11389-18A (Melchoir Wireless Telecommunications Facility) Architecture and Site Approval

Summary: Architecture and Site Approval (ASA) for a new wireless telecommunications facility located on an existing PG&E electrical transmission tower. Included in the project are antennas located at a height between 61 feet and 74 feet, on the 114-foot tall tower, and a fenced equipment area located within the footprint of the tower.

Owner: Rich Spano
Applicant: AT&T Mobility
Address: 999 Melchoir Ct. Gilroy, CA
APN: 783-17-045
Present Land Use: Single-Family Residence and PG&E transmission tower

General Plan: Agricultural: Medium Scale
Zoning: A-20ac
Project Area: 9.49 acres
Supervisiorial District: 1

RECOMMENDED ACTIONS

A. Accept a categorical exemption 15303(a) Class 3, outlined in Attachment A; and,

B. Grant the Architecture and Site Approval (ASA), subject to conditions of approval outlined in Attachment B.

ATTACHMENTS INCLUDED

Attachment A – CEQA Determination – Categorical Exemption
Attachment B – Preliminary ASA Conditions of Approval
Attachment C – Location and Vicinity Map
Attachment D – Proposed Plans
Attachment E – Photo Simulations
Attachment F – EME Exposure Report

PROJECT DESCRIPTION

The project includes the installation of an unmanned wireless telecommunications facility on an existing 114-foot tall PG&E electrical transmission tower. In addition to the tower, the site is developed with an existing single-family residence. A 19-foot by 19-foot (361 square feet) fenced equipment area is proposed to be located within the footprint of the existing transmission tower. The antenna equipment is proposed to be located on the transmission tower at a height between 61 and 74 feet. An access easement is proposed to follow the existing driveway.

REASONS FOR RECOMMENDATION

A. Environmental Review and Determination (CEQA):
This project has been reviewed in accordance with the California Environmental Quality Act (CEQA) and it has been determined that a Class 3 (CEQA Guidelines 15303 – “New Construction or Conversion of Small Structures”) exemption is applicable to the project. The project is exempt pursuant to the Class 3 exemption (“new construction”) because the it is a small modification to an existing utility facility.

Furthermore, Staff finds that the project can be exempt from CEQA because the project does not have potential for causing a significant effect on the environment [CEQA Guidelines 15061(b)(3)].

B. Architecture and Site Approval (ASA):
The Zoning Ordinance definition for Utilities and Public Facilities is distinct from the definition for Wireless Telecommunications Facilities (see §2.10.040). A wireless “collocation” requires an existing wireless telecommunications facility at the project location. Since the PG&E tower is considered a Utility, and not an existing Wireless Telecommunications Facility, the project requires ASA for a new Wireless Telecommunications Facility under current Ordinance.

The Zoning Administrator may approve an Architecture and Site Approval application if able to make all of the following findings listed in §5.40.040 of the County Zoning Ordinance. Listed below are the individual findings in bold together with a discussion relating to how the proposed project conforms to each respective finding in regular text:

1. Adequate traffic safety, on-site circulation, parking and loading areas, and insignificant effect of the development on traffic movement in the area;

This project is an unmanned facility and does not produce additional traffic. Therefore, the project conforms with this finding.

2. Appearance of proposed site development and structures, including signs, will not be detrimental to the character of the surrounding neighborhood or zoning district;

The surrounding area includes large, rural residential properties and agricultural uses.
The existing tower is 114 feet tall and can be seen from nearby residential properties and public rights-of-way. The addition of new antennas to the existing tower would not create new significant visual impacts beyond what currently exists. The overall height of the tower is not changing. The antennas are 6 feet tall, representing a height of less than 10% of the height of the tower, and are located approximately halfway up the tower (between 61 and 74 feet in height). As a condition of approval, the antennas would be “stealthed” by painting them to match the color of the existing tower. It should be noted that the Applicant has informed Staff that PG&E will not permit the antennae to be located on the interior of the existing tower, which would further reduce visibility of the antennae.

A 6-foot tall redwood fence is proposed to conceal the equipment area located at the base of the tower. The ground-mounted equipment is no taller than 6 feet in height.

There are no signs proposed.

Through the color “stealthing” of the antennas and the wooden fence concealment of the equipment area, the project’s effect on neighborhood aesthetics are less than significant, and this finding can be made.

3. Appearance and continued maintenance of proposed landscaping will not be detrimental to the character of the surrounding neighborhood or zoning district;

There is no proposed landscaping for project approval. Furthermore, given the height of new antennae on the existing tower, new landscaping would not achieve additional “stealthing.”

