COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

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KATHLEEN MALLOY PREVISICH, PLANNING DIRECTOR

December 20, 2011

Agenda Date: January 25, 2012

Planning Commission
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Subject: Appeal of Zoning Administrator Approval of Application #111114 for Seven Microcell Sites on North Coast

Planning Commissioners:

This item is an appeal of a December 2, 2011 Zoning Administrator's decision to approve Application #111114 (see Appeal Letter – Attachment 1) to install seven new microcell wireless communication facilities (WCFs), all to be co-located on existing utility poles along inland side of Hwy. 1 (Six sites in Caltrans Highway 1 right-of-way, and one site in County's Swanton Road right-of-way) (see ZA staff report - Attachment 2). The proposal also included a 192 square foot, 13'-6" tall equipment shelter (Telecommunications Hub) on an agricultural parcel (APN 058-022-11). The approval included a Level 5 Commercial Development Permit, a Level 5 Coastal Development Permit, and three Telecommunications Act Exceptions to requirements contained in the County WCF Ordinance. The exceptions were proposed to address new requirements of the Public Utilities Commission (PUC) for the design of the antennas and to allow the location of one antenna and equipment cabinet on land zoned for Commercial Agriculture (CA). The appeal of the Zoning Administrator's approval of this application was filed by a neighbor of one of the proposed microcell WCFs (site "DAV01" - located at the 3-Mile Beach turnout), and is based on viewshed and safety concerns at that single microcell site (they did not express concern with any of the other proposed sites).

Project Description

This proposal to install seven new microcell WCF sites, as a "Distributed Antenna System" or DAS, is the first DAS proposal in the unincorporated area (there is currently a DAS on the UCSC campus, inside Santa Cruz city limits). As a DAS, each of the seven proposed wireless communication facilities are to be linked together by a new approximately 1" diameter fiber optic cable line that will be strung along the existing utility pole line parallel to Hwy. 1. The seven new WCF microcell sites are to be located on existing utility poles. Six of the poles are located along the inland side of Hwy. 1 in the Caltrans right-of-way. These poles are located along an approximately 13 mile stretch of Hwy. 1, beginning 3.2 miles west of Western Drive (location of DAV01) and ending 0.4 miles north of the entrance to Big Creek Lumber yard near Big Basin State Park - Rancho del Oso Unit. The seventh site (DAV05) is located in the County's Swanton Rd. right-of-way, approximately 1.1 miles north of the southernmost Swanton Road intersection with Hwy. 1.

Reasons for Appeal

The appeal was filed by Andrew and Wan-Jean Hsu, neighbors of the proposed microcell site identified as "DAV01", located in the Highway 1 right-of-way (inland side) at the 3-Mile Beach turnout, 3.2 miles west of Western Drive (see Attachment 1). Their appeal is based on the following issues/concerns raised by the appellants regarding this single microcell site only:

1. The proposed microcell (DAV01) would be in direct view of a residence (theirs): The appellants are planning to build their new house some 20 yards to the north of the subject utility pole and the microcell antennas and equipment will be visually obtrusive.

2. The proposed microcell would be in the public viewshed: The proposed location next to a heavily used parking area and trailhead will be a visual blight for the many people who frequent the site.

3. The proposed microcell may cause safety issues (from radio-frequency radiation): The close proximity of the antennas to the proposed new house and other nearby residences could have a detrimental health effect from radio-frequency (RF) radiation on residents, especially children and seniors.

4. The proposed microcell equipment may cause traffic problems: The appellants are concerned that a microcell at this site will cause potentially dangerous traffic problems due to large trucks accessing the site for installation and maintenance and blocking the views of oncoming traffic for other users of the parking area.

5. There are less problematic potential sites for DAV01 on adjacent poles, either to the north or south of the proposed utility pole location: These adjacent poles are surrounded by agricultural land and do not pose the same problems as the proposed location.

The appellants were present at the Zoning Administrator hearing on December 2, 2011 and aired their concerns during the public hearing. The applicant, Natasha Ernst of NextG Networks, agreed to meet with the appellants and with NextG's RF engineers, to work with them and explore the possibility of moving DAV01 to another adjacent (and less problematic) pole. We were not informed as to the result of that meeting prior to the deadline for preparation of the Planning Commission agenda.

Staff Analysis of Appeal

1. The proposed microcell (DAV01) would be in direct view of a residence.

   As a microcell-type WCF this project will have only minimal visual impacts. The proposed equipment is comparable to that which is installed by utility providers on utility poles.

2. The proposed microcell would be in the public viewshed.

   As a small microcell-type WCF, this project will have only a minimal impact on public

views, even at this relatively heavily used location (see Attachment 3 for photo-simulations of DAV01). The equipment to be added to the existing utility pole is comparable to other types of equipment that are typically found on utility poles, such as transformers. The proposed microcell will not look out of place or be visually obtrusive.

3. The proposed microcell may cause safety issues (from radio-frequency radiation).

   The highest levels of radio-frequency (RF) radiation exposure to the general public are predicted to be only 28% of the FCC limit for such exposures (see page 4 of Attachment 4). Federal law prohibits the County from considering the potential health effects of RF exposure as a reason for denial of this project, as exposure limits are regulated by the FCC.

4. The proposed microcell equipment may cause traffic problems.

   Trucks used for installation and maintenance of the proposed microcell site will be present very infrequently and at this site can be parked away from the highway in such an manner as to not create any visual obstructions for cars entering the highway from this parking area.

5. There are less problematic potential sites for DAV01 on adjacent poles, either to the north or south of the proposed utility pole location.

   This may be true, but it must be determined by the applicant if those other potential sites are feasible from a technical and practical standpoint. It is not clear that these other sites have the required vehicle access for the aforementioned installation and maintenance vehicles.

Staff Recommendation

Based on the foregoing analysis of the reasons given by the appellant for this appeal, Planning Department staff recommends that your Commission **UPHOLD** the Zoning Administrator's action to approve application #111114 as conditioned (Attachment 2, Exhibit C), based on the findings made as part of the previous approval (Attachment 2, Exhibit B).

Sincerely,

Frank Barron, AICP
Project Planner
Development Review Section

Reviewed By: _____
Cathy Graves
Principal Planner
Development Review Section

Attachments:

1. Appeal Letter of Dec. 15, 2001 from Andrew and Wan-Jean Hsu

2. Staff report to the Zoning Administrator, heard on 12/2/11.
   a. Exhibit A: Project plans
   b. Exhibit B: Findings
   c. Exhibit C: Conditions of Approval
   d. Exhibit D: CEQA Notice of Exemption
   e. Exhibit E: Assessor's, Location, Zoning and General Plan Maps
   f. Exhibit F: Comments & Correspondence
   g. Exhibit G: Alternatives Analysis

3. Photo of Mock-up of Microcell Site DAV01

4. NIER (RF) Calculations Report

ATTACHMENT 1

2011 DEC 16 6PM 4 41

Andrew & Wan-Jean Hsu
3050 Coast Road
Santa Cruz, CA 95060
December 15, 2011

Planning Commission
Planning Department,
Attn: Frank Barron
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Re: Appeal for the relocation of the microcell wireless communication facility on site DAV01
Approval of Application # 111114

Dear Planning Commissioners,

We are writing regarding the recent changes to a utility pole fitted with a microcell wireless communication facility (WCF) on November 4, 2011. This utility pole is next to our commercial agriculture property (Parcel Number 059-121-09) located at 3050 Coast Road, Santa Cruz, CA 95060. The utility pole's modification was brought to our attention only after the installation of the WCF equipment was completed.

The said utility pole with the newly placed WCF was built only yards away from our property and extremely close to our house. It is located across from the current entrance and proposed future parking lot for the Three-mile surf beach of the Wilder State Park. A tabulation chart can be found below with the site of the utility pole with the WCF in relation to specific areas of the surrounding properties:

Specific Location on 3050 Coast Road	Distance from Utility Pole with WCF
Owner's property fence	3-5 yards
Driveway and entrance gate	15-20 yards
Owner's main living quarters (house)	35-40 yards
Owner's future living quarters (house)	20-25 yards
Entrance to Three-mile surf beach	30 yards

On November 4, 2011, a microcell and its associated equipment (currently inactive) was installed on the said utility pole and named site DAV01. The following month on December 2, 2011, a public hearing was given by the county Planning Department for concerned citizens to

voice their opinion of the said utility pole's reconstruction. We attended that meeting and shared our concerns and requested that the said WCF on DAV01 be relocated onto the next utility pole, 0.2 miles North West into an agricultural zone with no nearby residents.

We are appealing the relocation of the WCF for the following reasons:

1. The microcell equipment is in direct view of a residence:
    - An additional residence is currently being planned to be constructed on the hilltop, about 20 yards north of the DAV01. The property was originally purchased for its proximity to the ocean and its picturesque views. The said microcell blocks the future residence house's ocean view and creates a visually obtrusive appearance.
2. The microcell equipment is in the public view:
    - Many hikers, bikers, and surfers park their vehicles by the entrance of both the park and our driveway. They park on both sides of Highway 1 to access the beach and the nearby hiking trails. This microcell equipment is clearly visible to them and its visual impact will take away from the natural beauty of the surrounding areas.
3. The microcell equipment may cause safety issues:
    - The proximity of the microcell to a residence that houses children and senior citizens exposes them to excessive radio-frequency radiation (RFR). Over long term periods, that may lead to future health issues. Despite the proposed fact that a microcell emits no more than 3% RFR of the most restrictive applicable Federal Communication Commission's limit, there are several studies that report long term exposure of RFR can increase a person's risk for cancer.
4. The microcell equipment may cause traffic issues:
    - Any work that will need to be completed on the said microcell equipment may cause a traffic bottle neck, increasing the risk for traffic collisions. We have personally witnessed several collisions between traffic heading east on Highway 1 and persons trying to exit our driveway to return toward downtown Santa Cruz. Accidents happen because cars that park on the north side of Highway 1 obstruct the view of oncoming eastbound traffic for those exiting the said property's driveway. Having large sized utility repair trucks parked on the north side of Highway 1 will just cause further traffic concerns for the residents and visitors of the property.
5. A microcell equipment placed on the next utility pole (0.2 miles North West of DAV01) would be in an agricultural zone:

- This proposed alternative site has no residences and seldom has any visitors. Relocating the microcell will have a lower visual impact for a nonresidential area compared to space that has residential properties.

We feel very strongly regarding this issue of the newly placed WCF at site DAV01. We hope that you seriously consider our reasons for the appeal and have the microcell equipment moved to a better suited location that will not visually impact our property nor hurt our health and the health of other residents and visitors of Wilder State Park.

Thank you for your time in reviewing our appeal.

Sincerely,

Andrew C. Hsu DEC. 15, 2011

Andrew Hsu Date

Wan-Jean Hsu Dec. 15, 2011

Wan-Jean Hsu Date

Property owners of: 3050 Coast Road, Santa Cruz, CA 95060
Home: (626) 795-6124
Cellular: (626) 390-8446
Email: thehsufits@yahoo.com

Staff Report to the Zoning Administrator

Application Number: 111114

Applicant: Natasha Ernst, Next G Networks
Owner: Rights of way owned by Caltrans (Hwy. 1) and County of Santa Cruz (Swanton Rd.). Coast Dairies & Land Co. owns equipment shelter site.
APN: 7 Microcell sites in Caltrans (Hwy. 1) and County (Swanton Rd.) Rights-of-Way. Equipment shelter on APN 058-022-11.

Agenda Date: November 18, 2011
Agenda Item #:

Time: After 10:00 a.m.

Project Description: Proposal to install 7 new microcell wireless communication facilities, each to be co-located on existing utility poles along inland side of Hwy. 1 (6 sites in Caltrans Hwy. 1 right-of-way, 1 site in County's Swanton Rd. right-of-way). Proposal includes a 192 square foot, 13'-6" tall equipment shelter (Telecommunications Hub) on an agricultural parcel (APN 058-022-11). Requires a Level 5 Commercial Development Permit, a Level 5 Coastal Development Permit, and three Telecommunications Act Exceptions to requirements contained in the County Wireless Communications Facilities Ordinance.

Location: Six of the 7 sites would be located along the inland side of Highway 1 in the Caltrans right-of-way, and one would be located in County right-of-way along Swanton Road. The proposed utility pole microcell sites on Caltrans right-of-way are located as follows, as measured from the intersection of Hwy. 1 and Western Drive: DAV01: Approx. 3.2 miles north/west (NE of 3-Mile Beach pullout); DAV02: Approx. 3.8 miles north/west (just past 4-Mile Beach pullout); DAV03: Approx. 5.8 miles north/west (approx. 300 ft. north/west of northernmost Hwy. 1 intersection with Scaroni Rd.); DAV04: Approx. 6.5 miles north/west (approx. 250 ft. south of southernmost intersection of Laguna Rd. and Hwy 1); DAV09: Approx. 16.3 miles north/west (approx. 500 ft. north of northernmost intersection of Swanton Rd. and Hwy 1); DAV10: Approx. 16.9 miles north/west (approx. 0.4 miles north of entrance to Big Creek Lumber yard). DAV05 is proposed to be located in County right-of-way along Swanton Rd. on a utility pole approx. 1.1 miles north of the southernmost Swanton Road intersection with Hwy. 1.

Supervisoral District: 3rd District (District Supervisor: Neal Coonerty)

Permits Required: Requires a Level 5 Commercial Development Permit and a Level 5 Coastal Development Permit.

Technical Reviews: None

Staff Recommendation:

- Approval of Application # 111114, based on the attached findings and conditions.

Exhibits

A.	Project plans	E.	Assessor's, Location, Zoning and General Plan Maps
B.	Findings	F.	Comments & Correspondence
C.	Conditions	G.	Alternatives Analysis
D.	CEQA Notice of Exemption (Lead Agency: Cal. Public Utilities Commission)		

Parcel Information

Parcel Size:	N/A – Hwy. 1 and Swanton Road rights-of-way
Existing Land Use - Parcel:	State Highway (Hwy. 1) and roadway (Swanton Rd.), lined with utility poles and associated equipment
Existing Land Use - Surrounding:	Primarily agricultural
Project Access:	Highway One and Swanton Road
Planning Area:	North Coast
GP/LCP Land Use Designation:	DAV01 & 02 are Parks, Recreation & Open Space (O-R) DAV03, 04 and 05 are Agricultural (AG) DAV09 & 10 are Mountain Residential (R-M) Equipment shelter is on Agricultural (AG)
Zone District:	All sites are zoned Special Use (SU), except for DAV05 which is zoned Commercial Agricultural (CA). Proposed Telecommunications Hub equipment shelter is also in the Commercial Agricultural (CA) zone.
Coastal Zone:	_X_ Inside __ Outside
Appealable to Calif. Coastal Comm.	_X_ Yes __ No

Environmental Information

Geologic Hazards:	DAV01 lies within Liquifaction Zone "D" and DAV09 is within a mapped County Fault Zone
Soils:	N/A
Fire Hazard:	DAV05 (only) lies within a mapped Fire Hazard Area
Slopes:	N/A
Env. Sen. Habitat:	All 7 sites are within mapped Biotic Resource Areas. All sites except for DAV09 and 10 are within the mapped Special Grasslands area.
Grading:	No grading proposed
Tree Removal:	No trees proposed to be removed
Scenic:	All 7 sites are in mapped Scenic Areas (i.e., within the viewsheds of Hwy. 1 and/or Swanton Rd., both of which are designated Scenic Roads)

Drainage:	Existing drainage adequate
Archeology:	All 7 sites are within mapped potential Archeological Resource Areas however no soil disturbance is proposed.

Services Information

Urban/Rural Services Line:	__ Inside _X_ Outside
Water Supply:	N/A – Project will not require water service
Sewage Disposal:	N/A – Project will not require sewer service
Fire District:	Davenport CDF
Drainage District:	N/A - Out of zone

History & Discussion

This proposal to install 7 new microcell wireless communication facility (WCF) sites, as a "Distributed Antenna System" or DAS, is the first DAS proposal in the unincorporated area (there is currently a DAS on the UCSC campus, inside Santa Cruz city limits). As a DAS, each of the 7 proposed wireless communication facilities are to be linked together by a new approximately 1" diameter fiber optic cable line that will be strung along the existing utility pole line parallel to Hwy. 1. The 7 new WCF microcell sites are to be located on existing utility poles. Six of the poles are located along the inland side of Hwy. 1 in the Caltrans right-of-way. These poles are located along an approximately 13 mile stretch of Hwy. 1, beginning 3.2 miles west of Western Drive and ending 0.4 miles north of the entrance to Big Creek Lumber yard near Big Basin State Park - Rancho del Oso Unit. The seventh site (DAV05) is located in the County's Swanton Rd. right-of-way, approximately 1.1 miles north of the southernmost Swanton Road intersection with Hwy. 1.

At the 6 sites along Hwy. 1 in Caltrans right-of-way, the antennas are proposed to be mounted hanging at the ends of new cross-bar members, which are to be attached to the 6 existing utility poles. At the one site on Swanton Road, in County right-of-way (site DAV05), the 2-foot tall antenna is proposed to be mounted atop a 2-foot height extension to the existing pole. In addition to the antennas, mounted upon each of the 7 poles will be two narrow equipment boxes (approximately the width of the subject poles) and one larger more bulky equipment box.

This proposal also involves the construction of a 192 square foot, 13'-6" tall, equipment shelter or "Telecommunications Hub", to be disguised as a farm outbuilding, and located amongst other agriculturally-related structures on an agricultural parcel (APN 058-022-11) immediately northwest of the southernmost intersection of Highway 1 and Swanton Road. The new DAS network antennas initially will be utilized by users of the Verizon Wireless network, but the system can be enhanced to accommodate additional carriers in the future with no need for additional antennas, only a larger Telecommunications Hub equipment shelter.

The proposal requires a Level 5 Commercial Development Permit, a Level 5 Coastal Development Permit, and 3 Federal Telecommunications Act (TCA) Exceptions for deviations from three of the requirements of the County's Wireless Communication Facilities (WCF) Ordinance for three separate aspects of the project. These three aspects are: (1) the need to deviate from the required microcell design standards; (2) the necessity of locating one of the

microcell sites on an area of County controlled right-of-way (on Swanton Rd.) that is zoned Commercial Agriculture (CA) which is one of the "prohibited" zone districts; and (3) the necessity of locating the proposed "Telecommunications Hub" equipment shelter on "prohibited" CA-zoned land.

A Federal TCA Exception is a provision in the County's WCF Ordinance (County Code Sec. 13.10.660-668) requires exceptions from the WCF Ordinance if the application any of the requirements or limitations set forth in the WCF Ordinance would have the effect of violating the Federal Telecommunications Act. The WCF Ordinance states that the approving body shall grant a Federal TCA Exception to allow an exception to the offending requirement in such cases. The WCF Ordinance states that applicant shall have the burden of proving that application of the requirement or limitation would violate the Federal Telecommunications Act, and that no alternatives exist which would render the approval of a Federal TCA Exception unnecessary. This proof has been provided in the attached Alternatives Analysis provided by the applicant (Exhibit G). This issue is discussed in detail under "Consistency with Wireless Communications Facilities (WCF) Ordinance" below.

Project Setting

All 7 sites are in mapped Scenic Areas within the viewsheds of Hwy. 1 and/or Swanton Rd., both of which are designated Scenic Roads. This North Coast area is one of the most scenic areas of the County and lies entirely within the Coastal Zone. Due to their uncommon aesthetic beauty, the scenic resources of this area are afforded a higher level of protection than most other areas of the County. However all 7 proposed sites are located on the inland side of Hwy. 1 on existing utility poles and thus will not impact views from the highway towards the ocean.

The 4 southernmost proposed utility pole microcell sites in the Caltrans Hwy. 1 rights-of-way (i.e., DAV01 through DAV04) are all located in Coastal scrub habitat, backed by low hills. DAV05 in County right-of-way along Swanton Road is located in Coastal scrub habitat on the flanks of a hillside overlooking Scott Creek Valley and Hwy. 1 where it crosses Scott Creek. DAV09 and DAV10 are located on the fringe of Monterey Pine forest habitat, backed by low hills. The proposed 192 square foot "Telecommunications Hub" equipment shelter is to be located on flat uncultivated land, where is will be surrounded by similar farm outbuildings on a site (Swanton Berry Farm) containing a residential structure.

Zoning & General Plan Consistency

General Plan/LCP Land Use Designations: Microcell sites DAV01 & 02 are proposed on Caltrans right-of-way (ROW) land that is designated Parks, Recreation & Open Space (O-R). DAV03, 04 and 05 are proposed on Caltrans ROW (and County ROW in the case of DAV05) areas that are designated Agricultural (AG). DAV09 & 10 are proposed on Caltrans ROW land that is designated Mountain Residential (R-M). The proposed Telecommunications Hub equipment shelter is proposed for land designated Agricultural (AG). None of the microcell or equipment shelter uses as proposed are inconsistent with the allowed uses in their respective General Plan/LCP land use categories

Zoning Districts: All proposed microcell sites are on ROW areas that are zoned Special Use

(SU), except for DAV05 which is on ROW land zoned Commercial Agricultural (CA). The proposed Telecommunications Hub equipment shelter is also proposed to be on land zoned Commercial Agricultural (CA). None of the microcell or equipment shelter uses as proposed are inconsistent with the allowed uses in their respective zone districts.

Consistency with Wireless Communications Facilities (WCF) Ordinance

While the proposed microcell WCFs in rights-of-way are largely consistent with the County's WCF Ordinance, being allowed and, moreover, encouraged by the Ordinance, as noted above in History & Discussion section, approval of this project will require three Federal Telecommunications Act (TCA) Exceptions to be granted by the County.

Proposed Federal Telecommunications Act (TCA) Exception Regarding Design Standards

The first Federal TCA Exception is needed because the proposed design of the 7 microcells do not conform to the requirement set out in the WCF Ordinance that microcells in the Coastal Right-of-Way must be flush-mounted on utility poles. The applicant proposes that the antennas not be flush mounted because flush mounting of WCF antennas to utility poles is no longer allowed by the California Public Utilities Commission (PUC) (General Order 95, Section IX, Part 94.4 E), which is the controlling authority regarding utility pole requirements/regulations in California, unless the pole is extended in height (by a distance that varies depending on the level of power being transmitted along the wires the pole supports) and the antennas are mounted at the top. The applicant originally proposed such a height extension design of each of the 7 sites, but staff determined that the visual impact of such height extensions would be too great (see Alternatives Analysis – Exhibit G).

The applicant subsequently proposed a design that instead adds a crossbar to each of the subject poles (except DAV05), without increasing their height, with two 2-foot long antennas hanging down, one from each end of the crossbar. In the case of DAV05 on Swanton Road which, due to coverage limitations of the crossbar design, the pole must have a 2-foot pole height extension with a single 2-foot tall antenna mounted on top of that. Such pole height extensions are also not allowed by the WCF Ordinance so this deviation from the design standards will have to be covered under this TCA Exception.

In addition to the antennas, mounted upon each of the 7 poles will be two long and narrow equipment boxes (approximately the width of the subject poles – i.e., approx. 1' wide, 4' high and 8" deep) and one larger more bulky "alpha power supply and battery back-up" equipment box (approx. 3' high, by 2.5' wide, by 1' deep), all of which also exceed the maximum size dimensions allowed for such boxes by the WCF Ordinance in the "Restricted Coastal Right-of-Way Area" (i.e., not to exceed 2' high, by 1.5' wide, by 10" deep). Therefore, a TCA Exception is needed to allow this aspect of the proposed design as well. As proposed, the design for each of the 7 poles has the larger more bulky "power supply and battery back-up" box mounted on the pole above the narrower boxes, creating a somewhat visually obtrusive appearance. To reduce this effect, the applicant has agreed to a Condition of Approval that will move the larger "power supply and batter back-up" boxes down to a position on each pole that is below the more narrow boxes, and also paint them and the antennas in colors similar to the background colors (e.g., light brown, forest green, etc.), making them less visually prominent.

A Federal TCA Exception is needed in this case because if the County were to strictly adhere to the design standards for microcells in the "coastal right-of-way" in the WCF Ordinance and require flush mounting of the antennas to the poles, the microcells could not be built because they would violate PUC requirements, meaning that the County would be preventing the filling of a "significant gap" in the carrier's (in this case Verizon's) coverage, which would be a violation of the Federal Telecommunications Act. Any alternative means of filling the carrier's "significant gap", such as constructing an equal number of full macrocell cell towers along the North Coast would have a much greater visual impact than the proposed utility pole co-located microcell sites, and would not be feasible, as a significant portion of the North Coast has "prohibited area" zoning. Moreover, the applicant, NextG Networks of California, does not install macro-cell sites, only microcells mounted upon utility poles. Therefore, the granting of a Federal TCA Exception is warranted and necessary in this case.

It should be noted that the stretch of Hwy. 1 between the City of Santa Cruz and Davenport already contains another series of utility pole-mounted microcell WCFs, these ones providing coverage for AT&T Wireless network. However, the option of co-locating the new proposed NextG DAS network on these poles is not viable because of the need for separation of the Verizon and AT&T antennas due to differing technologies. Moreover, it is not clear that doubling the number of antennas and related equipment on the AT&T poles would have less visual impact than having the new antennas and equipment installed on different poles.

Proposed TCA Exception Regarding Microcell Site Located on Property Zoned "CA"

A second Federal TCA Exception is also needed to allow the locating one of the microcell sites (DAV05) on an area of County controlled right-of-way (on Swanton Rd.) that is zoned Commercial Agriculture (CA), which is one of the "prohibited" zone districts. WCFs cannot be constructed in "prohibited areas" except as follows (as per Sec. 13.10.661[b][4]):

> "If a Telecommunications Act Exception is approved pursuant to Section 13.10.668(a) that allows for siting a wireless communications facility within any of the ....prohibited areas, then such facility shall comply with the remainder of Sections 13.10.660 through 13.10.668 inclusive, and shall be co-located. Applicants proposing new wireless communication facilities in any of the above-listed prohibited areas must submit as part of their application an Alternatives Analysis, as described in Section 13.10.662(c) below. Non-collocated wireless communication facilities may be sited in the prohibited areas listed above only in situations where the applicant can prove that:
>
> (i) The proposed wireless communication facility would eliminate or substantially reduce one or more significant gaps in the applicant carrier's network; and
>
> (ii) There are no viable, technically feasible, and environmentally (e.g., visually) equivalent or superior potential alternatives (i.e., sites and/or facility types and/or designs) outside the prohibited areas identified in Section 13.10.661(b) that could eliminate or substantially reduce said significant gap(s).
>
> Any wireless communications facility and any associated development allowed in a prohibited area: (1) shall be sited and designed so that it is not visible from public vantage

points to the maximum extent feasible; or (2) where some portion or all of such a facility and/or any associated development is unavoidably sited and/or designed in a manner that makes it visible from public vantage points (and cannot be sited and/or designed to not be visible), that portion shall be screened and/or camouflaged so that it is inconspicuous and designed to blend seamlessly into the existing public view."

The Swanton Road site (DAV05) is necessary to close a "significant gap" in the carrier's network, and other potential alternative sites in allowed zone districts that could close that gap would be more visually obtrusive. The alternative method to closing this gap would require the construction of a new pole or tower (also not allowed by the WCF Ordinance) on Hwy. 1 near the Scott Creek Bridge in a highly scenic stretch of coast that currently does not contain utility poles. The proposed location of this microcell on an existing utility pole along Swanton Road in the 'prohibited" CA zone district is an alternative that is environmentally superior to the alternative of placing an entirely new tower/pole along a pristine stretch of Hwy. 1, therefore the granting of a TCA Exceptions to allow placement in the "prohibited" CA-zone is warranted.

Proposed TCA Exception Regarding Location of Equipment Shelter on Land Zoned "CA"

The third TCA Exception is needed to allow the placement of the Telecommunication Hub equipment shelter also on land that is zoned CA (APN 058-022-11), where such equipment can be allowed, pursuant to a TCA Exception, only if it is "...camouflaged so that it is inconspicuous and designed to blend seamlessly into the existing public view." Since the Telecommunications Hub is proposed to be located inside a small 192 sq. ft. structure disguised to look like a typical small agricultural outbuilding or tool shed, it will be indistinguishable from the other agricultural outbuildings on the parcel, and will blend-in seamlessly as viewed from Swanton Rd. and Hwy 1. The structure will not be built on currently cultivated or otherwise agriculturally viable land. In addition, the main intent of the Prohibited Area is to prohibit the construction of new cell towers in these visually sensitive areas, not small equipment shelters such as the one proposed. In addition, any alternative site for the Telecommunications Hub in an allowed zone district not on CA-zoned land would likely have greater visual impacts than the one in the proposed location, since the shelter would be standing alone and not located amongst other farm outbuildings. Finally, the Alternatives Analysis (Exhibit G) documents that other possible locations for this equipment shelter are either unavailable or would result in a stand-alone structure that would be more visually conspicuous than the proposed location. It is clear that this location is the environmentally (i.e., visually) superior alternative site for this equipment shelter, which is a necessary component in eliminating the significant gap in the carriers (i.e., Verizon's) network. Therefore, the granting of a Federal TCA Exception is warranted for this aspect of the project as well.

Local Coastal Program Consistency

The 7 proposed microcell WCFs and proposed 192 square foot Telecommunications Hub are generally in conformance with the County's certified Local Coastal Program, in that they are sited and designed to be visually compatible, in scale with, and integrated with the character of their surroundings, and they will not interfere with public access to the beach, ocean, or other nearby bodies of water. However, as described above, the proposed microcell design is not consistent with the requirements of the County's WCF Ordinance, which is part of the LCP Implementation Plan, a Federal TCA Exception will be needed to allow approval. A second Federal TCA

Exception will be needed to approve the proposed location of the Swanton Rd. site on CA-zoned right-of-way. And a third TCA Exception will be needed to approve the location of the Telecommunications Hub, also on CA-zoned land.

Design Review

The 7 proposed WCFs comply with the requirements of the County Design Review Ordinance, in that they will be relatively small and inconspicuous microcell designs mounted to existing utility poles and thus will have much less of a visual impact as compared with typical cell towers (i.e., macro-cell sites). The proposed 192 square foot "Telecommunications Hub" equipment shelter is also small, similar to a pre-fabricated tool shed, and will blend in very well with the surrounding agriculture-related outbuildings.

Environmental Review

As lead agency for all utility pole-mounted microcell WCFs in California, the California Public Utilities Commission (PUC) has determined that all such project are Categorically Exempt from the requirements of the California Environmental Quality Act (CEQA). The PUC's blanket Categorical Exemption form is attached as Exhibit D.

Conclusion

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

Staff Recommendation

- **APPROVAL** of Application Number **111114,** 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

Report Prepared By: Frank Barron
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz CA 95060
Phone Number: (831) 454-2530
E-mail: frank.barron@co.santa-cruz.ca.us

EXHIBIT A

ATTACHMENT 2 EXHIBIT A

NOTE:
A COPY OF ALL REQUIRED PERMITS MUST BE PRESENT DURING ANY WORK ON THIS LOCATION AND PERFORMING WORK AT THIS LOCATION INDICATES THAT THE CONTRACTOR HAS READ AND COMPLIED WITH THE REQUIREMENTS STATED IN THE PERMITS

SIGNATURE

NextG Networks of California, Inc.

DAVENPORT
DAV01
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

Call Before you Dig!
811
Know what's below.
Call before you dig.
Call 811 Before you Dig!

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE AREAS GOVERNING CODES.

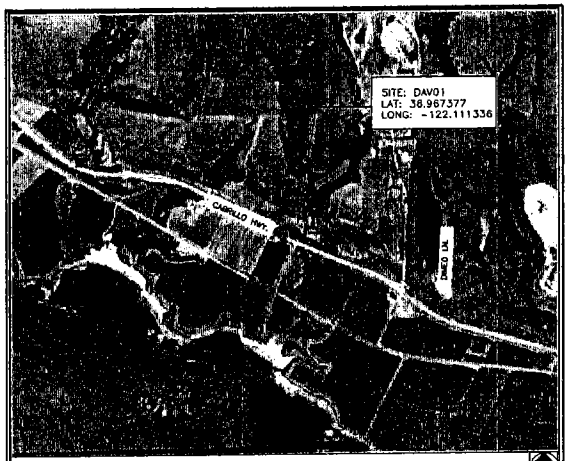
1. STATE ADMINISTRATIVE CODE
2. STATE BUILDING CODE
3. NFPA 101-2003-LIFE SAFETY CODE NFPA-101-1999
4. STATE MECHANICAL CODE
5. STATE PLUMBING CODE
6. STATE ELECTRIC CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

PROPERTY INFORMATION

CUSTOMER:	NEXTG
PROJECT:	DAVENPORT
NODE:	DAV01
LATITUDE:	36.967377
LONGITUDE:	-122.111336
STREET ADDRESS:	CABRILLO HWY / HWY1
CITY, STATE:	SANTA CRUZ, CA, 95060
POLE# / TYPE:	69 / WOOD POLE
RAD CENTER / ANTENNA HEIGHT:	21'-0" TO RAD CENTER
ANTENNA TYPE:	PANEL ANTENNA(S)
AZIMUTH FOR ANTENNAS:	110°, 280°
POWER TO POLE:	EXISTING PG&E
POLE ACCESS:	ACCESS ROAD
POLE LOCATION & DESCRIPTION:	(DRIVEWAY 3060 CABRILLO HWY.) APPROX. 2,142' NW OF OIMEO LN. AND CABRILLO 1

PROJECT SUMMARY



VICINITY MAP

ALL POLE MOUNTED EQUIPMENT
TO BE PAINTED WITH SHERMAN WILLIAMS
#6108 PAINT

SHEET	DESCRIPTION	REV.
1	TITLE SHEET	1
2	UTILITY POLE EQUIPMENT PROFILES	1
3	UTILITY POLE EQUIPMENT TYPICALS	1

SHEET INDEX

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF WIRELESS EQUIPMENT AND ANTENNAS FOR NEXTG ON EXISTING WOOD UTILITY POLES.

PROJECT DESCRIPTION

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL ASSOCIATED BRACKETS IN ACCORDANCE TO CONSTRUCTION SPECIFICATIONS. REARRANGE ANY EXISTING FACILITIES IN ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES.

PROJECT SCOPE

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/09/11	SHEET INDEX REV.	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
12341 Tamescal Dr. Ste
Corona, CA. 92883
PHONE: (951) 471-1018

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

COMMENTS:

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV01

SHEET NUMBER: 1
REVISION: 1

plnt782

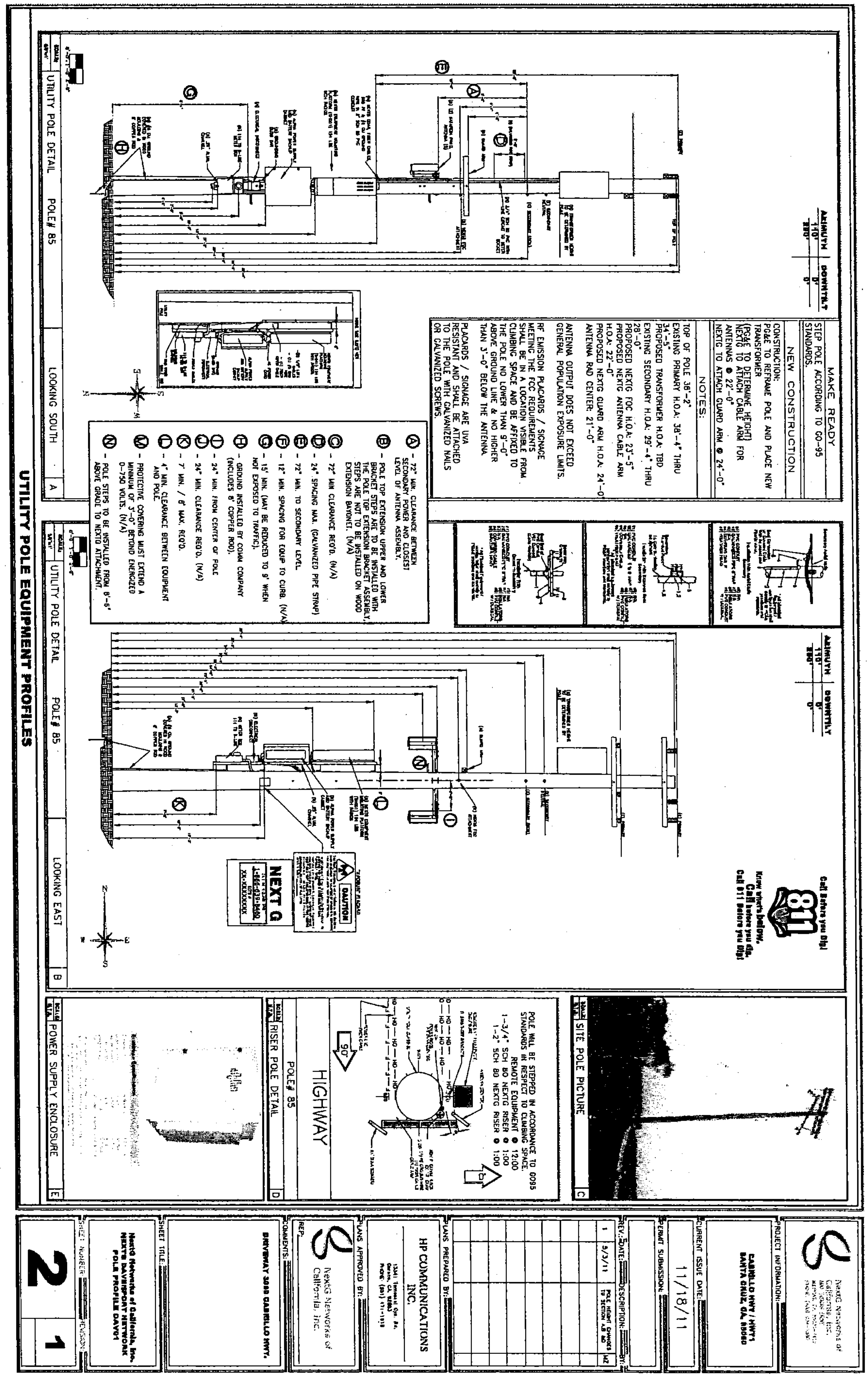

MAKE READY
STEP POLE ACCORDING TO GO-95 STANDARDS.
NEW CONSTRUCTION
CONSTRUCTION:
PG&E TO REFRAME POLE AND PLACE NEW TRANSFORMER
(PG&E TO DETERMINE HEIGHT)
NEXTG TO ATTACH CABLE ARM FOR ANTENNAS @ 22'-0"
NEXTG TO ATTACH GUARD ARM @ 24'-0"
NOTES:
TOP OF POLE 38'-2"
EXISTING PRIMARY H.O.A: 38'-4" THRU 34'-5"
PROPOSED TRANSFORMER H.O.A: TBD
EXISTING SECONDARY H.O.A: 29'-4" THRU 28'-0"
PROPOSED NEXTG FOC H.O.A: 23'-5"
PROPOSED NEXTG ANTENNA CABLE ARM H.O.A: 22'-0"
PROPOSED NEXTG GUARD ARM H.O.A: 24'-0"
ANTENNA RAD CENTER: 21'-0"
ANTENNA OUTPUT DOES NOT EXCEED GENERAL POPULATION EXPOSURE LIMITS.
RF EMISSION PLACARDS / SIGNAGE MEETING THE FCC REQUIREMENTS SHALL BE IN A LOCATION VISIBLE FROM CLIMBING SPACE AND BE AFFIXED TO THE POLE NO LOWER THAN 9'-0" ABOVE GROUND LINE & NO HIGHER THAN 3'-0" BELOW THE ANTENNA.
PLACARDS / SIGNAGE ARE UVA RESISTANT AND SHALL BE ATTACHED TO THE POLE WITH GALVANIZED NAILS OR GALVANIZED SCREWS.
AZIMUTH | DOWNTILT
110° | 0°
290° | 0°
A - 72" MIN. CLEARANCE BETWEEN SECONDARY POWER AND CLOSEST LEVEL OF ANTENNA ASSEMBLY.
B - POLE TOP EXTENSION UPPER AND LOWER BRACKET STEPS ARE TO BE INSTALLED WITH THE POLE TOP EXTENSION BRACKET ASSEMBLY, STEPS ARE NOT TO BE INSTALLED ON WOOD EXTENSION BAYONET. (N/A)
C - 72" MIN CLEARANCE REQ'D. (N/A)
D - 24" SPACING MAX. (GALVANIZED PIPE STRAP)
E - 72" MIN. TO SECONDARY LEVEL.
F - 12" MIN. SPACING FOR EQUIP TO CURB. (N/A)
G - 15' MIN. (MAY BE REDUCED TO 9' WHEN NOT EXPOSED TO TRAFFIC).
H - GROUND INSTALLED BY COMM COMPANY (INCLUDES 8' COPPER ROD).
I - 24" MIN. FROM CENTER OF POLE
J - 24" MIN. CLEARANCE REQ'D. (N/A)
K - 7' MIN. / 8' MAX. REQ'D.
L - 4" MIN. CLEARANCE BETWEEN EQUIPMENT AND POLE.
M - PROTECTIVE COVERING MUST EXTEND A MINIMUM OF 3'-0" BEYOND ENERGIZED 0-750 VOLTS. (N/A)
N - POLE STEPS TO BE INSTALLED FROM 8'-6" ABOVE GRADE TO NEXTG ATTACHMENT.
UTILITY POLE DETAIL POLE# 85 LOOKING SOUTH A
UTILITY POLE DETAIL POLE# 85 LOOKING EAST B
Call Before you Dig!
811
Know what's below.
Call before you dig.
Call 811 Before you Dig!
CAUTION
NEXT G
1-866-639-8460
XX-XXXXXXXX
SITE POLE PICTURE C
POLE WILL BE STEPPED IN ACCORDANCE TO GO95 STANDARDS IN RESPECT TO CLIMBING SPACE.
REMOTE EQUIPMENT @ 12:00
1-3/4" SCH 80 NEXTG RISER @ 1:00
1-2" SCH 80 NEXTG RISER @ 1:00
90°
HIGHWAY
POLE# 85
RISER POLE DETAIL D
POWER SUPPLY ENCLOSURE E
UTILITY POLE EQUIPMENT PROFILES
NextG Networks of California, Inc.
PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA, 95060
CURRENT ISSUE DATE:
11/18/11
PERMIT SUBMISSION:
REV.: | DATE: | DESCRIPTION: | BY:
1 | 5/3/11 | POLE HEIGHT CHANGES TO SECTION AB 80 | MZ
PLANS PREPARED BY:
HP COMMUNICATIONS INC.
PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:
COMMENTS:
DRIVEWAY 3080 CABRILLO HWY.
SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV01
SHEET NUMBER: | REVISION:
2 | 1

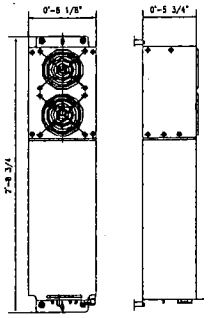
EXHIBIT A
ATTACHMENT 2

ION-M19P

ANDREW ION-19P IS A MULTI-BAND MULTI-OPERATOR REMOTE UNIT WITH VARIOUS EXTENSION UNITS. IT IS USED IN CONJUNCTION WITH A MASTER UNIT IN THE ION OPTICAL DISTRIBUTION SYSTEM. THIS SYSTEM TRANSPORTS MULTIPLE FREQUENCY BANDS SIMULTANEOUSLY (1900 MHZ AND 1700/2100 MHZ), PROVIDING A COST-EFFECTIVE SOLUTION FOR DISTRIBUTING CAPACITY FROM ONE OR MORE BASE STATIONS.

ELECTRICAL	
POWER SUPPLY	
MAINS POWER, VAC	90 TO 264 115 OR 230
POWER CONSUMPTION, WATTS	350
OPTICAL	
CONNECTORS	E7000/APC 8°
OPTICAL RETURN LOSS, DB	45 MINIMUM
FIBER TYPE, UM	SINGLE MODE 9/8/125
OPTICAL LINK BUDGET, DB	0 TO 10
COMPOSITE INPUT POWER	
8 CDRS MASTER SDE, DBM	
1900MHZ	+2 COMPOSITE
1700/2100 MHZ	+5 COMPOSITE
INTERFACE	
RITS SLOT	
NUMBER OF CONNECTORS	
1900MHZ	4
1700/2100 MHZ	4
SYSTEM OPTIMIZED FOR RTS POWER, DBM	33 43
ANTENNA PORT	
CONNECTOR	N FEMALE
OUTPUT POWER	SEE BAND SPECIFICATION
1900 MHZ	
FREQUENCY RANGE, MHZ	
UPLINK	1850 TO 1915
DOWNLINK	1930 TO 1995
OUTPUT POWER PER CARRIER, DBM	
NUMBER OF CARRIERS	1 2 4 8
GSM	43 40 37 34
TDMA/EDGE	43 40 37 34
CDMA/EV-DO	43 40 37 34
WCDMA/HSDPA	43 40 37 34
SPURIOUS EMISSION	<-13 DBM / 1MHZ
DL OUTPUT TOLERANCE OVER FREQUENCY, DB	±1
DL OUTPUT TOLERANCE OVER TEMPERATURE, DB	±0.5
INPUT ICP	
ICP3 OPTIMIZED	-12
NOISE FIGURE OPTIMIZED	-18
NOISE FIGURE, DB	
ICP3 OPTIMIZED	11
NOISE FIGURE OPTIMIZED	8
1700/2100 MHZ (IN EXTENSION UNIT)	
FREQUENCY RANGE, MHZ	
UPLINK	1710 TO 1755
DOWNLINK	2110 TO 2155
OUTPUT POWER PER CARRIER, DBM	
CDMA/EV-DO	WCDMA/UMTS/HSDPA
+43	+43 @ 1 CARRIER
+40	+40 @ 2 CARRIERS
+37	+37 @ 4 CARRIERS
+34	+34 @ 8 CARRIERS
SPURIOUS EMISSION	<-13 DBM / 1 MHZ
ADJACENT CHANNEL POWER, DBC	-46
DL OUTPUT TOLERANCE OVER FREQ, DB	±1
DL OUTPUT TOLERANCE OVER TEMP, DB	±0.5
INPUT ICP3, DBM	
ICP3 OPTIMIZED	-12
NOISE FIGURE OPTIMIZED	-18

* APPLICABLE TO SINGLE MODULATION MODE ONLY
** WITH ACTIVE COOLING



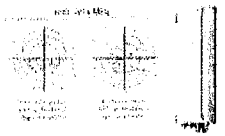
ION-M19P MULTI-BAND, MULTI-OPERATOR REMOTE OPTICAL SYSTEM

SCALE: N.T.S. | REPEATER EQUIPMENT DIMENSIONS | F

840 10525
65° Dualband Directional Antenna

Kathrein's dual band antennas are ready for 3G applications, covering all existing antenna bands as well as all spectrum under consideration for future systems, LTE, PCS and 3G/UMTS. These cross-polarised antennas offer diversity operation in the same space as a conventional 700 MHz antenna, and are mountable on our compact sector brackets

- Wide band operation
- Exceptional intermodulation characteristics
- Various gain, beamwidth and downtilt ranges
- High strength pultruded fiberglass radome



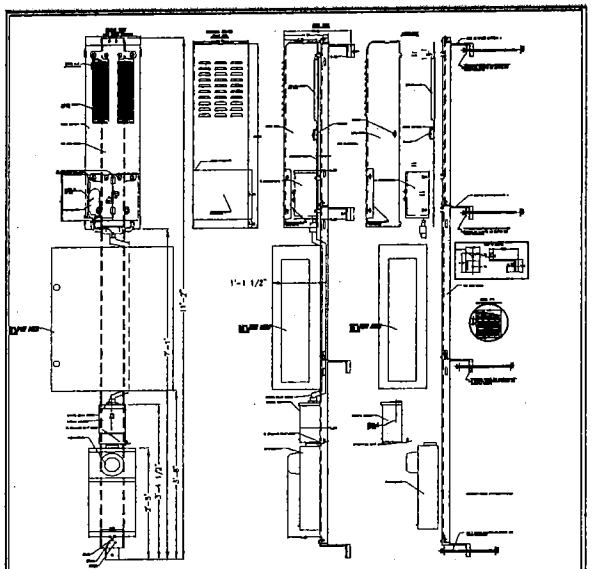
General specifications:
Frequency range 698-894 MHz
1710-2170 MHz
Impedance 50 ohms
VSWR < 1.5:1
Intermodulation (2x20W) IM3: <-150 dBc
Polarization +45° and -45°
Connector 4 x 7-16 DIN female
Radiation (standard) ±30 dB
Weight 13.8 lb (7.2 kg)
Dimensions 23.3 x 10.5 x 8.2 inches
(593 x 270 x 137 mm)
Wind load at 93 mph (150kph)
Front/Side/Rear 23 lbf / 16 lbf / 41 lbf
(100 N) / (80 N) / (180 N)
Wind survival rating* 125 mph (200 kph)
Shipping dimensions 29 x 11.9 x 7.8 inches
(736 x 302 x 192 mm)
Shipping weight 18.2 lb (8.7 kg)
Mounting Fixed tilt kit mount options are available for 2 to 4.8 inch (50 to 115 mm) OD
cylinders

Specifications: 698-806 MHz 806-894 MHz 1710-1755 MHz 1850-1990 MHz 2110-2170 MHz
Gain 10.6 dBi 11 dBi 13.3 dBi 13.0 dBi 12.6 dBi
Front-to-back ratio >25 dB (co-polar) >25 dB (co-polar) >30 dB (co-polar) >30 dB (co-polar) >30 dB (co-polar)
Maximum input power 250 watts (at 50°C) 250 watts (at 50°C) 200 watts (at 50°C) 200 watts (at 50°C)
+45° and -45° polarization 71° (half-power) 68° (half-power) 81° (half-power) 83° (half-power) 70° (half-power)
horizontal beamwidth
+45° and -45° polarization 37° (half-power) 31° (half-power) 19° (half-power) 18° (half-power) 18.8° (half-power)
vertical beamwidth
Cross polar ratio (typical)
Main direction 17 dB 18 dB 20 dB 25 dB 25 dB 25 dB
Sector ≥ 07 >6 dB >6 dB >6 dB >6 dB >6 dB >6 dB

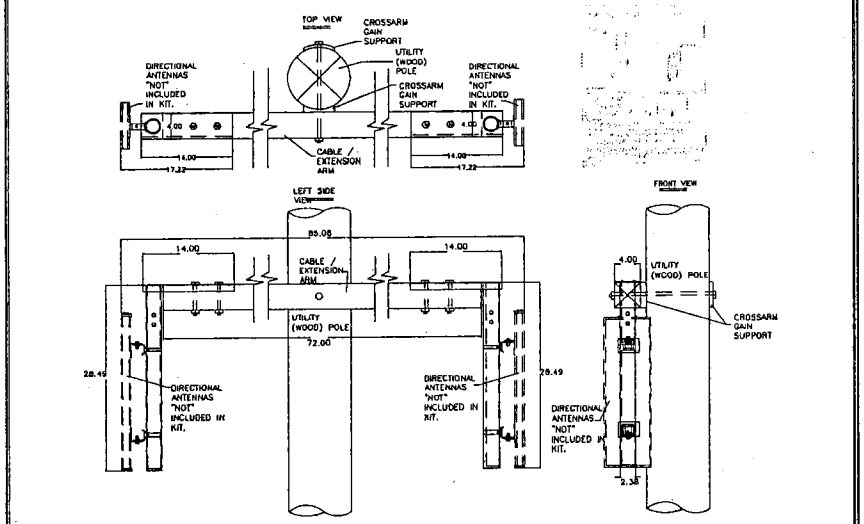
Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 when exclude the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6580 Fax: (541) 779-3991
Email: customerservice@kathrein.com Internet: www.kathrein-scala.com

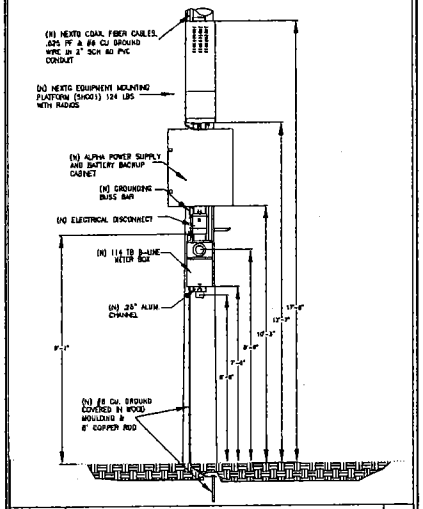
SCALE: N.T.S. | ANTENNA SPECIFICATIONS | G



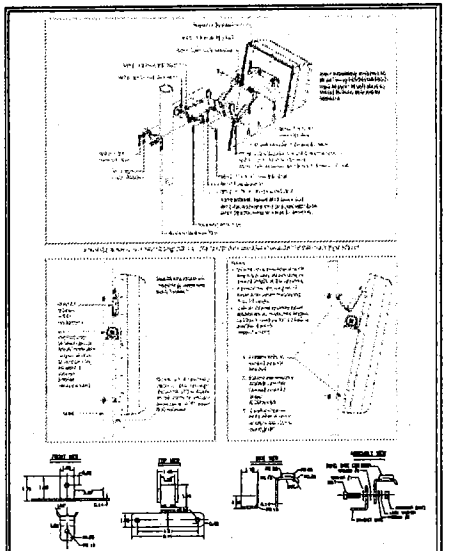
SCALE: N.T.S. | REPEATER EQUIPMENT AND MOUNTING CHASSIS CONFIGURATION | H



SCALE: N.T.S. | BRACKET ASSEMBLY / CONFIGURATION | I



SCALE: N.T.S. | UTILITY POLE EQUIPMENT AND MOUNTING CONFIGURATION | J



SCALE: N.T.S. | ANTENNA MOUNTING BRACKETS | K

UTILITY POLE EQUIPMENT TYPICALS

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY
1	5/3/11	ADDED MEASUREMENT TO SECTION H & K	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
12341 Tamarind Cyn Rd.
Corona, CA. 92883
PHONE: (951) 471-1818

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

COMMENTS:

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV01

SHEET NUMBER: 3
REVISION: 1

p1a782

ATTACHMENT 2 EXHIBIT A

NOTE:
A COPY OF ALL REQUIRED PERMITS MUST BE PRESENT DURING ANY WORK ON THIS LOCATION AND PERFORMING WORK AT THIS LOCATION INDICATES THAT THE CONTRACTOR HAS READ AND COMPLIED WITH THE REQUIREMENTS STATED IN THE PERMITS

SIGNATURE:

NextG Networks of California, Inc.

DAVENPORT
DAV02
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

Call Before you Dig!

811

Know what's below.
Call before you dig.
Call 811 Before you Dig!

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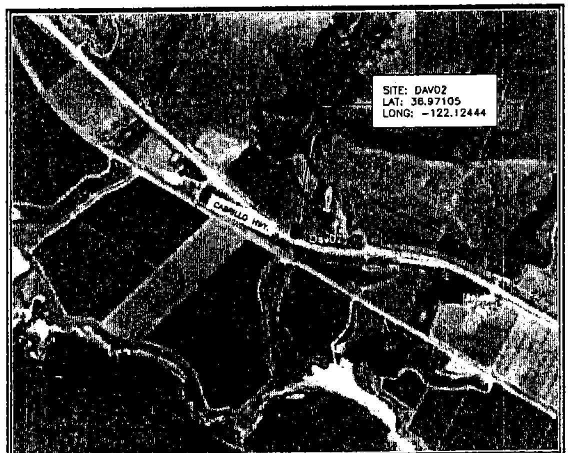
1. STATE ADMINISTRATIVE CODE
2. STATE BUILDING CODE
3. ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101-1990
4. STATE MECHANICAL CODE
5. STATE PLUMBING CODE
6. STATE ELECTRIC CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

PROPERTY INFORMATION

CUSTOMER:	NEXTG
PROJECT:	DAVENPORT
NODE:	DAV02
LATITUDE:	36.97105
LONGITUDE:	-122.12444
STREET ADDRESS:	CABRILLO HWY / HWY1
CITY, STATE:	SANTA CRUZ, CA. 95060
POLE# / TYPE:	5623 / WOOD POLE POLE # 138175 / CO# 5627
RAD CENTER / ANTENNA HEIGHT:	20'4" TO RAD CENTER
ANTENNA TYPE:	PANEL ANTENNA(S)
AZIMUTH FOR ANTENNA:	100°, 280°
POWER TO POLE:	EXISTING POLE
POLE ACCESS:	ACCESS ROAD
POLE LOCATION & DESCRIPTION:	APPROX. 6,250' N/W OF DIMEO LN. AND CABRILLO 1

PROJECT SUMMARY



VICINITY MAP

ALL POLE MOUNTED EQUIPMENT TO BE PAINTED WITH SHERMAN WILLIAMS #6108 PAINT

SHEET	DESCRIPTION	REV.
1	TITLE SHEET	1
2	UTILITY POLE EQUIPMENT PROFILES	1
3	UTILITY POLE EQUIPMENT TYPICALS	1

SHEET INDEX

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PROJECT DESCRIPTION

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL ASSOCIATED BRACKETS IN ACCORDANCE TO CONSTRUCTION SPECIFICATIONS, REARRANGE ANY EXISTING FACILITIES IN ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES.

PROJECT SCOPE

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

NextG Networks of California, Inc.

PROJECT INFORMATION:

CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE: 11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/9/11	SHEET INDEX REV.	MZ

PLANS PREPARED BY:

HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd.
Corona, CA. 92883
PHONE: (951) 471-1819

PLANS APPROVED BY:

NextG Networks of California, Inc.

REP:

COMMENTS:

SHEET TITLE:

NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV02

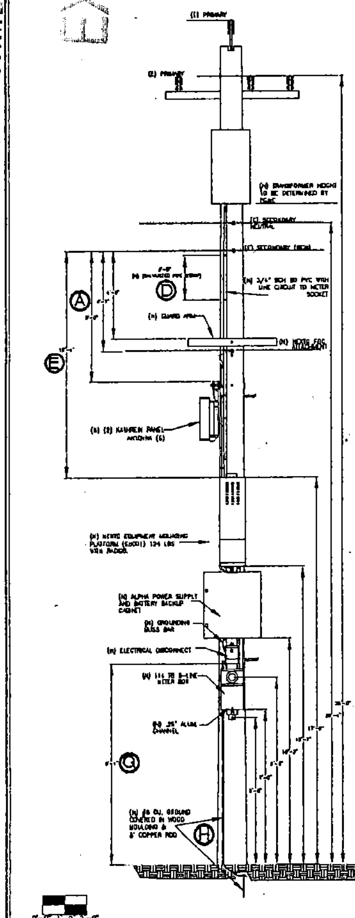
SHEET NUMBER: 1 REVISION: 1

pln782

ATTACHMENT 2

EXHIBIT A

AZIMUTH	DOWNTILT
100°	0°
205°	0°



MAKE READY

STEP POLE ACCORDING TO GO-95 STANDARDS.
PG&E TO REFRAME POLE AND SET NEW TRANSFORMER.

NEW CONSTRUCTION

CONSTRUCTION:
PG&E TO REFRAME POLE AND PLACE NEW TRANSFORMER
(PG&E TO DETERMINE HEIGHT)
NEXTG TO ATTACH CABLE ARM FOR ANTENNAS @ 22'-0"
NEXTG TO ATTACH GUARD ARM @ 24'-0"

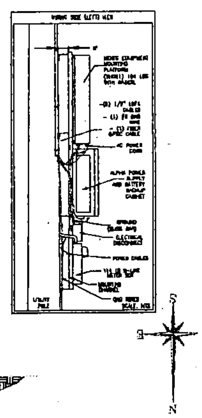
NOTES:

TOP OF POLE 37'-4"
EXISTING PRIMARY H.O.A: 38'-7" THRU 36'-0"
PROPOSED TRANSFORMER H.O.A: TBD
EXISTING SECONDARY H.O.A: 29-4" THRU 28'-0"
PROPOSED NEXTG FOC H.O.A 23'-5"
PROPOSED NEXTG ANTENNA CABLE ARM H.O.A: 22'-0"
PROPOSED NEXTG GUARD ARM H.O.A: 24'-0"
ANTENNA RAD CENTER: 20'-4"

ANTENNA OUTPUT DOES NOT EXCEED GENERAL POPULATION EXPOSURE LIMITS.

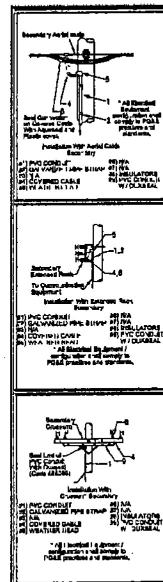
RF EMISSION PLACARDS / SIGNAGE MEETING THE FCC REQUIREMENTS SHALL BE IN A LOCATION VISIBLE FROM CLIMBING SPACE AND BE AFFIXED TO THE POLE NO LOWER THAN 9'-0" ABOVE GROUND LINE & NO HIGHER THAN 3'-0" BELOW THE ANTENNA.

PLACARDS / SIGNAGE ARE UVA RESISTANT AND SHALL BE ATTACHED TO THE POLE WITH GALVANIZED NAILS OR GALVANIZED SCREWS.



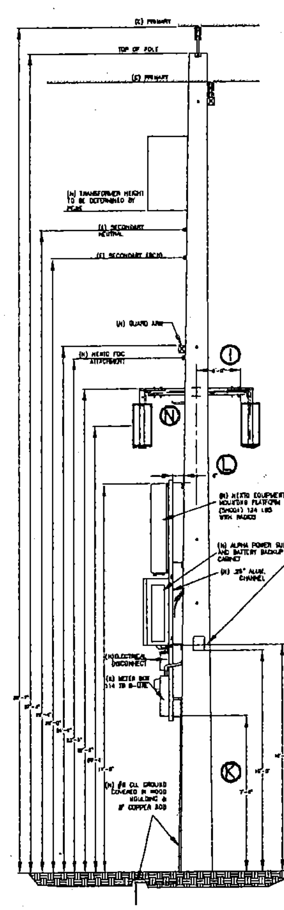
(A) - 72" MIN. CLEARANCE BETWEEN SECONDARY POWER AND CLOSEST LEVEL OF ANTENNA ASSEMBLY.
(B) - POLE TOP EXTENSION UPPER AND LOWER BRACKET STEPS ARE TO BE INSTALLED WITH THE POLE TOP EXTENSION BRACKET ASSEMBLY. STEPS ARE NOT TO BE INSTALLED ON WOOD EXTENSION BAYONET. (N/A)
(C) - 72" MIN CLEARANCE REQ'D. (N/A)
(D) - 24" SPACING MAX. (GALVANIZED PIPE STRAP)
(E) - 72" MIN. TO SECONDARY LEVEL.
(F) - 12" MIN. SPACING FOR EQUIP TO CURB. (N/A)
(G) - 15' MIN. (MAY BE REDUCED TO 9' WHEN NOT EXPOSED TO TRAFFIC).
(H) - GROUND INSTALLED BY COMM COMPANY (INCLUDES 8' COPPER ROD).
(I) - 24" MIN. FROM CENTER OF POLE
(J) - 24" MIN. CLEARANCE REQ'D. (N/A)
(K) - 7' MIN. / 8' MAX. REQ'D.
(L) - 4" MIN. CLEARANCE BETWEEN EQUIPMENT AND POLE.
(M) - PROTECTIVE COVERING MUST EXTEND A MINIMUM OF 3'-0" BEYOND ENERGIZED 0-750 VOLTS. (N/A)
(N) - POLE STEPS TO BE INSTALLED FROM 8'-6" ABOVE GRADE TO NEXTG ATTACHMENT.

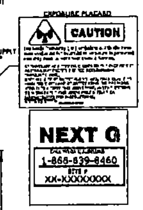
SCALE: 3/8"=1' — UTILITY POLE DETAIL — POLE# 5923 — LOOKING SOUTH — A



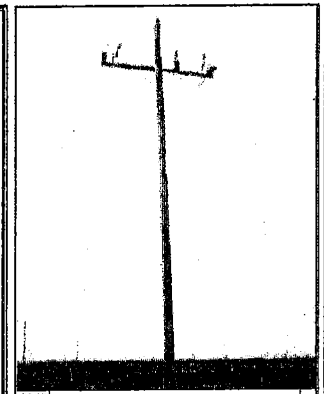
AZIMUTH	DOWNTILT
100°	0°
205°	0°

Call Before you Dig!
811
Know what's below.
Call before you dig.
Call 811 Before you Dig!



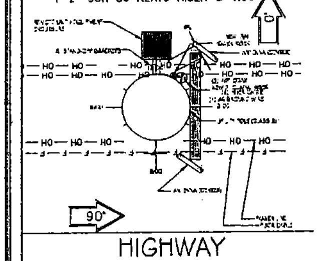


SCALE: 3/8"=1' — UTILITY POLE DETAIL — POLE# 5923 — LOOKING EAST — B



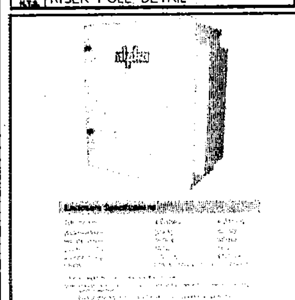
SCALE: N.T.S. — SITE POLE PICTURE — C

POLE WILL BE STEPPED IN ACCORDANCE TO GO95 STANDARDS IN RESPECT TO CLIMBING SPACE.
REMOTE EQUIPMENT @ 12:00
1-3/4" SCH 80 NEXTG RISER @ 1:00
1-2" SCH 80 NEXTG RISER @ 1:00



POLE# 5923

SCALE: N.T.S. — RISER POLE DETAIL — D



SCALE: N.T.S. — POWER SUPPLY ENCLOSURE — E

UTILITY POLE EQUIPMENT PROFILES

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE: 11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	POLE HEIGHT CHANGES TO SECTION A,B &D	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1819

PLANS APPROVED BY:
NextG Networks of California, Inc.

REP.:

COMMENTS:
PG&E POLE # 139176
GO# 5927

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV02

SHEET NUMBER	REVISION
2	1

P1n782

ATTACHMENT 2 EXHIBIT A

ION-M19P

ANDREW ION-M19P IS A MULTI-BAND MULTI-OPERATOR REMOTE UNIT WITH VARIOUS EXTENSION UNITS. IT IS USED IN CONJUNCTION WITH A MASTER UNIT IN THE ION OPTICAL DISTRIBUTION SYSTEM. THIS SYSTEM TRANSPORTS MULTIPLE FREQUENCY BANDS SIMULTANEOUSLY (1900 MHZ AND 1700/2100 MHZ), PROVIDING A COST-EFFECTIVE SOLUTION FOR DISTRIBUTING CAPACITY FROM ONE OR MORE BASE STATIONS.

ELECTRICAL
POWER SUPPLY
MAINS POWER, VAC — 85 TO 264; 115 OR 230
POWER CONSUMPTION, WATTS — 360
OPTICAL
CONNECTORS — E2000/APC 8°
OPTICAL RETURN LOSS, DB. — 45 MINIMUM
FIBER TYPE, NM — SINGLE MODE E9/125
OPTICAL LINK BUDGET, DB — 0 TO 10
COMPOSITE INPUT POWER @ OTRX MASTER SIDE, DBM
1900MHZ — +3 COMPOSITE
1700/2100 MHZ — +3 COMPOSITE
INTERFACE
BTS SIDE
NUMBER OF CONNECTORS
1900MHZ — 4
1700/2100 MHZ — 4
SYSTEM OPTIMIZED FOR BTS POWER, DBM — 33, 43

ANTENNA PORT
CONNECTOR — N FEMALE
OUTPUT POWER — SEE BAND SPECIFICATION
1900 MHZ
FREQUENCY RANGE, MHZ
UPLINK — 1850 TO 1910
DOWNLINK — 1930 TO 1995
OUTPUT POWER PER CARRIER*, DBM

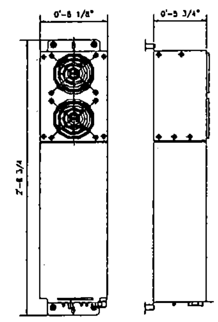
NUMBER OF CARRIERS	1	2	4	8
GSM	43	40	37	34
TDMA/ EDGE	43	40	37	34
CDMA/EV-DO	43	40	37	34
WCDMA/HSDPA	43	40	37	34

SPURIOUS EMISSION — <-13 DBM / 1MHZ
DL OUTPUT TOLERANCE OVER FREQUENCY, DB — +1
DL OUTPUT TOLERANCE OVER TEMPERATURE, DB — +0.5

INPUT ICP
ICP3 OPTIMIZED — -12
NOISE FIGURE OPTIMIZED — -18
NOISE FIGURE, DB
ICP3 OPTIMIZED — 11
NOISE FIGURE OPTIMIZED — 8
1700/2100 MHZ (IN EXTENSION UNIT)
FREQUENCY RANGE, MHZ
UPLINK — 1710 TO 1755
DOWNLINK — 2110 TO 2155
OUTPUT POWER PER CARRIER*, DBM

CDMA/EV-DO	WCDMA/UMTS/HSDPA
+43	+43 @ 1 CARRIER
+40	+40 @ 2 CARRIERS
+37	+37 @ 4 CARRIERS
+34	+34 @ 8 CARRIERS

SPURIOUS EMISSION — <-13 DBM / 1 MHZ
ADJACENT CHANNEL POWER, DBC — -48
DL OUTPUT TOLERANCE OVER FREQ., DB — +1
DL OUTPUT TOLERANCE OVER TEMP, DB — +0.5
INPUT ICP3, DBM
ICP3 OPTIMIZED — -12
NOISE FIGURED OPTIMIZED — -18
* APPLICABLE TO SINGLE MODULATION MODE ONLY
** WITH ACTIVE COOLING



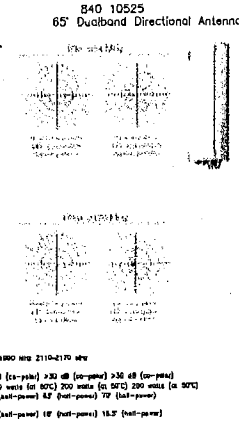
ION-M19P MULTI-BAND, MULTI-OPERATOR REMOTE OPTICAL SYSTEM

SCALE: N.T.S. — REPEATER EQUIPMENT DIMENSIONS — F

KATHREIN
SCALA DIVISION

840 10525
65° Dualband Directional Antenna

Kathrein's dual band antennas are ready for 3G applications, covering all existing wireless bands as well as all spectrum under consideration for future systems. LTE, PCS and 3G/UMTS. These cross-polarized antennas offer diversity operation in the same space as a conventional 700 MHz antenna, and are mountable on our compact sector brackets.
- Wide band operation.
- Exceptional intermodulation characteristics.
- Various gain, beamwidth and downtilt ranges.
- High strength pultruded fiberglass radome.



