsn=61b6db39_2. This brochure shows examples of the available PVC pine needle sprigs which are glued with epoxy resin to the epoxy-coated PVC faux pine branches.

Antennas can also be covered with camouflage faux pine “socks,” which Valmont offers in both standard and high-density models in standard lengths of four, six, and eight feet and widths of 36 or 48 inches. Custom sizes are available. The socks are made of PVC mesh, and dense tufts of faux pine needles are zip tied to the mesh. *See* https://www.sitepro1.com/store/cart.php?m=product_detail&p=5934.

We don't know for certain the amount of PVC faux pine branches and PVC pine needles Verizon intends to place on its proposed monopine. Remarkably, neither does TRPA, and TRPA staff have absolutely no interest in finding out. Verizon itself must know the answer, but it hasn't told anyone. That's because the poundage of PVC material used to “camouflage” the 112-foot-tall cell tower is enormous. Notably, none of the documents Verizon has provided to TRPA in connection with its application for the proposed monopine at 1360 Ski Run Boulevard provides any discussion, description, specifications, or poundage of the “camouflage” materials to be used to make the cell tower appear to be a faux pine tree. Having built thousands of monopines across the country over the past 20 years, Verizon certainly has the details, and it should have included this critical information in its application. Yet the site plan Verizon has filed with TRPA is entirely silent. The site plan simply describes the project as a new Verizon Wireless 112' 0" high monopine with the bottom monopine branches beginning at an elevation above ground of 30' 0" and the top of the monopine branches at an elevation above ground of 112' 0". *See* <https://parcels.laketahoeinfo.org/Parcel/Detail/025-580-007>.

In an effort to find out the approximate weight of PVC material Verizon's proposed monopine may be cloaked with, Ben Levi, a member of our professional team, contacted Allfasteners USA LLC, a leading supplier of fasteners to the construction industry, and a manufacturer of monopine cell towers. Mr. Levi asked the company for the approximate weight of the PVC material used in a 112-foot tall monopine. Zaul Amezcua, Jr., an Account Manager for the company, based in Santa Fe Springs, California, responded on March 10, 2022, stating: “Without drawings or a list of what length and type of branches are needed, we won't be able to give you an accurate weight for these. However, I would guess it would be about 5,000 lbs for a 110' tower.” Based on the Allfasteners webpage, its monopine towers appear to contain a rather sparse amount of PVC faux branches. *See* <https://info.allfasteners.com/monopine-concealment?hsLang=en>. Extrapolating from this datapoint, we believe that Verizon's 112-foot- tall proposed monopine, with a denser canopy, likely will contain well in excess of 5,000 pounds of faux PVC branches and pine needles, all subject to the same or greater degradation and dispersion as AT&T's 1857 Hekpa Drive monopine has exhibited.

The glued on or zip tied PVC faux pine needle sprigs and PVC faux pine branches are no match for the hostile, high-wind, heavy snow environment of the Lake Tahoe basin, and it's no

surprise that these monopine towers shed prodigious quantities of broken PVC faux pine branches and even more colossal quantities of PVC pine needle sprigs across extensive debris fields below, as Appellants' November 4, 2021 video dramatically demonstrates. Our four and one-half minute video should shock the conscience of TRPA staff and Governors. This massive, wanton dumping of faux PVC pine needles and PVC branches captured in Mr. Aaron's video is repeated at every one of the multitude of monopines TRPA has permitted throughout the Lake Tahoe Basin in recent years – without ever considering the horrific environmental impact of such uncontrolled and, indeed, illegal solid waste discharge and pollution into the protected waters.

The PVC Microplastics That Will be Illegally Discharged and Dumped from Verizon's Proposed Monopine at 1360 Ski Run Boulevard are Highly Toxic and Present a Grave Danger to Lake Tahoe's Environment

Microplastic pollution has been recognized as a tremendous problem in the State of California. On February 23, 2022, California became the first State in the nation to adopt a comprehensive, multiyear strategy to reduce microplastics in the environment. On that date, the California Ocean Protection Council approved the “Statewide Microplastics Strategy,” *see* https://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20220223/Item_6_Exhibit_A_Statewide_Microplastics_Strategy.pdf, which sets forth a roadmap for California to take a national and global leadership role in managing microplastics pollution. “Foundational to this Strategy is a recognition that the state must take decisive, precautionary action to reduce microplastics pollution, while scientific knowledge and understanding of microplastics sources, impacts, and successful reduction measures continue to grow.” *Id.* at 1.