4. No significant, unmitigated adverse public health, safety and environmental effects of proposed development;

There will not be any significant environmental impacts, as no known biological or environmental issues were identified on site. The proposal is compliant with FCC guidelines. (See EME Exposure Report – Attachment F.)

5. No adverse effect of the development on flood control, storm drainage, and surface water drainage;

The proposed project will not have any significant impact to flood control, storm drainage, and surface water drainage as the proposal was reviewed by Land Development Engineering. Runoff from the additional impervious surface area will be adequately managed and treated as required through the conditions of approval.

6. Adequate existing and proposed fire protection improvements to serve the development;

The proposed project was reviewed by the County Fire Marshal and the site access is in conformance with the Fire Marshal’s Office standards, subject to conditions of approval.
7. No significant increase in noise levels;

The proposed project will not result in a significant increase in noise levels in the area.

8. Conformance with zoning standards, unless such standards are expressly eligible for modification by the Zoning Administrator as specified in the Zoning Ordinance;

The proposed project satisfies all of the required zoning standards, as stipulated in the County Zoning Ordinance. The zoning district for subject parcel is A-20ac. No proposed modification to these standards is proposed or required. According to Note 5 of Table 2.20-2 of the Zoning Ordinance, “Wireless telecommunications facilities are exempt from the development standards listed in Table 2.20-3.” Therefore, there are no setback or height restrictions applicable to the proposed project.

9. Conformance with the general plan and any applicable area or specific plan, or, where applicable, city general plan conformance for property located within a city’s urban service area; and

The General Plan designation for subject parcel is Agriculture: Medium Scale. The project does not conflict with the General Plan because there is no loss of agricultural lands and the proposed wireless telecommunications facility is an allowable, ancillary use. (See R-LU 11 for other allowable land uses on lands designated “Agriculture” in the General Plan.)

10. Substantial conformance with the adopted “Guidelines for Architecture and Site Approval” and any other applicable guidelines adopted by the County.

The proposal will be required to adhere to all conditions set forth in this Staff Report, as well as all conditions of approval required by the Zoning Administrator. The intent of the “Guidelines for Architecture and Site Approval” is to maintain the character and integrity of zoning districts by promoting quality development in harmony with the surrounding area, through consideration of all aspects of site configuration and design, and to generally promote the public health, safety and welfare. As the character of the proposal is in harmony with the existing utility infrastructure, and there is no significant effect on traffic or congestion, the proposal secures such general purposes.

C. Wireless Telecommunication Facilities Design Guidelines – Review Criteria: The Wireless Telecommunication Facilities Design Guidelines (WTFDG), adopted by the Board of Supervisors, includes guidelines to minimize the visual impact of wireless telecommunication facilities and encourage colocation of those facilities. The guidelines “should be interpreted with flexibility by staff and are not rigorous requirements like adopted ordinance, but rather a means of adapting documentation and review needs to the scope of a particular facility request.” (WTFDG, page 1.) Additionally, “the primary goals of these guidelines are to ensure visually acceptable facility design, colocation of facilities,
stealth design where appropriate and to provide a guide to preferred and acceptable design of wireless telecommunications facilities.” (WTFDG, page 2.) Listed below are the individual review guidelines together with a discussion relating to how the proposed project conforms to each respective guideline:

1. **The proposal minimizes visual impact to the extent possible through design, screening and siting.**

   Conditions of approval will require that the antennas are painted the same color as the tower to minimize visual impact. The ground-mounted equipment is screened behind a redwood fence and sited within the footprint of the tower.

2. **The proposal minimizes removal or modification of any site landscaping and provides appropriate replacement landscaping, if necessary.**

   No landscaping is removed or modified in the proposal, as the only ground disturbances are within the footprint of the tower.

3. **The request does not increase the height of the existing, approved facility.**

   The proposal does not increase the height of the tower.

4. **For façade-mounted facilities, the antenna and associated equipment is of a scale and design compatible with the building, is mounted to a building façade and does not project beyond 12 inches from the face of the building.**

   No façade-mounted facilities are proposed.

5. **The proposal will blend with and/or complement the color, design, and/or character of the surrounding context, whether natural backdrop, building or existing facility.**

   Conditions of approval will require that the antennas are painted the same color as the tower.

6. **No exterior, artificial lighting is proposed unless required for safety purposes by State or Federal Law.**

   No lighting is proposed.

7. **Ground equipment and vertical elements have been screened/buffered using landscaping and fencing to the extent possible.**

   Ground equipment is fully screened with a 6-foot tall redwood fence.

8. **Facility incorporates stealth/aesthetic designs such as public art, clock towers, flagpoles or other appropriate visual forms, if possible.**
The structural safety limits of the tower prohibit full stealth design (such as additional shielding of the antennas or locating the antennas within the interior of the tower). According to the Applicant, due to PG&E regulations, the only stealth option is to paint the antennas to match the color of the tower.