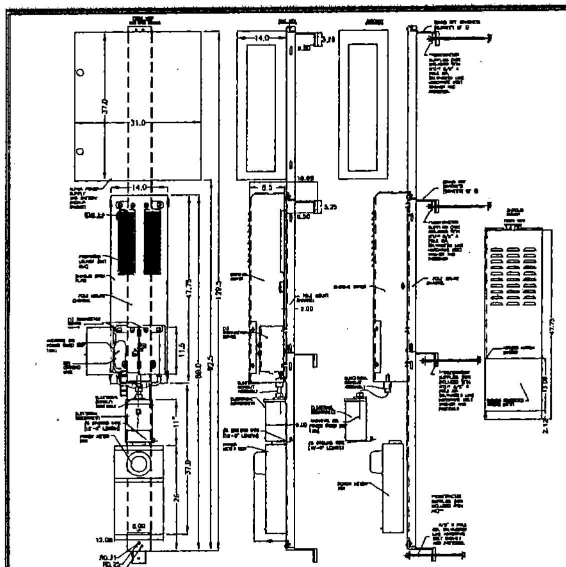
General specifications:
Frequency range 698-894 MHz; 1710-2170 MHz
Impedance 50 ohms
VSWR <1.5:1
Intermodulation (2x20w) IM3 <-150 dBc
Polarization +45° and -45°
Connector 4 x 7-16 DIN female
Isolation intrasystem >30 dB
Weight 15.9 lb (7.2 kg)
Dimensions 23.3 x 10.6 x 6.2 inches (593 x 270 x 157 mm)
Wind load at 93 mph (150kph) Front/Side/Rear 23 lbf / 18 lbf / 41 lbf (100 N) / (80 N) / (180 N)
Wind survival rating* 120 mph (200 kph)
Shipping dimensions 29 x 11.9 x 7.6 inches (738 x 303 x 192 mm)
Shipping weight 19.2 lb (8.7 kg)
Mounting Fixed and tilt mount options are available for 2 to 4.6 inch (50 to 115 mm) OD masts.

Specifications: 698-806 MHz 806-894 MHz 1710-1755 MHz 1850-1990 MHz 2110-2170 MHz
Gain 10.5 dBi 11 dBi 13.5 dBi 13.5 dBi 12.8 dBi
Front-to-back ratio >25 dB (co-polar) >25 dB (co-polar) >30 dB (co-polar) >30 dB (co-polar) >30 dB (co-polar)
Maximum input power 250 watts (at 50°C) 250 watts (at 50°C) 200 watts (at 50°C) 200 watts (at 50°C) 200 watts (at 50°C)
+45° and -45° polarization horizontal beamwidth 71° (half-power) 68° (half-power) 61° (half-power) 65° (half-power) 70° (half-power)
+45° and -45° polarization vertical beamwidth 37° (half-power) 31° (half-power) 19° (half-power) 18° (half-power) 15.5° (half-power)
Cross polar ratio (typical)
Main direction 0° 30 dB 30 dB 25 dB 25 dB 25 dB
Sector ±60° >6 dB >6 dB >6 dB >6 dB >6 dB

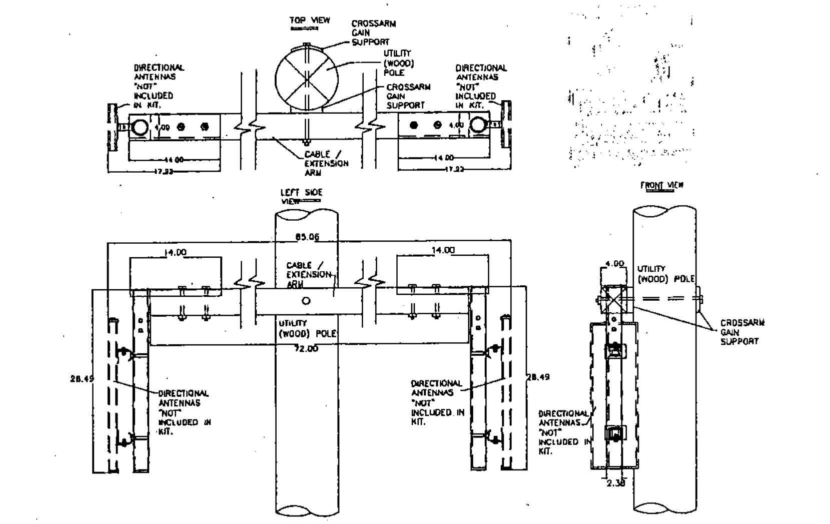
Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

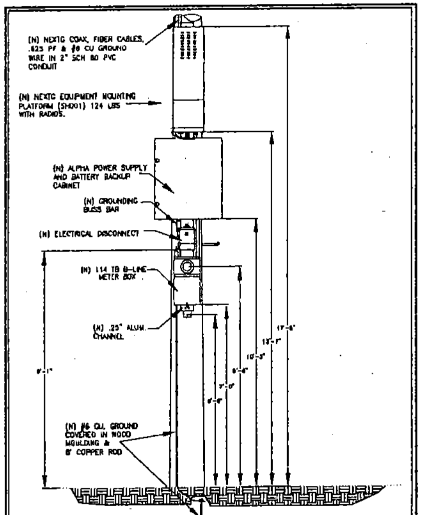
SCALE: N.T.S. — ANTENNA SPECIFICATIONS — G



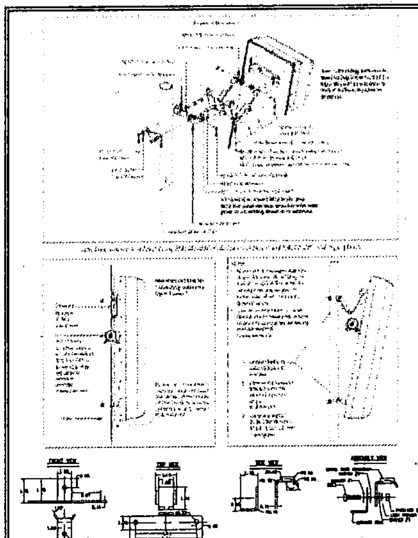
SCALE: N.T.S. — REPEATER EQUIPMENT AND MOUNTING CHASSIS CONFIGURATION — H



SCALE: N.T.S. — BRACKET ASSEMBLY / CONFIGURATION — I



SCALE: N.T.S. — UTILITY POLE EQUIPMENT AND MOUNTING CONFIGURATION — J



SCALE: N.T.S. — ANTENNA MOUNTING BRACKETS — K

UTILITY POLE EQUIPMENT TYPICALS

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE: 11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	ADDED MEASUREMENT TO SECTION H & K	M2

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1919

PLANS APPROVED BY:
NextG Networks of California, Inc.

REP:

COMMENTS:

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV02

SHEET NUMBER: 3 — REVISION: 1

p1n782

ATTACHMENT 2

EXHIBIT A

NOTE:
A COPY OF ALL REQUIRED PERMITS MUST BE PRESENT DURING ANY WORK ON THIS LOCATION AND PERFORMING WORK AT THIS LOCATION INDICATES THAT THE CONTRACTOR HAS READ AND COMPLIED WITH THE REQUIREMENTS STATED IN THE PERMITS

SIGNATURE

NextG Networks of California, Inc.

DAVENPORT
DAV03
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

Call Before you Dig!

811

Know what's below.
Call before you dig.
Call 811 Before you Dig!

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE AREAS GOVERNING CODES.

1. STATE ADMINISTRATIVE CODE
2. STATE BUILDING CODE
3. ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101-1999
4. STATE MECHANICAL CODE
5. STATE PLUMBING CODE
6. STATE ELECTRIC CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

PROPERTY INFORMATION

CUSTOMER:	NEXTG
PROJECT:	DAVENPORT
NODE:	DAV03
LATITUDE:	36.981248
LONGITUDE:	-122.140224
STREET ADDRESS:	CABRILLO HWY / HWY1
CITY, STATE:	SANTA CRUZ, CA. 95060
POLES / TYPE:	150 / WOOD POLE
RAD CENTER / ANTENNA HEIGHT:	19'-1" TO RAD CENTER
ANTENNA TYPE:	PANEL ANTENNA(S)
AZIMUTH FOR ANTENNA:	115°, 290°
POWER TO POLE:	EXISTING POLE
POLE ACCESS:	ROAD SIDE
POLE LOCATION & DESCRIPTION:	APPROX. 1.0/2' S/E OF BACK RANCH RD. AND CABRILLO 1 (E/S CABRILLO HWY 2 POLES N/O SCARONI RD.)

PROJECT SUMMARY

VICINITY MAP

ALL POLE MOUNTED EQUIPMENT TO BE PAINTED WITH SHERMAN WILLIAMS #6108 PAINT

SHEET	DESCRIPTION	REV.
1	TITLE SHEET	1
2	UTILITY POLE EQUIPMENT PROFILES	1
3	UTILITY POLE EQUIPMENT TYPICALS	1

SHEET INDEX

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF WIRELESS EQUIPMENT AND ANTENNAS FOR NEXTG ON EXISTING WOOD UTILITY POLES.

PROJECT DESCRIPTION

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL ASSOCIATED BRACKETS IN ACCORDANCE TO CONSTRUCTION SPECIFICATIONS. REARRANGE ANY EXISTING FACILITIES IN ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES.

PROJECT SCOPE

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE: 11/18/11

PERMIT SUBMISSION:

REV.	DATE:	DESCRIPTION:	BY:
1	5/9/11	SHEET INDEX REV.	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd.
Corona, CA 92883
PHONE: (951) 471-1818

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

COMMENTS:

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV03

SHEET NUMBER: 1
REVISION: 1

EXHIBIT A
ATTACHMENT 2

AZIMUTH	DOWNTILT
118°	0°
280°	0°

MAKE READY

STEP POLE ACCORDING TO GO-95 STANDARDS.

NEW CONSTRUCTION

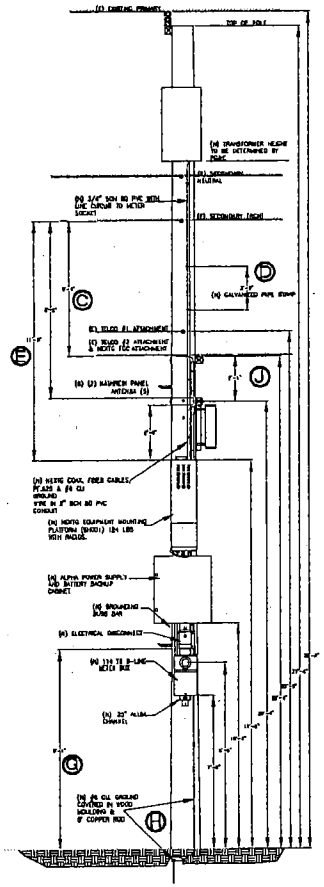
CONSTRUCTION:
PG&E TO REFRAME POLE AND PLACE NEW TRANSFORMER (PG&E TO DETERMINE HEIGHT)
NEXTG TO ATTACH CABLE ARM FOR ANTENNAS @ 20'-6"
NEXTG PROPOSES TO REARRANGE TELCO#2 AND NEXTG TO CABLE ARM H.O.A: 22'-4"

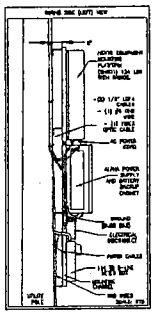
NOTES:

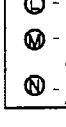
TOP OF POLE 37'-6"
EXISTING PRIMARY H.O.A: 38'-2"
PROPOSED TRANSFORMER H.O.A: TBD
EXISTING SECONDARY H.O.A: 28'-8" THRU 30'-8"
EXISTING TELCO#1 H.O.A: 23'-6"
EXISTING TELCO#2 AND NEXTG FOC ATT. ON CABLE ARM H.O.A: 22'-4"
PROPOSED NEXTG CABLE ARM (ANTENNAS) H.O.A: 20'-6"
ANTENNA RAD CENTER: 19'-1"
ANTENNA OUTPUT DOES NOT EXCEED GENERAL POPULATION EXPOSURE LIMITS.

RF EMISSION PLACARDS / SIGNAGE MEETING THE FCC REQUIREMENTS SHALL BE IN A LOCATION VISIBLE FROM CLIMBING SPACE AND BE AFFIXED TO THE POLE NO LOWER THAN 9'-0" ABOVE GROUND LINE & NO HIGHER THAN 3'-0" BELOW THE ANTENNA.

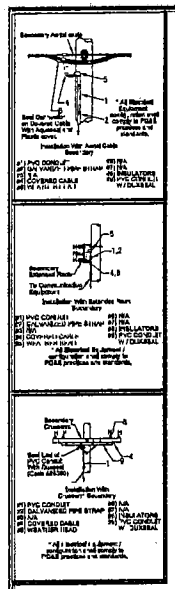
PLACARDS / SIGNAGE ARE UVA RESISTANT AND SHALL BE ATTACHED TO THE POLE WITH GALVANIZED NAILS OR GALVANIZED SCREWS.







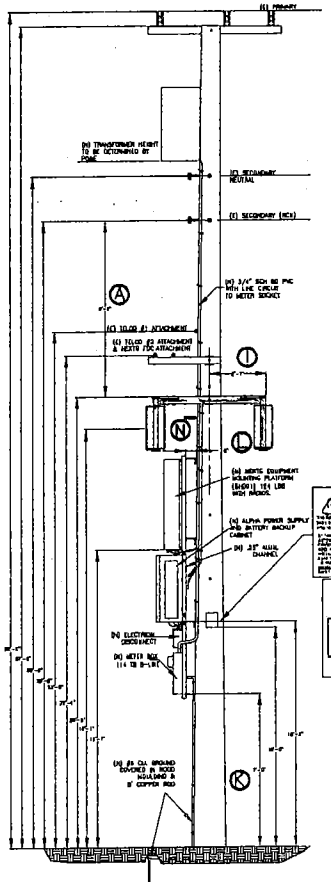
- (A) – 72" MIN. CLEARANCE BETWEEN SECONDARY POWER AND CLOSEST LEVEL OF ANTENNA ASSEMBLY.
- (B) – POLE TOP EXTENSION UPPER AND LOWER BRACKET STEPS ARE TO BE INSTALLED WITH THE POLE TOP EXTENSION BRACKET ASSEMBLY, STEPS ARE NOT TO BE INSTALLED ON WOOD EXTENSION BAYONET. (N/A)
- (C) – 72" MIN CLEARANCE REQ'D.
- (D) – 24" SPACING MAX. (GALVANIZED PIPE STRAP)
- (E) – 72" MIN. TO SECONDARY LEVEL.
- (F) – 12" MIN. SPACING FOR EQUIP TO CURB. (N/A)
- (G) – 15' MIN. (MAY BE REDUCED TO 9' WHEN NOT EXPOSED TO TRAFFIC). (N/A)
- (H) – GROUND INSTALLED BY COMM COMPANY (INCLUDES 8' COPPER ROD).
- (I) – 24" MIN. FROM CENTER OF POLE
- (J) – 24" MIN. CLEARANCE REQ'D.
- (K) – 7' MIN. / 8' MAX. REQ'D.
- (L) – 4" MIN. CLEARANCE BETWEEN EQUIPMENT AND POLE.
- (M) – PROTECTIVE COVERING MUST EXTEND A MINIMUM OF 3'-0" BEYOND ENERGIZED 0-750 VOLTS. (N/A)
- (N) – POLE STEPS TO BE INSTALLED FROM 8'-6" ABOVE GRADE TO NEXTG ATTACHMENT.



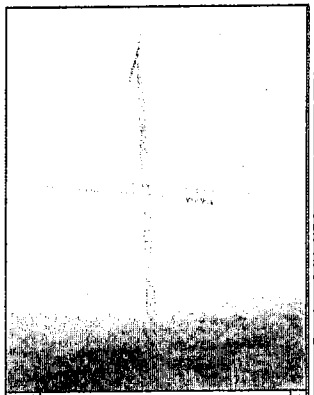
SCALE: 3/4"=1'	UTILITY POLE DETAIL POLE# 150	LOOKING SOUTH	A

AZIMUTH	DOWNTILT
118°	0°
280°	0°

Call Before you Dig! 811
Know what's below. Call before you dig. Call 811 Before you Dig!

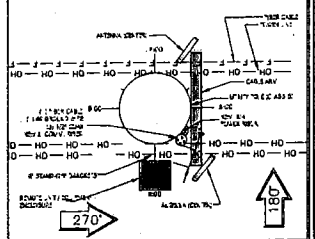


SCALE: 3/4"=1'	UTILITY POLE DETAIL POLE# 150	LOOKING EAST	B



SCALE: N.T.S.	SITE POLE PICTURE	C

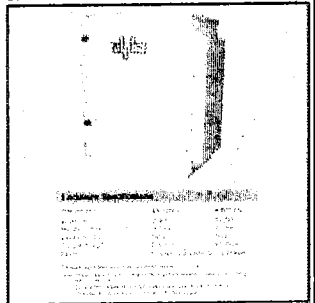
POLE WILL BE STEPPED IN ACCORDANCE TO GO95 STANDARDS IN RESPECT TO CLIMBING SPACE.
REMOTE EQUIPMENT @ 6:00
1-3/4" SCH 80 NEXTG RISER @ 5:00
1-2" SCH 80 NEXTG RISER @ 5:00



HIGHWAY

POLE# 150

SCALE: N.T.S.	RISER POLE DETAIL	D



SCALE: N.T.S.	POWER SUPPLY ENCLOSURE	E

NextG Networks of California, Inc.
470 Division Drive
Milpitas, CA 95035-7439
Phone: (408) 954-1580

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.	DATE:	DESCRIPTION:	BY:
1	5/3/11	POLE HEIGHT CHANGES TO SECTION A,B &D	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1919

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

COMMENTS:
E/B CABRILLO HWY (E) POLE3 N/O SCARONI RD.

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV03

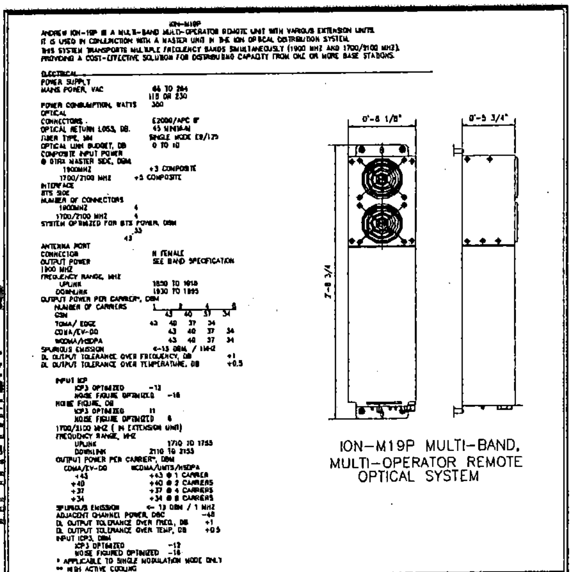
SHEET NUMBER: 2 REVISION: 1

UTILITY POLE EQUIPMENT PROFILES

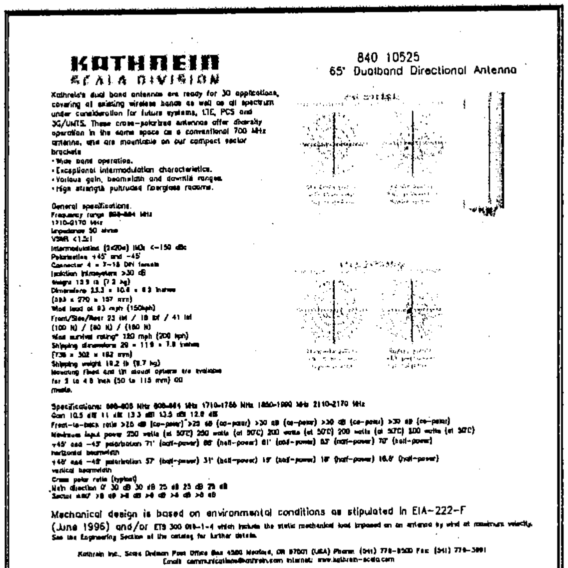
p.n.1782

EXHIBIT A

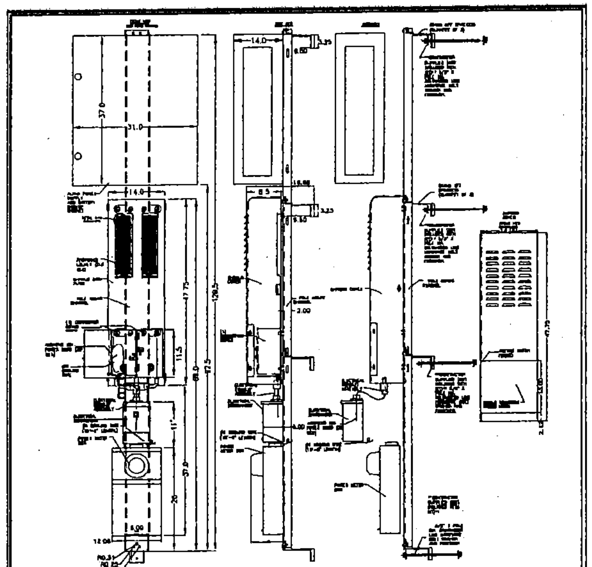
ATTACHMENT 2



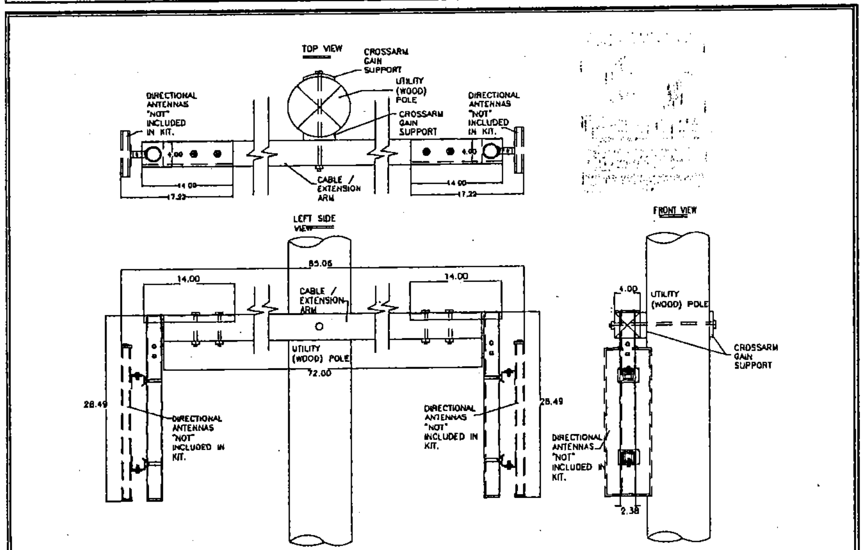
SCALE: N.T.S. | REPEATER EQUIPMENT DIMENSIONS | F



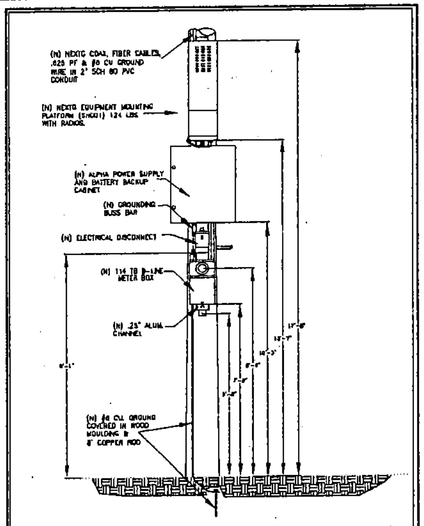
SCALE: N.T.S. | ANTENNA SPECIFICATIONS | G



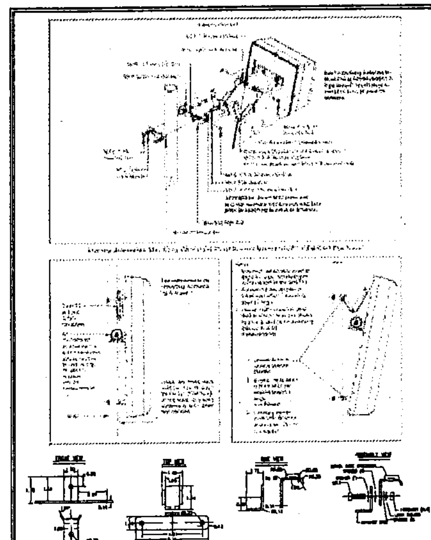
SCALE: N.T.S. | REPEATER EQUIPMENT AND MOUNTING CHASSIS CONFIGURATION | H



SCALE: N.T.S. | BRACKET ASSEMBLY / CONFIGURATION | I



SCALE: N.T.S. | UTILITY POLE EQUIPMENT AND MOUNTING CONFIGURATION | J



SCALE: N.T.S. | ANTENNA MOUNTING BRACKETS | K

UTILITY POLE EQUIPMENT TYPICALS

NextG Networks of California, Inc.

PROJECT INFORMATION:

CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE: 11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	ADDED MEASUREMENT TO SECTION H & K	MZ

PLANS PREPARED BY:

HP COMMUNICATIONS, INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1919

-2-

PLANS APPROVED BY:

NextG Networks of California, Inc.

REP:

COMMENTS:

SHEET TITLE:

NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV03

SHEET NUMBER: 3 | REVISION: 1

p1n782

EXHIBIT A
ATTACHMENT 8

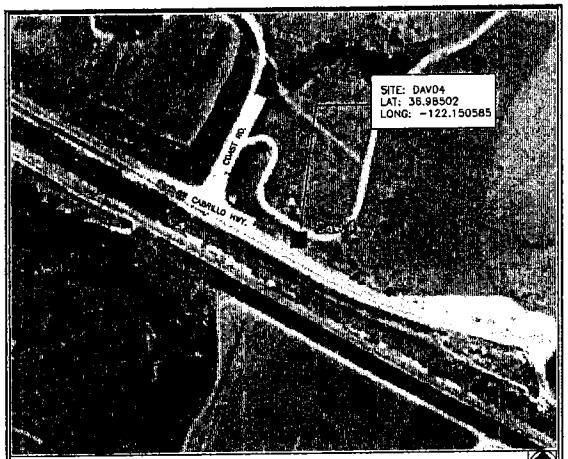
NOTE:
A COPY OF ALL REQUIRED PERMITS MUST BE PRESENT DURING ANY WORK ON THIS LOCATION AND PERFORMING WORK AT THIS LOCATION INDICATES THAT THE CONTRACTOR HAS READ AND COMPLIED WITH THE REQUIREMENTS STATED IN THE PERMITS

SIGNATURE:

NextG Networks of California, Inc.

DAVENPORT
DAV04
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

Call Before you Dig!
811
Know what's below.
Call before you dig.
Call 811 Before you Dig!



VICINITY MAP

ALL POLE MOUNTED EQUIPMENT
TO BE PAINTED WITH SHERMAN WILLIAMS
#6108 PAINT

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE AREAS GOVERNING CODES.

1. STATE ADMINISTRATIVE CODE
2. STATE BUILDING CODE
3. AMERICAN LIFE SAFETY CODE NFPA 101-1999
4. STATE MECHANICAL CODE
5. STATE PLUMBING CODE
6. STATE ELECTRIC CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

PROPERTY INFORMATION

CUSTOMER:	NEXTG
PROJECT:	DAVENPORT
NODE:	DAV04
LATITUDE:	36.98502
LONGITUDE:	-122.150585
STREET ADDRESS:	CABRILLO HWY / HWY1
CITY, STATE:	SANTA CRUZ, CA. 95060
POLE# / TYPE:	184 / WOOD POLE
RAD CENTER / ANTENNA HEIGHT:	19'-5" TO RAD CENTER
ANTENNA TYPE:	PANEL ANTENNA(S)
AZIMUTH FOR ANTENNA:	105°, 290°
POWER TO POLE:	EXISTING PG&E
POLE ACCESS:	ACCESS ROAD
POLE LOCATION & DESCRIPTION:	APPROX. 270' S/E OF COAST RD. AND CABRILLO 1

PROJECT SUMMARY

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF WIRELESS EQUIPMENT AND ANTENNAS FOR NEXTG ON EXISTING WOOD UTILITY POLES.

PROJECT DESCRIPTION

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL ASSOCIATED BRACKETS IN ACCORDANCE TO CONSTRUCTION SPECIFICATIONS, REARRANGE ANY EXISTING FACILITIES IN ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES.

PROJECT SCOPE

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

SHEET	DESCRIPTION	REV.
1	TITLE SHEET	1
2	UTILITY POLE EQUIPMENT PROFILES	1
3	UTILITY POLE EQUIPMENT TYPICALS	1

SHEET INDEX

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA, 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.	DATE:	DESCRIPTION:	BY:
1	5/9/11	SHEET INDEX REV.	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Tamarack Cyn. Rd.
Corona, CA. 92883
PHONE (951) 471-1818

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

COMMENTS:

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV04

SHEET NUMBER: 1
REVISION: 1

plan82

EXHIBIT A

AZIMUTH	DOWNTILT
100°	0°
280°	0°

MAKE READY

STEP POLE ACCORDING TO GO-95 STANDARDS.

NEW CONSTRUCTION

CONSTRUCTION:
PG&E TO REFRAME POLE AND PLACE NEW TRANSFORMER
(PG&E TO DETERMINE HEIGHT)
PG&E TO RELOCATE EXISTING SECONDARY TO 30'-1" THRU 28'-10"
NEXTG TO ATTACH CABLE ARM FOR ANTENNAS @ 20'-10"
NEXTG TO RELOCATE TELCO #1, #2, #3 & NEXTG FIBER ON PROPOSED CABLE ARM H.O.A: 22'-10"

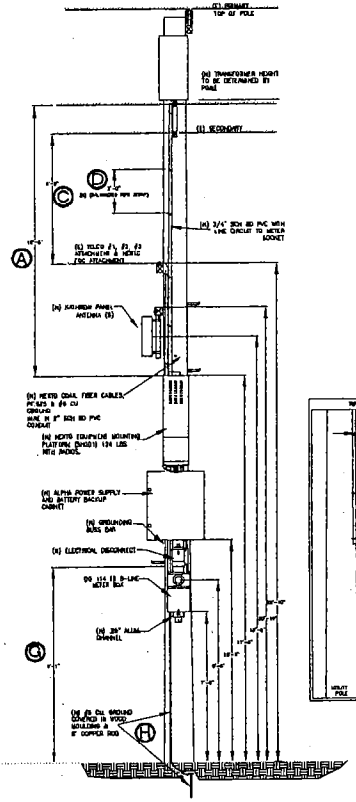
NOTES:

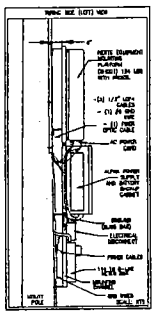
TOP OF POLE 34'-0"
EXISTING PRIMARY H.O.A: 34'-4"
PROPOSED SECONDRY H.O.A: 30'-1" THRU 28'-10"
PROPOSED TRANSFORMER H.O.A: TBD
PROPOSED TELCO #1,#2,#3 & NEXTG FOC H.O.A: 22'-10"
PROPOSED NEXTG ANTENNA CABLE ARM H.O.A: 20'-10"
ANTENNA RAD CENTER: 19'-5"

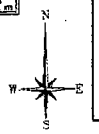
ANTENNA OUTPUT DOES NOT EXCEED GENERAL POPULATION EXPOSURE LIMITS.

RF EMISSION PLACARDS / SIGNAGE MEETING THE FCC REQUIREMENTS SHALL BE IN A LOCATION VISIBLE FROM CLIMBING SPACE AND BE AFFIXED TO THE POLE NO LOWER THAN 9'-0" ABOVE GROUND LINE & NO HIGHER THAN 3'-0" BELOW THE ANTENNA.

PLACARDS / SIGNAGE ARE UVA RESISTANT AND SHALL BE ATTACHED TO THE POLE WITH GALVANIZED NAILS OR GALVANIZED SCREWS.

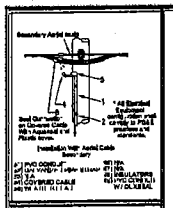


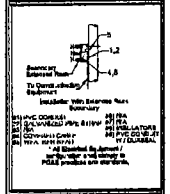


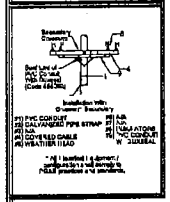


- (A) – 72" MIN. CLEARANCE BETWEEN SECONDARY POWER AND CLOSEST LEVEL OF ANTENNA ASSEMBLY.
- (B) – POLE TOP EXTENSION UPPER AND LOWER BRACKET STEPS ARE TO BE INSTALLED WITH THE POLE TOP EXTENSION BRACKET ASSEMBLY. STEPS ARE NOT TO BE INSTALLED ON WOOD EXTENSION BAYONET. (N/A)
- (C) – 72" MIN CLEARANCE REQ'D.
- (D) – 24" SPACING MAX. (GALVANIZED PIPE STRAP)
- (E) – 72" MIN. TO SECONDARY LEVEL. (N/A)
- (F) – 12" MIN. SPACING FOR EQUIP TO CURB. (N/A)
- (G) – 15' MIN. (MAY BE REDUCED TO 9' WHEN NOT EXPOSED TO TRAFFIC).
- (H) – GROUND INSTALLED BY COMM COMPANY (INCLUDES 8' COPPER ROD).
- (I) – 24" MIN. FROM CENTER OF POLE
- (J) – 24" MIN. CLEARANCE REQ'D. (N/A)
- (K) – 7' MIN. / 8' MAX. REQ'D.
- (L) – 4" MIN. CLEARANCE BETWEEN EQUIPMENT AND POLE.
- (M) – PROTECTIVE COVERING MUST EXTEND A MINIMUM OF 3'-0" BEYOND ENERGIZED 0-750 VOLTS. (N/A)
- (N) – POLE STEPS TO BE INSTALLED FROM 8'-6" ABOVE GRADE TO NEXTG ATTACHMENT.

SCALE: 3/8"=1'-0" | UTILITY POLE DETAIL POLE# 164 | LOOKING NORTH | A

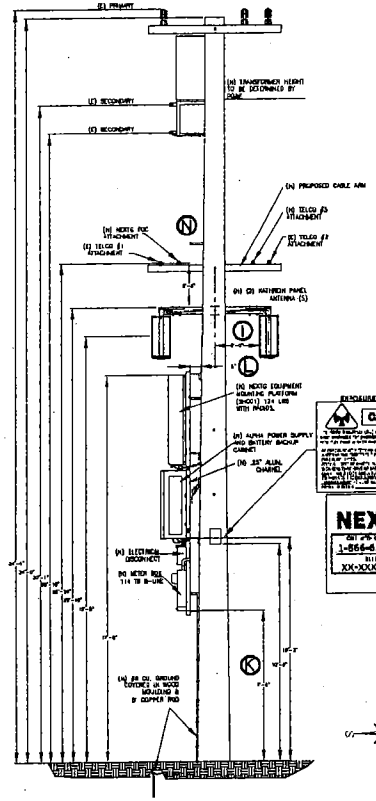




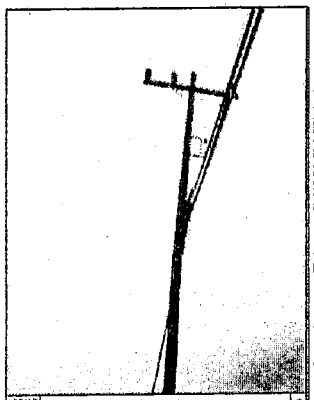


AZIMUTH	DOWNTILT
100°	0°
280°	0°

Call Before you Dig! 811
Know what's below. Call before you dig. Call 811 Before you Dig!

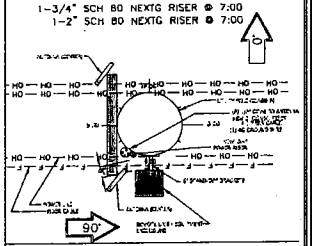


SCALE: 3/8"=1'-0" | UTILITY POLE DETAIL POLE# 164 | LOOKING WEST | B



SCALE: N/A | SITE POLE PICTURE | C

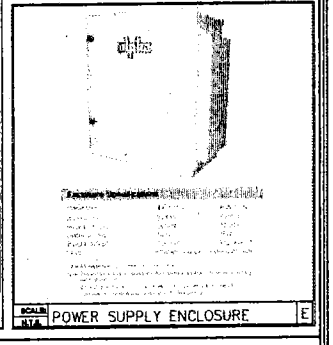
POLE WILL BE STEPPED IN ACCORDANCE TO GO95 STANDARDS IN RESPECT TO CLIMBING SPACE.
REMOTE EQUIPMENT @ 6:00
1-3/4" SCH 80 NEXTG RISER @ 7:00
1-2" SCH 80 NEXTG RISER @ 7:00



HIGHWAY

POLE# 164

SCALE: N/A | RISER POLE DETAIL | D



SCALE: N/A | POWER SUPPLY ENCLOSURE | E

NextG Networks of California, Inc.
270 Ballardvale Street
Wilmington, MA 01887
Phone: (978) 254-3900

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	POLE HEIGHT CHANGES TO SECTION A,B &D	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1919

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

COMMENTS:
2/B (2) POLES B/O LAGUNA

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV04

SHEET NUMBER: 2 | REVISION: 1

UTILITY POLE EQUIPMENT PROFILES

ATTACHMENT 2

ATTACHMENT 2 EXHIBIT A

ION-M19P

ANDREW ION-19P IS A MULTI-BAND MULTI-OPERATOR REMOTE UNIT WITH VARIOUS EXTENSION UNITS. IT IS USED IN CONJUNCTION WITH A MASTER UNIT IN THE ION OPTICAL DISTRIBUTION SYSTEM. THIS SYSTEM TRANSPORTS MULTIPLE FREQUENCY BANDS SIMULTANEOUSLY (1900 MHZ AND 1700/2100 MHZ), PROVIDING A COST-EFFECTIVE SOLUTION FOR DISTRIBUTING CAPACITY FROM ONE OR MORE BASE STATIONS.

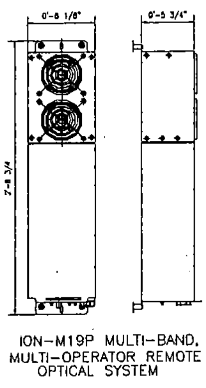
ELECTRICAL
POWER SUPPLY
MAINS POWER, VAC 85 TO 264 / 115 OR 230
POWER CONSUMPTION, WATTS 300
OPTICAL
CONNECTORS E2000/APC II
OPTICAL RETURN LOSS, DB. 45 MINIMUM
FIBER TYPE, MM SINGLE MODE E9/125
OPTICAL LINK BUDGET, DB 0 TO 10
COMPOSITE INPUT POWER @ OTRX MASTER SIDE, DBM
1900MHZ +3 COMPOSITE
1700/2100 MHZ +5 COMPOSITE
INTERFACE
BTS SIDE
NUMBER OF CONNECTIONS
1900MHZ 4
1700/2100 MHZ 4
SYSTEM OPTIMIZED FOR BTS POWER, DBM 33 43
ANTENNA PORT
CONNECTOR N FEMALE
OUTPUT POWER SEE BAND SPECIFICATION
1900 MHZ
FREQUENCY RANGE, MHZ
UPLINK 1850 TO 1910
DOWNLINK 1930 TO 1995
OUTPUT POWER PER CARRIER*, DBM

NUMBER OF CARRIERS	1	2	4	8
GSM	43	40	37	34
TDMA/ EDGE	43	40	37	34
CDMA/EV-DO	43	40	37	34
WCDMA/HSDPA	43	40	37	34

SPURIOUS EMISSION <-13 DBM / 1MHZ
DL OUTPUT TOLERANCE OVER FREQUENCY, DB +1
DL OUTPUT TOLERANCE OVER TEMPERATURE, DB +0.5
INPUT ICP
ICP3 OPTIMIZED -12
NOISE FIGURE OPTIMIZED -18
NOISE FIGURE, DB
ICP3 OPTIMIZED 11
NOISE FIGURE OPTIMIZED 8
1700/2100 MHZ (IN EXTENSION UNIT)
FREQUENCY RANGE, MHZ
UPLINK 1710 TO 1755
DOWNLINK 2110 TO 2155
OUTPUT POWER PER CARRIER*, DBM

CDMA/EV-DO	WCDMA/UMTS/HSDPA
+43	+43 @ 1 CARRIER
+40	+40 @ 2 CARRIERS
+37	+37 @ 4 CARRIERS
+34	+34 @ 8 CARRIERS

SPURIOUS EMISSION <- 13 DBM / 1 MHZ
ADJACENT CHANNEL POWER, DBC -45
DL OUTPUT TOLERANCE OVER FREQ, DB +1
DL OUTPUT TOLERANCE OVER TEMP, DB +0.5
INPUT ICP3, DBM
ICP3 OPTIMIZED -12
NOISE FIGURED OPTIMIZED -18
* APPLICABLE TO SINGLE MODULATION MODE ONLY
** WITH ACTIVE COOLING



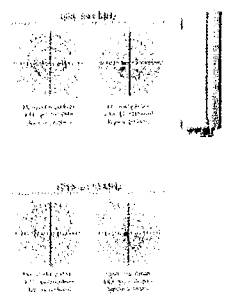
ION-M19P MULTI-BAND, MULTI-OPERATOR REMOTE OPTICAL SYSTEM

SCALE: N.T.A. REPEATER EQUIPMENT DIMENSIONS F

KATHREIN
SCALA DIVISION

840 10525
65° Dualband Directional Antenna

Kathrein's dual band antennas are ready for 3G applications, covering all existing wireless bands as well as all spectrum under consideration for future systems, LTE, PCS and 3G/UMTS. These cross-polarized antennas offer diversity operation in the same space as a conventional 700 MHz antenna, and are mountable on our compact sector brackets
• Wide band operation
• Exceptional intermodulation characteristics.
• Various gain, beamwidth and downtilt ranges.
• High strength pultruded fiberglass radome.



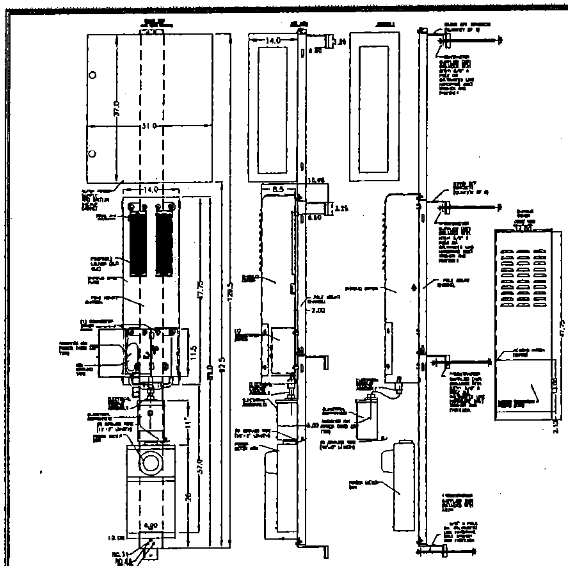
General specifications:
Frequency range 806–894 MHz
1710–2170 MHz
Impedance 50 ohms
VSWR <1.5:1
Intermodulation (2x20w) IM3: <–150 dBc
Polarization +45° and –45°
Connector 4 x 7–16 DIN female
Isolation intersystem >30 dB
Weight 15.9 lb (7.2 kg)
Dimensions 23.3 x 10.6 x 6.2 inches
(593 x 270 x 157 mm)
Wind load at 93 mph (150kph)
Front/Side/Rear 23 lbf / 18 lbf / 41 lbf
(100 N) / (80 N) / (180 N)
Wind survival rating* 120 mph (200 kph)
Shipping dimensions 29 x 11.9 x 7.8 inches
(736 x 302 x 192 mm)
Shipping weight 18.2 lb (8.7 kg)
Mounting Fixed and tilt mount options are available for 2 to 4.6 inch (50 to 115 mm) OD masts.

Specifications: 806–806 MHz 806–894 MHz 1710–1755 MHz 1850–1990 MHz 2110–2170 MHz
Gain 10.5 dBi 11 dBi 13.3 dBi 13.5 dBi 12.8 dBi
Front-to-back ratio >25 dB (co-polar) >25 dB (co-polar) >30 dB (co-polar) >30 dB (co-polar) >30 dB (co-polar)
Maximum input power 250 watts (at 50°C) 250 watts (at 50°C) 200 watts (at 50°C) 200 watts (at 50°C) 200 watts (at 50°C)
+45° and –45° polarization 71° (half-power) 68° (half-power) 61° (half-power) 63° (half-power) 70° (half-power) horizontal beamwidth
+45° and –45° polarization 37° (half-power) 31° (half-power) 16° (half-power) 14° (half-power) 15.6° (half-power) vertical beamwidth
Cross polar ratio (typical)
Main direction 0° 30 dB 30 dB 25 dB 25 dB 25 dB
Sector ±60° >8 dB >8 dB >8 dB >8 dB >8 dB

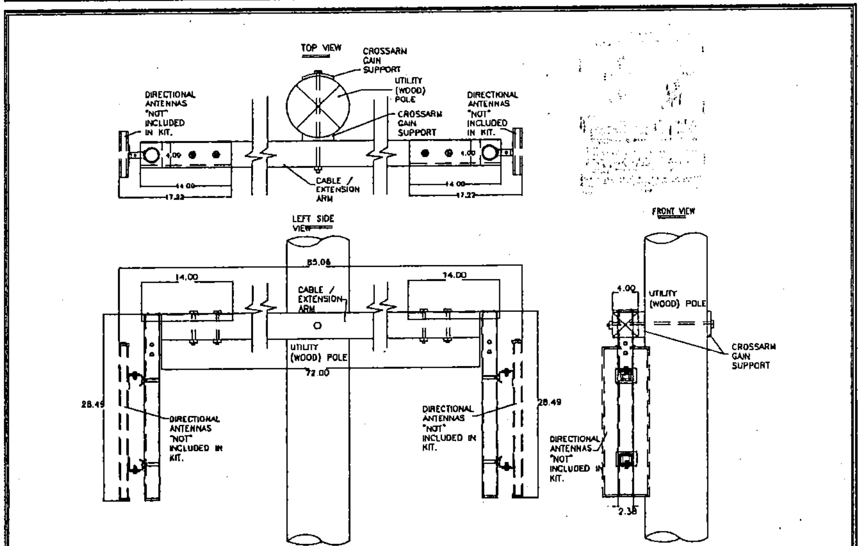
Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

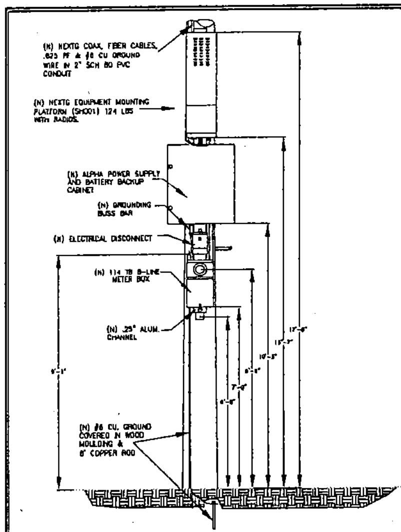
SCALE: N.T.S. ANTENNA SPECIFICATIONS G



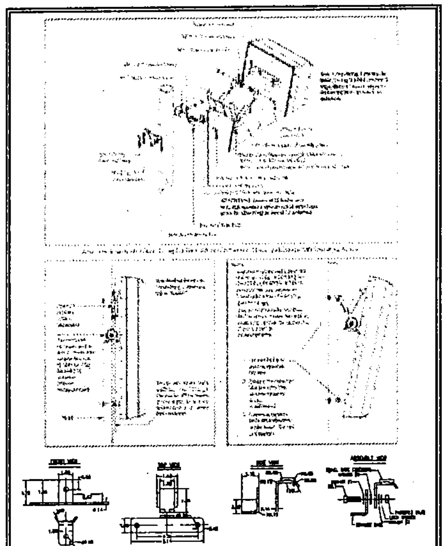
SCALE: N.T.A. REPEATER EQUIPMENT AND MOUNTING CHASSIS CONFIGURATION H



SCALE: N.T.A. BRACKET ASSEMBLY / CONFIGURATION I



SCALE: N.T.A. UTILITY POLE EQUIPMENT AND MOUNTING CONFIGURATION J



SCALE: N.T.A. ANTENNA MOUNTING BRACKETS K

UTILITY POLE EQUIPMENT TYPICALS

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	ADDED MEASUREMENT TO SECTION H & K	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1918

-21-

PLANS APPROVED BY:
NextG Networks of California, Inc.

REP:

COMMENTS:

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV04

SHEET NUMBER	REVISION
3	1

pln782

ATTACHMENT 2 EXHIBIT A

NOTE:
A COPY OF ALL REQUIRED PERMITS MUST BE PRESENT DURING ANY WORK ON THIS LOCATION AND PERFORMING WORK AT THIS LOCATION INDICATES THAT THE CONTRACTOR HAS READ AND COMPLIED WITH THE REQUIREMENTS STATED IN THE PERMITS

SIGNATURE: ____________

NextG Networks of California, Inc.

DAVENPORT
DAV09
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

Call Before you Dig!

811

Know what's below.
Call before you dig.
Call 811 Before you Dig!

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE AREAS GOVERNING CODES.

1. STATE ADMINISTRATIVE CODE
2. STATE BUILDING CODE
3. ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101-1990
4. STATE MECHANICAL CODE
5. STATE PLUMBING CODE
6. STATE ELECTRIC CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

PROPERTY INFORMATION

CUSTOMER:	NEXTG
PROJECT:	DAVENPORT
NODE:	DAV09
LATITUDE:	37.085514
LONGITUDE:	-122.269159
STREET ADDRESS:	CABRILLO HWY / HWY1
CITY, STATE:	SANTA CRUZ, CA. 95060
POLE# / TYPE:	142 / WOOD POLE
RAD CENTER / ANTENNA HEIGHT:	28'-2" TO RAD CENTER
ANTENNA TYPE:	PANEL ANTENNA(S)
AZIMUTH FOR ANTENNA:	125°, 305°
POWER TO POLE:	EXISTING POLE
POLE ACCESS:	ROAD SIDE
POLE LOCATION & DESCRIPTION:	APPROX. 610' N/E OF BACK RANCH RD. AND CABRILLO 1

PROJECT SUMMARY

VICINITY MAP

ALL POLE MOUNTED EQUIPMENT TO BE PAINTED WITH SHERMAN WILLIAMS #6108 PAINT

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF WIRELESS EQUIPMENT AND ANTENNAS FOR NEXTG ON EXISTING WOOD UTILITY POLES.

PROJECT DESCRIPTION

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL ASSOCIATED BRACKETS IN ACCORDANCE TO CONSTRUCTION SPECIFICATIONS, REARRANGE ANY EXISTING FACILITIES IN ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES.

PROJECT SCOPE

SHEET	DESCRIPTION	REV.
1	TITLE SHEET	1
2	UTILITY POLE EQUIPMENT PROFILES	1
3	UTILITY POLE EQUIPMENT TYPICALS	1

SHEET INDEX

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.	DATE	DESCRIPTION	BY
1	5/9/11	SHEET INDEX REV.	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd.
Corona, CA 92883
PHONE: (951) 471-1818

-2-

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP: ____________

COMMENTS:
200' N/O ROAD MARKER 3598.

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV09

SHEET NUMBER:	REVISION:
1	1

pln782

EXHIBIT A

ATTACHMENT 8

AZIMUTH	DOWNTILT
135°	0°
305°	0°

MAKE READY

STEP POLE ACCORDING TO GO-95 STANDARDS.

NEW CONSTRUCTION

CONSTRUCTION:
PG&E TO REFRAME POLE AND PLACE NEW TRANSFORMER
(PG&E TO DETERMINE HEIGHT)
NEXTG TO ATTACH CABLE ARM FOR ANTENNAS @ 30'-7"

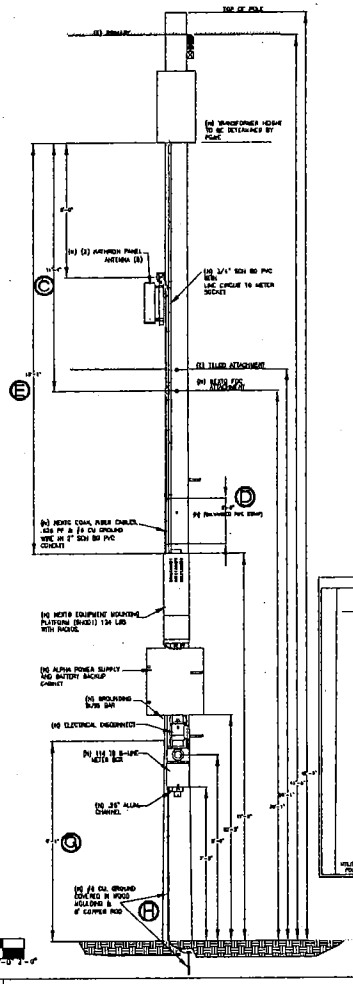
NOTES:

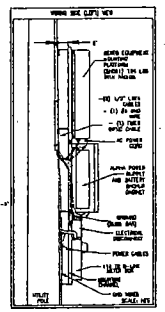
TOP OF POLE 42'-5"
EXISTING PRIMARY H.O.A: 41'-5"
PROPOSED TRANSFORMER H.O.A: TBD
PROPOSED SECONDARY H.O.A: 36'-5"
PROPOSED NEXTG CABLE ARM H.O.A: 30'-7"
ANTENNA RAD CENTER: 29'-2"
EXISTING TELCO H.O.A: 26'-1"
PROPOSED NEXTG FOC H.O.A 25'-1"

ANTENNA OUTPUT DOES NOT EXCEED GENERAL POPULATION EXPOSURE LIMITS.

RF EMISSION PLACARDS / SIGNAGE MEETING THE FCC REQUIREMENTS SHALL BE IN A LOCATION VISIBLE FROM CLIMBING SPACE AND BE AFFIXED TO THE POLE NO LOWER THAN 9'-0" ABOVE GROUND LINE & NO HIGHER THAN 3'-0" BELOW THE ANTENNA.

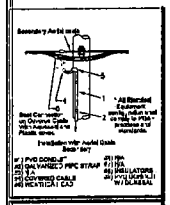
PLACARDS / SIGNAGE ARE UVA RESISTANT AND SHALL BE ATTACHED TO THE POLE WITH GALVANIZED NAILS OR GALVANIZED SCREWS.

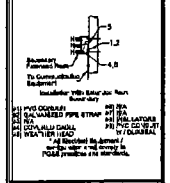


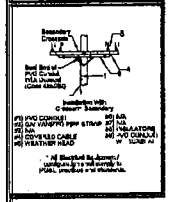


- (A) – 72" MIN. CLEARANCE BETWEEN SECONDARY POWER AND CLOSEST LEVEL OF ANTENNA ASSEMBLY. (N/A)
- (B) – POLE TOP EXTENSION UPPER AND LOWER BRACKET STEPS ARE TO BE INSTALLED WITH THE POLE TOP EXTENSION BRACKET ASSEMBLY. STEPS ARE NOT TO BE INSTALLED ON WOOD EXTENSION BAYONET. (N/A)
- (C) – 72" MIN CLEARANCE REQ'D.
- (D) – 24" SPACING MAX. (GALVANIZED PIPE STRAP)
- (E) – 72" MIN. TO SECONDARY LEVEL.
- (F) – 12" MIN. SPACING FOR EQUIP TO CURB. (N/A)
- (G) – 15' MIN. (MAY BE REDUCED TO 9' WHEN NOT EXPOSED TO TRAFFIC).
- (H) – GROUND INSTALLED BY COMM COMPANY (INCLUDES 8' COPPER ROD).
- (I) – 24" MIN. FROM CENTER OF POLE
- (J) – 24" MIN. CLEARANCE REQ'D. (N/A)
- (K) – 7' MIN. / 8' MAX. REQ'D.
- (L) – 4" MIN. CLEARANCE BETWEEN EQUIPMENT AND POLE.
- (M) – PROTECTIVE COVERING MUST EXTEND A MINIMUM OF 3'-0" BEYOND ENERGIZED 0-750 VOLTS. (N/A)
- (N) – POLE STEPS TO BE INSTALLED FROM 8'-6" ABOVE GRADE TO NEXTG ATTACHMENT.

SCALE: 3/8"=1' | UTILITY POLE DETAIL POLE# 142 | LOOKING WEST | A

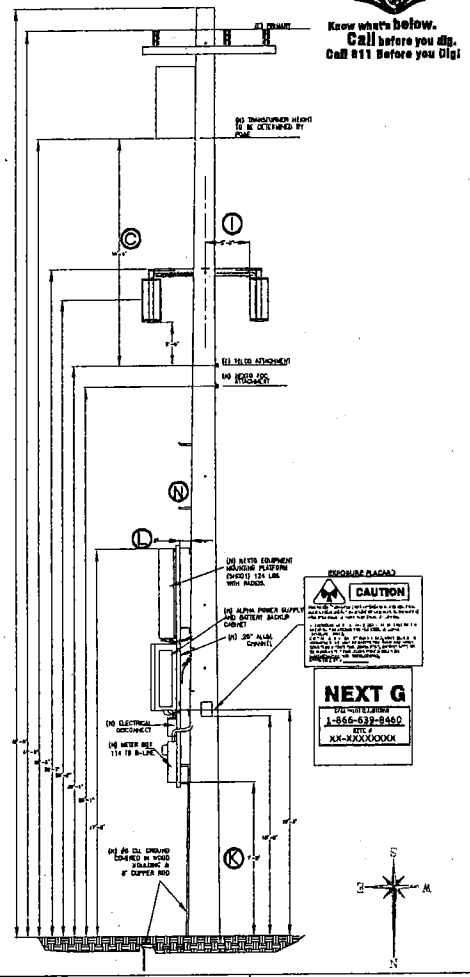






AZIMUTH	DOWNTILT
135°	0°
305°	0°

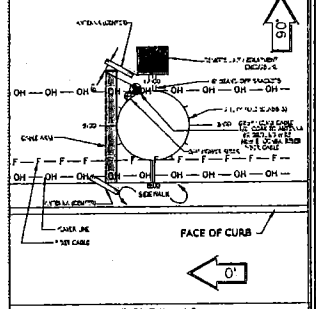
Call Before you Dig! 811 Know what's below. Call before you dig. Call 811 Before you Dig!



SCALE: 3/8"=1' | UTILITY POLE DETAIL POLE# 142 | LOOKING SOUTH | B

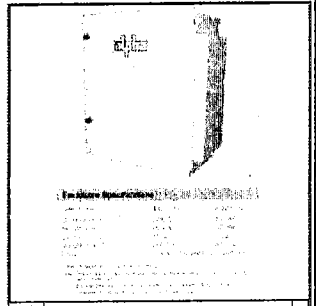
SCALE: N.T.S. | SITE POLE PICTURE | C

POLE WILL BE STEPPED IN ACCORDANCE TO GO95 STANDARDS IN RESPECT TO CLIMBING SPACE.
REMOTE EQUIPMENT @ 12:00
1-3/4" SCH 80 NEXTG RISER @ 11:00
1-2" SCH 80 NEXTG RISER @ 11:00



POLE# 142

SCALE: N.T.S. | RISER POLE DETAIL | D



SCALE: N.T.S. | POWER SUPPLY ENCLOSURE | E

UTILITY POLE EQUIPMENT PROFILES

NextG Networks of California, Inc.
950 Tasman Drive
Milpitas, CA 95035-7430
Phone: (408) 954-1580

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA, 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	POLE HEIGHT CHANGES TO SECTION A,B &D	M2

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Tamarisk Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1919

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

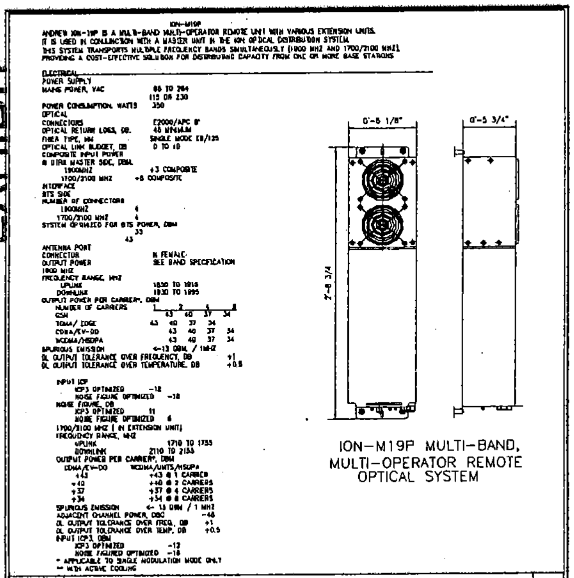
COMMENTS:
230' N/O ROAD MARKER 3996.

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV08

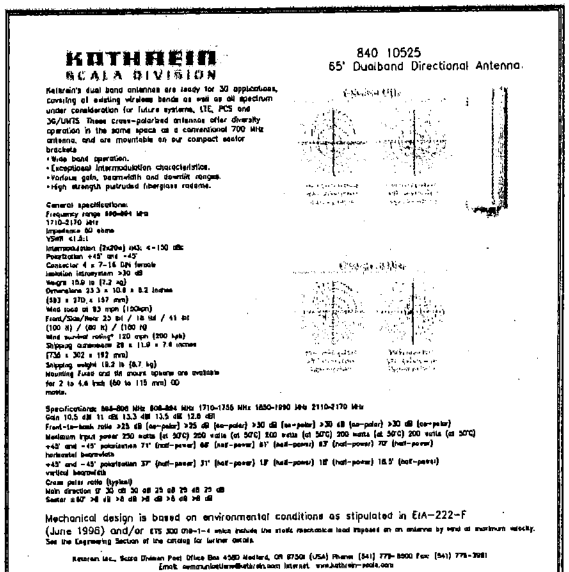
SHEET NUMBER: 2 | REVISION: 1

plnt782

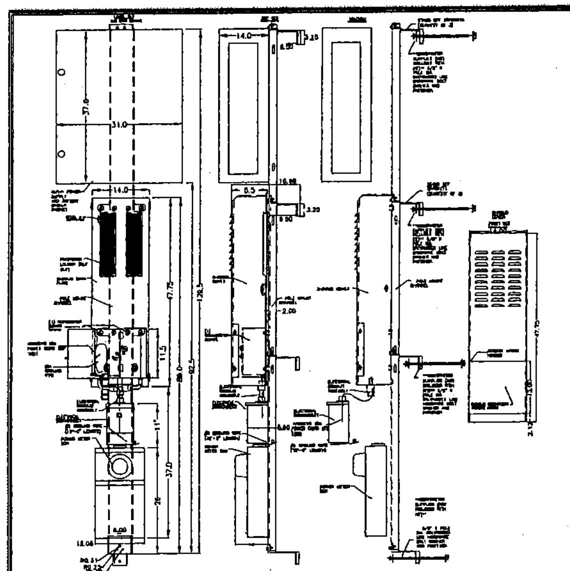
ATTACHMENT 2 EXHIBIT A



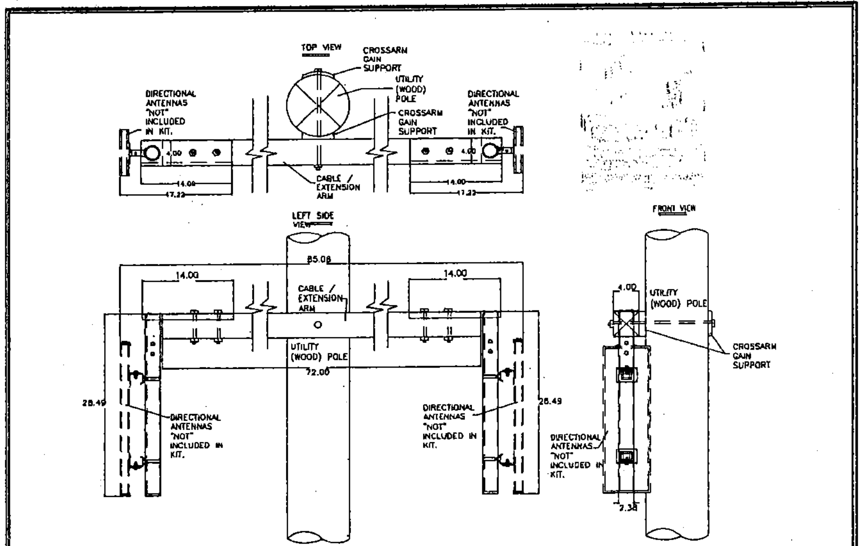
SCALE: N.T.S. REPEATER EQUIPMENT DIMENSIONS F



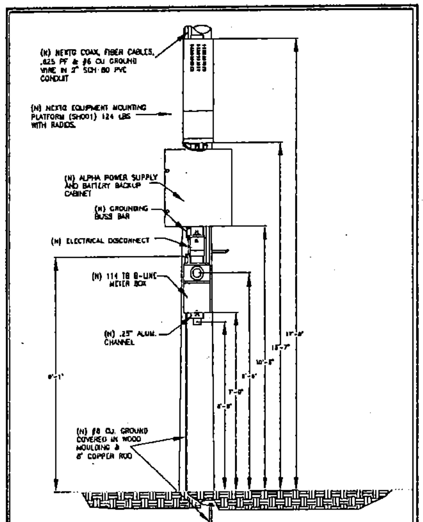
SCALE: N.T.S. ANTENNA SPECIFICATIONS G



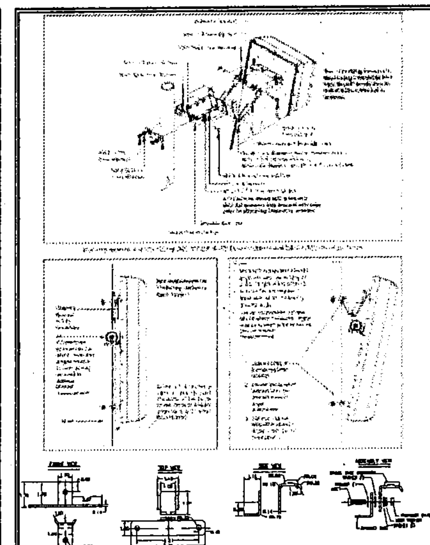
SCALE: N.T.S. REPEATER EQUIPMENT AND MOUNTING CHASSIS CONFIGURATION H



SCALE: N.T.S. BRACKET ASSEMBLY / CONFIGURATION I



SCALE: N.T.S. UTILITY POLE EQUIPMENT AND MOUNTING CONFIGURATION J



SCALE: N.T.S. ANTENNA MOUNTING BRACKETS K

UTILITY POLE EQUIPMENT TYPICALS

NextG Networks of California, Inc.

PROJECT INFORMATION:

CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:

11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	ADDED MEASUREMENT TO SECTION H & K	MZ

PLANS PREPARED BY:

HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1913

-33-

PLANS APPROVED BY:

NextG Networks of California, Inc.

REP.:

COMMENTS:

SHEET TITLE:

NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV08

SHEET NUMBER: 3
REVISION: 1

p1n782

EXHIBIT A

ATTACHMENT 8

NOTE
A COPY OF ALL REQUIRED PERMITS MUST BE PRESENT DURING ANY WORK ON THIS LOCATION AND PERFORMING WORK. AT THIS LOCATION INDICATES THAT THE CONTRACTOR HAS READ AND COMPLIED WITH THE REQUIREMENTS STATED IN THE PERMITS

SIGNATURE

NextG Networks of California, Inc.

DAVENPORT
DAV10M
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

Call Before you Dig!
811
Know what's below.
Call before you dig.
Call 811 Before you Dig!

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE AREAS GOVERNING CODES.

1. STATE ADMINISTRATIVE CODE
2. STATE BUILDING CODE
3. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) LIFE SAFETY CODE NFPA 101-1999
4. STATE MECHANICAL CODE
5. STATE PLUMBING CODE
6. STATE ELECTRIC CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

PROPERTY INFORMATION

CUSTOMER:	NEXTG
PROJECT:	DAVENPORT
NODE:	DAV10M
LATITUDE:	37.09298
LONGITUDE:	-122.274363
STREET ADDRESS:	CABRILLO HWY / HWY1
CITY, STATE:	SANTA CRUZ, CA. 95060
POLE# / TYPE:	437 / WOOD POLE
RAD CENTER / ANTENNA HEIGHT:	36'-0" TO RAD CENTER
ANTENNA TYPE:	PANEL ANTENNA(S)
AZIMUTH FOR ANTENNA:	166°, 300°
POWER TO POLE:	EXISTING POLE
POLE ACCESS:	ROAD SIDE
POLE LOCATION & DESCRIPTION:	REFER TO GPS COORDINATES FOR LOCATION.

PROJECT SUMMARY

VICINITY MAP

ALL POLE MOUNTED EQUIPMENT TO BE PAINTED WITH SHERMAN WILLIAMS #6108 PAINT

SHEET	DESCRIPTION	REV.
1	TITLE SHEET	1
2	UTILITY POLE EQUIPMENT PROFILES	1
3	UTILITY POLE EQUIPMENT TYPICALS	1

SHEET INDEX

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF WIRELESS EQUIPMENT AND ANTENNAS FOR NEXTG ON EXISTING WOOD UTILITY POLES.

PROJECT DESCRIPTION

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL ASSOCIATED BRACKETS IN ACCORDANCE TO CONSTRUCTION SPECIFICATIONS. REARRANGE ANY EXISTING FACILITIES IN ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES.