The Report states:

In California, microplastics have been observed in Monterey Bay, San Francisco Bay, the Greater Farallones National Marine Sanctuary, Lake Tahoe, and in Southern California waterways, including preproduction plastic pellets (‘nurdles’) that spill from manufacturing facilities and reach California’s beaches. Microplastics are not only a marine pollution problem. Microplastics have been found nearly everywhere scientists have looked, from pristine mountain streams to agricultural soil, and within human placenta, stool samples, and lung tissue. Microplastics can enter the food web, where plastic particles can transfer into tissue, and expose humans to plastic-associated and endocrine disrupting chemicals from seafood consumption. (Citations omitted).

Id. at 4.

Microplastics pollution in the Lake Tahoe Basin is now recognized as a very serious issue which has triggered both the University of California, Davis, Environmental Research Center (“TERC”) and the University of Nevada System’s Desert Research Institute (“DRI”) to institute coordinated and complementary research programs to understand the complete picture of the threat that microplastics pose. While DRI is studying the inputs, or where microplastics are coming from, and downstream microplastic contamination of water resources, TERC is researching what happens to microplastics after they end up in the Lake. *See* <https://storymaps.arcgis.com/stories/0a2ceba61c47470e8e18566268f9bfcf>.

Microplastic pollution and its environmental effects have been studied more intensively in the marine environment, though prolific research has been conducted in freshwater regimes as well. The *Statewide Microplastics Strategy* reports that “[m]icroplastics have a range of polymer types, sizes, shapes, and associated chemicals, with irregular shapes and fibers found increasingly in marine organisms, including mammals, fish, mollusks, and crustacea. In toxicity studies, microplastic exposures have been shown to cause adverse effects, including tissue inflammation, impaired growth, developmental anomalies, and reproductive difficulties.” *Id.* at 4 (citations omitted).

The research on the prevalence, types, and toxicity of microplastics in the Lake Tahoe Basin and the Lake itself is ongoing. However, the peer-reviewed scientific literature based upon studies of other freshwater bodies and marine environments is already extraordinarily robust, and clearly demonstrates that microplastics generally, and PVC microplastics in particular, are toxic pollutants and pose great threats to the ecosystems where they are found. A few recent studies, just scratching the surface of the large body of peer-reviewed research on the toxic environmental effects of *PVC microplastics* pollution, are described below.

Jingyi Li, et al., “Microplastics in freshwater systems: a review on occurrences, environmental effects, and methods for microplastics detection,” 137 *Water Research* 362 (June 15, 2018), <https://doi.org/10.1016/j.watres.2017.12.056>, present a comprehensive overview of the omnipresent and abundant microplastic pollution of freshwater systems and its toxic environmental effects.

Bin Xia, et al., “Secondary PVC microplastics are more toxic than primary PVC microplastics (PMP) to *Oryzias melastigma* embryos,” 424 *Journal of Hazardous Materials* 127421 (2022), <https://www.sciencedirect.com/science/article/abs/pii/S030438942102389X>, found that irregularly-shaped partially degraded secondary microplastics (SMP) made from PVC, which originate from the fragmentation of larger plastic items through mechanical abrasion, photooxidation, and biological action, cause greater toxicity to fish embryos than PMP. The authors used PVC as the test material because it is one of the most widely used plastics and it is more easily fragmented than other thermoplastics. See Andrady, A.I., “Microplastics in the marine environment,” 62 *Marine Pollution Bulletin* 1596, 1605 (2011). Bin Xia, et al. determined that exposure of marine medaka embryos to both PMP and SMP made of PVC caused a range of negative effects, including changes in heart rate, morphological abnormalities, and malformation types. Crucially, the fragmented, degraded SMP showed greater negative effects compared to those from PMP.