9. **No guy wires are used on the structure.**

   No guy wires are proposed.

10. **Facility, tower and/or antenna-mounted signage is limited to warning and informational signs.**

   Conditions of approval limit signage to warning and informational signs only.

11. **The facility has been designed to discourage unauthorized access.**

   A perimeter redwood fence protects the site from unauthorized access.

12. **Facilities have been collocated where feasible.**

   The proposal is a colocation on an existing PG&E tower.

13. **Ridgeline/hilltop siting has been avoided or the related visual impacts have been eliminated through design and landscaping.**

   The project site is located in the valley floor and there are no visual impacts to ridgelines or hilltops.

**BACKGROUND**

The original application for this project was submitted on August 31, 2018, and was deemed incomplete on XXXX. After submitting all required information, the application was deemed complete on October 2, 2018. A newspaper notification was sent November 26, 2018, and notices were mailed on November 27, 2018 to neighboring property owners within 300 feet of the project site.

**STAFF REPORT REVIEW**

Prepared by: Christopher Hoem, Senior Planner
Reviewed by: Leza Mikhail, Principal Planner & Zoning Administrator
STATEMENT OF EXEMPTION
from the California Environmental Quality Act (CEQA)

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<th>Date</th>
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<td>783-17-045</td>
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<td>Architecture and Site Approval</td>
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<tr>
<th>OWNER</th>
<th>APPLICANT</th>
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<tr>
<td>Rich Spano</td>
<td>AT&amp;T Mobility</td>
</tr>
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<table>
<thead>
<tr>
<th>PROJECT LOCATION</th>
<th>PROJECT DESCRIPTION</th>
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<tbody>
<tr>
<td>999 Melchoir Ct. Gilroy, CA</td>
<td>Installation of a new wireless telecommunications facility at an existing PG&amp;E electrical transmission tower. Included in the project are antennas located at a height between 64 feet and 74 feet on the 114-foot tall tower, and a fenced equipment shelter located within the footprint of the tower.</td>
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All discretionary development permits processed by the County Planning Division must be evaluated for compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended). Projects which meet criteria listed under CEQA may be deemed exempt from environmental review. The project described above has been evaluated by Planning Staff under the provisions of CEQA and has been deemed to be exempt from further environmental review per the provision(s) listed below.

CEQA (GUIDELINES) EXEMPTION SECTION
Section 15303(a) - Class 3: New Construction or Conversion of Small Structures
(see complete text of Section 15303 on next page).

COMMENTS
The proposal is minor in nature because it is ancillary to the existing transmission infrastructure that bisects the neighborhood and the additional antennas would not be detrimental to the character of the surrounding area. The overall height of the 114-foot tower is not changing. The height of the antennas is less than 10% of the height of the tower and are located approximately halfway up the tower (between 64 and 74 feet in height). Conditions of approval will require antenna color to match the existing tower and fence enclosure to match the character of the surrounding neighborhood. No unusual circumstances exist so as to constitute significant effects, per subsection 15000.2(c).

APPROVED BY:
Christopher Hoem, Senior Planner

Signature: [Signature]
Date: 11/30/2018
ATTACHMENT B

Preliminary Conditions of Approval

11389-18A

ARCHITECTURAL SITE APPROVAL (ASA)

Owner/Applicant: Rich Spano
Applicant: AT&T Mobility
Location: 999 Melchoir Ct. Gilroy, CA (APN: 783-17-045)
Project Description: Installation of a new wireless telecommunications facility on an existing PG&E electrical transmission tower. Included in the project are antennas located at a height between 64 feet and 74 feet on the 114-foot tall tower, and a fenced equipment shelter located within the footprint of the tower.

If you have any question regarding the following preliminary conditions of approval, call the person whose name is listed as the contact for that agency. He or she represents a particular specialty or office and can provide details about the conditions of approval.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Name</th>
<th>Phone</th>
<th>E-mail</th>
</tr>
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<tbody>
<tr>
<td>Planning</td>
<td>Christopher Hoem</td>
<td>(408) 299-5784</td>
<td><a href="mailto:christopher.hoem@pln.sccgov.org">christopher.hoem@pln.sccgov.org</a></td>
</tr>
<tr>
<td>Roads &amp; Airports</td>
<td>Rocelia Kmak</td>
<td>(408) 573-2464</td>
<td><a href="mailto:rocelia.kmak@rda.sccgov.org">rocelia.kmak@rda.sccgov.org</a></td>
</tr>
<tr>
<td>Environmental Health</td>
<td>Darrin Lee</td>
<td>(408) 299-5748</td>
<td><a href="mailto:darrin.lee@pln.sccgov.org">darrin.lee@pln.sccgov.org</a></td>
</tr>
<tr>
<td>Fire Marshal</td>
<td>Alex Goff</td>
<td>(408) 299-5763</td>
<td><a href="mailto:alex.goff@sccfd.org">alex.goff@sccfd.org</a></td>
</tr>
</tbody>
</table>

STANDARD CONDITIONS OF APPROVAL

Planning

1. Development of the proposed scope shall take place in accordance with approved plans, received date stamped August 31, 2018.

