Staff Report to the Zoning Administrator

Application Number: 05-0474

Applicant: Evan Shepherd (Peacock & Associates)
Owner: County of Santa Cruz
APN: 061-371-16

Agenda Date: September 15,2006
Agenda Item #: 4.
Time: After 10:00 p.m.

Project Description: Proposal to co-locate three wireless communications antennas on an existing 120-foot monopole and to construct three associated equipment cabinets, two power/telco boxes, and GPS antenna onto a new steel platform. Power and telco service to be routed overhead with no proposed ground disturbance.

Location: The project is located on the east side of Graham Hill Road approximately ½ mile north of Lockewood Lane (3650 Graham Hill Road).

Supervisoral District: 5th District (District Supervisor: Mark Stone)

Permits Required: Amendment to Commercial Development Permit 96-0626

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 05-0474, based on the attached findings and conditions.

Exhibits

A.	Project plans		& Recommendations), dated June 26,2006
B.	Findings	J.	***No Take Concurrence Letter,*** prepared by the U.S. Fish & Wildlife Service, dated August 8,2006
C.	Conditions	K.	Letter from Jodi McGraw dated May 5,2006
D.	Categorical Exemption (CEQA determination)	L.	Letter from Bill Davilla dated August 15,2006
E.	Assessor's parcel map	M.	Comments & Correspondence
F.	Zoning and General Plan map		
G.	NIER Study by Hammet & Edison,		
H.	Aerial Photos and Photo-simulation		
I.	Habitat Mitigation Plan (Conclusions		

Parcel Information

Parcel Size:	27.88 acres (EMIS estimate)
Existing Land Use - Parcel:	Public Use (County juvenile detention facility) and Wireless Communications facility
Existing Land Use - Surrounding:	Special Use/Open Space (Mount Hermon conference center, open space, and a mineral quarry)
Project Access:	Graham Hill Road – a County-maintained road
Planning Area:	San Lorenzo Valley
Land Use Designation:	SU (Special Use)
Zone District:	P/R-M (Public Facility/Mountain Residential)
Coastal Zone:	__ Inside X Outside

Environmental Information

Geologic Hazards:	Not mapped/no physical evidence at the project site
Soils:	Soils Report not required
Fire Hazard:	Not a mapped constraint
Slopes:	No slopes over 30% at project site or access road
Env. Sen. Habitat:	Mapped Sandhills habitat – Habitat Mitigation Plan approved by USFWS
Grading:	No grading proposed
Tree Removal:	No trees proposed to be removed
Scenic:	Potentially visible from Graham Hill, a designated scenic corridor
Drainage:	Existing drainage adequate
Traffic:	No additional trip generation
Roads:	Existing roads adequate
Parks:	Existing park facilities adequate
Sewer Availability:	NIA
Water Availability:	N/A
Archeology:	Not located within a mapped resource area

Services Information

Urban/Rural Services Line:	__ Inside X Outside
Water Supply:	N/A
Sewage Disposal:	N/A
Fire District:	Scotts Valley Fire Protection District
Drainage District:	N/A

History

The project site is developed with an existing 120-foot monopole approved under Commercial Development Permit 96-0626 in March of 1998.

A condition of approval for Permit 96-0626 required the preparation and maintenance of a habitat monitoring and mitigation. In the time since the 1998 approval, the Sandhills habitat has not been adequately maintained and invasive plant species have re-established in the area presenting a continued threat to the recovery of protected plant species.

Analysis and Discussion

The current proposal consists of a co-location to install 3 panel antennas, a microwave dish, ground equipment shelter, a GPS unit and the construction of a steel platform for all equipment cabinets. The steel platform and overhead utility scheme will allow the proposed improvements to occur without any ground disturbance.

In addition to the existing 120-foot monopole, the site is developed with a County juvenile detention facility, located approximately 750 feet from the monopole.

Zoning Issues

The property is an approximately 70-acre parcel, zoned Special Use (SU) with Public Facility and Mountain Residential General Plan designations. The proposed wireless communication facility is an allowed use within the SU zone district and, while one of the General Plan designations is residential, the proposal is a co-location, which is allowed in accordance with County Code Section 13.10.661(b) and (c).

This application is subject to County Code 13.10.660 (Regulations for the siting, design, and construction of wireless communications facilities). Regarding subsection 13.10.661(f), the application is consistent with site location requirements in that the proposed antennas have been sited in the least visually obtrusive area and are screened by natural vegetation and topography which will allow the preservation of the visual character and aesthetic values of the parcel and surrounding area. **As** stated, the proposal is a co-location as encouraged per County Code 13.10.661(g), which dictates that potentially increasing the visual impact of an existing tower must be weighed against the potential visual impact of constructing a new separate tower/facility nearby. Based on evidence submitted, the subject proposal does not *significantly* increase the visual impact of the existing facility. Development on this site does not place new development on a ridge, nor does the development disturb the existing topography or on-site vegetation. The construction of a new tower/facility within this area would impose significant potential impacts to the Sandhills habitat, which exists throughout the vicinity of the subject site.

Alternative Site **Analysis**

An alternative site analysis is not required for the proposed project, since placing the proposed antennas at the proposed site would significantly ***reduce*** environmental impacts. The creation of additional road grading, electrical utilities, and the potential that an additional tower may need to be erected to accommodate MetroPCS coverage needs, all of which would create unnecessary, additional impacts to the environment and/or scenic resources that are located on the surrounding parcels.

Visual Impacts

The existing monopoles on the project site are minimally visible from Graham Hill Road, and Mount Hermon Road, two designated scenic corridors. The proposed project is designed such that it will appear as additional antennas on an existing telecommunication facility. The proposed antennas will be painted to match the exterior of the existing telecommunications tower. The equipment cabinets and generators will be enclosed in an existing six-foot high chain link fence with redwood slats. The entire lease area is located nearly a quarter mile from the roadway and the equipment cabinets will not be visible. No further visual analysis has been required.

The proposed antennas and equipment cabinets will not affect private views in that the facility is surrounded by open space, mineral quarry property and the edge of the Mount Hermon conference center. The Mount Hermon property does not contain any structures in the vicinity of the monopole. The proposal as designed will appear substantially the same as the existing telecommunication facility, which is located nearly a quarter mile from Graham Hill Road and several miles from Mount Hermon Road. The top of the monopole may be visible from portions of Graham Hill Road and Mount Hermon Road, but the distance, topography, and surrounding vegetation provide abundant screening for both the existing facility and proposed additional antennas. The cabinets will not be visible to the surrounding properties due to topography, screened fencing and distance from adjacent structures.

The proposed telecommunication antennas will be painted to match the existing exterior of the telecommunication tower. The associated equipment cabinets will be placed onto a new steel platform within the existing lease area to avoid ground disturbance. No generator is proposed.

The proposed MetroPCS co-location mounted antennas fully complies with all Federal Communication Commission (FCC) guidelines, construction requirements, technical standards, interference protection and radio frequency regulations.

Biotic Resources

As discussed previously, the project is located within the Sandhills biotic area and several protected plant species have been identified in relatively close proximity to the monopole location. The area also provides habitat for the federally listed Zayante band-winged grasshopper and Mount Hermon June beetle. Jodi McGraw, an entomologist specializing in Sandhills habitat, performed an assessment of the subject site and reviewed the proposal to analyze possible impacts to protected plant and animal species (Exhibit K). Additionally, Ms. McGraw prepared a Habitat Mitigation Plan, dated June 26,2006, (Exhibit I) in order to address the failure of past

mitigation efforts on the site and to provide a revised plan to enhance the structure and composition of the native Sandhills communities. After reviewing the Habitat Mitigation Plan (HMP), a ***No Take Concurrence*** letter has been received by Roger Root with the U.S. Fish & Wildlife Service (USFWS). This letter states that the USFWS concurs that the proposed project activities will not adversely affect either protected plant or animal species associated with the Sandhills habitat.

The HMP was additionally reviewed and accepted by the County's Biotic Consultant, Bill Davilla (Exhibit L). Mr. Davilla concurs with the proposed HMP and recommends adoption of the mitigation measures as proposed. Mr. Davilla did find, however that the costs of implementation might exceed estimates contained in the HMP. Therefore, the Conditions of Approval for this project will require a security in the amount of 150% of the estimated cost plus a contingency of 25% as recommended by Bill Davilla.

The 2006 HMP effectively transfers responsibility for the original habitat loss and mitigation failure to the current applicant (MetroPCS). The revised HMP provides a different approach from the original mitigation plan, providing a greater likelihood of success. In his review of the revised HMP, Bill Davilla states, "my review of the plan finds it to be both a positive and scientifically justified approach to enhancement of the rare Sandhills habitats, in particular sand parkland. The methods proposed will best mimic the natural ecological processes associated with the Sandhills communities and will enhance species richness and cover of the native Sandhills plants."

The current project is conditioned to require the implementation of the HMP, including a review after 5 years to evaluate the success rate of enhanced habitat. If the success criteria have been met, the site will be considered fully mitigated. If criteria have not been met, an additional 5-year period will be required for review.

It should be noted that the failure of the original mitigation plan appears to have been due, in part, to limitations in understanding of the ecology of the Sandhills parkland ecosystem and inappropriate success criteria, rather than through faulty implementation. The revised HMP provides a more realistic set of expectations and criteria for success, including enhancement and monitoring activities in each of the five years of plan implementation.

Radio Frequency (RF) Exposure

The applicant has submitted a study by Hammett and Edison, Inc., consulting engineers, which indicates that the maximum calculated cumulative level at ground for the simultaneous operation of both carriers is 0.15% of the public exposure limit; the maximum calculated level at the second floor elevation of any nearby building is 0.18 % of the public exposure limit set by the Federal Communications Commission.

Section 47 USC 332 (c)(7)(iv) of the Telecommunications Act of 1996 forbids jurisdictions from regulating the placement, construction, or modification of Wireless Communications Facilities based on the environmental effects of RF emissions if these emissions comply with FCC standards. The RF emissions of the proposed wireless communications facility comply with the FCC standards.

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

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.

- **APPROVAL** of Application Number **05-0474,** based on the attached findings and conditions.

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 conditions and/or project design to minimize and mitigate its visual and other resource impacts.

This finding can be made, in that the proposed co-location will not result in a significant increase in visual impacts, as the new antennas will be located below the existing antennas on the monopole, and are virtually indistinguishable from the existing array. Surrounding vegetation, topography and distance of nearly ¼ mile, shield visibility of the facility from Graham Hill Road and Mount Hermon Road, which are County, designated scenic comdors. While the site contains biotic resources, the proposal will result in the restoration and improvement of the biotic areas by implementing an updated and extensive Habitat Management Plan.

2. That the site is adequate for the development of the proposed wireless communications facility and that the applicant has demonstrated that there are not environmentally superior and technically feasible alternative sites or designs for the proposed facility.

This finding can be made, in that the project is a co-location onto an existing facility, where the visual impacts of additional antennas will be less than the impact of the construction of a new tower/facility nearby as the site is shielded from Graham Hill Road and Mount Hermon Road by existing vegetation and topography. Therefore, no environmentally superior sites exist in the vicinity. Additionally, the surrounding area consists of protected Sandhills habitat and any new facility would pose a threat to federally listed endangered plant and animal species.

3. That 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 and that all zoning violation abatement costs, if any, have been paid.

This finding can be made, in that the existing public facilities use of the subject property is in compliance with the requirements of the zone district and General Plan designation, in which it is located.

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

4. That the proposed wireless communications facility will not create a hazard for aircraft in flight.

This finding can be made, in that the proposed antennas will be located on an existing monopine. The existing monopine is 120 feet in height and therefore too low to interfere with aircraft in flight.

5. That the proposed wireless communications facility is in compliance with all FCC and California PUC standards and requirements.

This finding can be made, in that the maximum ambient RF levels at ground level due to the existing wireless communications facilities and the proposed operation at ground level are calculated to be 0.15% of the public exposure limit and 0.18% of the applicable public limit at the second floor elevation of any nearby buildings.

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, as the proposed co-location of three wireless communication antennas and associated equipment will be required to comply with all applicable building and electrical codes, and standards of the California Public Utilities Commission (PUC) and the Federal Communications Commission (FCC). The cumulative maximum ambient Radio Frequency (RF) levels for all wireless communication facilities on site will not exceed .18% of the maximum public exposure levels.

Condition of Approval IV.J requires that the most recent and efficient technology will be used and 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 new antennas will be located on an existing monopole and represent very little change from the existing development, minimizing their visual impact. Additionally, surrounding vegetation, topography and distance screens the project area from structures and roadways in the vicinity.

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 co-locations are permitted within the SU (Special **Use)** zone district where the visual impacts of adding new antennas are less than constructing a new facility on another parcel nearby. The proposed co-location of three antennas and construction of associated equipment cabinets complies with all applicable provisions of the County's Wireless Communication Facility Ordinance (Sections 13.10.660 through 13.10.668), as the project is a co-location on an existing facility with a negligible increase in visual impacts. Furthermore, the proposed equipment cabinets and generator will comply with all SU zone district setbacks.

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, as the proposed co-location will not adversely impact the light, solar opportunities, *air,* and/or open space available to other structures or properties since the existing tower meets all setbacks **and** site standards for the SU zone district as specified in Objective 8.1.3 of the General Plan. The proposed development is a conditional use within the SU zone district in accordance with General Plan Policy 5.12.3.