Qiongje Wang, et al., “The toxicity of virgin and UV-aged PVC microplastics on the growth of freshwater algae *Chlamydomonas reinhardtii*,” 749 *Science of the Total Environment* 141603 (December 20, 2020), <https://www.sciencedirect.com/science/article/abs/pii/S0048969720351329>, found that both virgin and aged PVC MPs have negative effects on the growth of *C. reinhardtii* freshwater algae, which leads to the reduction of chlorophyll-a level in the cells. Furthermore, aged-PVC MPs were more toxic than virgin-PVC MPs. The carbonyl groups formed on the surface and the

increased zeta potential of the aged-PVC MPs affected the interaction between the microplastics and the algae, which increased the toxicity of aged microplastics.

Jung Meng, et al., in “Effects of chemical and natural ageing on the release of potentially toxic metal additives in commercial PVC microplastics,” 283 *Chemosphere* 131274 (November 2021), <https://www.sciencedirect.com/science/article/abs/pii/S004565352101746X>, explain that various chemical substances, such as potentially toxic trace metals, are used as plastic additives to improve the performance of polymers and extend the service life of plastic products. However, these added trace metals are likely released from plastic into the environment when the plastic becomes a pollutant. They studied chemical aging of commercial polyvinyl chloride (PVC) microplastics using hydrogen peroxide (H₂O₂) and natural aging of PVC that had been added to an alkaline paddy soil and evaluated the release of trace metals from PVC. They found enhanced release of trace metals from PVC. The authors concluded that chemical and natural aging of PVC microplastics have the potential to lead to the release of copper, manganese, nickel, lead, and zinc from the commercial PVC into aquatic and terrestrial environments.

J. Boháčková, T. Cajthaml, in “Effect of PET and PVC microplastics on rainbow trout cell lines RTgill-W1, RTG-2 and RTL-W1,” 350 *Toxicology Letters Supplement*, September 2021, <https://www.sciencedirect.com/science/article/pii/S037842742100669X>, found that PVC microplastic exposure induced significant increases in Reactive Oxygen Species (ROS) generation in three lines of rainbow trout cells. ROS can cause irreversible damage to DNA as it oxidizes and modifies some cellular components and prevents them from performing their original functions.

Subharthe Samandra, et al., in “Microplastic contamination of an unconfined groundwater aquifer in Victoria, Australia,” 802 *Science of the Total Environment* 149727 (January 1, 2022), <https://www.sciencedirect.com/science/article/abs/pii/S0048969721048026>, analyzed eight of the most commonly found microplastics, including PVC, in triplicate groundwater samples from five sampling sites across seven capped groundwater monitoring bores in an aquifer in Victoria, Australia. Microplastics were detected in all seven monitoring bores. Polystyrene and PVC accounted for 59% of the total sum of all microplastics detected in the groundwater samples. The authors concluded that the most probable avenue for the microplastics to enter into the groundwater system was through soil permeation.

Alessandro Balestrier, et al., in “Differential effects of microplastic exposure on anuran tadpoles: a still underrated threat to amphibian conservation,” 303 *Environmental Pollution* 119137 (June 15, 2022) (available online), <https://doi.org/10.1016/j.envpol.2022.119137>, built upon the body of research reporting that microplastics threaten a wide variety of terrestrial, marine, and freshwater organisms. They investigated the effects of microplastics on anuran amphibians (frogs and toads), one of the most threatened taxa worldwide. To assess the effects of MPs on the growth and survival of the Italian agile frog (*Rana latastei*) and green toad (*Bufotes balearicus*), they exposed tadpoles to three different concentrations (1, 7, and 50 mg L⁻¹) of an environmentally relevant mixture of microplastics (HPDE, PVC, PS and PES), recording data on their activity level, weight and mortality rates. While the effects of MPs on green toad tadpoles were negligible, Italian agile frog tadpoles were severely affected both in terms of growth and activity level, with high mortality rates even at the lowest MP density (1 mg L⁻¹). Their results

suggest that MP contamination of freshwater habitats may contribute to the ongoing decline of anuran amphibians.