2. All painted, or otherwise treated, surfaces of the antenna and fence shall be maintained at all times. If the antenna or fence is improperly maintained, the approval may be revoked and subject to violation and fines.

3. The permittee shall keep the project site free of graffiti. “Graffiti” means any unauthorized inscription, writing, lettering, word, figure, mark, design or other inscribed material that is written, marked, etched, scratched, drawn, painted or otherwise placed on any structures, fences, or other permanent or temporary surfaces.

4. All telecommunications equipment installed on-site shall comply with the standards of the Federal Communications Commission (FCC) for health, safety, and other pertinent requirements.
5. No signs are approved at this time except for (1) an informational sign that provides phone numbers to be used in case of an emergency, and (2) a bilingual NIER hazard warning sign posted at the outer perimeter of the project site. These signs must be in compliance with FCC rules regarding required telecommunication facility signage. Such signs shall be limited to an area of one square foot.

6. Flags, banners, streamers, or other devices are not approved and may not be attached to the tower, antennas, fence enclosure, or any supporting structures.

7. All developed areas shall be continuously maintained in compliance with these conditions and County Ordinances.

8. The driveway and access easement will be adequate for monthly service and any non-scheduled emergency maintenance personnel accessing the proposed facility. Maintenance of these improvements is the responsibility of the property owner.

9. All construction vehicles, equipment and delivery trucks shall have a maximum idling time of 5 minutes. Engines shall be shut off if construction requires longer idling time unless necessary for proper operation of the vehicle.

10. All telecommunications related equipment shall be removed from the site within six (6) months of cessation of use. This shall require obtaining a demolition permit from the Santa Clara County Building Division.

Environmental Health

11. All construction activities shall be in conformance with the Santa Clara County Noise Ordinance Section B11-154 and prohibited between the hours of 7:00 p.m. and 7:00 a.m. on weekdays and Saturdays, or at any time on Sundays for the duration of construction.

CONDITIONS REQUIRED PRIOR TO ISSUANCE OF BUILDING PERMIT

Planning

12. Apply for and obtain necessary Building Permit(s).

13. Ensure the GPS coordinates of the center of the tower are listed on the title page of the Building Permit plans.

14. Prior to Building Permit issuance, submit paint color samples for the tower, fence enclosure, and any mechanical or electrical equipment visible above the fence. The color for the fence enclosure must blend with the adjacent landscape and improvements. The color of any visible tower-based or ground-based mechanical or electrical equipment must match the color of the existing tower. The color samples shall include the name, number, and manufacturer of the proposed color(s). Show the color sample information on the Building Permit plans.

Roads and Airports

15. ENCROACHMENT PERMIT: Obtain a Santa Clara County Roads and Airports Department (RAD) Encroachment Permit prior to any work performed in the county road right-of-way (ROW) and prior to Building Permit issuance. The Encroachment Permit
application shall contain all the elements indicated in “IMPROVEMENT PLANS” below and in Roads and Airports’ “ENCROACHMENT PERMIT APPLICATION PROCESS & INFORMATION” handout. The process for obtaining an Encroachment Permit and the forms that are required can be found at: www.countyroads.org > Services > Apply for Permits > Encroachment Permit.

16. IMPROVEMENT PLANS: Preliminary plans prepared by Peek Site-Com and received on September 4, 2018, by our office from the Santa Clara County Planning Office have been reviewed. Submit final improvement plans prepared by a licensed civil engineer for review and approval prior to Building Permit issuance. Include plan, profile, typical sections, contour grading and drainage for all construction improvements located within the ROW.

17. Design shall be consistent with County Ordinance, Roads and Airports Standard Details Manual, and the Santa Clara County Drainage Manual. Final Improvement Plans shall include the following:

A. Design the driveway approach to County Standard B/5.

B. Reestablish the flowline along the property’s frontage to provide positive flow.

C. Show all existing and proposed features located within the ROW, including but not limited to, edge of pavement, ROW line, above and below ground utility lines, easements, drainage facilities, trees, landscaping, and other structures and features. All utility relocations, replacements, abandonments, temporary facilities, and new facilities shall be shown.

