



Staff Report to the Zoning Administrator

Application Number: **06-0571**

Applicant: Ryan Crowley
Owner: Soquel Drive LLC
APN: 041-221-41

Agenda Date: February 2, 2007
Agenda Item #: 6
Time: After 10:00 a.m.

Project Description: Proposal to co-locate a Wireless Communication Facility on a commercial building. Requires an amendment to Commercial Development Permit 05-0642.

Location: Property located on the north side of Soquel Drive (9565 Soquel Drive) approximately 400 feet east of the Rio Del Mar exit from Highway 1.

Supervisory District: 2nd District (District Supervisor: Ellen Pine)

Permits Required: Commercial Development Permit

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application **06-0571**, based on the attached findings and conditions.

Exhibits

- | | | | |
|----|--|----|---------------------------|
| A. | Project plans | E. | Assessor's parcel map |
| B. | Findings | F. | Zoning map |
| C. | Conditions | G. | Visual Simulations |
| D. | Categorical Exemption (CEQA determination) | H. | RF Report |
| | | I. | Comments & Correspondence |

Parcel Information

Parcel Size:	1 acre
Existing Land Use - Parcel:	Commercial building
Existing Land Use - Surrounding:	Commercial & residential development, Highway One
Project Access:	Soquel Drive
Planning Area:	Aptos
Land Use Designation:	C-O (Professional and Administrative Offices)

County of Santa Cruz Planning Department
701 Ocean Street, 4th Floor, Santa Cruz CA 95060

Zone District: PA (Professional and Administrative Offices)
Coastal Zone: Inside X Outside

Environmental Information

Geologic Hazards: N/A
Soils: N/A
Fire Hazard: Not a mapped constraint
Slopes: N/A
Env. Sen. Habitat: N/A
Grading: No grading proposed
Tree Removal: No trees proposed to be removed
scenic: Highway One scenic corridor
Drainage: Existing drainage adequate
Archeology: N/A

Services Information

Urban/Rural Services Line: X Inside Outside
Water Supply: N/A
Sewage Disposal: N/A
Fire District: Aptos/La Selva Fire Protection District
Drainage District: Zone 6 Flood Control District

History

This proposal is for an amendment to Commercial Development Permit 05-0642 to co-locate an additional wireless communication facility on the roof of **an** existing commercial office building. The existing wireless telecommunications facility on the roof **of** the subject building was authorized by permit 05-0642 for the placement of six antennas and associated equipment to be located behind a roof mounted screening wall. The existing commercial office building was authorized by Commercial Development Permits 87-0406, 88-0875, 89-0162, 90-0128, 92-0458, 93-0114, 96-0117, 00-0236, and 02-0470. Although originally approved as a two building office complex, the approvals were amended to result in one commercial office building.

Project Setting

The project site is located between Soquel Drive and Monroe Avenue approximately 400 feet east of Rio Del Mar Boulevard. The Highway One Scenic Comdor is located immediately across Soquel Drive with commercial development to the west, a junior high school to the north, and residential development to the east.

Zoning & General Plan Consistency

The subject **property** is an approximately 1 acre parcel, located in the PA (Professional and Administrative Offices) zone district, a designation which allows commercial uses. The proposed co-location of a wireless communication facility is an allowed use within the zone

district. The existing commercial office building is consistent with the site's (C-0) Professional and Administrative Offices General Plan designation.

Wireless Communication Facility

The project site is located within an allowed zone district for wireless communication facilities (per County Code sections 13.10.661(b) & (c)). Structure mounted wireless communications facilities are allowed within the PA (Professional & Administrative Offices) zone district if they are designed in a manner that is the least visually obtrusive and that is compatible with the existing commercial development. In addition, this permit would co-locate the proposed facility with the existing Metro PCS wireless communication facility approved by permit 05-0642, which is encouraged where it is the least visually obtrusive option.

The proposed wireless communication facility will consist of mounting nine panel antennas (30" tall x 8" wide) behind an existing 3-foot tall screening wall which runs along the perimeter of the existing buildings rooftop (previously approved in the Metro PCS project 05-0642). There will be three sectors with three antennas each located on west, south and east walls of the rooftop. Two proposed equipment cabinets will be located near the west wall of the rooftop with the front oriented towards the east for noise mitigation. A service light and a GPS antenna will be attached to the north side of the equipment cabinets. All of the proposed equipment will be screened from view off-site by the existing screening wall. Visual simulations have been submitted and it has been determined that the new antennas and equipment cabinets will not be visible from Highway One.

Highway One Scenic Corridor

The project site is located within the Highway One scenic corridor. The site of the proposed wireless communications facilities is adequately screened from the Highway One scenic corridor by the use of camouflage techniques. The proposed wireless communication facility will be located on the roof of the existing commercial building and will be camouflaged by the existing 3-foot screening wall. The proposed new equipment will not result in a visual impact to the scenic resource.

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please see Exhibit " B ("Findings") for a complete listing of findings and evidence related to the above discussion.

Staff Recommendation

- **APPROVAL** of Application Number **06-0571**, based on the attached findings and conditions.
- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

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Wireless Communication Facility Use Permit Findings

1. The development of the proposed wireless communications facility as conditioned will not significantly affect any designated visual resources, environmentally sensitive habitat resources (as defined in the Santa Cruz County General Plan/LCP Sections 5.1, 5.10, and 8.6.6.), and/or other significant County resources, including agricultural, open space, and community character resources; or there are no other environmentally equivalent and/or superior and technically feasible alternatives to the proposed wireless communications facility as conditioned (including alternative locations and/or designs) with less visual and/or other resource impacts and the proposed facility has been modified by condition and/or project design to minimize and mitigate its visual and other resource impacts.

This finding *can* be made, in that the proposed wireless communication facility will be located on an existing commercial building behind a screening wall. The subject property for the proposed project is located within the Highway One scenic corridor. The proposed project complies with General Plan Policy 5.10.3 (Protection of Public Vistas), in that no views of the beach, ocean, or other significant vistas *can* be viewed past or across the subject property, as the property is on the inland side of the scenic corridor with no significant public vista available beyond the subject property. The existing public views *from* the scenic highway will remain unchanged as a result of this project.

An alternative sites analysis was not required for the proposed project, due to the fact the proposed wireless communication facility will be located within an allowed zone district (per sections 13.10.661(b) & (c) of the County Code) and will be co-located with a previously approved wireless communication facility. The currently proposed site is the least visually and environmentally intrusive place in the near surrounding area.

2. The site is adequate for the development of the proposed wireless communications facility and, for sites located in one of the prohibited and/or restricted areas set forth in Sections 13.10.661(b) and 13.10.661 (c), that the applicant *has* demonstrated that there are not environmentally equivalent or superior and technically feasible: (1) alternative sites outside the prohibited and restricted areas; and/or (2) alternative designs for the proposed facility as conditioned.

This finding can be made, in that there is an existing commercial building and wireless communications facility on the project site with an associated road and infrastructure for utilities as well as an existing three-foot screening wall on the roof that eliminates any visual impacts to the Highway One Scenic Corridor; therefore, the currently proposed project site is the environmentally superior site for this project. The addition of a new wireless communications facility along the Highway One scenic corridor may result in a more visually intrusive project and possibly cause additional impact to the natural resources in the surrounding areas.

An alternative sites analysis was not required for the proposed project, due to the fact the proposed wireless communication facility will be located within an allowed zone district (per sections 13.10.661(b) & (c) of the County Code) and will be co-located with a previously approved wireless communication facility. The currently proposed site is the least visually and environmentally intrusive place in the near surrounding area.