Zhihao Yuan, et al., in “Ranking of potential hazards from microplastics polymers in the marine environment,” 429 *Journal of Hazardous Materials* 128399 (May 5, 2022) (available online), <https://www.sciencedirect.com/science/article/pii/S030438942200187X?via%3Dihub>, developed a semi-quantitative risk assessment model to rank microplastics (MPs) polymers in terms of their potential human health concerns emerging from marine exposure pathways. MP polymers of various kinds have different toxicity potentials when decomposed into monomers. Also, the toxicity of MPs is influenced by the particle size distribution of MPs. The screening strategy prioritized PUR, PVC, PAN, ABS, PMMA, SAN, TPU, UP, PET, PS, and HDPE as the top-ranking polymers of concern (in descending order). PVC microplastics thus were ranked as the second highest MP category of concern to human health because of their toxicity, their longevity (forever), and their non-biodegradability.

The prospect of several thousand pounds of degraded PVC pine needle and PVC pine branch fragments separating from Verizon’s proposed monopine at 1360 Ski Run Boulevard due to exposure to the extreme environmental conditions – and then being dispersed by the winds, snows, rains, and gravity across a wide debris field, before permeating the soil or flowing into the surrounding stormwater systems or drainage basins and thereafter into nearby Lake Tahoe should horrify this Board into action, and this Board should grant the appeal to protect the Lake Tahoe Basin from this illegal PVC pollution discharge.

TRPA’s Proposed Condition 11 Cannot Solve Verizon’s PVC Pollution Problem and the Report of Verizon’s Consultant, Integral Consulting, Inc., “Evaluation of Monopine Needles, Verizon Wireless Monopine, 1360 Ski Run Boulevard, Lacks any Scientific Support, Evidentiary Support, is Utterly Speculative and Palpably Baseless, and Should not be Admitted into Evidence

In its March 4th Letter at 5, Verizon argues: “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.’” Verizon’s and its consultants’ abject lies about the purported durability of its PVC faux pine needle and branch components and the purported unlikeliness of the materials breaking down into PVC microplastics and subsequently posing a toxic threat to Lake Tahoe are nearly as preposterous as Comrade Putin’s grotesque pronouncements that Russia’s “special operations” in Ukraine are needed to “de-Nazify” the country.

Fundamentally, *the unsolvable problem* for Verizon and TRPA here is that given the extreme environmental conditions present in the Lake Tahoe Basin – strong winds, heavy snow and ice, and extreme UV exposure, faux PVC pine branches and especially, the faux PVC pine needles glued onto to those PVC pine branches, will break off from the monopine cell tower and will be dispersed in an uncontrolled manner over a wide debris field. The PVC pine needles in particular become brittle, and fragment into tiny PVC pieces which are even more easily

transported by wind and run-off into the surrounding drainage basins and stormwater basins. These PVC fragments will eventually wind up as microplastic pollution in the Lake itself.

The Lake Tahoe Basin is governed by some of the strictest water quality and solid waste control laws in the country. Simply put, any and all of the PVC material that breaks off from Verizon's monopine and falls within the Basin constitutes *illegal dumping*. No means exists to prevent such illegal dumping. And Condition 11 to Verizon's TRPA permit, which TRPA and Verizon have worked out as a "solution" to this illegal dumping, cannot possibly be effective given the magnitude of the problem as evidenced by the November 4, 2022 video we have submitted. TRPA proposed its Condition 11 "solution" only after Appellants raised the newly-discovered issue in their December 1, 2021 Statement of Appeal. In Appellants' Statement of Appeal, at 10-20, we explain in great detail the various federal, State, and TRPA laws that will be violated once Verizon's monopine at 1360 Ski Run Boulevard begins its inevitable "defoliation" of its faux PVC pine needles and pine branches. Unsurprisingly, neither Verizon nor its consultant, nor TRPA Staff bother to mention these blatant statutory violations in their responses to our Statement of Appeal. Condition 11 does nothing to prevent these violations from occurring in the first instance. Indeed, Condition 11 expressly recognizes that shedding of PVC material from the monopine *will take place*. The shedding of the PVC material is illegal, however, as noted above, and TRPA is obligated to prevent such illegal dumping, not to authorize it which Condition 11 does.