D. Provide for the uninterrupted flow of water in swales and natural courses within the ROW. No fill or crossing of any drainage facilities is allowed unless shown on the approved plans.

E. Demonstrate that the post development maximum flow rate onto the County Road ROW is equal or less than the pre-development corresponding storm event flow rate. If this cannot be demonstrated, a detention/retention system shall be located outside the County Road ROW.

F. Provide an Erosion and Sediment Control Plan that outlines seasonally appropriate erosion and sediment controls during the construction period within the ROW in accordance with National Pollutant Discharge Elimination System Phase II Small Municipal Separate Storm Sewer System General Permit.

G. Provide a Site Specific Traffic Control Plan or “Typical Application” from Part 6 Temporary Traffic Control of the 2012 Edition Manual Uniform Traffic Control Devices to demonstrate traffic handling during construction as appropriate.

Fire Marshal

18. Prior to Building Permit issuance, submit a detail of how many batteries will be installed and the quantities of flooded lead-acid, nickel cadmium, valve-regulated lead-acid and lithium ion/metal polymer for each battery. Installation of any stationary lead-acid battery
system shall comply with 2016 Edition, California Fire Code Section 608. A permit will be required if electrolyte capacity exceeds 50 gallons.

19. A separate permit is required from the Fire Marshal’s Office for any fuel storage in excess of exempt amounts, including integral tanks for equipment, such as generators. NOTE: Storage of fuel on site may also require permits from the Building Division and the County Hazardous Material Compliance Division of the County Department of Environmental Health. Additional requirements will be made when a complete set of construction drawings is submitted for Building Permit application.

**Environmental Health**

20. For the proposed 15-kilowatt generator and 54-gallon diesel tank, submit plans to the Department of Environmental Health, Hazardous Materials Compliance Division for review and approval, and to obtain Hazardous Material Clearance.

21. For the proposed batteries cabinets, submit plans and a completed Hazardous Materials Clearance Form (available at www.EHinfo.org/hazmat) to the Hazardous Materials Compliance Division of the Department of Environmental Health.

**CONDITIONS REQUIRED PRIOR TO FINAL INSPECTION**

**Planning**

22. Prior to final inspection, contact Christopher Hoem at 408-299-5784 to schedule an inspection to ensure compliance with all conditions of approval. The inspection will ensure correct paint color and finish of the tower-mounted and ground-based components. Call one week prior to requested final inspection date to schedule an appointment.

**Roads and Airports**

23. CONSTRUCTION: Construct all of the aforementioned improvements prior to release of the Grading Bond and/or final Building occupancy. Construction staking within the ROW is required and shall be the responsibility of the developer.
ATTACHMENT C
Location and Vicinity Map
ELECTROMAGNETIC ENERGY (EME) EXPOSURE REPORT

Site Name: Gilroy Spano
Site ID: CCL09814
USID: 201146
FA Location: 14356025

Site Type: Power Line
Location: 999 Melchoir Court
           Gilroy, CA 95020

Latitude (NAD83): 37.040994
Longitude (NAD83): -121.604869

Report Completed:
AT&T M-RFSC
August 27, 2018
Casey Chan

Prepared for: AT&T Mobility
c/o Caldwell Compliance, Inc.
6900 Koll Center Parkway.
Ste. 401
Pleasanton, CA 94566

11389-18A
Site Overview and Description

- The antennas are mounted on a power line
- The site consists of three (3) sectors with a total of twelve (12) antennas
- The site is within a fenced in area, access to the site is via a gate
- The site is not co-located

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<tr>
<th></th>
<th>Sector A</th>
<th>Sector B</th>
<th>Sector G</th>
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<tr>
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<td>300°</td>
<td>180°</td>
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<tr>
<td>Number of antennas</td>
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<tr>
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<td>Site Compliance Status (FCC &amp; AT&amp;T Guidelines)</td>
<td>Compliant with recommendations</td>
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</table>
Compliance Notes

Occupational Safety & Compliance Engineering (OSC Engineering) has been contracted by Caldwell Compliance, Inc. to conduct an RF (radio frequency) computer simulated analysis. The Federal Communications Commission (FCC) has set limits on RF energy exposed to humans on a wireless cell site in order to ensure safety. The FCC has also mandated that all RF wireless sites must be in compliance with the FCC limits and a compliance check should be performed annually to ensure site compliance.

This report is an in depth analysis summarizing the results of the RF modeling provided to us by AT&T and in relation to relevant FCC RF compliance standards. A reanalysis is recommended upon the site going on air.

OSC Engineering uses the FCC OET-65 as well as AT&T Standards to make recommendations based on results and information gathered from drawings and Radio Frequency Data Sheets.