3. The subject property upon which the wireless communications facility is to be built is in compliance with all rules and regulations pertaining to zoning uses, subdivisions and any other applicable provisions of this title (County Code 13.10.660) and that all zoning violation abatement costs, if any, have been paid.

This finding can be made, in that the existing commercial office building is in compliance with the PA (Professional and Administrative Offices) zone district and Professional and Administrative Offices (C-0) General Plan designation, in which it is located. The existing and proposed uses, as designed, are compatible with the zone district and General Plan designation.

No zoning violation abatement fees are applicable to the subject property.

4. The proposed wireless communication facility as conditioned will not create a hazard for aircraft in flight.

This finding can be made, in that the proposed wireless communications facility will be located on an existing commercial office building, which will be approximately 33 feet in height, and this elevation is too low to interfere with an aircraft in flight.

5. The proposed wireless communication facility as conditioned is in compliance with all FCC and California PUC standards and requirements.

This finding can be made, in that the maximum cumulative RF exposure level for simultaneous operation of both the existing and proposed carriers is 2.7% of the public exposure limit. The maximum calculated level at the second floor elevation of any nearby building is 6.1% of the public exposure limit.

6. For wireless communication facilities in the coastal zone, the proposed wireless communication facility as conditioned is consistent with the all applicable requirements of the Local Coastal Program.

Not Applicable

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use **of** energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the maximum cumulative RF exposure level for simultaneous operation of both the existing and proposed carriers is 2.7% of the public exposure limit. The maximum calculated level at the second floor elevation of any nearby building is 6.1% of the public exposure limit.

The proposed project will not result in inefficient or wasteful use of energy, in that the most recent and efficient technology available to provide wireless communications services will be required as a condition of this permit. Upgrades to more efficient and effective technologies will be required to occur as new technologies are developed.

The project will not be materially injurious to properties or improvements in the vicinity in that the project will be on an existing commercial office building behind an existing screening wall therefore there will be no visual impact to surrounding properties.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose **of** the zone district in which the site is located.

This finding can be made, in that the proposed wireless communication facility will be located within an allowed zone district for the construction of co-located wireless communications facilities. The project site is located ~~within~~ the PA (Professional and Administrative Offices) zone district which is not a prohibited or restricted zone district (per sections 13.10.661(b) & (c) of the County Code).

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed wireless communication facility will be built in the least visually and environmentally intrusive manner due to the location on top of an existing commercial office building where an existing wireless communication facility already exists.

The subject property for the proposed project is located within the Highway One scenic corridor. The existing screening wall above the existing commercial building will provide enough screening to the proposed wireless communication facility to result in no visual impact to the scenic corridor as a result of this project. The proposed project complies with General Plan Policy 5.10.3 (Protection of Public Vistas), in that no views of the beach, ocean, or other significant vistas can be viewed past or across the subject property, **as** the property is on the inland side of the scenic corridor with no significant public vista available beyond the subject property. The existing public views from the scenic highway will remain unchanged as a result

of this project.

The existing commercial office building is consistent with the uses specified for the Professional and Administrative Offices (C-0) land use designation in the County General Plan.

The acoustical dispersion study submitted for the two proposed free standing RBS 2106 cabinets shows that due to the orientation and location of the cabinets, the noise level dispersed to surrounding uses is in compliance with the standards in the General Plan.

A specific plan has not been adopted for this portion of the County.

4. That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.

This finding can be made, in that the project will not require the use of public **services** such as water or sewer, but will require electric power and telephone connections. The facility will require inspection by maintenance personnel at least once per month and **this** will not result in increasing traffic to unacceptable levels in the vicinity.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed facility will be co-located on top of an existing commercial office building and will be compatible with the existing commercial development on the subject property.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections **13.11.070 through** 13.11.076), and any other applicable requirements **of** this chapter.

This finding can be made, in that the proposed facility will be co-located on top **of** an existing commercial office building and will be screened behind an existing wall to reduce potential visual impacts to the surrounding neighborhood.

Conditions of Approval

Exhibit A: Project Plans entitled "T-Mobile, Metro Rio Del Mar, SF15880", prepared by Michael Wilk Architecture, 7 sheets, dated 9/13/06.

- I. This permit amends Commercial Development Permit 05-0642 to construct a second wireless communication facility on top of an existing office building as depicted on the approved Exhibit "A" for this permit. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:
 - A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.
 - B. Obtain a Building Permit from the Santa Cruz County Building Official.
 - C. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way, if required.
 - D. To ensure that the storage of hazardous materials on the site does not result in adverse environmental impacts, the applicant shall submit a Hazardous Materials Management Plan for review and approval by the County Department of Environmental Health Services.
- II. The applicant shall obtain approval from the California Public Utilities Commission and the Federal Communications Commission to install and operate this facility.
- III. Prior to issuance of a Building Permit the applicant/owner shall:
 - A. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder).
 - B. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "A" on file with the Planning Department. Any changes from the approved Exhibit "A" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:
 1. All antennas and telecommunications equipment shall be located behind the screening wall and be no higher in elevation than the top of the screening wall on top of the commercial building.
 2. All new electric and telecommunications lines shall be placed

underground.

3. Details showing compliance with fire department requirements, including all requirements of the Urban Wildland Intermix Code, if applicable.
 - C. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.
 - D. Meet all requirements and pay any applicable plan check fee of the Aptos/La Selva Fire Protection District.
- IV. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:
- A. All site improvements shown on the final approved Building Permit plans shall be installed.
 - B. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.
 - C. Pursuant to Sections 16.40.040 and 16.42.100 of the County Code, if at anytime during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource **or** a Native American cultural site **is** discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.100, shall be observed.
- V. Operational Conditions
- A. NIER Report: A report documenting Non-Ionizing Electromagnetic Radiation at the facility site shall be submitted within ninety (90) days after the commencement of normal operations, **or** within ninety (90) days after any major modification to power output of the facility.
 - B. Additional Facilities: A Planning Department review that includes a public hearing shall be required for any future co-location at this wireless communications facility.
 - C. Equipment Modifications: Any modification in the type of equipment shall be reviewed and acted on by the Planning Department staff. The County may deny or modify the conditions at this time, or the Planning Director may refer it for public hearing before the Zoning Administrator.

- D. Camouflage: The camouflage materials shall be permanently maintained and replacement materials and/or paint shall be applied as necessary to maintain the camouflage of the facility.
- E. Noise: All noise generated from the approved use shall comply with the requirements of the General Plan.
- F. Lighting: All site, building, security and landscape lighting shall be directed away from the scenic corridor and adjacent properties. Light sources shall not be visible from adjacent properties. Light sources can be shielded by landscaping, structure, fixture design or other physical means. Building and security lighting shall be integrated into the building design.
- G. Maintenance & Signage: No person shall come within 12-feet of the antennas while the site is in operation. Explanatory warning signs shall be placed at the roof access locations and on the parapet in front of the antennas, such that the signs are clearly visible from any angle of approach to persons who may need to work within that distance.
- H. Future Technologies: If future technological advances would allow for reduced visual impacts resulting from the proposed telecommunication facility, the applicant agrees through accepting the terms of this permit to make those modifications which would allow for reduced visual impact of the proposed facility as part of the normal replacement schedule. If, in the future, the facility is no longer needed, the applicant agrees to abandon the facility and be responsible for the removal of all permanent structures and the restoration of the site as needed to re-establish the area consistent with the character of the surrounding vegetation.

Future Studies: If, as a result of future scientific studies and alterations of industry-wide standards resulting from those studies, substantial evidence is presented to Santa Cruz County that radio frequency transmissions may pose a hazard to human health and/or safety, the Santa Cruz County Planning Department **shall** set a public hearing and in its sole discretion, may revoke or modify the conditions of this permit.