The proposal is located on a site that is potentially visible from Graham Hill Road and Mount Hermon Road, two County-designated scenic roadways. Since the three proposed antennas will be mounted onto an existing 120-foot monopole and existing vegetation screens the vast majority of the tower from the scenic roadways, the visual impact of the proposed co-location will be negligible and will comply with Objective 5.10.3 of the General Plan (Protection of Public Vistas).

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, as the proposed co-location of three antennas onto an existing monopole and the associated equipment cabinets will not overload utilities since no water or sewer service will be used and adequate electricity is available to the site. The project will not generate traffic on the streets in the vicinity in that the facilities are planned for unattended hon-habitable operation. Improved wireless communication resulting from the installation of this facility may have a positive impact on traffic circulation in that drivers will have improved access to emergency services thereby reducing response time.

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 antennas will be flush-mounted and camouflaged by trees that are adjacent to the existing monopole. The antennas will also be painted to match the existing antennas. The lease area housing the existing and proposed equipment cabinets is not visible from any surrounding structures or roadways. The wireless antenna co-location will not increase the land use intensity or dwelling unit density of the neighborhood.

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 wireless communication antennas and associated equipment cabinets will be screened from view of motorists on Graham Hill Road and Mount Hermon Road by existing trees and vegetation and distance from the roadway. Furthermore, the antennas will be lower than the existing antennas on the monopole and will be partly camouflaged by the branches of the adjacent pine trees, which are as tall or taller than the monopole. The antennas will be painted to match the color of the existing antennas to further minimize their visual impact.

Conditions of Approval

Exhibit A: Project Plans prepared by Omni Design Group, Inc., 7 sheets, dated July 27,2006.

I. This permit authorized the installation of three panel wireless antennas at about 105'-6" above ground level on an existing monopole, the installation of a microwave dish at about 65 feet above ground level, a GPS unit, and equipment cabinets installed on a proposed steel platform. 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. The applicant shall obtain approval from the California Public Utilities Commission and the Federal Communications Commission to install and operate this facility.

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. 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. Identify finish and color of exterior materials of the antennas, the equipment cabinets/telco boxes, microwave, and fencing for Planning Department approval. Paint for the antennas must be non-reflective and match the existing paint color of the antennas, while the proposed equipment shelter/cabinets shall be painted a neutral earth tone color.

2. Identify the height and material of fencing surrounding the lease area.

3. Grading drainage, and erosion control plans, as required.

4. All new electric and telecommunications lines shall be placed underground.

5. 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. Place a security in the amount of 150% of the estimated cost of implementation of the approved Habitat Management Plan plus a 25% contingency.

E. To guarantee that the proposed antennas remain in good visual condition and to ensure the continued provision of mitigation of the visual impact of the wireless communications facility, the applicant shall submit a maintenance program prior to building permit issuance which includes the following:

1. A signed contract for maintenance with the company that provides the exterior finish and camouflage materials, for annual visual inspection and follow-up repair, painting, and resurfacing as necessary.

F. Meet all requirements of and pay all required drainage fees to the County Department of Public Works, Drainage. Drainage fees will be assessed on the net increase in impervious area.

G. Obtain an Enwronmental Health Clearance for this project from the County Department of Environmental Health Services.

H. Meet all requirements and pay any applicable plan check fee of the Scotts Valley Protection District.

III. 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. The project must comply with all recommendations of all soils reports prepared for this site.

D. Pursuant to Sections 16.40.040 and 16.42.100 of the County Code, if at any time 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.

IV. Operational Conditions

A. A Planning Department review that includes a public hearing shall be required for any future co-location at this wireless communications facility.

B. 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.

C. All recommendations made in the Habitat Management Plan prepared for this site must be implemented. Annual reports must be submitted to the Planning Department that document the progress of the habitat enhancement for a period of not less than 5 years from the date of building permit issuance. These reports shall be reviewed by the Environmental Coordinator. At the end of the 5-year period, the site will be evaluated to see whether success criteria, as outlined in the Habitat Management Plan, has been attained. This assessment shall be certified by Jodi McGraw or Dr. Richard Arnold and reviewed by the Environmental Coordinator. If success criteria have not been attained, a new 5-year period for attainment will begin and annual reports submitted. The performance security shall be in force for a period of not less than 10 years from the date of building permit issuance.

D. The equipment cabinet area must be locked at all times expect when authorized personnel are present. The antennas must not be accessible to the public.

E. The NIER hazard zone will be posted with bilingual NIER hazard warning signage that also indicates the facility operator and a 24-hour emergency contact who is authorized by the applicant to act on behalf of the applicant regarding an emergency situation.

F. The camouflage materials, ground-mounted tower and antennas shall be permanently maintained and replacement materials and/or paint shall be applied as necessary to maintain the camouflage of the tower.

G. All noise generated from the approved uses shall be contained on the property.

H. Within 90 days of the commencement of normal operations, or within 90 days after any modification to power output of the facility, a report must be submitted documenting the non-ionizing electromagnetic radiation (NIER) emissions of the project in order to verify compliance with the FCC's NIER standards.

I. All site, building, security and landscape lighting shall be directed onto the lease site and 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.

J. 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.

K. If, as a result of future scientific studies and alteration 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 and existing Federal standards are modified, the Santa Cruz County Planning Department shall set a public hearing and in its sole discretion, may revoke or modify the condition of this permit.

L. 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.

V. 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, it 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 hy the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Please note: This permit expires two years from the effective date unless you obtain the required permits and commence construction.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Don Bussey	Robin Bolster-Grant
Deputy **Zoning** Administrator	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: 05-0474
Assessor Parcel Number: 061-371-16
Project Location: 3650 **Graham** Hill Road

Project Description: Proposal to co-locate three wireless communications antennas on **an** existing 120-foot monopole and to construct three associated equipment cabinets, two power/telco boxes, and GPS antenna onto a new steel platform. Power and telco service to be routed overhead with no proposed ground disturbance. Amendment to Commercial Development Permit 96-0626

Person or Agency Proposing Project: Evan Shepherd-Reiff

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 Proied** involving only the **use** of fixed standards or objective measurements without personal judgment.

D. ____ **Statutory Exemotion** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify **type:**

E. __x__ **Categorical Exemption**

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

F. Reasons why the project is exempt: This project involves mounting 3 additional antennas on **an** existing 120-foot high telecommunications monopole at the 105-foot elevation, GPS unit and equipment cabinets onto a steel platform. An existing telecommunications tower exist currently as well as associated equipment sheds and fencing. The parcel is zoned **SU** with an Open Space and Residential General Plan designation. Telecommunications towers are a conditionally allowed **use** in this zone district and General Plan designation. The proposed project meets all zoning and General Plan requirements, is minor in nature, and therefore qualifies for the CEQA exemption.

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

_____ Date:_____
Robin Bolster-Grant, Project Planner

EXHIBIT D

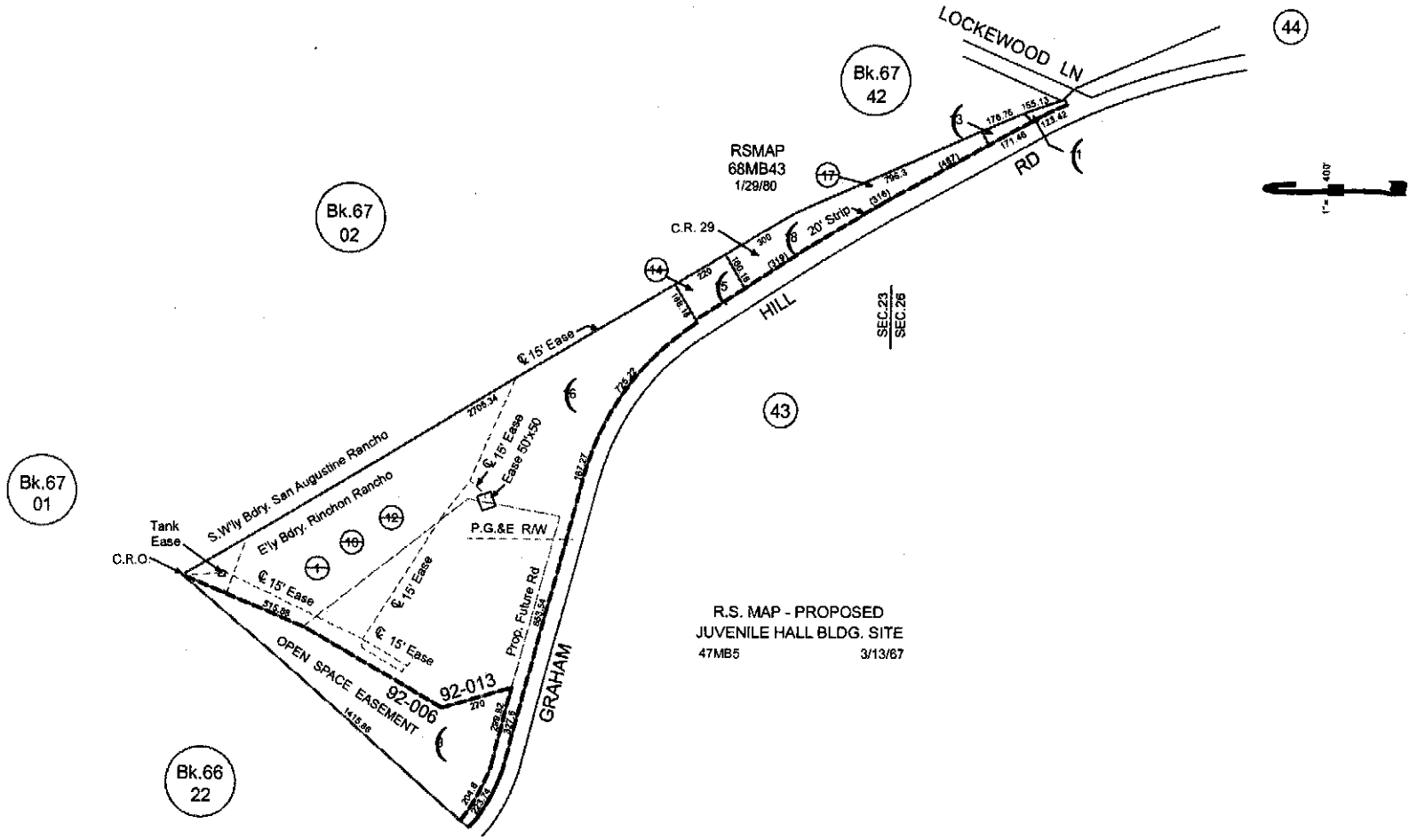
FOR TAX PURPOSES ONLY

POR. RINCON RANCHO
SECS. 23,25, & 26, T.10S., R.2W., M.D.B & M.

Tax Area Code
92-006 92-013

61-37 E

EXHIBIT

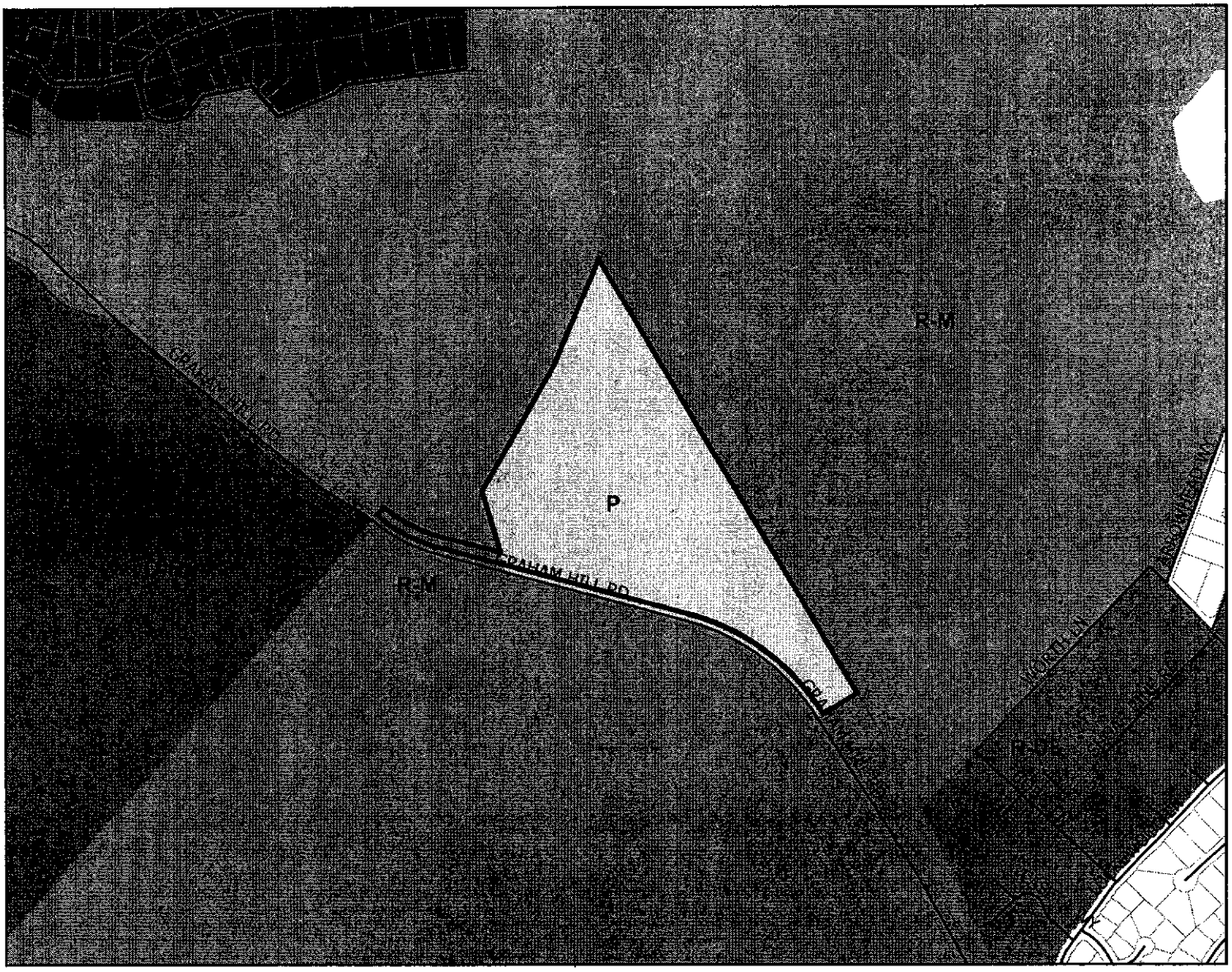


Note - Assessor's Parcel & Block Numbers Shown in Circles

Assessor's Map No. 61-37
County of Santa Cruz, Calif.
Jan 1964

Electronically drawn 7/19/96 KSA
Rev. 7/19/96 por. 61-44 KSA
Rev. 7/10/01 mvm (changed page no's.)
Rev. 5/17/02 mvm (TCA change)
Rev 4/9/03 CB (Cor to TCA)
Rev. 3/15/06 LLO (Spatial Adjustment)
Rev 3/15/06 LLO (Changed Street Name)