Condition 11, then, is simply a remediation measure to require Verizon to clean up the illegal pollution that TRPA otherwise will permit. Even if TRPA were legally able to authorize Verizon to illegally dump the PVC materials from its monopine, provided that Verizon agrees to clean it up later – which TRPA cannot legally do – TRPA's remediation plan is doomed to failure. As we explain below – and as is evident in our November 4, 2021 video – the PVC detritus which breaks off from the monopine disperses across a broad debris field, and tiny fragmentary pieces are carried considerable distances by strong winds and run-off. Moreover, many of the tiny, brittle PVC fragments become interspersed with the natural ground covering and cannot be recovered unless some giant vacuum is used (undoubtedly violating TRPA noise and air pollution ordinances). The idea that effective remediation can be accomplished through a twice per year clean up – once in the spring after the snow melts and once in the fall before the snows come – is truly laughable. First, whatever the wind carries away from the tower is never going to be recoverable. The tiny fragmentary parts are never recoverable practically speaking. And much of the transport of the PVC detritus will occur during storm runoff or during the snow melt off. Thus, a substantial amount of the PVC detritus will no longer be around or recoverable when the spring and fall clean up days are held.

The Integral Consulting, Inc. report, dated March 3, 2022 ("the Integral Report"), is remarkable for its utter lack of actual data concerning the materials and the quantities to be used to shield the proposed Verizon monopine at 1360 Ski Run Boulevard. The authors, Bridgette R. DeShields and Sean L. Culkin, are paid litigation consultants, not academic scientists, and neither holds a Ph.D. degree. They don't bother to obtain the precise specifications for the monopine camouflage products, noting cursorily: "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.” Integral Report at 1-2.

This “information” is so vague as to be completely useless. Who is the manufacturer? What information did the manufacturer provide to the consultants? What is the PVC actually composed of? PVC manufacturers add plasticizers to make the PVC more flexible and other additives which are often toxic (e.g., phthalates which can damage the liver, kidneys, lungs, and reproductive system). PVC also contains dioxin, a known carcinogen. As the PVC breaks down, these toxins can leach into the soil and water. How many faux PVC pine branches will be placed on the monopine and what lengths will they be? How will the faux PVC pine needles be affixed to the faux pine branches? What will the total volume of PVC faux pine needles and branches be? What will the total weight in pounds of the PVC faux pine needles and branches be? From our own independent industry investigation, as set forth above, we expect that over 5,000 pounds of PVC faux pine needles and branches will be affixed to Verizon’s proposed monopine.

Contrast Ms. DeShields’ and Mr. Culkins’ benign assertion that “[the PVC spine and needles] are designed to be relatively durable in the environment, although the materials can ‘shed’ from the structure over time,” *id.* with the reality of what our 4 ½ minute video shot by Mr. Aaron at the base of AT&T’s comparable monopine at 1857 Hekpa Drive so dramatically shows – a large debris field filled with broken sprigs of faux PVC pine needles and faux pine branches, and splintered fragments of faux PVC pine needles scattered everywhere and sticking into the soil. See [link](https://drive.google.com/file/d/15111GU0ncs4iWCXCSiZw_iV3BWLzVbch/view?usp=sharing) (https://drive.google.com/file/d/15111GU0ncs4iWCXCSiZw_iV3BWLzVbch/view?usp=sharing)

Verizon’s paid consultants prepared their March 3, 2022 report three months after our video was filed in Appellants’ Statement of Appeal with TRPA. These paid consultants plainly had access to this video, and yet, they have the audacity to state in their report, “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.” Integral Report at 1. Your eyes won’t deceive you. Watch the video link again. See [link](#). But Verizon’s consultants have no compunction about lying to you – assuring you, without providing any data or evidence, that these monopine needles won’t significantly break down into microplastics and then pollute the waterways in the Lake Tahoe Basin.