Noncompliance: In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.

- VI. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, its officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent

amendment of this development approval which is requested by the Development Approval Holder.

- A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY **seeks** to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (**60**) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.
- B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:
 - 1. COUNTY bears its own attorney's fees and costs; and
 - 2. COUNTY defends the action in good faith.
- C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation **or** settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.
- D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor(s) in interest, transferee(s), and assign(s) of the applicant.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Application #: 06-0571
APN: 041-221-41
Owner: Soquel Drive LLC

Please note: This permit expires on the expiration date listed below unless you obtain the required permits and commence construction.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Don Bussey
Deputy Zoning Administrator

Samantha Haschert
Project ~~Planner~~

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the **Zoning** Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have **been** specified in this document.

Application Number: 06-0571
Assessor Parcel Number: 041-221-41
Project Location: 9565 Soquel Drive

Project Description: Proposal to construct a wireless communication facility on an existing commercial building.

Person or Agency Proposing Project: Evan Shepherd (Peacock Associates)

Contact Phone Number: (831) 345-2245

- A. ☐ The proposed activity is not a project under CEQA Guidelines Section 15378.
B. ☐ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060(c).
C. ☐ **Ministerial Project** involving only the use of fixed standards or objective measurements without personal judgment.
D. ☐ **Statutory Exemption** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify type:

E. ☒ **Categorical Exemption**

Specify **type**: Class 3 - New Construction or Conversion of Small Structures (Section 15303)

F. Reasons why the project is exempt:

Proposal to construct a structure mounted wireless communication facility on a commercial building in an area designated for commercial **uses**.

In addition, none of the conditions described in Section 15300.2 apply to this project.

Samantha Haschert, Project Planner

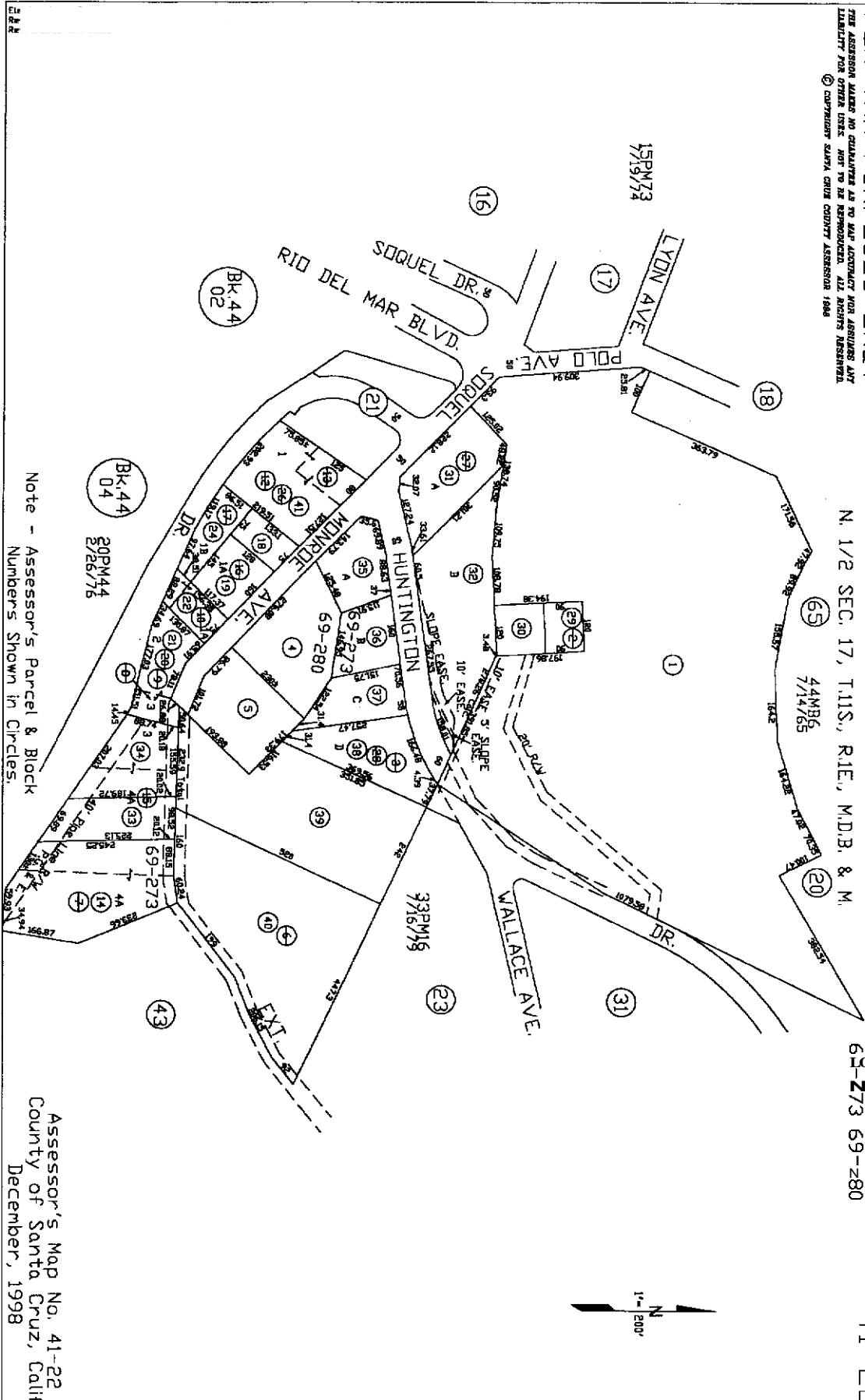
Date

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 LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
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PUR: APIUS RANCH
 N. 1/2 SEC. 17, T.11S, R.1E, M.D.B. & M.
 65 44MB6 7/14/85