PROJECT SCOPE

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THIS WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.	DATE:	DESCRIPTION:	BY:
1	5/9/11	SHEET INDEX REV.	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
12341 Tamarisk Cyn. Rd.
Corona, CA. 92883
PHONE: (951) 471-1818

PLANS APPROVED BY:
NextG Networks of California, Inc.
REP:

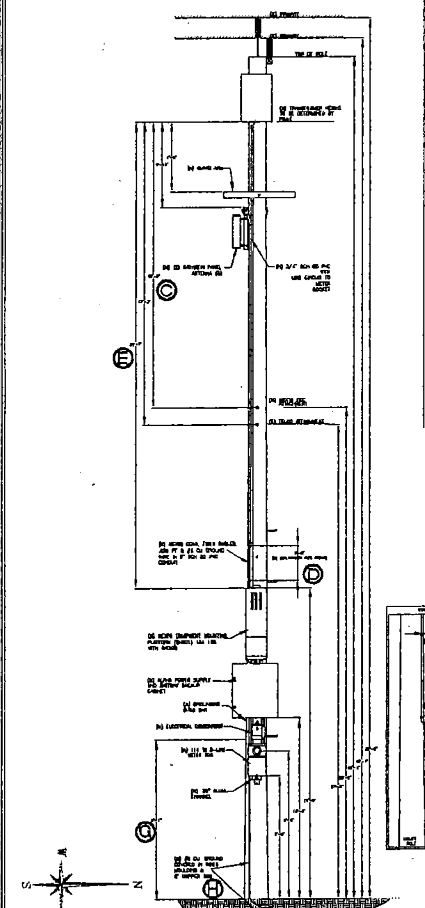
COMMENTS:

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV10M

SHEET NUMBER: 1 | REVISION: 1

p1n782

ATTACHMENT 2 EXHIBIT A



UTILITY POLE DETAIL POLE# 437 LOOKING WEST A

MAKE READY

STEP POLE ACCORDING TO GO-95 STANDARDS.

NEW CONSTRUCTION

CONSTRUCTION:
PG&E TO REFRAME POLE AND PLACE NEW TRANSFORMER
(PG&E TO DETERMINE HEIGHT)
NEXTG TO ATTACH CABLE ARM FOR ANTENNAS @ 39'-5"
NEXTG TO ATTACH GUARD ARM @ 40'-3"

NOTES:

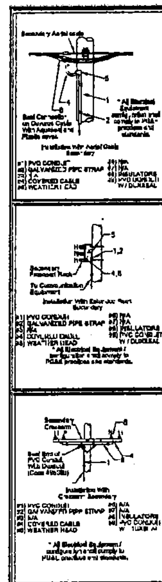
TOP OF POLE 48'-0"
EXISTING PRIMARY H.O.A: 50'-2" THRU 49'-1"
PROPOSED TRANSFORMER H.O.A: TBD
PROPOSED SECONDARY H.O.A: 44'-3"
PROPOSED NEXTG GUARD ARM H.O.A: 40'-3"
PROPOSED NEXTG ANTENNA CABLE ARM H.O.A: 39'-5"
ANTENNA RAD CENTER: 38'-0"
PROPOSED NEXTG FOC H.O.A 28'-0"
EXISTING TELCO H.O.A: 27'-0"

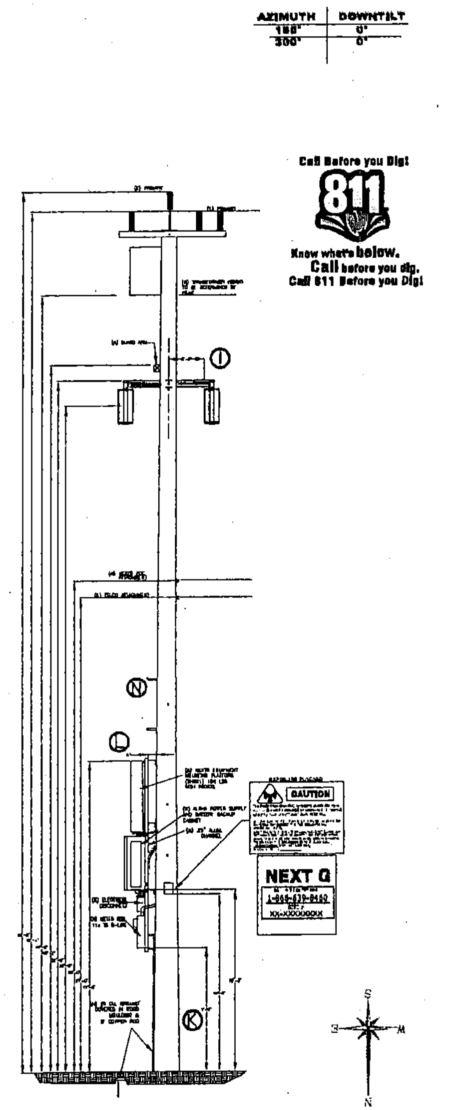
ANTENNA OUTPUT DOES NOT EXCEED GENERAL POPULATION EXPOSURE LIMITS.

RF EMISSION PLACARDS / SIGNAGE MEETING THE FCC REQUIREMENTS SHALL BE IN A LOCATION VISIBLE FROM CLIMBING SPACE AND BE AFFIXED TO THE POLE NO LOWER THAN 9'-0" ABOVE GROUND LINE & NO HIGHER THAN 3'-0" BELOW THE ANTENNA.

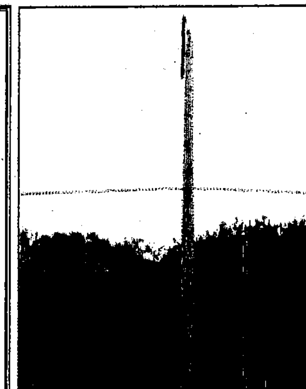
PLACARDS / SIGNAGE ARE UVA RESISTANT AND SHALL BE ATTACHED TO THE POLE WITH GALVANIZED NAILS OR GALVANIZED SCREWS.

(A) - 72" MIN. CLEARANCE BETWEEN SECONDARY POWER AND CLOSEST LEVEL OF ANTENNA ASSEMBLY. (N/A)
(B) - POLE TOP EXTENSION UPPER AND LOWER BRACKET STEPS ARE TO BE INSTALLED WITH THE POLE TOP EXTENSION BRACKET ASSEMBLY. STEPS ARE NOT TO BE INSTALLED ON WOOD EXTENSION BAYONET. (N/A)
(C) - 72" MIN CLEARANCE REQ'D.
(D) - 24" SPACING MAX. (GALVANIZED PIPE STRAP)
(E) - 72" MIN. TO SECONDARY LEVEL.
(F) - 12" MIN. SPACING FOR EQUIP TO CURB. (N/A)
(G) - 15' MIN. (MAY BE REDUCED TO 9' WHEN NOT EXPOSED TO TRAFFIC).
(H) - GROUND INSTALLED BY COMM COMPANY (INCLUDES 8' COPPER ROD).
(I) - 24" MIN. FROM CENTER OF POLE
(J) - 24" MIN. CLEARANCE REQ'D. (N/A)
(K) - 7' MIN. / 8' MAX. REQ'D.
(L) - 4" MIN. CLEARANCE BETWEEN EQUIPMENT AND POLE.
(M) - PROTECTIVE COVERING MUST EXTEND A MINIMUM OF 3'-0" BEYOND ENERGIZED 0-750 VOLTS. (N/A)
(N) - POLE STEPS TO BE INSTALLED FROM 8'-6" ABOVE GRADE TO NEXTG ATTACHMENT.



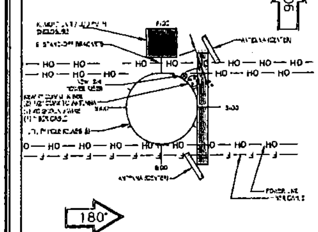


UTILITY POLE DETAIL POLE# 437 LOOKING SOUTH B



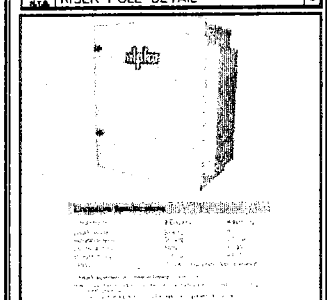
SITE POLE PICTURE C

POLE WILL BE STEPPED IN ACCORDANCE TO G095 STANDARDS IN RESPECT TO CLIMBING SPACE.
REMOTE EQUIPMENT @ 1200
1-3/4" SCH 80 NEXTG RISER @ 1:00
1-2" SCH 80 NEXTG RISER @ 1:00



POLE# 437

RISER POLE DETAIL D



POWER SUPPLY ENCLOSURE E

UTILITY POLE EQUIPMENT PROFILES

NextG Networks of California, Inc.

PROJECT INFORMATION:
CABRILLO HWY / HWY1
SANTA CRUZ, CA. 95060

CURRENT ISSUE DATE:
11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	POLE HEIGHT CHANGES TO SECTION A,B &D	MZ

PLANS PREPARED BY:
HP COMMUNICATIONS INC.
13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1919

-3-

PLANS APPROVED BY:
NextG Networks of California, Inc.

REP:

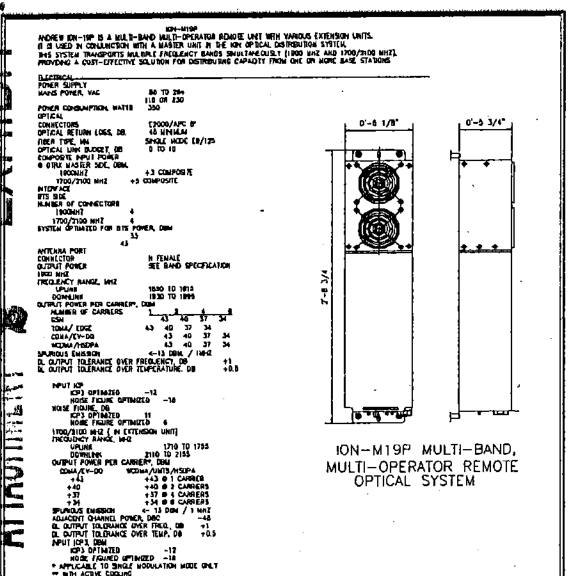
COMMENTS:
200' N/O ROAD MARKER 3890

SHEET TITLE:
NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV10M

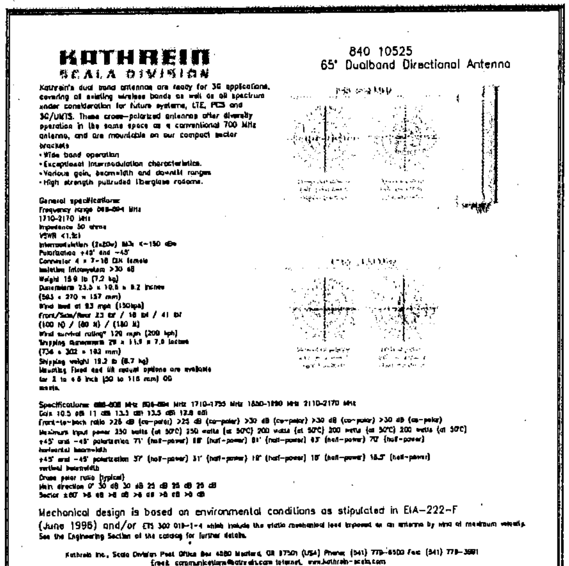
SHEET NUMBER: 2 REVISION: 1

p1n782

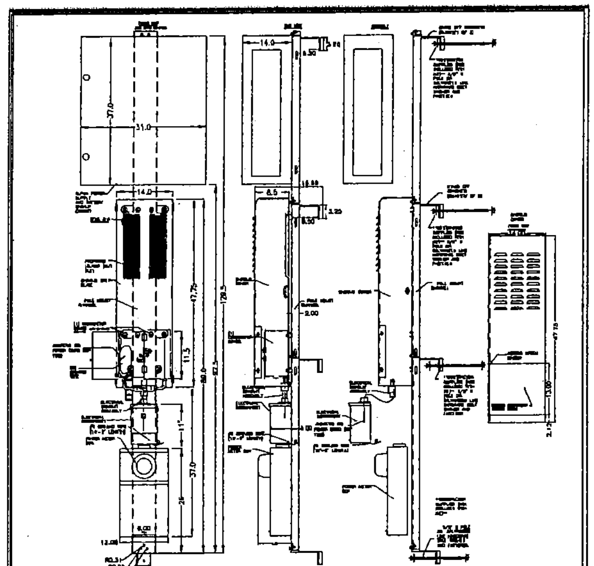
ATTACHMENT 3 EXHIBIT A



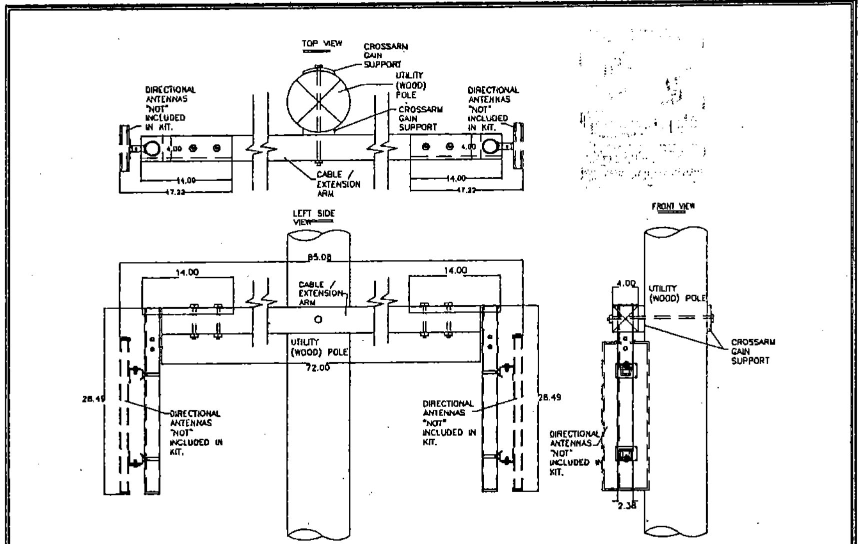
SCALE: N.T.A. REPEATER EQUIPMENT DIMENSIONS F



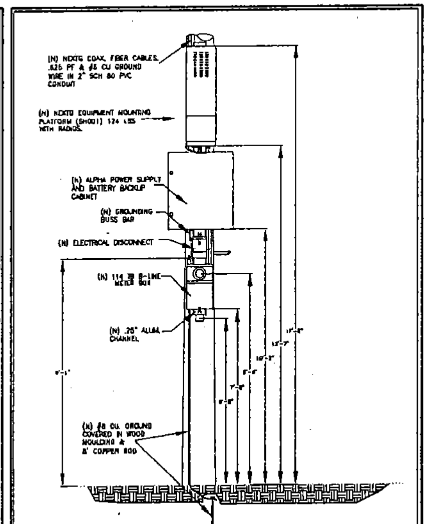
SCALE: N.T.A. ANTENNA SPECIFICATIONS G



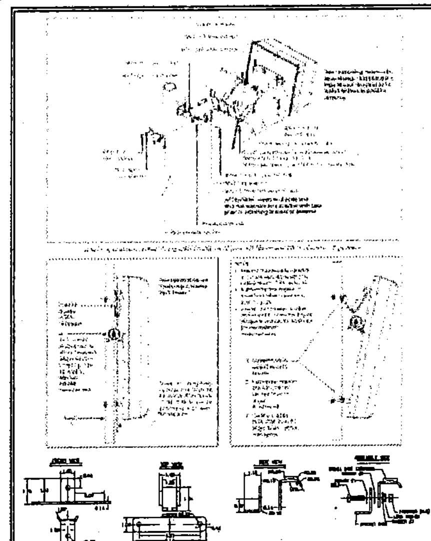
SCALE: N.T.A. REPEATER EQUIPMENT AND MOUNTING CHASSIS CONFIGURATION H



SCALE: N.T.A. BRACKET ASSEMBLY / CONFIGURATION I



SCALE: N.T.A. UTILITY POLE EQUIPMENT AND MOUNTING CONFIGURATION J



SCALE: N.T.A. ANTENNA MOUNTING BRACKETS K

UTILITY POLE EQUIPMENT TYPICALS

NextG Networks of California, Inc.

PROJECT INFORMATION:

CABRILLO HWY / HWY1
SANTA CRUZ, CA 95060

CURRENT ISSUE DATE:

11/18/11

PERMIT SUBMISSION:

REV.:	DATE:	DESCRIPTION:	BY:
1	5/3/11	ADDED MEASUREMENT TO SECTION H & K	MZ

PLANS PREPARED BY:

HP COMMUNICATIONS INC.

13341 Temescal Cyn. Rd
Corona, CA 92883
PHONE: (951) 471-1919

PLANS APPROVED BY:

NextG Networks of California, Inc.

REP:

COMMENTS:

SHEET TITLE:

NextG Networks of California, Inc.
NEXTG DAVENPORT NETWORK
POLE PROFILE DAV10M

SHEET NUMBER: 3 REVISION: 1

-3-

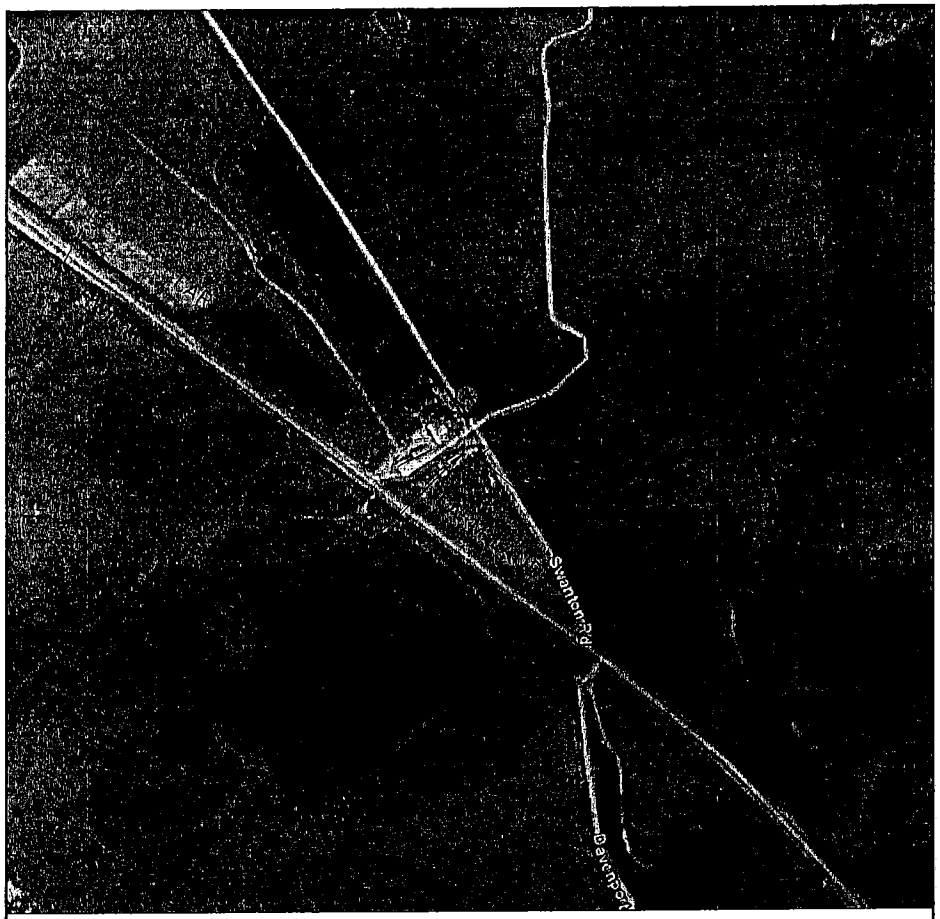
p1n782

EXHIBIT A

NextG Networks Of California, Inc.

DAVENPORT HUB: STRAWBERRY FARM

25 SWANTON RD



VICINITY MAP - 1"=200'

SITE ADDRESS:	25 SWANTON RD DAVENPORT, CA 95017
A.P.N.:	058-022-11
ZONING:	CA, CA-P
JURISDICTION:	COUNTY OF SANTA CRUZ 701 OCEAN ST. 4th FL SANTA CRUZ, CA 95060 (805) 454-2580
APPLICANT:	NEXTG NETWORKS OF CALIFORNIA, INC 890 TASMAN DRIVE MILPITAS, CA 95035 CONTACT: CHAD RASMUSSEN PHONE: (703) 201-7066
CIVIL ENGINEER:	CONNELL DESIGN GROUP, LLC 26455 RANCHO PARKWAY SOUTH LAKE FOREST, CA 92630 CONTACT: FRANK CARTER (949) 310 8233 PHONE (949) 753-8833 FAX

PROJECT DICTIONARY

T-1	TITLE SHEET
C-1	SURVEY
A-1	SITE PLAN
A-2	ENLARGED SITE PLAN
A-3	ELEVATION / EQUIPMENT AREA PLAN
D-1	DETAILS

DRAWING INDEX

- LIGHT POLE
- FOUNDATION
- SPOT ELEV.
- SET POINT
- REVISION
- DETAIL REF.
- GROUND BUS BAR
- MECH. GRND. CONN.
- CADWELD
- ELECTRIC BOX
- TELEPHONE BOX
- EXISTING SERVICE POLE
- SIDEWALK FLAG
- EX. MANHOLE
- ELEVATION REF.
- SECTION REF.
- PROP./LEASE LINE
- MATCH LINE
- WORK POINT
- TELE. CONDUIT
- CENTERLINE
- ELECT. CONDUIT
- COAXIAL CABLE
- MYERS PEDESTAL
- VAULT STANDARD 2'X3'
- STEEL POLE

SYMBOLS, LINETYPES AND HATCH PATTERNS

REV:	DATE/BY:	REVISION DESCRIPTION:
0	FC 08/22/11	ISSUED FOR FINAL

ENGINEER/CONSULTANT:

Civil Engineer

CDG

CONNELL DESIGN GROUP, LLC

CONSULTING CIVIL ENGINEERS

26455 RANCHO PARKWAY SOUTH, LAKE FOREST, CA 92630

(949) 753-8833 OFFICE - (949) 753-8833 FAX

CLIENT:

NextG Networks of California, Inc

890 TASMAN DRIVE
MILPITAS, CA 95035

STAMP:

SITE INFO:

SITE NAME:
DAVENPORT HUB:
STRAWBERRY FARM

SITE ADDRESS:
25 SWANTON RD
DAVENPORT, CA, CA 95017
LATITUDE 37° 01' 49.17" NORTH
LONGITUDE 122° 13' 03.0" WEST

SHEET TITLE:

TITLE SHEET

DRAWING INFO:

DWG. NAME:	DRAWN BY:	DATE:
T1	FC	08/13/11

SHEET NUMBER:

T-1

EXHIBIT A

ATTACHMENT 2

DAVENPORT HUB

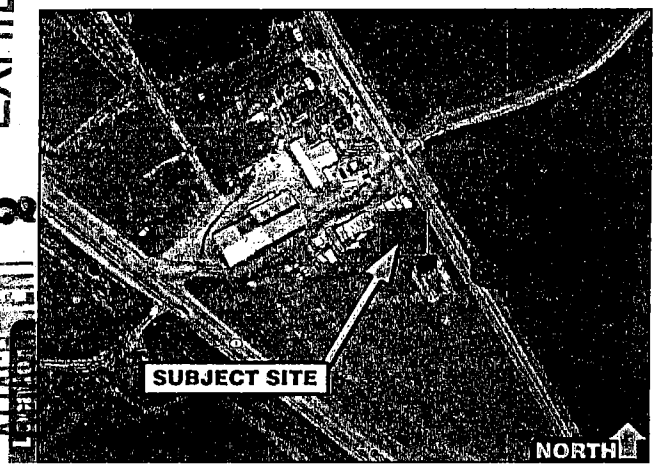
STRAWBERRY FARM
25 SWANTON ROAD
DAVENPORT, CA 95017

NextG Networks

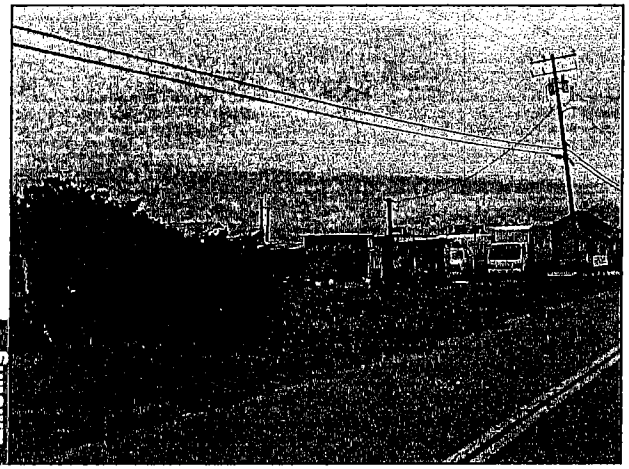
View #: 2

July 13, 2011

Location



Existing



Proposed

35

The illustration above is a representation of the proposed project based on information provided by the client. Actual construction may vary dependent on approved construction plans and therefore the A&E firm will not be held responsible for any post production design changes.

NextG Networks of California, Inc.
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~~San Jose, CA 95131~~
Chad Rasmussen - Phone: (703) 201-7066

RT GRAPHICS
photography & graphic design
Contact: Ryan Thigpen - (949) 307-3120
web - http://rtgraphics.net

Prepared by: RLT
Approved by: RLT

EDG
Connell Design Group, LLC
26455 Rancho Parkway South, Lake Forest, CA 92630
Office: (949) 753-8807 | Fax: (949) 753-8033

REV: 2

ATTACHMENT 2 EXHIBIT A

DAVENPORT HUB

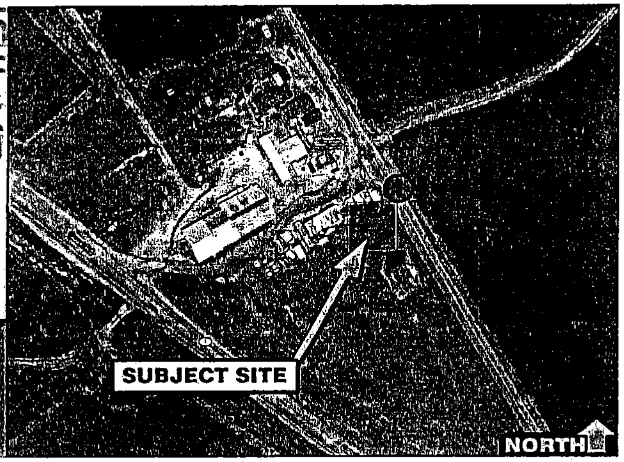
STRAWBERRY FARM
25 SWANTON ROAD
DAVENPORT, CA 95017

NextG Networks

View #: 1

July 13, 2011

Location



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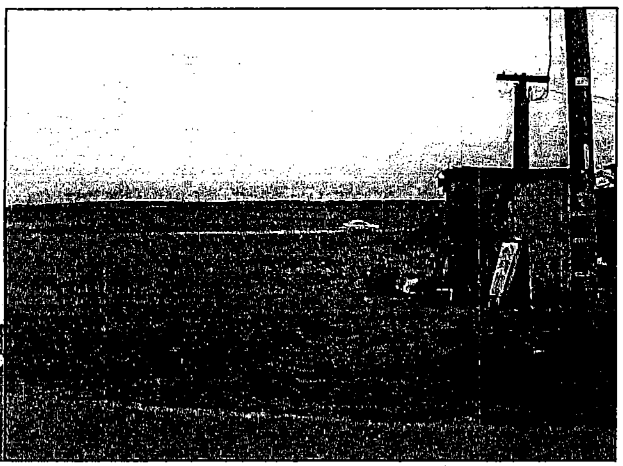

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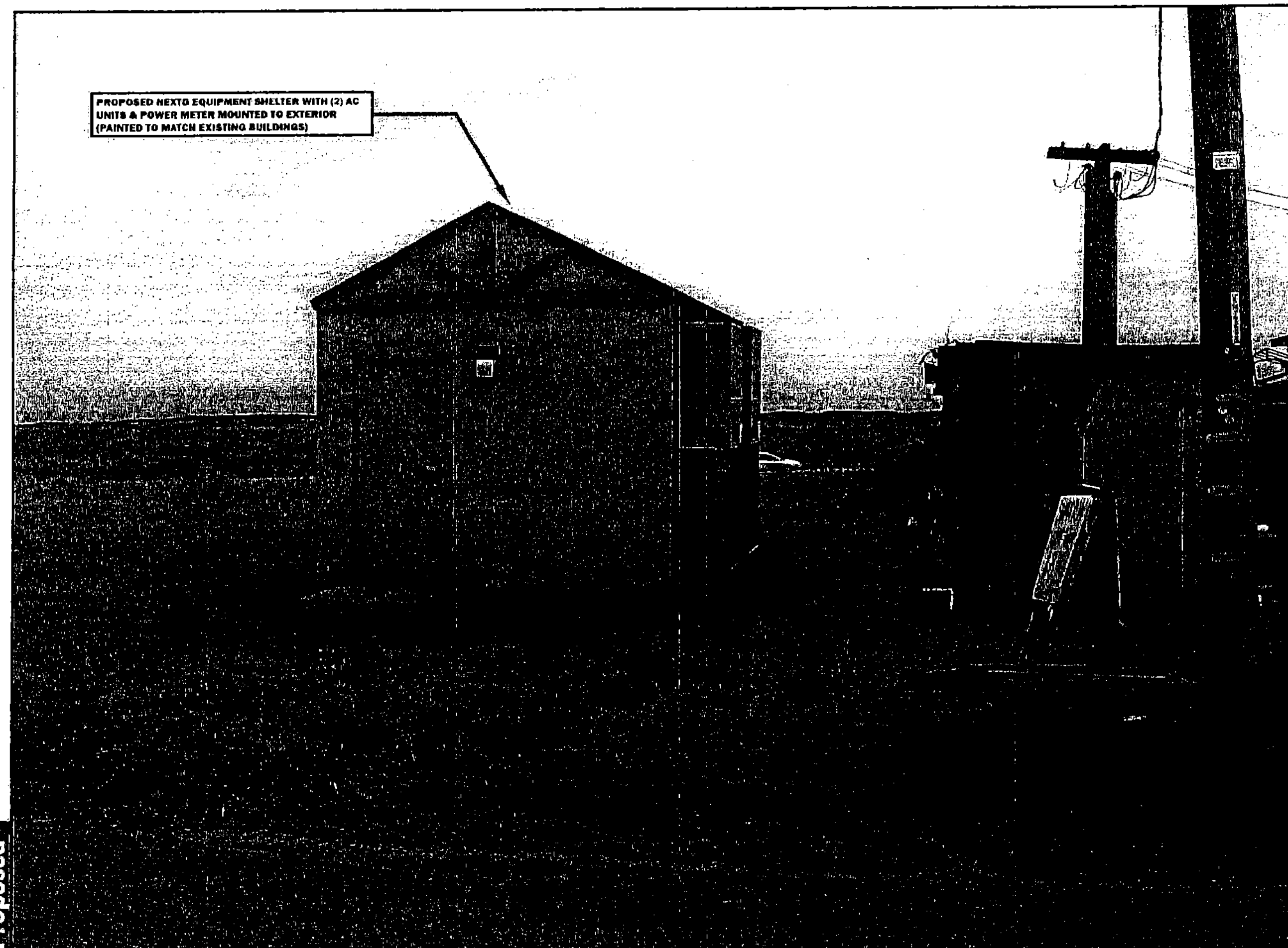

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~~San Jose, CA 95131~~ Milpitas, CA 95035
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Approved by: RLT

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REV: 2

ATTACHMENT 2 EXHIBIT A

DAVENPORT HUB

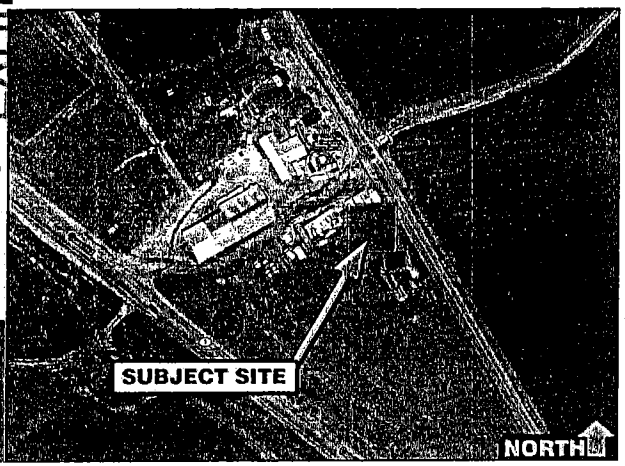
STRAWBERRY FARM
25 SWANTON ROAD
DAVENPORT, CA 95017

NextG Networks

View #: 3

July 13, 2011

Location



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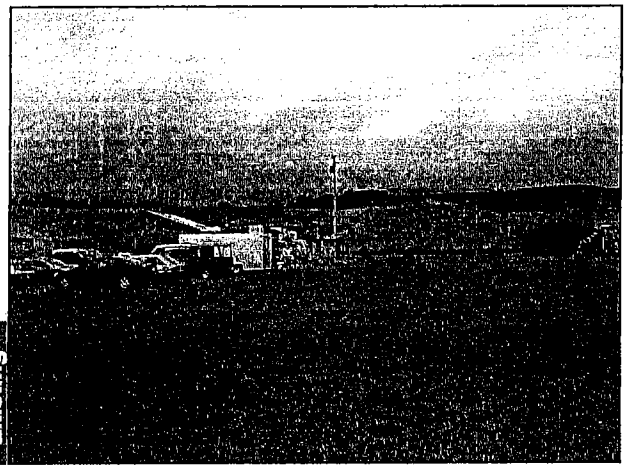

Proposed

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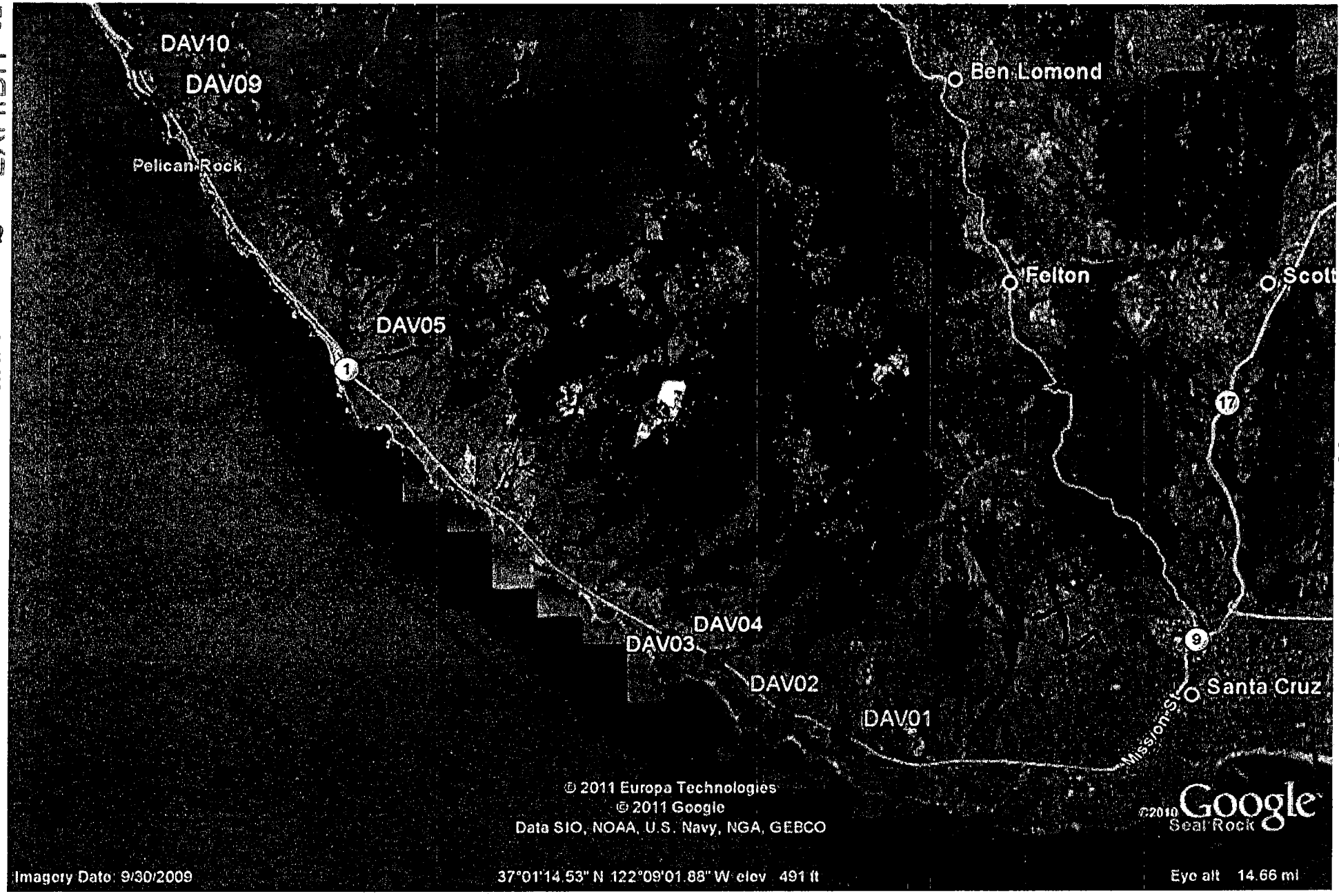
REV: 2

Overview Antenna Locations

EXHIBIT A
ATTACHMENT 2



Coastal Development Permit Findings

1. That the project is a use allowed in one of the basic zone districts, other than the Special Use (SU) district, listed in section 13.10.170(d) as consistent with the General Plan and Local Coastal Program LUP designation.

This finding can be made for DAV01, 02, 03, 04, 09 and 10 in that these proposed microcell sites are on right-of-way (ROW) areas on land that is zoned Special Use (SU), and the microcell use as proposed is consistent with the allowed uses in the SU zone district, and each site's zoning district is consistent with its corresponding General Plan/LCP land use designation. Further, this finding can be made for proposed microcell site DAV05 and for the proposed Telecommunications Hub equipment shelter, which are to be located on land zoned Commercial Agricultural (CA), with approval of the proposed Federal Telecommunications Act Exception, as supported by Wireless Communications Facility Use Permit Finding number 7.

2. That the project does not conflict with any existing easement or development restrictions such as public access, utility, or open space easements.

This finding can be made, in that the proposal does not conflict with any existing easement or development restriction such as public access, utility, or open space easements as no such easements or restrictions are known to encumber the project sites.

3. That the project is consistent with the design criteria and special use standards and conditions of this chapter pursuant to section 13.20.130 et seq.

This finding can be made, in that the proposed microcells and equipment shelter are compatible with their surroundings. The microcell antennas and equipment will likely be indistinguishable to most passersby from the various other types of telecommunications and power supply equipment that are typically attached to utility poles along Hwy. 1 and Swanton Road. In terms of architectural style, the proposed Telecommunications Hub equipment shelter, to be housed in a structure similar in appearance to a tool shed, is surrounded by similar agricultural-related outbuildings on a developed CA-zoned site. The colors will be natural in appearance and complementary to the site; and the development site is not on a prominent ridge, beach, or bluff top.

4. That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: figure 2.5 and Chapter 7, and, as to any development between and nearest public road and the sea or the shoreline of any body of water located within the coastal zone, such development is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act commencing with section 30200.

This finding can be made, in that the project sites are located on the inland side of Hwy. 1, and thus not located between the shoreline and the first public road (which is Hwy. 1 for most of this stretch of coast). Consequently, the proposed microcells and Telecommunications Hub will not interfere with public access to the beach, ocean, or any nearby body of water. Further, none of

the project sites are identified as a priority acquisition sites in the County Local Coastal Program.

5. That the proposed development is in conformity with the certified local coastal program.

This finding can be made, in that the proposed microcell WCFs and Telecommunications Hub are to be sited and designed to be visually compatible, in scale with, and integrated with the character of the surrounding areas. Additionally, microcell WCFs and associated equipment are allowed uses in the respective zone districts of each site (pursuant to the granting of the 3 TCA Exceptions as discussed above), as well as the General Plan and Local Coastal Program land use designations for each site. The proposed microcells and equipment shelter are not visually inconsistent or incompatible with the existing equipment found on utility poles in this area, and the proposed equipment shelter will blend in with the existing outbuildings on its proposed site.

Wireless Communication Facility Use Permit Findings

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

This finding can be made, in that all 7 of the proposed WCFs are of the microcell type which, due to their small size and co-location onto existing utility poles, are the least visually obtrusive type of WCF. Moreover, their installation and use in highway/road rights-of-way will not impact any sensitive habitat resources or other significant County resources, including agricultural, open space, and community character resources. Finally, there are no other environmentally equivalent and/or superior and technically feasible alternatives to the proposed microcell designs that have less visual and/or other resource impacts, and the design of the proposed microcells has been modified to minimize and mitigate their visual impact (i.e., by going from a design involving pole height extension to mounting of the antennas to be hanging down at the ends of crossbars (see Alternatives Analysis – Exhibit G).

As for the proposed "Telecommunications Hub" equipment shelter, this finding can be made, in that, as conditioned, the small (192 sq. ft.) tool shed-like equipment shelter will blend in with several other nearby agricultural outbuildings on the same parcel and 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.), nor significantly affect other County resources, including agricultural (i.e., will not displace any viable agricultural land), open space, or community character resources. Moreover, as shown in the applicant's Alternatives Analysis (Exhibit G), there are no other environmentally equivalent and/or superior and technically feasible alternatives to the proposed shelter (including alternative locations and/or designs) with less visual and/or other resource impacts, and the proposed facility has been modified by the attached conditions to minimize and mitigate its visual and other resource impacts.

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

This finding can be made, in that the 7 proposed microcells are to consist of antennas mounted upon existing utility poles in the rights-of-way of Hwy. 1 and Swanton Road, areas where numerous utility poles are already located, including several poles that have microcell WCFs of a different carrier (AT&T) installed upon them. Microcell WCF installations co-located on existing utility poles, such as these, are encouraged in the WCF Ordinance as the preferred WCF design, due to their relatively inconspicuous nature.

As for the proposed "Telecommunications Hub" equipment shelter, this finding can be made, in that, as conditioned, the small (192 sq. ft.) tool shed-like equipment shelter will blend in with several other nearby agricultural outbuildings on the same parcel and 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.), nor significantly affect other County resources, including agricultural (i.e., will not displace any viable agricultural land), open space, or community character resources. Moreover, as shown in the applicant's Alternatives Analysis (Exhibit G), there are no other environmentally equivalent and/or superior and technically feasible alternatives to the proposed shelter (including alternative locations and/or designs) with less visual and/or other resource impacts, and the proposed facility has been modified by the attached conditions to minimize and mitigate its visual and other resource impacts.

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

This finding can be made, in that the existing infrastructure uses of the subject rights-of-way, and the existing agricultural-related uses on the proposed Telecommunications Hub site (APN 058-022-11) are in compliance with the requirements of the zone districts and General Plan designations, in which they are located, and that there are no outstanding or unpaid zoning violation abatement costs.

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

This finding can be made, in that the proposed wireless communications facilities will be located on existing utility poles, the tops of which are at heights too low to interfere with aircraft in flight.

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

This finding can be made, in that the maximum ambient RF levels at ground level due to the proposed WCF operations are calculated to be no more than 3% of the most restrictive applicable (i.e., FCC) limit.

6. The proposed wireless communication facilities as conditioned are consistent with the all applicable requirements of the Local Coastal Program.

This finding can be made, in that the proposed microcell wireless communication facilities are designed and located in a manner that will minimize potential impacts to scenic and biotic resources, and that the construction of the proposed facilities will not impede access to the beach or other recreational resources.

7. Federal Telecommunications Act (TCA) Exception Finding: If the application of the requirements or limitations set forth in Sections 13.10.660 through 13.10.668 inclusive, including but not limited to applicable limitations on allowed land uses, would have the effect of violating the Federal Telecommunications Act as amended, the approving body shall grant a Telecommunications Act Exception to allow an exception to the offending requirement or application. The applicant shall have the burden of proving that application of the requirement or limitation would violate the Federal Telecommunications Act, and that no alternatives exist which would render the approval of a Telecommunications Act Exception unnecessary.

This finding can be made in that the applicant has provided sufficient evidence in their submitted Alternatives Analysis (Exhibit G) to show that Federal TCA Exceptions must be granted for 3 aspects of this project in order to avoid violations of the Federal Telecommunications Act. One Federal TCA Exception is needed because the proposed design of the 7 microcells do not precisely conform to the design standards set out in the WCF Ordinance for microcells in the Coastal Right-of-Way, as those standards are now out of date due to new statewide requirements for microcells on utility pole promulgated by the California Public Utilities Commission. A Federal TCA Exception allowing the alternative design is necessary to prevent a violation of the Federal TCA (see History and Discussion section above for details).

A second TCA Exception is required to allow the placement of one of the microcells (DAV05) in a portion of the Swanton Rd. right-of-way that is zoned Commercial Agriculture (CA). A TCA Exception is needed because the CA zone is one of the "prohibited area" zones listed in the WCF Ordinance where WCFs cannot be constructed except as per Sec. 13.10.661[b][4], which allows only co-located WCFs in prohibited areas, and only if it can be shown that there are no environmentally equivalent or superior alternatives in allowed zone districts. As with the other 6 proposed microcell sites, DAV05 is a co-location, and the attached Alternatives Analysis provides this evidence that there are no environmentally equivalent or superior alternative sites for DAV05 in any of the allowed zone districts, thus providing justification for the granting of a TCA Exception for this aspect of the project.

And a third TCA Exception is needed to allow the placement of the Telecommunication Hub equipment shelter also on land that is zoned CA (APN 058-022-11), where such equipment can be allowed, pursuant to a TCA Exception, only if it is "...camouflaged so that it is inconspicuous and designed to blend seamlessly into the existing public view." Since this is the case, and the Alternatives Analysis (Exhibit G) shows that other possible locations for this equipment shelter on non-CA zoned land are either unavailable or would stand alone and thus be more visually conspicuous than in the proposed location, the granting of a TCA Exception for this aspect of the

project is warranted as well. Moreover, because the required Coastal Development Findings for the more visually conspicuous alternative locations cannot be made, use of the proposed site is the only feasible alternative for siting the equipment shelter. No feasible alternatives exist that would render the approval of a TCA Exception unnecessary, therefore the granting of this exception is warranted.

ATTACHMENT 2

Development Permit Findings

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

This finding can be made, in that the proposed microcell installations are to be located on utility poles in public right-of-way areas designated for telecommunications and other utility uses. The proposed poles have room for the proposed microcells and are not encumbered by physical constraints to microcell development, and the maximum ambient radio-frequency (RF) radiation at ground level in the immediate vicinity of each microcell are calculated to be no more than 3% of the most restrictive applicable (FCC) limit. The location and operation of the Telecommunications Hub in a small (192 sq. ft.) equipment structure will not result in any negative effects on public health, safety or welfare. Construction will comply with prevailing building technology, the California Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed microcells will not deprive adjacent properties or their neighborhood of light, air, or open space, in that the installation of the microcells will involve small additions to existing utility poles that are all located far away from other structures. Similarly the small Telecommunications Hub equipment shelter will be located on a large parcel and will comply with all site standards, including setbacks. No structures on other parcels are located in the vicinity of the equipment shelter.

2. That the proposed locations of the microcells and equipment shelter, and the conditions under which they would be operated or maintained. will be consistent with all pertinent County ordinances and the purpose of the zone districts in which the sites are located.

This finding can be made, in that the proposed locations of the microcells and equipment shelter, and the conditions under which they would be operated and maintained, will be consistent with all pertinent County ordinances (upon the granting of the 3 proposed TCA Exceptions) and the purpose of the zone districts, as the primary uses of the subject properties will meet all current site standards for the pertinent zone districts.

3. That the proposed DAS microcell and equipment shelter uses are consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed microcell DAS system is consistent with the use and density requirements specified for the General Plan/LCP land use designations of all the subject sites. The proposed project will not adversely impact the light, solar opportunities, air, and/or open space available to other structures or properties, and meets all current site and development standards for the zone districts, as specified in the General Plan/LCP, in that the project will not adversely shade adjacent properties, and will meet current setbacks for the zone districts that ensure access to light, air, and open space in the surrounding vicinity.

The proposed DAS project will be properly proportioned to the subject parcel sizes, as the proposed microcells and equipment shelter will comply with the site standards for the pertinent zone districts (including setbacks, lot coverage, floor area ratio, height, and number of stories) and will result in structures consistent with a design that could be approved on any similarly sized lot in the vicinity.

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

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

This finding can be made, in that the proposed DAS microcells and equipment shelter project is to be constructed on existing utility poles, and in the case of the equipment shelter, on an already developed agricultural parcel. There is no additional traffic expected to be generated by the proposed project.

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 DAS microcells and equipment shelter project will be compatible 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 nearby neighborhoods. The proposed equipment shelter will blend in and harmonize with the other existing structures on the proposed site.

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 DAS project will be of an appropriate scale and type of design that will not diminish the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area.

Conditions of Approval

Exhibit A: Revised project plans for 7 utility pole-mounted microcell sites, 3 sheets per site, prepared by NextG Networks, dated 8/17/11, and project plans for Davenport Hub equipment shelter, 6 sheets, prepared by Connell Design Group, LLC, dated 6/13/11.

I. This permit authorizes the construction of a wireless communications Distributed Antenna System (DAS), consisting of 7 microcell wireless communication facilities mounted upon existing utility poles in the rights-of-way of Hwy. 1 (6 sites) and Swanton Rd. (1 site) and a 192 square foot "Telecommunications Hub" equipment shelter on APN 058-022-11. 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.

1. Any outstanding balance due to the Planning Department must be paid prior to making a Building Permit application. Applications for Building Permits will not be accepted or processed while there is an outstanding balance due.

C. Obtain an Encroachment Permit from the Department of Public Works for all work performed in the County road right-of-way.

D. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder) within 30 days from the effective date of this permit.

II. Prior to issuance of a Building Permit the applicant/owner shall:

A. 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. One elevation (for each site) shall indicate materials and colors as they were approved by this Discretionary Application. If specific materials and colors have not been approved with this Discretionary Application, in

addition to showing the materials and colors on the elevation, the applicant shall supply a color and material board in 8 1/2" x 11" format for Planning Department review and approval.

2. Details showing compliance with fire department requirements. The proposed structure(s) are located within the State Responsibility Area (SRA) and the requirements of the Wildland-Urban Interface code (WUI), California Building Code Chapter 7A, shall apply.

3. Final plans must show that the "alpha power supply and battery back-up" equipment box (approx. 3' high, by 2.5' wide, by 1' deep) on each pole in a position below the other more narrow boxes, and as close to the ground as feasible, to make the "alpha power supply and battery back-up" equipment box less visually prominent.

4. Final plans must show that all antennas and equipment boxes to be placed on utility poles be painted in colors similar to the background colors (e.g., light brown, forest green, etc.).

B. 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.

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

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

E. Meet all requirements and pay any applicable plan check fee of the appropriate County Fire Protection District.

F. Pay the current fees for Roadside and Transportation improvements (as applicable).

G. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees and other requirements lawfully imposed by the school 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 the approved soils reports.

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. 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.

B. Post-Construction Non-Ionizing Electromagnetic Radiation (NIER) Measurement and Reporting: Post-construction monitoring of NIER/Radio-Frequency (RF) radiation to verify compliance with the FCC's NIER standards is required for all 7 new wireless communication facilities built as part of this proposal. This requirement shall be met through submission of a report documenting NIER measurements at the facility site within 90-days after the commencement of normal operations. The NIER measurements shall be made, at the applicant's expense, by a qualified third-party telecommunications or radio-frequency engineer, during typical peak-use periods, utilizing the Monitoring Protocol described in County Code Section 13.10.660(d). The report shall list and describe each transmitter/antenna present at the facility, indicating the effective radiated power of each. The report shall include field measurements of NIER emissions generated by the facility and also other emission sources, from various directions and particularly from adjacent areas with residential dwellings. The report shall compare the measured results to the FCC NIER standards for such facilities. The report documenting the measurements, and the findings with respect to compliance with the established FCC NIER exposure standards, shall be submitted to the Planning Director within 90-days of commencement of operation. Failure to comply with this requirement may result in the initiation of permit revocation proceedings by the County.

C. The microcell facilities shall be removed and the sites restored by the applicant if informed by the owner and operator of the right-of-way that the utility poles are to

be removed because the utilities the pole supports are to be relocated underground, or if the microcell facility is rendered unnecessary due to technological advances.

D. The sites shall be restored as nearly as possible to its natural or pre-construction state within six months of termination of use or abandonment of the sites.

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 by 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 three years from the effective date listed below unless a

ATTACHMENT 2

building permit (or permits) is obtained for the primary structures described in the development permit (does not include demolition, temporary power pole or other site preparation permits, or accessory structures unless these are the primary subject of the development permit). Failure to exercise the building permit and to complete all of the construction under the building permit, resulting in the expiration of the building permit, will void the development permit, unless there are special circumstances as determined by the Planning Director.

Approval Date: 12/2/11

Effective Date: 12/16/11

Expiration Date: 12/2/14

Steven Guiney

Steven Guiney, AICP
Deputy Zoning Administrator

Frank Barron

Frank Barron, AICP
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.

ATTACHMENT 2
EXHIBIT D

Notice of Exemption

Form D

To: ☑ Office of Planning and Research
PO Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

☐ County Clerk
County of _____

_____

_____

From: (Public Agency) _____
CA Public Utilities Commission

505 Van Ness, SF CA, 94102
(Address)

Project Title: NG2011-21, NextG/Verizon Davenport Distributed Antenna System (DAS) Project

Project Location - Specific:

Hwy 1, Davenport Ave; Swanton road.

Project Location – City: San Francisco **Project Location – County:** San Francisco

Description of Project:

Installation of DAS antenna, fiber optic cable, new poles, other related equipment.

Name of Public Agency Approving Project: California Public Utilities Commission

Name of Person or Agency Carrying Out Project: NextG

Exempt Status: (*check one*)

☐ Ministerial (Sec. 21080(b)(1); 15268);
☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
☑ Categorical Exemption. State type and section number: 15061b3; 15301b; 15302c; 15303d; 15304f;
☐ Statutory Exemptions. State code number: 15031c.

Reasons why project is exempt:

Under D. 07-04-045 the Commission determined that the projects proposed by NextG would qualify for one or more categorical exemptions under CEQA.

Lead Agency
Contact Person: Jensen Uchida Area Code/Telephone/Extension: 415 703 5484

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☑ Yes ☐ No

Signature: Jensen Uchida Date: 10/7/11 Title: Reg Analyst

☑ Signed by Lead Agency
☐ Signed by Applicant

Date received for filing at OPR: _____

January 2004

ATTACHMENT 2
EXHIBIT D

STATE OF CALIFORNIA — Arnold Schwarzenegger, *Governor*

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

October 7, 2011

Sharon James
NextG Networks, Inc.
2216 O'Toole Avenue
San Jose, CA 95131

Dear Ms. James:

NextG Networks of California (NextG) submitted a Notice of Proposed Construction (NG2011-21) for the installation of micro antenna, new poles, fiber optic cable and other related equipment on behalf of Verizon in Davenport, County of Santa Cruz. The NPC requests the Energy Division to act upon NextG's request for a determination that the proposed project is consistent with the activities identified as categorically exempt from the California Environmental Quality Act (CEQA) by the California Public Utilities Commission (Commission).

In January 2003, the Commission granted NextG the authority to operate as limited facilities-based (LFB) carrier in California. Aside from providing resold local and interexchange services, NextG was prohibited from engaging in the construction of telecommunications facilities, other than equipment installed in existing structures.

In May 2006, NextG submitted A.06-05-031 seeking expansion of its LFB authority to include the installation of Distributed Antenna System (DAS) micro-antennae and other related equipment in California. In the application, NextG stated that its projects may include the installation of a limited number of new poles, small scale or micro-trenching, conduit installation, and the installation of laterals. Under D. 07-04-045, the Commission determined that the projects envisioned by NextG fell within one of several categorical exemptions identified under CEQA, and that further environmental review would not be required

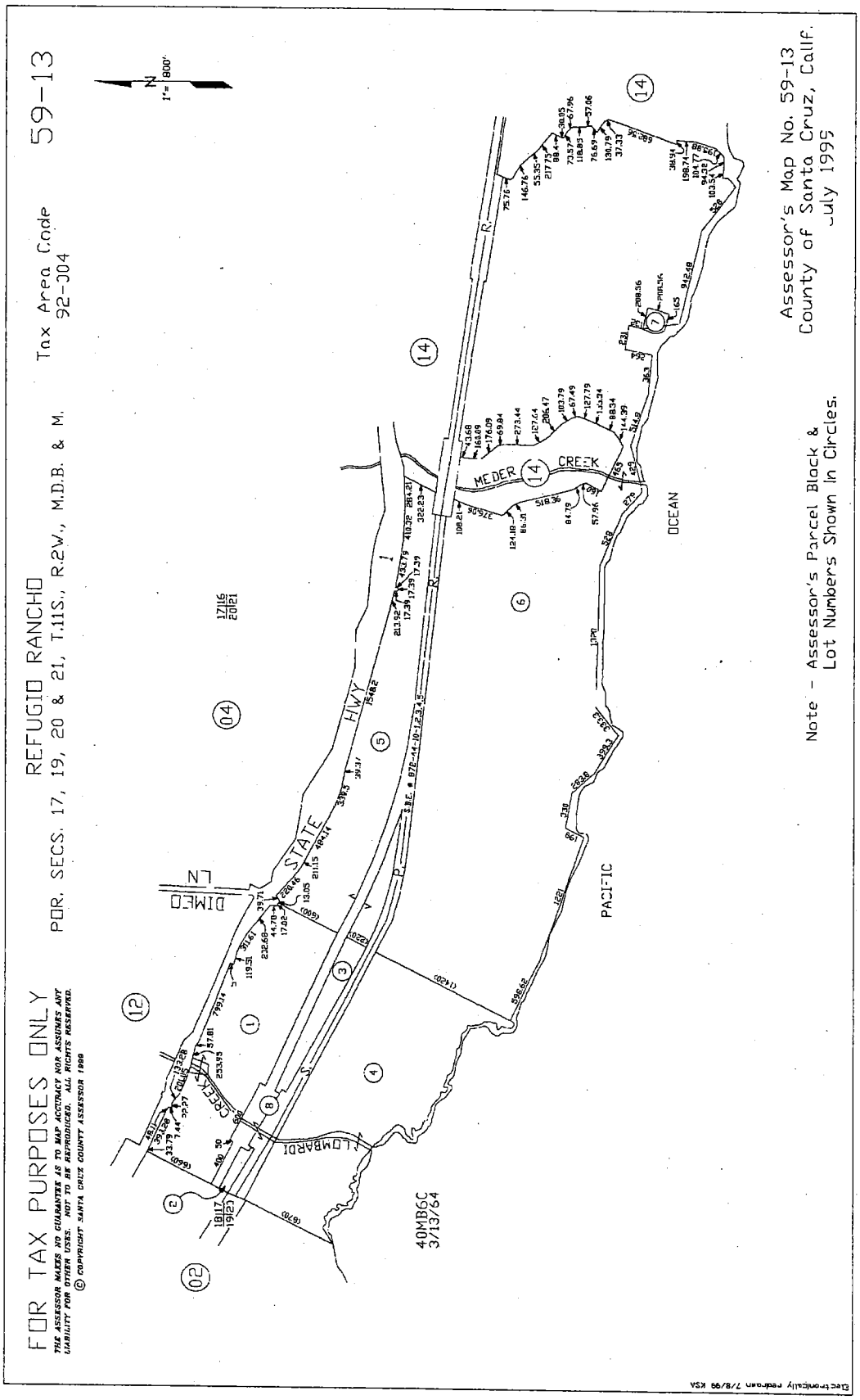
The Energy Division has reviewed NextG's proposal to construct a DAS project in Davenport in the County of Santa Cruz and has determined that the proposed construction activities are consistent with the activities identified by the Commission as categorically exempt from CEQA. The Energy Division hereby grants NextG with the authority to proceed with the construction of the project as described in the NPC.

Sincerely,

Jensen Uchida
California Public Utilities Commission
Regulatory Analyst

ATTACHMENT 8

EXHIBIT E



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THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.

REFUGIO RANCHO

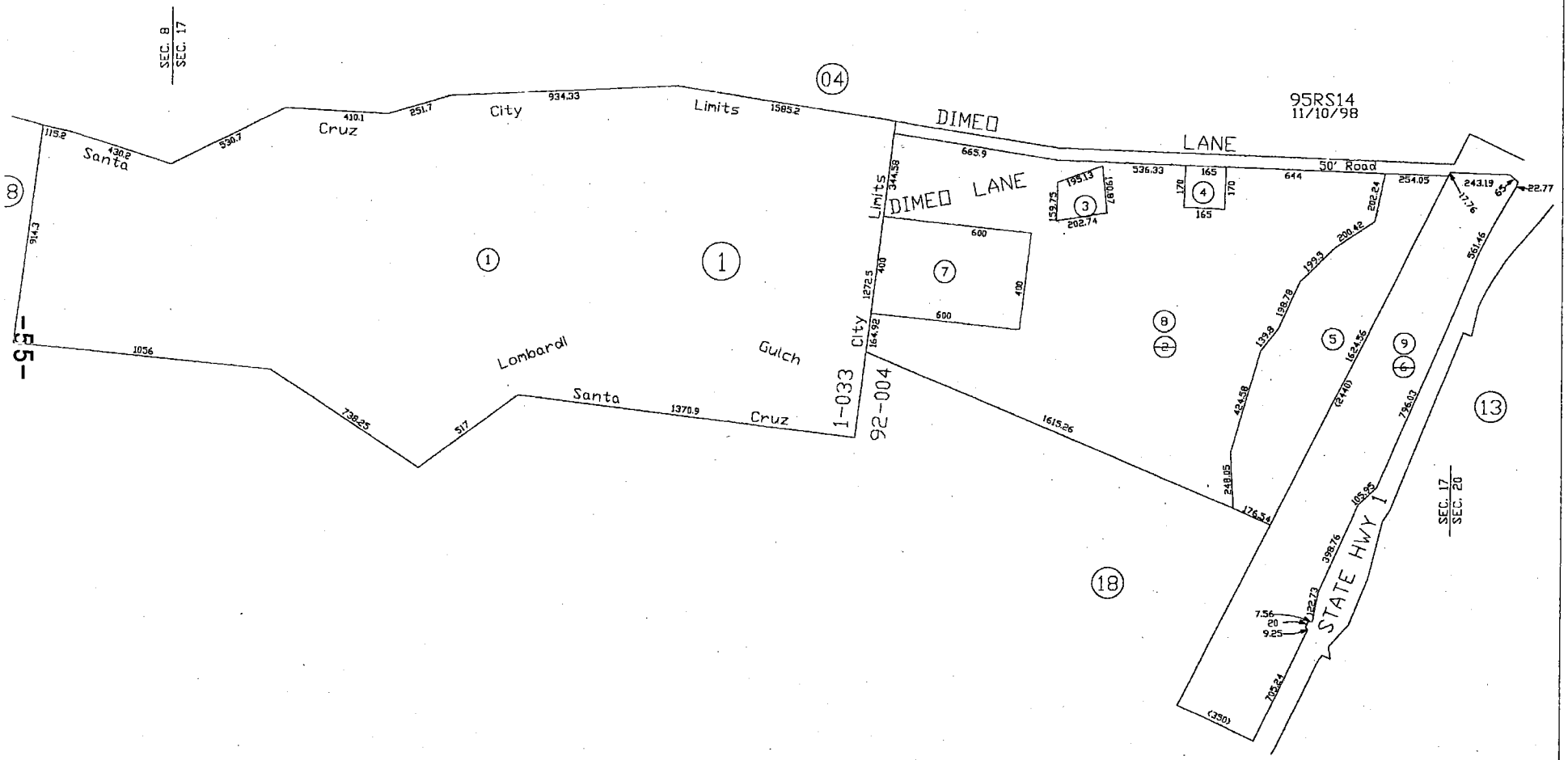
POR. SECS., 8,17 & 20
T11S., R.2W., M.D.B. & M.

Tax Area Code
1-033 92-004

59-12

N
1"= 400'

95RS14
11/10/98

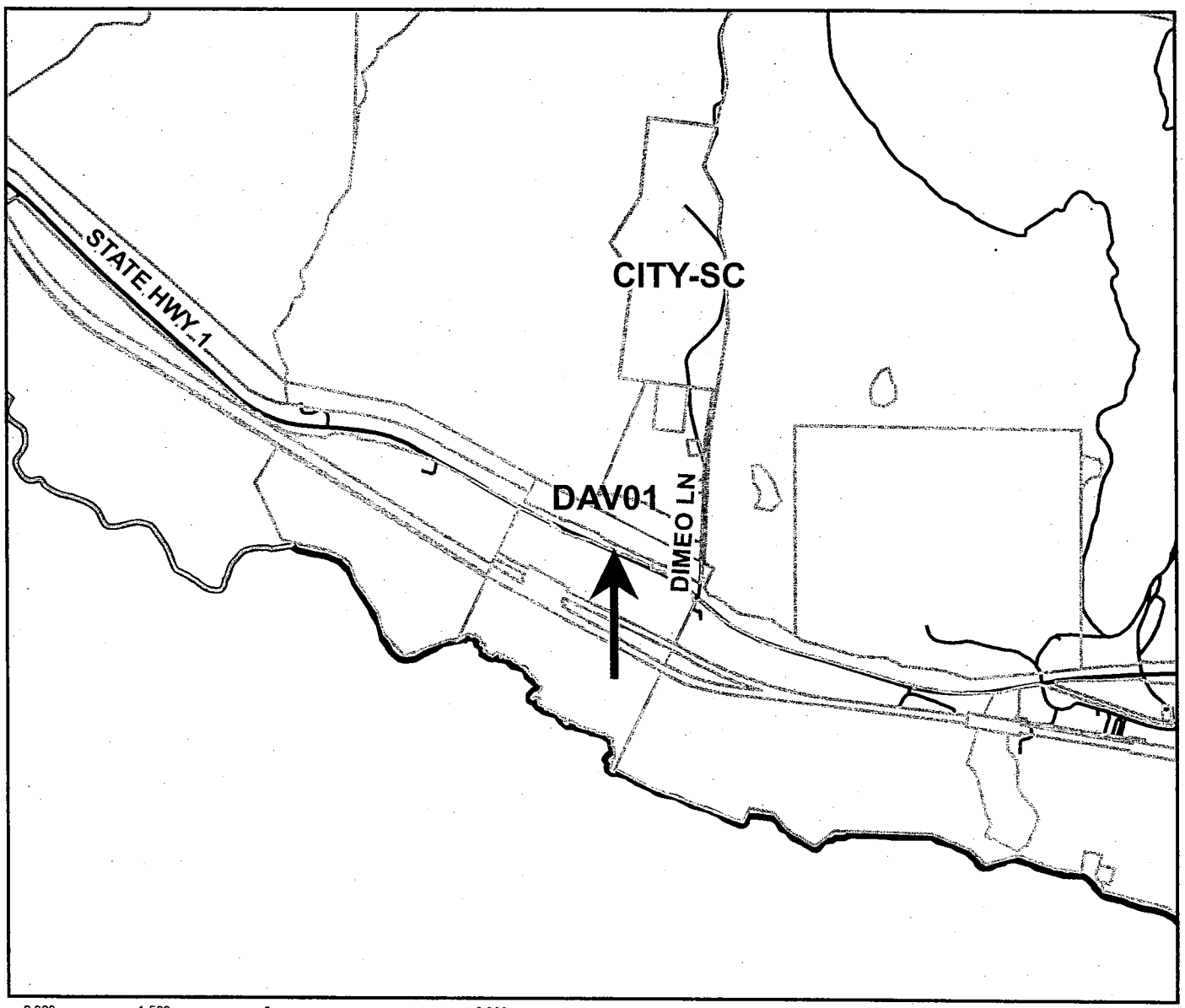


Note - Assessor's Parcel Block & Lot Numbers Shown in Circles.