General Plan Designation Map



0 550 1,100 2,200 3,300 4,400 Feet

Legend

- APN 061-371-16
- Assessors Parcels
- Streets
- Public Facilites (P)
- Residential-Mountain (R-M)
- Residential - Urban Low Density (R-UL)
- Parks and Recreation (O-R)
- Residential-Suburban (R-S)

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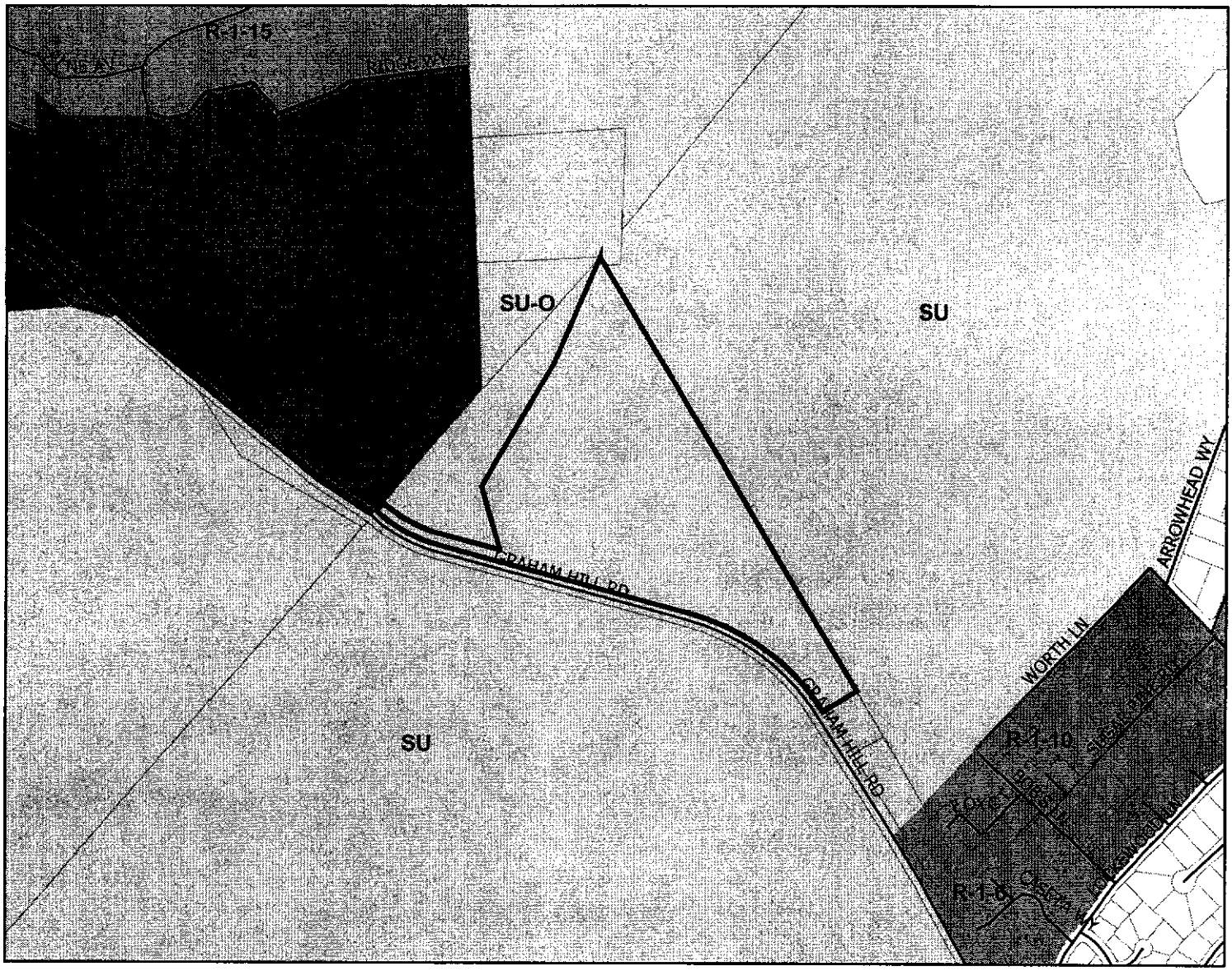
Map Created by
County of Santa Cruz
Planning Department
July 2005

EXHIBIT F

Zoning Map



Legend

- APN 061-371-16
- Assessors Parcels
- Streets
- SPECIAL USE (SU)
- RESIDENTIAL-SINGLEFAMILY (R-1)
- PARK (PR)

N
W E
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Map Created by
County of Santa Cruz
Planning Department
July 2005

EXHIBIT F

MetroPCS • Proposed Base Station (Site No. SF16530A)
3650 Graham Hill Road • Scotts Valley, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The *firm* of Hammed & Edison, Inc., Consulting Engineers, has been retained on behalf of MetroPCS, a personal wireless telecommunications carrier, to evaluate the base station (Site No. SF16530A) proposed to be located at 3650 Graham Hill Road in Scotts Valley, 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:

Personal Wireless Service	Approx. Frequency	Occupational Limit	Public Limit
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 "cabinets") 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 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 square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Metro, including zoning drawings by Omni Design Group, Inc., dated June 16,2005, it is proposed to mount **up** to six EMS Model RR6518-00DPL directional panel PCS antennas on an existing 124-foot steel pole located atop a hill at 3650 Graham Hill Road in Scotts Valley. The antennas would be mounted at an effective height of about 103 feet above ground and would be oriented in pairs at 120" spacing, to provide service in all directions. The maximum effective radiated power in any direction would be 1,890 watts, representing six channels operating simultaneously at 315 watts each. Presently located higher on the same pole are similar antennas for use by Cingular Wireless, another personal wireless telecommunications carrier. For the purposes of this study, it is assumed that Cingular has installed Kathrein Scala Model AP14/17-880-1940/065 directional dualband antennas **and** operates with a maximum effective radiated power of 1,500 watts.

Study Results

For a person anywhere at ground, the maximum ambient RF exposure level due to the proposed MetroPCS operation by itself is calculated to be 0.00030 mW/cm^2, which is 0.030% of the applicable public exposure limit. The maximum calculated cumulative level at ground for the simultaneous operation of both carriers is 0.15% of the public exposure limit; the maximum calculated cumulative level at the second floor elevation of any nearby building is 0.18% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels. 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.

No Recommended Mitigation Measures

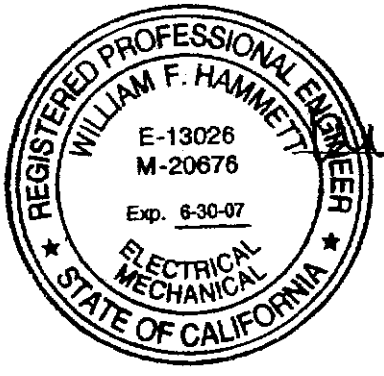
Since they are to be mounted on a tall pole, the Metro antennas are not accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that both carriers will, as FCC licensees, take adequate steps to ensure that their employees or contractors comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the base station proposed by MetroPCS at 3650 Graham Hill Road in Scotts Valley, California, will comply with the prevailing standards for limiting human exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration 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.



William F. Hammett, P.E.

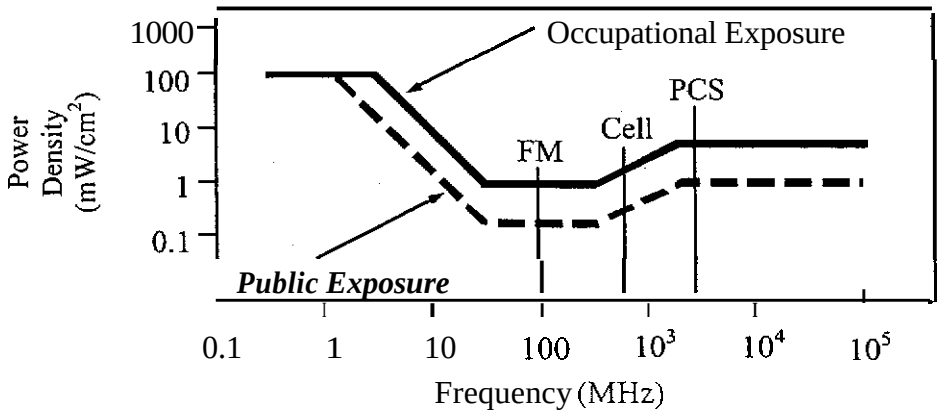
July 18,2005

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:

Freauencv	Electromagnetic Fields (f is freauencv 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	*614*	1.63	*1.63*	100	*100*
1.34– 3.0	614	*823.8/f*	1.63	*2.19/f*	100	*180/f²*
3.0– 30	18421**f**	*823.8/f*	4.89/ f	*2.19/f*	900/ f²	*180/f²*
30– 300	61.4	*27.5*	0.163	*0.0729*	1.0	0.2
300– 1,500	3.54√f	*1.59√f*	√f /106	*√f/238*	f/300	*f/1500*
1,500– 100,000	137	*61.4*	0.364	*0.163*	5.0	1.0



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. Hammed & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications 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:

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

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:

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

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 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula 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.

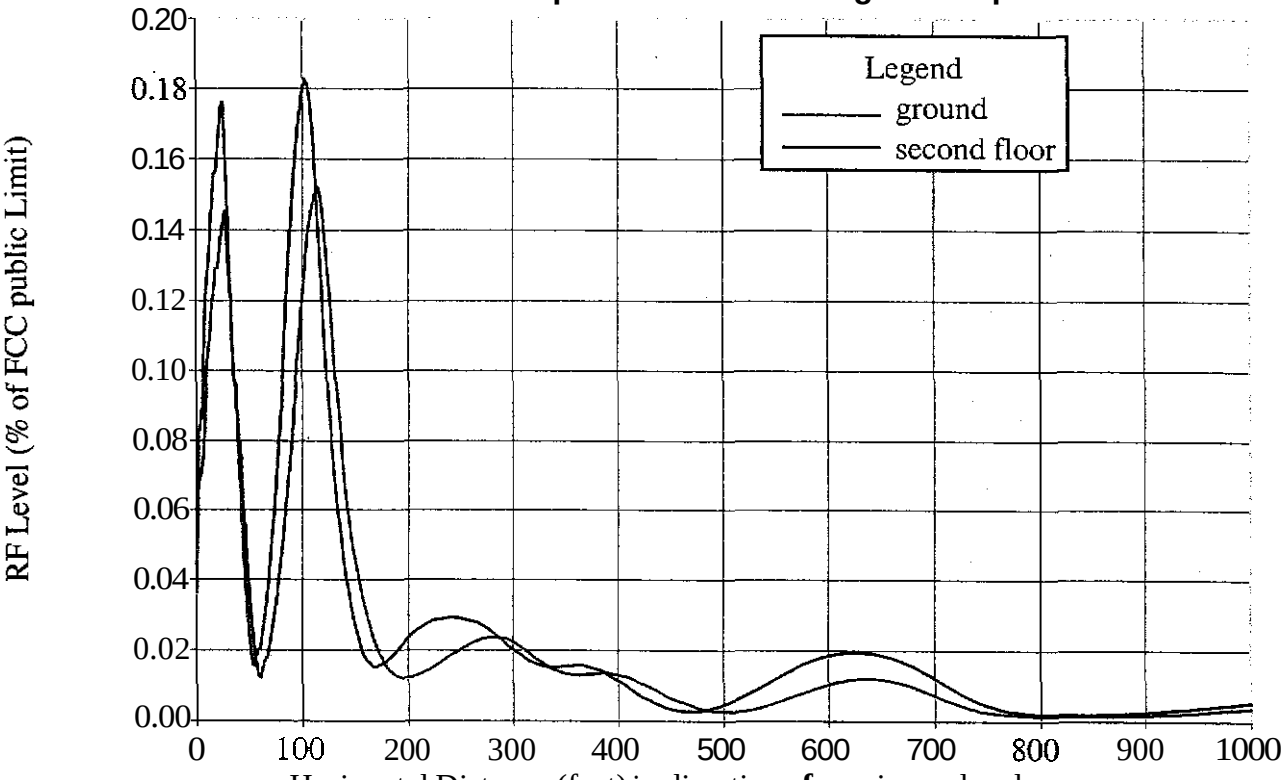
EXHIBIT G

MetroPCS • Proposed Base Station (Site No. SF16530A)
3650 Graham Hill Road • Scotts Valley, California

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



RF level (% limit)

Distance (feet)	50	100	200	300	500	750	1,000
ground	0.040%	0.12%	0.012%	0.022%	0.0025%	0.0024%	0.0035%
second floor	0.028%	0.18%	0.024%	0.020%	0.0046%	0.0043%	0.0051%

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) - 1,890 watts

Effective Metro antenna height above ground - 103 feet

Other sources nearby - Cingular

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

Plan for restricting public access - Antennas are mounted on a tall pole

MetroPCS • Proposed Base Station (Site No. SF16530A)
3650 Graham Hill Road • Scotts Valley, California

Calculated NIER Exposure Levels
Within 1,000 Feet of Proposed Site
for Simultaneous Operation of Metro and Cingular

Aerial photo from Terraserver

Legend
blank - less than 0.10% of FCC public limit (*i.e.*, more than 1,000 times below)
- 0.10% and above near ground level (highest level is 0.15%)
- 0.10% and above at 2nd floor level (highest level is 0.18%)

Calculated using formulas in FCC Office of Engineering Technology Bulletin No. 65 (1997),
idering terrai iati ithin 1,000 feet of site. See text for further information.