16X AREA CODE
 61-273 69-280

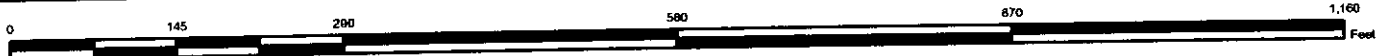
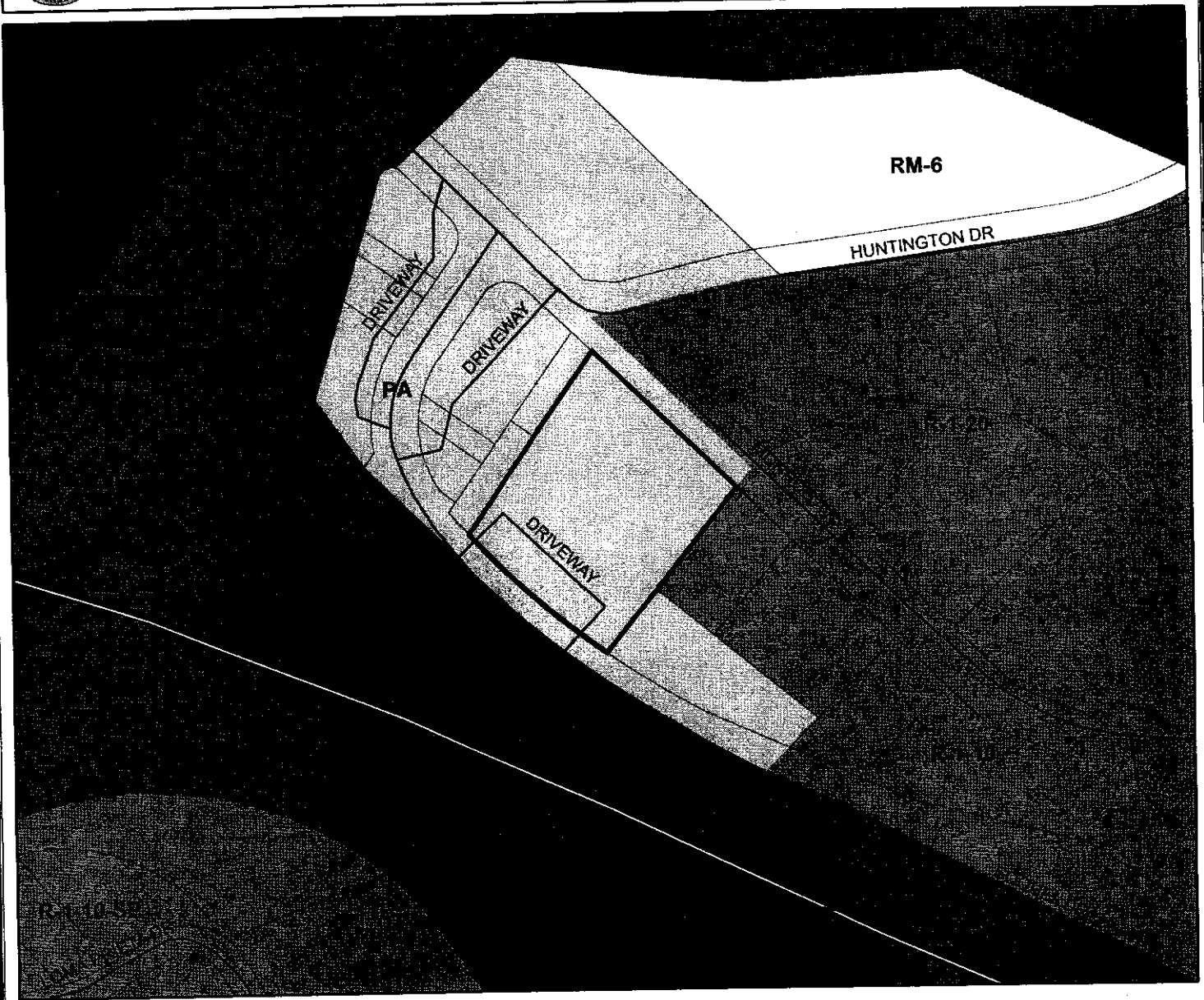
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







Assessor's Map No. 41-22
 County of Santa Cruz, Calif.
 December, 1998

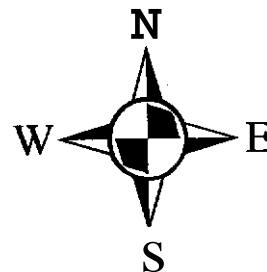


Zoning Map



Legend

-  APN 041-221-41
-  Assessors Parcels
-  Streets
-  State Highways
-  COMMERCIAL-PROF OFFICE (PA)
-  RESIDENTIAL-SINGLE FAMILY (R-1)
-  PUBLIC FACILITY (PF)
-  RESIDENTIAL-MULTI FAMILY (RM)
-  COMMERCIAL-NEIGHBORHOOD (C-1)