Assessor's Map No. 59-12
County of Santa Cruz, Calif.
April, 2000

ATTACHMENT 9 EXHIBIT B

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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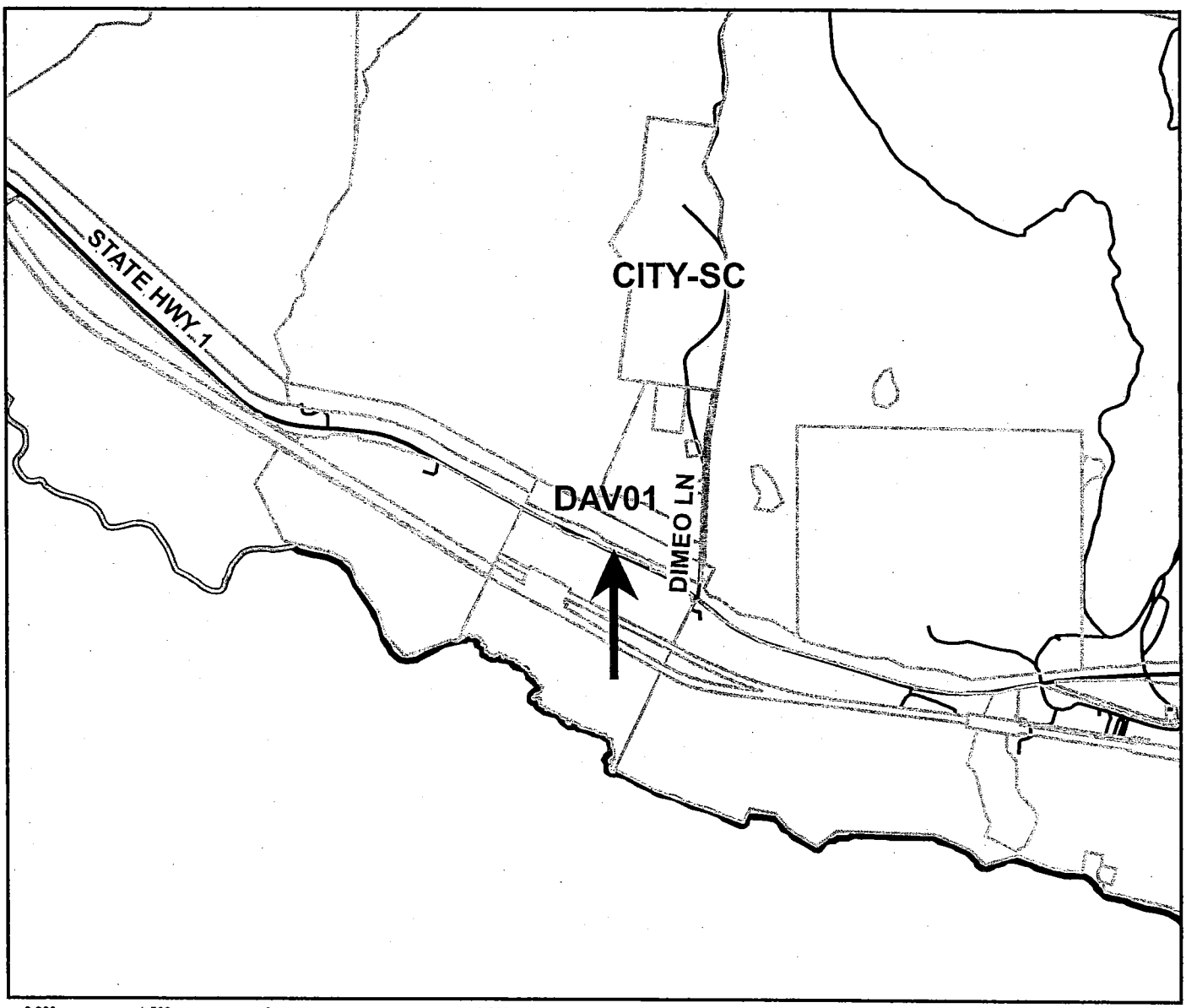
Map Created by
County of Santa Cruz
Planning Department
July 2011

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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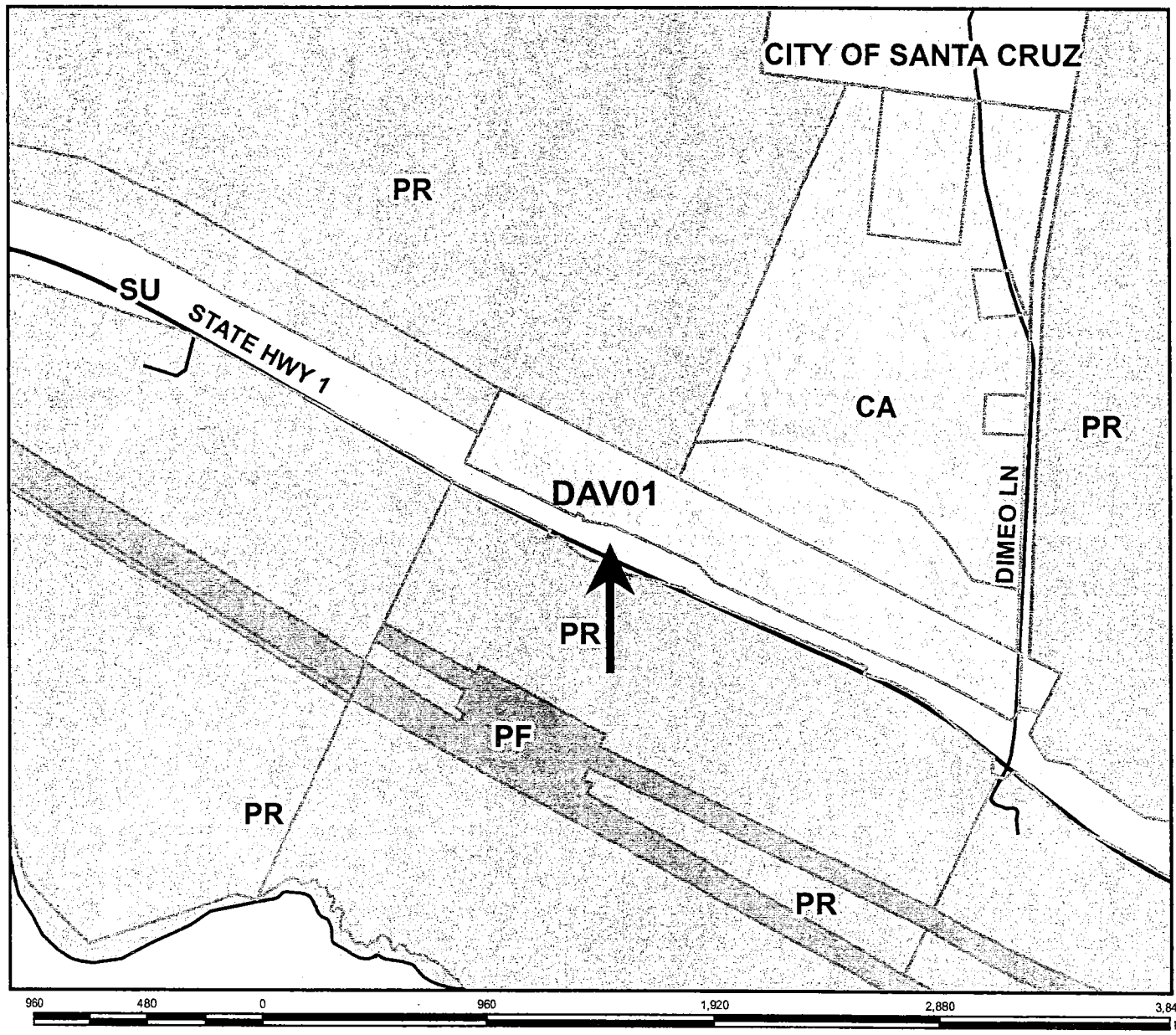
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2 EXHIBIT E

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary
- SPECIAL USE
- AGRICULTURE COMMERCIAL
- PARK
- PUBLIC FACILITY

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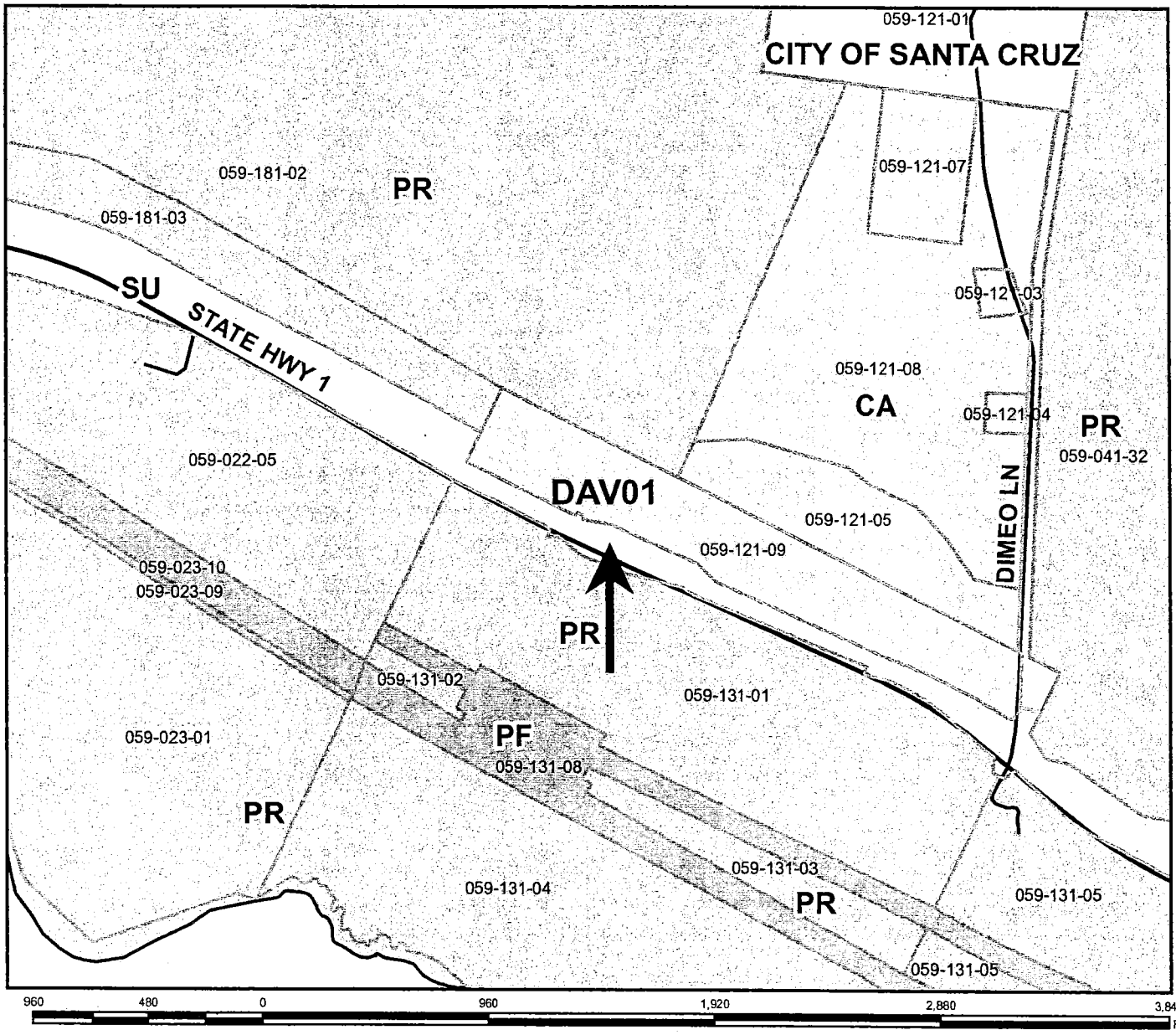
Planning Department
July 2011

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary
- SPECIAL USE
- AGRICULTURE COMMERCIAL
- PARK
- PUBLIC FACILITY

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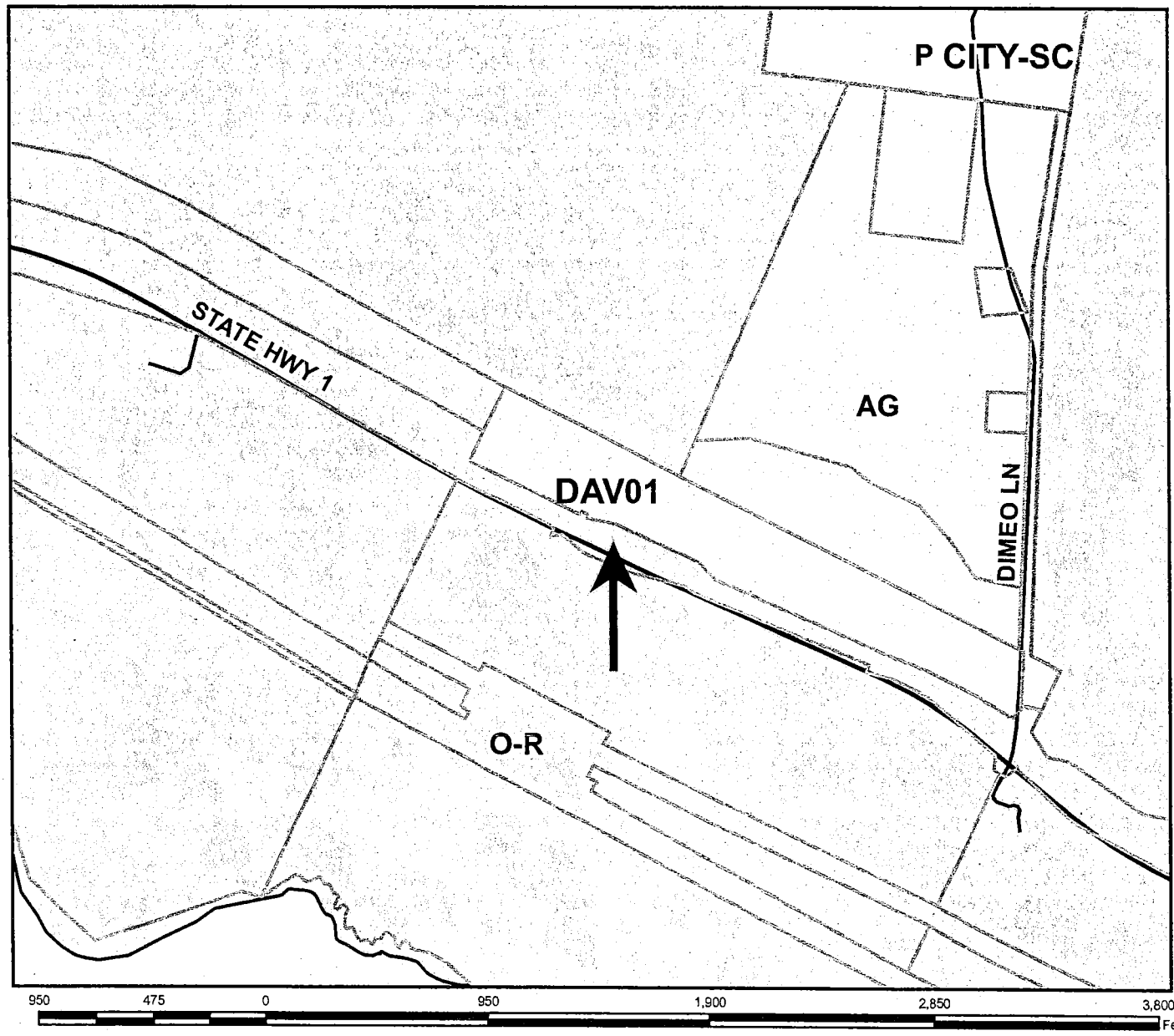
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2 EXHIBIT E

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary
- Parks and Recreation
- Agriculture
- Public Facilites

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Map Created by
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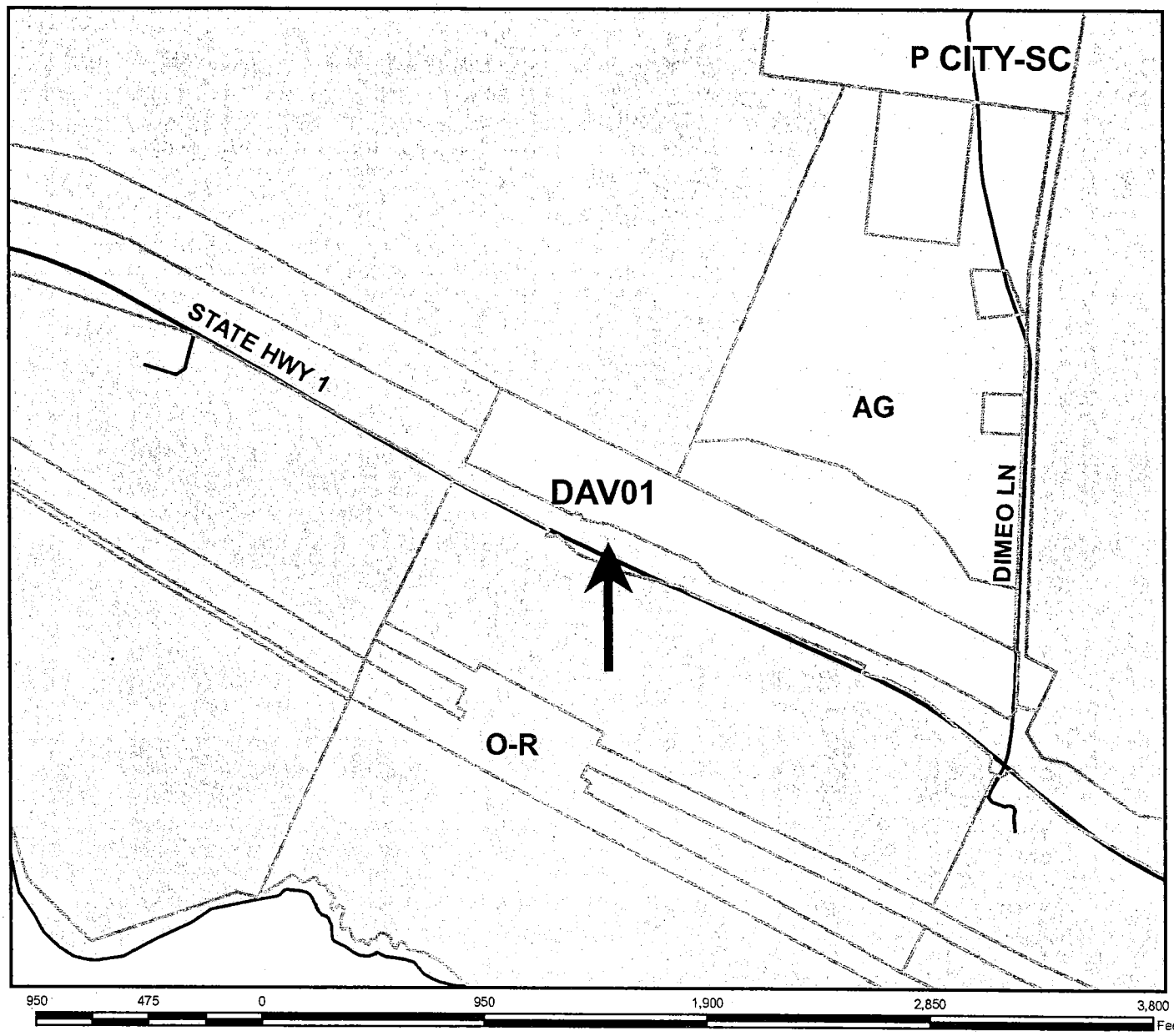
Planning Department
July 2011

ATTACHMENT 2 1 EXHIBIT E

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary
- Parks and Recreation
- Agriculture
- Public Facilites

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Planning Department
July 2011

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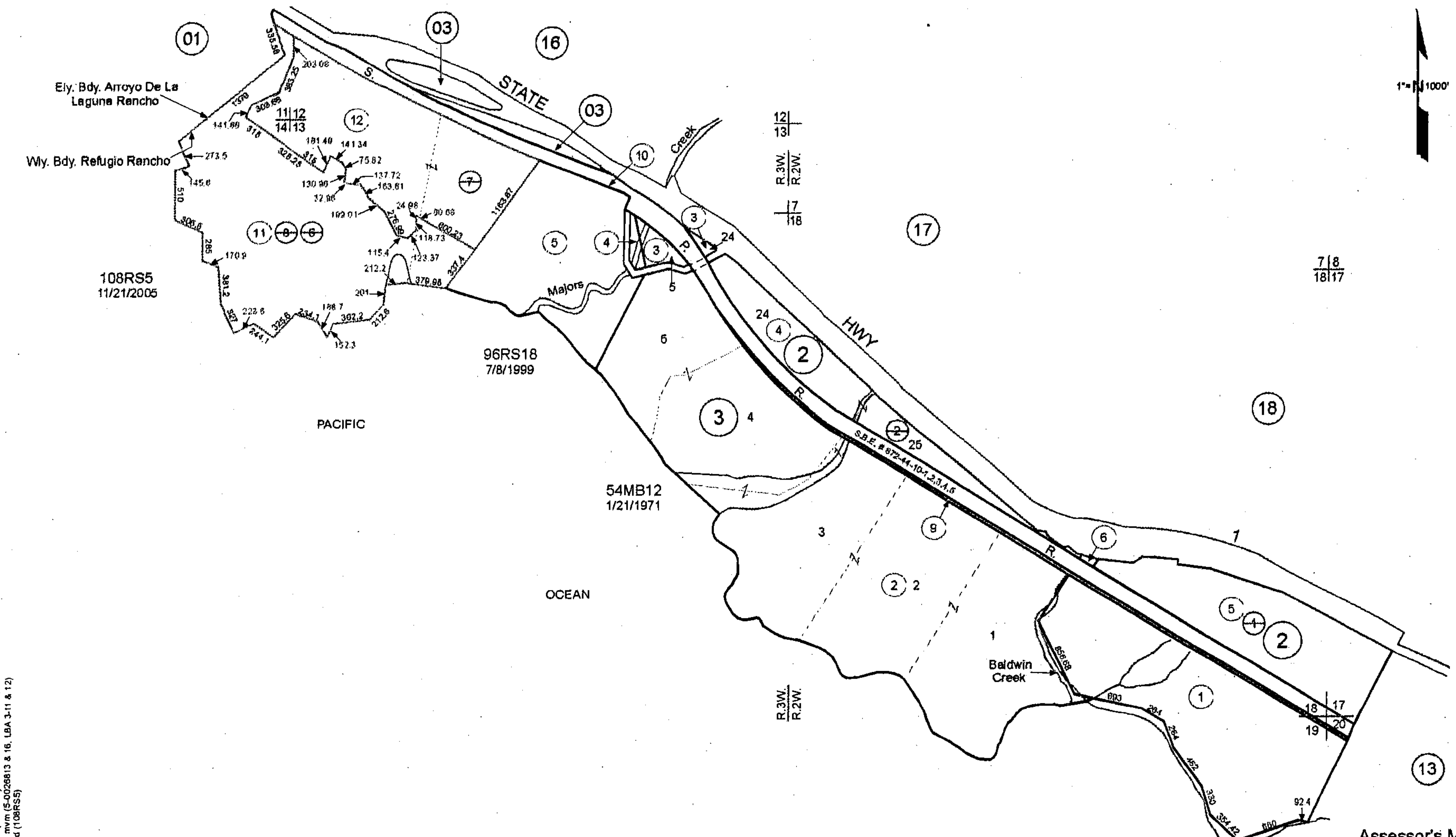
POR. SECS. 17,18,19, & 20, T.11S., R.2W., &
POR. SECS. 11,12,13, & 14, R3W., M.D.B. & M.

Tax Area Code
92-007

59-02



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

Assessor's Map No. 59-02
County of Santa Cruz, Calif.
July 1999

Electronically redrawn 7/1/99 KSA
Rev. 7/1/99 KSA (Por. to Pgs 16,17 & 18)
Rev. 8/5/99 CB (96RS18)
Rev. 10/21/05 mvm (5-002613 & 16, LBA 3-11 & 12)
Rev. 7/11/07 td (108RS5)

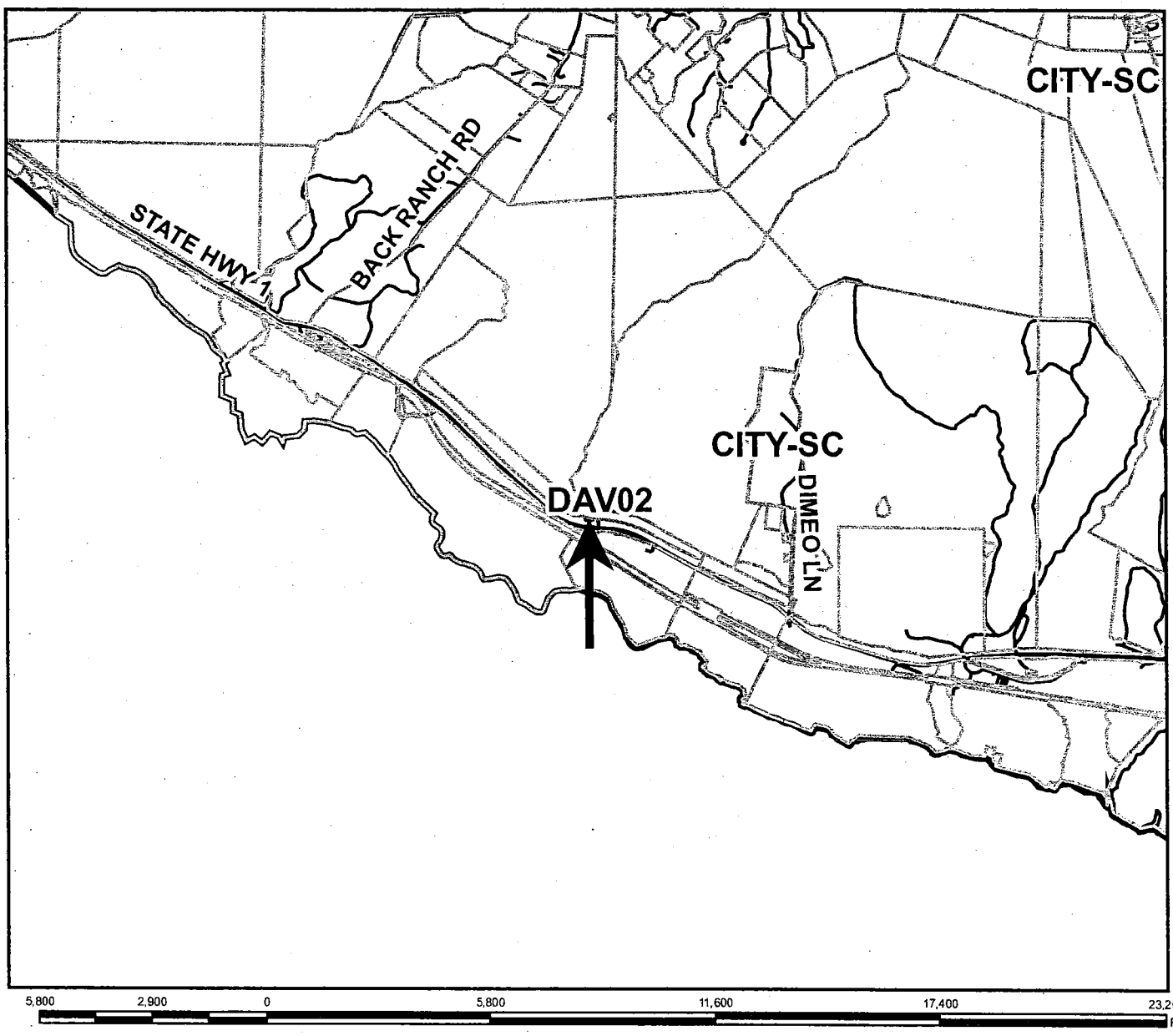
ATTACHMENT 2

EXHIBIT E

ATTACHMENT 6

EXHIBIT E

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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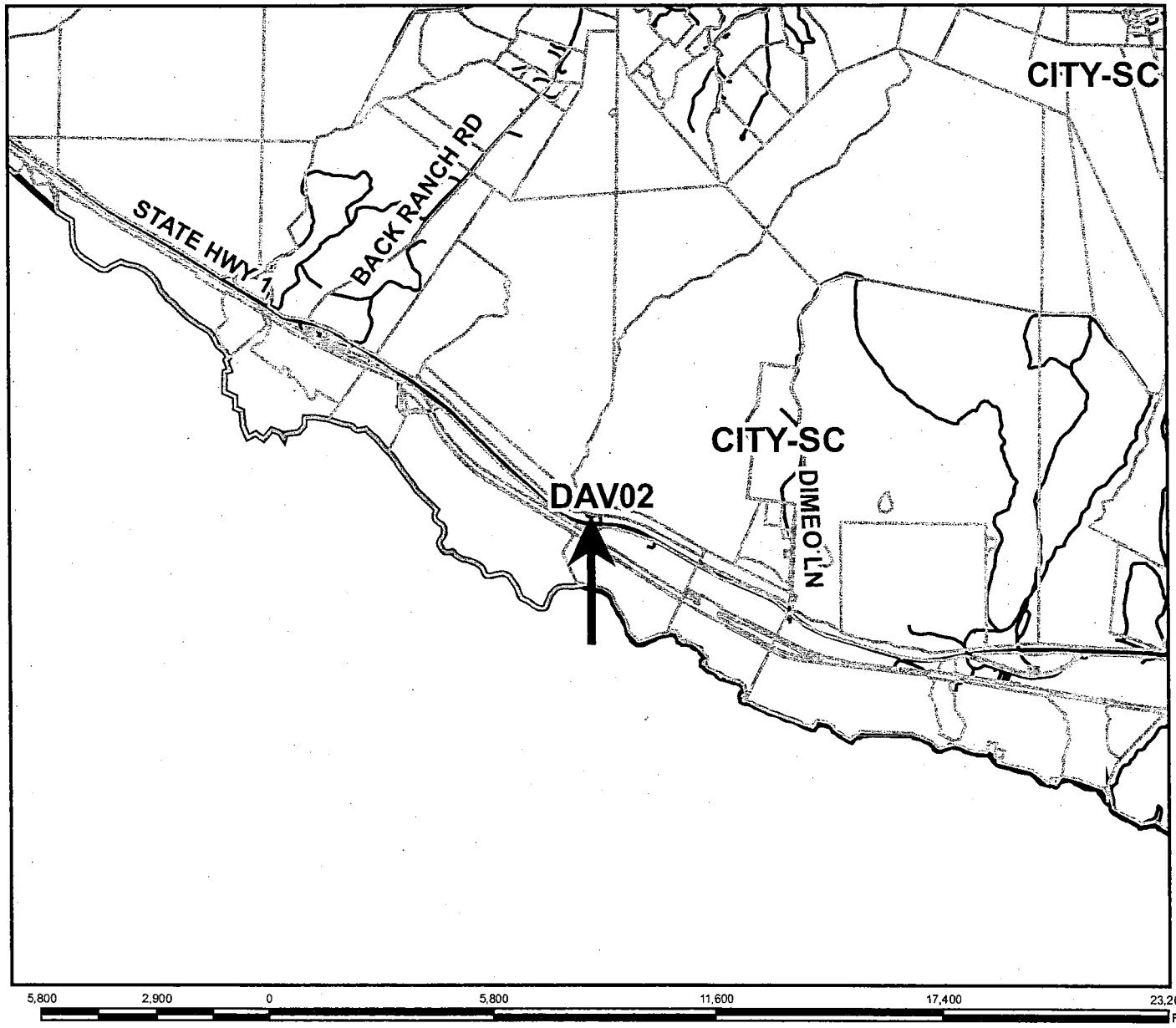
Map Created by
County of Santa Cruz
Planning Department
July 2011

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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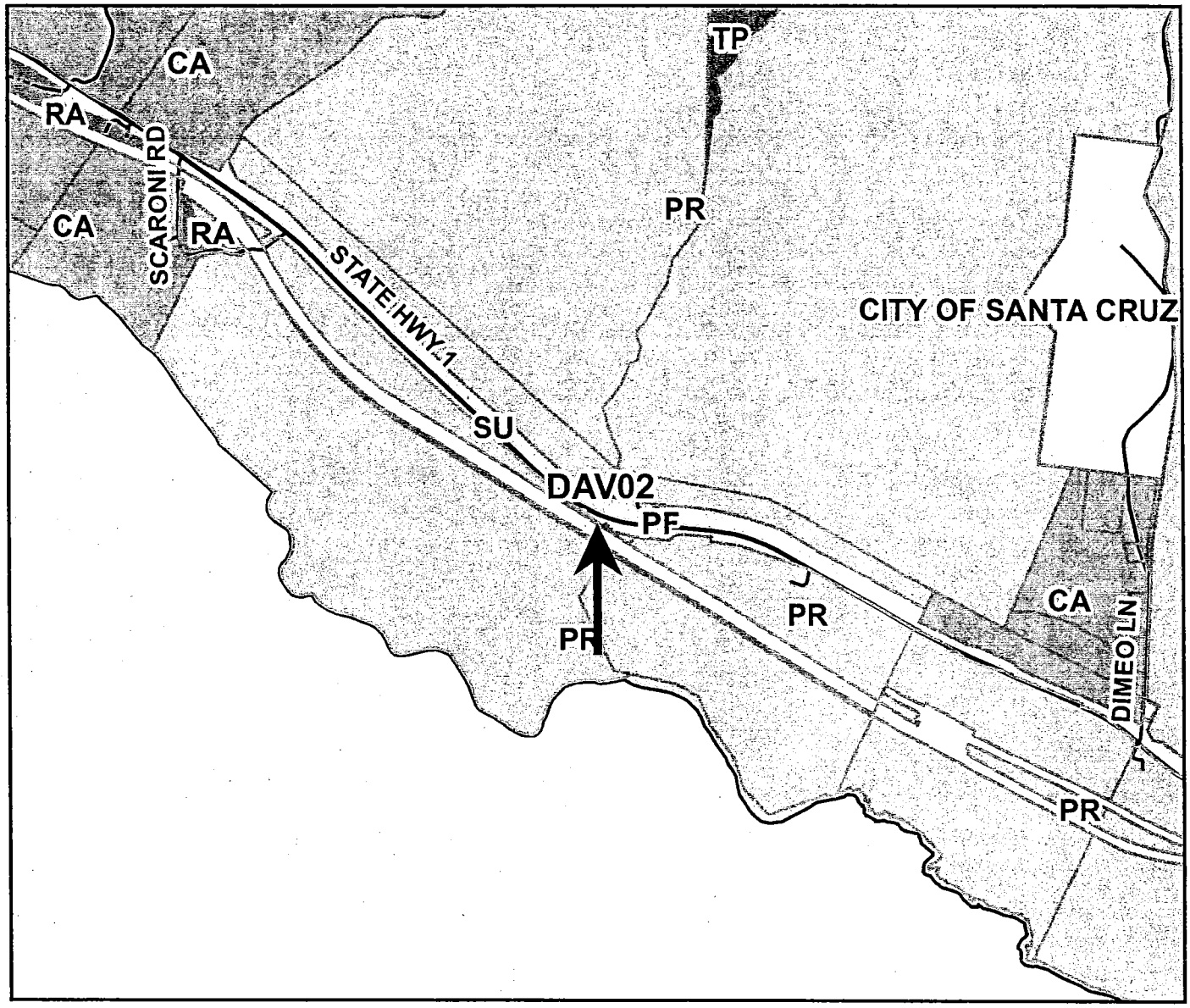
Map Created by
County of Santa Cruz
Planning Department
July 2011

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary
- SPECIAL USE
- PUBLIC FACILITY
- PARK
- AGRICULTURE COMMERCIAL
- AGRICULTURE RESIDENTIAL
- TIMBER PRODUCTION

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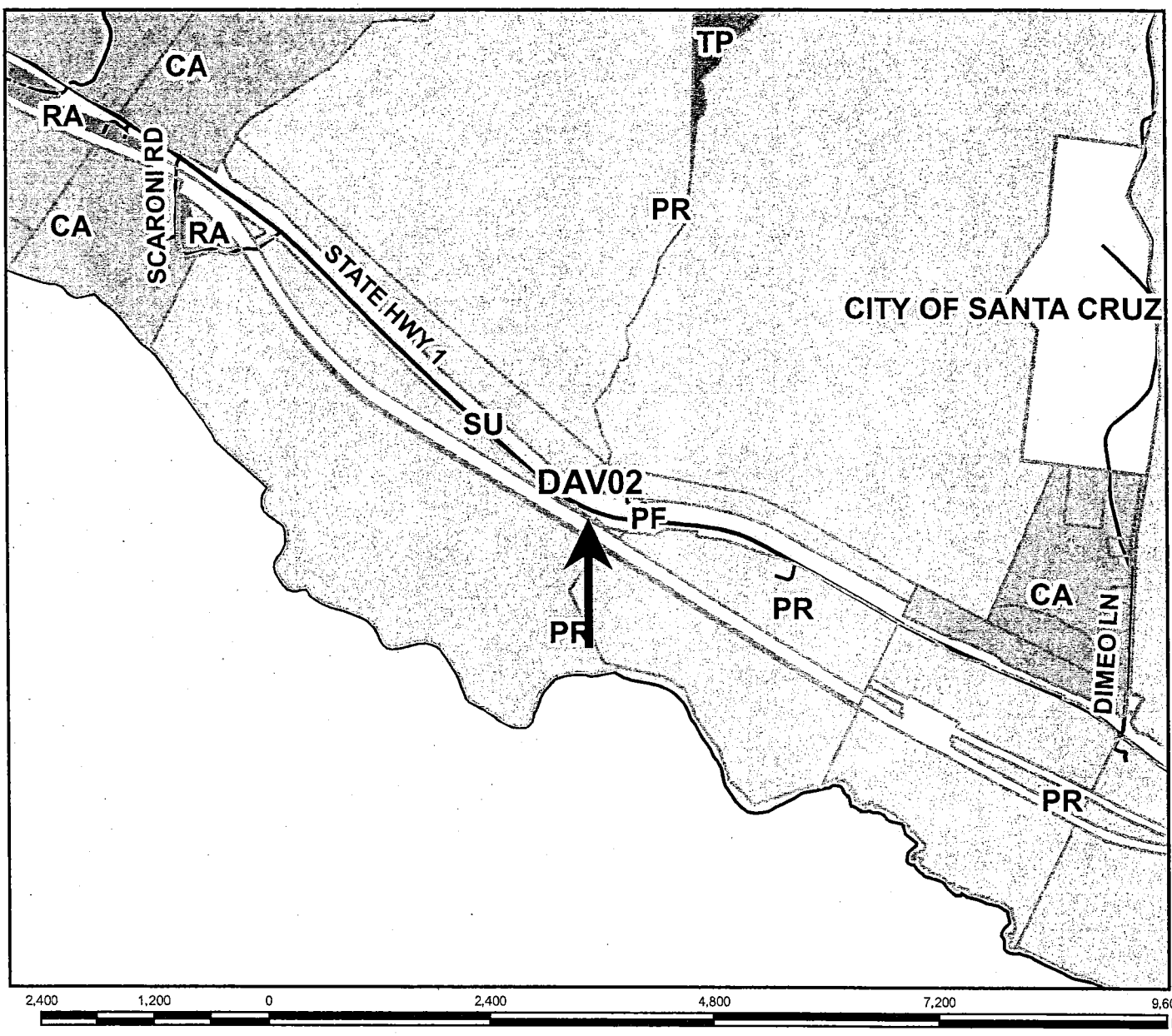
Map Created by
County of Santa Cruz
Planning Department
July 2011

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
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Map Created by
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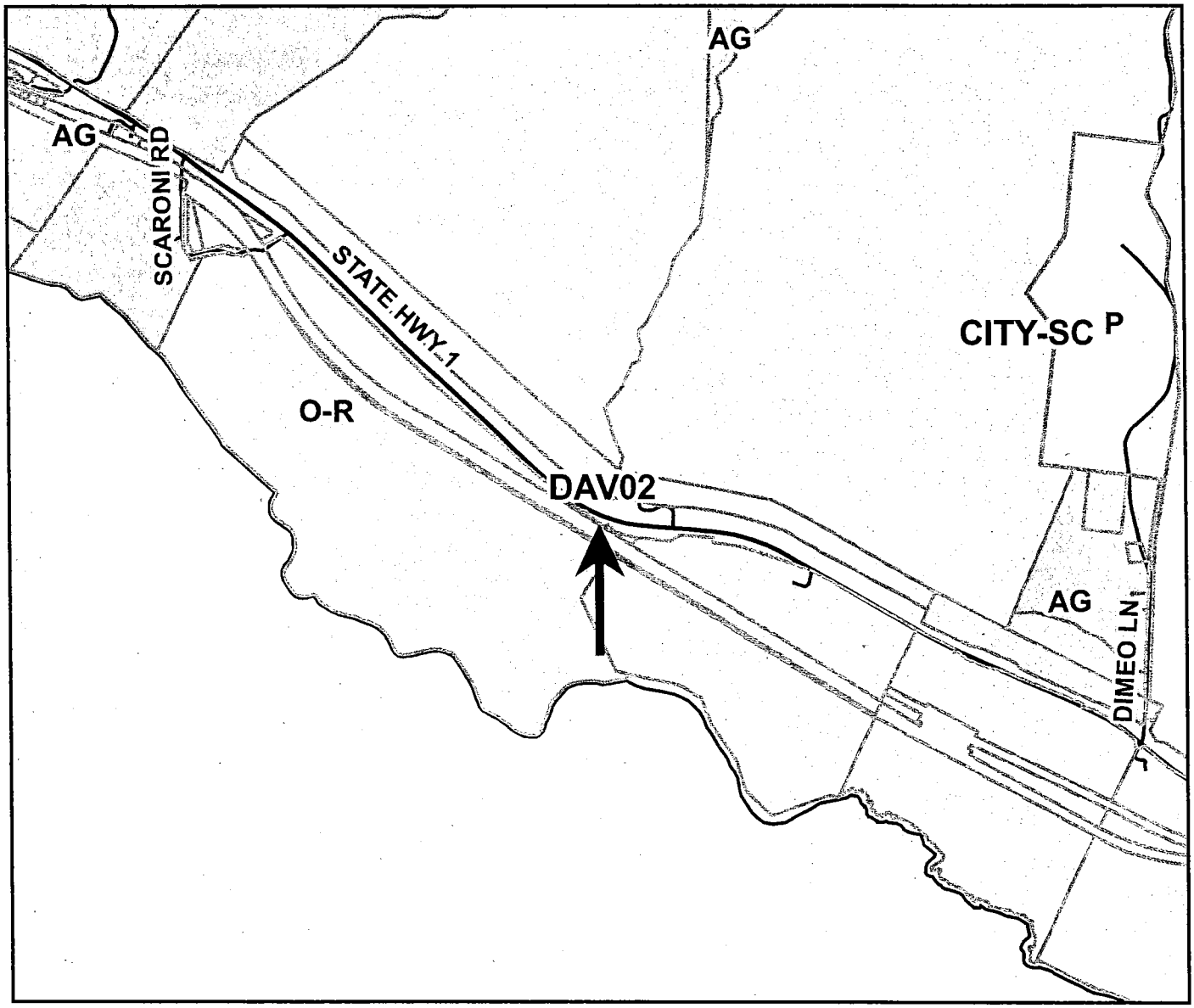
Planning Department
July 2011

ATTACHMENT 2 EXHIBIT E

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- Parks and Recreation
- Agriculture
- Public Facilites

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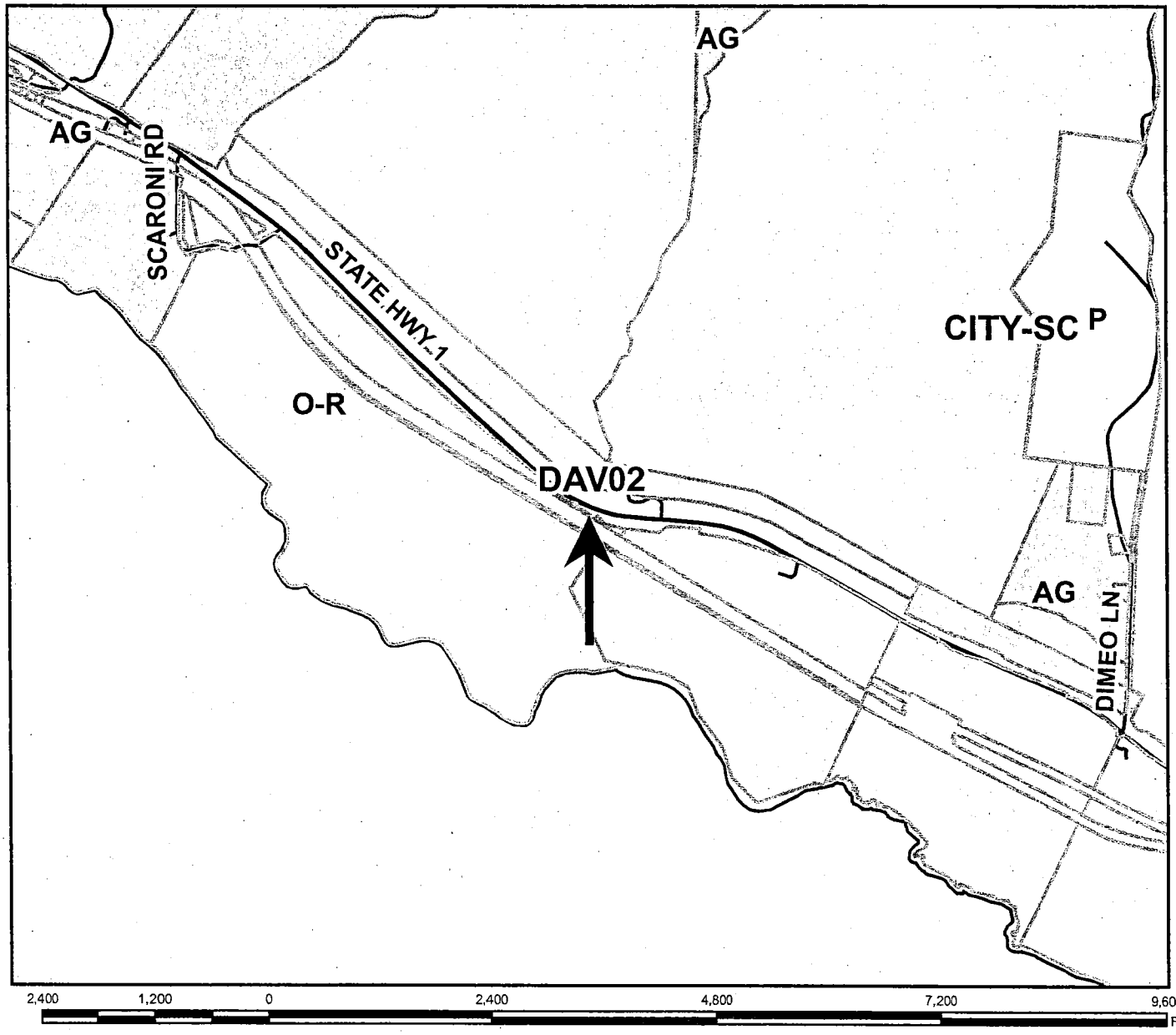
Map Created by
County of Santa Cruz
Planning Department
July 2011

EXHIBIT E

ATTACHMENT 2

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- Parks and Recreation
- Agriculture
- Public Facilites

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Map Created by
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July 2011

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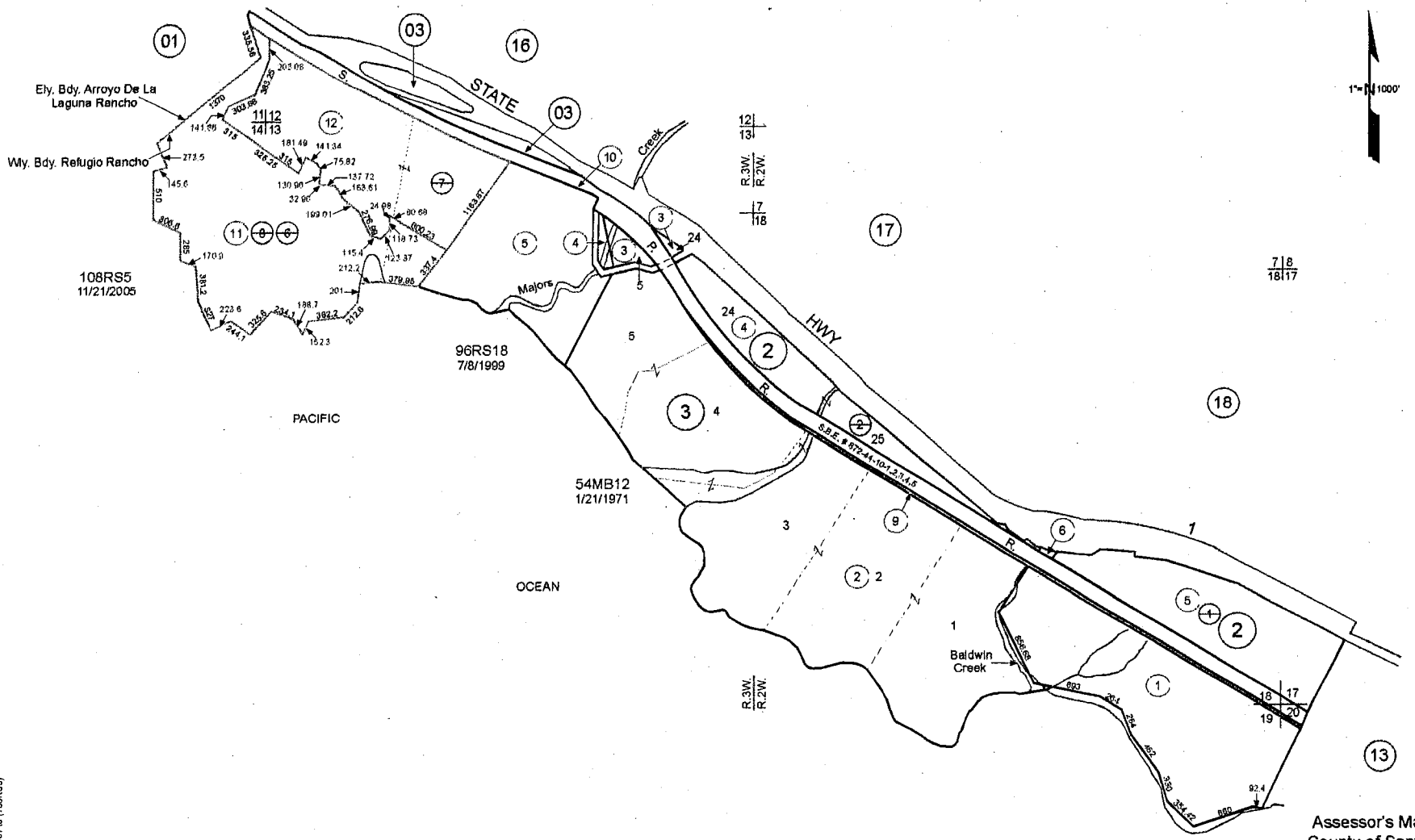

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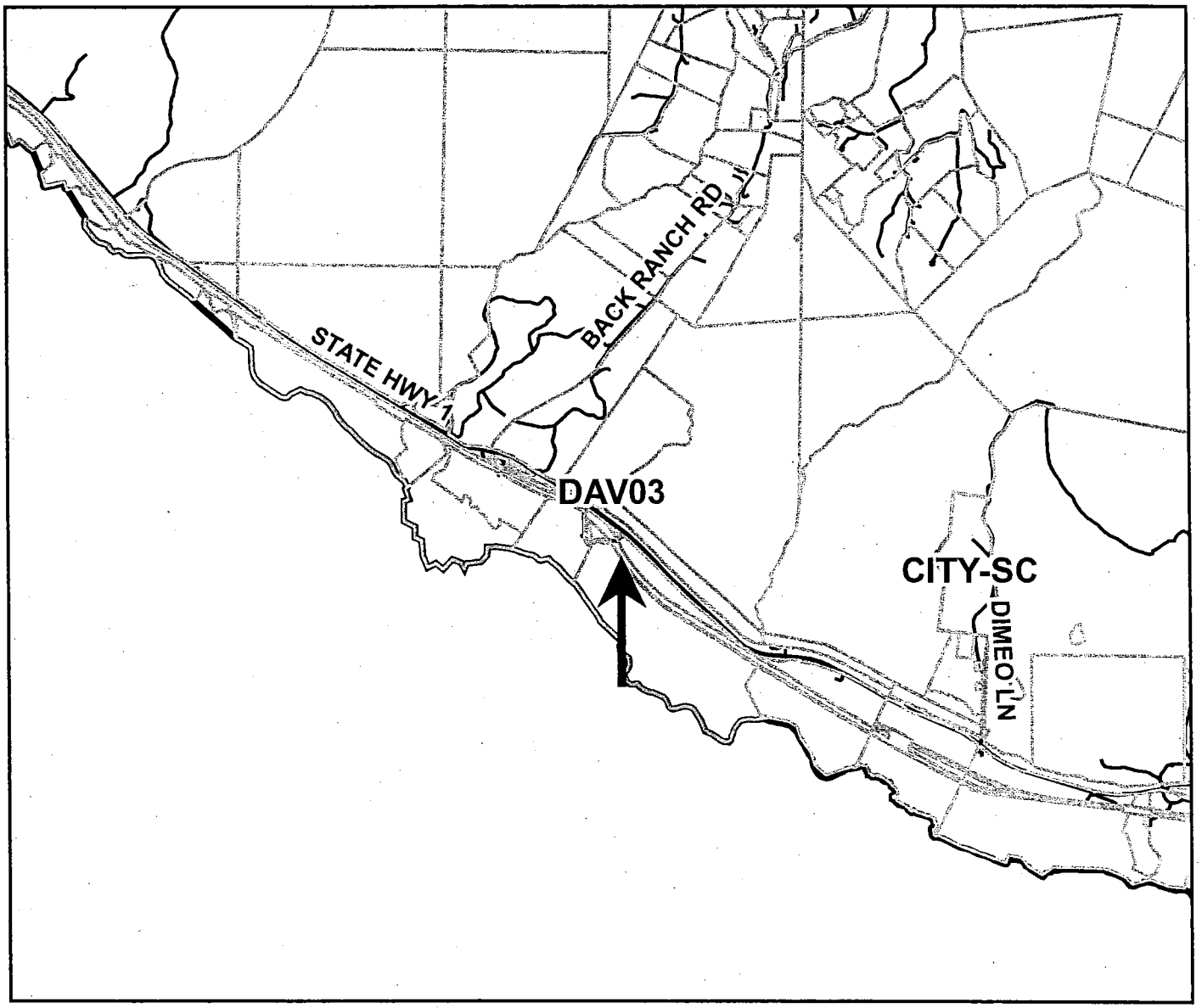
ATTACHMENT 2 EXHIBIT B

Location Map



5,700 2,850 0 5,700 11,400 17,100 22,800
Feet

LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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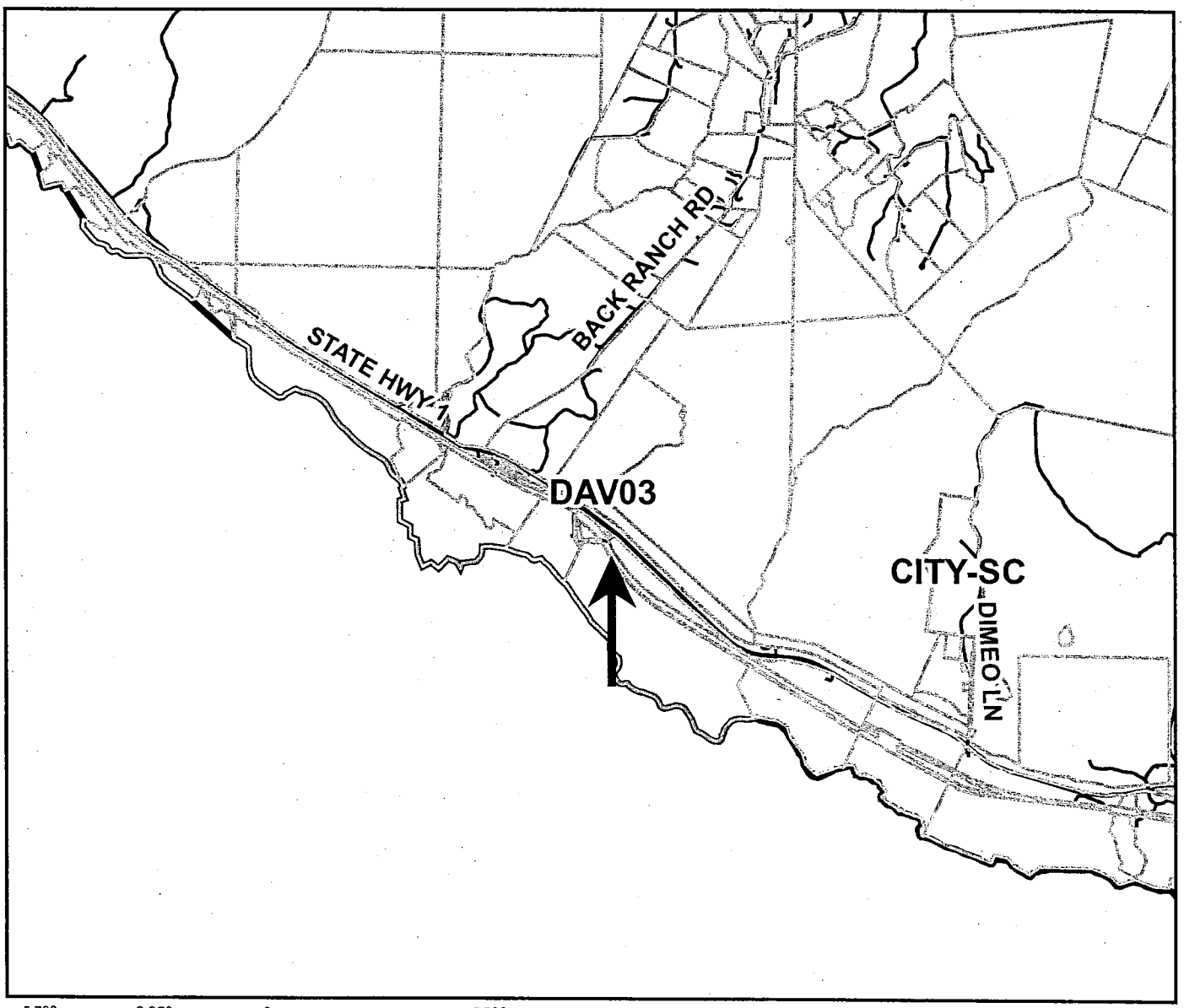
Planning Department
July 2011

ATTACHMENT 8 EXHIBIT E

Location Map



5,700 2,850 0 5,700 11,400 17,100 22,800 Feet

LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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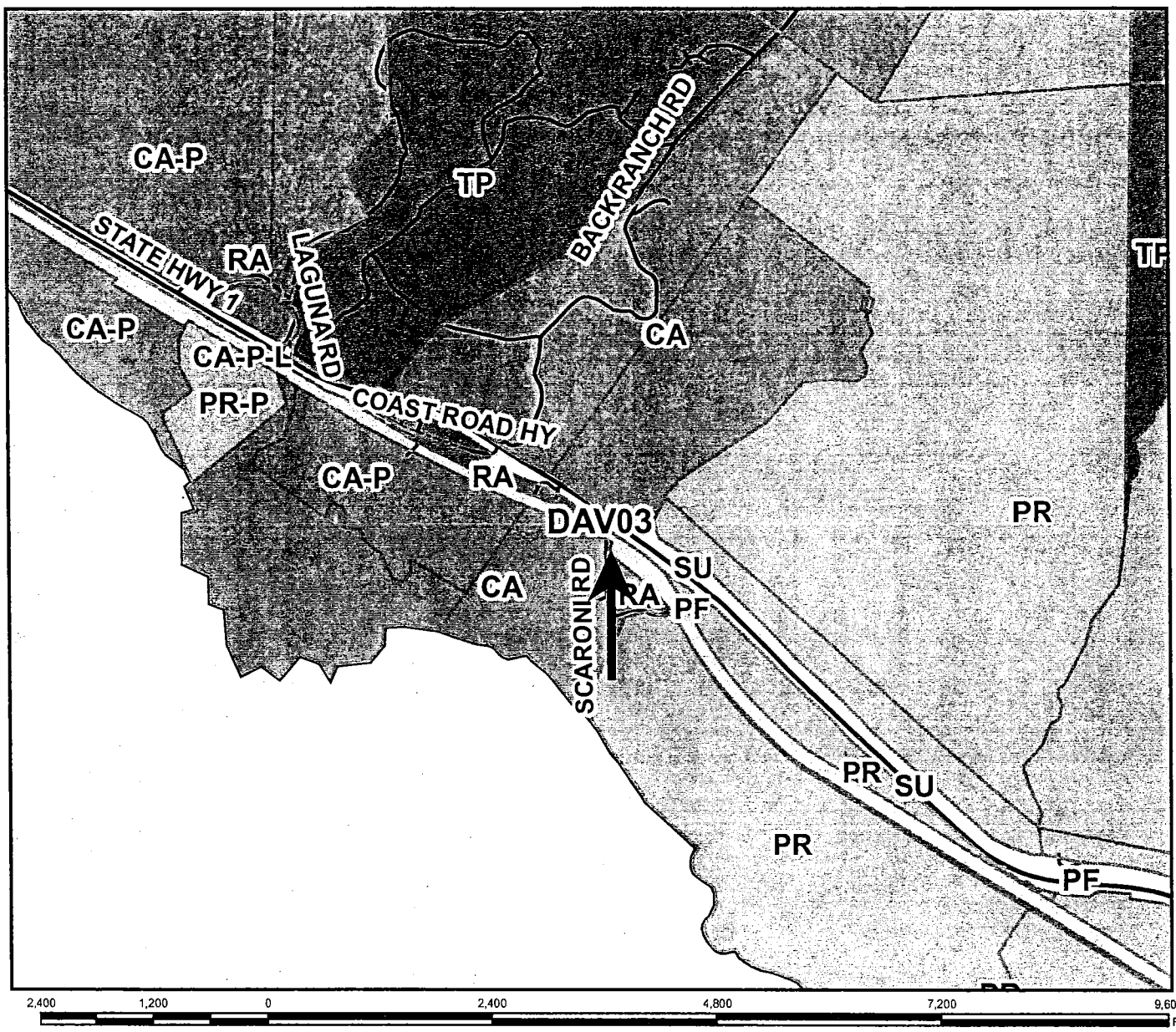
County of Santa Cruz
Planning Department
July 2011

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PUBLIC FACILITY
- PARK
- AGRICULTURE COMMERCIAL
- AGRICULTURE RESIDENTIAL
- TIMBER PRODUCTION

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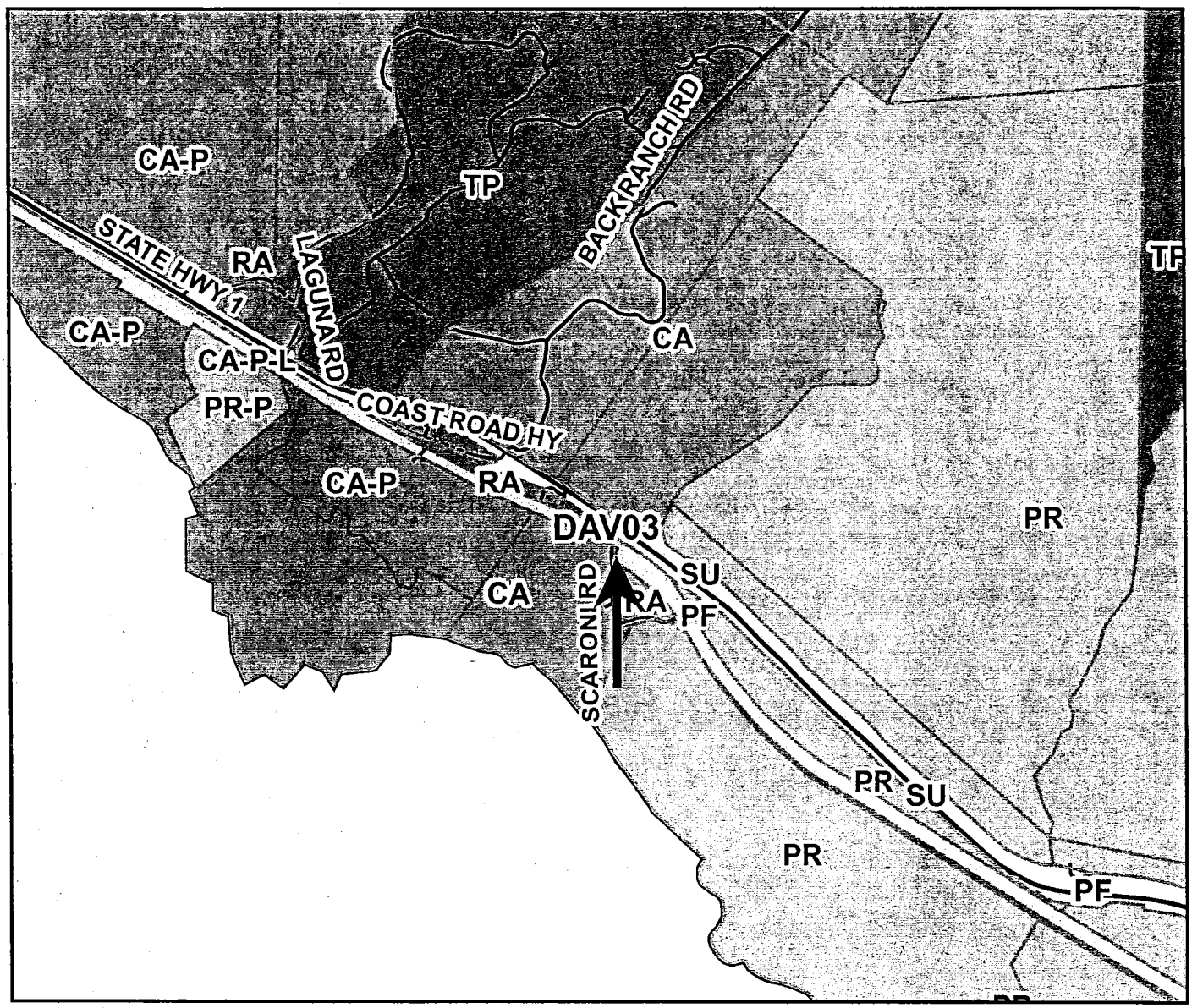
Planning Department
July 2011

ATTACHMENT 2

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
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- PARK
- AGRICULTURE COMMERCIAL
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- TIMBER PRODUCTION

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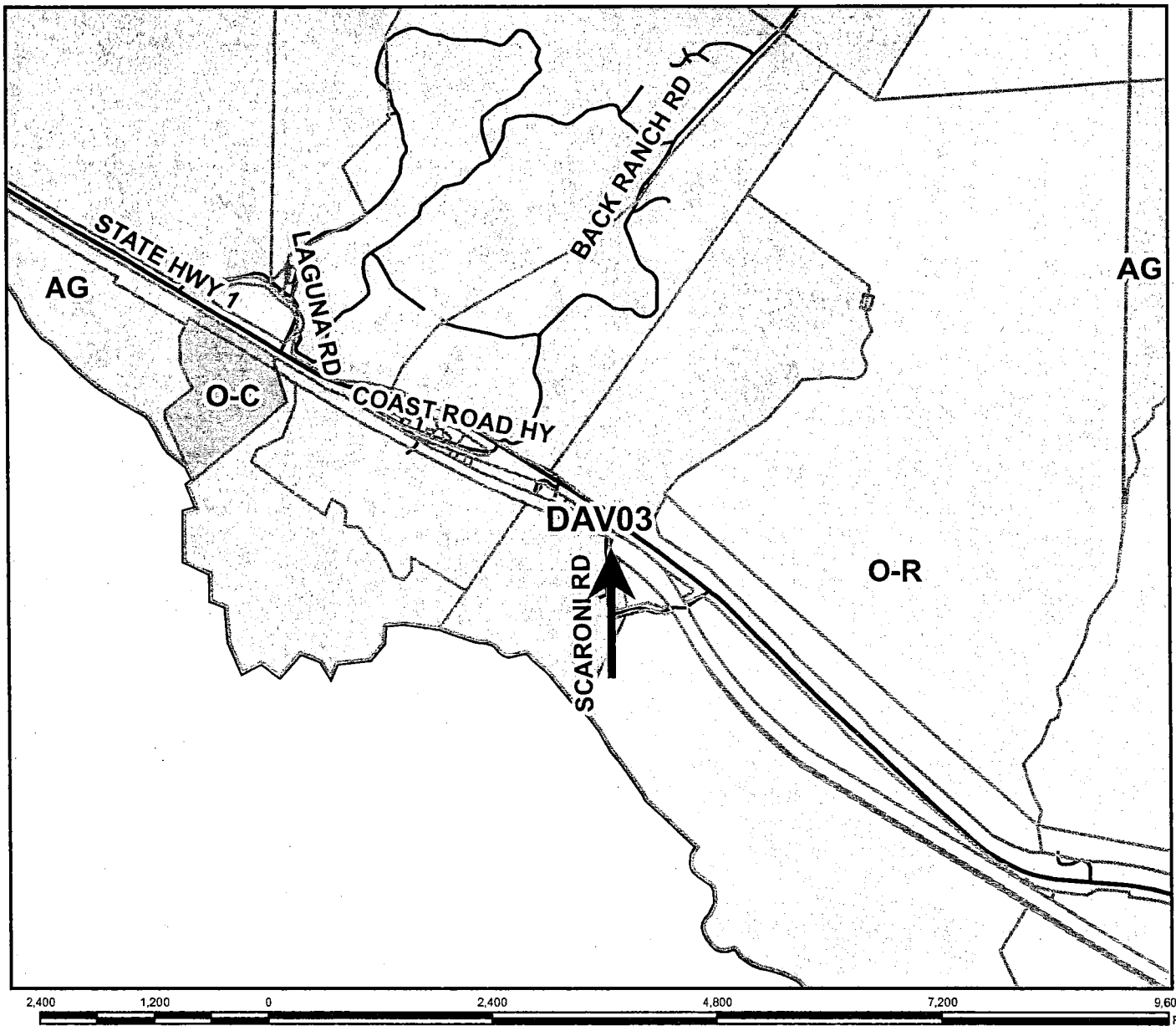
Map Created by
County of Santa Cruz
Planning Department
July 2011

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Parks and Recreation
- Agriculture
- Resource Conservation