Verizon’s paid consultants cite to a few studies on microplastic weathering and then boldly proclaim that “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.” *Id.* at 2. This conclusion is preposterous, and is belied by our video. Our video clearly shows that the faux PVC monopine needles are anything but “relatively large, rigid plastics;” rather, they are small and flexible before they become brittle in the elements. Moreover, the monopines in the Lake Tahoe Basin are exposed to extreme weather conditions – bitterly cold temperatures in the winter; heat in the summer; extreme winds; heavy snow, ice, and rain; and prolific UV exposure. It’s really no

surprise that in these tough environmental conditions, the faux PVC pine branches and pine needles break off the monopine wily-nily, and the PVC pine needles in particular are blown to kingdom come. The proposed site at 1360 Ski Run Boulevard, on the flank of the Heavenly Valley Ski Resort, is anything but a “relatively static, upland environment.”

Verizon’s paid consultants acknowledge that studies of microplastics in Lake Tahoe are in progress and detailed study reports have yet to be published. Yet these consultants draw wholly improper conclusions based on a dearth of information, and thereby attempt to minimize the illegal severe pollution that the PVC pine needle and branch shedding is presently causing in the Basin. For example, the consultants state that PVC is not a major contributor of the plastics found in the lake. *Id.* That conclusion is based on the report of a 2020 “clean up the lake” litter drive in which some scuba diver volunteers jumped in the lake and pulled out litter. Verizon’s consultants’ analysis of the “Clean up the Lake” report completely misrepresents the nature of the clean-up project, and their conclusion that PVC is not a major contributor of the plastics found in the lake is an absurd extrapolation from extremely limited data. *See* <https://cleanupthelake.org/wp-content/uploads/2021/04/CUTL-2020-REPORT-Version-1-2.pdf>. The source of the litter found by the divers was primarily from boaters and other beachfront activity, and the litter removed was large objects visible to the divers. Most of the removed litter consisted of metal objects, especially aluminum cans, a few anchors, and fishing lures and sinkers. A large PVC pipe was, in fact, located by divers, but was not removed – the location of the PVC debris was simply marked. Most importantly, this report has nothing at all to do with microplastics within Lake Tahoe.

Verizon’s paid consultants then turn to a study of microplastics in San Francisco Bay, and disingenuously assert that this “relevant study” is “representative of other large water bodies.” They state that “[s]imilar to Lake Tahoe, several tributaries and storm drain systems empty into San Francisco Bay,” but maintain that “San Francisco Bay is more developed and urban than Lake Tahoe, so it is likely that it receives a higher volume of plastic pollution.” The consultants state, without any support, “[h]owever, 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.” Integral Report at 4.

These ersatz “scientists” draw sweeping parallels between the Lake Tahoe Basin and the San Francisco Bay region that are patently ridiculous. First, what’s the geographical definition of the San Francisco Bay region? It depends on who defines it. It encompasses at least three major U.S. cities, San Francisco, Oakland, and San Jose, as well as Silicon Valley. These urban centers and environs have major industrial operations, manufacturing and distribution facilities, utility plants, and airport, rail, highway, and seaport facilities. The San Francisco Bay region is generally thought to have a population of about 7 million. The actual bay itself is between 400 and 1,600 square miles, depending upon which sub-bays, estuaries, and wetlands are included. San Francisco Bay is the largest estuary on the U.S. West Coast, and its waters range from brackish to salt. Significantly, San Francisco Bay drains approximately 40% of the freshwater in California, much of it coming from the Sacramento and San Joaquin Rivers and the Sierra Mountains, passing through rich agricultural lands. Moreover, San Francisco Bay passes under

the Golden Gate Bridge into the Pacific Ocean. The tidal movements are large – about six feet -- and currents are strong, especially under the Golden Gate Bridge where they can exceed six knots.

Lake Tahoe, with a surface area of 191 square miles, runs about 22 miles in length and 12 miles in width. It is the second deepest lake in the United States, bottoming out at 1645 feet. Lake Tahoe is a freshwater lake, and sits in a 505 square mile watershed, fed by 63 tributaries. Lake Tahoe has only one outlet, the Truckee River. The Lake Tahoe Basin has a year-round population of about 40,000, with peak days of about 300,000. South Lake Tahoe City is the largest municipality, with about 21,000 residents. Development in the Lake Tahoe Basin is supposed to be strictly controlled, and most of the development services the recreational and vacation industries, with many second home properties, ski resorts, boating and recreational facilities, and businesses serving these interests.