Map Created by
County of Santa Cruz
Planning Department
October 2006

EXHIBIT F

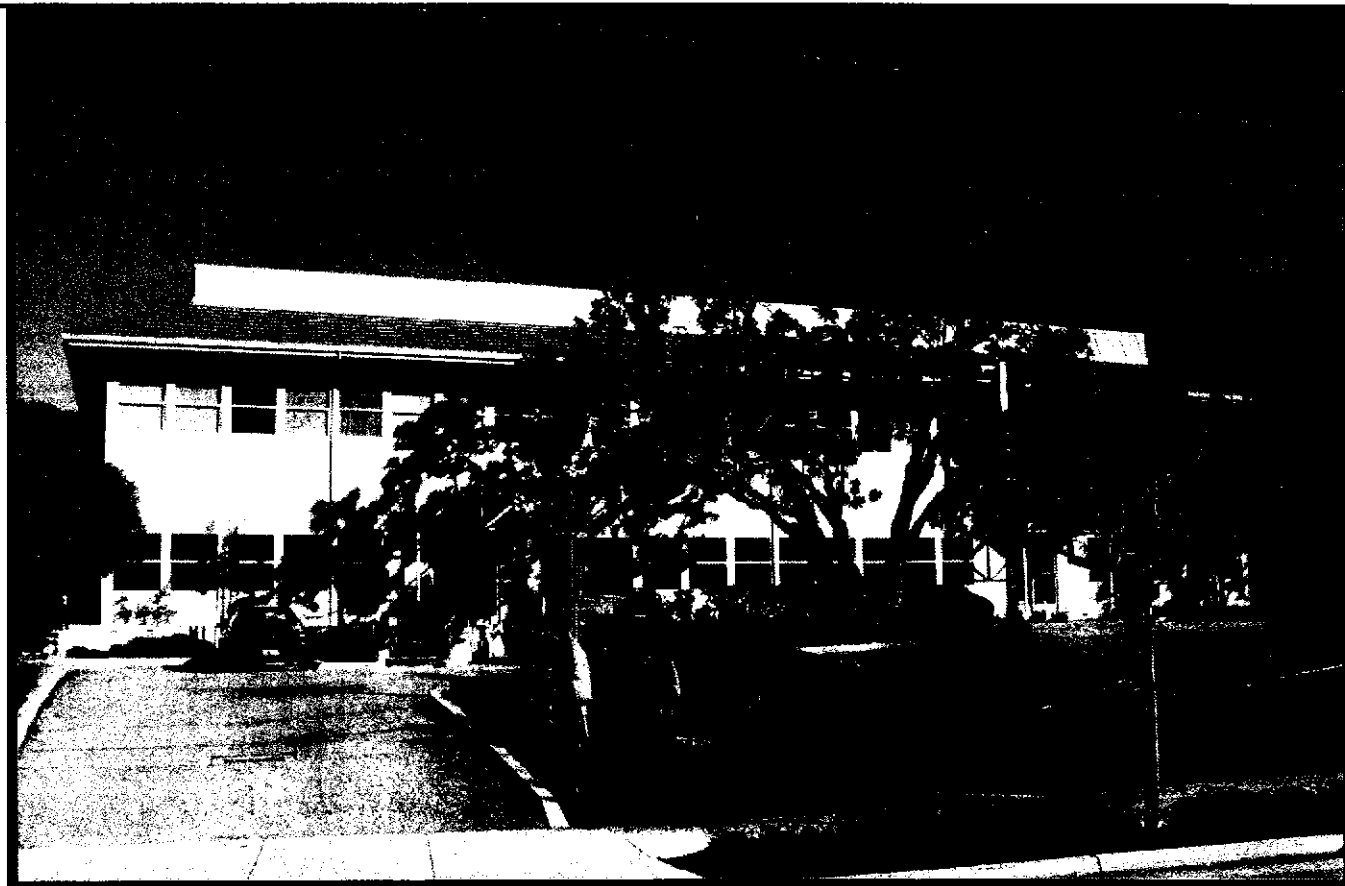


T-Mobile

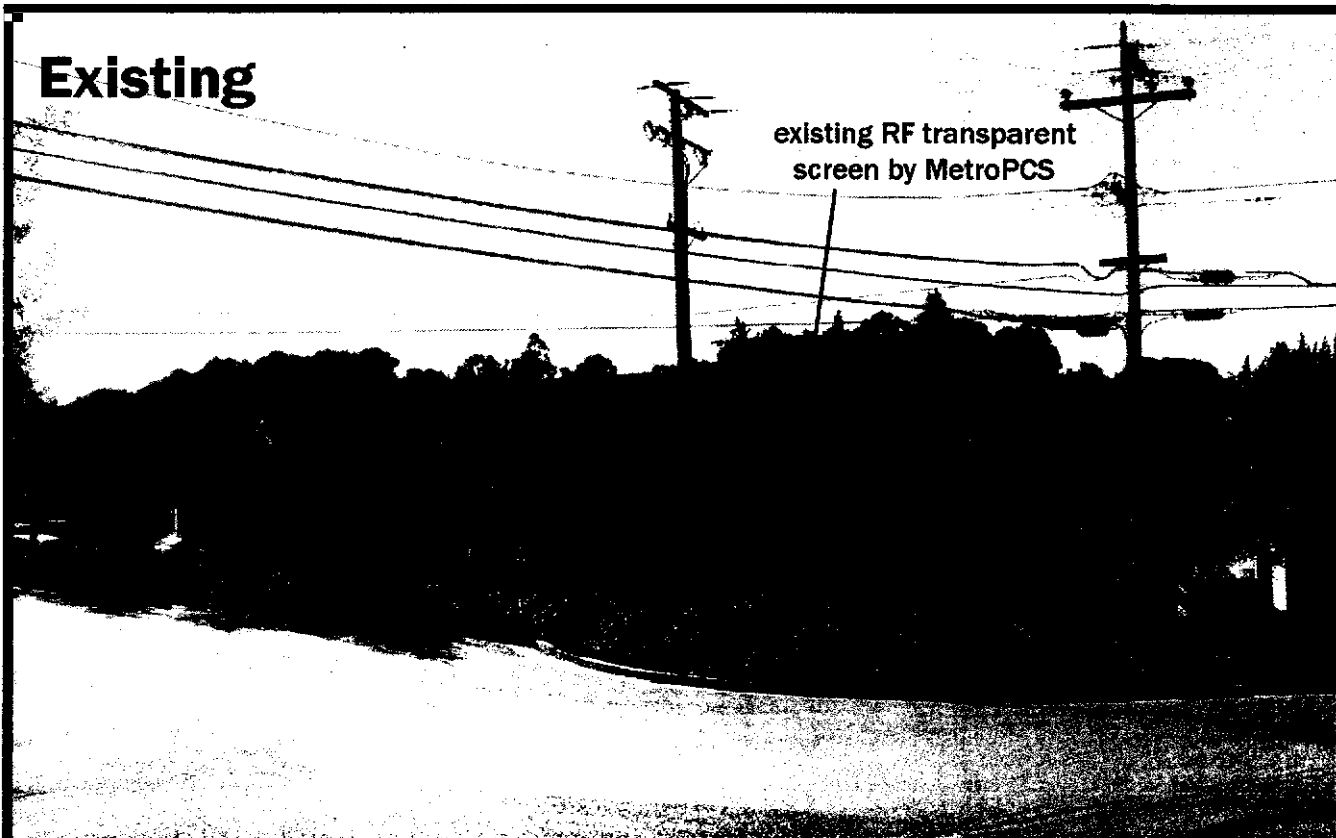
SF15880

Metro Rio Del Mar

9565 Soquel Drive
Aptos, CA 95003



Existing



existing RF transparent
screen by MetroPCS

T-Mobile

SF15880

Metro Rio Del Mar

9565 Soquel Drive
Aptos, CA 95003

Proposed



proposed T-Mobile
antennas behind existing
RF transparent screen

**T-Mobile • Proposed Base Station (Site No. SF15880)
9565 Soquel Drive • Aptos, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of T-Mobile, a personal wireless telecommunications carrier, to evaluate the base station (Site No. SF15880) proposed to be located at 9565 Soquel Drive in Aptos, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. In Docket 93-62, effective October 15, 1997, the FCC adopted the human exposure limits for field strength and power density recommended in Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent Institute of Electrical and Electronics Engineers ("IEEE") Standard C95.1-1999, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes nearly identical exposure limits. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

The most restrictive limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

<u>Personal Wireless Service</u>	<u>Approx. Frequency</u>	<u>Occupational Limit</u>	<u>Public Limit</u>
Personal Communication ("PCS")	1,950 MHz	5.00 mW/cm ²	1.00 mW/cm ²
Cellular Telephone	870	2.90	0.58
Specialized Mobile Radio	855	2.85	0.57
[most restrictive frequency range]	30-300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables about 1 inch thick. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the

**T-Mobile • Proposed Base Station (Site No. SF15880)
9565 Soquel Drive • Aptos, California**

horizon, with very little energy wasted toward the sky or the ground. Along with the low power of such facilities, this means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near **the** antennas.

Computer Modeling Method

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

Site and Facility Description

Based upon information provided by T-Mobile, including zoning drawings by Michael **Wilk** Architecture, dated August 16, 2006, it is proposed to mount nine EMS Model RR6515-00DPL directional panel PCS **antennas** behind the parapet above the roof of **the** two-story building located at 9565 **Soquel** Drive in Aptos. The antennas would be mounted at an effective height of about 31½ feet above ground, 8 feet above the roof, and would be oriented in **three** groups of three toward 45°T, 120°T, and 250°T. The maximum effective radiated power in any direction would be 2,400 watts, representing six channels operating simultaneously at 400 watts each.

Proposed to be located above the roof of the same building **are** similar antennas for **use** by MetroPCS, another wireless telecommunications carrier. Metro reports that it will also be using six EMS Model RR6515-00DPL directional panel antennas mounted at an effective height of about 32 feet above ground. Those antennas would be arranged in pairs at 120" spacing and would operate with a maximum effective radiated power in any direction of 1,890 watts, representing *six* channels operating simultaneously at 315 watts each.

Study Results

For a person anywhere at ground, the maximum ambient RF exposure level due to the proposed T-Mobile operation by itself is calculated to be 0.020 mW/cm², which is 2.0% of the applicable public exposure limit. The maximum calculated cumulative level at ground for the simultaneous operation of both carriers is 2.7% of the public exposure limit; the maximum calculated **level at the second-floor elevation** of any nearby building is 6.1% of the public exposure limit. It should be noted that **these** results include several "worst-case" assumptions and therefore **are** expected to overstate **actual** power

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density levels. **Areas** on the sloped section of the roof of the subject building may exceed the public limit in front of the antennas. Figure 3 attached provides the specific data required under Santa Cruz County Code Section 13.10.659(g)(2)(ix), for reporting the analysis of RF exposure conditions.

Recommended Mitigation Measures

Since they are to be mounted above the roof of the building, the T-Mobile antennas are not accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, no access within 12 feet in front of the antennas themselves, such as might occur during building maintenance activities, should be allowed while the site is in operation, unless other measures can be demonstrated to **ensure** that occupational protection requirements are met. Posting explanatory warning signs' at roof access locations and on the parapet in front of the antennas, such that the signs would be readily visible from any angle of approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines. Similar measures should be implemented for Metro, as well; applicable keep-back distances have not been determined as part of this study.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the base station proposed by T-Mobile at 9565 Soquel Drive in Aptos, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not **for** this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Posting of explanatory signs is recommended to establish compliance with occupational exposure limitations.

*

Warning signs should comply with ANSI C95.2 color, symbol, and content conventions. In addition, contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required.