EXHIBIT H

Site Location - The site was located by using the street address, plotted on MapQuest, found with posted address signs at the dirt road and confirmed by the presence of the existing 120 ft monopole on site.

Viewpoint Selection - The site is located on the crest of a ridge that adjoins the quarry. Since there is an existing 120 ft pole on the site, it was easy to establish the pole as a reliable landmark. There are dense trees all around the site, making it nearly impossible to spot from Graham Hill Road. However, when standing on the ridgeline, the site the shopping center on Mt Hermon Road was visible. Therefore, the pole should be visible from that location. This was an obvious viewpoint. The other two viewpoints were taken at the site, one from the access road to show the antennas, and another from the open space area just north of the site, to show the proposed equipment.

Scale - The proposed antennas will be mounted to an existing 120 ft pole. The dimensions of the existing pole were provided by 90% Zoning Drawings, supplied by the project applicant and prepared by Omni Design Group. Rough measurements were taken in the field to confirm the drawings and it was concluded the drawings were accurate.

Equipment Information - The images were taken with a Canon 1Ds Mark II Professional Digital camera with a 1:1 conversion ratio using standard lenses. GPS equipment: Garmin Vista. Distance measured with Bushnell 1000 digital laser range finder. Height scale achieved with Suunto clinometer or Topcon theodolite. All image manipulation is done using Adobe Photoshop on Macintosh G5 workstations.

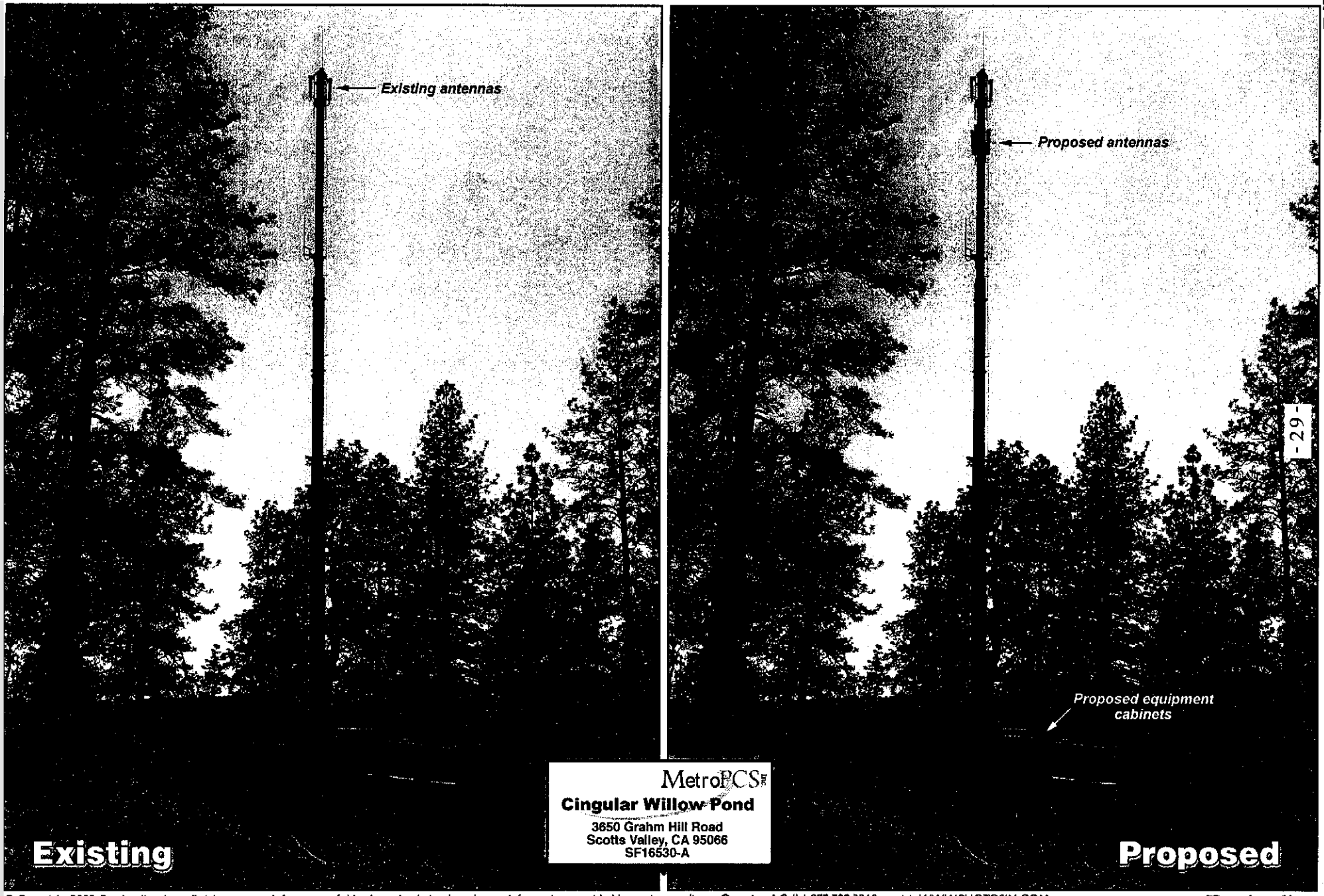
MetroPCS

Cingular Willow Pond

3650 Grahm Hill Road
Scotts Valley, CA 95066
SF16530-A

Previsualists

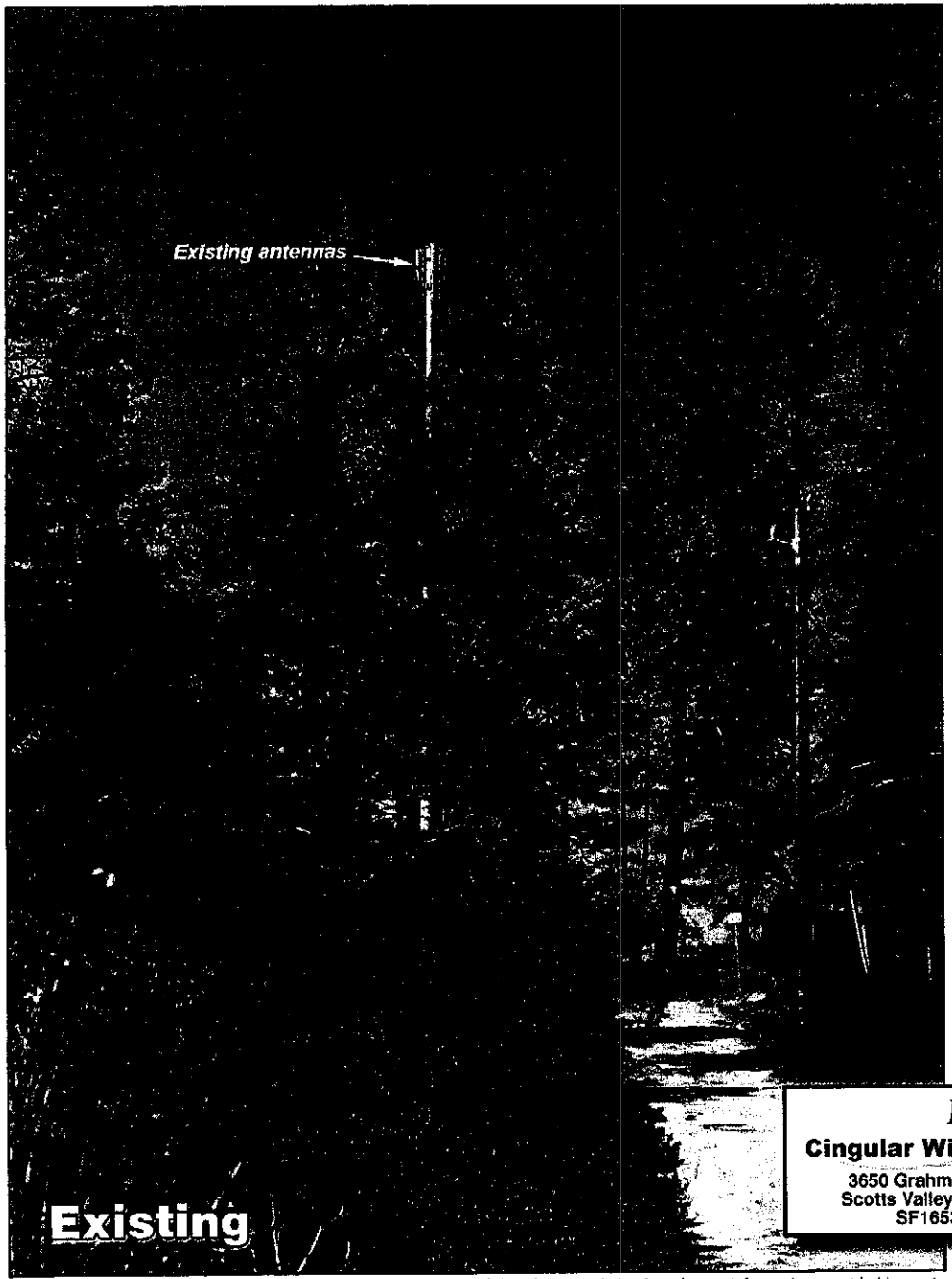
Photosimulation of view looking southwest from raw land north of the site.

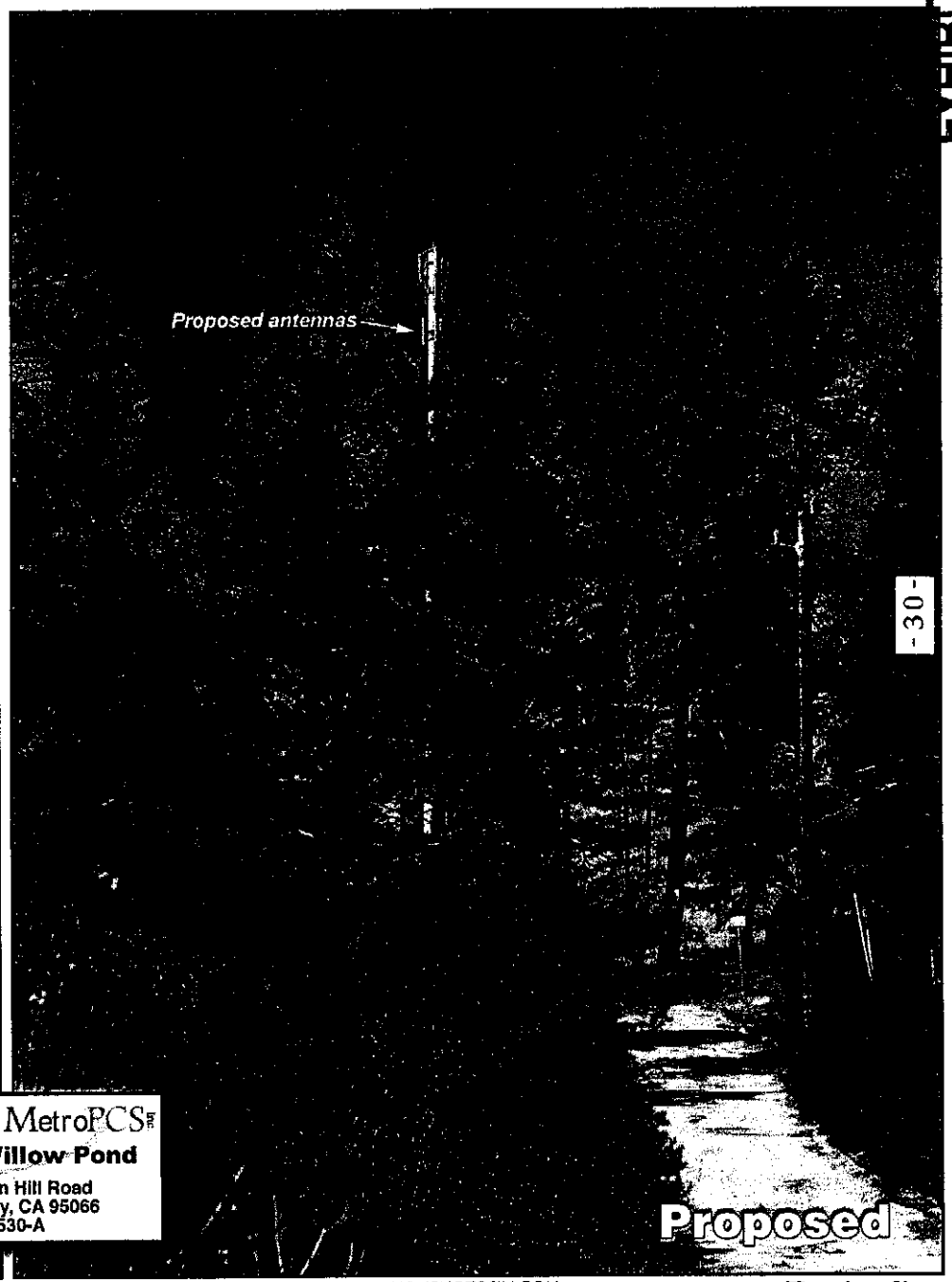


Previsualists

EXHIBIT H

Photosimulation of view looking northwest from the dirt access road.