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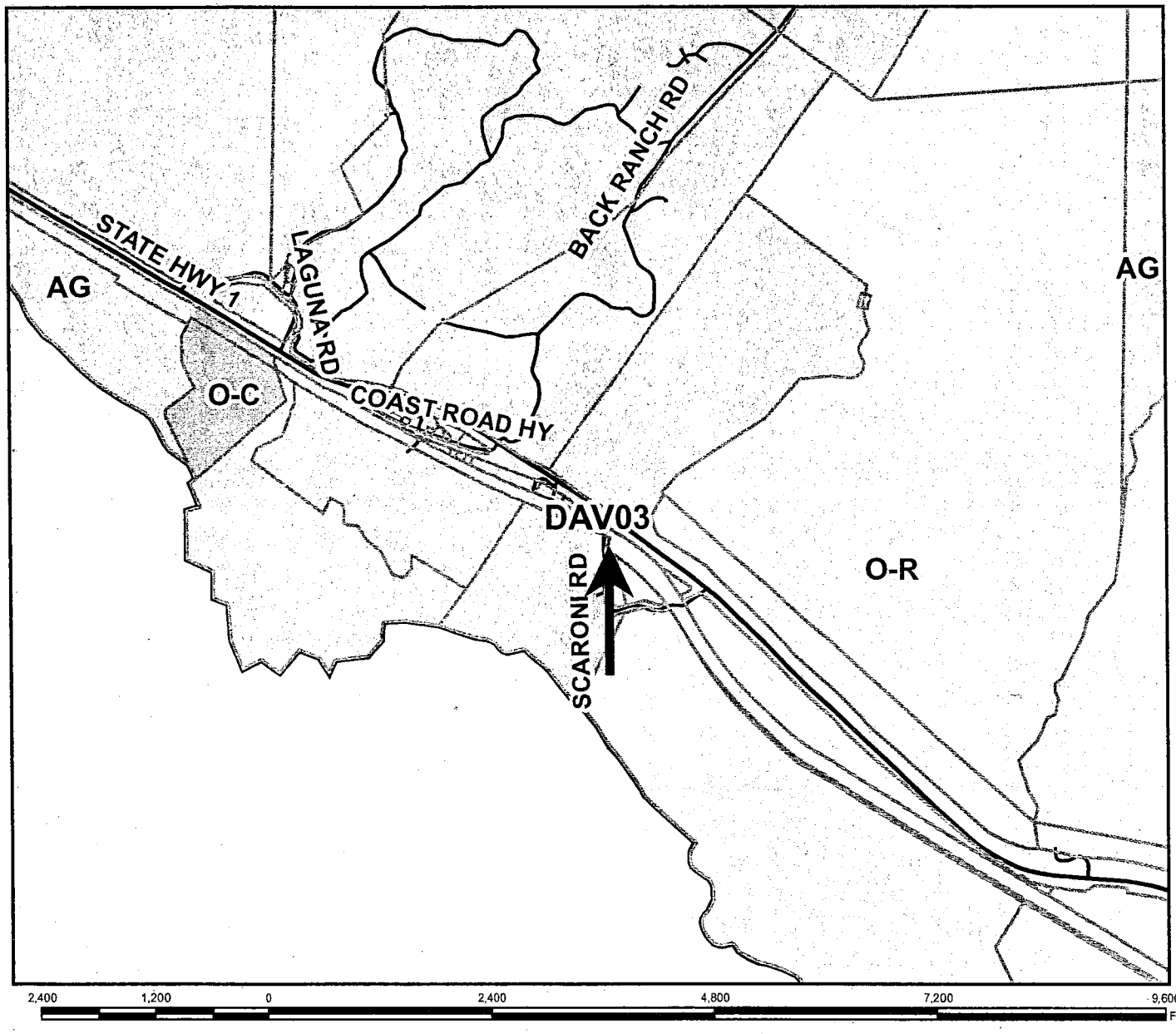
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 8

EXHIBIT B

General Plan Designation Map



LEGEND

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- Agriculture
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Map Created by
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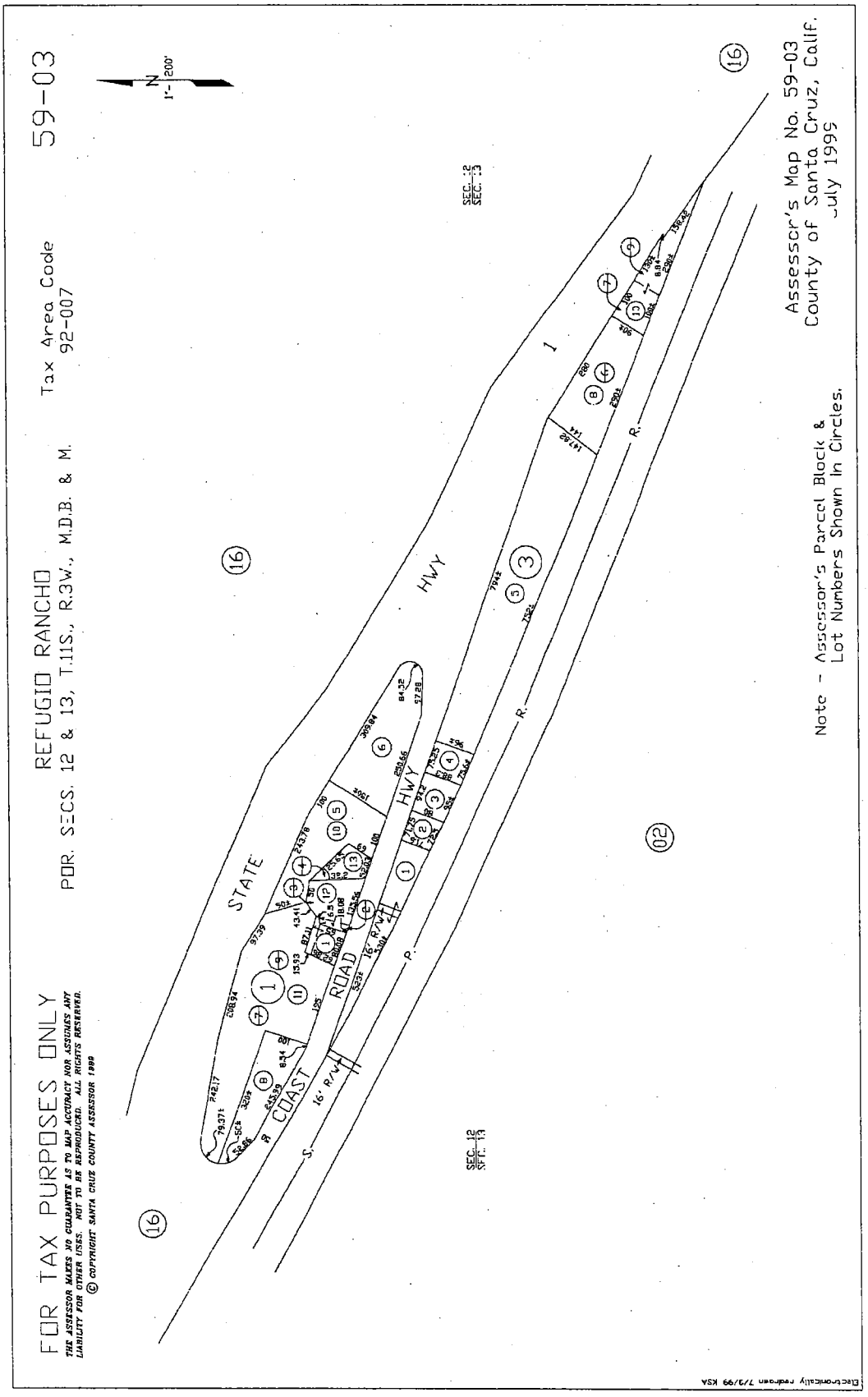
July 2011

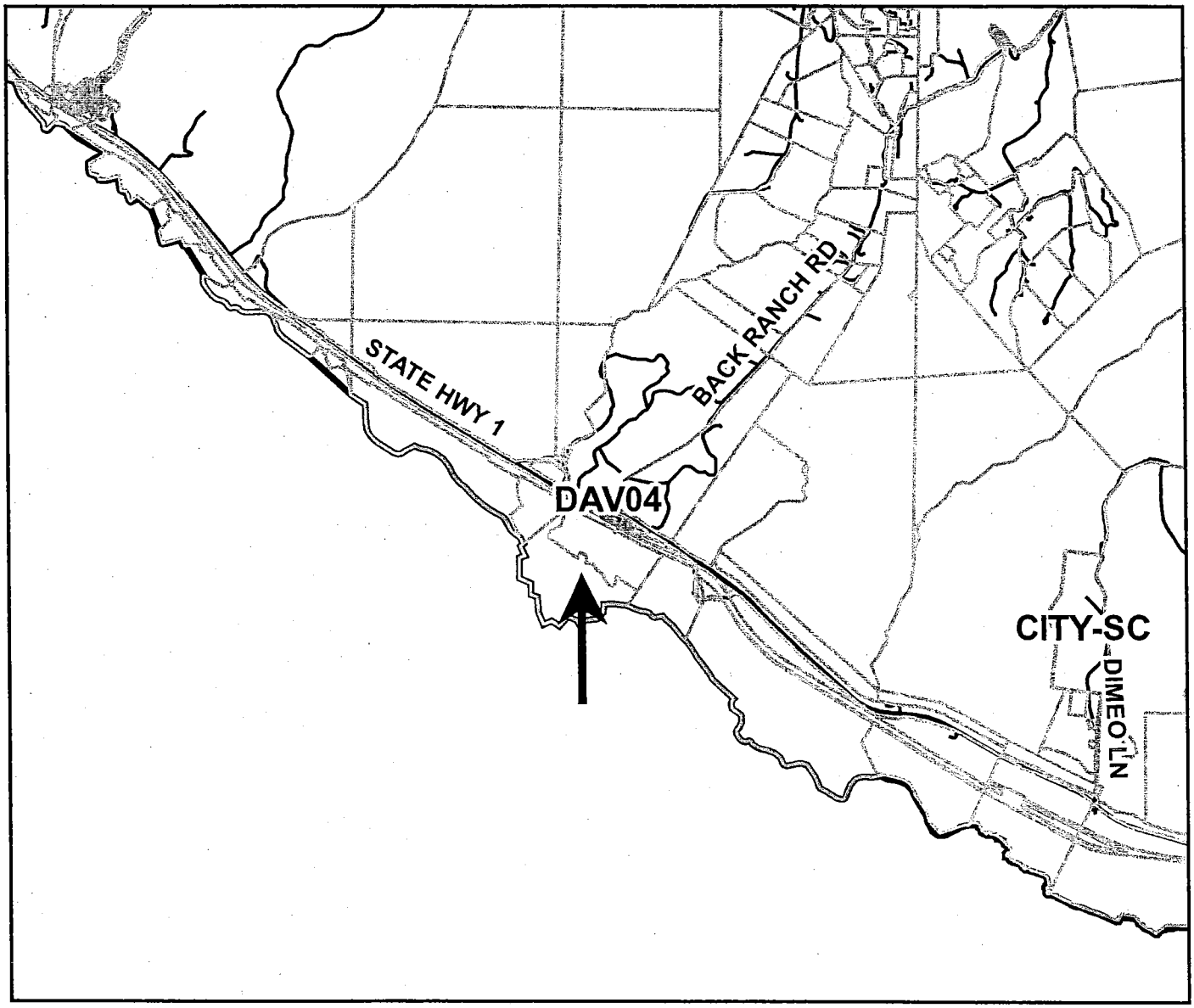
ATTACHMENT 2

EXHIBIT E



ATTACHMENT 2
EXHIBIT E

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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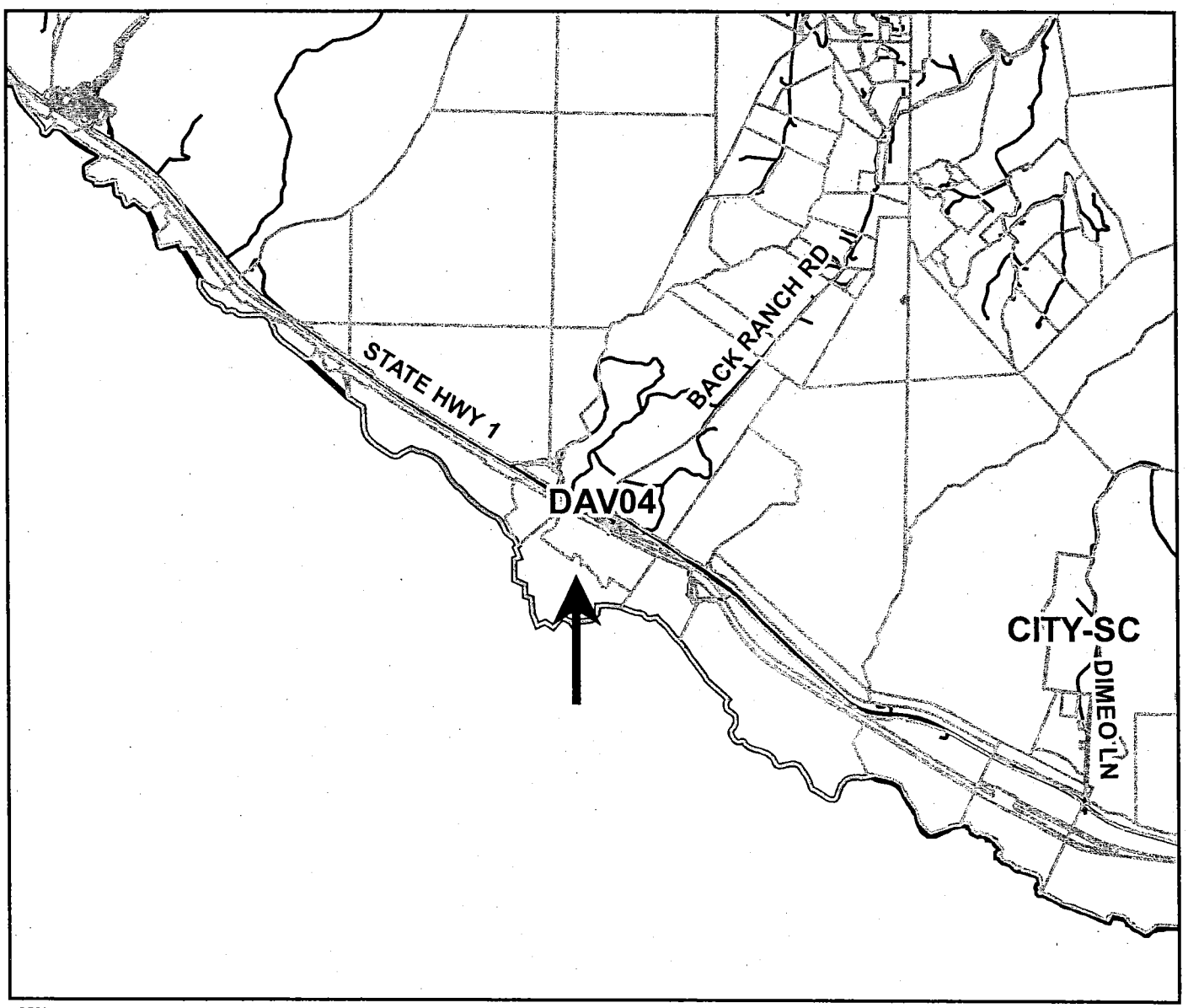
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2 EXHIBIT E

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- SANTA CRUZ
- County Boundary

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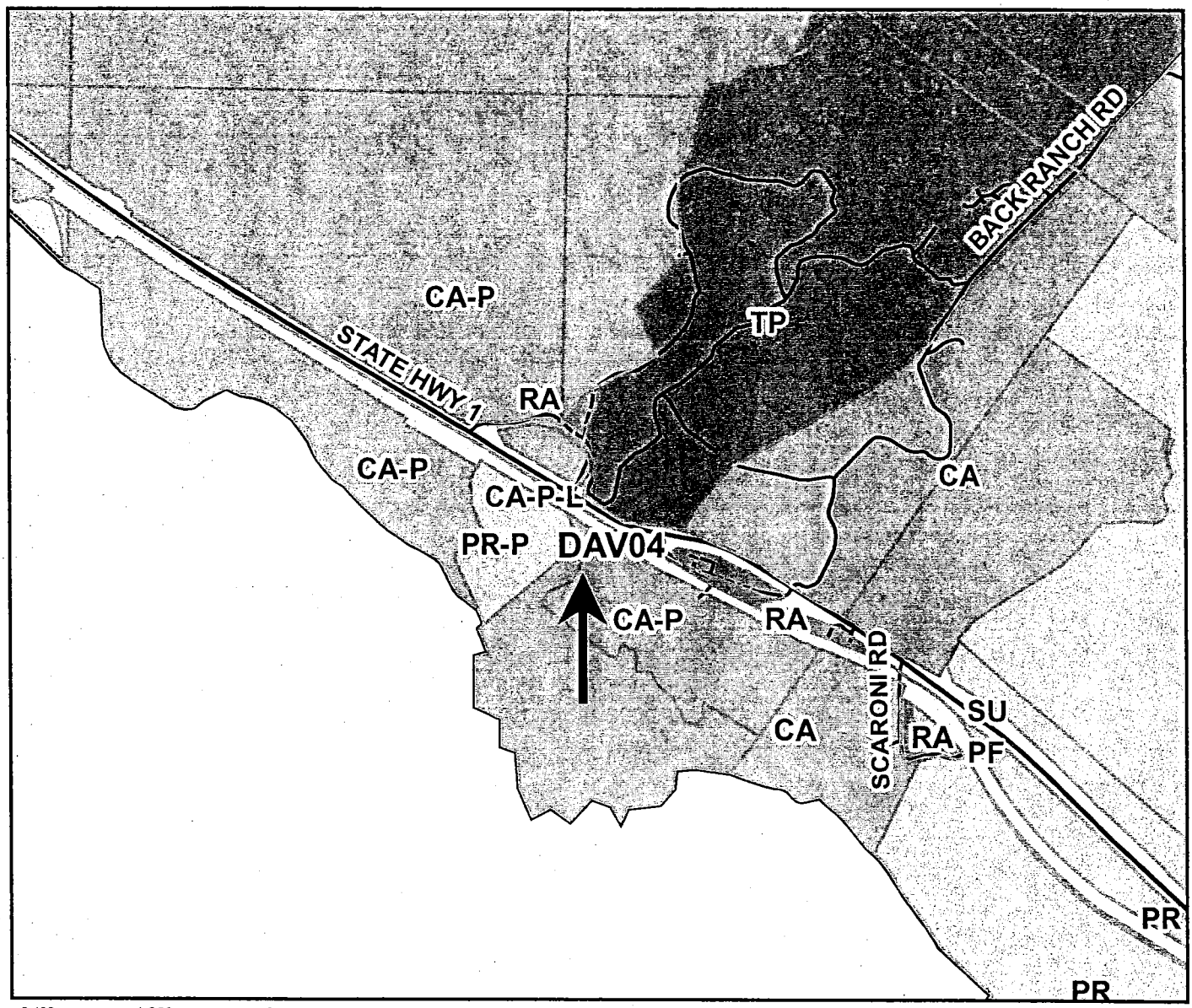
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 3 EXHIBIT E

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PUBLIC FACILITY
- AGRICULTURE COMMERCIAL
- AGRICULTURE RESIDENTIAL
- PARK
- TIMBER PRODUCTION

N
W E
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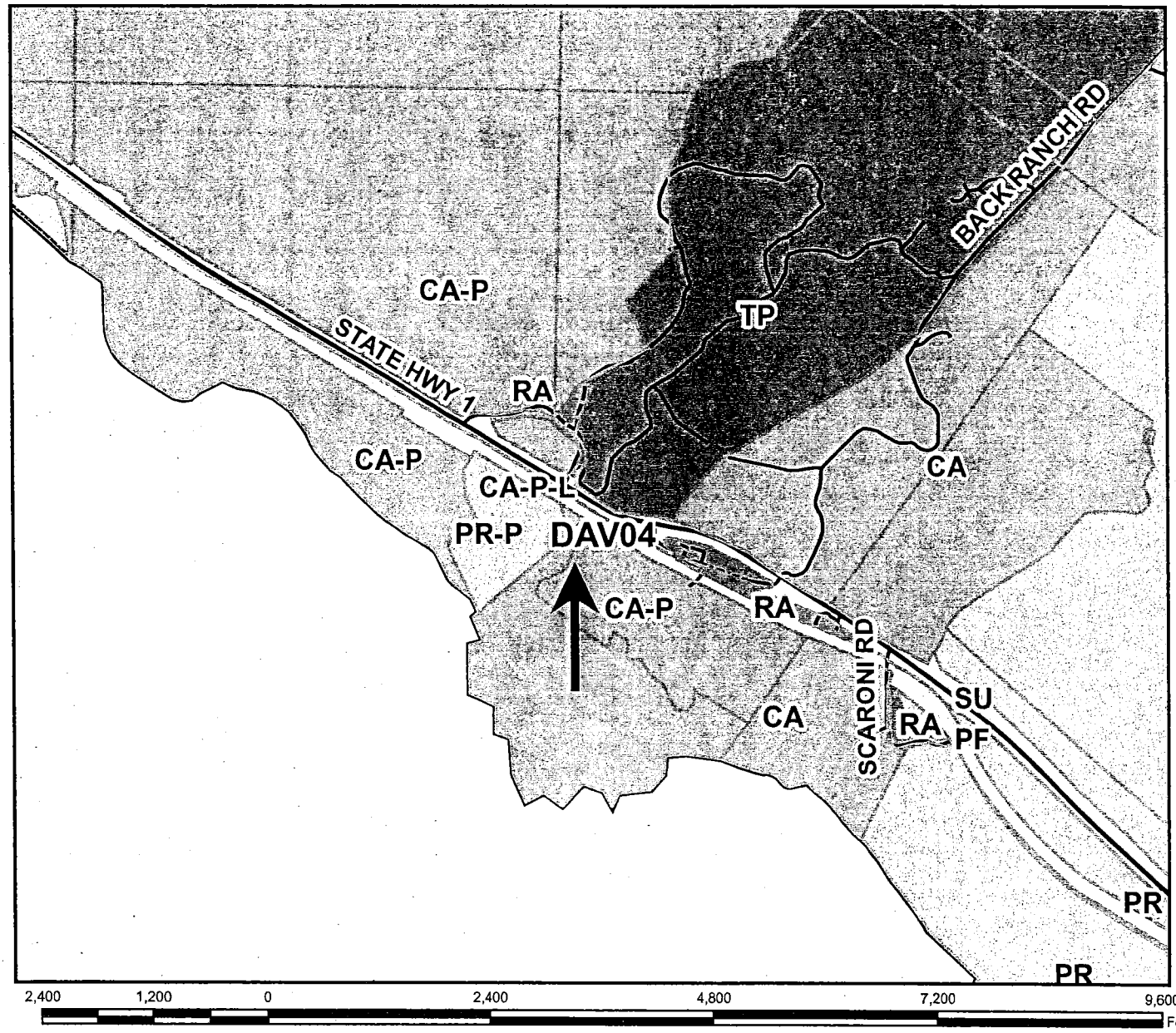
Map Created by
County of Santa Cruz
Planning Department
July 2011

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PUBLIC FACILITY
- AGRICULTURE COMMERCIAL
- AGRICULTURE RESIDENTIAL
- PARK
- TIMBER PRODUCTION

N
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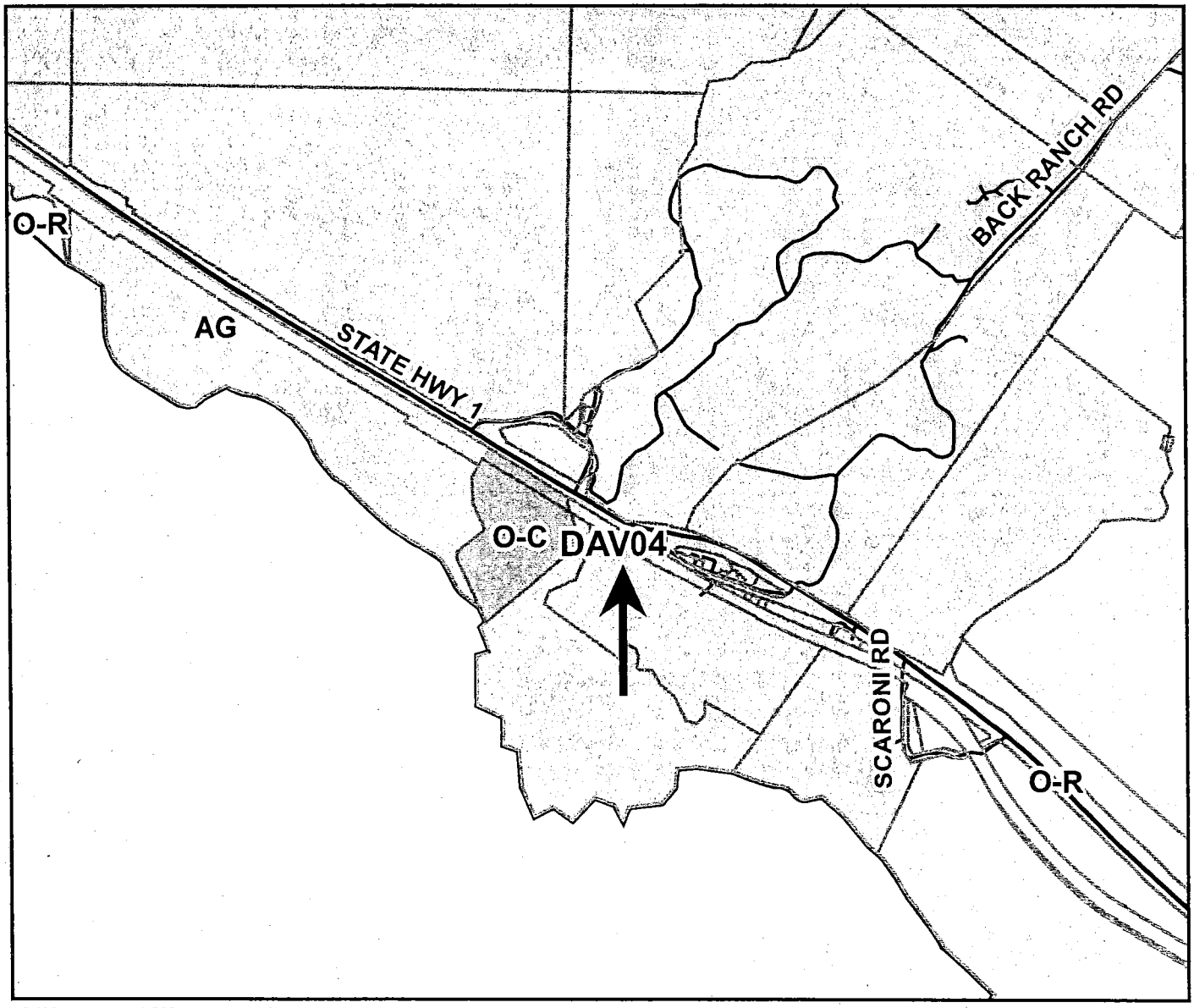
Map Created by
County of Santa Cruz
Planning Department
July 2011

General Plan Designation Map



2,400 1,200 0 2,400 4,800 7,200 9,600 Feet

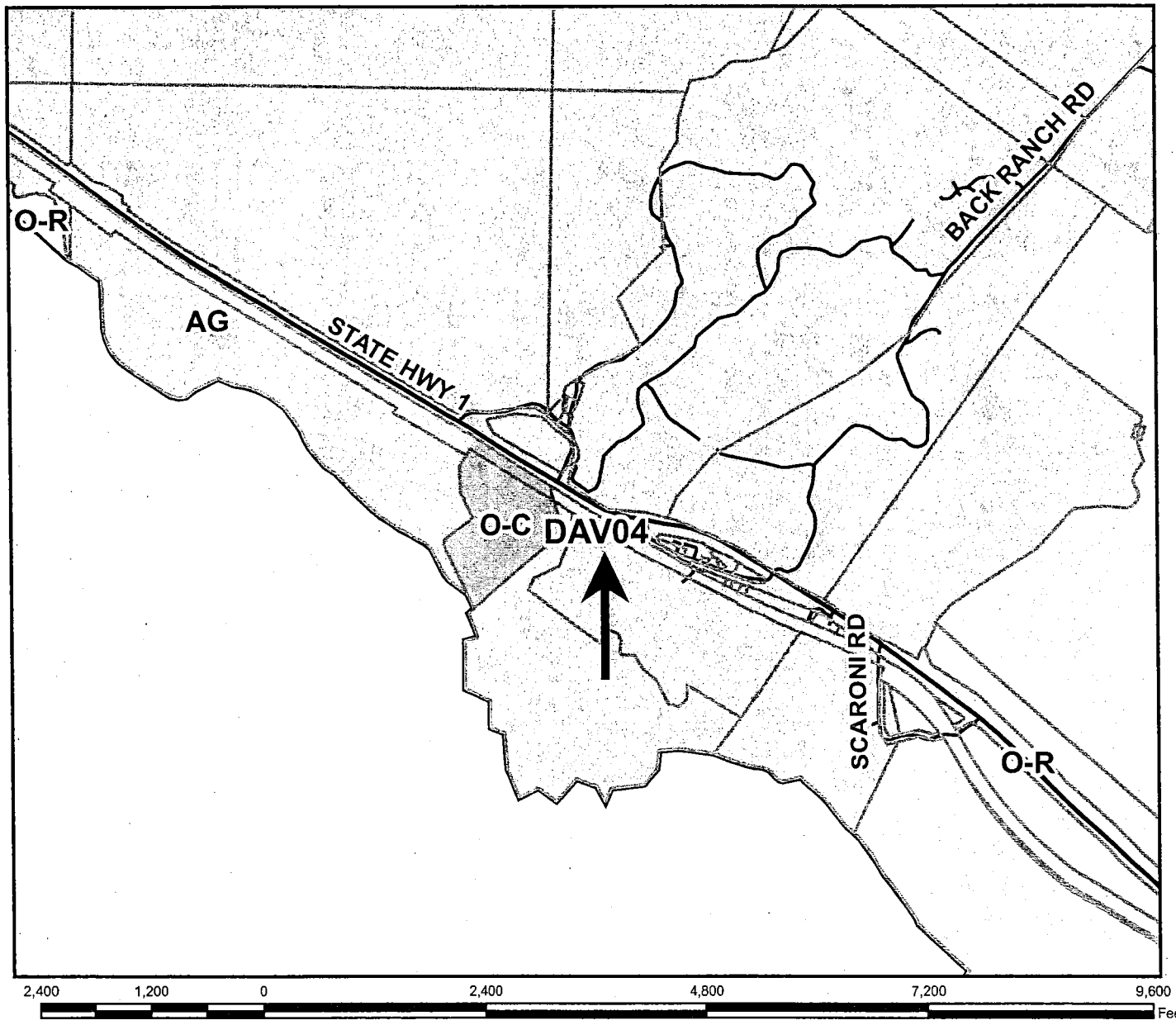
LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Parks and Recreation
- Agriculture
- Resource Conservation

N W E S

Map Created by
County of Santa Cruz
Planning Department
July 2011

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Parks and Recreation
- Agriculture
- Resource Conservation

N
W E
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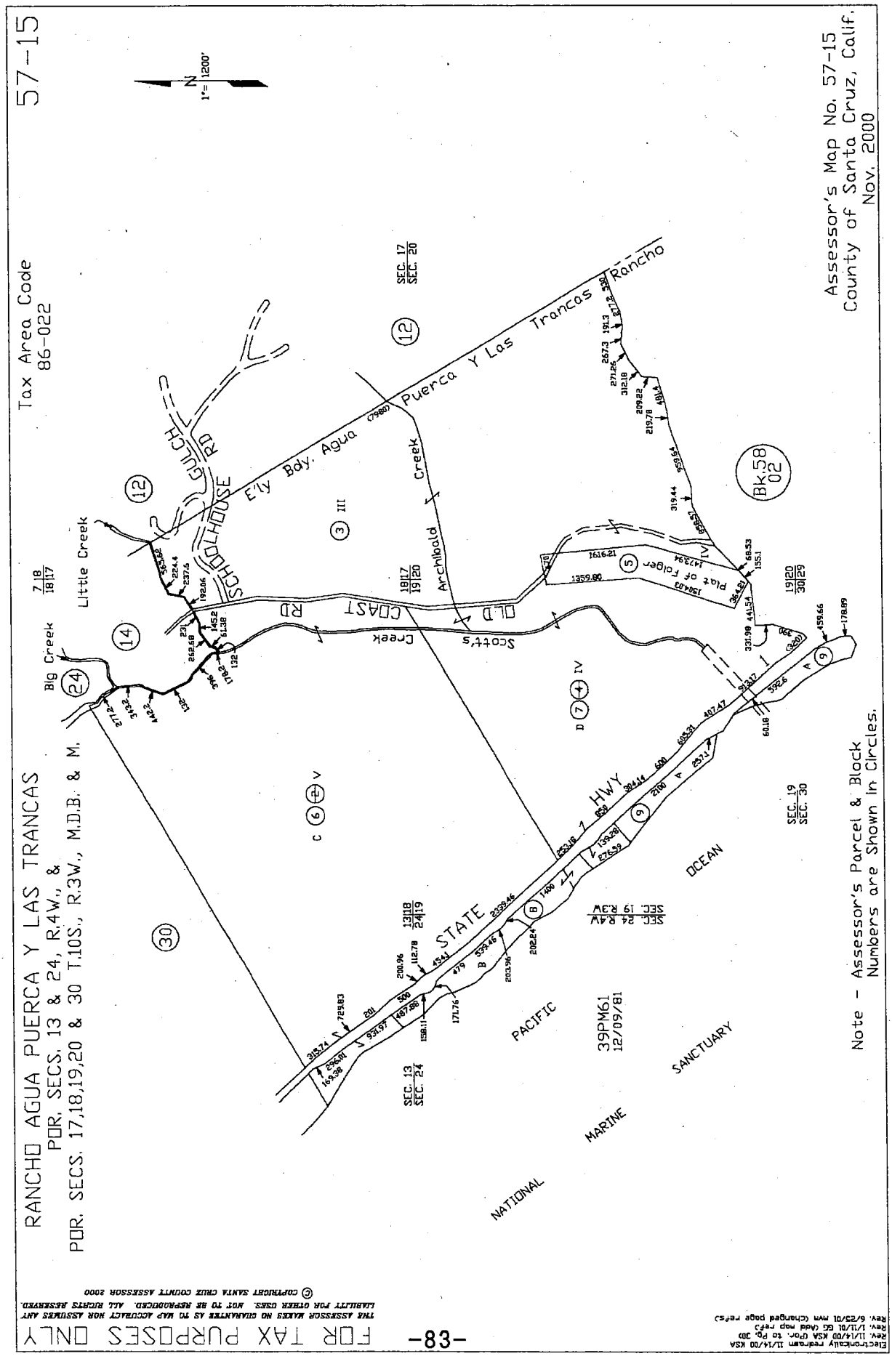
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2 EXHIBIT E



Electronically redrawn 11/14/00 KSA
Rev. 11/14/00 KSA (Por. to Po. 30)
Rev. 1/11/01 GG (Add map refs)
Rev. 6/25/01 mm (Changed page refs)

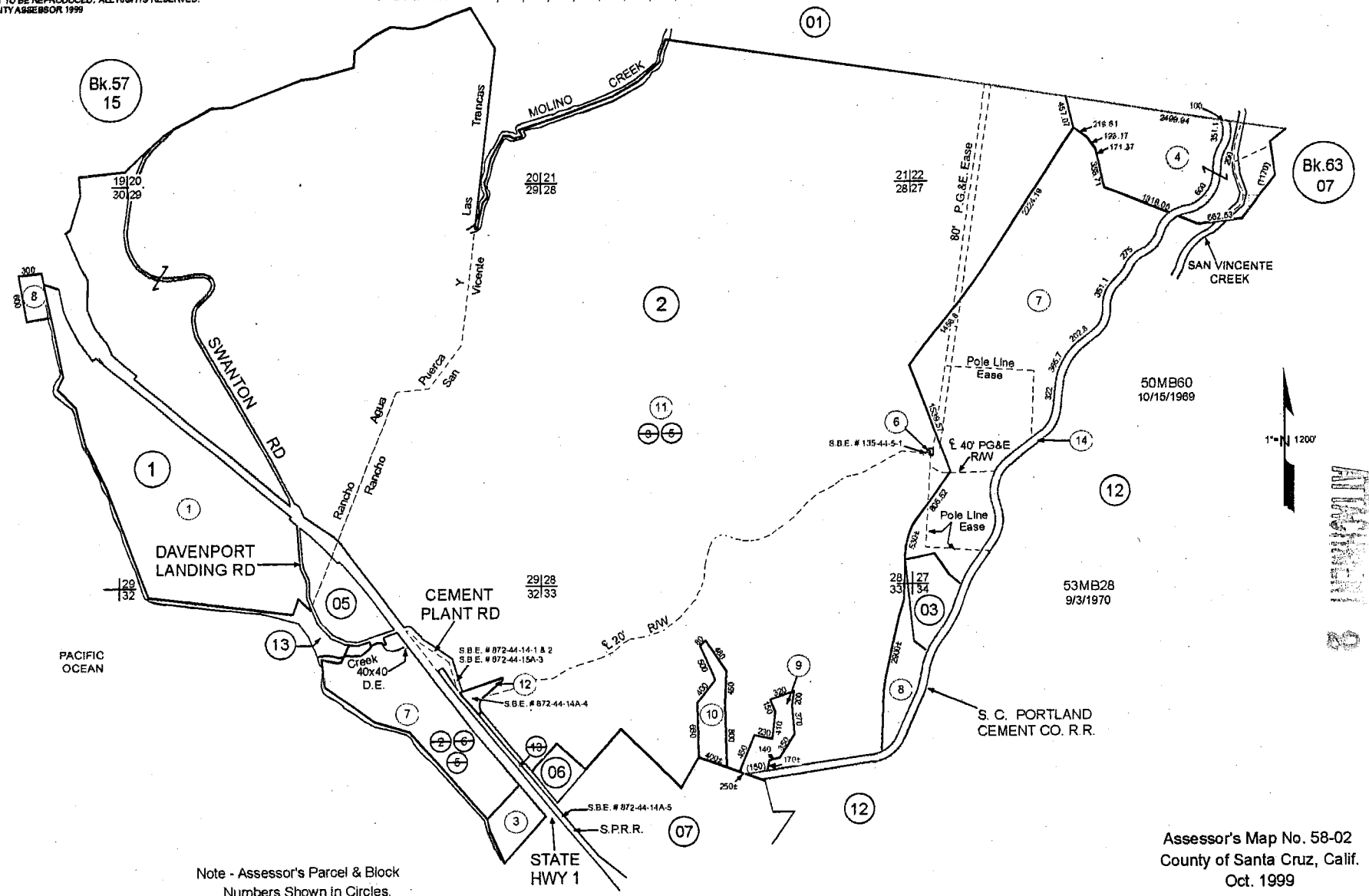
FOR TAX PURPOSES ONLY

POR. RANCHO PUERCA Y LAS TRANCAS & RANCHO SAN VICENTE

POR. SEC. 19,20,21,22,27,28,29,30,32 & 33 T.10S., R.3W., M.D.B. & M.

Tax Area Code
86-022

58-02

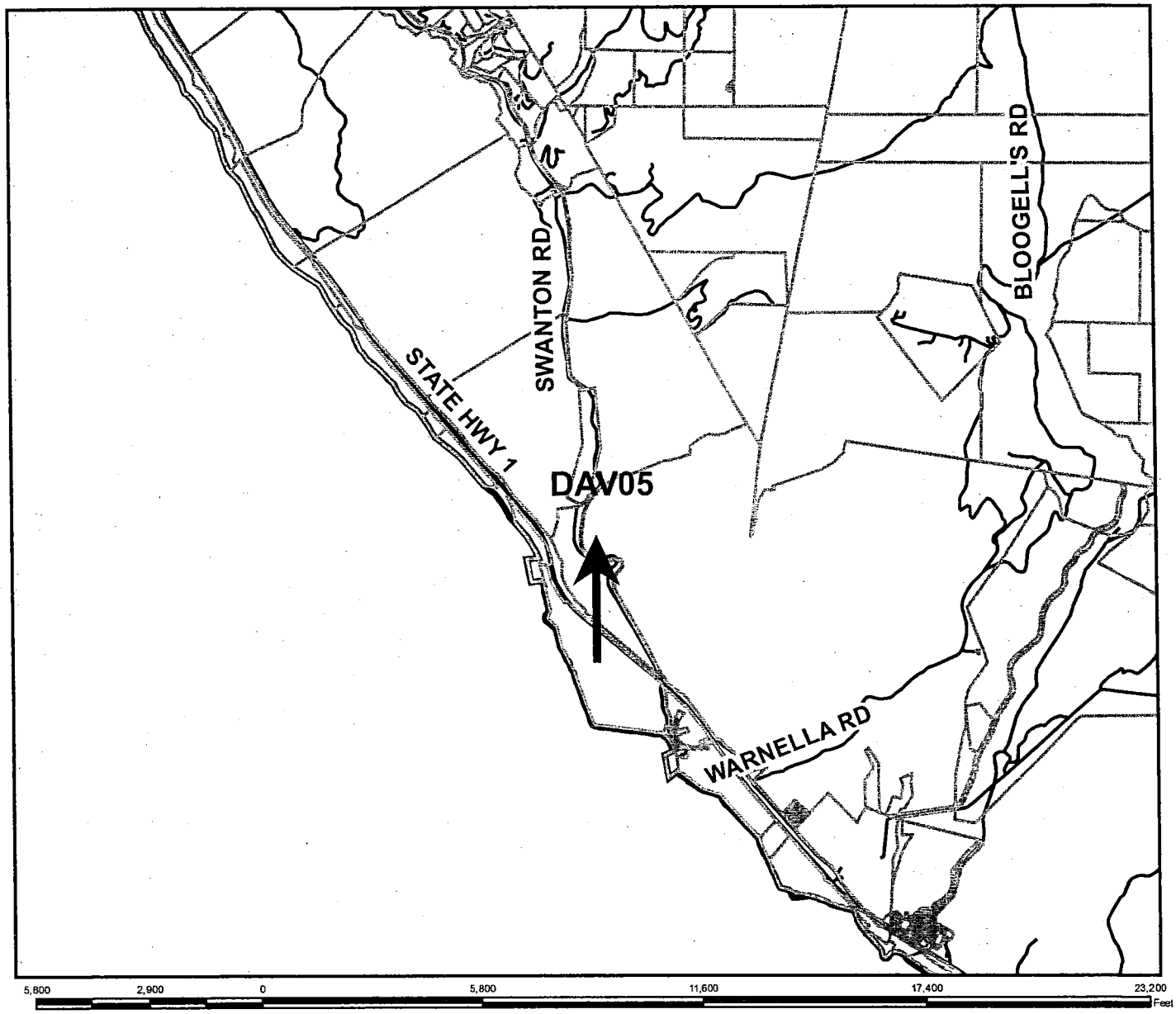


Note - Assessor's Parcel & Block Numbers Shown in Circles.

Assessor's Map No. 58-02
County of Santa Cruz, Calif.
Oct. 1999

Electronically redrawn 10/19/99 KSA
Rev. 3/3/00 GG (Add link to 2-11)
Rev. 6/2001 mvm (changed page refs.)
Rev 4/1/11 CB (Cor pg ref from 4 to 5)

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary

N
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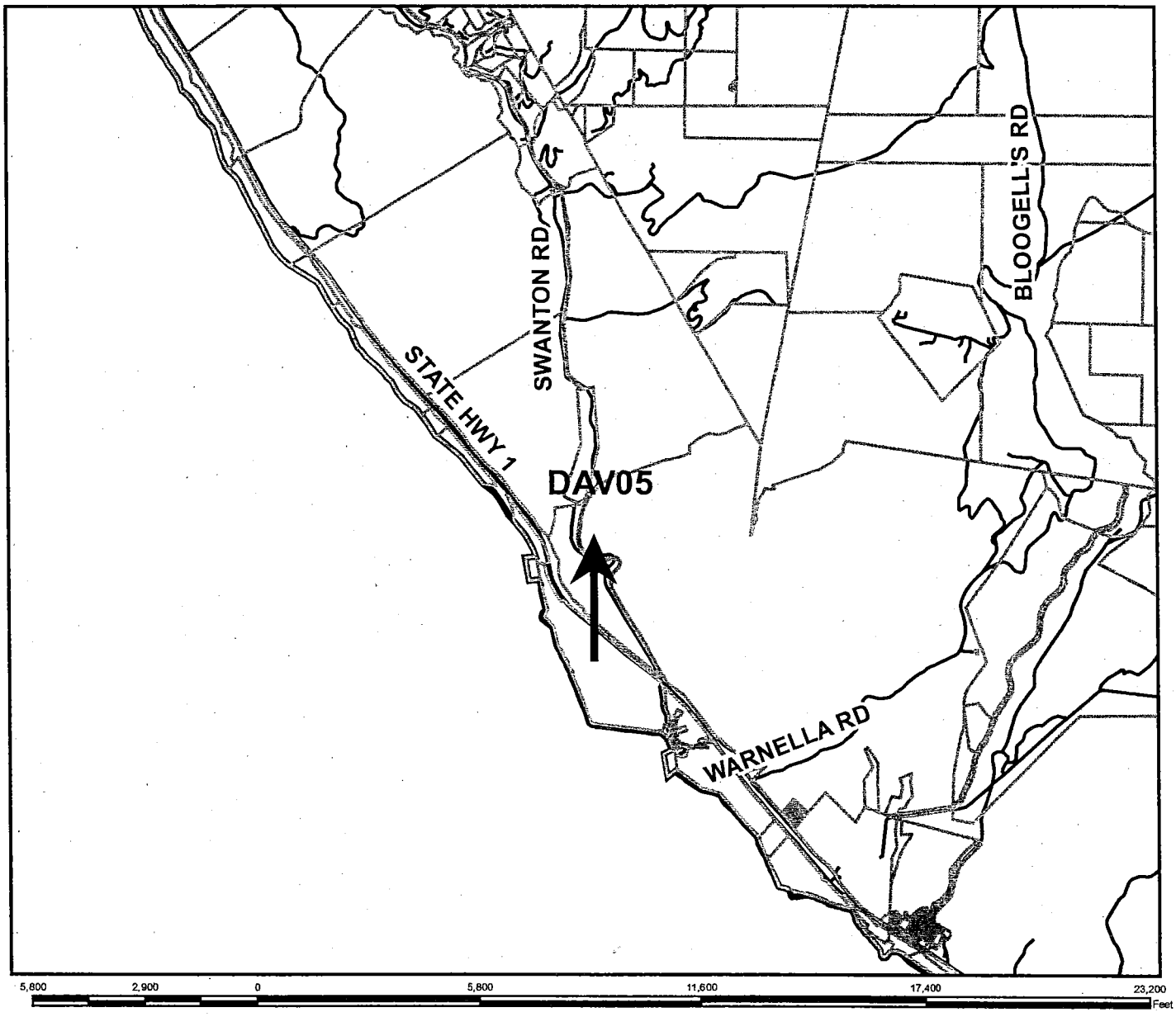
Map Created by
County of Santa Cruz
Planning Department
July 2011

Location Map



LEGEND

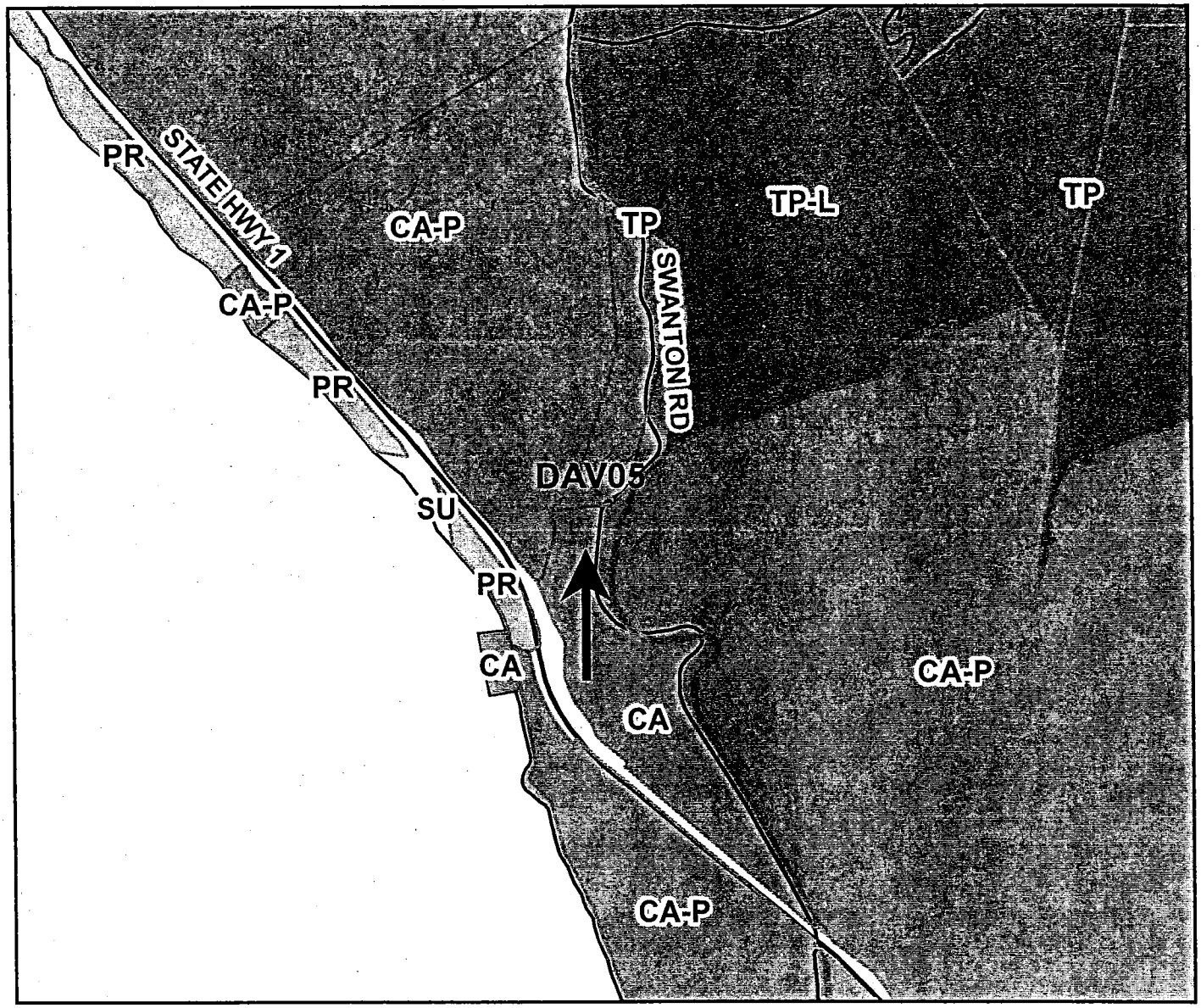
- Assessors Parcels
- Streets
- State Highways
- County Boundary

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2 EXHIBIT K

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PARK
- AGRICULTURE COMMERCIAL
- TIMBER PRODUCTION

N
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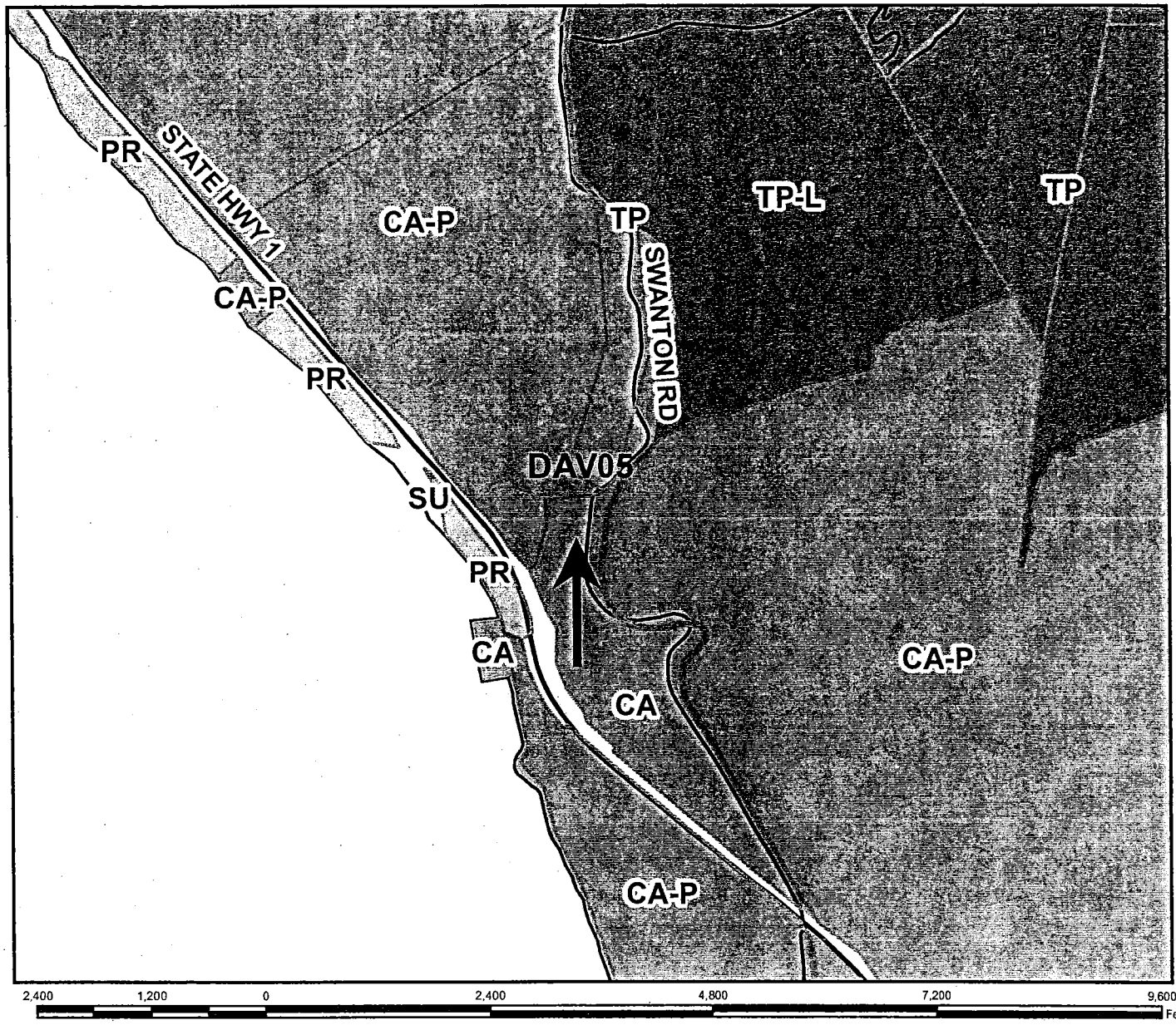
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PARK
- AGRICULTURE COMMERCIAL
- TIMBER PRODUCTION

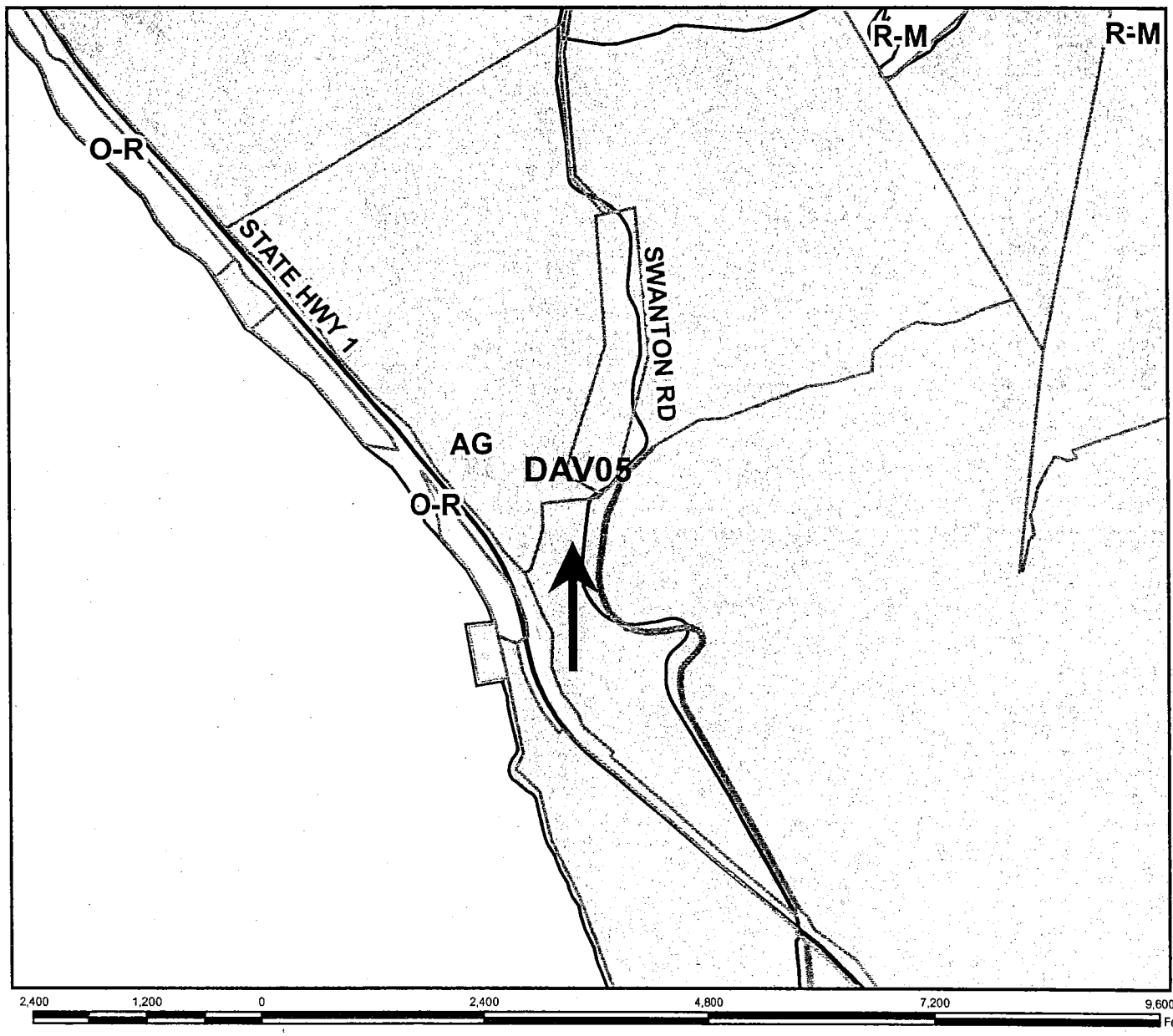
N
W E
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

EXHIBIT B

ATTACHMENT 2

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Agriculture
- Parks and Recreation
- Residential-Mountain

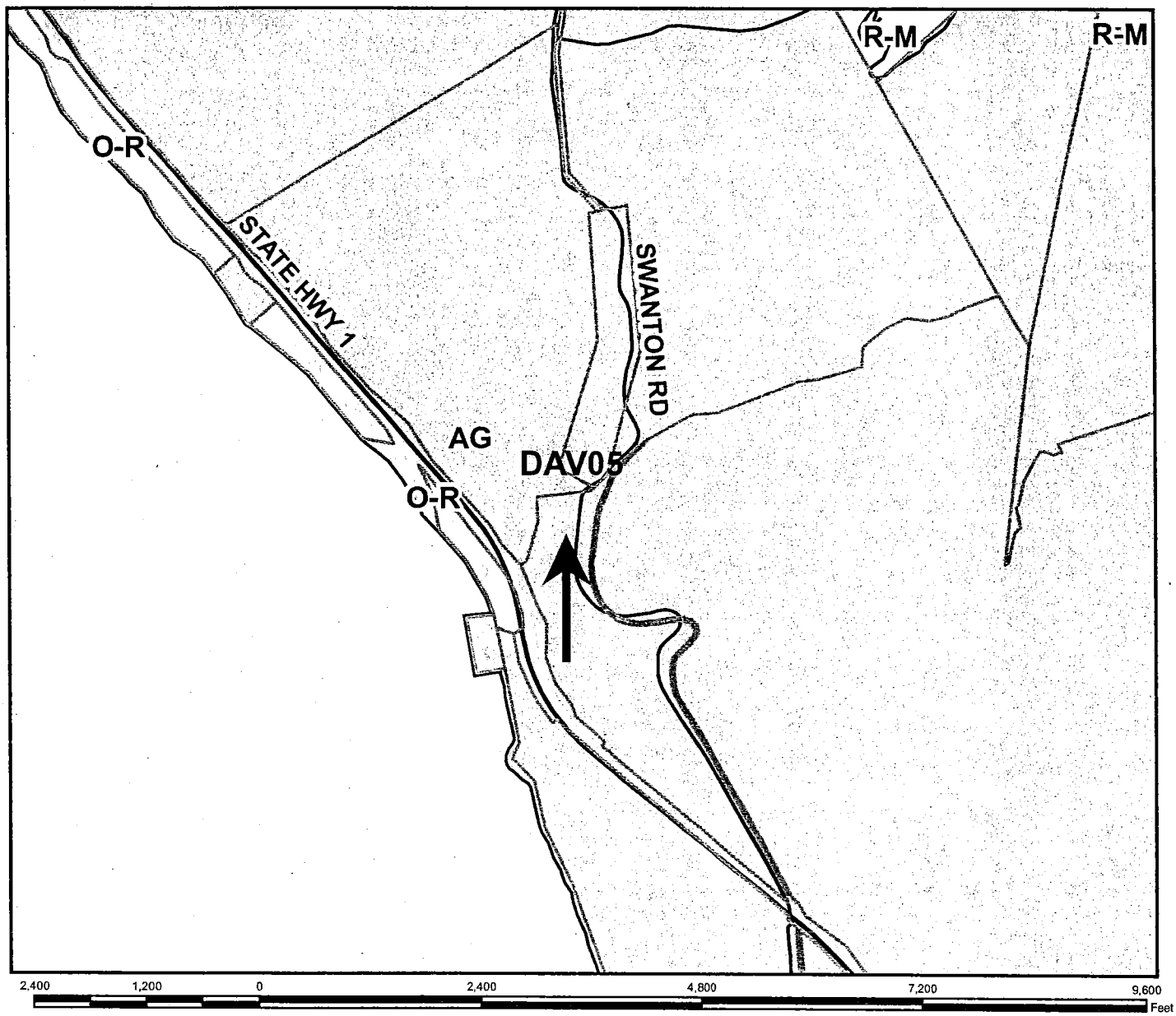
N
W E
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

EXHIBIT E

ATTACHMENT 2

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Agriculture
- Parks and Recreation
- Residential-Mountain

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

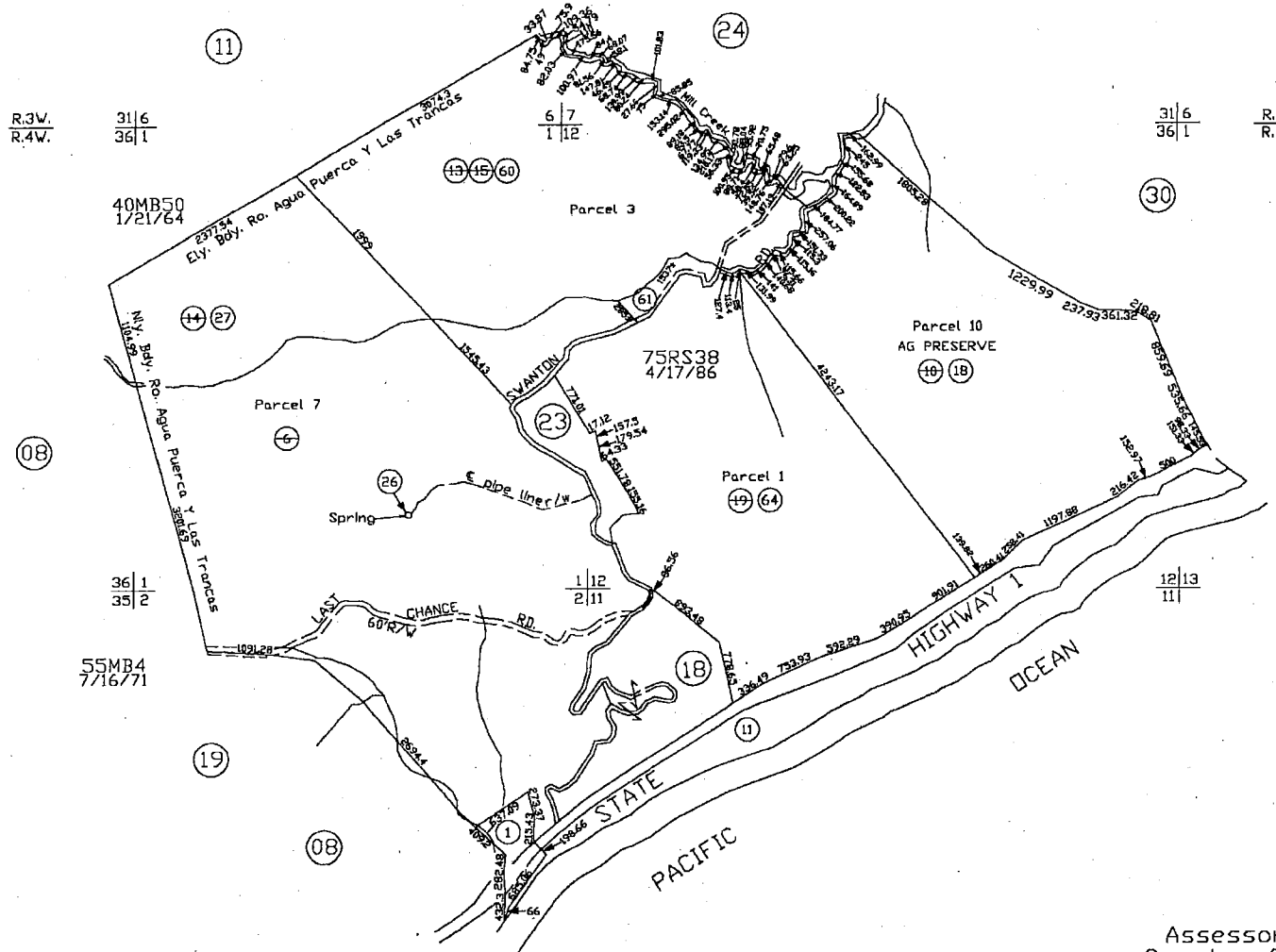
FOR TAX PURPOSES ONLY

RANCHO AGUA PUERCA Y LAS TRANCAS
POR. SECS. 6, 7 & 18, T.10S., R.3W., &
1, 2, 11, 12 & 13, T.10S., R.4W., M.D.B. & M.

Tax Area Code
86-022

57-13

N
1" = 1200'



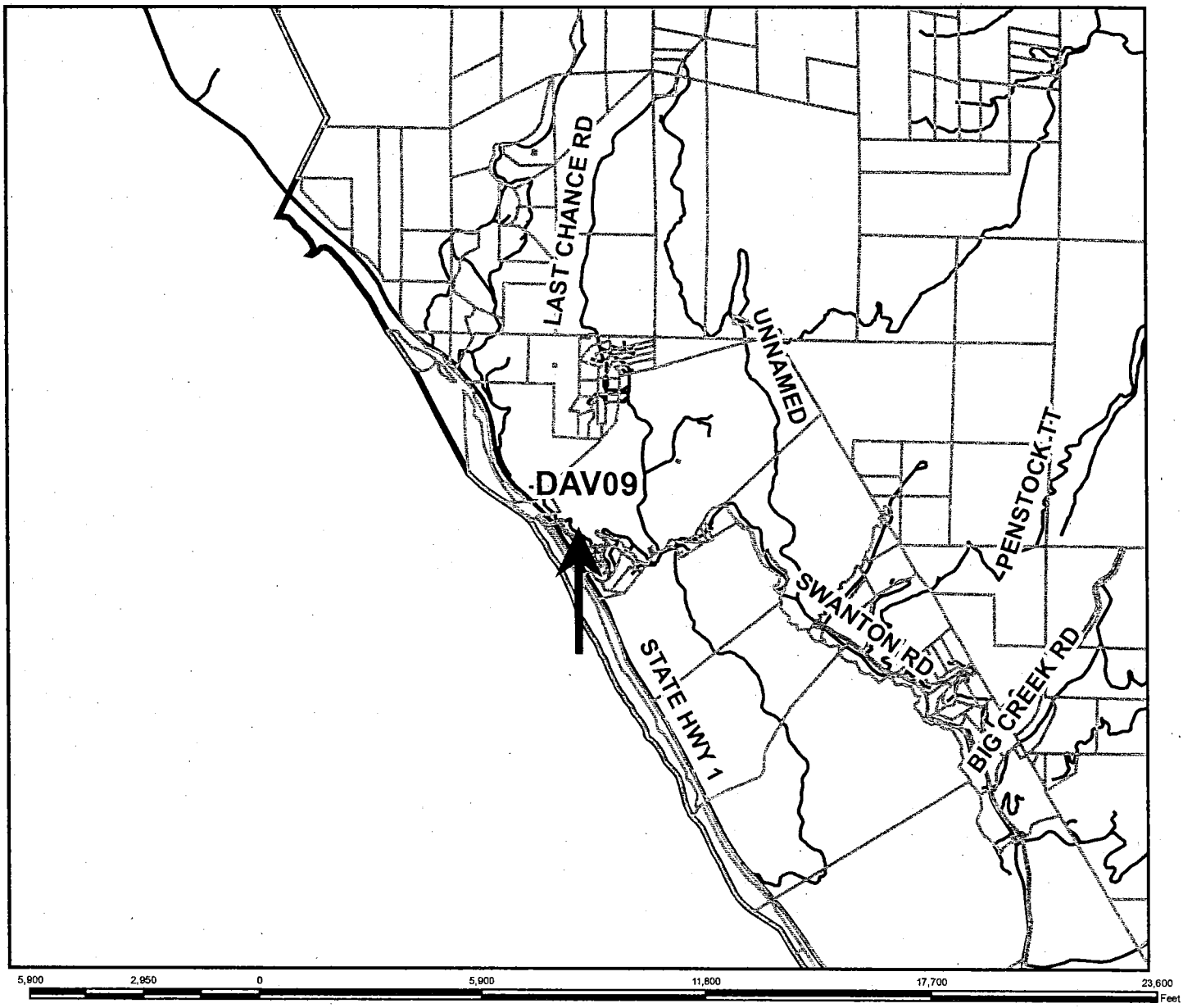
Note - Assessor's Parcel & Block Numbers Shown in Circles.