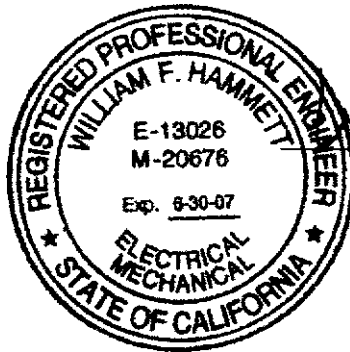
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CONSULTING ENGINEERS
SAN FRANCISCO

**T-Mobile- Proposed Base Station (Site No. SF15880)
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Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2007. This work has been *carried* out by him or under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

August 31, 2006



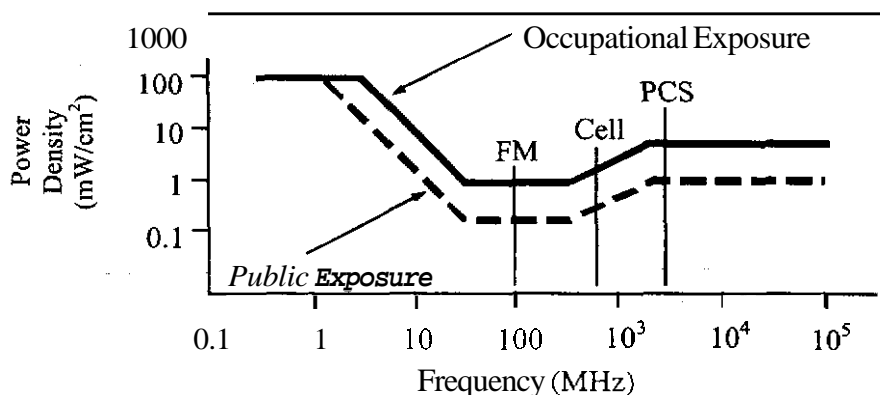
William F. Hammett
William F. Hammett, P.E.

FCC Radio Frequency Protection Guide

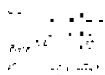
The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements, which are nearly identical to the more recent Institute of Electrical and Electronics Engineers Standard C95.1-1999, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz." These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

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

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34– 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0– 30	18421f	<i>823.8/f</i>	4.89/ f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30– 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300– 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500– 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



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



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FCC Guidelines
Figure 1

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications cell sites. The near field zone is defined by the distance, D, from an antenna beyond which the manufacturer's published, far field antenna patterns will be fully formed; the near field may exist for increasing D until some or all of three conditions have been met:

$$1) D > \frac{2h^2}{\lambda} \qquad 2) D > 5h \qquad 3) D > 1.6\lambda$$

where h = aperture height of the antenna, in meters, and
 λ = wavelength of the transmitted signal, in meters.

The FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives this formula for calculating power density in the near field zone about an individual RF source:

$$\text{power density } S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}, \text{ in mW/cm}^2,$$

where θ_{BW} = half-power beamwidth of antenna, in degrees, and
 P_{net} = net power input to the antenna, in watts.

The factor of 0.1 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates distances to FCC public and occupational limits.

Far Field.

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

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

where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

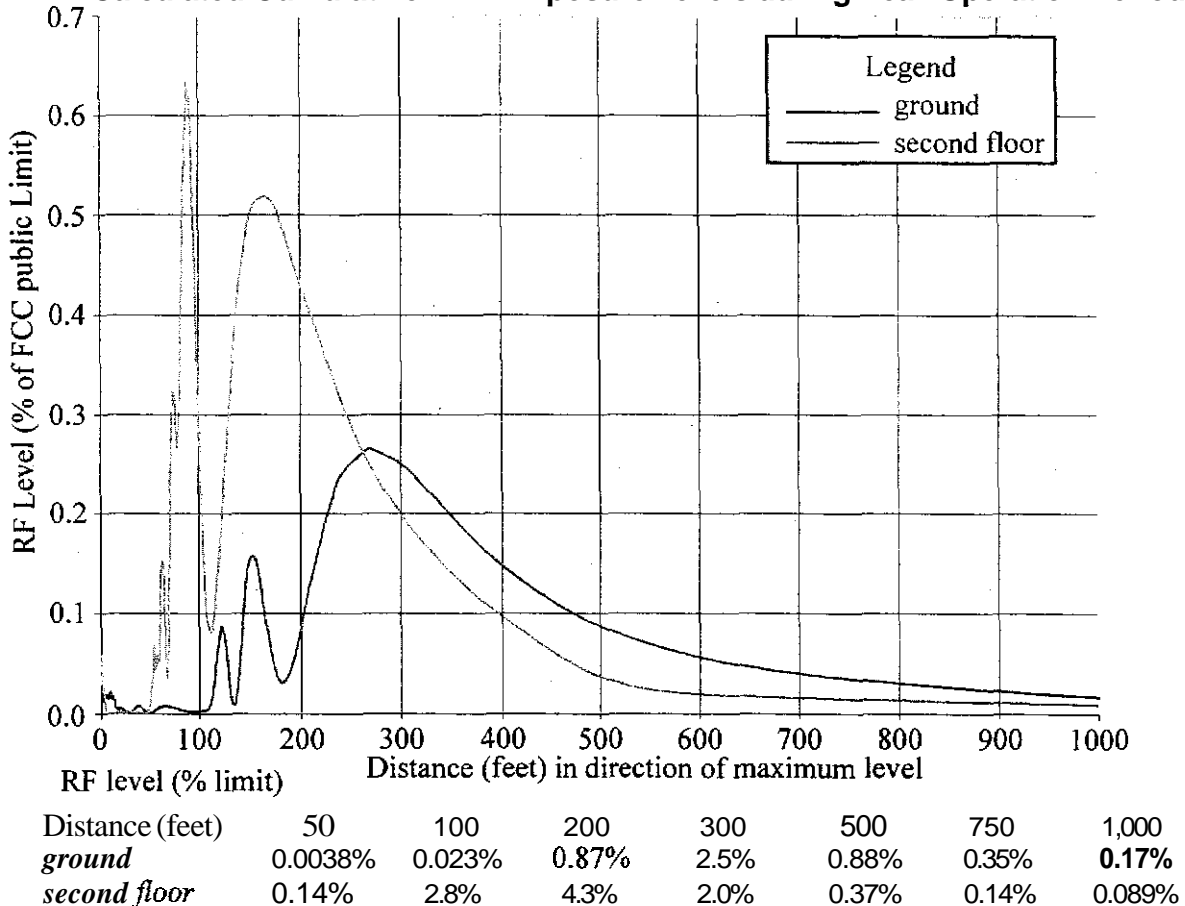
The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 ($1.6 \times 1.6 = 2.56$). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

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Compliance with Santa Cruz County Code §13.10.659(g)(2)(ix)

'Compliance with the FCC's non-ionizing electromagnetic radiation (NIER) standards or other applicable standards shall be demonstrated for any new wireless communication facility through submission, at the time of application for the necessary permit or entitlement, of NIER calculations specifying NIER levels in the area surrounding the proposed facility. Calculations shall be made of expected NIER exposure levels during peak operation periods at a range of distances from ~~fifty~~ (50) to one thousand (1,000) feet, taking into account cumulative NIER exposure levels from the proposed source in combination with all other existing NIER transmission sources within a one-mile radius. This should also include a plan to ensure ~~that the public would be kept at a safe distance~~ from any NIER transmission source associated with the proposed wireless communication facility, consistent with the NIER standards of the FCC, or any potential future superceding standards."