MetroPCS

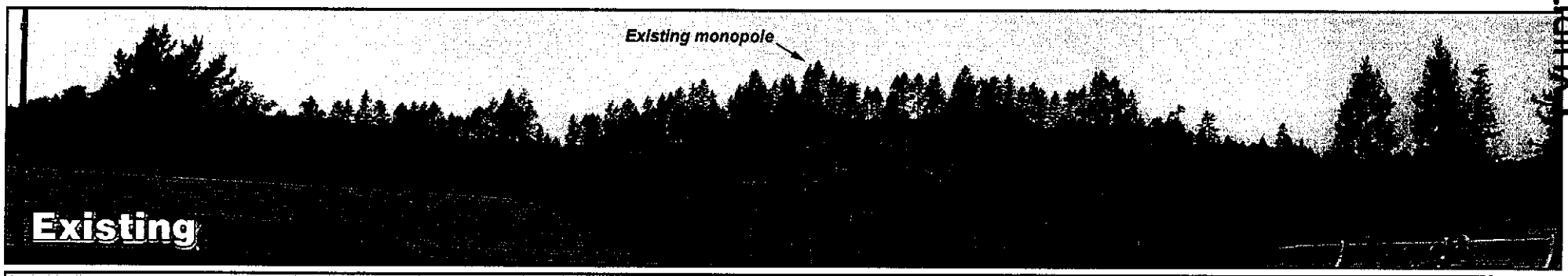
Cingular Willow Pond

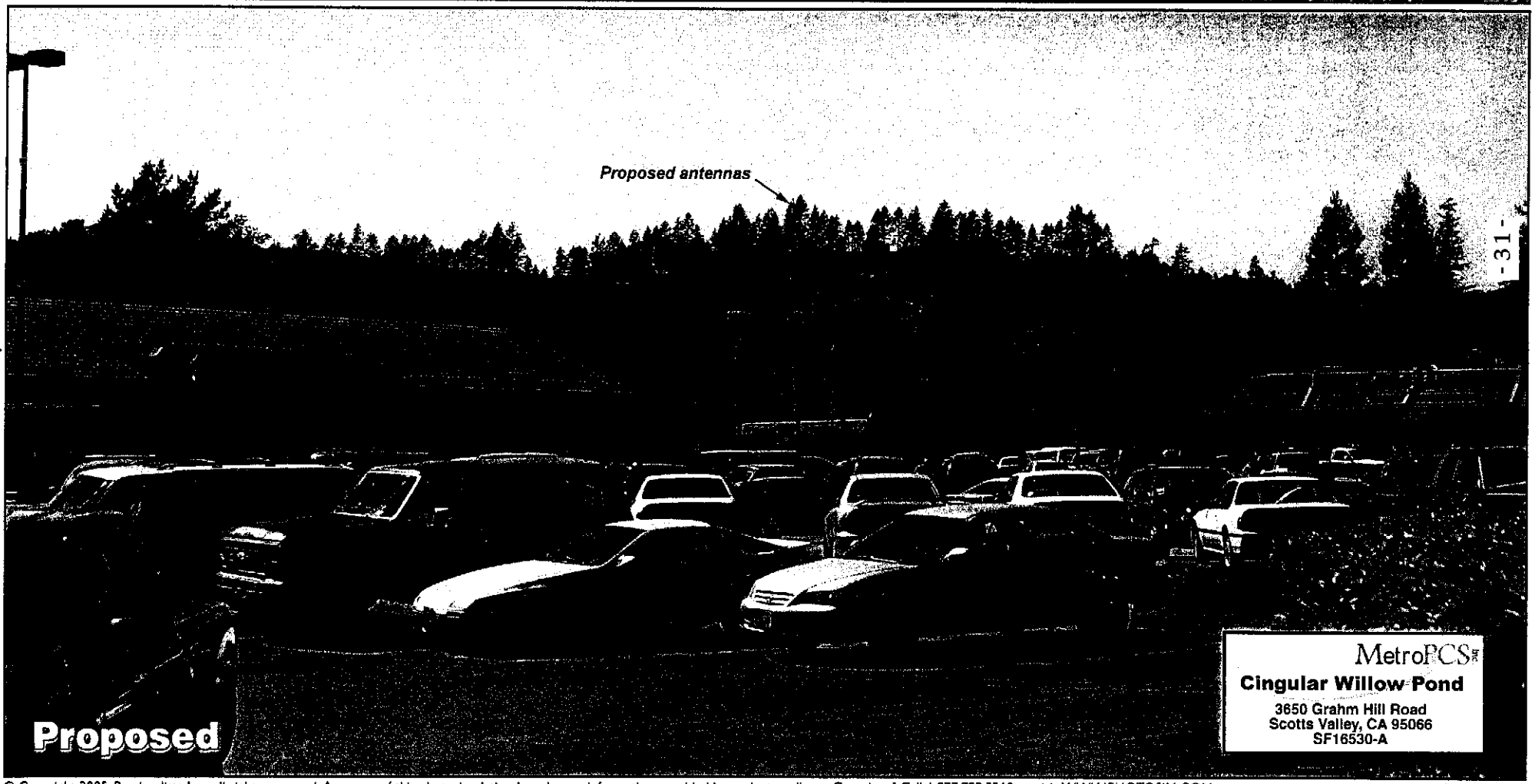
3650 Grahm Hill Road
Scotts Valley, CA 95066
SF16530-A

Previsualists

EXHIBIT H

Photosimulation of view looking southwest from Mt Hermon Road.





Previsualists

DRAFT

HABITAT MITIGATION PLAN FOR THE

METRO PCS CINGULAR/WILLOW POND PROJECT (APPLICATION: 05-0474)

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Submitted to:

Paia Levine
Robin Bolster-Grant
Planning Department
County of Santa Cruz
701 Ocean Street. 4th Floor
Santa Cruz, CA 95060

June 26,2006

EXHIBIT 1d

EXECUTIVE SUMMARY

In order to provide their wireless customers with communications coverage in Scotts Valley, Felton, and along Graham Hill Road, Metro PCS, a telecommunications company, is seeking to install new antenna equipment atop Mount Hermon on property owned by the County of Santa Cruz (APN **061-371-16;** Figure 1). The antenna site and access road are located in a rare and unique habitat recognized as "sensitive" through the County of Santa Cruz's Sensitive Habitat Ordinance: the Santa Cruz Sandhills. The Santa Cruz Sandhills (hereafter "Sandhills") support multiple special status insect and plant species, several of which are known to occur within or in close proximity *to* the project site (Table 1).

As part of their County of Santa **Cruz (hereafter** "County") permit application, Metro PCS has developed this plan *to* describe the steps it will take to avoid, minimize, and mitigate impacts **of** the Project on the sensitive habitat and special status species. Per the request of the County, this plan also describes how **the** Metro PCS will fulfill the outstanding mitigation of the original antenna installation project at the site, which was conducted by Cellular One (Permit # **96-0626).**

The installation process for the Metro PCS antenna equipment was carefully designed by project planners, engineers, and a biologist with expertise in the ecology of the Sandhills, in order to avoid new impacts to the special status species and endemic Sandhills Communities through a variety of measures including:

1. Confming work crews to rocked and paved surfaces associated with the existing infrastructure
2. Elevating new equipment cabinets above the soil surface using steel beams that will be connected to two existing concrete slabs
3. Mounting the antennas on the existing monopole.
4. Linking equipment cables *to* the antenna through an existing overhead cable tray.
5. Grounding equipment to an existing pole.

The only anticipated impact associated with the Metro PCS project is potential reduction in survivorship of silverleaf manzanita due *to* pruning required to maintain the access road.

To mitigate this project impact, and *to* **fulfill** the outstanding mitigation obligation associated with the original antenna site installation, this plan will guide implementation of a suite of habitat management techniques designed *to* enhance the structure and composition of **the** native Sandhills communities **by** reducing the negative impacts **of** three anthropogenic factors degrading habitat at the site:

1. Exotic brooms (i.e. Portuguese broom and French broom)
2. European annual **grasses** and forbs
3. Disruption of the natural disturbance regime

Habitat enhancement will be implemented within two treatment areas, which identified based on the high potential for benefit to the special status species and communities at the site (Figure **4):**

1. **A 2.5** acre sand parkland treatment area
2. **A** 0.37 acre ponderosa pine forest treatment area

Located adjacent to the antenna facility, the sand parkland treatment area supports populations of Mount Hermon June beetle, Ben Lomond spineflower, and Ben Lomond buckwheat. It has been degraded by the occurrence of exotic brooms, which are patchily dense near the antenna facility, and scattered throughout the treatment area. It has also been degraded by fire suppression, which allows accumulation of dense leaf litter on the soil surface that inhibits the endangered herbs and facilitates the establishment of European annual grasses and forbs, which outcompete native plants. The sand parkland treatment area includes the 6,000 square feet of habitat which were initially restored as part of the original habitat mitigation plan for the site.

The objectives of habitat enhancement within sand parkland will be to reduce the cover of exotic brooms to less than 10%, and increase native plant cover and species richness (number of species) by 30% within five years. To attain these objectives, exotic brooms will be removed annually for five years, using a combination of cutting, hand pulling, flaming, and targeted herbicide application designed to enhance effectiveness while avoiding impacts to the special status species which occur in the area. To simulate a ground fire and reduce the abundance of European annual grasses and forbs, approximately 1.75 acres of the treatment area where litter has accumulated to a depth of at least 3 cm will be gently raked using a leaf rake.

In the ponderosa pine forest community, habitat has been degraded by the invasion of Portuguese broom and French broom, which occur at high abundance along the antenna facility access road (Figure 4). These exotic species reduce abundance and growth of native Sandhills plants, including silverleaf manzanita, an endemic species that occurs in the understory. The objectives of habitat enhancement within the ponderosa pine forest will be to reduce the cover of exotic brooms to less than 10%, and increase native plant cover and species richness (number of species) by 30% within five years. As in the sand parkland, this objective will be attained by removing exotic booms for five years.

The habitat enhancement measures described in this plan will be implemented through an adaptive management framework, in which monitoring is used to evaluate effectiveness of the treatments at obtaining the biological goals and objectives, and changes are made, as needed, to enhance success during the course of implementation. The estimated costs associated with implementing the measures over the five years are $33,424. Metro PCS will be responsible for implementing the habitat mitigation measures through coordination with personnel with expertise in Sandhills ecology and trained to conduct the described measures, including quantitative monitoring required to accurately evaluate success of the habitat mitigation.

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SECTION 4: HABITAT MITIGATION

The purpose of habitat enhancement will be to fulfill the outstanding mitigation obligation of the original Cellular One Mount Hermon Antenna Project and to mitigate the indirect effects of ongoing road maintenance to less than significant level. As discussed in Section 1, this habitat mitigation plan will use new approaches to meeting the mitigation requirements of the old HMP.

4.1 ORIGINAL HABITAT MITIGATION

The Habitat Mitigation Plan prepared for the initial equipment facility installation involved invasive exotic plant removal and active revegetation within three treatment areas totaling 6,000 square feet (Figure **4).** Generally stated, the goals of the mitigation activities outlined in the plan were to mitigate the impacts of the project development on the Ben Lomond buckwheat and silverleaf manzanita, and to enhance habitat conditions for the Mount Hermon June beetle and Zayante band-winged grasshopper (Habitat Restoration Group **1997).**

The original HMP set forth a series of success criteria for the three revegetation areas, which were to he met within **5** years of project implementation. Though the project attained the success criteria for erosion control, establishment of Ben Lomond buckwheat, and reduction of invasive exotic plants to **less** than 10% cover, two main success performance criteria were not met:

1. Establishment of silverleaf manzanita:
2. Enhancement of plant community structure (Central Coast Wilds 2005).

Review of the HMP and the annual monitoring reports, along with evaluation of the site, indicates that lack of success resulted from inappropriate restoration strategies and success criteria, developed based on insufficient understanding of the ecology of the system, rather than faulty execution of the restoration prescriptions. Silverleaf manzanita failed to be successfully established because it was planted into dense sand parkland, a plant community where the species does not typically grow, likely due to inappropriate abiotic conditions including reduced light availability. The mitigation effort also failed to meet several success criteria set for the community structure that were thought to represent appropriate habitat for the endangered insects, such as having 20-30% cover of subshrubs. These success criteria were not based on the actual plant community structure and species composition in sand parkland, nor well-linked to the biology of the endangered insects. Because original success criteria do not accurately reflect desired or attainable conditions at the site, **the** new HMP proposes different approaches to habitat enhancement and success criteria.