Assessor's Map No. 57-13
County of Santa Cruz, Calif.
March, 1997

Electronically Redrawn 3/20/97 rm
Rev. 3/28/97 (for to 57-26 rm
Rev. 5/27/98 CTCA CONSOLIDATED rv
Rev. 6/25/01 mm (changed page refs)

ATTACHMENT 2
EXHIBIT E

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary

N
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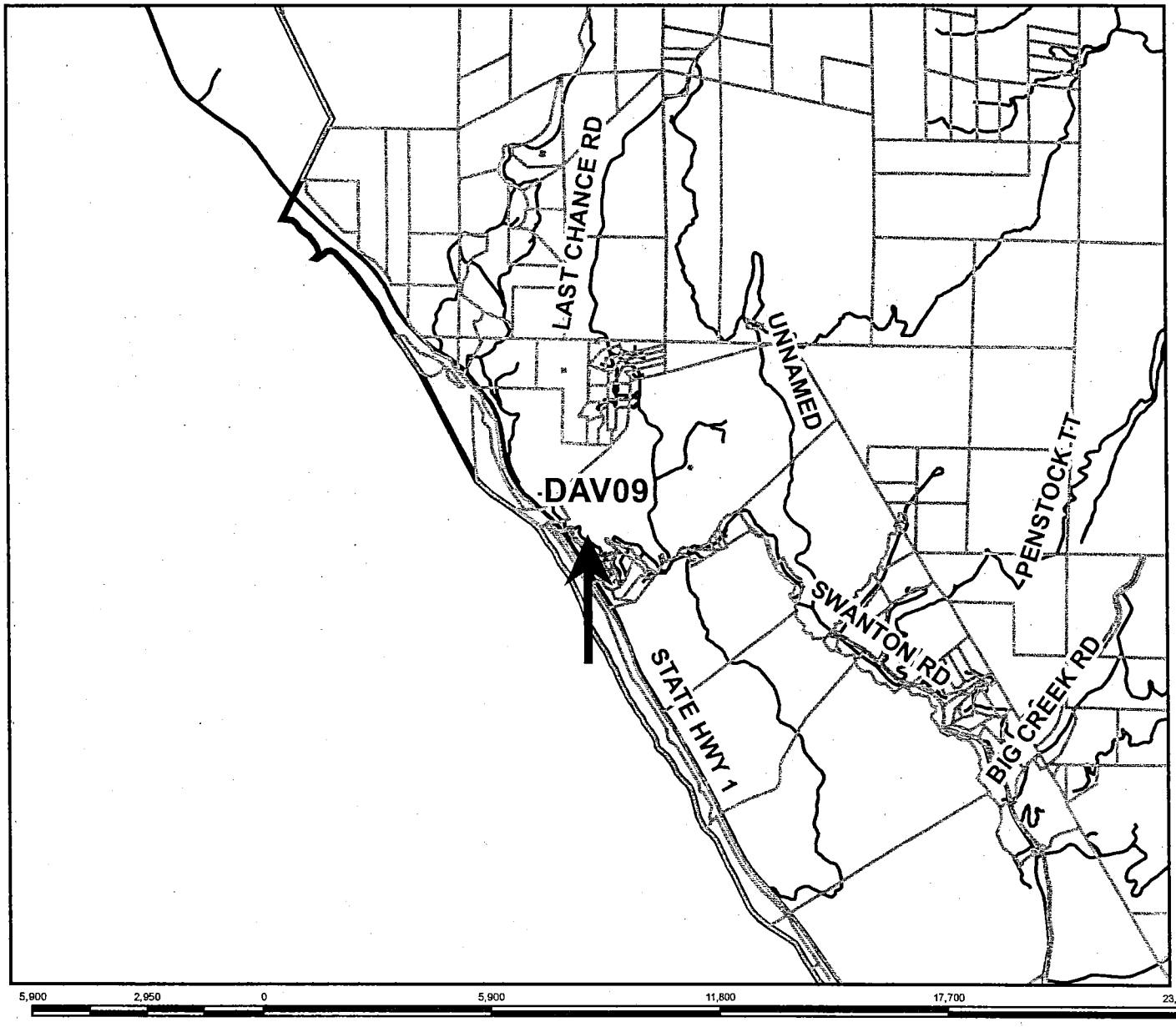
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2
EXHIBIT 1

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary

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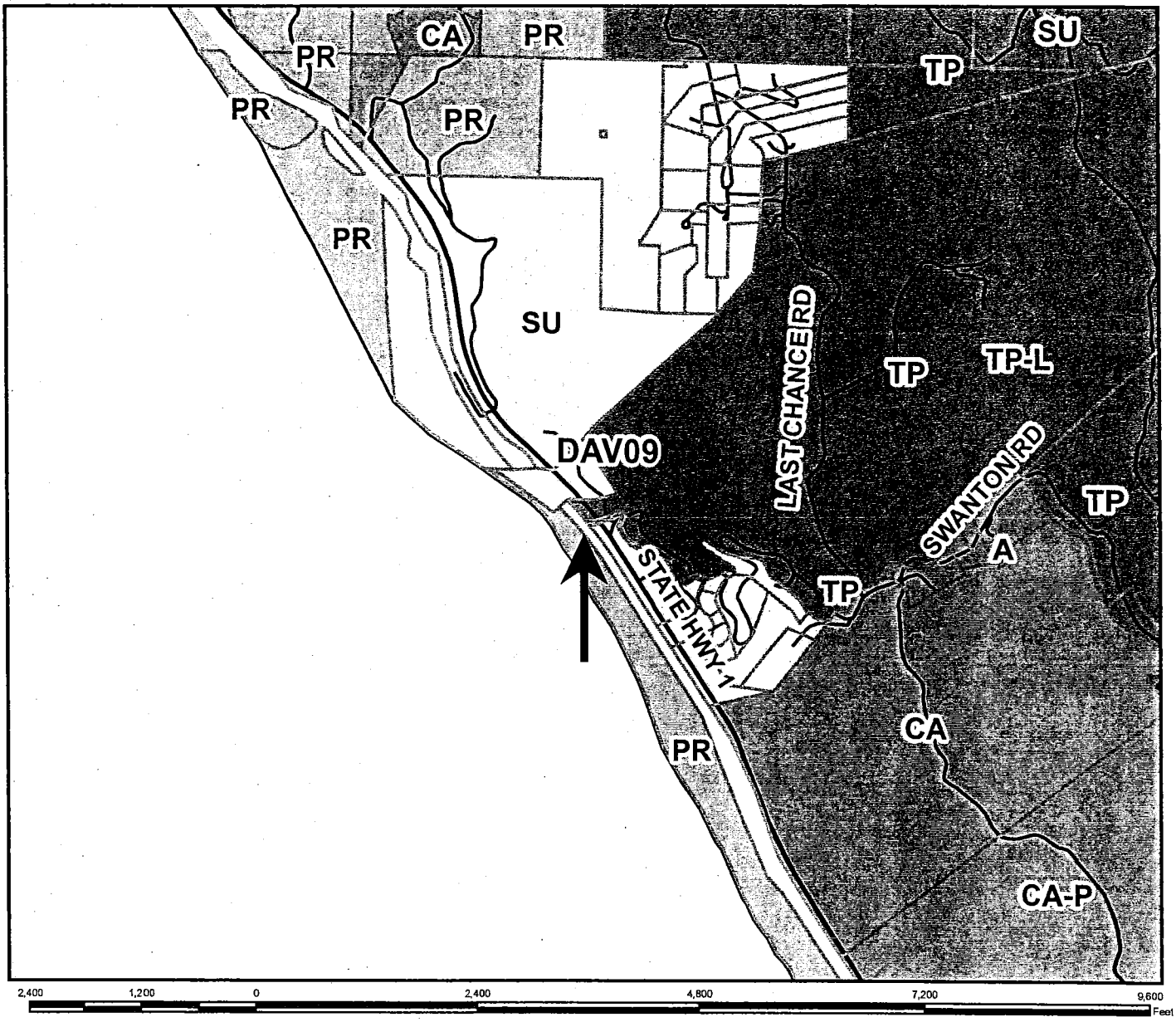
Map Created by
County of Santa Cruz
Planning Department
July 2011

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PARK
- AGRICULTURE COMMERCIAL
- AGRICULTURE
- TIMBER PRODUCTION

N
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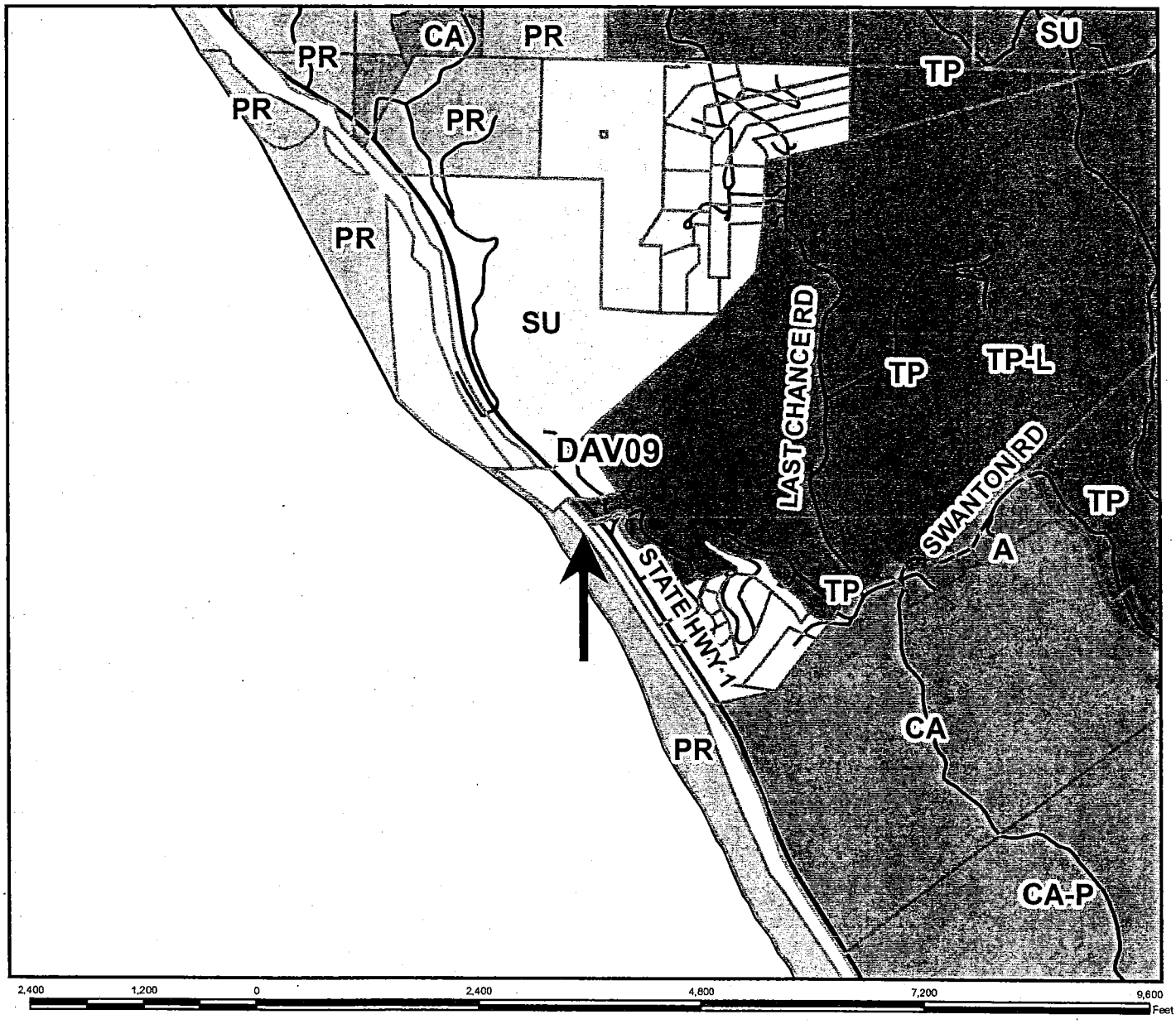
Map Created by
County of Santa Cruz
Planning Department
July 2011

EXHIBIT E

ATTACHMENT 2

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PARK
- AGRICULTURE COMMERCIAL
- AGRICULTURE
- TIMBER PRODUCTION

N
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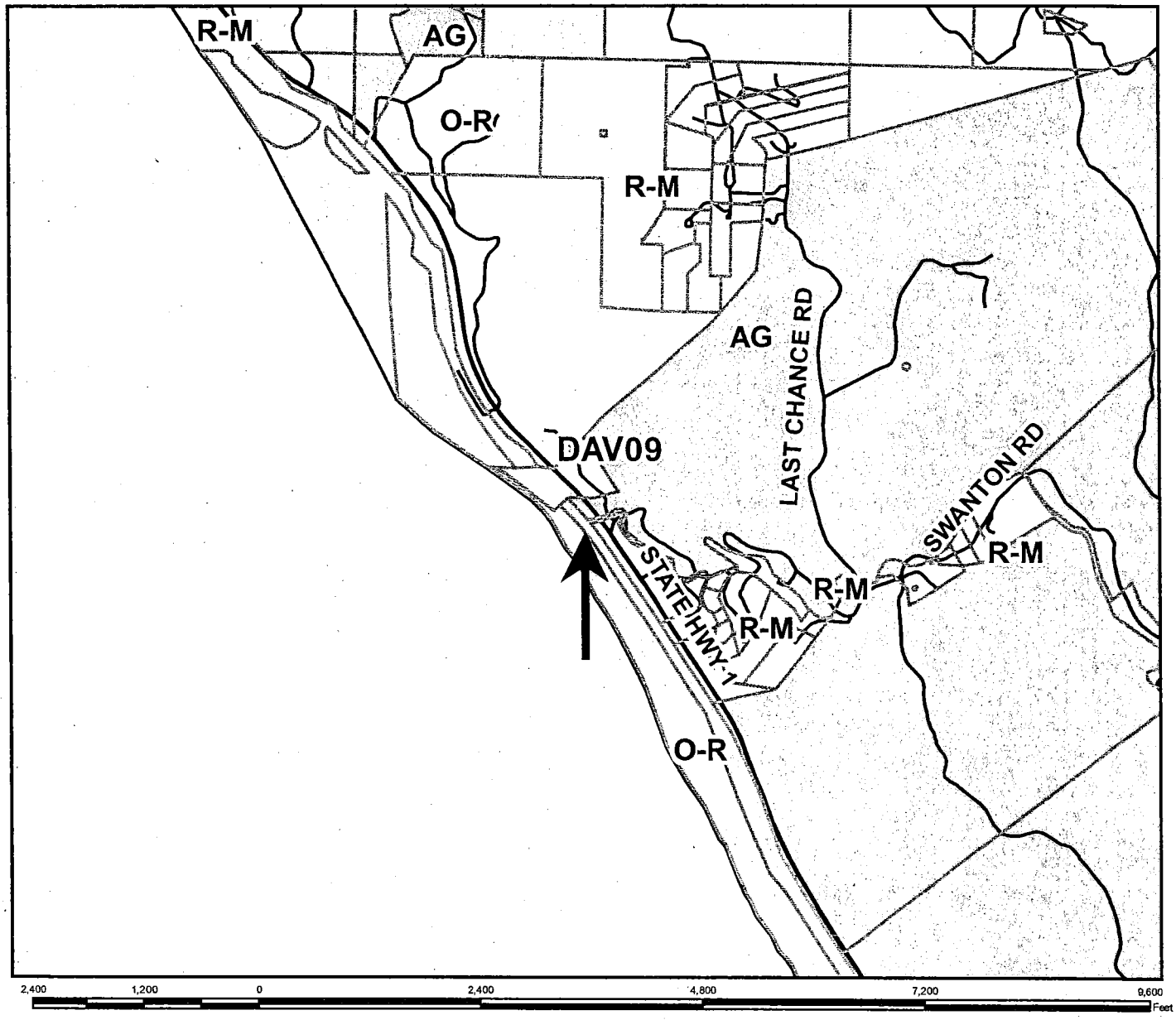
Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2
EXHIBIT E

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Parks and Recreation
- Agriculture
- Residential-Mountain

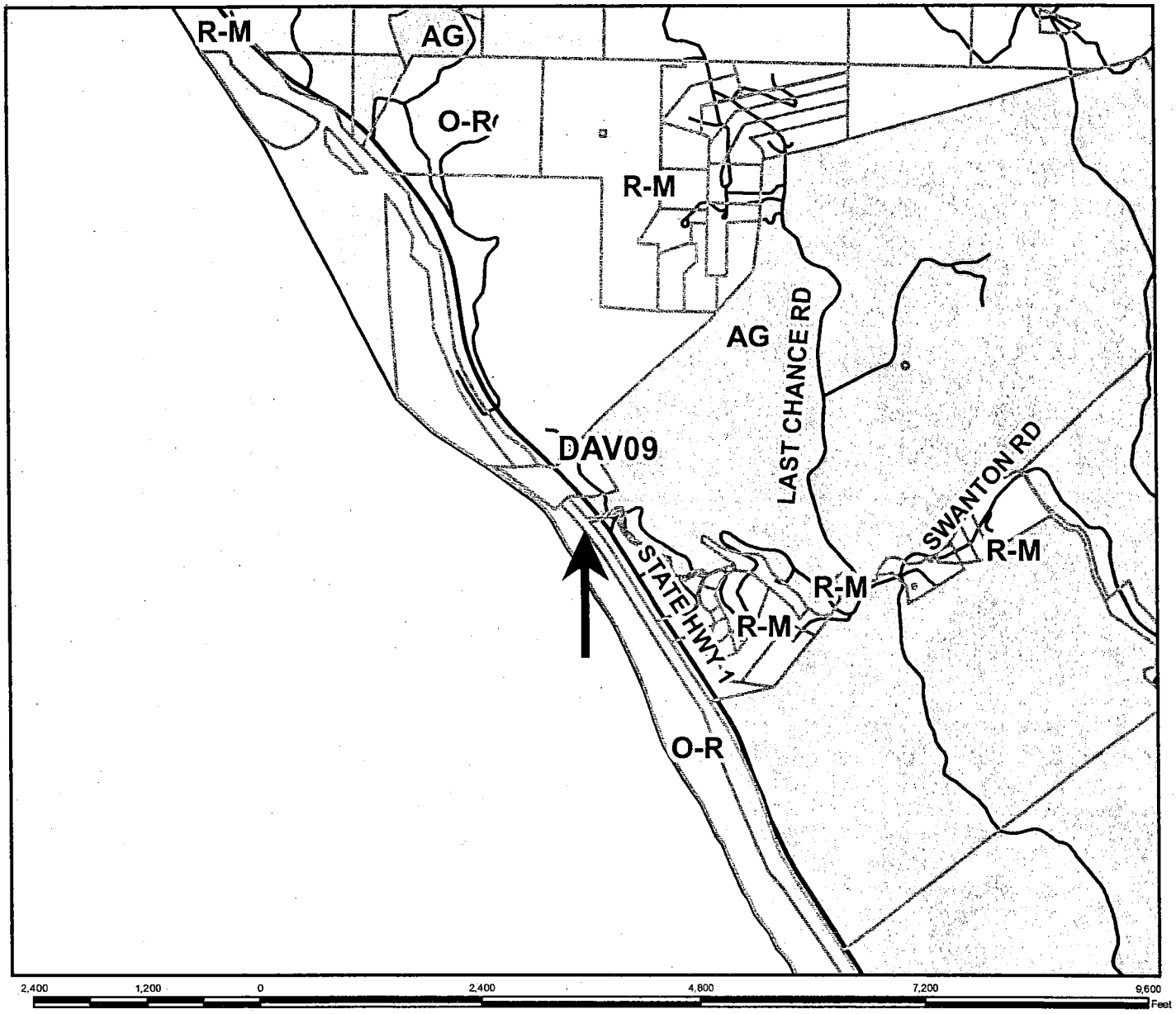
N
W E
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 9.1

EXHIBIT E

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Parks and Recreation
- Agriculture
- Residential-Mountain

N
W E
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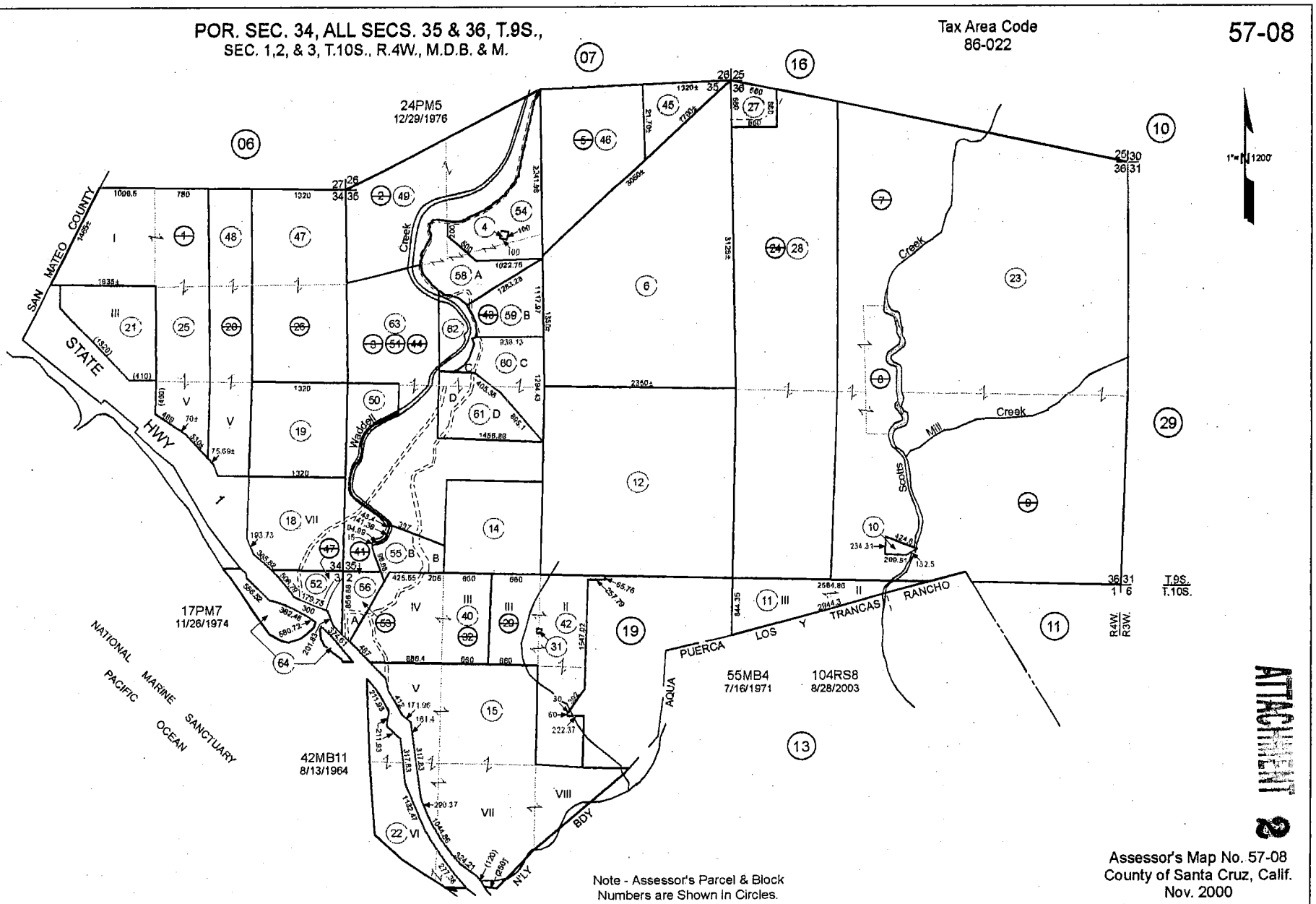
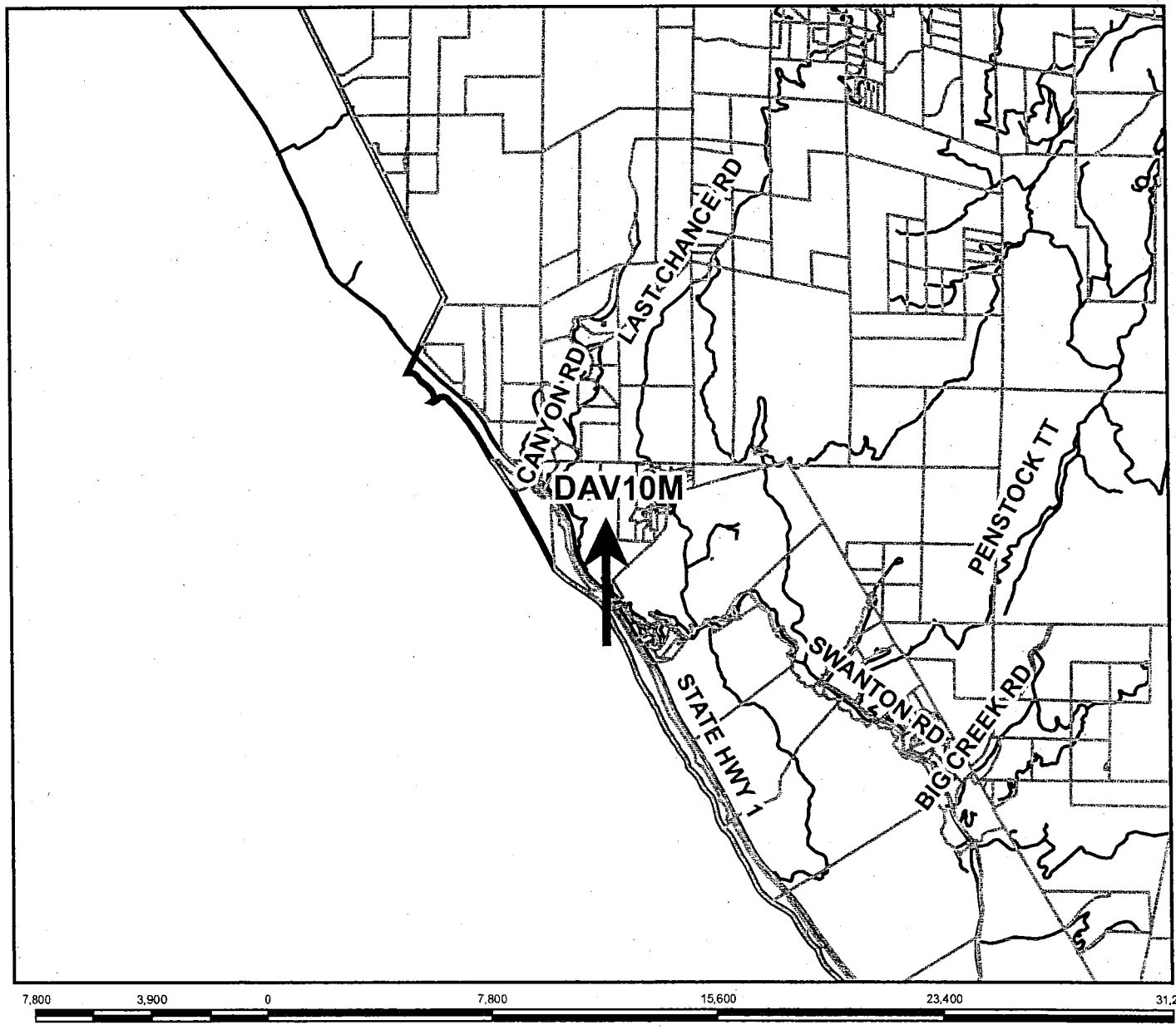
Map Created by
County of Santa Cruz
Planning Department
July 2011


POR. SEC. 34, ALL SECS. 35 & 36, T.9S.,
SEC. 1,2, & 3, T.10S., R.4W., M.D.B. & M.
Tax Area Code
86-022
57-08
FOR TAX PURPOSES ONLY
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
© COPYRIGHT SANTA CRUZ COUNTY ASSESSOR 2000
-86-
24PM5
12/29/1976
17PM7
11/26/1974
42MB11
8/13/1964
55MB4
7/16/1971
104RS8
8/28/2003
SAN MATEO COUNTY
STATE HWY 1
Waddell Creek
Mill Creek
Scotts Creek
NATIONAL MARINE SANCTUARY
PACIFIC OCEAN
LOS PUERCA Y TRANCAS RANCHO AQUA BDY
T.9S.
T.10S.
R4W.
R3W.
1"= 1200'
Note - Assessor's Parcel & Block Numbers are Shown In Circles.
Assessor's Map No. 57-08
County of Santa Cruz, Calif.
Nov. 2000
Electronically redrawn 11/07/11 KSA
Rev. 9/25/01 mvm (changed page refs.)
Rev. 9/25/03 CB (104RS8)
Rev. 1/29/08 td (Conto as per 17PM7, 1-52 & 56 boundary line)
ATTACHMENT 2

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary

N
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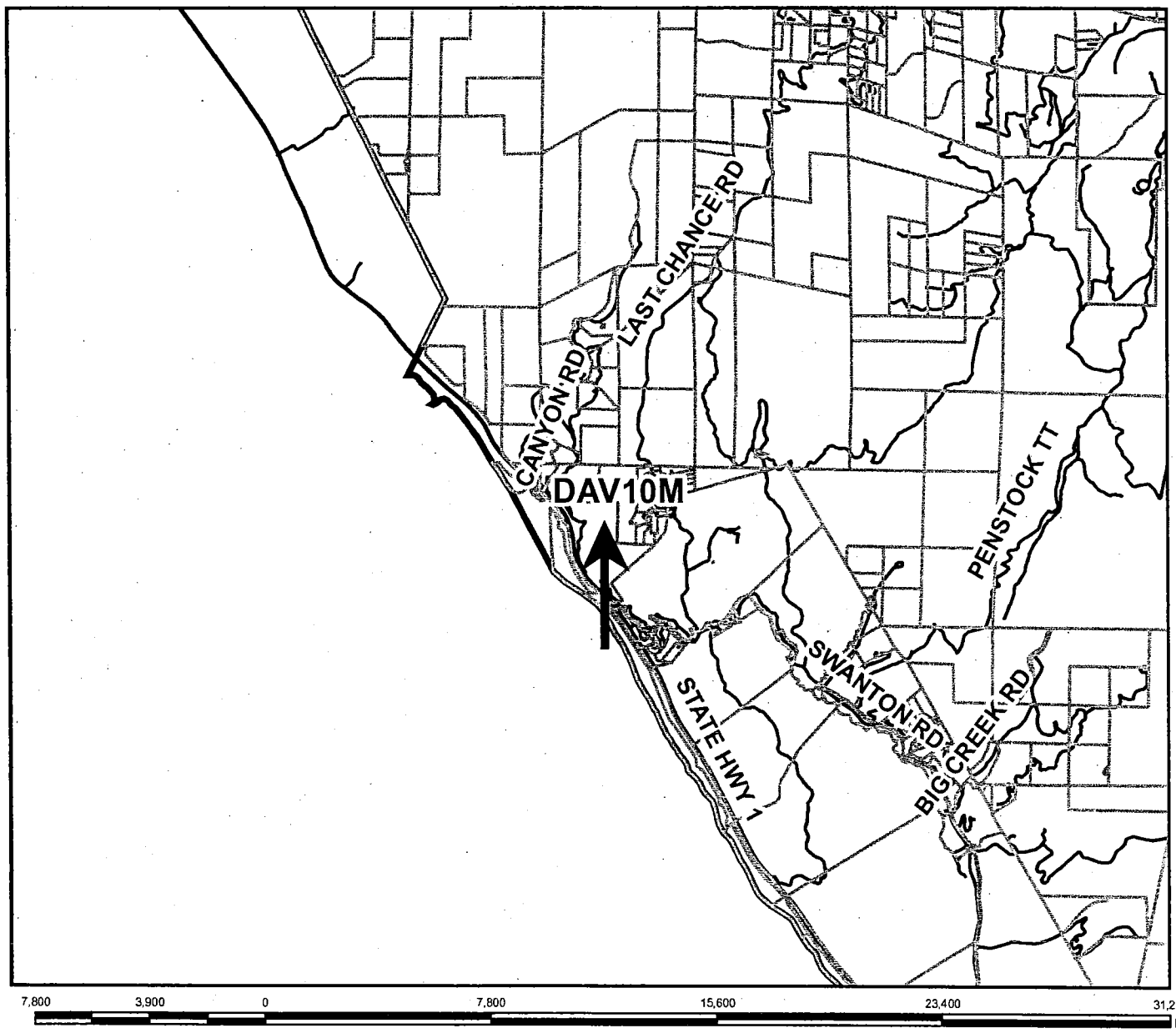
Map Created by
County of Santa Cruz
Planning Department
July 2011

EXHIBIT

Location Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary

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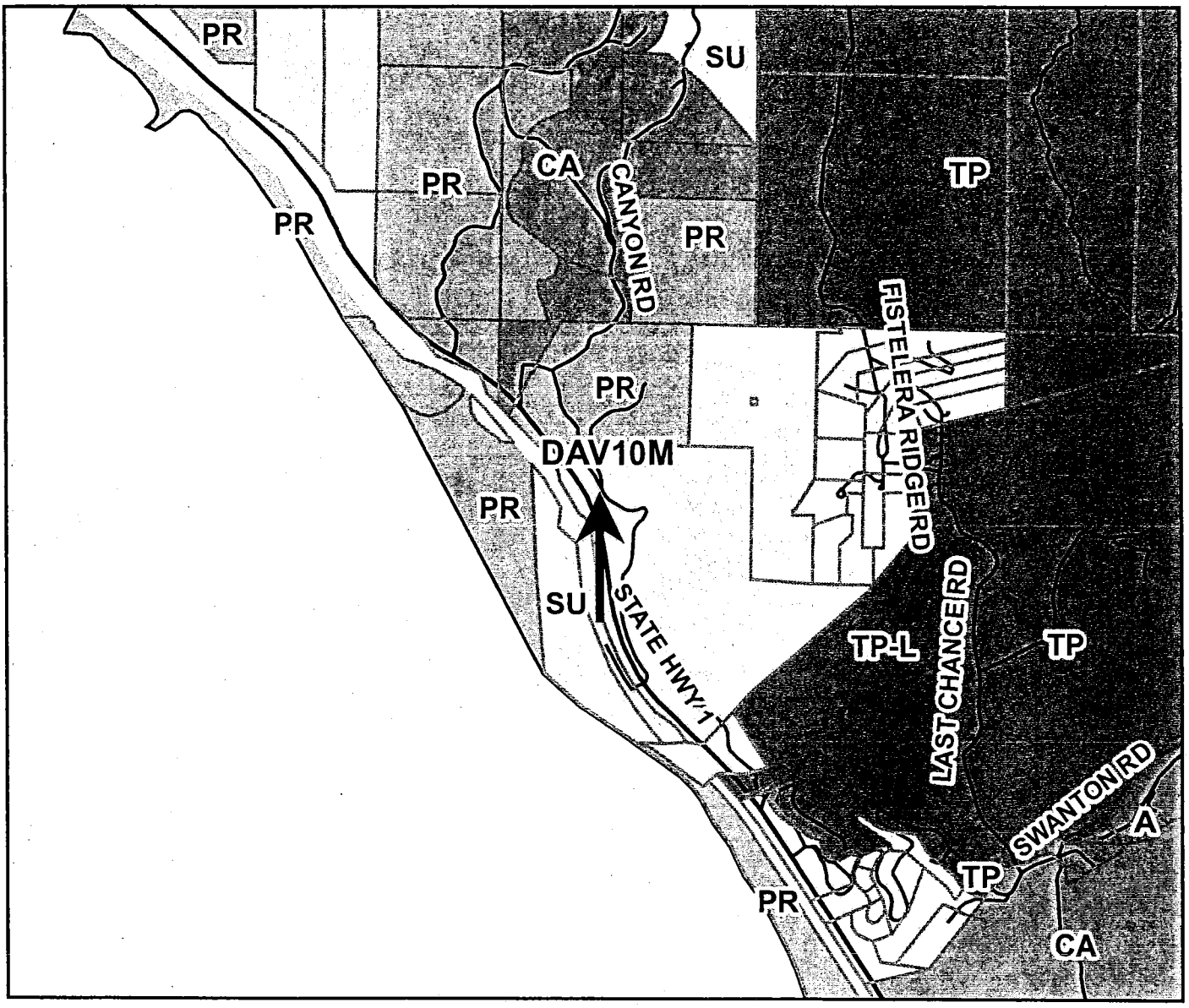
Map Created by
County of Santa Cruz
Planning Department
July 2011

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- SPECIAL USE
- PARK
- AGRICULTURE COMMERCIAL
- AGRICULTURE
- TIMBER PRODUCTION

N
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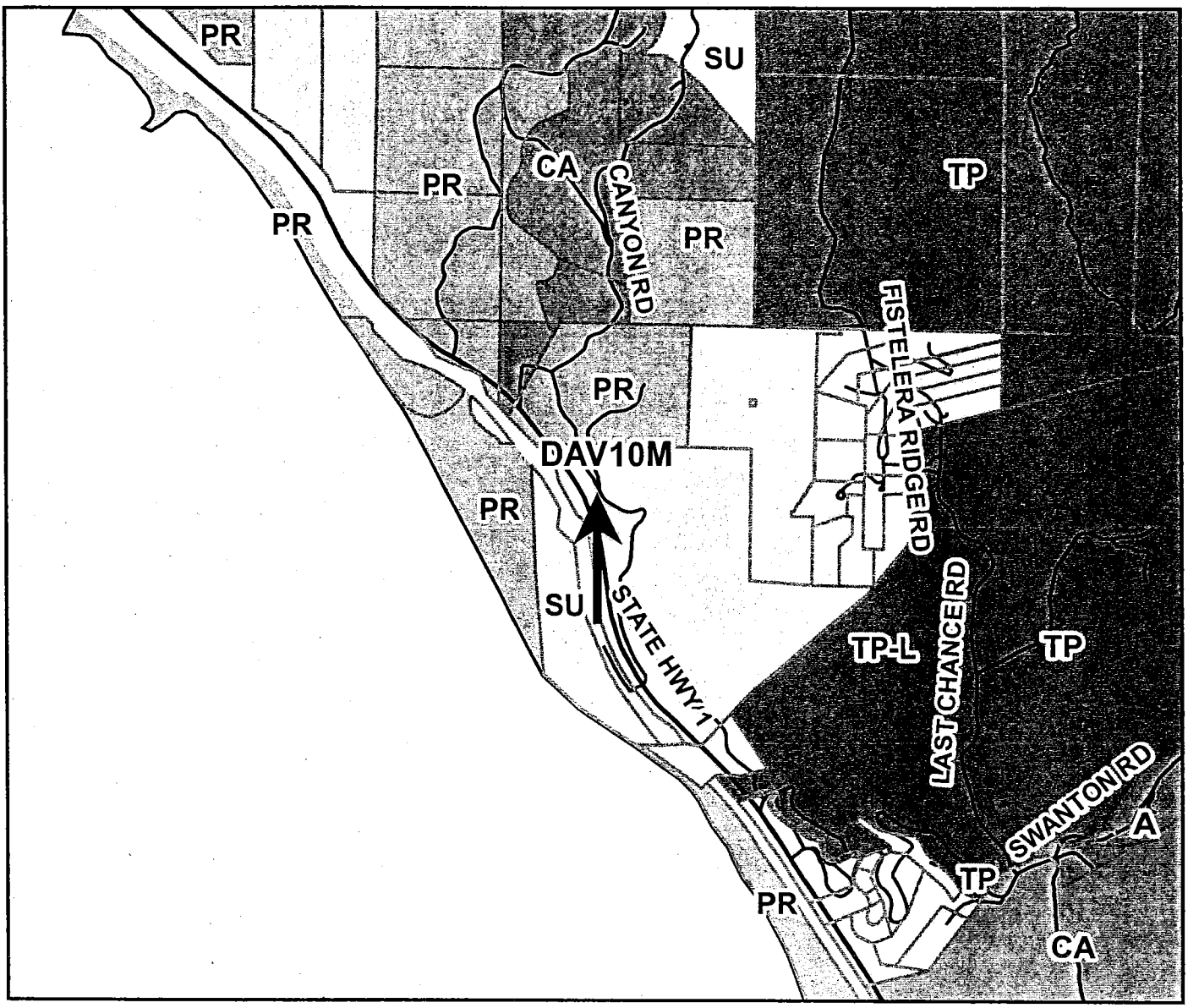
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2

EXHIBIT B

Zoning Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary

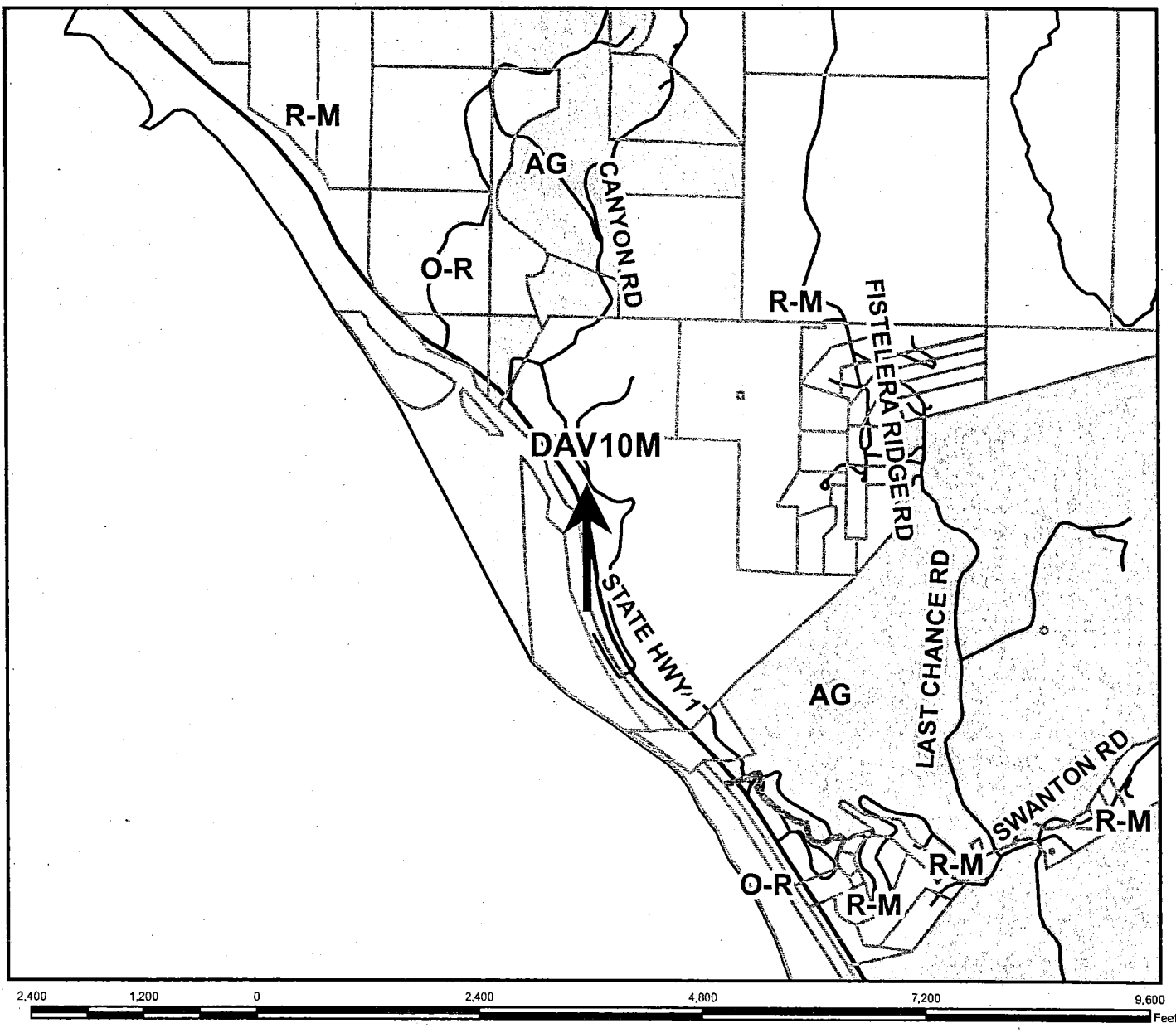
SPECIAL USE

- PARK
- AGRICULTURE COMMERCIAL
- AGRICULTURE
- TIMBER PRODUCTION

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Parks and Recreation
- Agriculture
- Residential-Mountain

N
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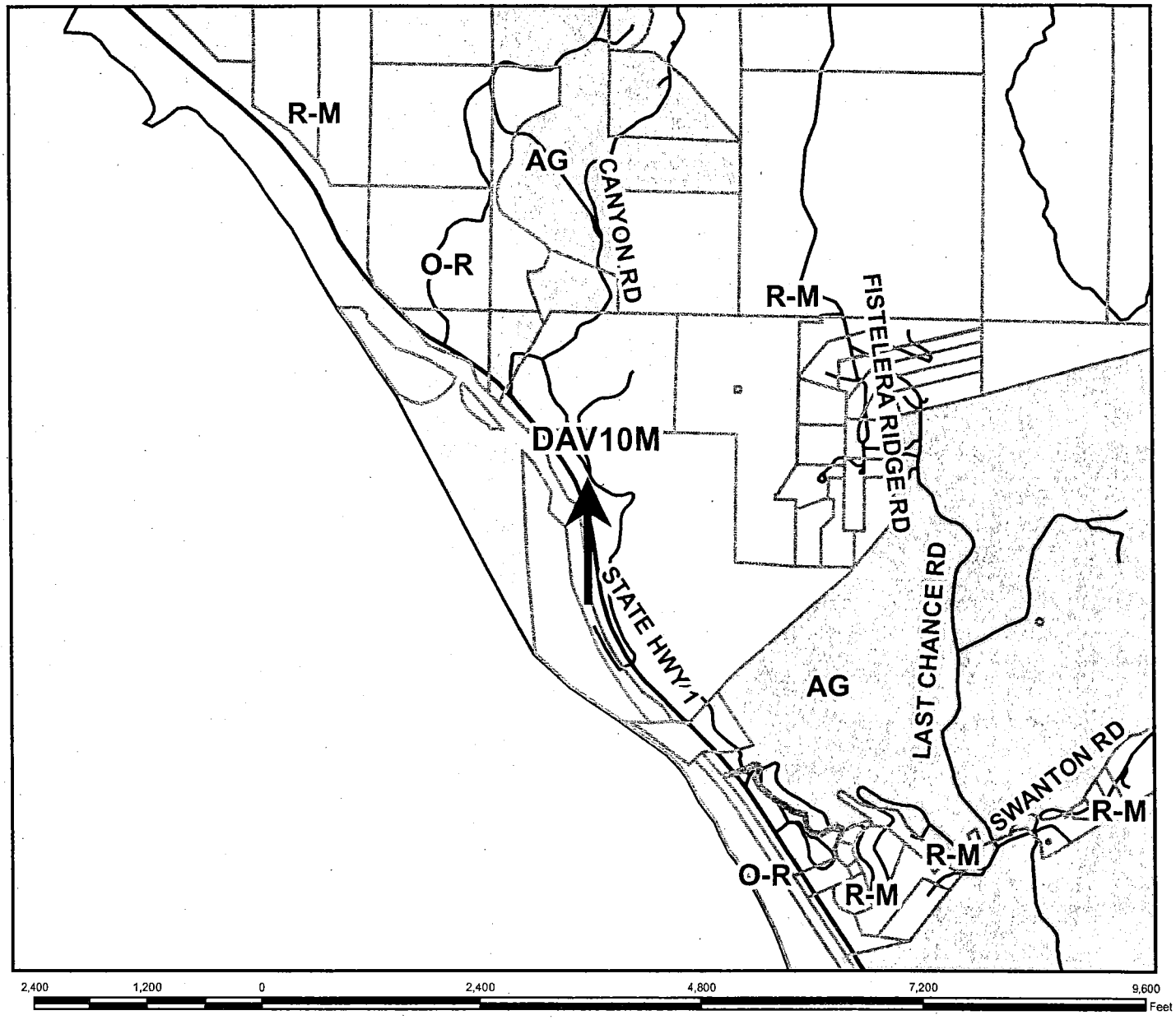
Map Created by
County of Santa Cruz
Planning Department
July 2011

General Plan Designation Map



LEGEND

- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Parks and Recreation
- Agriculture
- Residential-Mountain

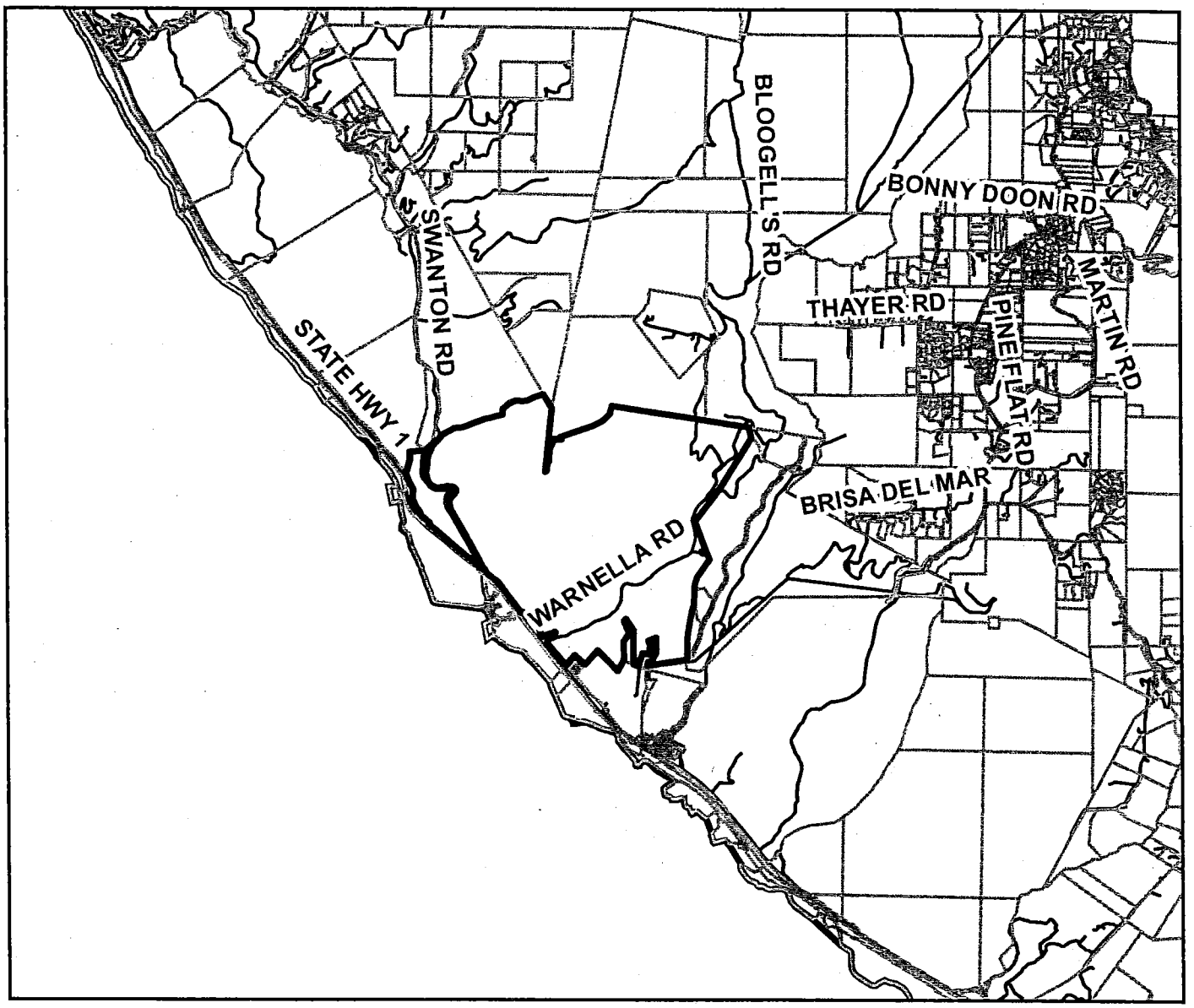
N
W E
S

Map Created by
County of Santa Cruz
Planning Department
July 2011

ATTACHMENT 2

EXHIBIT E

Location Map



8,250 4,125 0 8,250 16,500 24,750 33,000 Feet

LEGEND

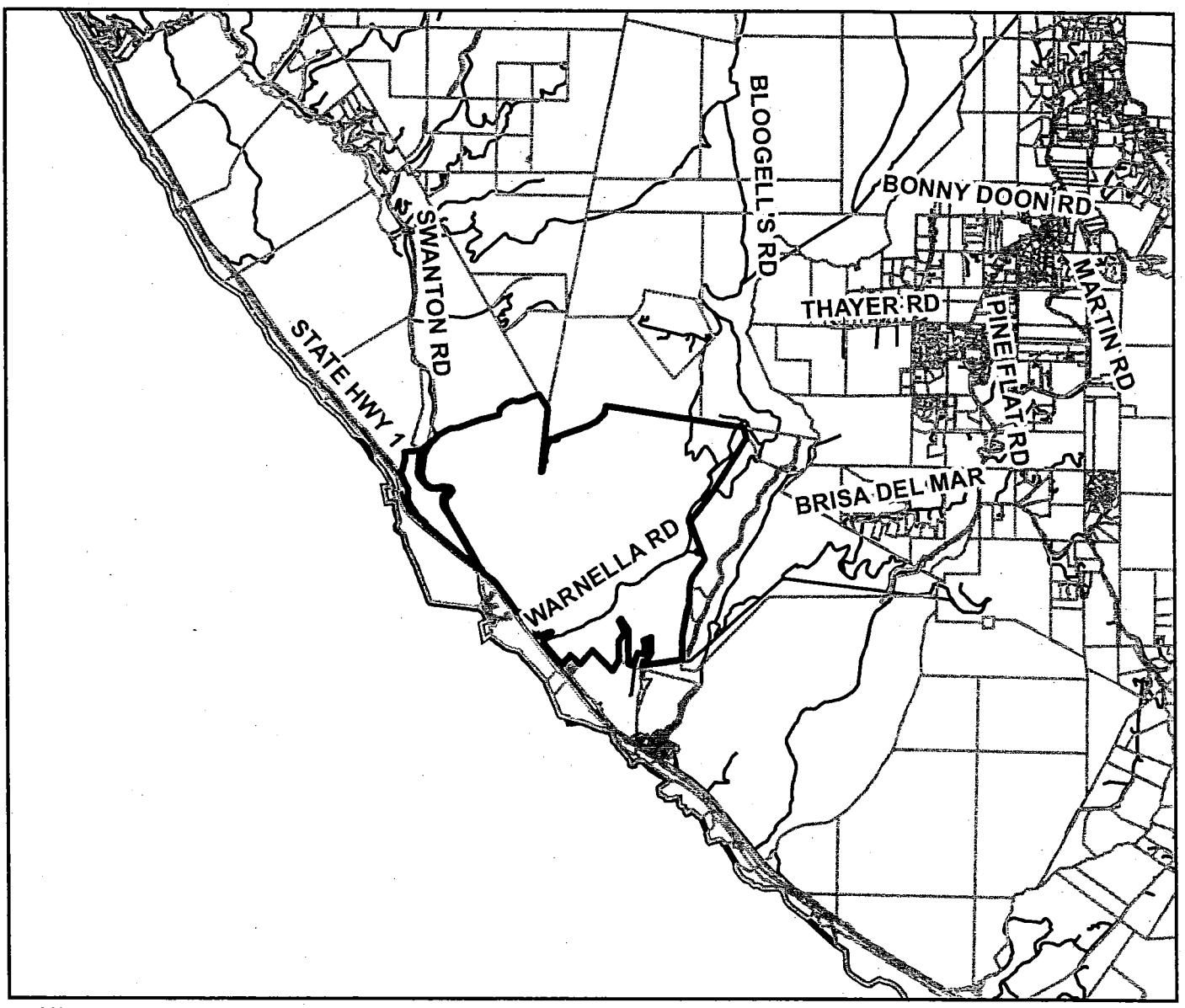
- APN: 058-022-11
- Assessors Parcels
- Streets
- State Highways
- County Boundary

N W E S

Map Created by
County of Santa Cruz
Planning Department
October 2011

EXHIBIT E

Location Map



8,250 4,125 0 8,250 16,500 24,750 33,000 Feet

LEGEND

- APN: 058-022-11
- Assessors Parcels
- Streets
- State Highways
- County Boundary

N
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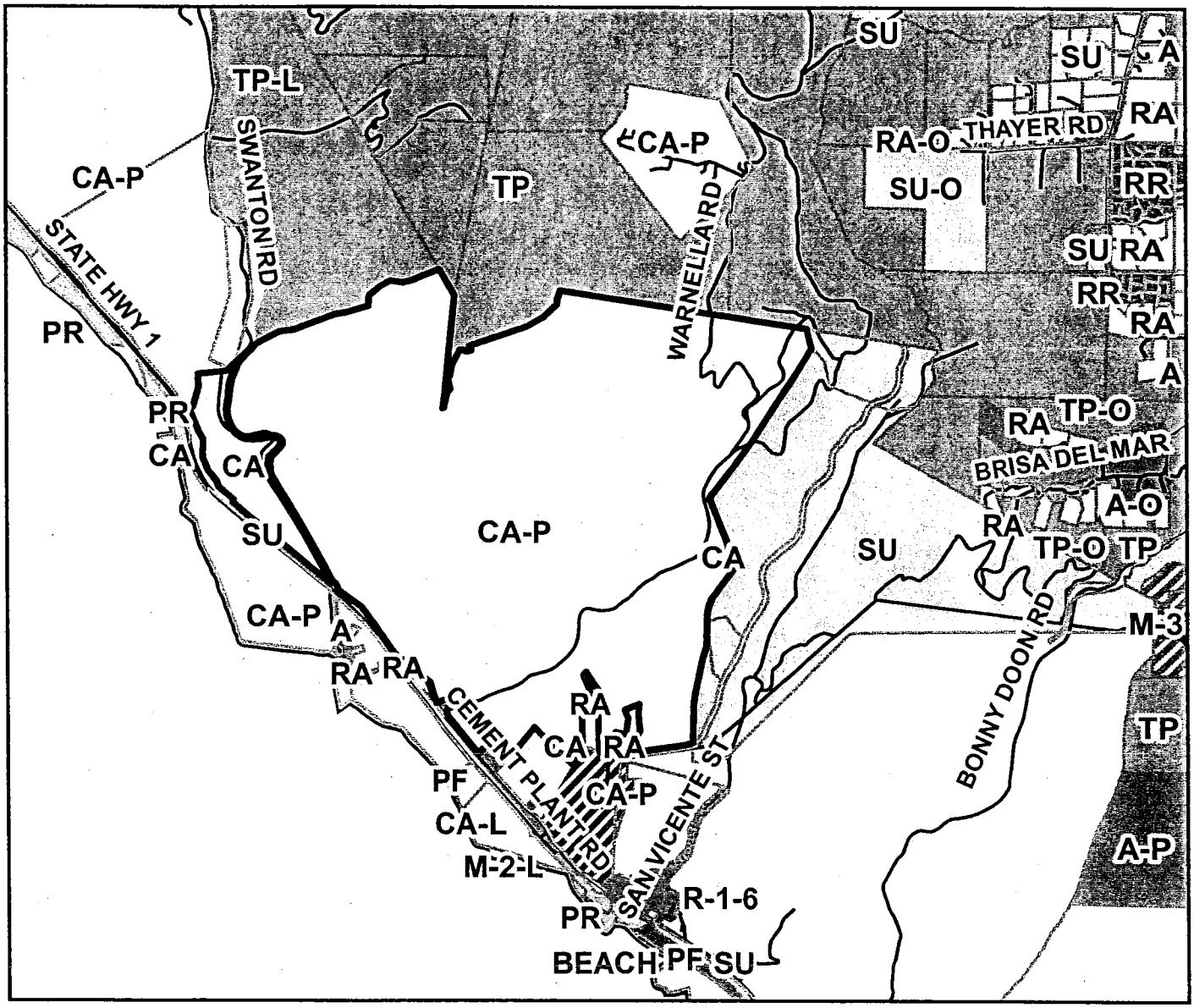
Map Created by
County of Santa Cruz
Planning Department
October 2011

EXHIBIT E

Zoning Map



4,900 2,450 0 4,900 9,800 14,700 19,600 Feet

LEGEND

- APN: 058-022-11
- Assessors Parcels
- Streets
- State Highways
- County Boundary
- AGRICULTURE COMMERCIAL
- AGRICULTURE RESIDENTIAL
- SPECIAL USE
- TIMBER PRODUCTION
- AGRICULTURE
- PUBLIC FACILITY
- HEAVY INDUSTRIAL
- MINERAL EXTRACTION
- PARK
- RESIDENTIAL-RURAL
- BEACH

N W E S

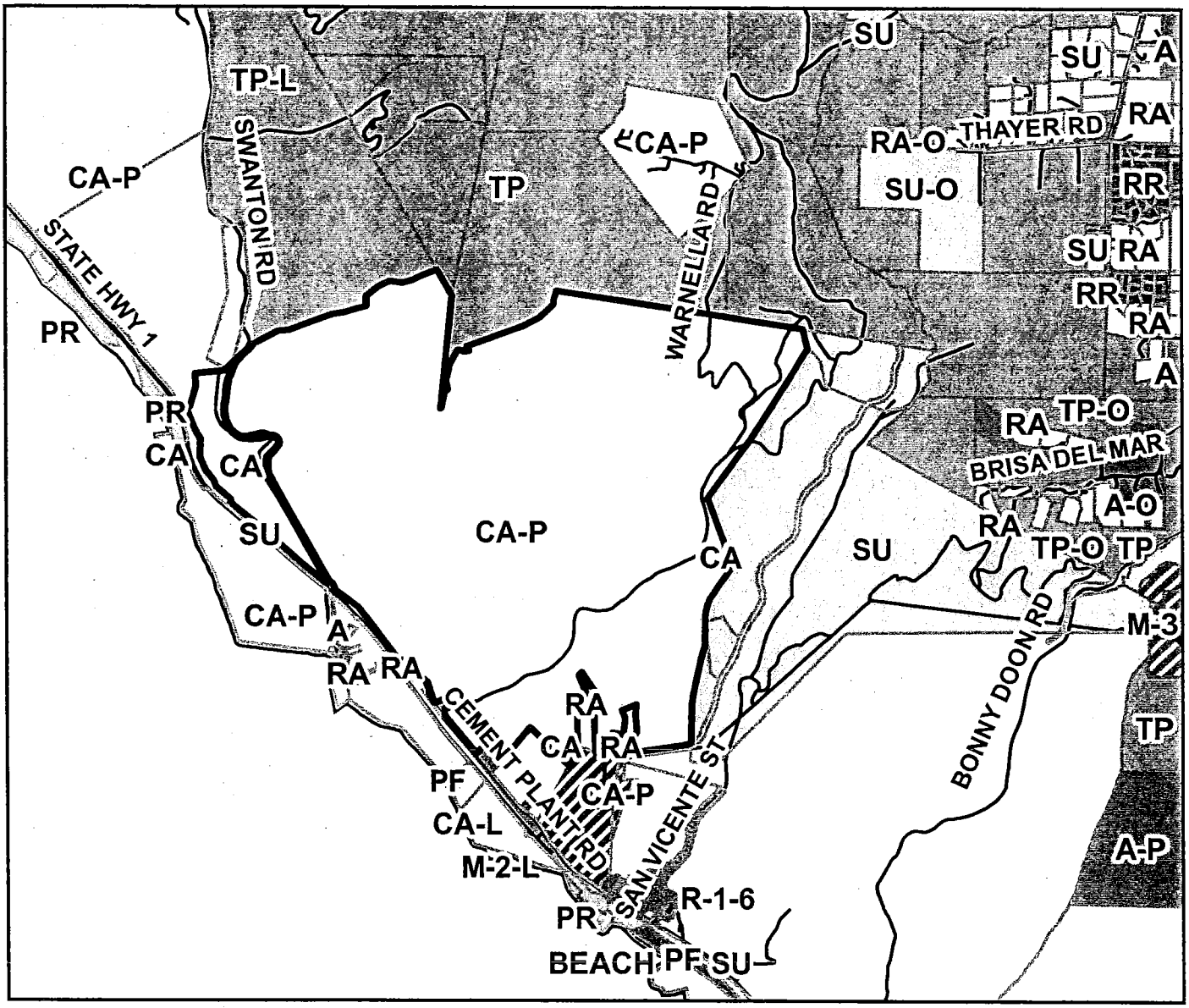
Map Created by
County of Santa Cruz
Planning Department
October 2011

pln02

ATTACHMENT 2

EXHIBIT E

Zoning Map



4,900 2,450 0 4,900 9,800 14,700 19,600 Feet

LEGEND

- APN: 058-022-11
- Assessors Parcels
- Streets
- State Highways
- County Boundary
- AGRICULTURE COMMERCIAL
- AGRICULTURE RESIDENTIAL
- SPECIAL USE
- TIMBER PRODUCTION
- AGRICULTURE
- PUBLIC FACILITY
- HEAVY INDUSTRIAL
- MINERAL EXTRACTION
- PARK
- RESIDENTIAL-RURAL
- BEACH

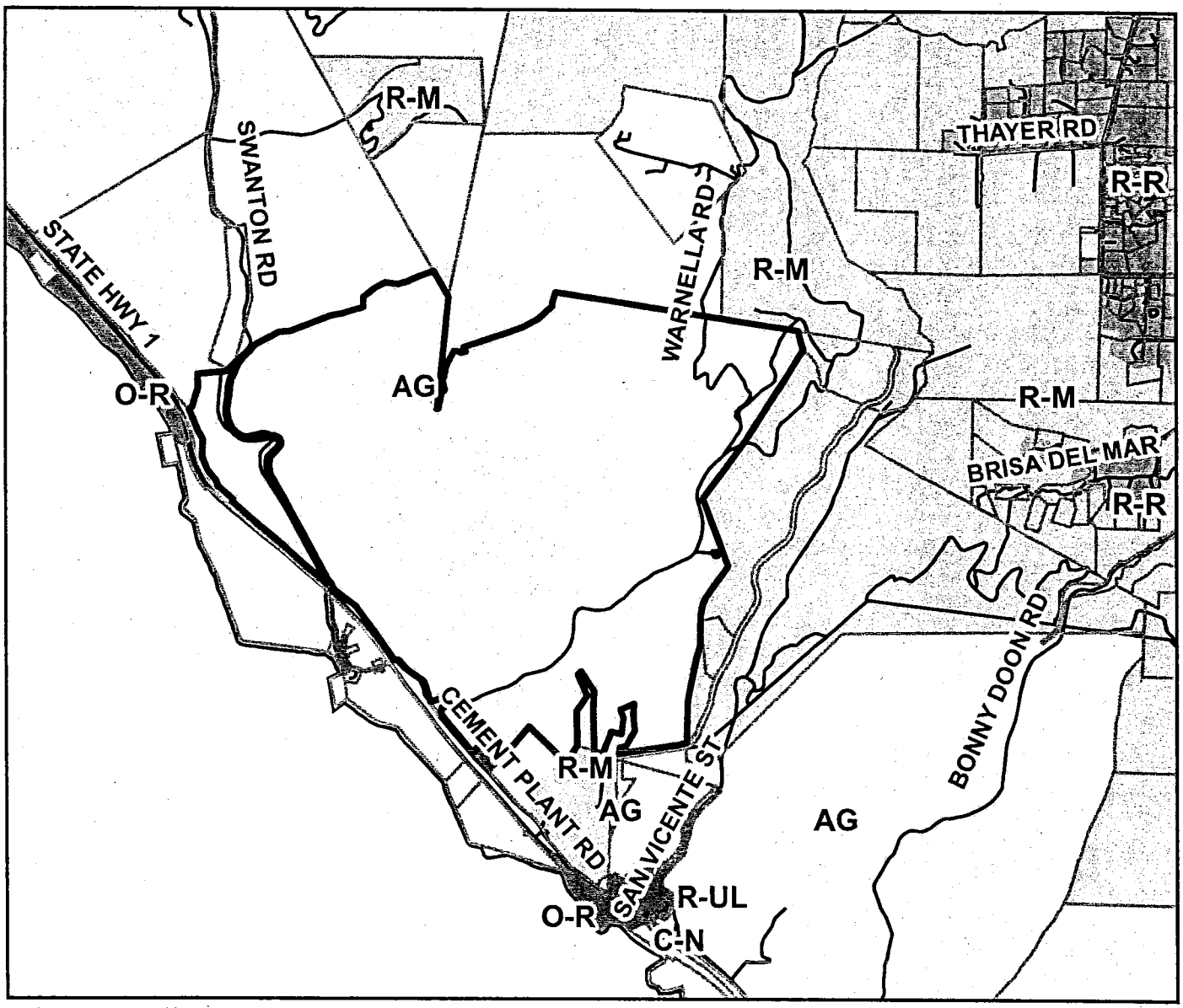
N W E S

Map Created by
County of Santa Cruz
Planning Department
October 2011

ATTACHMENT

EXHIBIT E

General Plan Designation Map



4,700 2,350 0 4,700 9,400 14,100 18,800 Feet

LEGEND

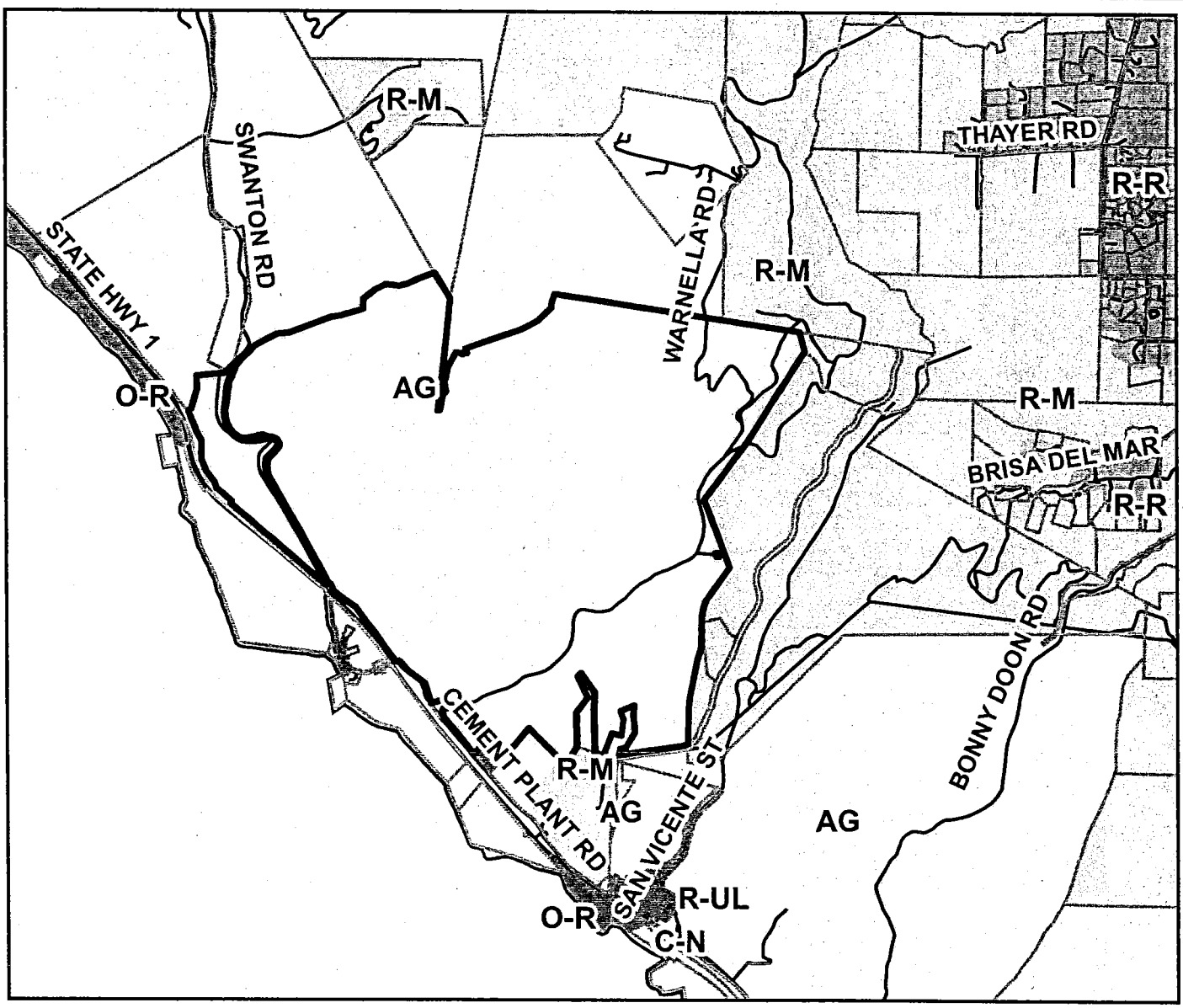
- APN: 058-022-11
- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Agriculture
- Residential-Mountain
- Residential-Rural
- Residential - Urban Low Density
- Parks and Recreation
- Commercial-Neighborhood

N W E S

Map Created by
County of Santa Cruz
Planning Department
October 2011

ATTACHMENT 2
EXHIBIT E

General Plan Designation Map



LEGEND

- APN: 058-022-11
- Assessors Parcels
- Streets
- State Highways
- County Boundary
- Agriculture
- Residential-Mountain
- Residential-Rural
- Residential - Urban Low Density
- Parks and Recreation
- Commercial-Neighborhood

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
October 2011

ATTACHMENT 2
EXHIBIT F

Frank Barron

From: DIANE REES [dianerees@wildblue.net]
Sent: Monday, November 21, 2011 6:36 AM
To: Frank Barron
Subject: Public Hearing Notice

I received the notice of hearing for permit to construct 7 wireless facilities along Hwy 1.