For this report, OSC Engineering utilized Roofview® software for the theoretical analysis of the AT&T Cellular Facility.

A site-specific compliance plan is recommended for each transmitting site. This report serves as a single piece of the overall compliance plan.

Information utilized for this report: RFDS: SAN-FRANCISCO-SACRAMENTO_SAN-FRANCISCO_CCL09814_2019-New-Site_New_sn149s...
DWGs: CCL09814 Gilroy 100%ZDS

For the purpose of theoretical simulation, OSC Engineering models antennas as if they are operating at full power (100% capacity). This assumption yields more conservative (higher) results. On-site measurements may yield different results, as antennas do not always operate at full capacity. To the right is a result diagram of the site in question. The diagram is a color-coded map per ND-00059 levels, which coincide with FCC MPE Limits. Any exposure resulting in a level higher than 100% exceeds the Limits and requires further action, such as barriers. A level exceeding 100% does not make a site out of compliance. All results are given in General Population percentages even when a site may be considered Occupational.
Compliance Results of the Proposed Site (theoretical simulation)

Max RF Exposure Level simulated (AT&T antennas @ ground):
7.10% FCC General Population MPE Limit
FCC Regulations and Guidelines from OET 65

When considering the contributions to field strength or power density from other RF sources, care should be taken to ensure that such variables as reflection and re-radiation are considered. In cases involving very complex sites predictions of RF fields may not be possible, and a measurement survey may be necessary. The process for determining compliance for other situations can be similarly accomplished using the techniques described in this section and in Supplement A to this bulletin that deals with radio and television broadcast operations. However, as mentioned above, at very complex sites measurements may be necessary.

In the simple example shown in the below diagram, it is desired to determine the power density at a given location $X$ meters from the base of a tower on which are mounted two antennas. One antenna is a CMRS antenna with several channels, and the other is an FM broadcast antenna. The system parameters that must be known are the total ERP for each antenna and the operating frequencies (to determine which MPE limits apply). The heights above ground level for each antenna, $H_1$ and $H_2$, must be known in order to calculate the distances, $R_1$ and $R_2$, from the antennas to the point of interest.

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1 OET Bulletin 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, Page 37-38
OSC Engineering Inc.
**Computer Simulation Analysis**

The Federal Communications Commission (FCC) governs the telecommunications services, facilities, and devices used by the public, industrial and state organizations in the United States.

"RoofView® is a software analysis tool for evaluating radiofrequency (RF) field levels at roof-top telecommunications sites produced by vertical collinear antennas of the type commonly used in the cellular, paging, PCS, ESMR and conventional two-way radio communications services."²

"RF near-field levels are computed from selected antennas by applying a cylindrical model that takes into account the antenna's aperture height, mounting height above the roof, azimuthal beam width for directional antennas and the location of the antennas on the roof. Resulting, spatially averaged power densities are expressed as a percentage of a user selectable exposure limit depending on frequency. The entire roof is composed of one-square-foot pixels and RF fields are computed for each of these pixels for each selected antenna."³

Computer simulations produced for clients are simulated with "Uptime = 100%". This means that all transmitters associated with an antenna are considered to be "on". ⁴

RoofView® uses a near-field method of computing the field based on assuming that the total input power delivered to the antenna, at its input terminal, is distributed over an imaginary cylindrical surface surrounding the antenna. The height of the cylinder is equal to the aperture height of the antenna while the radius is simply the distance from the antenna at which the field power density is to be computed. Within the aperture of the antenna, this approximation is quite accurate but as the antenna is elevated above the region of interest, the model output must be corrected for mounting height. ⁵

\[ S = \frac{P}{2\pi Rh} \]
Certification

The undersigned is a Professional Engineer, holding a California Registration No. 19677

Reviewed and approved by:

[Signature]

John B. Bachoua, PE

Date: August 27, 2018

The engineering and design of all related structures as well as the impact of the antennas on the structural integrity of the design are specifically excluded from this report's scope of work. This report's scope of work is limited to an evaluation of the Electromagnetic Energy (EME) RF emissions field generated by the antennas listed in this report. When client and others have supplied data, it is assumed to be correct.
**FCC MPE Limits (from OET-65)**

OSC Engineering uses the FCC's and clients' guidelines to model the computer simulation. Explained in detail in Office of Engineering & Technology, Bulletin No. 65 ("OET-65") "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Radiation".

**Occupational/controlled** exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. As discussed later, the occupational/controlled exposure limits also apply to amateur radio operators and members of their immediate household.