Calculated Cumulative NIER Exposure Levels during Peak Operation Periods



Calculated using formulas in FCC Office of Engineering Technology Bulletin No. 65 (1997),
considering terrain variations within 1,000 feet of site

Maximum effective radiated power (peak operation) - 2,400 watts

Effective T-Mobile antenna height above ground - 31 1/2 feet

Other sources nearby - MetroPCS

Other sources within one mile - No AM, FM, or TV broadcast stations
No two-way stations close enough to affect compliance

Plan for restricting public access - Antennas are mounted above the roof of a two-story building

**T-Mobile • Proposed Base Station (Site No. SF15880)
9565 Soquel Drive • Aptos, California**

**Calculated Cumulative NIER Exposure Levels
Within 1,000 Feet of T-Mobile and MetroPCS**



Aerial photo from Terraserver

Legend

- blank - less than 2% of FCC public limit (*i.e.*, more than 50 times below)
- ▨ - 2.0% and above near ground level (highest level is 2.7%)
- 2.0% and above at 2nd floor level (highest level is 6.3%)

Calculated using formulas in FCC Office of Engineering Technology Bulletin No. 65 (1997), considering terrain variations within 1,000 feet of site. See text for further information.

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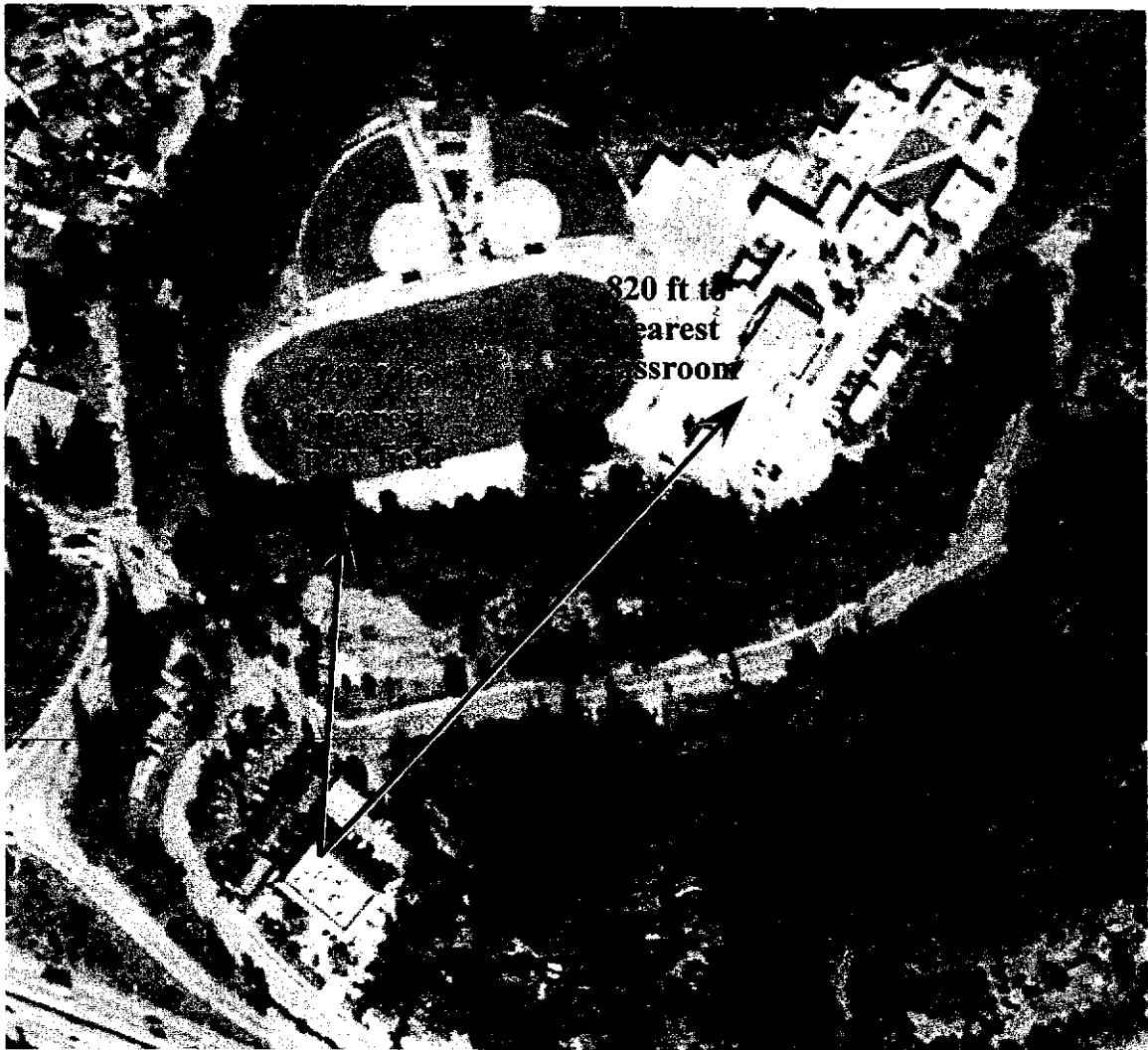
TM 15880595

Figure 3B
EXHIBIT H

**T-Mobile • Proposed Base Station (Site No. SF15880)
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Calculated Cumulative Exposure Levels at Specific Locations

<u>Calculation Location</u>	<u>Calculated Cumulative Maximum Exposure Level</u>	
	<u>Power Density</u>	<u>Public Limit</u>
9565 Soquel: First Floor	0.00061 mW/cm ²	0.061%
Second Floor	0.0053	0.53
Middle School: Play Field	0.0047	0.47
Classroom	0.0022	0.22



Includes MetroPCS base station proposed to be collocated with T-Mobile.
Calculations based on FCC Bulletin OET-65. See Figure 1.

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SAN FRANCISCO

TM15880595
Figure 3C



Aptos/La Selva Fire Protection District

6934 Soquel Drive, Aptos, CA 95003

Phone # 831-685-6690 Fax # 831-685-6699

Soquel Drive LLC
P. O. Box 670
Cupertino, CA 95015

10/27/2006

Subject: APN #041-221-41 Situs: 9565 SOQUEL DR

Appl # 06-0571

Dear Property Owner:

Based upon a review of the plans submitted, District requirements appear to have been met, and
PLANS ARE APPROVED FOR PERMIT.

Plan check is based **upon** plans submitted to this office. Any changes or alterations shall be
re-submitted for review prior to construction.

A service fee of \$50.00 is due and payable to the Aptos/La Selva Fire Department **PRIOR TO**
APPROVAL of permit application. Reminder: the enclosed original color copy Permit/Service Fees
form must be certified by the Aptos/La Selva Fire Department at time of payment. Certified form
must be submitted to the County for completion of permit process.

sincerely,



Jim Dias, Fire Marshal
Fire Prevention Division
Aptos/La Selva Fire Protection District

Cc: Ryan Crowley
3145 Geary Blvd. #5009
San Francisco, CA 94118

INTEROFFICE MEMO

APPLICATION NO: 06-0571

Date: October 10, 2006

To: Randall Adams, Project Planner

From: Larry Kasparowitz, Urban Designer

Re: Design Review for cellular antennae at 9565 Soquel Drive, Aptos

Evaluation Criteria	Meets criteria in code(✓)	Does not meet criteria(✓)	Urban Designer's Evaluation
or minimize to the maximum extent feasible, visibility of a wireless communication facility within significant public viewsheds.			
Utilization of camouflaging and/or stealth techniques shall be encouraged where appropriate.			N/A
Support facilities shall be integrated to the	✓		
Co-location is generally encouraged in situations where it is the least visually obtrusive option, such as when increasing the height/bulk of an existing tower would result in less visual impact than constructing a new separate tower in a nearby location.	✓		