I live on Dimeo Lane and have no receptions whatsoever (345 Dimeo Lane). Would this construction mean that I'd finally have reception inside my home?

Thank you.

Diane Rees

EXHIBIT F

ATTACHMENT 2

Frank Barron

From: Frank Barron
Sent: Monday, November 21, 2011 10:11 AM
To: 'DIANE REES'
Subject: RE: Public Hearing Notice

Hi Diane,

This system will be used by Verizon, so if your carrier is Verizon it MIGHT help, but you should contact them to be sure. The closest cell site to you will be on an existing utility pole at the 3-mile beach turnout.

Frank Barron
Santa Cruz Co. Planning Dept.

From: DIANE REES [mailto:dianerees@wildblue.net]
Sent: Monday, November 21, 2011 6:36 AM
To: Frank Barron
Subject: Public Hearing Notice

I received the notice of hearing for permit to construct 7 wireless facilities along Hwy 1.

I live on Dimeo Lane and have no receptions whatsoever (345 Dimeo Lane). Would this construction mean that I'd finally have reception inside my home?

Thank you.

Diane Rees

EXHIBIT F

ATTACHMENT 2

Dec. 2, 2011

By Hand Delivery
to Santa Cruz County Zoning Administrator
Re: Application No. 111114

Dear Sir,

As a resident of the area affected by the development proposal before you, I want to express my support for efforts to provide greater access to broadband for underserved rural neighborhoods like ours on Coast Road . However, for residents who may want to choose Verizon wireless as a broadband source, this project is unlikely to provide adequate service due to the placement of the proposed microcell antennas. The location of the antennae pursuant to the staff recommendation for "communication space" siting instead of pole top antenna siting means that topography will interfere with or prevent coverage to most neighborhood residents . These placements are the result of staff opinion about visual impacts which are debatable, but here, are being given more weight than the public's need for access to service. On page 5 of the staff report, staff notes "the coverage limitations of the crossbar design" (in the communications space). I therefore request that the Zoning Administrator allow the applicant the option to use pole top antennas when their engineers feel they will enhance coverage and avoid coverage gaps.

Topography and County Code requirements make antenna siting difficult. Some advantageous locations have already been chosen by AT&T wireless for the DAS they installed along Highway One. In some locations colocation on a utility pole might be desirable yet, on Page 11 paragraph – staff asserts that colocation is not possible for technical reasons. This assertion would seem to contradict and conflict with the colocation requirements found in the Code's WCF ordinance, and the staff report does not adequately explain this assertion. Clarification of this matter would be desirable to guide and inform future applicants who might seek to install DAS.

While not part of this application it should be noted that this development proposal depends on the installation of miles of new fiber optic cable along Highway One. While less that half of it will apparently be seaward of the highway, is is unfortunate that the County's permitting process, containing many requirements for viewshed protection, is precluded by State and Federal law from considering the visual impacts of the new cable and the many "temporary" new poles that have been installed to support it.

While your office might have desired more time to consider these remarks, it should be noted that the staff report was not available online until Tues. Nov. 29, as evidenced by the attached e-mail from County staff. That was followed by power outages caused by the windstorm, leaving little time for consideration of the staff report.

Sincerely yours,

Marty Demare

ATTACHMENT 2
EXHIBIT G

NextG Networks

NextG Networks of California, Inc. 890 Tasman Drive, Milpitas, California 95035
Telephone 408.468.5400 – Fax 408.434.6285

VIA EMAIL

October 24, 2011

County of Santa Cruz
Planning Department
Attn: Frank Barron
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

RE: Additional Telecommunications Act Exception & Alternative Analysis
Application #: 111114 Assessor's Parcel #: N/A (Public Right of Way) & 058-022-11
Owners: Caltrans, County of Santa Cruz, Coast Dairies & Land Company

Dear Frank:

NextG Networks of California, Inc ("NextG") investigated several alternatives to the current proposed design for the application referenced above. The following is a summary analysis of the Telecommunications Act Exception and Alternatives Analysis under the Santa Cruz County Code 13.10.659 et seq. ("SCCC") for the project.

1. **Telecommunications Act Exception (SCCC 13.10.668)**

According to the Telecommunications Act, section 47 U.S.C. § 253(a), a jurisdiction's management of the public rights-of-way may not "prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service." To the extent NextG's telecommunications infrastructure serves wireless communications, the County also must comply with section 332(c)(7)(B)(i)(II), which states that jurisdictions "shall not prohibit or have the effect of prohibiting the provision of personal wireless services."

NextG does not currently have any facilities in this area. In order to provide its customer(s) with telecommunications services, it requires access to the public rights of way for its equipment boxes. In order to support its network, it also requires construction of a small telecommunications hub (12 feet by 16 feet) on a private property parcel zoned commercial agriculture ("CA").

Under SCCC 13.10.661(c)(1)(D), wireless communications facilities are prohibited in the CA zone.[1] That prohibition violates the Telecommunications Act sections 253 and 332 if it results in a prohibition of telecommunications, including wireless, services. Denial of access to the public right of way for the wireless equipment of DAV05 and denial of the telecommunications hub at 25 Swanton Road would result in an absolute prohibition of NextG's services because, as discussed further below, it does not have any alternatives to being in the public right of way.

NextG's other wireless equipment is attached to existing utility poles located on the inland side of Cabrillo Highway in the coastal zone. As a telephone corporation, this equipment is a small part of NextG's fiber optic cable network, which will facilitate telecommunications and broadband services to this underserved area of rural Santa Cruz County. Denial of access to this portion of the public right of way would also result in a violation of section 253 and 332 because NextG would be prohibited from providing its services.

Additionally, section 253(c) of the Telecommunications Act requires that jurisdictions manage "use of public rights-of-way on a nondiscriminatory basis." If a jurisdiction has allowed the traditional telephone company ("ILEC") to operate in the public right-of-way, then it must allow competitive local exchange companies ("CLEC"), like NextG, to access utility poles for their equipment as well. *See TCG New York, Inc. v. City of White Plains*, 305 F.3d 67, 79–80 (2nd Cir. 2002) (the City of White Plains, New York ran afoul of the law when it treated the ILEC differently than a CLEC).[2]

The County has allowed different types of entities to access the public right of way along Cabrillo Highway and Swanton road in order to provide a variety of utility services. NextG has no facilities in this area, and these wireless facilities are necessary elements of its overall wired network to provide telecommunications services to its customers. Denial of these necessary elements of its network would violate the Telecommunications Act sections 253 and 332.

2. <u>Alternatives Analysis (SCCC 13.10.662(c))</u>

As mentioned above, NextG is a telephone corporation with the right to operate in the public rights-of-way under state and federal law in order to provide its telecommunications services. NextG's networks are essentially wired, fiber optic cable networks with the wire placed on existing utility poles in the public right away, similar to the traditional telephone company, power, and cable companies. It is not a wireless carrier, nor can it construct traditional wireless sites, such as towers and monopoles. It provides radio frequency signal transport over a wired network with small wireless elements, which must be directly attached to the wired network. Prohibiting NextG from attaching to existing utility poles would be like telling the power company it was not allowed to attach its transformers to the utility pole—it doesn't make sense.

13.10.662(c)(1): NextG networks require seven locations with wireless and non-wireless equipment attached to existing utility poles. NextG designed the network so that its six locations

[1] This section of the code is inconsistent with SCCC 13.10.312(b) (Agricultural Uses Chart), which allows wireless communication facilities in the CA zone with a Level V application

[2] *See also,* Public Utilities Code section 7901.1(b) (stating that the control exercised by municipalities over access to the public rights-of-way "be reasonable" and "at a minimum, be applied to all entities in an equivalent manner.")

(DAV01-04, 09, 10) along Cabrillo Highway are on the landward side of the road, rather than the seaward side. NextG presented the country with two different design alternatives—communications space antennas or pole top antennas. Both of these designs are limited to what is allowed under General Order ("GO") 95 Rule 94.4.

The seventh location (DAV05) is on Swanton Road on the landward side of Cabrillo Highway, and NextG presented two antenna heights for this location since it is on a different type of utility pole. Photos of each of these designs are attached for comparison Exhibit A. At this time, the Planning Department has expressed a preference for the communication space antenna configurations and the lower height for DAV05. There are no poles along Cabrillo Highway in this area, which is why DAV05 is on Swanton Road. NextG would need the County to allow NextG to place a new utility pole along Cabrillo Highway, and at this point, the County has not been receptive to NextG placing any new poles.

NextG requires a telecommunications hub to support its fiber optic cable network. There is no wireless equipment at the hub location, but the hub was combined with the project in the same application for streamlining purposes. The hub requires a coastal development permit, and NextG provided an alternatives analysis at the request of the Planning Department. NextG considered three locations. A list of the alternatives is attached as Exhibit B. The feasibility of a telecommunications hub is dependent on having a willing landowner. NextG contacted all three property owners and received firm rejections from the fire department and lumber mill candidates. The land owner of the Swanton Berry Farm was receptive.

NextG met with the land owner regarding a location. The land owner instructed NextG to place its 16' x 12' telecommunications hub in a triangular portion of the parcel between existing outbuildings, which is not capable of supporting agricultural production. The location of the hub along with photo simulations is attached as Exhibit C. The photos simulations show the design of the hub to blend with the existing outbuildings.

13.10.662(c)(2): There is potential for NextG's facilities to provide services to multiple customers, but traditional "co-location" may not be possible due to constructability issues on the utility pole.

13.10.662(c)(3): As mentioned in 13.10.662(c)(1), the NextG may construct its DAV01-04, 09, 10 in two configurations—pole top or communications space antennas. DAV05 is on Swanton Road because the County will not support NextG placing a new pole in the right of way of Cabrillo Highway. The County has expressed an interest in the communications space design on the utility pole. NextG looked at other hub locations, but only one landlord was receptive to the hub.

13.10.662(c)(4): Photo simulations of the two different designs are attached below.

13.10.662(c)(5): NextG's rights to operate in the public right of way is equivalent on all utility poles. NextG may locate on a different utility pole according to the safety rules in GO 95, but the design would be equivalent to that being proposed. There are no superior poles from a

design or compliance perspective. Many utility poles are located on the seaward side of Cabrillo Highway, and all of those were avoided in order to comply with SCCC 13.10.659 et seq.

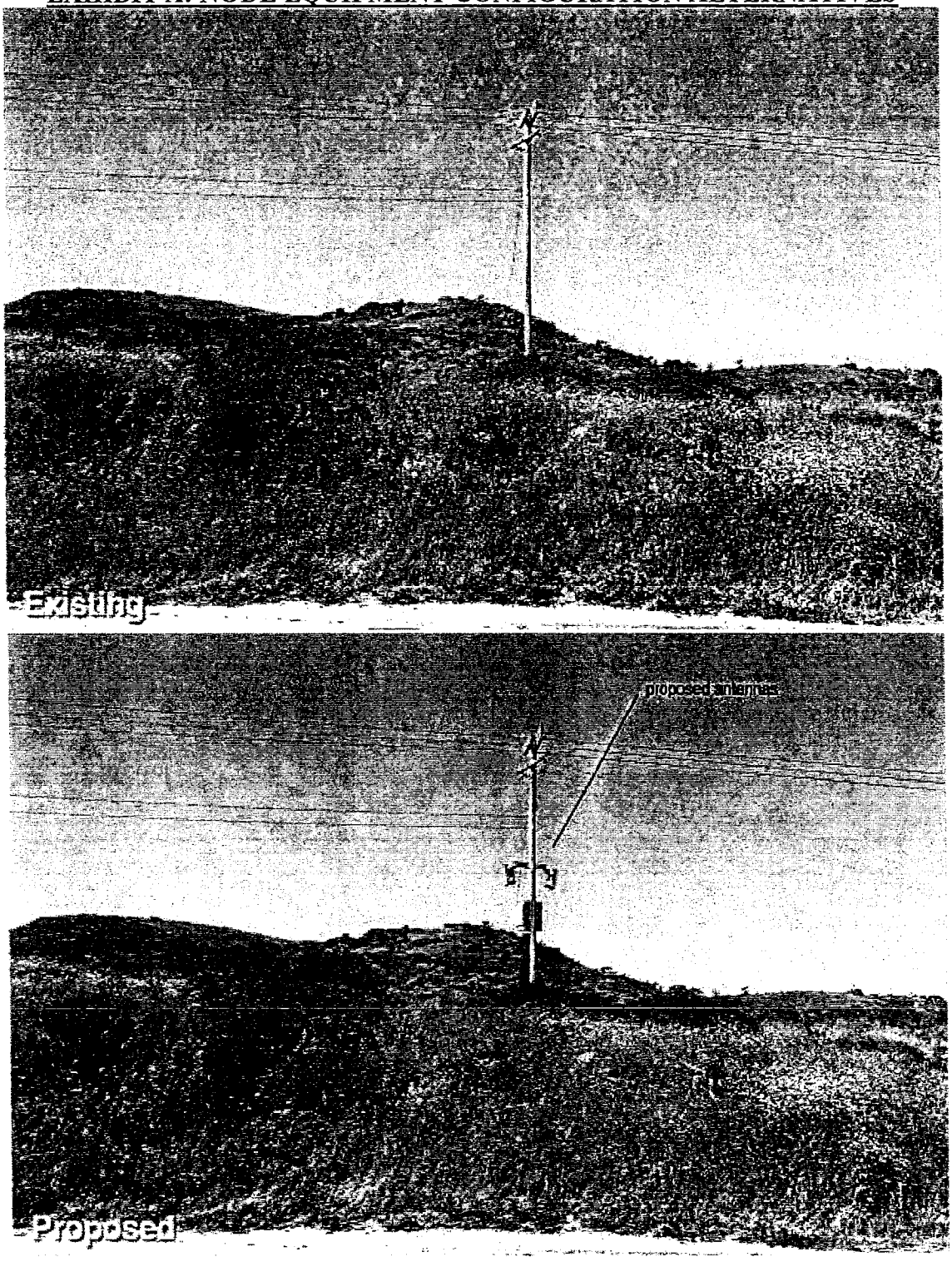
Please feel free to contact me via email or phone if you require any additional information or clarification. I can be reached at 408-409-6606 or by email at nernst@nextgnetworks.net.

Best regards,

Natasha Ernst
Director of Government Relations

ATTACHMENT 2
EXHIBIT C

EXHIBIT A: NODE EQUIPMENT CONFIGURATION ALTERNATIVES

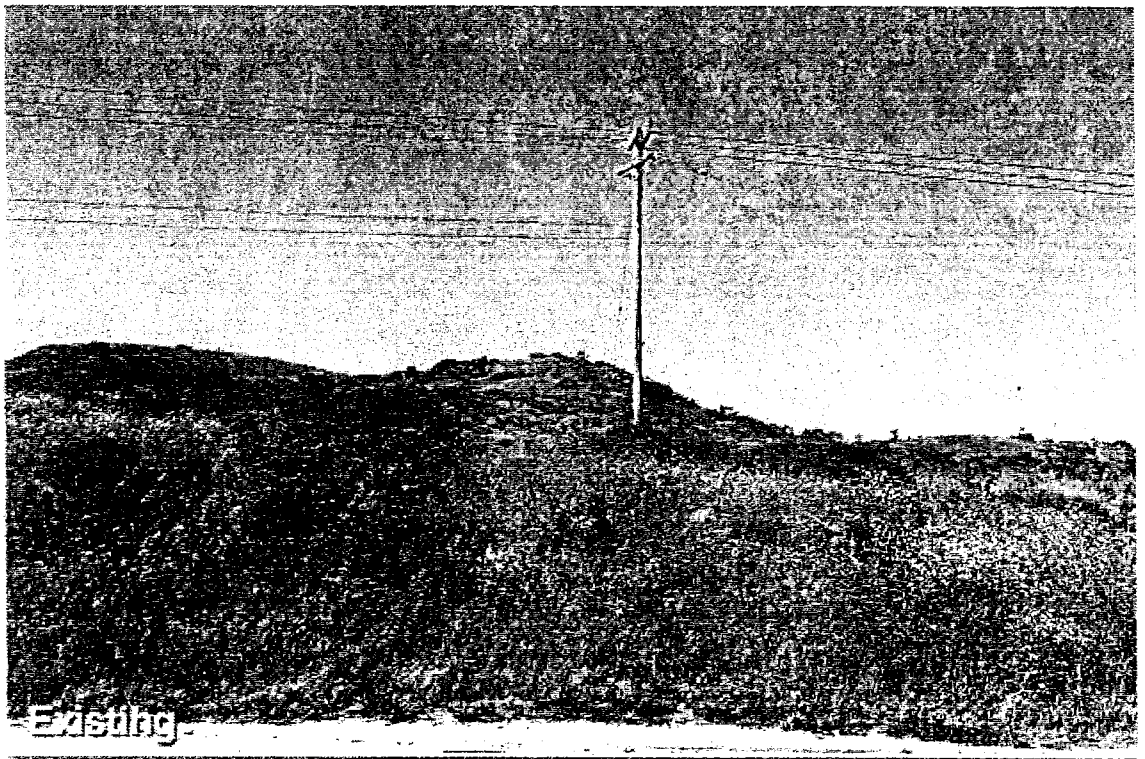


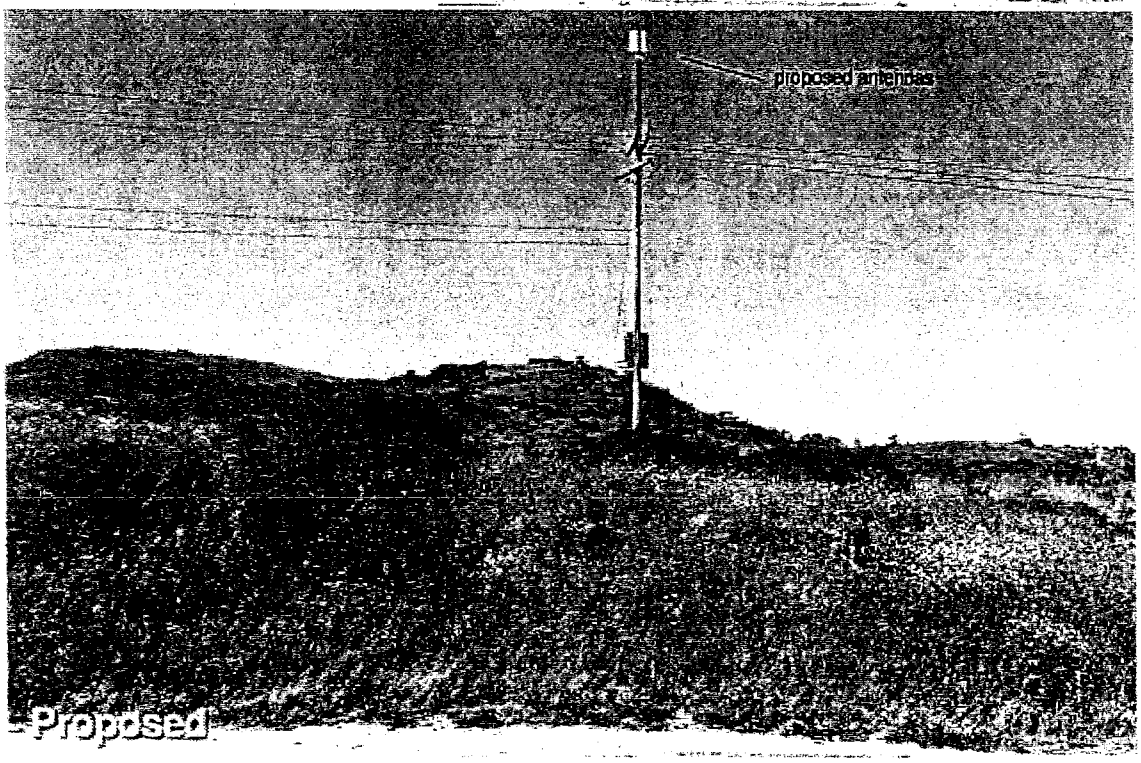
Davenport Site # DAV01

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95050

6/12/11

View #1





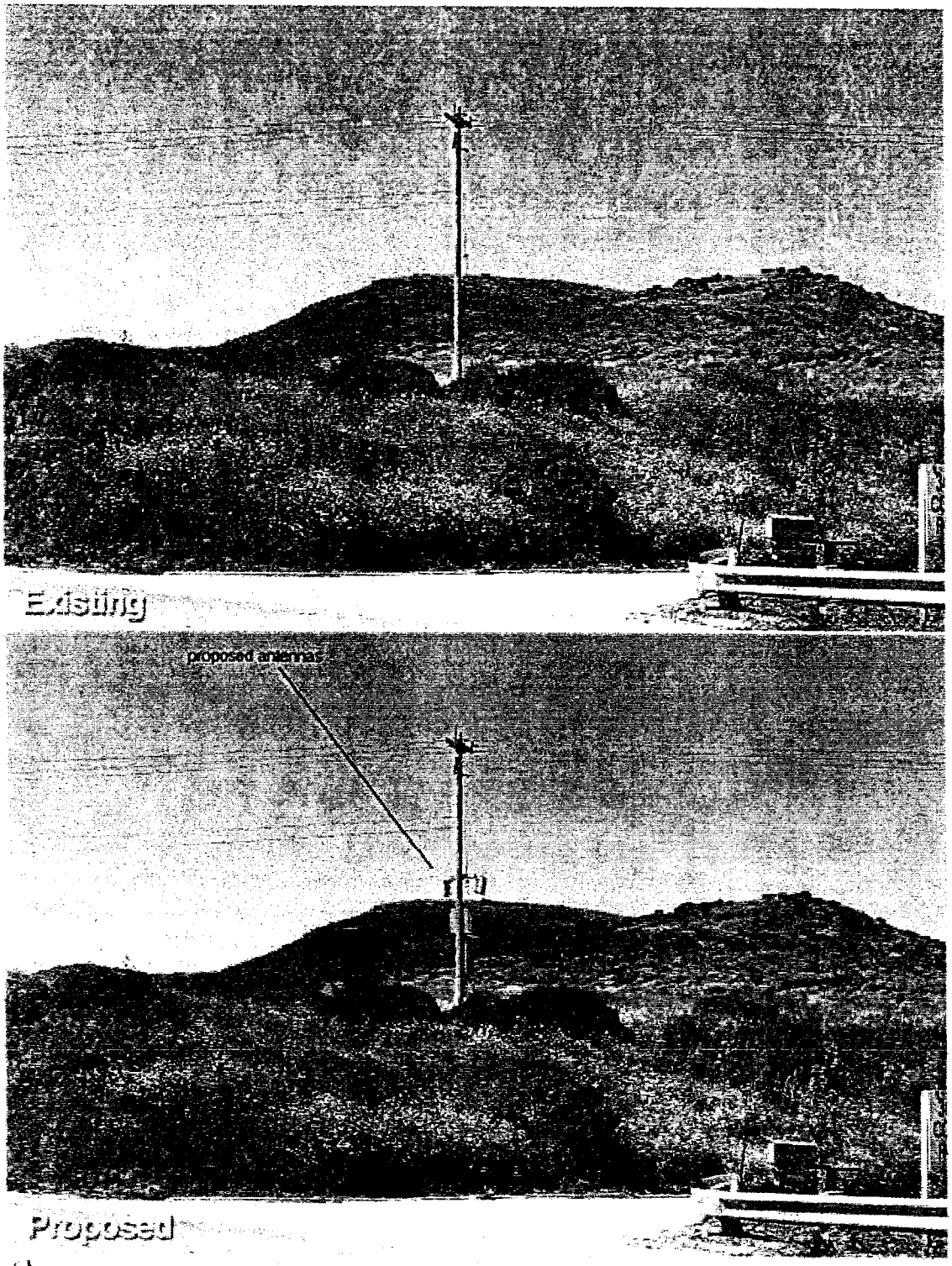
Davenport Site # DAV01

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/25/11

View #1

EXHIBIT G



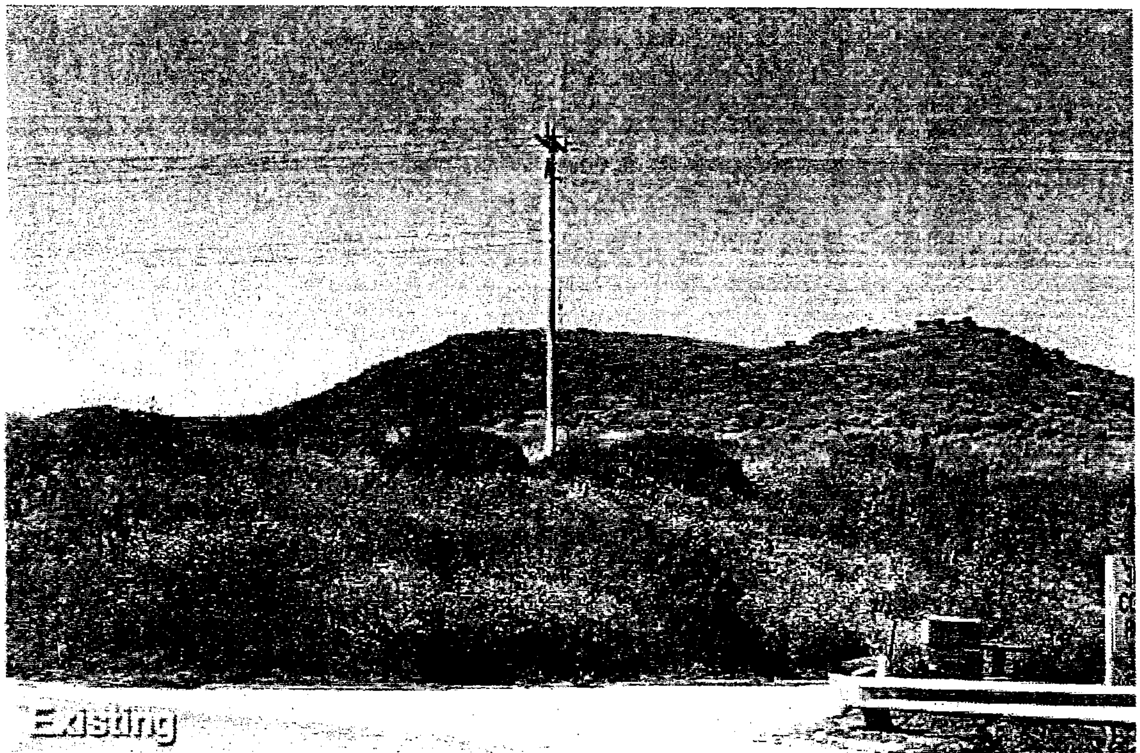
Davenport Site # DAV01

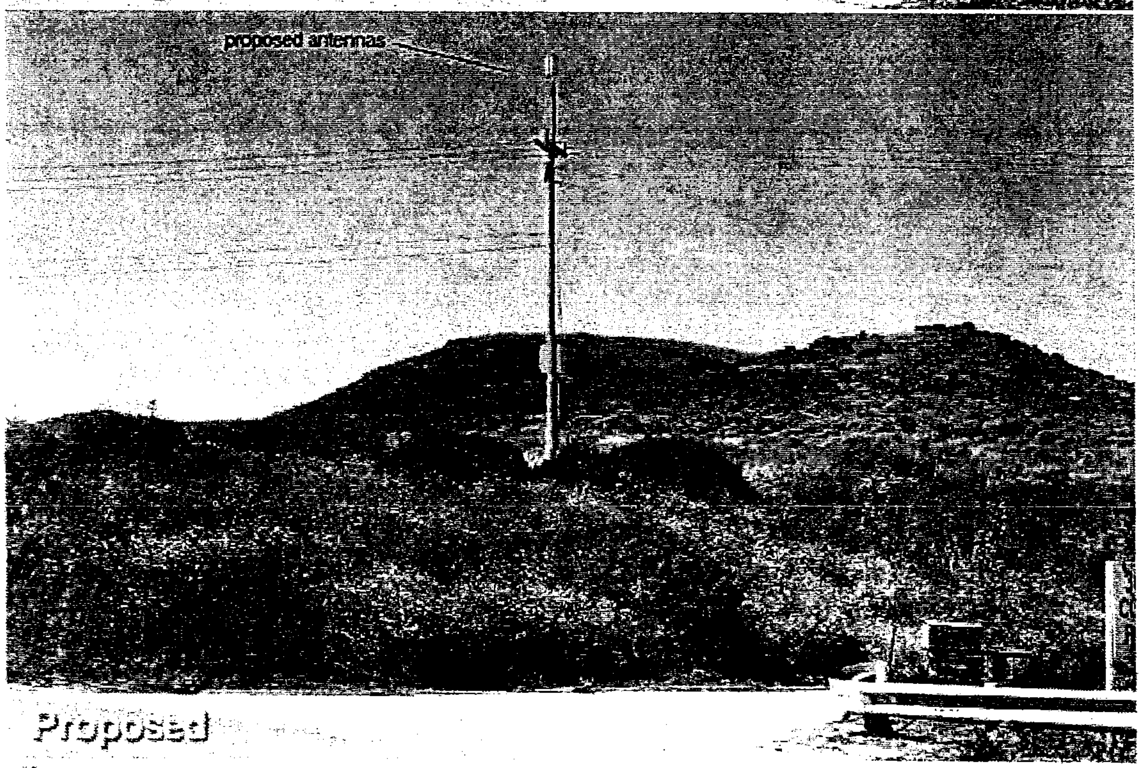
8/12/11 Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #2

plan78

ATTACHMENT 2





NextG Networks

Davenport **Site # DAV01**

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/05/11

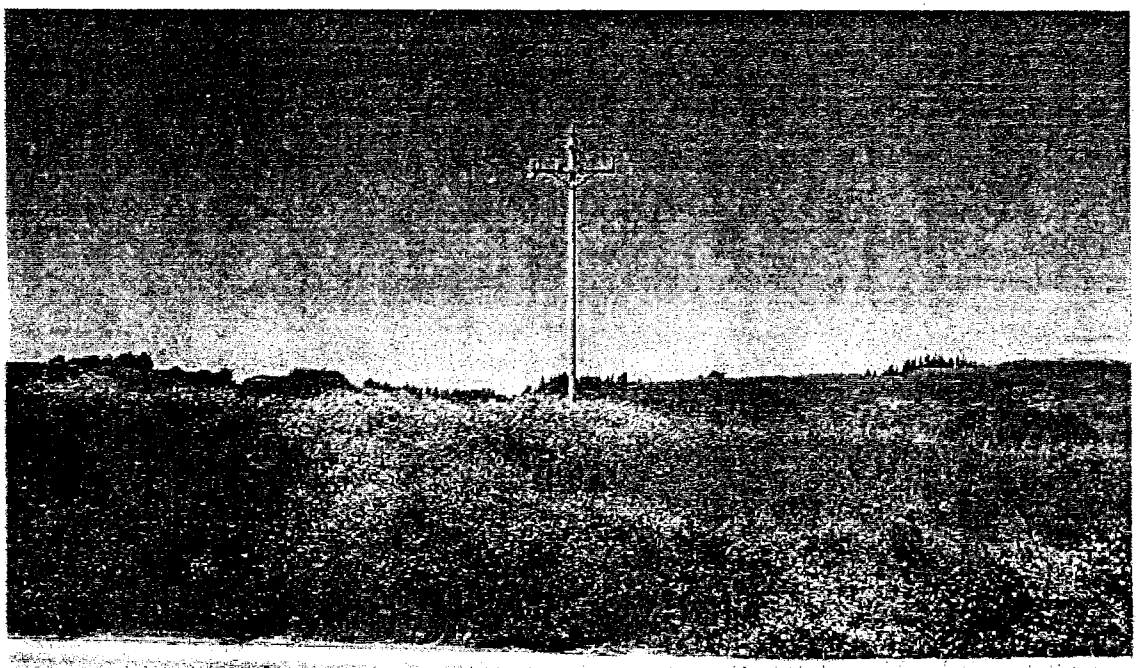
View #2

Applied Imagination [illegible]

pln78

EXHIBIT G

ATTACHMENT 2



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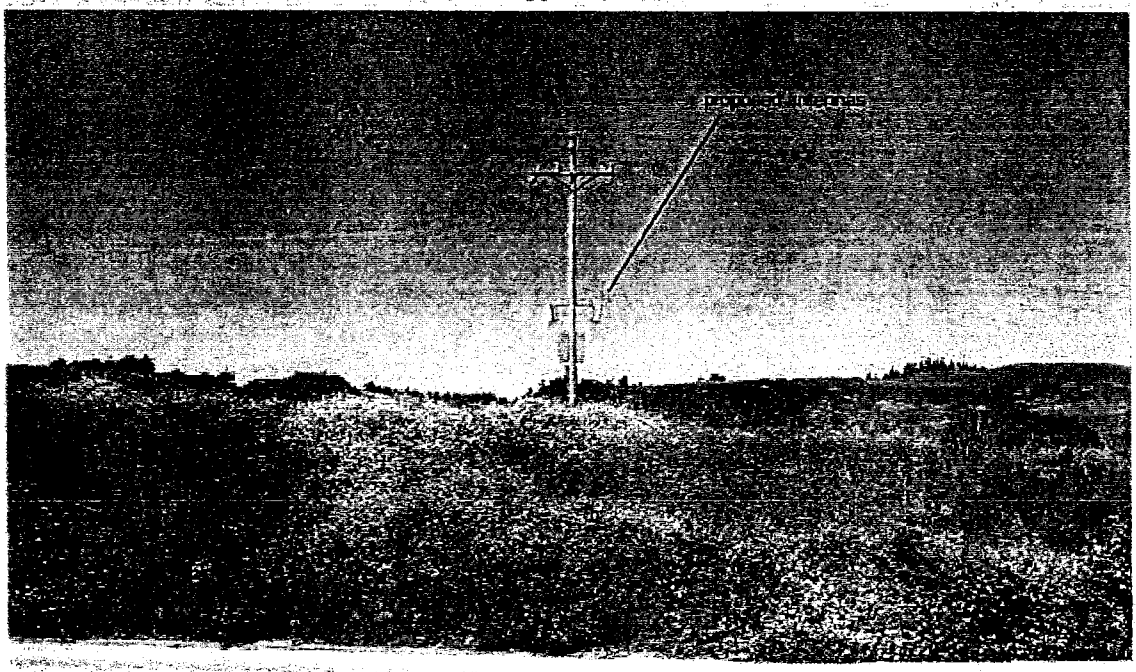


Proposed

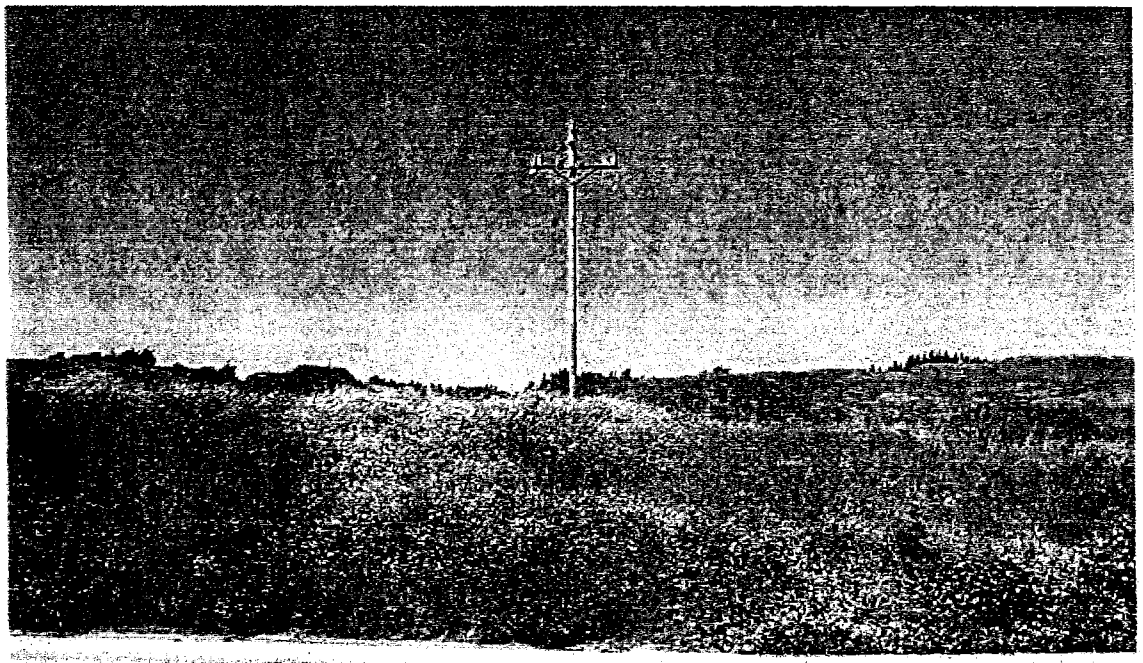
Davenport Site # DAV02

Cabrillo Hwy / Hwy 1
Santa Cruz, CA 95060

8/12/11

View #1

ATTACHMENT 2
EXHIBIT G



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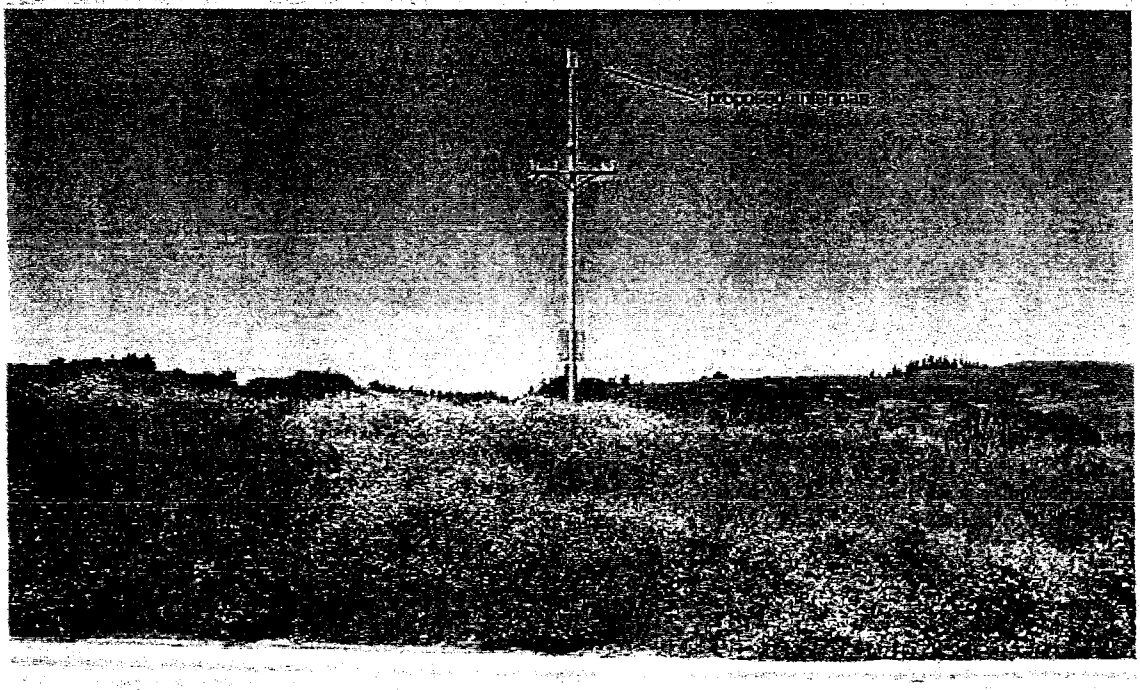


Proposed

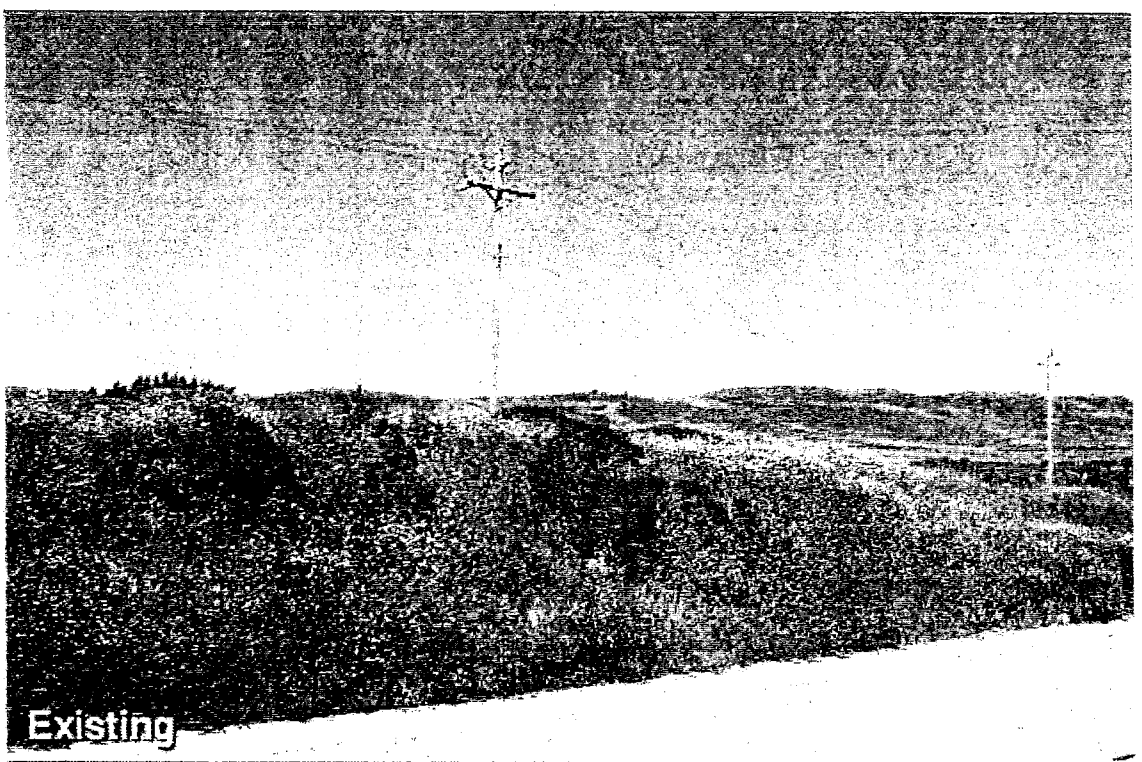
Davenport Site # DAV02

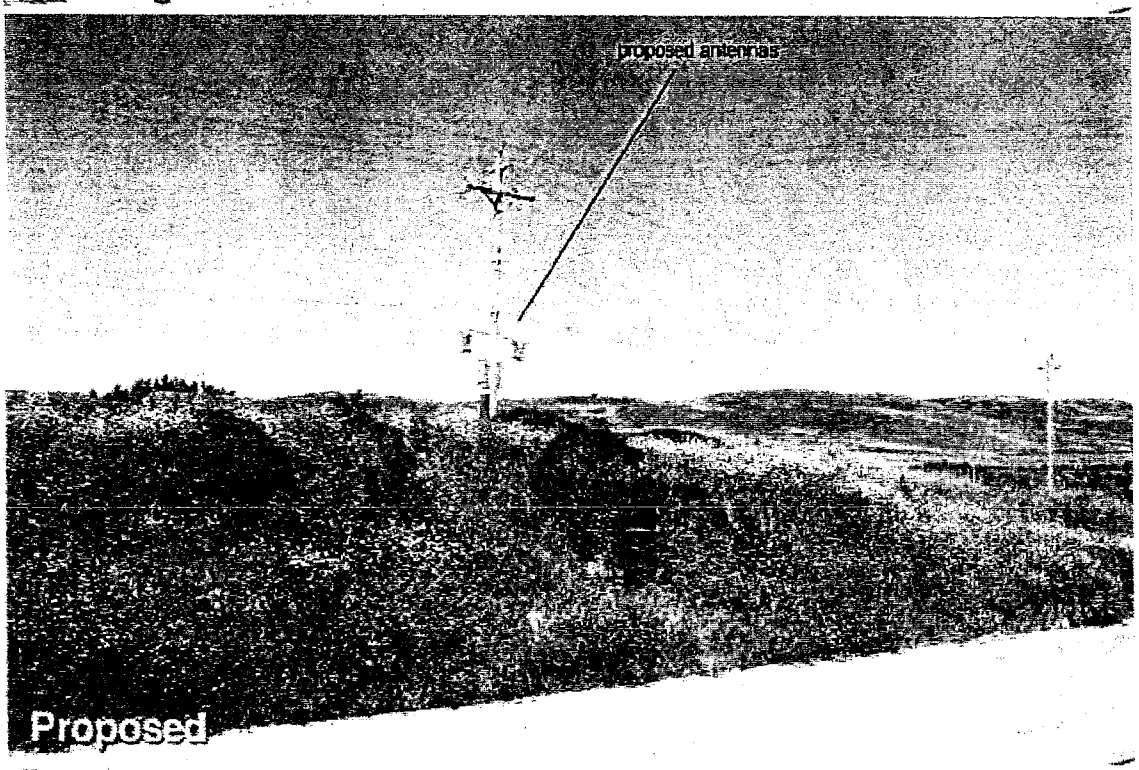
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/25/11

View #1

ATTACHMENT 2
EXHIBIT G





Davenport Site # DAV02

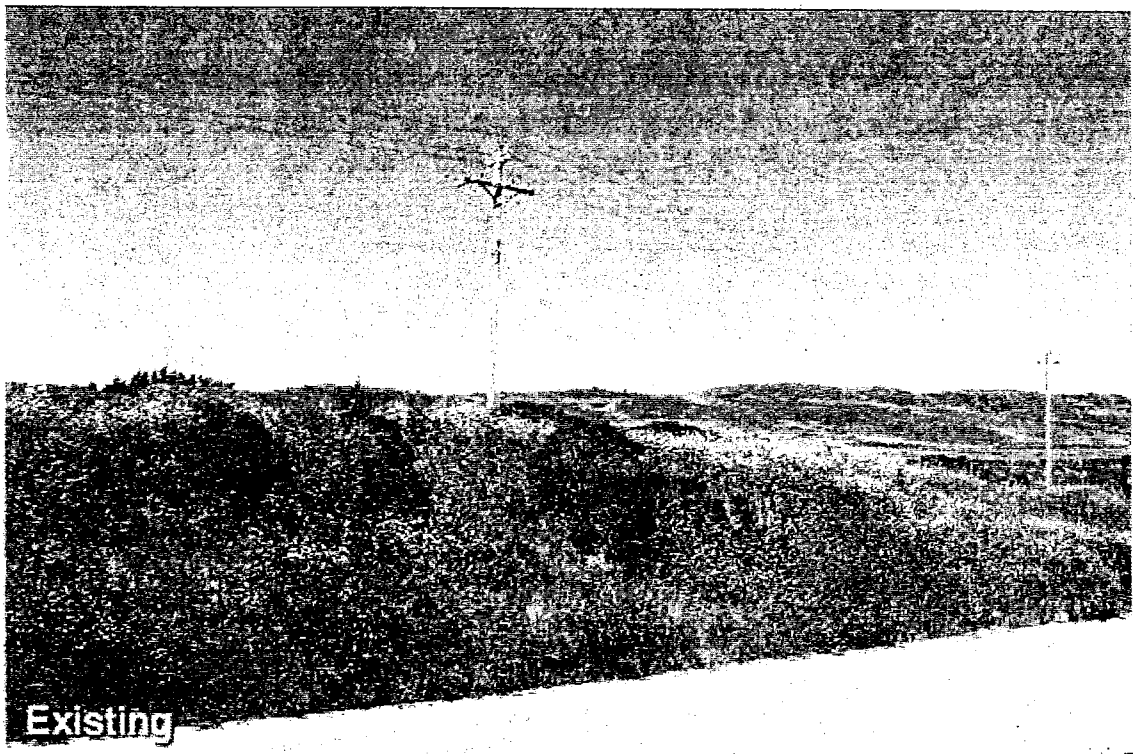
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

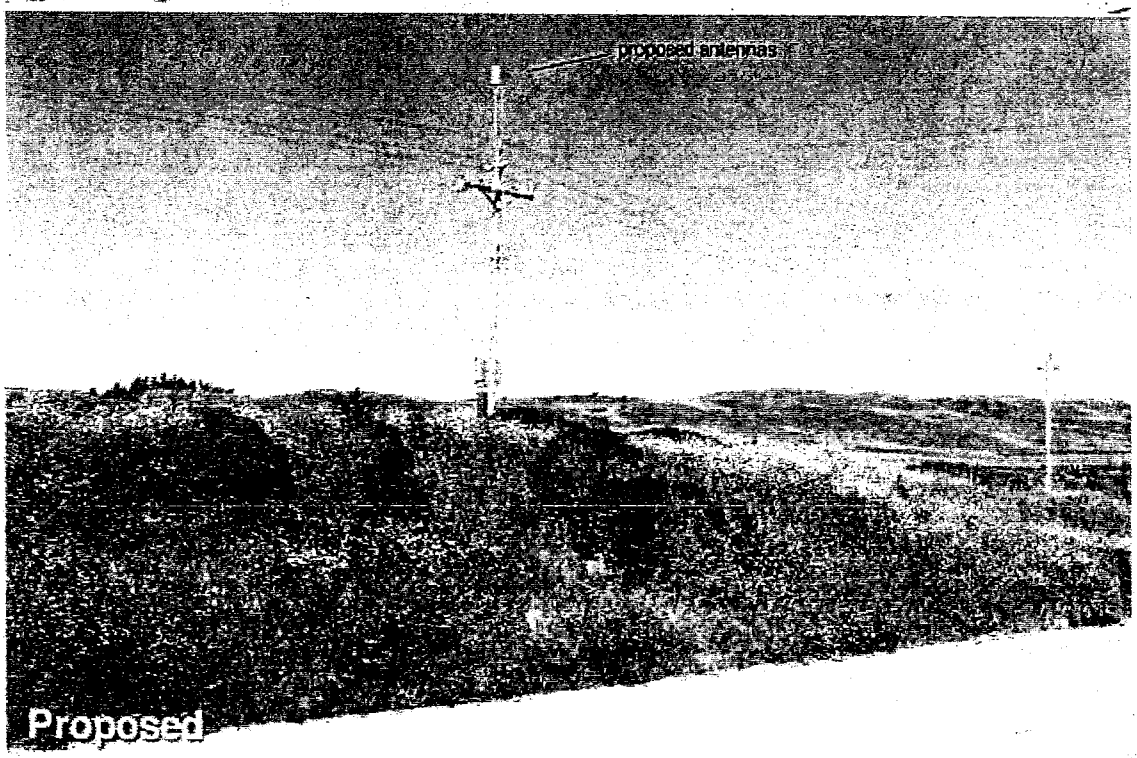
7/27/11

View #2

Applied Imagination 510.214.0300

ATTACHMENT 2
EXHIBIT G





Davenport Site # DAV02

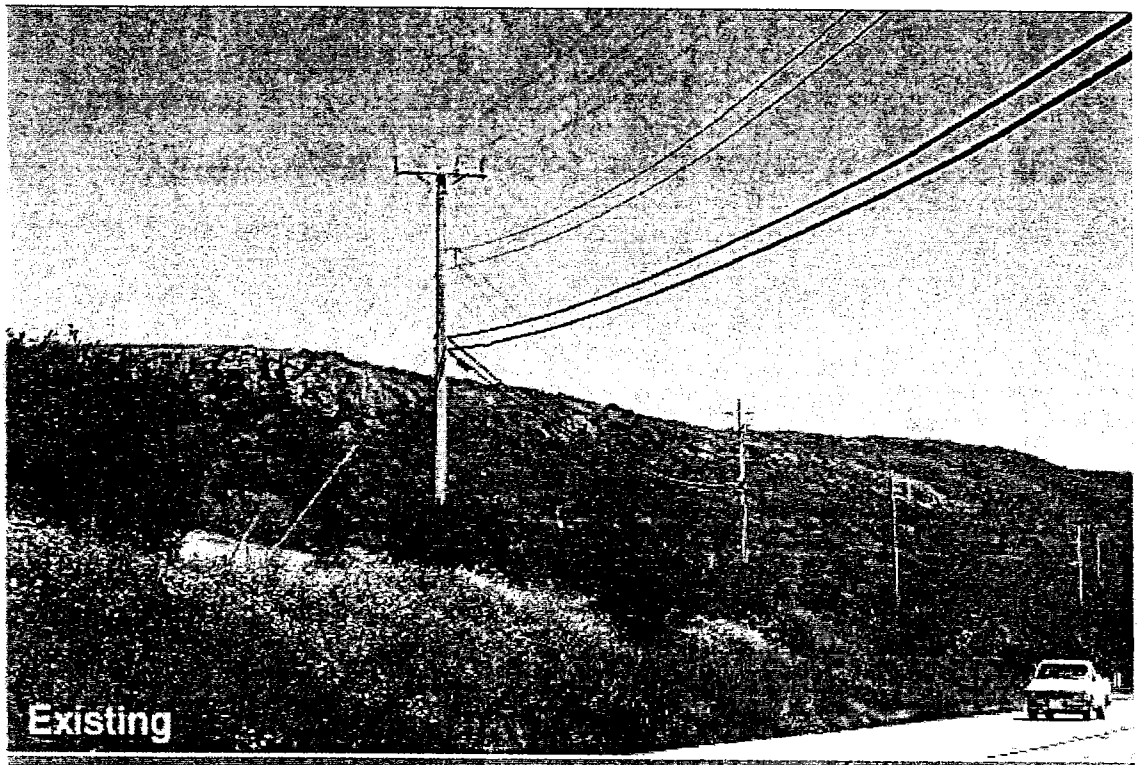
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

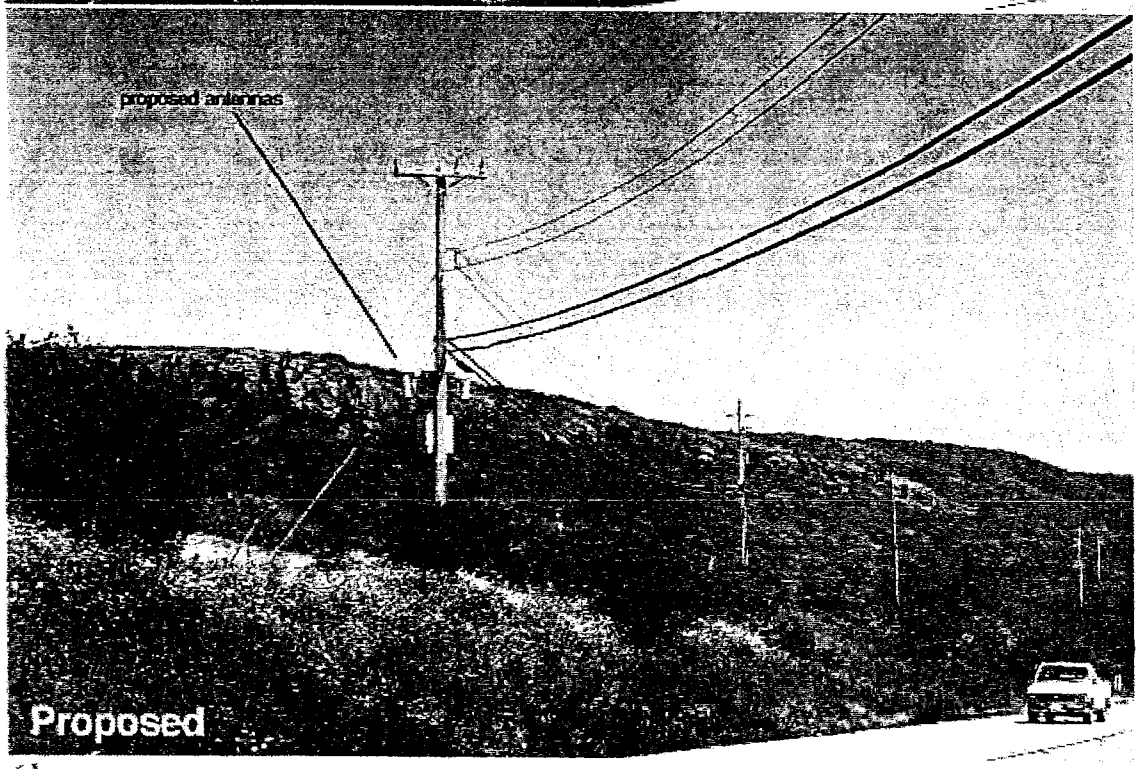
5/05/11

View #2

pln78

ATTACHMENT 2
EXHIBIT G





Davenport Site # DAV03

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

8/12/11

View #1

pln78

ATTACHMENT 2
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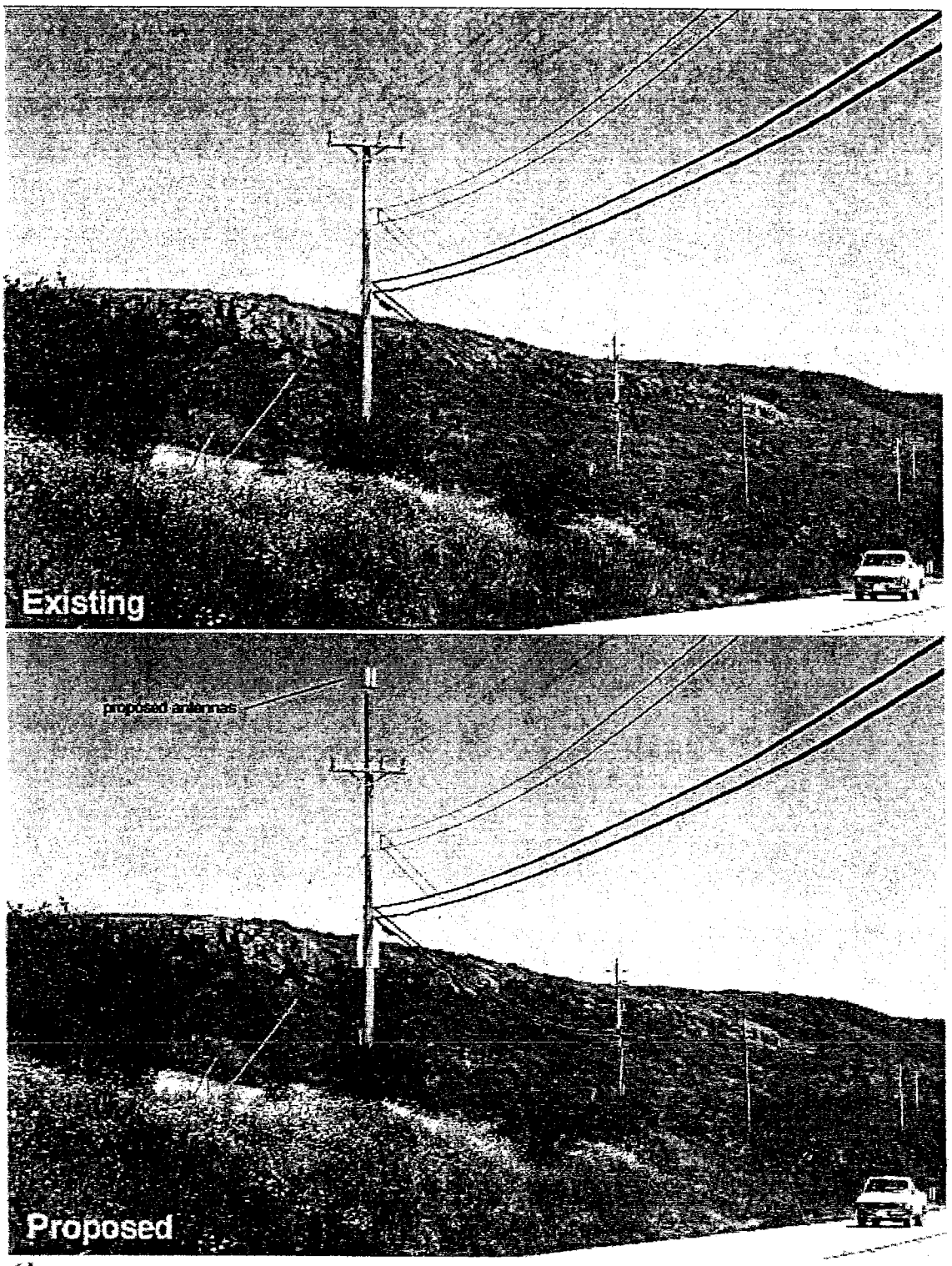


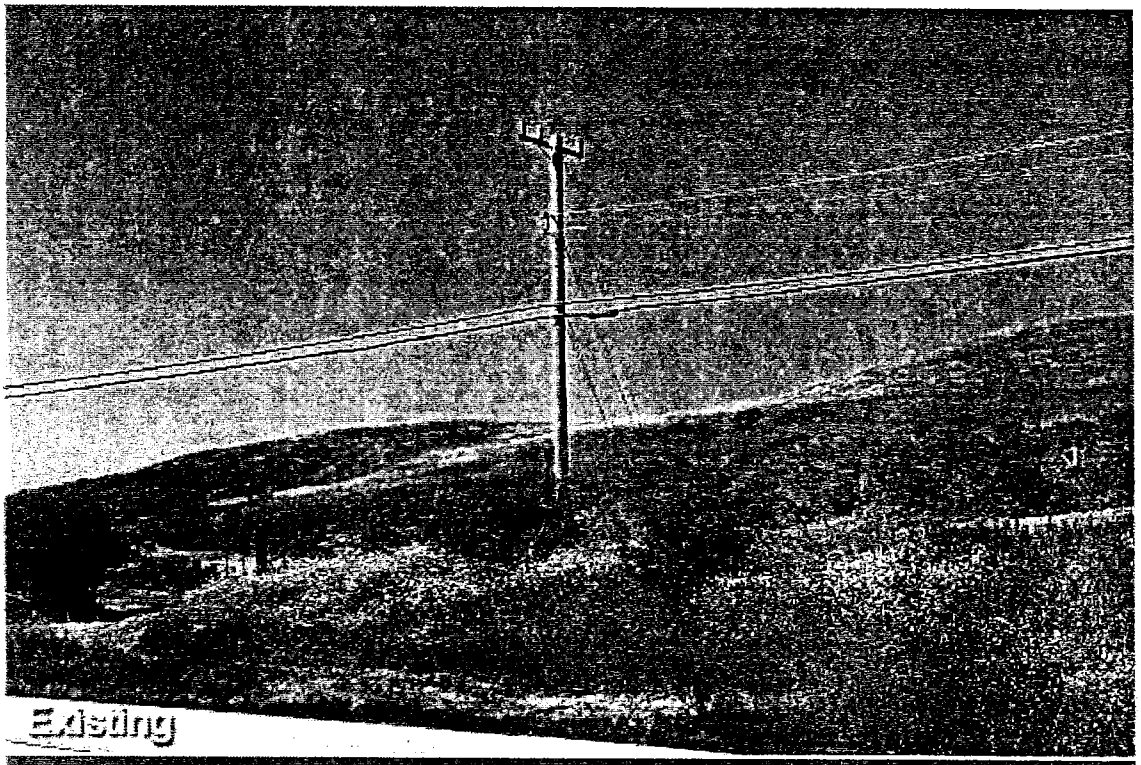
Davenport Site # DAV03

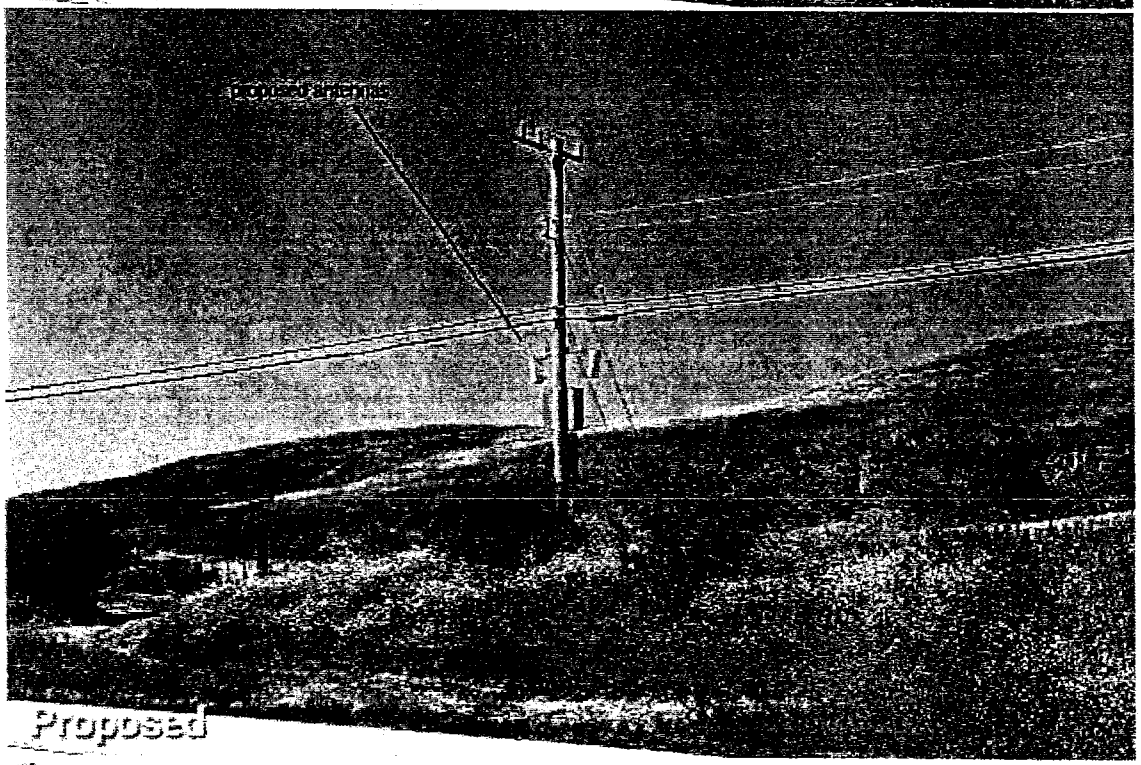
Cahrilo Hwy / Hwy1
Santa Cruz, CA 95060

5/05/11

View #1

pln78



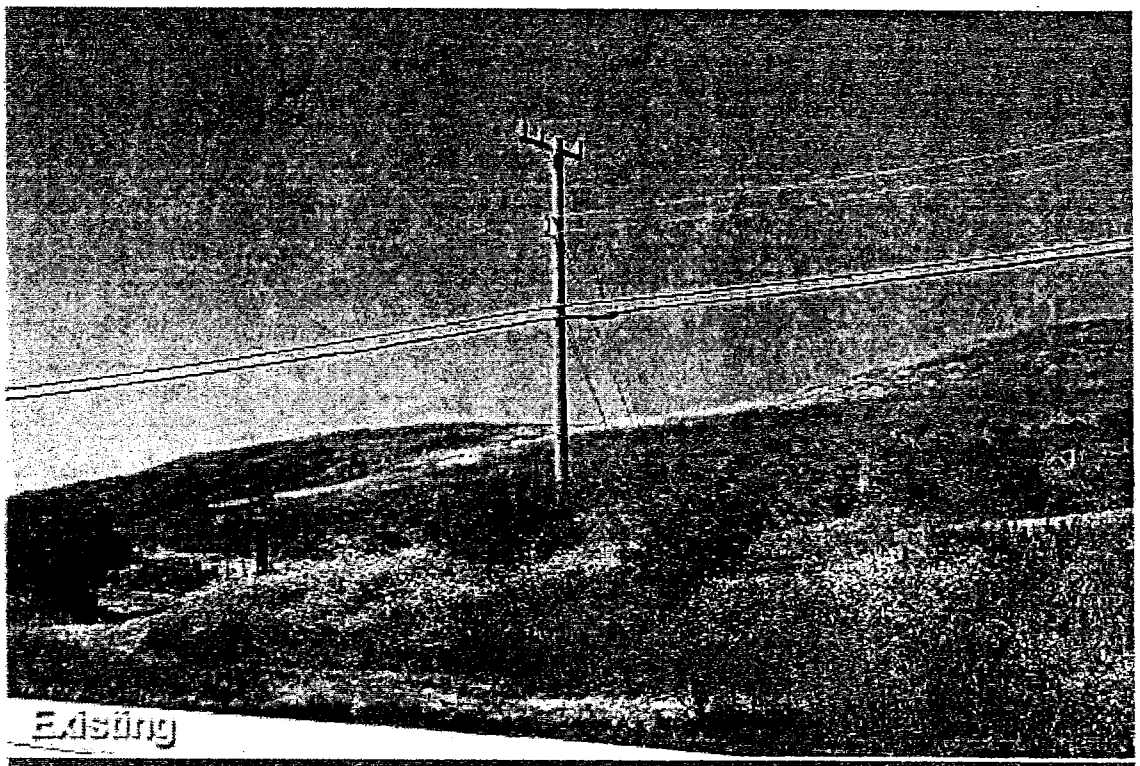


Davenport Site # DAV03

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #2

ATTACHMENT 2
EXHIBIT E



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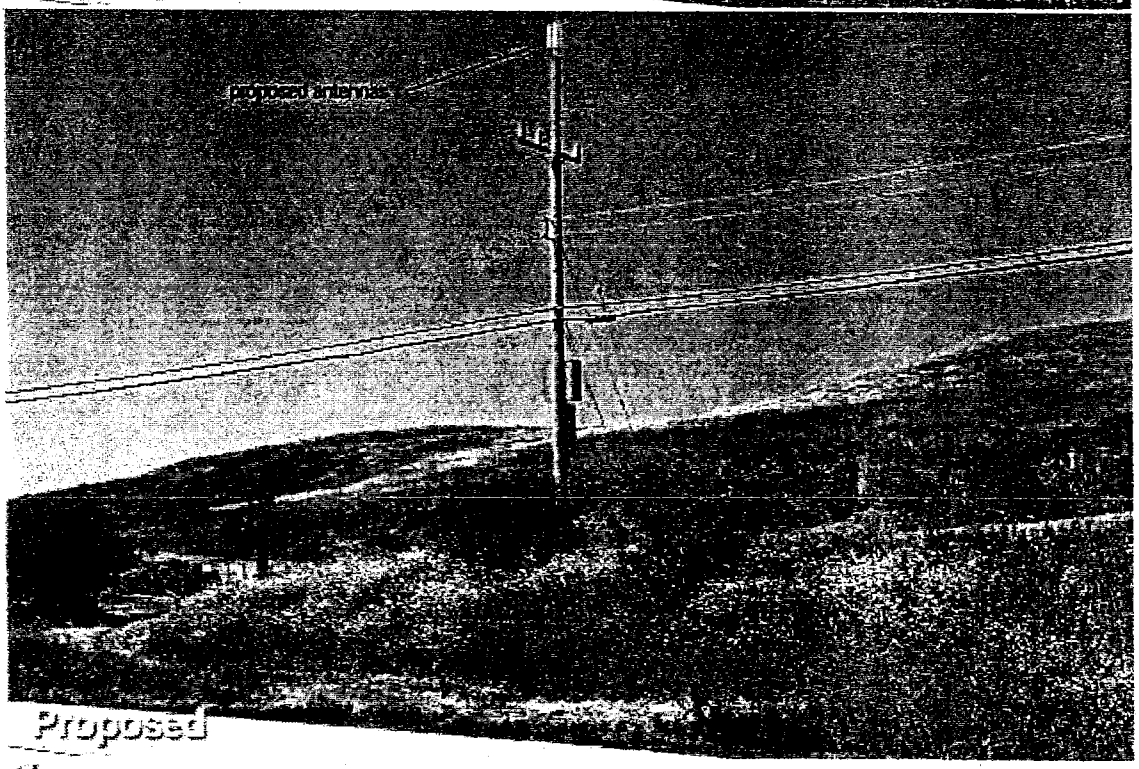