**General population/uncontrolled** exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

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7 OET-65 "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields pg. 9.
Limits for Maximum Permissible Exposure (MPE)\(^8\)

"The FCC Exposure limits are based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies whole-body absorption is less efficient, and, consequently, the MPE limits are less restrictive."\(^9\)

(A) Limits for Occupational/Controlled Exposure

<table>
<thead>
<tr>
<th>Frequency Range (MHz)</th>
<th>Electric Field Strength (E) (V/m)</th>
<th>Magnetic Field Strength (H) (A/m)</th>
<th>Power Density</th>
<th>Averaging Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(mW/cm(^2))</td>
<td></td>
</tr>
<tr>
<td>0.3-3.0</td>
<td>614</td>
<td>1.63</td>
<td>(100)*</td>
<td>6</td>
</tr>
<tr>
<td>3.0-30</td>
<td>1842/(^f)</td>
<td>4.89/(^f)</td>
<td>(900/(^f))^2*</td>
<td>6</td>
</tr>
<tr>
<td>32-300</td>
<td>61.4</td>
<td>0.163</td>
<td>1.0</td>
<td>6</td>
</tr>
<tr>
<td>300-1500</td>
<td>--</td>
<td>--</td>
<td>f/300</td>
<td>6</td>
</tr>
<tr>
<td>1500-100,000</td>
<td>--</td>
<td>--</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

(B) Limits for General Population /Uncontrolled Exposure

<table>
<thead>
<tr>
<th>Frequency Range (MHz)</th>
<th>Electric Field Strength (E) (V/m)</th>
<th>Magnetic Field Strength (H) (A/m)</th>
<th>Power Density</th>
<th>Averaging Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(mW/cm(^2))</td>
<td></td>
</tr>
<tr>
<td>0.3-1.34</td>
<td>614</td>
<td>1.63</td>
<td>(100)*</td>
<td>30</td>
</tr>
<tr>
<td>1.34-30</td>
<td>624/(^f)</td>
<td>2.19/(^f)</td>
<td>(180/(^f))^2*</td>
<td>30</td>
</tr>
<tr>
<td>30-300</td>
<td>27.5</td>
<td>0.073</td>
<td>0.2</td>
<td>30</td>
</tr>
<tr>
<td>300-1500</td>
<td>--</td>
<td>--</td>
<td>f/1500</td>
<td>30</td>
</tr>
<tr>
<td>1500-100,000</td>
<td>--</td>
<td>--</td>
<td>1.0</td>
<td>30</td>
</tr>
</tbody>
</table>

\(f=\) Frequency in MHz

\(^*\) Plane-wave equivalent power density

\(^8\) OET-65 "FCC Guidelines Table 1 pg. 72.
\(^9\) OET-65 "FCC Guidelines for Evaluating Exposure to RF Emissions", pg. 8
Limits for Maximum Permissible Exposure (MPE) continued

"MPE Limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm²), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). In the far-field of a transmitting antenna, where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions), these quantities are related by the following equation:

\[ S = \frac{E^2}{3770} = 37.7H^2 \]

where:
- \( S \) = power density (mW/cm²)
- \( E \) = electric field strength (V/m)
- \( H \) = magnetic field strength (A/m)

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10 OET-65 "FCC Guidelines Table 1 pg. 72.

OSC Engineering Inc.
Limitations

OSC Engineering completed this evaluation analysis based on information and data provided by the client. The data provided by the client is assumed to be accurate. Estimates of the unknown, standard, and additional transmitting sites are noted and based on FCC regulation and client requirements. These are estimated to the best of our professional knowledge. This report is completed by OSC Engineering to determine whether the wireless communications facility complies with the Federal Communications Commission (FCC) Radio Frequency (RF) Safety Guidelines. The Office of Engineering and Technology (OET-65) Evaluating Compliance with FCC Guidelines for Human Exposure to Radiotransmitting and Receiving Facilities and devices comply with limits for human exposure to radiofrequency (RF) fields adopted by the Federal Communications Commission (FCC). As each site is getting upgraded and changed, this report will become obsolete as this report is based on current information per the client, per the date of the report. Use of this document will not hold OSC Engineering Inc. nor it’s employees liable legally or otherwise. This report shall not be used as a determination as to what is safe or unsafe on a given site. All workers or other people accessing any transmitting site should have proper EME awareness training. This includes, but is not limited to, obeying posted signage, keeping a minimum distance from antennas, watching EME awareness videos and formal classroom training.
AT&T Antenna Shut-Down Protocol

AT&T provides Lockout/Tagout (LOTO) procedures in Section 9.412 (9.4.1 - 9.4.9) in the ND-00059. These procedures are to be followed in the event of anyone who needs access at or in the vicinity of transmitting AT&T antennas. Contact AT&T when accessing the rooftop near the transmitting antennas. Below is information regarding when to contact an AT&T representative.