4.2 NEW APPROACH TO HABITAT MITIGATION

This Habitat Mitigation Plan will continue to advance the goals of the mitigation prescribed in the original HMP. **As** with the original HMP, a main objective will be to increase the species richness and cover of native plant species, including populations of the Ben Lomond spineflower, Ben Lomond buckwheat, and silverleafmanzanita. However, rather than actively planting within the habitat, the new HMP will increase the distribution and abundance of native plant species by removing or reducing the anthropogenic stresses which are degrading the

EXHIBIT

habitat. Doing so will allow extant native populations to naturally expand their distributions and increase in abundance through one or more of the following mechanisms:

- Increased rates of establishment, due to enhancement of the "regeneration niche"—conditions plants require for germination and seedling establishment
- Increased rates of survival, due to reduced competition (i.e. exotic plant removal)
- Increased fecundity, due to improved growth conditions (i.e. litter removal, exotic plant removal)

These and other processes that will result in enhancement of the Sandhills habitat are described further in McGraw (2004a,b).

4.3 GOAL, OBJECTIVES, AND STRATEGIC ACTIONS

Goal: The goal of habitat enhancement at the project site is to improve the structure and species composition of the native Sandhills communities by addressing the anthropogenic factors that negatively impact the native plants and degrade habitat for native animals.

The goal will be achieved through the following objectives, and specific strategic actions, which summarize the habitat enhancement treatments described in Section 4.4. The specific success criteria for are outlined in the Section 5.

Objective 1: Within 5 years of initiating habitat enhancement treatments, increase the cover and species richness of native plants by 30% within the 2.5 acres of sand parkland habitat treated to reduce the effects of exotic plants and fire suppression.

Strategic Action 1.1: Remove all exotic brooms (i.e. *Cytisus striatus* and *Genista monspessulana*) during the first year of project implementation.

Strategic Action 1.2: Remove seedlings of exotic brooms that establish during the four years following initial exotic plant removal, in order to reduce the seed bank and reduce future establishment.

Strategic Action 1.3: Remove through raking the litter that has accumulated on the soil surface during the first year of project implementation in order to enhance native plant establishment.

Strategy Action 1.4: Remove through raking the new litter that falls on the soil surface during the third and fifth years of project implementation.

Objective 2: Within 5 years of initiating habitat enhancement treatments, increase the cover and species richness of native plants by 30% within the 0.37 acres of ponderosa pine forest treated to reduce the effects of exotic plants.

Strategic Action 2.1: Remove all exotic brooms (i.e. *Cytisus striatus* and *Genista monspessulana*) during the first year of project implementation.

EXHIBIT

Strategic **Action 2.2:** Remove seedlings of exotic brooms that establish for four years following initial exotic plant removal, in order to reduce the seed bank.

4.4 HABITAT ENHANCEMENT TECHNIQUES

As illustrated in the strategic actions and objectives proposed to attain to goal of this plan, habitat mitigation will be designed to enhance natural community structure and species composition by removing the negative anthropogenic factors that negatively impact the special status species and communities of the Santa **Cruz** Sandhills. Examination of the site revealed three main stressors to the Sandhills habitat at the project site:

4. Exotic brooms
5. European annual grasses and forbs
6. Disruption of the natural disturbance regime

The following sections describe ***the*** impacts of each stressor, and the habitat management techniques that will be used to address the impacts.

4.4.1 Exotic Brooms

4.4.1.1 Impacts

Sandhills habitat on Mount Hermon has been degraded by Portuguese broom (*Cytisus multiflorus*) and French broom (*Genista monspessulana*)---two large, invasive, woody shrubs in **the** pea family (Fabaceae). Portuguese broom is dominant within the dense sand parkland near the antenna facility (Figures 3a, b) while both species occupy the ponderosa pine forest along the access road (Figures 3e, f).

Through a variety of direct and indirect mechanisms, **these** exotic plants have many negative effects on Sandhills species and communities, including:

- Reducing populations of native plants by competing for light and soil resources
- Rendering Sandhills soils more invasible by non-Sandhills plants, by adding nitrogen
- Altering vegetation structure for native Sandhills animals, by creating dense, often monospecific shrub thickets

Given their abundance and known deleterious effects of exotic brooms on Sandhills ecosystem and special status species, their control can accomplish several objectives of Sandhills habitat management:

- enhance **the** natural structure and function of the Sandhills ecosystem
- increase the distribution and abundance of native plants, including several special status species,
- enhance habitat for the endangered insects by increasing open conditions required by **the** Zayante band-winged grasshopper, and increasing the abundance **of** native plant species which are a food source for the Mount Hermon June beetle.

EXHIBIT.

4.4.1.2 Treatments

Location: To enhance sand parkland and ponderosa pine forest habitat, established exotic brooms will be removed within two designated habitat enhancement areas: a 2.5 acre sand parkland treatment area and a 0.37 acre ponderosa pine forest treatment area (Figure 4). These treatment areas were identified because they represent areas of otherwise intact Sandhills habitat that support the special status species, populations of which could be enhanced by reduction in cover of exotic brooms.

Techniques: During the first year of project implementation, all plants will be removed through a combination of cutting and handle pulling. All large plants (>4' tall) will be cut using loppers 2 inches above the ground level. In order to prevent regrowth, a 50% solution of glyphosate (an herbicide) will be painted onto the cambium within 2 minutes of cutting. Small and moderate broom plants will be pulled by hand or with the aid of a weed wrench. All biomass will be removed from the site.

Because exotic brooms have a long lived seed bank (underground seed store) from which new seedlings will continue to establish, it will be necessary to revisit the treatment areas each year to kill all newly recruited broom seedlings through one of two techniques: hand pulling or flaming. If abundance is low (e.g. <1 seedling/ ft^2), the seedlings will be hand pulled. However, if recruitment is high, hand pulling will not be a cost effective method of reducing seedling establishment. In such cases, seedlings will be killed through flaming—a technique used to control wildland weeds by passing a flame from a propane torch near the leaves and cotyledons of seedlings, so as to rupture the cells (i.e. "blanch" the plants; Holloran et al. 2004). Flaming will be conducted during mid-winter when it is either raining, or during early morning when dew is present and humidity high, thus avoiding the potential for fire (K. Moore, pers. comm. 2005.).

Methods to Avoid Impacts to Sensitive Species: The treatments described were to enhance endangered species habitat while avoiding potential inadvertent, short term negative impacts to the special status species. Mount Herman June beetle larva live in the soil, with most larva encountered during digging trials between 2.5 feet and 4 feet in depth (Hill *2006)*. The goal of the broom removal techniques proposed above is to limit soil disturbance to a depth of no more than 2 feet in order to avoid impacting larva of the endangered insect.

It is anticipated at this point that the roots of large broom plants (>4' tall) could extend below 2'; therefore, they will be cut, rather than pulled. A small quantity of herbicide will be painted directly onto the cambium to kill the broom while avoiding impacts to non-target plants and polluting the soil.

Broom plants less than 4' in height are anticipated to have root structures within the top 2 feet of the soil, such that their pulling will not disturb Mount Herman June beetle larva. This assumption will be evaluated by the Project Ecologist prior to widespread implementation of broom removal, and adjustments made to the height of broom plants that will be pulled versus cut based on limiting soil disturbance to a depth of no more than 2 feet. The Project Ecologist, a biologist who can identify the larva of June beetles (*Polyphylla* spp.), will also be on site during broom removal to evaluate whether any larva are brought up with the broom roots. If a larva is

encountered during pulling, it will be relocated to intact habitat, where they will be buried to a depth similar to that at which they were obtained and broom removal will proceed solely through cutting.

Flaming to kill the dense seedlings that will likely recruit following removal of adult plants will be conducted to avoid impacts to native plants. Areas in which broom seedlings establish amidst native plants will be hand pulled. Flaming is not anticipated to impact Mount Hermon June beetle larva because the heat created by the torch only increases temperature slightly within the top **3** inches, far above the depth at which Mount Hermon June beetle have been encountered (Hill 2006).

To avoid impacts to sensitive plants, the Project Ecologist will flag the occurrence of all special status plants (Table 1) occurring within the broom treatment areas. **The** project will involve the work crews accustomed to working in sensitive habitats, including the Sandhills. Crews will participate in a pre-project training in which they will be informed about the methods that will be taken to avoid inadvertent negative impact, including identifying commonly occurring special status plants and other native species, and how to walk on the sand so as to avoid soil disturbance.

4.4.2 **European Annual** Grasses **and Forbs**

4.4.2.1 Impacts

The sand parkland habitat at the project site has been highly invaded by European **annual** grasses and forbs (Figure 3d), including rattlesnake grass (*Briza maxima*), rip gut brome (*Bromus **diandrus),*** rat tail fescue (*Vulpia myuros),* and smooth cat's ears (*Hypochaeris glabra*).

Though often ignored in habitat management and mitigation plans, these species exert strong negative impacts on native Sandhills species through a variety of mechanisms, including:

- Reducing populations of native herbaceous Sandhills species, including the Ben Lomond spineflower, Santa Cruz wallflower, and Ben Lomond buckwheat, through competition for scarce soil resources (McGraw 2004a)
- Creating dense thatch that precludes establishment of native herbaceous plants (incl. special status species) while facilitating establishment of exotic ***grasses*** (e.g. rattlesnake grass and rip gut brome)
- Reducing the amount of bare soil required by the Zayante band-winged grasshopper (Arnold 2004 ***in*** McGraw 2004b)

Given the abundance and known deleterious effects of European **annual** grasses and forbs on Sandhills ecosystem and special status species, their control can accomplish several objectives of Sandhills habitat management:

- enhance the natural structure and function of the Sandhills ecosystem
- increase the distribution and abundance of native plants, including several special status species,

- enhance habitat for the endangered insects by increasing open conditions required by the Zayante band-winged grasshopper, and increasing the abundance of native plant species which are a food source for the Mount Herman June beetle.

4.4.2.2 Treatments

Location: European annual grasses and forbs will be reduced through raking litter in areas within the 2.5 acre sand parkland treatment area (Figure 4) where litter has accumulated to a depth of more than 3 cm (Figures 3c, d). Approximately 1.75 acres of the 2.5 acre treatment area is estimated to require raking (Figures 3c, 4; J. McGraw, **pers.** obs.).

Technique: Removing litter reduces establishment of the two abundant exotic grasses, rattlesnake grass and ripgut brome, and enhances establishment of many native herbaceous plants and subshrubs which are inhibited by dense litter and exotic annual grass competition (McGraw 2004a). During early fall, prior to the onset of the winter rains but after the majority of the litterfall has occurred, a leaf **rake** will be used to gently removal all ponderosa pine needles **and** grass thatch, exposing the soil surface. All biomass will be removed from the site.

Raking will be conducted in years 1, 3, and 5 of project implementation, in order to maintain low litter conditions.

Methods **to** Avoid Impacts **to** Sensitive Species: Raking will be conducted by the Project Ecologist and a habitat technician who has implemented raking in the Sandhills and can identify native plant species and thus avoid negative impacts during treatment. The soil is not disturbed during raking, which instead gently removes the litter from the soil surface, so this treatment will not negatively impact Mount Herman June beetle larva beneath the soil surface.

4.4.3 Disruption of tbe Natural Disturbance Regime

4.4.3.1 Impacts

The natural disturbance regime of the Sandhills is characterized by recurring fire. Wildfires remove established vegetation and create open habitat. During the past half century, fire has been actively suppressed in the region, in order to protect property and save lives. In the absence of fire, the cover of woody vegetation (shrubs and trees) has greatly increased, and litter normally removed by fire has accumulated on the soil surface (Figure 3c). Both of these effects of fire suppression degrade habitat for many special status Sandhills species that are adapted to open soil conditions, including the Ben Lomond spineflower, Santa Cruz wallflower. Ben Lomond buckwheat, and Zayante band-winged grasshopper (McGraw 2004b).

Though reintroduction of fire is not feasible as part of this Habitat Mitigation Plan, habitat management techniques can be used to mimic several of fire's beneficial effects. Specifically, removing the litter that accumulates beneath and adjacent to ponderosa pines within dense sand parkland can enhance establishment of the native herbaceous species, while reducing the abundance of exotic plants (McGraw 2004a).

4.4.3.2 Treatments

Raking leaf litter and thatch to reduce establishment of European annual grasses (Section **4.2.1.2)** will also mimic some of **the** beneficial effects of a ground fires. **As** a result, the treatment proposed to address the disruption of fire will be the same as that described **to** reduce European annual grasses and forbs.

EXHIBIT 1

SECTION 5: ADAPTIVE MANAGEMENT AND MONITORING

The Habitat Management Plan will be implemented through an adaptive management framework, in which monitoring is used to evaluate effectiveness of the treatments at obtaining the biological goals and objectives, and changes are made, as needed, to enhance success during the course of implementation (Nyberg 1998, Lee 1999).

Essential elements of an adaptive management program are:

- Quantitative success criteria
- Monitoring protocols to evaluate treatments
- Remedial actions to enhance success.

The following sections describe these components for the two main habitat enhancement treatments proposed.

5.1 BROOM REMOVAL

5.1.1 Success criteria

Consistent with the objectives for habitat enhancement at the site (Section 4.3), the success criteria within the broom removal treatment areas are:

5.1.1.1: Within five years, reduce the cover of woody exotic plants within the treatment areas to less than 10%.