The Lake Tahoe Basin and the San Francisco Bay region thus could hardly be more different. Yet Verizon's paid consultants argue nonsensically in their report that "the types of plastic pollution are likely similar." *Id.* These consultants also state that Verizon says that the Bay Area has approximately seven times more monopine cell towers than the Tahoe Basin. *Id.* Ironically, that number just demonstrates how insanely over-densified the Lake Tahoe Basin is with monopine cell towers, thanks to TRPA's ultra-lax permitting standards and cozy relationship with Verizon. (Again, the Bay area has a population of 7 million year-round compared to 40,000 year-round residents in the Lake Tahoe Basin, but only seven times the number of monopine towers).

Given that the Bay Region is highly urbanized and industrialized, and drains 40% of California's freshwater flowing through vast agricultural drainage basins and the Lake Tahoe Basin is nearly entirely recreational and residential, Verizon's consultants' unsupported claim that the types of plastic pollution are likely similar in both the Bay Region and the Lake Tahoe Basin is absolutely ludicrous. Thus, the reported findings in the San Francisco Bay study to the effect that PVC is not listed as a predominant source of microplastics cumulatively in that vast Bay really is meaningless for the purpose of analyzing the dangers to Lake Tahoe from the virtually certain likely illegal discharge of up to 5,000 pounds of fragmented PVC faux pine needles and branches from Verizon's proposed monopine, in violation of multiple federal, State, and TRPA laws against solid waste pollution of the lands and waters in the Lake Tahoe Basin.²

Of course, the sample of peer-reviewed scientific studies we cite, do show that PVC fragments are often a predominant source of toxic microplastic pollution in bodies of water, including freshwater bodies, the soil, and groundwater.

² Notwithstanding that the study's findings are inapplicable to Verizon's PVC pollution of the Lake Tahoe Basin, the study itself provides a comprehensive overview of the serious environmental problems of plastic pollution in the waterways, and excellent citations to many peer-reviewed scientific studies demonstrating the toxic harms such plastic pollution may cause. The study, titled "Understanding Microplastic Levels, Pathways, and Transport in the San Francisco Bay Region, was authored by Rebecca Sutton, et al., and was issued by the San Francisco Estuary Institute in October 2019. SFEI-ASC Publication #950. See https://www.sfei.org/sites/default/files/biblio_files/Microplastic%20Levels%20in%20SF%20Bay%20-%20Final%20Report.pdf.

Verizon's paid consultants also posit that "[s]ignificant migration of monopine needles from the proposed tower site to Lake Tahoe via existing surface water pathways is unlikely." Integral Report at 6. As our video demonstrates, the faux PVC pine needles and branches don't just drop straight down from AT&T's 110-foot tall monopine. Rather, they are splayed out over a wide debris field across the base of the tower – and those are mostly the larger sprigs and branches containing PVC pine needles. Verizon's proposed monopine site sits on the flank of a major ski resort high up in the High Sierra mountains, a region renowned for prodigious snowstorms, high winds, extreme temperatures, and abundant UV exposure. In the real world, the PVC pine needles and branches are most likely to separate from the monopine during extreme weather events, including blizzards and windstorms. Under those conditions, the PVC pine needles in particular likely will be carried far and wide by the wind before they settle down to the ground. Likewise, PVC pine needle sprigs and fragments which have previously broken off from the monopine and may be lying in the debris field likely will be blown farther afield during subsequent storms and wind events. That's especially so as the fragments weather over time and fracture into ever smaller particles.

The site for the proposed monopine at 1360 Ski Run Boulevard is on a moderately steep slope where the landowner presently operates a snow tubing run during the winter. The property drains down into the Bijou Park Creek drainage basin, and a stream environment zone ("SEZ") is located just a few feet from the proposed tower site. Just downhill in this drainage basin the City of South Lake Tahoe is pursuing planned improvements for the Bijou Park Creek Stream Environment Zone. The Project has been proposed by the City to address frequent flooding and stormwater management challenges in the Bijou Park Creek watershed. Past development in the watershed has significantly altered drainage patterns. Bijou Park Creek receives more water and at higher flow rates than the creek can adequately convey, resulting in flooding of adjacent roads and residential properties. In addition to the peak high flow volumes, the waters entering Bijou Park Creek tend to be sediment-laden and can contribute to the decline in the clarity of Lake Tahoe. The proposed Project will address declining water quality, nuisance flooding, and degradation of the Bijou Park Creek Stream Environment Zone (SEZ) that has occurred due to the past development impacts on the watershed.