Wireless communication facilities proposed for visually prominent ridgeline, hillside or hilltop locations shall be sited and designed to be as visually unobtrusive as possible. Consistent with General Plan/LCP Policy 8.6.6, wireless communication facilities should be sited so the top of the proposed tower/facility is below any ridgeline when viewed from public roads in the vicinity.			NIA
If the tower must extend above a ridgeline the applicant must camouflage the tower by utilizing stealth techniques and hiding it among surrounding vegetation.			NIA
Disturbance of existing topography and on-site vegetation shall be minimized, unless such disturbance would substantially reduce the			NIA
New wireless communication facilities in any portion of the Coastal Zone shall be consistent with applicable policies of the County Local Coastal Program (LCP) and the California Coastal Act.			N/A
No portion of a wireless communication facility shall extend onto or impede access to a publicly used beach.			NIA
Power and telecommunication lines servicing wireless communication facilities in the Coastal Zone shall be required to be placed underground.			NIA
Consistency with Other Regulations			
proposed wireless communication facilities shall comply with the policies of the County General Plan/Local Coastal Plan and all applicable development standards for the zoning district in which the facility is to be located, particularly policies for protection of visual resources (i.e., General Plan/LCP Section 5.10). Public vistas from scenic roads, as designated in General Plan Section 5.10.10, shall be afforded the highest level of protection.	✓		
Visual Impacts to Neighboring Parcels			
To minimize visual impacts to surrounding residential uses , the base of any new freestanding telecommunications tower shall be set back from any residentially zoned parcel a distance equal to five times the height of the tower, or a minimum of three hundred (300) feet, whichever is greater.	✓		

EXHIBIT I

This requirement may be waived by the decision making body if the applicant can prove that the tower will not be readily visible from neighboring residential structures, or if the applicant can prove that a significant area proposed to be served would otherwise not be provided personal wireless services by the subject carrier, including proving that there are no viable, technically feasible, environmentally equivalent or superior alternative sites outside the prohibited and restricted areas designated in Section 13.10.661(b) and 13.10.661(c).	✓		
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Evaluation Criteria	Meets criteria In code (✓)	Does not meet criteria (✓)	Urban Designer's Evaluation
All wireless communication facilities shall be constructed of non-flammable material, unless specifically approved and conditioned by the County to be otherwise (e.g., when a wooden structure may be necessary to minimize visual impact)			
rower Type			
All telecommunication towers shall be self-supporting monopoles except where satisfactory evidence is submitted to the appropriate decision-making body that a non-monopole (such as a guyed or lattice tower) is required or			N/A
All guy wires must be sheathed for their entire length with a plastic or other suitable covering.			N/A
The County strongly encourages all support facilities, such as equipment shelters, to be placed in underground vaults, so as to minimize visual impacts.			N/A
Any support facilities not placed underground shall be located and designed to minimize their visibility and, if appropriate, disguise their purpose to make them less prominent. These structures should be no taller than twelve (12) feet in height, and shall be designed to blend with existing architecture and/or the natural surroundings in the area or shall be screened from sight by mature landscaping.	✓		

EXHIBIT I

All support facilities, poles, towers, antenna supports, antennas, and other components of communication facilities shall be of a color consistent with the surrounding landscape.	✓		
Facility which will be viewed against soils, trees, or grasslands shall be of a color or colors consistent with these landscapes.			N/A
All proposed stealth tree poles (e.g., poles with tree-like structures).			N/A
Visual Impact Mitigation			
Special design of wireless communication facilities may be required to mitigate potentially significant adverse visual impacts, including appropriate camouflaging or utilization of stealth techniques.			N/A
Use of less visually obtrusive design alternatives, such as "microcell" facility-types that can be mounted upon existing utility poles, is encouraged.			N/A
Telecommunication towers designed to look like trees (e.g., "monopines") may be favored on wooded sites with existing similar looking trees.			N/A
appropriate (e.g., small scale water towers, barns, and other typical farm-related structures on or near agricultural areas).			
Rooftop or other building mounted antennas designed to blend in with the building's existing architecture shall be encouraged.		✓	
Co-location of a new wireless communication facility onto an existing telecommunication tower shall generally be favored over construction of a new tower.			N/A
Owners/operators of wireless communication towers/facilities are required to maintain the appearance of the tower/facility, as approved, throughout its operational life.	✓		
Public vistas from scenic roads, as designated in General Plan/LCP Section 5.10.10, shall be afforded the highest level of protection.	✓		
All towers shall be designed to be the shortest height possible so as to minimize visual impact.			N/A

EXHIBIT I

Any applications for towers of a height more than the allowed height for structures in the zoning district must include a written justification proving the need for a tower of that height and the absence of viable alternatives that would have less visual impact, and shall, in addition to any other required findings and/or requirements, require a variance approval pursuant to County Code Section 13.10.230 .			NIA
Lighting			
Except for as provided for under Section 13.10.663(a)(5) , all wireless communication facilities shall be unlit except when authorized personnel are present at night.	✓		
Roads and Parking			
All wireless communication facilities shall be served by the minimum sized roads and parking areas feasible.			NIA
Vegetation Protection and Facility Screening			
In addition to stealth structural designs, vegetative screening may be used to minimize wireless communication facility visibility within public viewsheds.			NIA
All new vegetation to be used for screening shall be compatible with existing surrounding vegetation.			NIA
Vegetation used for screening purposes shall be capable of providing the required screening upon completion of the permitted facility (i.e., an applicant cannot rely on the expected future screening capabilities of the vegetation at maturity to provide the required immediate screening).			NIA
All telecommunications facilities to be located in areas of extensive natural vegetation shall be installed in such a manner so as to maintain the existing native vegetation. Where necessary, appropriate mature landscaping can be used to screen the facility. However, so as to not pose an invasive or genetic contamination threat to local gene pools, all vegetation proposed and/or required to be planted that is associated with a wireless communication facility shall be non-invasive species native to Santa Cruz County, and specifically native to the project location.			NIA

EXHIBIT I

Non-native and/or invasive species shall be prohibited (such as any species listed on the California Exotic Pest Plant Council "Pest Plant List" in the categories entitled 'A', 'B', or 'Red Alert'). Cultivars of native plants that may cause genetic pollution (<i>such as</i> all manzanita, oak, monkeyflower, poppy, lupine, paintbrush and ceanothus species) shall be prohibited in these relatively pristine areas.			NIA
All wireless communication facility approvals in such areas shall be conditioned for the removal of non-native invasive plants (e.g., iceplant) in the area disturbed by the facility and replanting with appropriate non-invasive native species capable of providing similar or better vegetated screening and/or visual enhancement of the facility unless the decision making body determines that such removal and replanting would be more environmentally damaging than leaving the existing non-native and/or invasive species in place (e.g., a eucalyptus grove that provides over wintering habitat for Monarch butterflies may be better left alone).			N/A
All applications shall provide detailed landscape/vegetation plans specifying the non-invasive native plant species to be used, including identification of sources to be used to supply seeds and/or plants for the project.			NIA
Any such landscape/vegetation plan shall be prepared by a qualified botanist experienced with the types of plants associated with the facility area. For purposes of this section, "mature landscaping" shall mean trees , shrubs or other vegetation of a size that will provide the appropriate level of visual screening immediately upon installation.			NIA
All nursery stock, construction materials and machinery, and personnel shall be free of soil, seeds , insects, or microorganisms that could pose a hazard to the native species or the natural biological processes of the areas surrounding the site (e.g., Argentine ants or microorganisms causing Sudden Oak Death or Pine Pitch Canker Disease).			NIA
Underground lines shall be routed outside of plant drip lines to avoid damage to tree and large shrub root systems to the maximum extent feasible.			NIA

EXHIBIT I