5.1.1.2: Withii five years, increase the cover and richness of native plant species in areas where broom was removed by **30%.**

5.1.2 Monitoring

Study Design: Effectiveness of broom removal treatments at attaining the success criteria will be evaluated by comparing the cover of woody exotic plants and native plant cover and richness (number of species) in permanent plots located within the treatment areas to randomly located permanent plots within untreated areas (controls). Within each of the two main treatment areas, sand parkland and ponderosa pine forest, 5, 2m x 2m plots will be randomly located in habitat enhancement areas and nearby control areas. The plots will be permanently monumented using 12"pieces of metal conduit, and their location georeferenced using global positioning system.

Data Collection: Within each plot, the absolute cover of plant species will be estimated visually, using the following cover values: <1%, 1%, 3%, 5%, 8%, and 10% increments between 10% and 100%. Data will be collected prior to implementation of the treatments, then 1 year, 3 years, and 5 years post treatment.

Data Analysis: To evaluate success toward the criteria of reducing cover of the invasive exotic plants below 10%, the mean cover of invasive exotic plants will be calculated and 95% confidence intervals used to determine whether the mean cover is less than 10%. To determine

whether mean native plant cover and mean species richness were increased by 30% in the treatment areas, Repeated Measures Analysis of Variance (ANOVA) will be used for each of the two dependent variables (cover and richness) to test the hypothesis that cover is greater than in treatment areas compared to controls, and that the increase is equal to or greater than 30%.

Data will be analyzed three years post treatment to evaluate whether adequate progress toward the success criteria is being achieved, and thus identify the need for remedial action to facilitate attainment of the success criteria by year 5.

5.1.3 Remedial Action

If the cover of invasive exotic plant species is greater than 10% three years post treatment, additional broom removal techniques will be initiated. This is unlikely to occur, as the plan already proposes annual removal. However, if establishment of exotic brooms from the seed bank is high, and if flaming or other techniques designed to kill the flush of seedlings are not used or are not effective, broom cover could exceed 10% and necessitate remedial removal techniques. These would be developed based on the conditions of the habitat, such as the size class of broom (adults vs. seedlings) and the patchiness of the occurrences. Treatments would be developed through consideration of the ecology of the special status species to avoid inadvertent negative impacts (Section 4.4.1.2).

If the cover and/or richness of native plant species within the treatment areas do not exhibit a trend toward increasing by 30%. then remedial actions would be necessary to enhance native plant establishment and survival. The nature of the remedial action would be determined based on assessment of the factors that are limiting success. For example, if the establishment of native seedlings is low, as might result from low abundance of native seed in the seed bank, due to prolonged invasion by exotic brooms and/or insufficient dispersal of native seeds from nearby populations, then seed could be collected from native plants at the project site and planted into the treatment areas. If, on the other hand native plants germinate but seedling seed establishment and/or survival are low due to suboptimal, the remedial actions could include treating the site to enhance the abiotic or biotic conditions that promote seedling survivorship and growth, such as removing litter and/or reducing exotic grass competition.

5.2 RAKING

5.2.2 Success Criterion

Consistent with the objectives for habitat enhancement at the site (Section 4.1), the success criterion for raking within sand parkland is:

> Within five years, increase the cover and richness of native plant species in raked areas by 30%.

5.2.1 Monitoring

Study Design: Effectiveness of litter removal at attaining the success criterion will be evaluated by comparing native plant cover and richness (number of species) in permanent plots located within raked areas to randomly located permanent plots within untreated areas where litter is left intact (controls). Within sand parkland, 5, 2m x 2m plots will be randomly located in habitat enhancement areas and nearby control areas. The plots will be permanently monumented using 12" pieces of metal conduit, and their location georeferenced using global positioning system.

Data Collection: Within each plot, the absolute cover of plant species will be estimated visually, using the following cover values: <1%, 1%, 3%, 5%, 8%, and 10% increments between 10% and 100%. Data will be collected prior to implementation of the treatments, then 1 year, 3 years, and 5 years post treatment.

Data Analysis: To determine whether mean native plant cover and mean species richness were increased by 30% in the treatment areas, Repeated Measures Analysis of Variance (ANOVA) will be used for each of the two dependent variables (cover and richness) to test the hypothesis that cover is greater than in treatment areas compared to controls, and that the increase is equal to or greater than 30%.

Data will be analyzed three years post treatment to evaluate whether adequate progress toward success is being achieved, and thus determine the need for remedial action to facilitate attainment of the success criteria by year 5.

5.2.2 Remedial actions

If cover and/or richness of native plant species within the raked areas do not exhibit a trend toward increasing by 30% by year 5, then remedial actions would be necessary to enhance native plant establishment and survival. The nature of the remedial action would be determined based on assessment of the factors that are limiting success. For example, if the establishment of native seedlings is low, as might result from low abundance of native seed in the seed bank, due to the long fire-free period and/or insufficient dispersal of native seeds from nearby populations, then seed could be collected from native plants at the project site and planted into the raked areas. If, on the other hand native plants germinate but seedling seed establishment and/or survival are low due to suboptimal, the remedial actions could include treating the site to enhance the abiotic or biotic conditions that promote seedling survivorship and growth, such as reducing exotic grass competition through weed whacking.

5.3 REPORTING

Annual project reports will document the habitat enhancement activities and *the* most recent monitoring results, and evaluate the status of the project toward attaining the success criteria. These reports will be provided to the County of Santa Cruz and the United States Fish and Wildlife Service by January 31 following the reporting year.

EXHIBIT 1

SECTION 6: PLAN IMPLEMENTATION

6.1 PERSONNEL

Successful implementation of the habitat enhancement and monitoring measures described in this plan will require **personnel** experienced with the ecology and conservation of the endangered species and communities of the Santa Cruz Sandhills. The Sandhills support a high diversity of special status species, each of which exhibits a unique ecology, aspects of which require careful consideration during habitat modifications in order to avoid inadvertent negative impacts. In order to implement the labor-intensive initial broom removal in a cost effective manner, work crews with experience in habitat restoration will be used to manually remove broom. However, these crews will be supervised by a Project Ecologist, who will instruct the crews on ways to avoid negative impacts to the native species and their habitats, and who can identify *Polyphylla* larva. **The** Project Ecologist will be assisted in habitat enhancement tasks including raking and flaming by an experienced Sandhills habitat technician who is familiar with the ecology of the system and species and methods to avoid impacts to sensitive species and communities.

Because of the importance of adaptive management in ensuring successful implementation of **the** plan, personnel will also require skills in conducting quantitative monitoring studies, including the statistical analyses that are required to successfully evaluate changes in habitat conditions resulting from **the** habitat enhancement.

6.2 SCHEDULE *AND* ESTIMATED COSTS

Implementation of the habitat mitigation will begin in the fall following permitting of the Metro PCS antenna equipment installation by the County of Santa **Cruz. As** described in greater detail in Sections **4** and 5, habitat enhancement and monitoring activities will occur at varying frequencies, and with varying level of effort, in each of the five years of plan implementation. Table *2* lists **the** plan measures to be conducted each year, along with their estimated costs. To facilitate evaluation of total implementation costs, a 10% contingency fee is added to the five year cost total, to account for increases in costs due to changes in the rates and/or **the** level of effort required. The contingency also accounts for potential implementation of remedial enhancement tasks to facilitate attainment of the plan success criteria (Section *5).* Project administration is estimated at **20%** of the project costs (incl. contingency). This **fee** is designed to reflect **the** costs associated with coordinating with project contractors, including contracting, scheduling, and meetings necessary during the course of the five year implementation.

6.3 RESPONSIBILITIES

Metro PCS will be responsible for implementing *the* habitat mitigation measures outlined in this plan, which will be a condition of the application permit.

EXHIBIT 1

6.4 FACTORS INFLUENCING SUCCESS OF LONG TERM HABITAT ENHANCEMENT

Long term success of the habitat enhancement described in this plan will be greatly facilitated by a commitment by the County to maintain the broom and litter removal treatments. Within five years, the habitat enhancement treatments are anticipated to increase the cover and richness of native Sandhills plants, thus enhancing habitat for native Sandhills animals, including the endangered insects. After their completion, however, litter will begin to re-accumulate, in the absence of fire, and exotic brooms will likely re-establish from the seed bank and/or adjacent seed sources. Though the benefits of the treatments implemented as part of this five-year plan are anticipated to last well beyond five years, over time, the impacts of fire suppression and exotic plants will likely begin to degrade the habitat, returning it to its pre-treatment state. Sustaining the habitat improvements will require ongoing treatment to address the anthropogenic impacts that degrade Sandhills habitat.

Long term effectiveness of the treatments prescribed in this plan will also be greatly enhanced through coordinating broom removal with the Mount Hermon Association, the landowner to the north and west of the sand parkland habitat enhancement area. The Mount Hermon Association Sandhills property supports dense stands of exotic brooms, particularly Portuguese broom. If left untreated, these patches will provide a seed source for ongoing invasion of the sand parkland habitat in the County's property, as well as continue to degrade habitat within Mount Hermon. Therefore, efforts to coordinate exotic broom control with Mount Hermon Association are highly recommended.

EXHIBIT 1 ?

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
PAS2856.4284 5657

August 8,2006

Jodi M. McGraw, Ph.D.
Post Office Box 883
Boulder Creek, California 95006

Subject: Proposed Installation of Telecommunications Equipment on Mount Hermon at 3650 Graham Hill Road (APN 061-371-16), Scotts Valley, Santa Cruz County, California

Dear Dr. McGraw:

We are responding to your letter, dated May 5,2006, and received in our office on May 11, 2006, requesting our concurrence with your determination that the subject project would not result in take of the federally endangered Mount Hermon June beetle (*Polyphylla barbata*) and Zayante band-winged grasshopper (*Trimerotropis infantilis*). You made your request on behalf of the project proponent, Metro PCS. The U.S. Fish and Wildlife Service (Service) listed the Mount Hermon June beetle and Zayante band-winged grasshopper as endangered species on January 24, 1997 (62 Federal Register 3616). The proposed project consists of installing new telecommunications equipment at an existing telecommunications site on the parcel.

The subject parcel comprises the southern *aspect* and a portion of the summit of Mount Hermon, which is one of the tallest mountains in central Santa Cruz County. Mount Hermon June beetles occur at the project site, and have been monitored there since 1999 (Arnold 2004a). The nearest known location of the Zayante band-winged grasshopper is immediately *east* of the subject parcel, at a sand quarry known as the Hanson Aggregates' Felton Plant (Arnold 2004b). Many parcels in the vicinity of the subject property are located on soils known as "Zayante sands." These soils support the Zayante sandhills ecosystem that occurs exclusively in the Santa Cruz Mountains near the city of Scotts Valley and the communities of Ben Lomond, Mount Hermon, Felton, Olympia, Corralitos, and Bonny Doon.

The Mount Hermon June beetle is found in association with vegetation of the Zayante sandhills, which is characterized by a mosaic of ponderosa pines (*Pinus ponderosa*), silverleaf manzanita (*Arctostaphylos silvicola*), and areas that are sparsely vegetated with *grasses* and herbs. The larvae of the Mount Hermon June beetle are fossorial and feed on plant roots. Adults can also be found within the sandy soils during a portion of their lifespan and may be active above ground

EXHIBIT

between mid-May and mid-August. Recent survey efforts have documented ponderosa pine trees as a common feature for nearly all known Mount Hermon June beetle locations (Richard Arnold, entomologist, unpublished data). For this reason, ponderosa pine roots are a likely food source for Mount Hermon June beetle larvae that live in burrows in Zayante soils. Ponderosa pine roots are known to extend laterally as far as 150 feet from the trunk in loose soils such as Zayante sands.

The Zayante band-winged grasshopper is also endemic to the Zayante sandhills. Within this limited distribution, the Zayante band-winged grasshopper is restricted to areas of barren or sparsely vegetated loose sands that are *exposed* to sunlight This habitat type is commonly referred to as "sand parkland." Adult Zayante band-winged grasshoppers are usually active from late July through late October.

The *Service's* responsibilities include administering the Endangered Species Act of 1973, as amended (Act), including sections 7; 9, and 10. Section 9 of the Act prohibits the taking of any endangered *or* threatened *species.* Section 3(18) of the Act defines take to mean to harass, harm, pursue, hunt, shoot, wound, kill, *trap, capture,* or collect, *or* to attempt to engage in any *such* conduct. Service regulations (50 CFR 17.3) define harm to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, *or* sheltering Harassment is defined by the Service as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed *species.*

Exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways. If a project is to be funded, authorized, *or carried* out by a Federal agency and may affect a listed species, the Federal agency must consult with the Service, pursuant to section 7(a)(2) of the Act. If a proposed project does not involve a Federal agency but may result in the take of a listed animal species, the project proponent should apply to the *Service* for an incidental take permit, pursuant to section 10(a)(1)(B) of the Act In your May 5, 2006, letter, you stated that there is no Federal involvement in this project

Metro PCS proposes to install new telecommunications equipment within an existing antenna site atop Mount Hermon. Specifically, the proposed project activities would consist of installing a radio equipment/battery cabinet, two power and telephone utility boxes, three personal communication system antennas mounted to an existing monopole, and a global positioning systems antenna mounted to an existing monopole. Two steel beams would be connected above-ground to two existing concrete slabs at the site, and the radio equipment/battery cabinet and the two utility boxes would be mounted on these steel beams.

Metro PCS has designed the proposed project to avoid take of the Mount Hermon June beetle and Zayante band-winged grasshopper. *All* equipment and personnel will access the site using an existing paved pathway. *All* work activities and site access will be restricted to the *existing,*

EXHIBIT J

fenced 14-foot by 36-foot antenna site and 1.5-foot wide paved pathway. Therefore, none of the proposed project activities will involve ground disturbance. In addition, a qualified biologist will inspect the project area and evaluate site conditions before, during, and *after* project implementation.