Verizon's paid consultants contend that "[s]ignificant migration of monopine needles from the proposed tower site to Lake Tahoe via existing surface water pathways is unlikely... 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...". *Id.* at 6. These consultants simply ignore the obvious pathway for PVC pine needles and fragments to enter the watershed – they are carried to the stream environment zone by the wind. The Lake Tahoe Basin is a windy area. In the summer, the famous diurnal Washoe Zephyr howls from the west each afternoon with gusts in the 30 m.p.h. range, driven by temperature-induced pressure differentials. During winter storms, high winds are frequent, gusting to 50 to 60 m.p.h. throughout the Basin, with winds in excess of 100 m.p.h. frequently occurring at the High Sierra ridge tops. Contrary to Verizon's consultants' baseless musings, strong winds blasting through the monopine faux pine's 112 foot-high canopy will easily pry away PVC pine needles and fly them hundreds of feet away from the tower before they finally fall to the earth. And once on the ground, these PVC pine needles – and their broken fragments – are transported further by later

wind gusts and extreme wind events. As the fragments become smaller, windborne transport becomes easier and further.

Verizon's consultants suggest that a new shelter to be constructed immediately adjacent to the tower, a motel, a retaining wall, and "other structures" would act as local barriers to surface water flow and any associated plastic transport. *Id.* The faux PVC pine branches and PVC pine needles, however, are to be placed at a first level height 30 feet above ground level and top out at 112 feet above ground level. The PVC pine branches and PVC pine needles will tower over these adjacent "local barriers" by many feet, and the wind transport pathway will carry the toxic PVC pine needles above and beyond these purported local barriers.

Verizon's consultants assert that the proposed tower is not in the Bijou Park Creek SEZ. *Id.* They don't tell you it will be sited just a few feet away. They claim the tower site will be approximately 330 linear feet from the uppermost section of the Bijou Park Creek drainage area. Even if true, PVC pine needles and fragments ripping away from the PVC branches suspended between 112-feet and 30-feet above ground level can easily be transported several hundred feet in strong and extreme wind conditions into the Bijou Park Creek SEZ. While the tower site may not be within areas documented to be prone to flooding or within the documented 100-year flood inundation area of the creek, PVC needles and fragments may be deposited on the ground nearby, and during heavy precipitation or snow-melt, this PVC detritus may be transported into these flood zones and then carried away swiftly into the Lake itself.

The Integral Report posits that the uppermost drainage area of Bijou Park Creek is too far – approximately 1.1 miles – from the creek's outfall into the Lake for fallen plastic monopine needles to travel. *Id.* at 7. That unsupported conclusion makes no sense. As the video we submitted shows, the PVC needles break down into tiny fragments which, once in a drainage system, are easily transported through that system, especially during high water periods such as spring run-off or following heavy rains. Finally, the consultants say that the Bijou Park Creek Watershed Restoration Project is currently under development, and once it is completed, all will be well and the project will provide additional barriers against transportation of the PVC needles from Verizon's monopine site. *Id.* Maybe the restoration project will be completed, and maybe it will provide some additional protections. Who knows? In the meantime, we do know that Verizon's monopine will illegally shed prodigious amounts of toxic PVC pine needles over a wide debris field, just as the monopine of its competitor, AT&T, is doing not far away at 1857 Hekpa Drive. The Board of Governors has a duty under the Compact to prevent this pollution from happening.

I will end this letter in order to ensure that it is included in the BOS agenda packet. This letter will be supplemented prior to the BOS hearing on June 10, 2025, and I hope you will have time to read any additional materials.

Respectfully submitted,

Robert J. Berg