9.4.7 Maintenance work being performed near transmitting antennas

Whenever anyone is working within close proximity to the transmitting antenna(s), the antenna sector, multiple sectors, or entire cell site may need to be shut down to ensure compliance with the applicable FCC MPE limit. This work may include but is not limited to structural repairs, painting or non-RF equipment services by AT&T personnel/contractors or the owner of a tower, water tank, rooftop, or other low-centerline sites. The particular method of energy control will depend on the scope of work (e.g., duration, impact to the antenna or transmission cabling, etc.) and potential for RF levels to exceed the FCC MPE limits for General Population/Uncontrolled environments.

9.4.8 AT&T Employees and Contractors

AT&T employees and contractors performing work on AT&T cell sites must be trained in RF awareness and must exercise control over their exposure to ensure compliance with the FCC MPE limit for Occupational/Controlled Environments (“Occupational MPE Limit”).

The rule of staying at least 3 feet from antennas is no longer always adequate to prevent exposure above the Occupational MPE Limit. That general rule was applied early in the development of cellular when omni-directional antennas were primarily used and later when wide-beamwidth antennas were used. That application was then appropriate for the Occupational exposure category. However, the current presence of antennas with 60- and 70-degree horizontal half-power beamwidths at urban and suburban GSM and UMTS/HSDPA sites raises some question about the continued reliability of the 3-foot rule. Antennas with low bottom-tip heights and total input powers around 70-80 W can produce exposure levels exceeding the Occupational MPE limits at 4 feet, and these levels can be augmented by emissions of co-located operators. Therefore, AT&T employees and contractors should apply the above general work procedures and use an RF personal monitor to assess exposure levels within the work vicinity.

9.4.9 Other Incidental Workers

All other incidental workers who are not trained in RF safety are considered general public and subject to the FCC MPE limits for General Population/Uncontrolled Environments. In such instance, the M-RFSC (primary contact) or R-RFSC (secondary contact) must refer to the Mobility RF site survey plan to assess the potential RF exposure levels associated with the antenna system. If capable of exceeding the FCC General Population/Uncontrolled MPE limit, then local sector/site shutdown is necessary. The FE/FT must also follow the local shutdown procedure and use their RF personal monitor as a screening tool for verification, as necessary.

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RECOMMENDATIONS

• AT&T Access Point(s): Caution Sign 2B (Tower) @ base of power line (to be posted)

• AT&T Sector A
  No signage or barrier action required

• AT&T Sector B
  No signage or barrier action required

• AT&T Sector G
  No signage or barrier action required

If work is being performed in the vicinity of the transmitting antennas, site shut-down procedures must be followed. See page entitled AT&T Antenna Shut-down protocol for further information.
Existing

Proposed

view from Day Road looking northwest at site

CCL09814 Gilroy
999 Melchoir Court, Gilroy, CA
Photosims Produced on 8-23-2018
Existing

Proposed

view from Santa Teresa Boulevard looking southwest at site

CCL09814 Gilroy
999 Melchoir Court, Gilroy, CA
Photosims Produced on 8-23-2018
Existing

view from property looking southwest at site

Proposed

view from property looking southwest at site
### General Construction Notes:

1. All drawings are not to the scale. Written instructions that accompany these drawings shall be referred to in such drawings. The written instructions shall be interpreted in accordance with the Federal Specifications. The extent of work shown shall be interpreted as written instructions, and any drawings are not considered to be specifications unless specified.

2. Prior to the submission of this contract to the contractor, it is mandatory that all conditions of the project, such as the construction and contract documents, and the conditions and factors that the project may be affected by, shall be reviewed in accordance with the Federal Specifications, and any conditions that are not observed in the construction of the project shall be noted.

3. The general contractor shall submit a written acknowledgment to the project or the project manager, which shall acknowledge receipt of the construction documents, and shall be responsible for all construction work performed by the contractor. The general contractor shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsible for all construction work performed by the contractor, and shall be responsibl...
ENGINE EXHAUST
HOT AIR EXHAUST (FOUR SIDES)
31.00
REMOVABLE DOOR
SERVICE ACCESS
GUARDED
EMERGENCY
STOP SWITCH
GUARDED
LOCKING
HANDLE
FIXED DOOR
COLD AIR INLET, FIXED REAR DOOR
COLD AIR INLET, FRONT DOOR
FRONT DOOR IS MAIN ACCESS
72" IN
32" B
53 GAL DIESEL FUEL TANK
UL 142 LISTED
CERTIFIED TO CSA STD C22.2 NO. 100
MEETS EPA EMISSION REGULATIONS
CA/MA EMISSION COMPLIANT
UNIT DRY WEIGHT 1248 lb
UNIT DIMENSIONS  L 32" x W 50" x H 72"