Although Mount Hermon June beetles occur at the project site, the proposed project activities will not involve any disturbance or alteration of Mount Hermon June beetle habitat. Therefore, it is unlikely that Mount Hermon June beetles will be negatively impacted by the proposed project. The project site does not currently support suitable habitat for the Zayante band-winged grasshopper (Arnold 2004a). The subject parcel consists of *Zayante* sands soils; however, dense stands of ponderosa pines at the site create excessively shady conditions, which are unfavorable far the Zayante band-winged grasshopper. Therefore, the Zayante baud-winged grasshopper is not likely to occur on the project site during project activities. For these reasons, we concur with your determination that take of Mount Hermon June beetles and Zayante band-winged grasshoppers would not occur on the project site due to the proposed project activities.

Your May 5, 2006, letter also requested ow concurrence that the subject project is not likely to result in take of the federally endangered Ben Lomond spineflower (*Chorizanthe pungens var. hartwegiana*) and Ben Lomond (Santa Cruz) wallflower (*Erysimum teretifolium*). Section 9 of the Act does not address take of listed plant *species*. However, based on the proposed avoidance measures, and because the project site does not *support* suitable habitat far the Ben Lomond wallflower, we do not believe that the proposed project activities will adversely affect either of these two plant *species*.

We appreciate your coordination with us to ensure that the proposed project will avoid effects to federally listed species within the Zayante sandhills. If you have any questions regarding this letter, please contact Roger Root of my staff at (805) 644-1766, extension 336.

Sincerely,

for David M. Pereksta
Assistant Field Supervisor
Santa Cruz/San Benito/Monterey

cc: Ken Hart, *County* of Santa Cruz Planning Department

EXHIBIT

REFERENCES CITED

Arnold, R.A. 2004a. 2004 Monitoring report for the Mount Hermon June beetle and Zayante band-winged grasshopper at the Cellular One Antenna Site on Mount Hermon in Santa Cruz County, California Entomological Consulting Services, Limited. Pleasant Hill, California. 6 pp.

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EXHIBIT

Jodi M. McGraw, Ph.D.
Population and Community Ecologist
PO **Box** 883 Boulder **Creek, CA** *95006*
phone/fax: 831-338-1990 • jodimcgraw@sbcglobal.net

May 5,2006

Mr. Roger Root
Biologist
United States Fish and Wildlife Service
2493 Portok Road, Suite "B"
Ventura, CA 93003

RE: Request **for No** Take Concurrence **for Two** Endangered Insects **and Two** Endangered Plants at **3650 Graham** Hill Road, Scotts Valley, Santa Cruz County, CA **(APN061-371-16)**

Dear Mr. Root:

On behalf of Metro PCS, I am writing to request a No Take Concurrence Letter from your agency for two endangered insects, the Mount Hermon June beetle (*Polyphylla barbata*) and the Zayante hand-winged grasshopper (*Trimertropis infantilis*) and *two* endangered plants, the Ben Lomond spineflower (*Chorizanthe pungens var. hartwegiana*) and the Santa Cruz wallflower (*Erysimum teretifolium*), for a project to **install** and maintain new antenna equipment at an existing antenna site. Please find enclosed a memo describing in greater detail the proposed project site and methods, including the steps that were developed to avoid impacts to the four federally endangered species. This letter briefly outlines key aspects of the project that are most relevant to the request for your concurrence that the project is unlikely to result in take when implemented following the proposed methods.

The project involves installation of new telecommunications equipment within an existing antenna site, which is located atop Mount Hermon, between Felton and Scotts Valley in central Santa Cruz County. The project area consists of Zayante soils that supports Sandhills communities, which provide habitat to the four endangered species listed above. The antenna facility contains habitat known to support Mount Hermon June beetles, while the habitat adjacent to the facility contains a small population of Ben Lomond spineflower.

Originally developed in 1998, the antenna site is located on a parcel owned by **the** County of *Santa* Cruz, which leases space to antenna operators such as Metro PCS. **An** existing paved road leads from Graham Hill Road to a gravel-covered parking area, from which a 2.5 foot wide paved path leads to the approximately 36 feet by **14** feet enclosed facility.

As you may recall, I initially discussed with you the plans for Metro PCS to **install** new equipment at this site on March 10,2006.- In that discussion, you identified the proposed plans to pour a new concrete slab on which *to* mount the equipment boxes as likely to cause take of the Mount Hermon June beetle, the larva of which live within the sand soil at the project site.

Based on our discussion, Metro PCS engineers redesigned the equipment installation to completely avoid ground disturbance, including grading (excavation and/or fill), paving, clearing, building, or deposition of

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debris. The redesign entails mounting equipment on steel beams that will be attached to existing concrete slabs; using aerial cable trays, rather than burying cables in the ground; and grounding new antennas to an existing pole or equipment.

In addition to avoiding ground disturbance, the project will be implemented following a series of steps that will be taken to avoid impacts to the special status plants and animals during the course of equipment installation and maintenance, including confining work to the paved paths and areas within the existing antenna facility, and having a pre-project meeting lead by a biological monitor who will instruct the work crews on methods to avoid impacts. The enclosed memo desctihes these methods in greater detail.

Given the new design, the project is not anticipated to impact federally endangered species that occur near the project site. For this reason, we request from the Service a No Take Concurrence Letter. I note that this is a private project, occurring on non-federal land and without federal funding hence, there is no nexus for a biological consultation.

Mount Hermon is one of the tallest hills in the central part of Santa Cruz County. For this reason, it has been identified as an important location for antennas to transmit emergency services signals as well as personal communications signals. Because Metro PCS and the County of Santa Cruz recognize the extreme rarity of the endangered plants and animals of the Santa Cruz Sandhills, and the fragility of the ecosystem, extensive effort has been committed to designing the project to avoid impacts to special status plants and animals at the site. I hope that you concur that the steps outlined in the memo will avoid impacts to endangered species while allowing installation and maintenance of the new antenna equipment.

Metro PCS's contact information is:

Kersten Rutherford
Metro PCS, LLC
1080 Marina Village Parkway, 4th Floor
Alameda, CA 94501
(510) 747-4664
krutherford@metropcs.com

Additional information about the project *can* be provided by Metro PCS's consultant:

Evan Shepherd Reiff, *MRP*
Planning and *Zoning* Manager
5900 Hollis Street R1
Emeryville, CA 94608
(831)345-2245
esreiff@peacockassociates.com

Please do not hesitate to contact me if you have any questions regarding the proposed project or if you would like to discuss any aspect of the new project design further.

Sincerely,

Jodi M. McGraw

Digitally signed by Jodi M. McGraw
DN: CN =Jodi M. McGraw. C = US
Reason:I am the author of this document
Date: 2006.05.05 15:21:54 -07'00'

Jodi M. McGraw

EXHIBIT K

ECOSYSTEMS WEST
CONSULTING GROUP

August 15,2005

Paia Levine
Planning Department
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Re: Biological Review of the Habitat Mitigation Plan for the Metro PCS Cingular/Willow Pond Project (APPL No, 05-0474)

Dear Paia:

This letter summarizes my review of the proposed "Habitat Mitigation Plan for the Metro PCS Cingular/Willow Pond Project" prepared by Jodi McGraw, Ph.D., dated June 26,2006, prepared for Kersten Rutherford of Metro PCS. This plan was prepared as part of a permit application by Metro PCS to install additional cellular antenna equipment on and within the existing footprint of the Cellular One antenna located at the top of Mt. Hermon and just west of the County of Santa Cruz Probation Center in the Scotts Valley/Felton area of Santa Cruz County. The proposed Habitat Mitigation Plan proposes mitigation measures that will successfully fulfill the original mitigation requirements for the original Cellular One antenna project. The previous mitigation plan, which included removal of non-native noxious plants and supplemental planting of liners during the previous five years, was found to have only marginal success. In particular, plantings of silver-leaved manzanita failed to survive and much of the broom removed in the early part of the program has returned. Ms. McGraw in her assessment of the program found the lack of success to be primarily due to "unreasonable and undesirable performance criteria, rather than ineffective implementation" Based on her assessment of the goals of the program, she has proposed a habitat mitigation program that is designed to enhance the structure and composition of the existing native sandhills community that exists on and adjacent to the project site. The approach would be to reduce man-influenced factors that continue to degrade the habitat on the site. These factors include exotic broom infestation, prominence of European annual grasses and forbs and disruption or prevention of the natural disturbance regime (i.e., fire suppression).

My review of the plan finds it to be both a positive and scientifically justified approach to enhancement of the rare sandhills habitats, in particular sand parkland. The methods proposed will best mimic the natural ecological processes associated with the sandhills communities and will enhance species richness and cover of the native sandhills plants. Key to achieving successful enhancement of species richness and increased cover is the eradication of the exotic broom infestation by direct plant removal and by racking of litter to remove deposited seed. In addition, litter racking will be used to reduce the establishment of European annual grasses and forbs and to mimic some of the effect of ground fires. Ms. McGraw's research in sandhills has found these techniques to be positive enhancement measures, particularly, resulting in increased native species richness. I concur that a habitat approach rather then a landscaping approach will most likely have the longer tam success and least need for long-term s u p p l e d management efforts.

8191/2 PACIFIC AVE. • SUITE 4, SANTA CRUZ, CA 95060
PHONE 831-429-6[illegible]

(831-429-8742

EXHIBIT L

COUNTY OF SANTA CRUZ
DISCRETIONARY APPLICATION COMMENTS

Project Planner: Robin Bolster
Application No.: 05-0474
APN: 061-371-16

Date: August 23, 2006
Time: 16:52:38
Page: 1

Environmental Planning Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========== REVIEW ON JULY 29, 2005 BY JESSICA L DEGRASSI ==========
Please submit plans for construction access. The project site is located within sensitive habitat and requires attention to prevent disturbance outside the existing fenced enclosure. If access is by hand carrying equipment to existing pad. add note on plans. Call 454-3162 with questions. ========== UPDATED ON SEPTEMBER 1, 2005 BY PAIA X LEVINE ========== These are supplemental comments regarding the presence of federally endangered species on the site: 1. The slab must be designed to avoid excavation into the ground. This is because the Mt Hermon June beetle, a species protected by the Endangered Species Act and by County code, is present in the subsurface. You may opt to build up the surface to provide a level base using a suitable material, and other options may be available.

Environmental Planning Miscellaneous Comments

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Dpw Drainage Completeness Comments

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========== REVIEW ON AUGUST 10. 2005 BY ALYSON B TOM ========== Application with plans dated 6/16/05 has been recieved and is complete with regards to drainage for the discretionary stage. Please see miscellaneous comments for issues to be addressed prior to building permit issuance.

Dpw Drainage Miscellaneous Comments

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1) Please add a note(s) to plans describing how runoff from the new pad and equipment area will drain. Sheet flow from the new impervious areas is preferred.

EXHIBIT M 1

For questions regarding this review Public Works storm water management staffis available from 8-12 Monday through Friday. All submittals for this project should be made through the Planning Department.

Dpw Road Engineering Completeness Comments

---------- REVIEW ON AUGUST 16, 2005 BY GREG J MARTIN ==========
NO COMMENT

Dpw Road Engineering Miscellaneous Comments

========== REVIEW ON AUGUST 16, 2005 BY GREG J MARTIN ==========

Scotts Valley Fire District Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

---------- UPDATED ON AUGUST 18, '2005 BY MARIANNE E MARSANO ==========
DEPARTMENT NAME:Scotts Valley Fire District
Have the DESIGNER add the appropriate NOTES and DETAILS showing this information on the plans and RESUBMIT, with' an' annotated copy of this letter:
There are deep pot holes in the access road. the speed bump type mounds in the road are too high for the engine to drive over, the vegetation is too close to both sides of the road. Approval will not be granted until the road is accessible and maintained and the vegetation is cut back 10 feet along each side of the road for the length of the road. A turnaround is required at the cell site to accommodate a fire engine. ========== UPDATED ON JUNE 23, 2006 BY MARIANNE E MARSANO ==========
DEPARTMENT NAME:Scotts Val1ey Fire District
Same comment as first plan review. It was not addressed on the 2nd plan submittal.
Have the DESIGNER add the appropriate NOTES and DETAILS showing this information on the plans and RESUBMIT, with an annotated copy of this letter:

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EXHIBIT M

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EXHIBIT M

COUNTY OF SANTA CRUZ | Planning Department

INTEROFFICE MEMO

APPLICATION N O 05-0474

Date: August 16,2005

To: David Heinlein, Project Planner

From: Larry Kasparowitz, Urban Designer

Re: **Design Review** for a **wireless** antennae co-location at 3650 Graham **Hill** Road, Scotts Valley (County **of** Santa Cruz / owner, Peacock and Associates / applicant)

Add Conditions of Approval that require:

- ***Antennas shall be painted to match existing.***

  Manual lighting only.

- ***Equipment shelter/cabinets shall be painted to match existing.***

EXHIBIT M

ECOSYSTEMS WEST
CONSULTING GROUP

August 15, 2005

Paia Levine
Planning Department
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

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8191/2 Pacific Ave. • Suite 4, Santa Cruz, CA 95060
Phone 831-429-87 - 55 - (831-429-8742

EXHIBIT L

Environmental Planning Completeness Comments

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EXHIBIT M

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EXHIBIT M

COUNTY OF SANTA CRUZ Planning Department

INTEROFFICE MEMO

APPLICATION N O 05-0474

Date: August 16,2005

To: David Heinlein, Project Planner

From: Larry Kasparowitz, Urban Designer

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