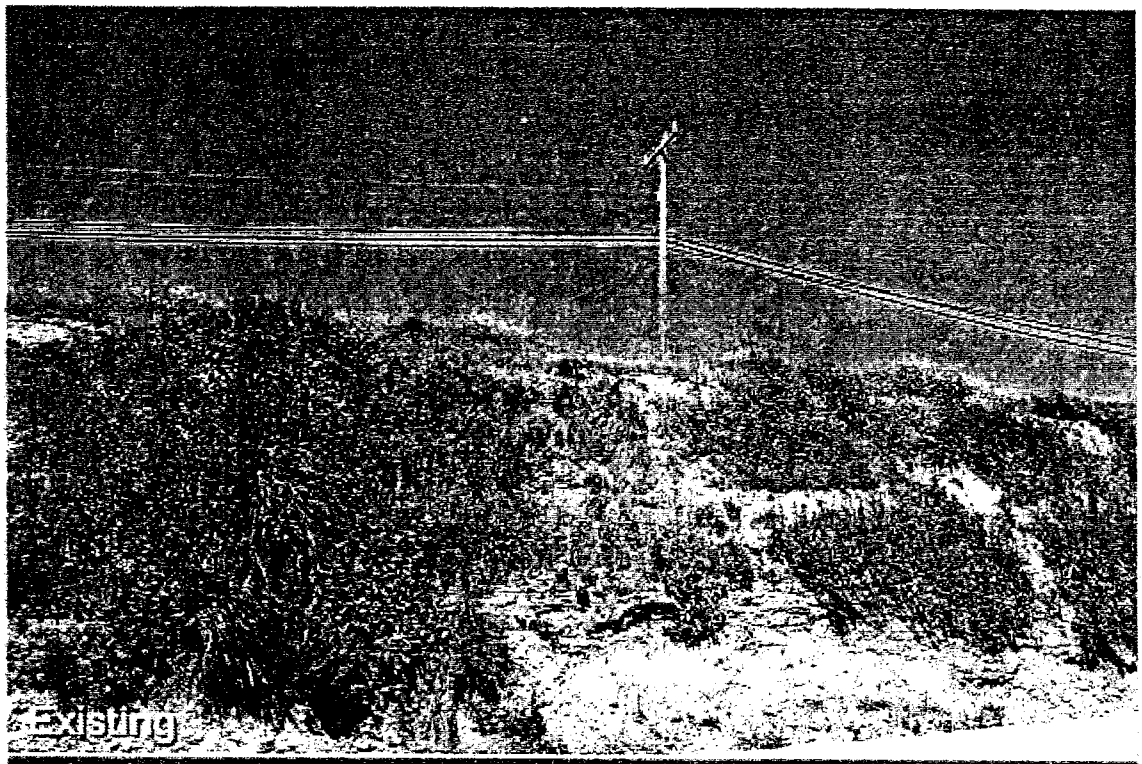
Proposed

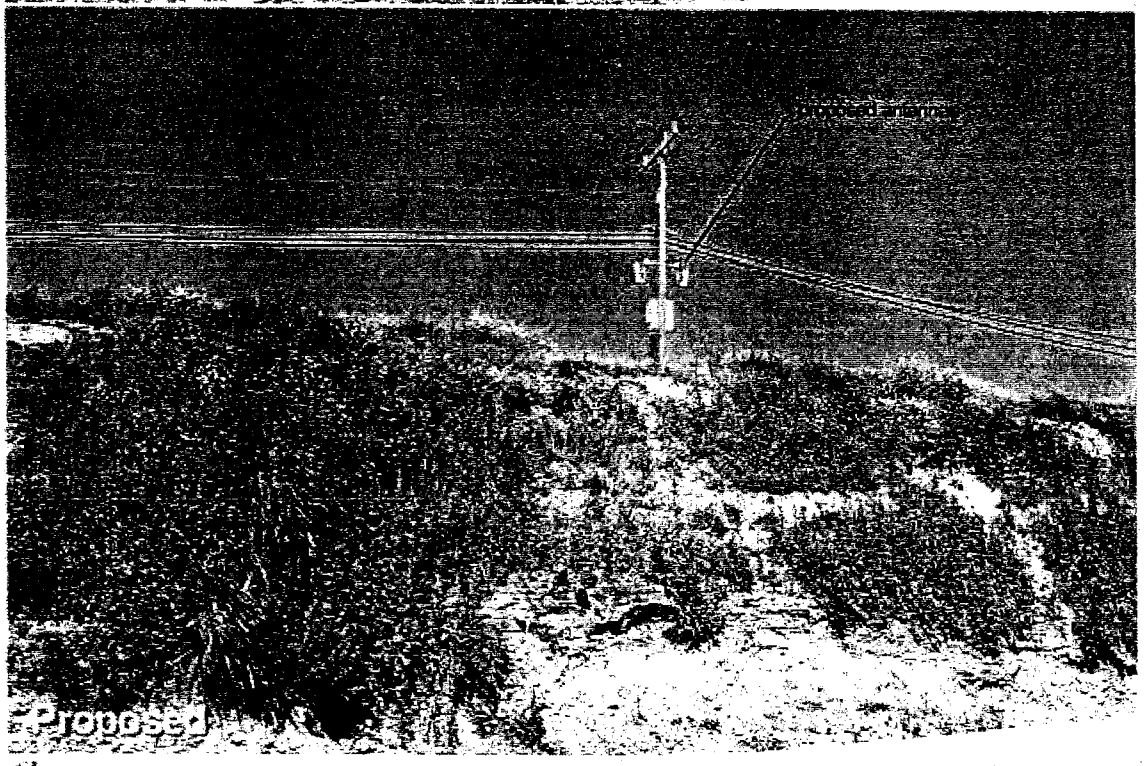
Davenport Site # DAV03

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/25/11

View #2





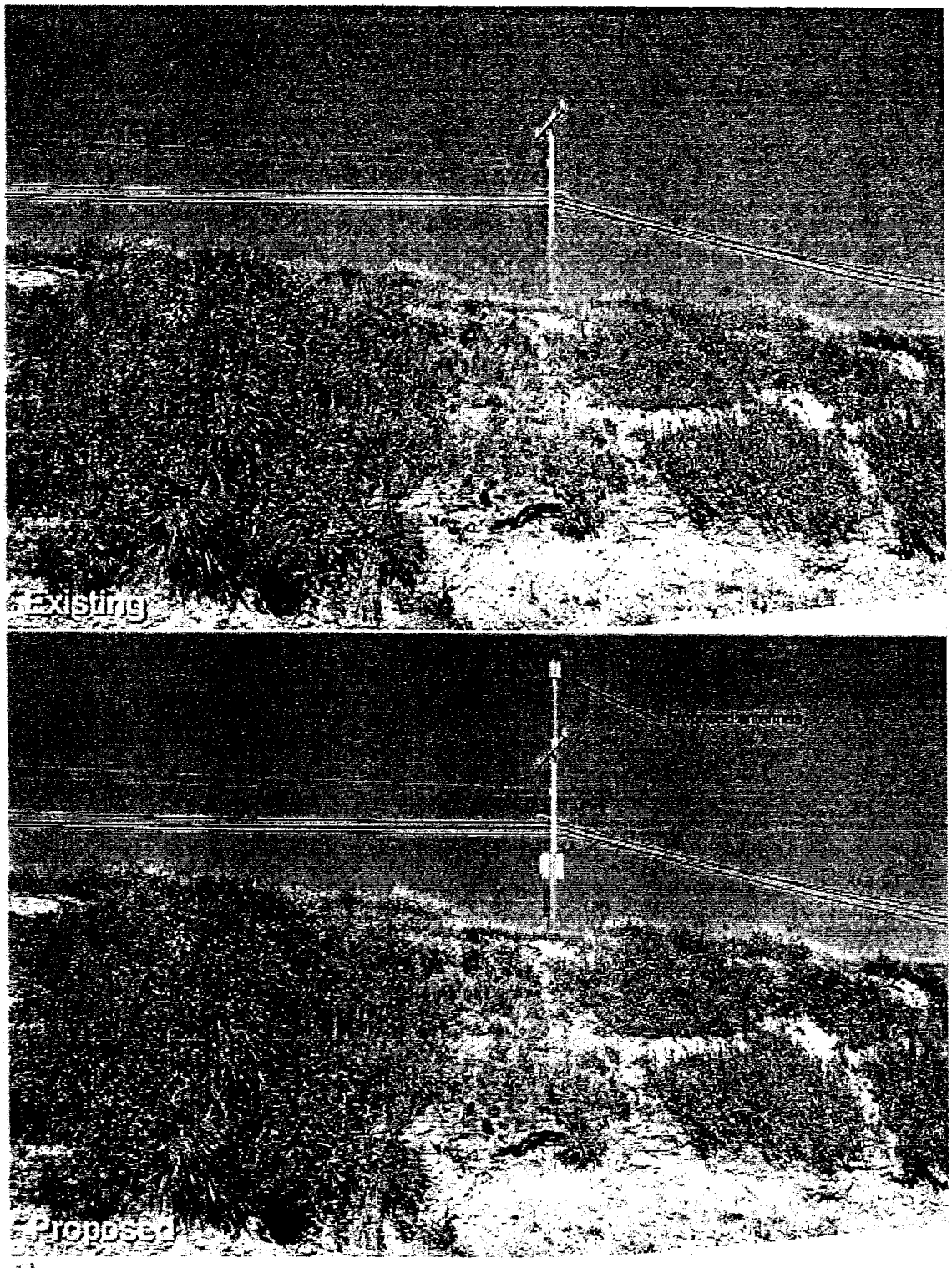
Davenport Site # DAV04

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

8/12/11

View #1

ATTACHMENT 2
EXHIBIT G



Davenport Site # DAV04

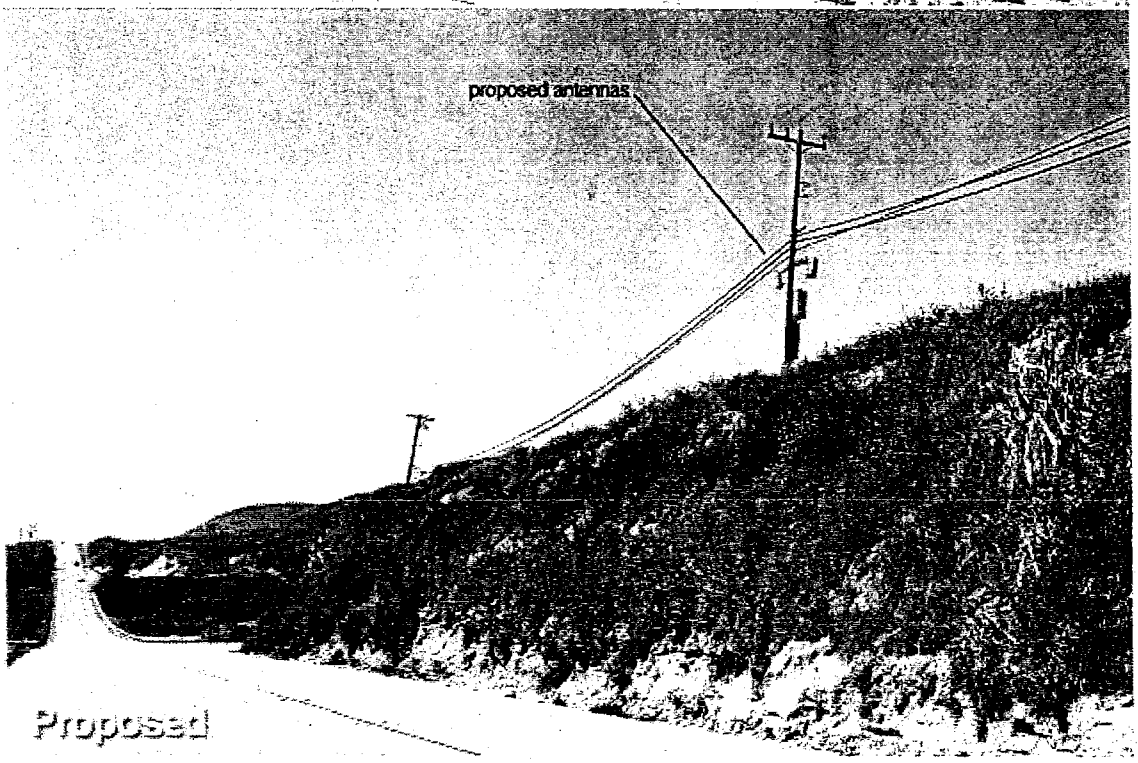
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #1

5/05/11

ATTACHMENT 2
EXHIBIT C

Existing



Proposed

Davenport Site # DAV04

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #2

ATTACHMENT 2
EXHIBIT G

Existing

Proposed

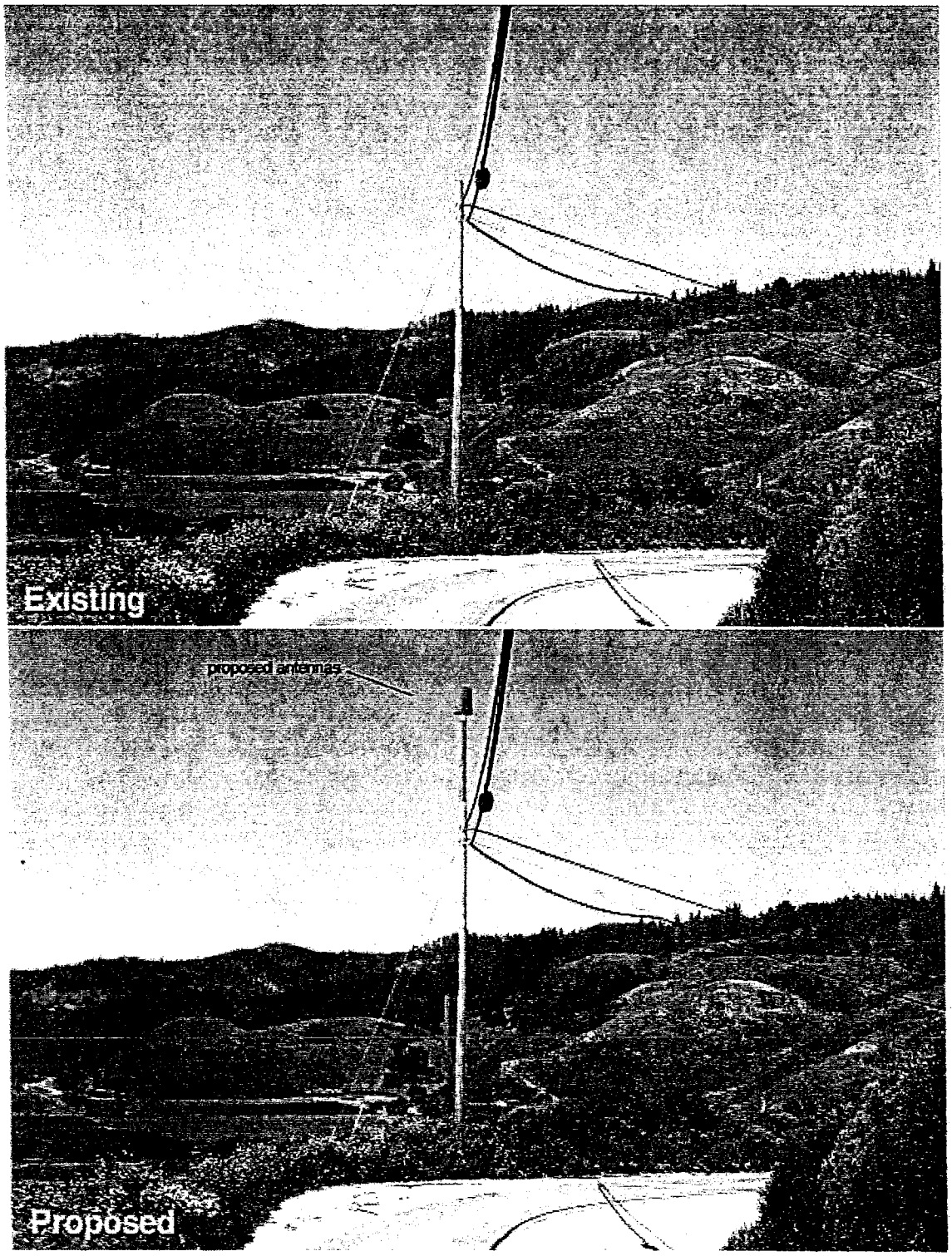
Davenport Site # DAV04

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/25/11

View #2

ATTACHMENT 2
EXHIBIT C



Davenport Site # DAV05

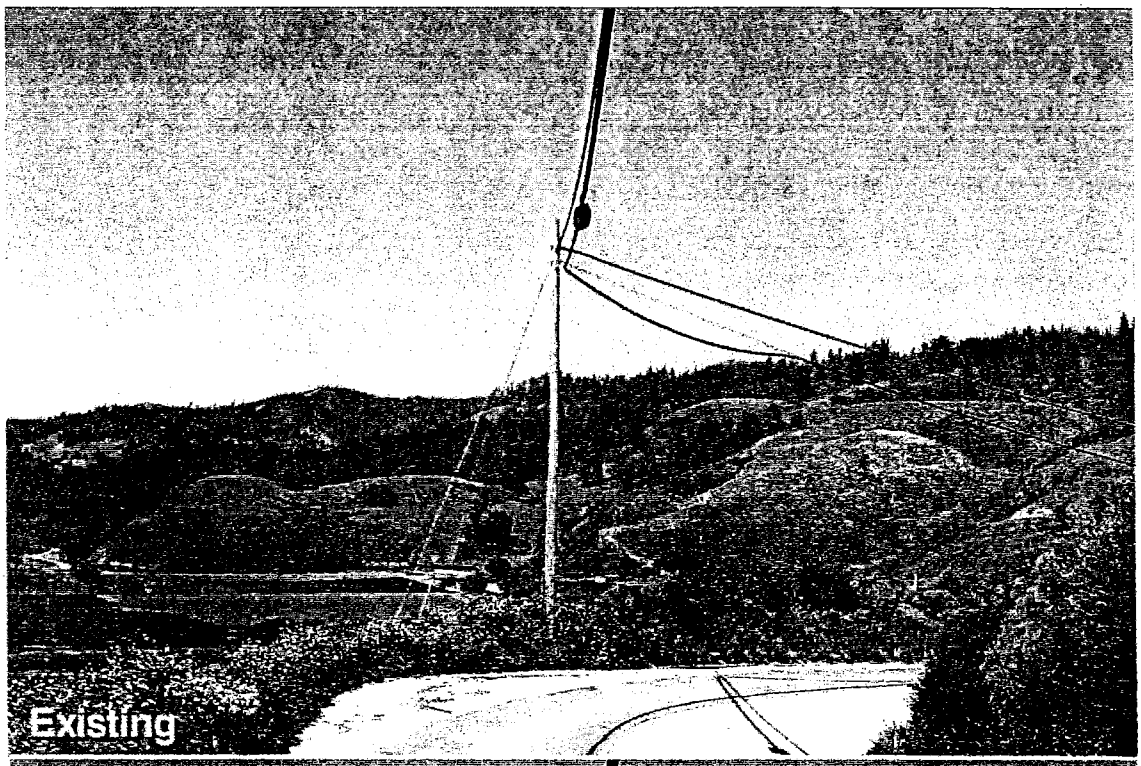
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

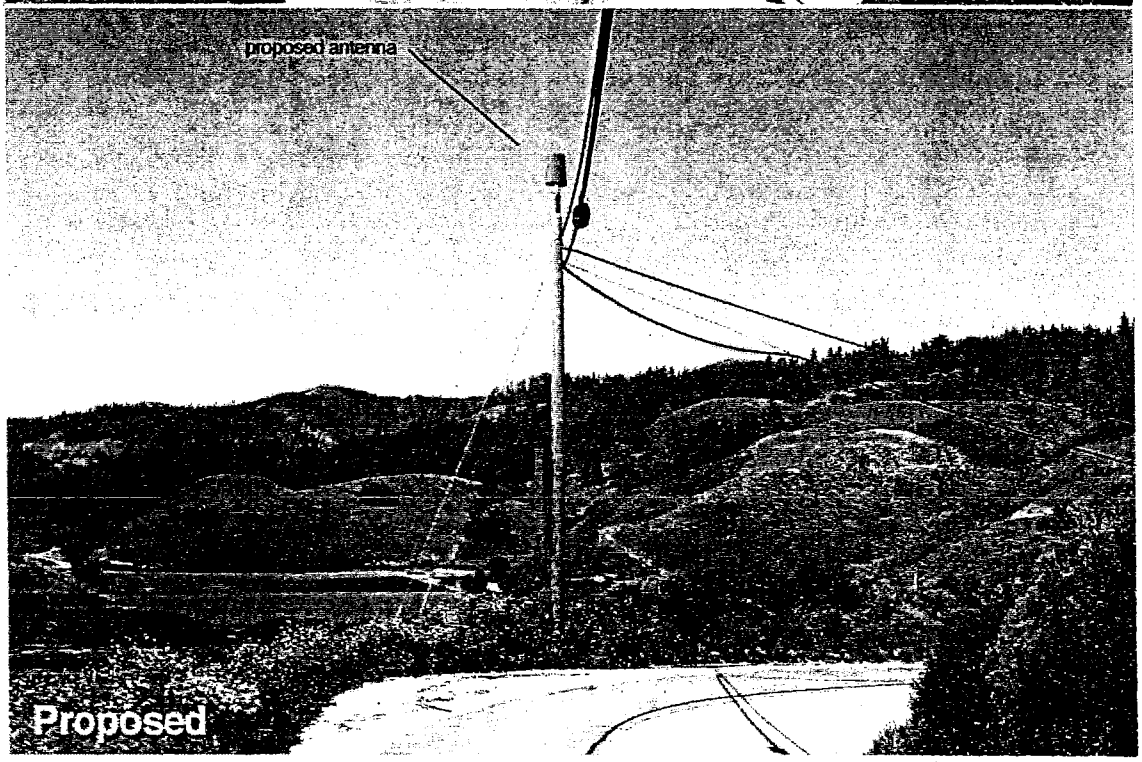
5405-11

View #1

plan78

ATTACHMENT 3
EXHIBIT G





Davenport Site # DAV05

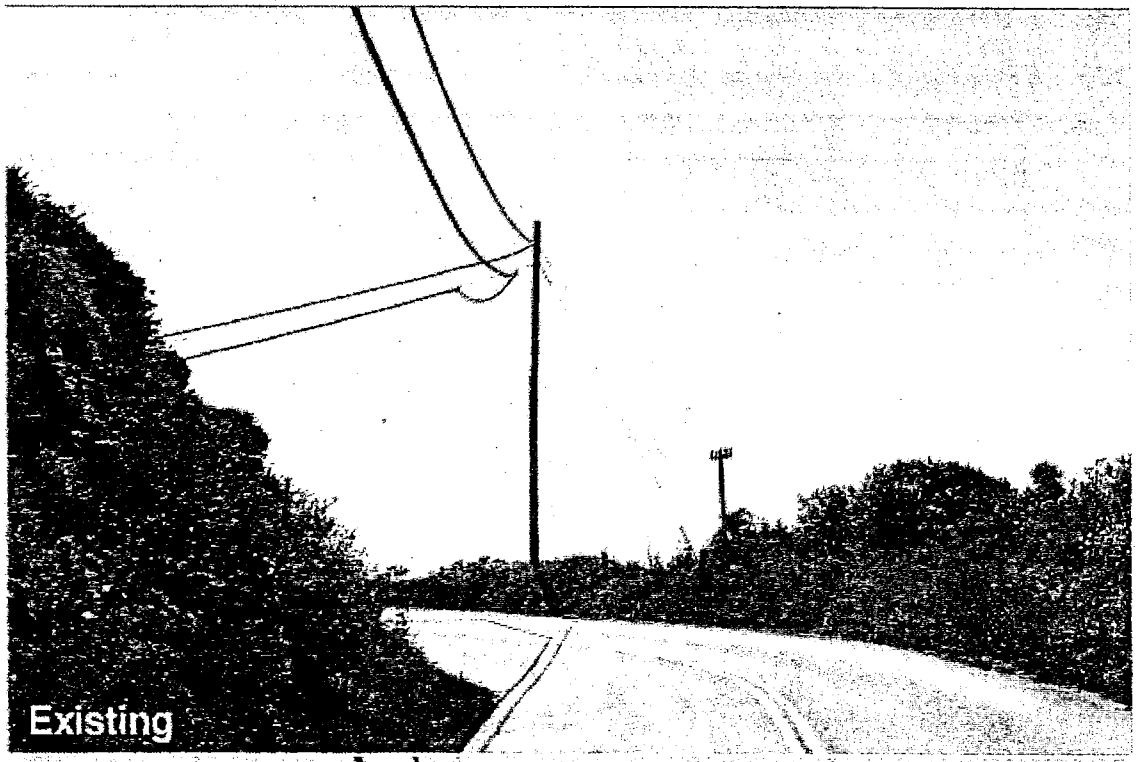
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

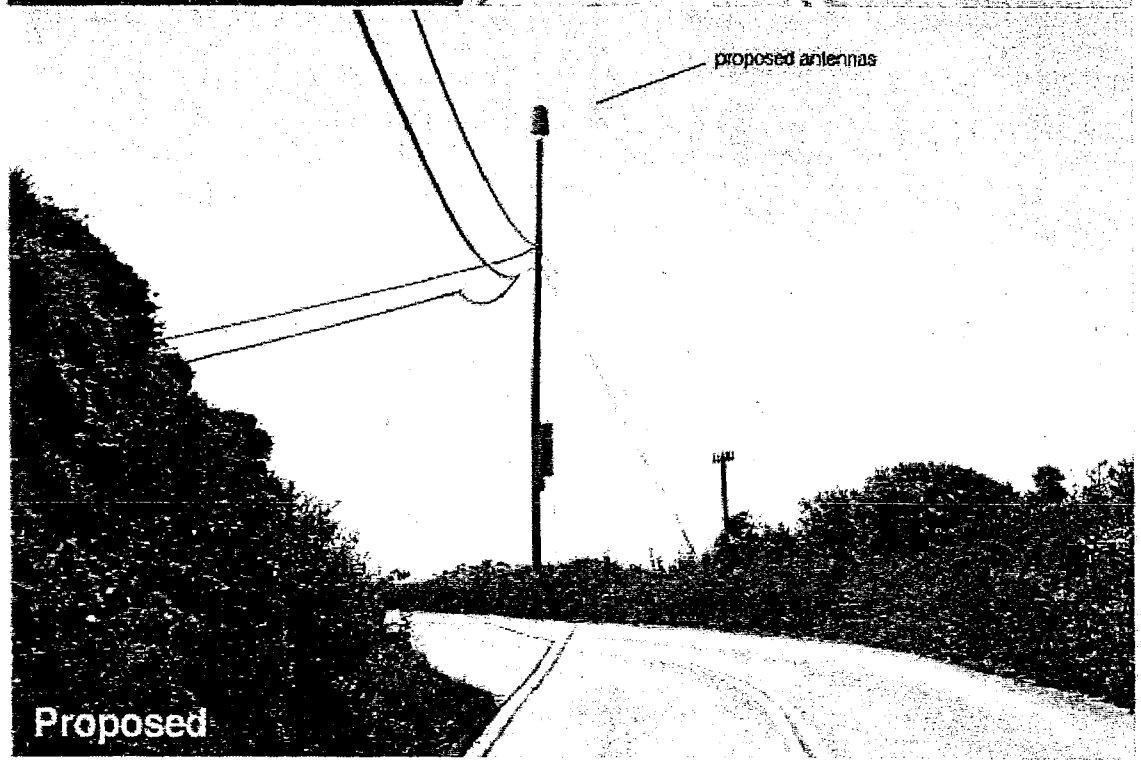
10/27/11

View #1

Applied Imagination 510.914-0500

pln78





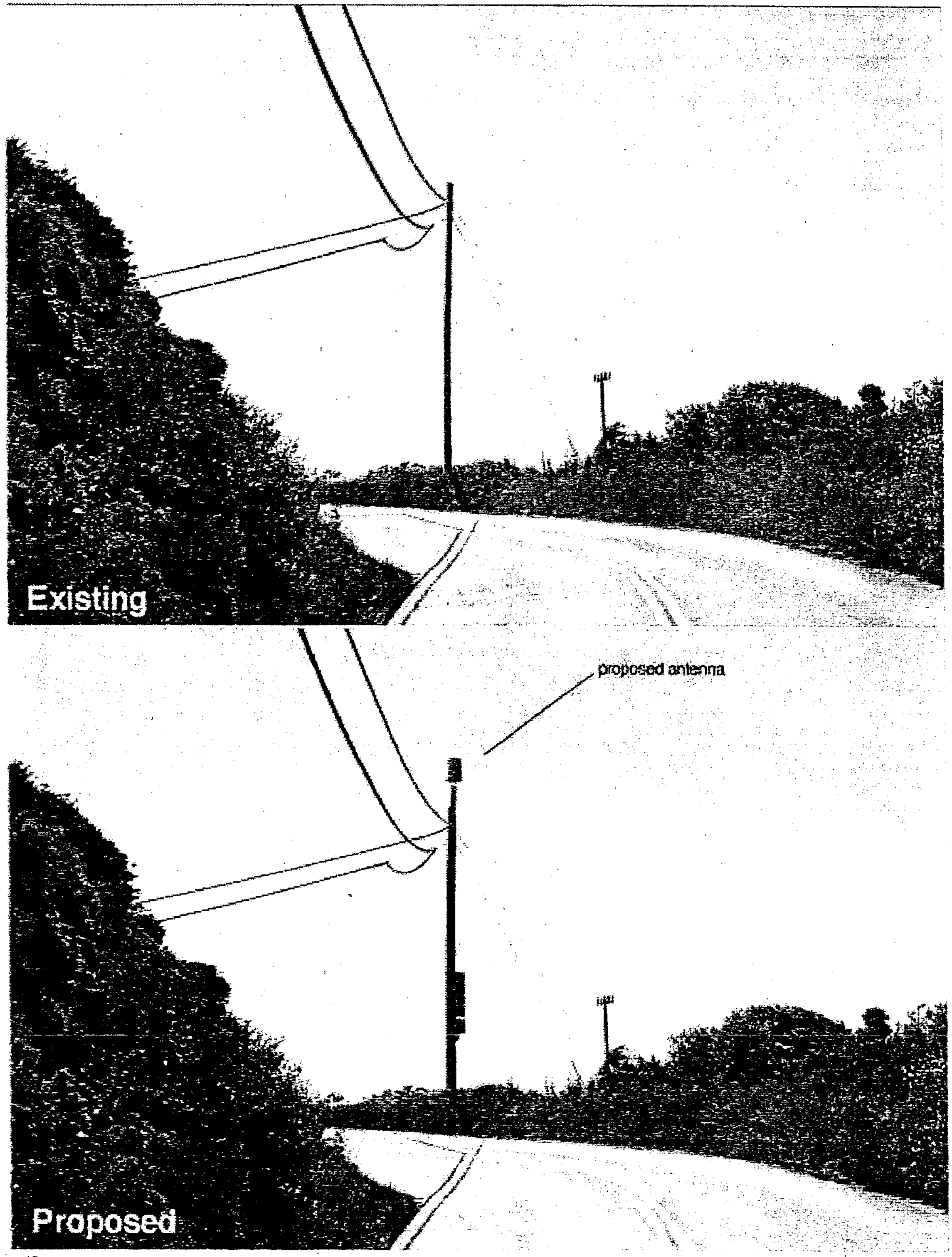
Davenport Site # DAV05

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/25/11

View #2

ATTACHMENT 2



Davenport

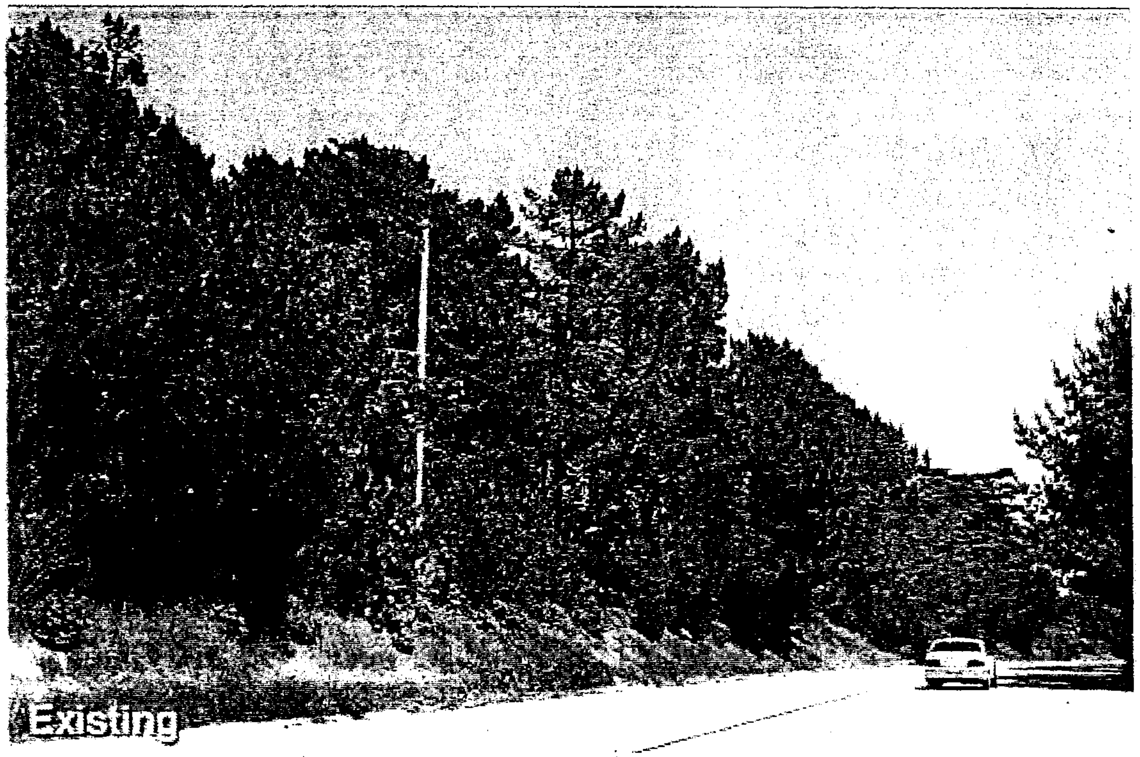
Site # DAV05

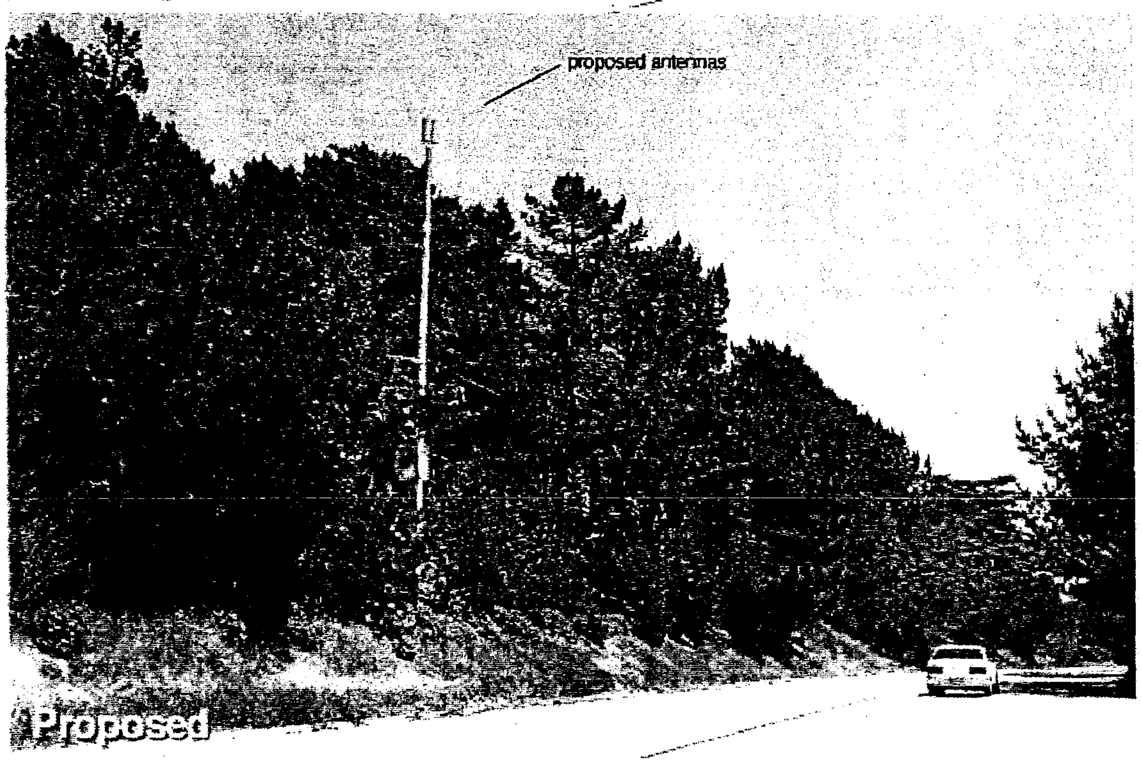
10/27/11

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #2

ATTACHMENT 2
EXHIBIT G



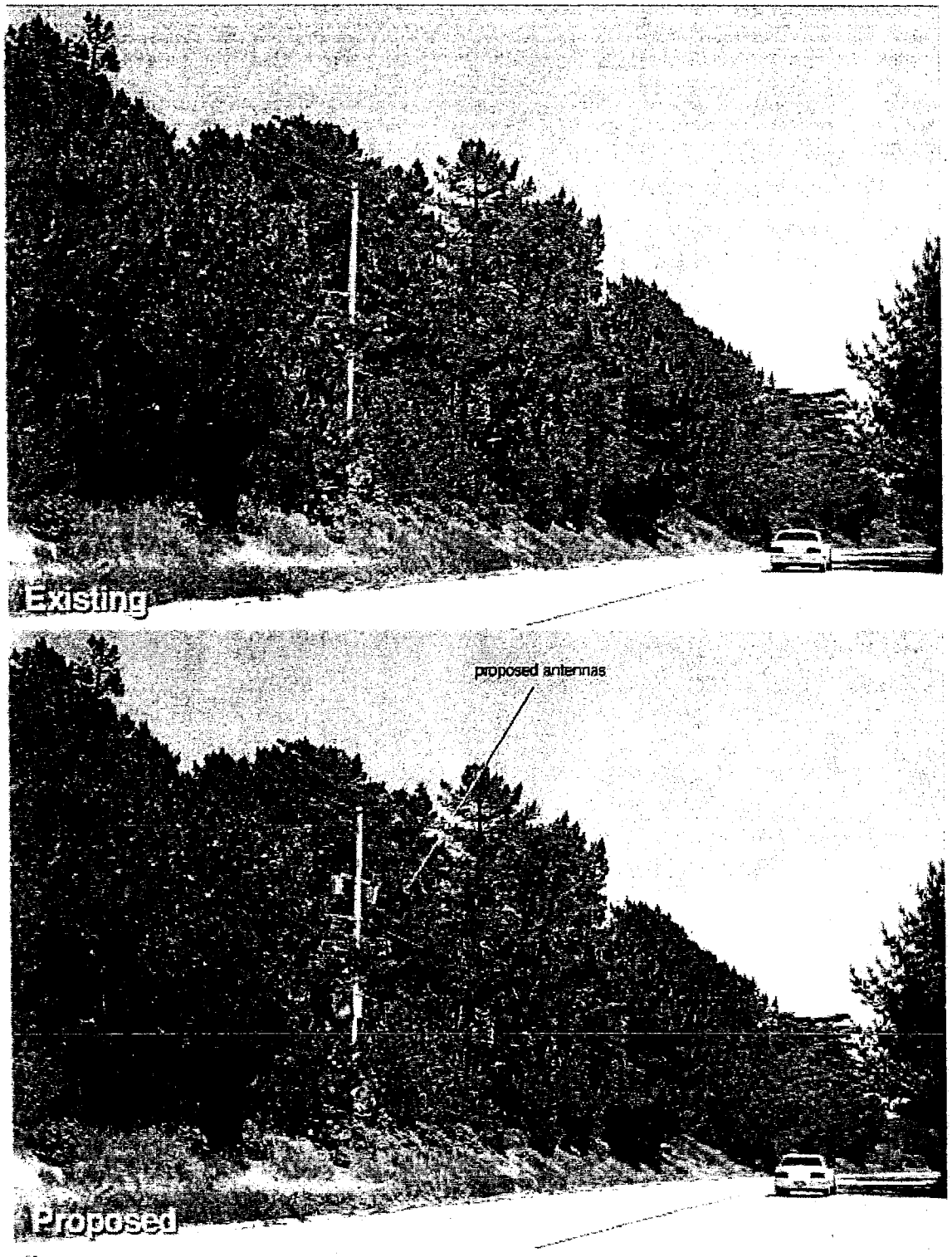


Davenport Site # DAV09

5/05/11 Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #1

ATTACHMENT 2
EXHIBIT B

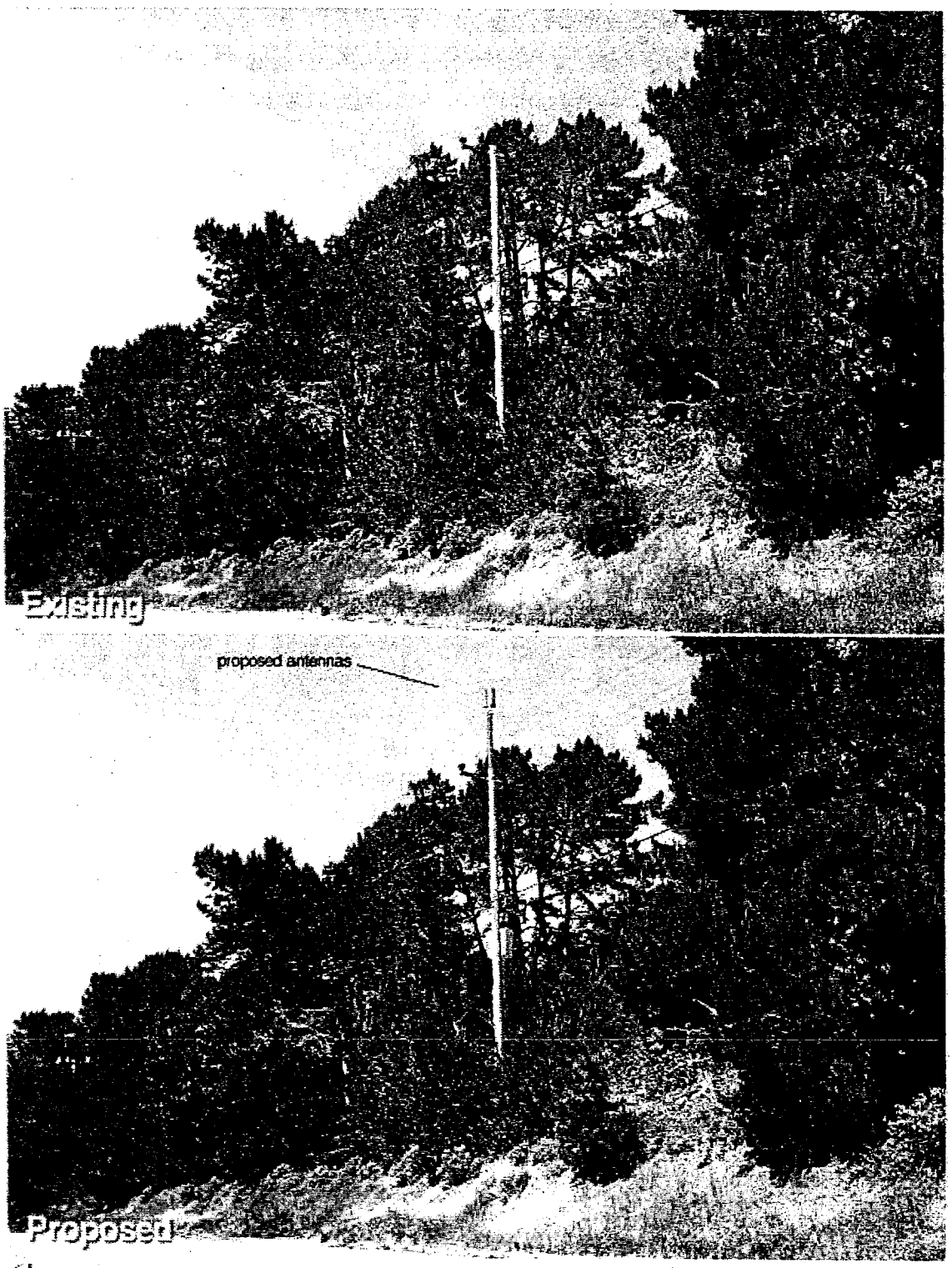


Davenport Site # DAV09

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #1

ATTACHMENT 2
EXHIBIT C



Davenport Site # DAV09

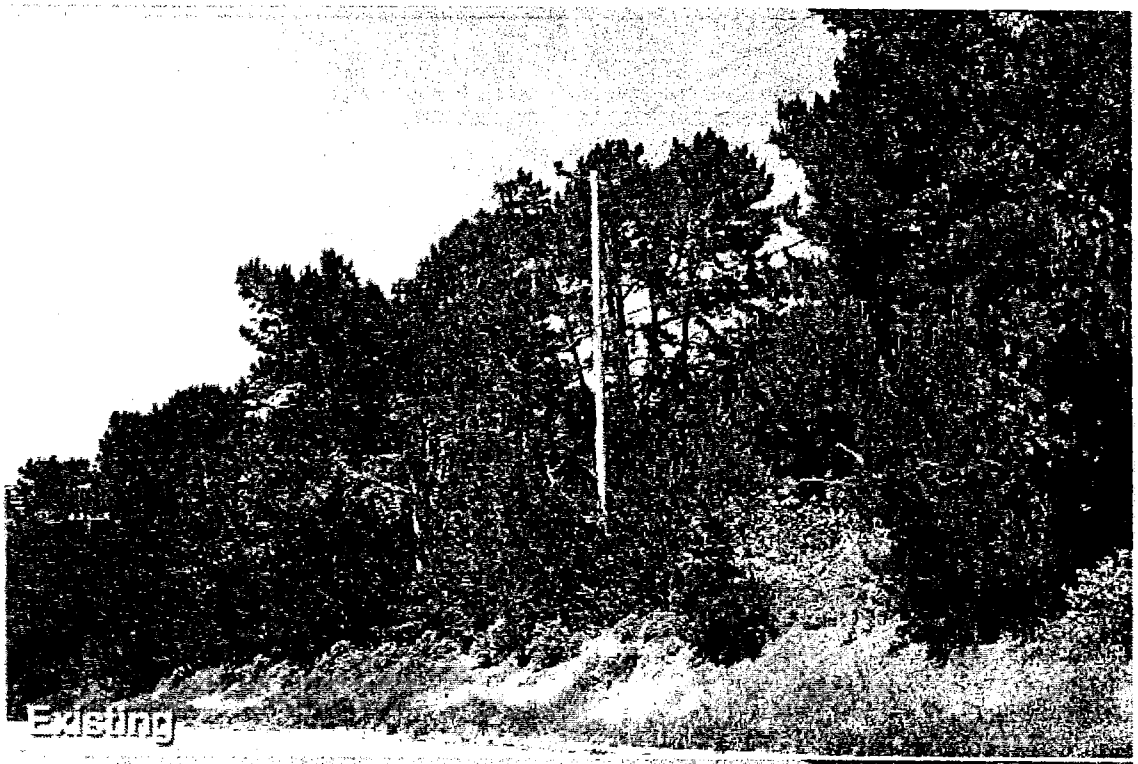
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

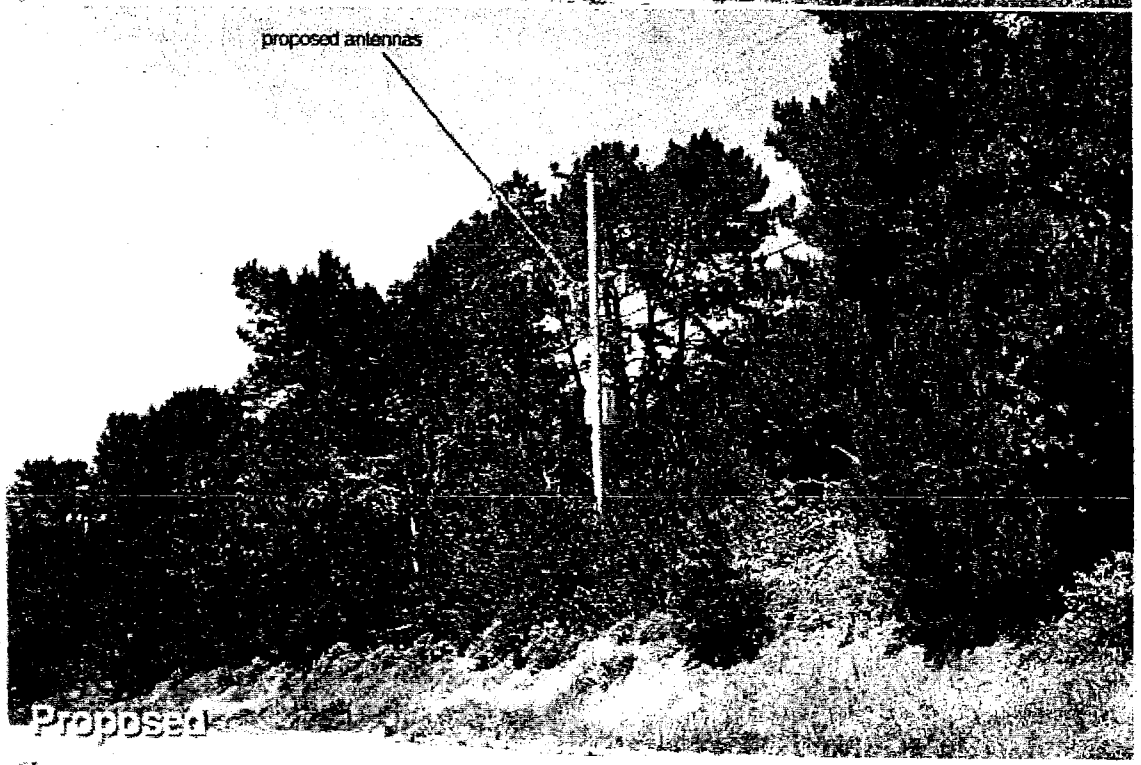
5405r11

View #2

ATTACHMENT 2

EXHIBIT





Davenport Site # DAV09

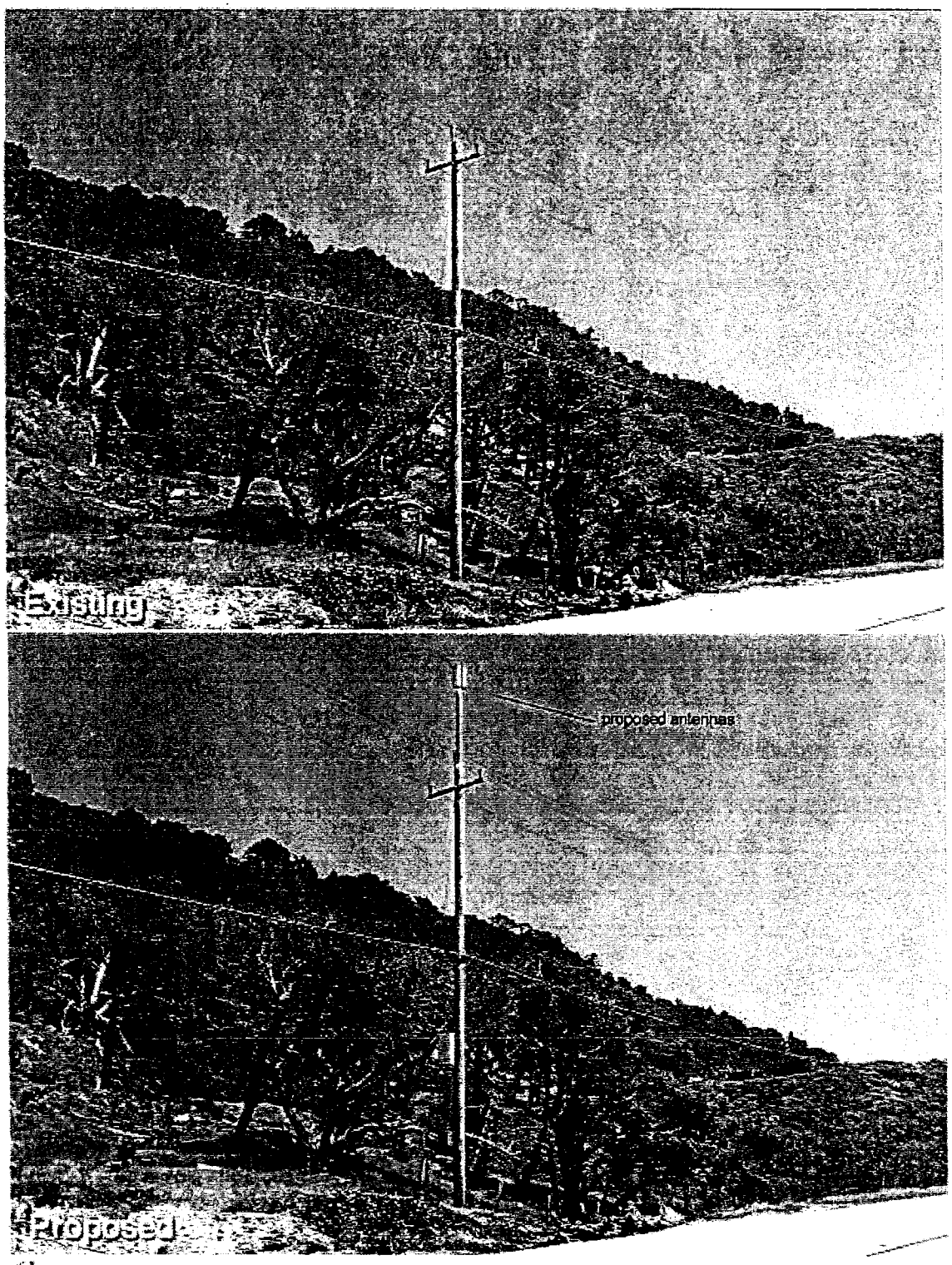
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

8/12/11

View #2

pln78

ATTACHMENT 2
EXHIBIT C



Davenport Site # DAV10

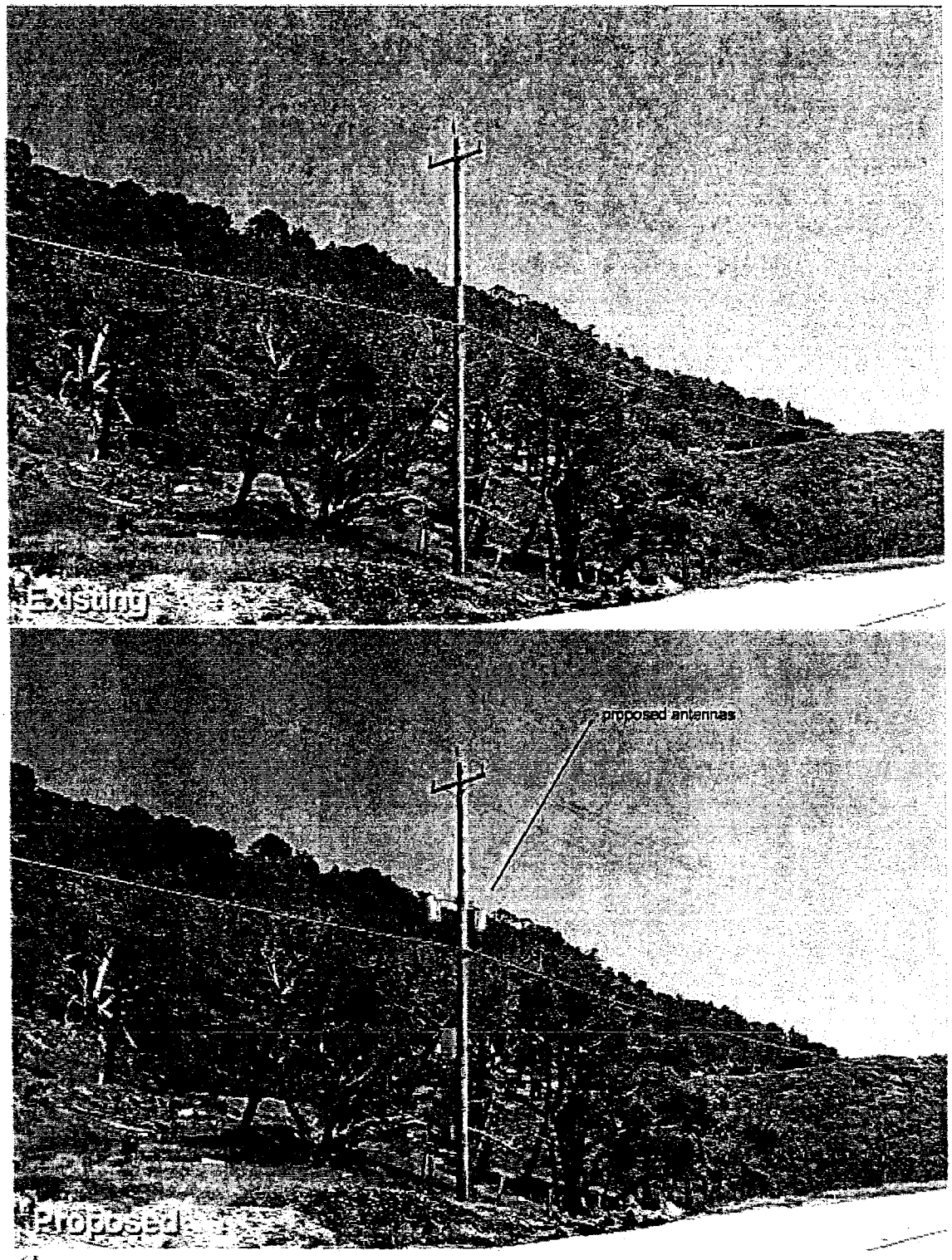
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/05/11

View #1

EXHIBIT G

ATTACHMENT 2



Davenport Site # DAV10

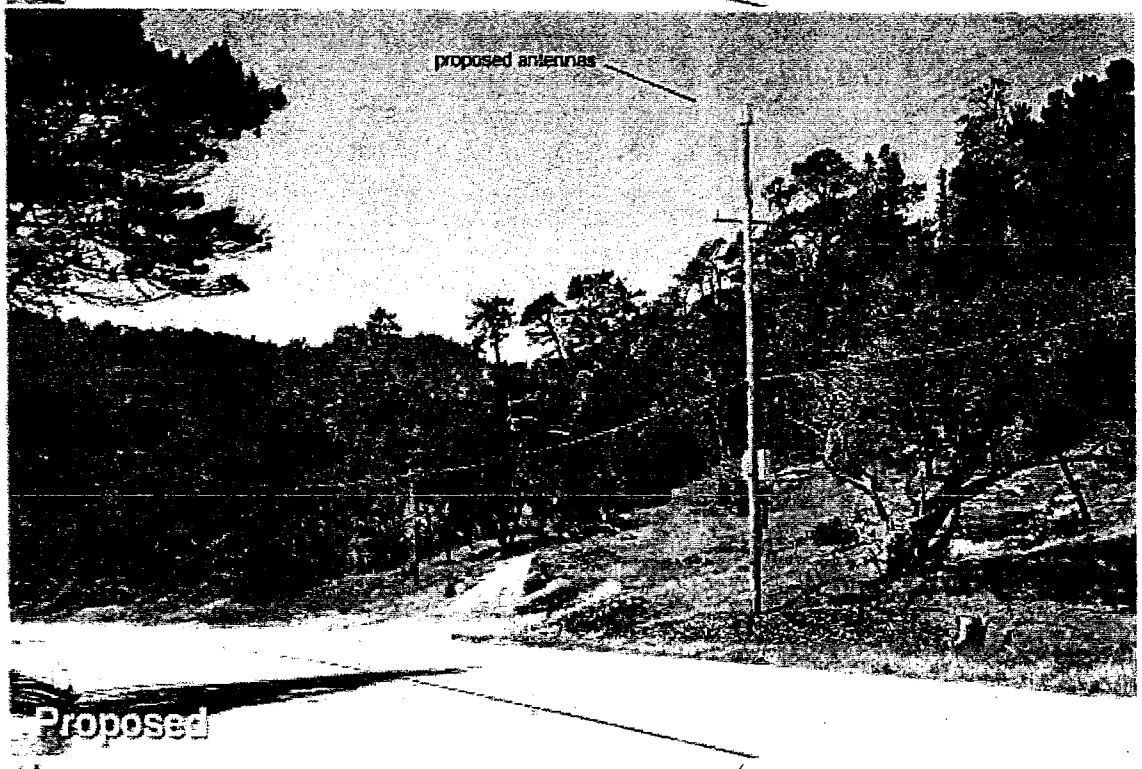
Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

8/12/11

View #1

ATTACHMENT 2
EXHIBIT G

Existing



Proposed

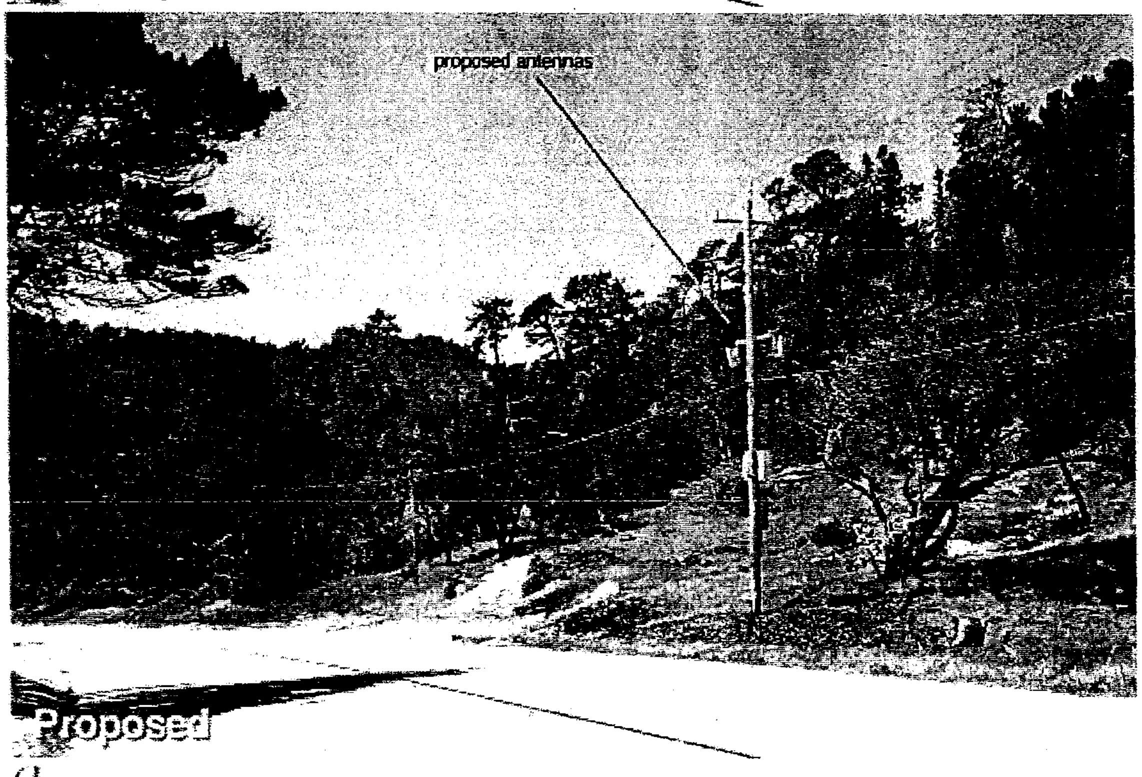
Davenport Site # DAV10

Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

5/25/11

View #2

ATTACHMENT 2
EXHIBIT G



Davenport **Site # DAV10**

8/12/11 Cabrillo Hwy / Hwy1
Santa Cruz, CA 95060

View #2

ATTACHMENT 2
EXHIBIT G

EXHIBIT B: ALTERNATE HUB LOCATION CANDIDATES

DATE SUBMITTED: January 14, 2011

CANDIDATE LOCATION DATA

	CANDIDATE A	CANDIDATE B	CANDIDATE C
Candidate name or identifier:	Davenport Fire Department	Swanton Berry Farm	Big Creek Lumber
Is the candidate in the search ring?	Yes	Yes	Yes
Street address or descriptive address:	75 Marine View	25 Swanton Road	3564 Highway 1
City, County, State, Zip:	Davenport, Santa Cruz, CA	Davenport, Santa Cruz, CA	Davenport, Santa Cruz, CA 95017
Ground Build, Roof-top, Collocate, Other:	Ground	Ground	Ground
Latitude:	37º 00' 44.31" N	37º 01' 49.67" N	37º 05' 18.99" N
Longitude:	122º 11' 46.36" W	122º 13' 05.67" W	122º 16' 23.07" W
Ground Elevation (AMSL):	89'	118'	152'
Rad Center elevations available (in feet):	N/A	N/A	N/A
Overall Tower Height:	N/A	N/A	N/A
Zoning jurisdiction:	County	County	County
Zoning required?	Yes	Yes	Yes
Zoning Timeline:	60-90 days	60-90 days	60-90 days
Other location comments:	None	None	None
Access description:	No issues	No issues	No issues
Location accessible for crane?	Yes	Yes	Yes
Will compound footprint accommodate generator?	Yes	Yes	Yes
Current carriers if collocation (if known):	N/A	N/A	N/A
Approximate distance to commercial power if known:	10'	50'	50'
Existing commercial power vendor and rating if known:	200 Amps	100 Amps	Unknown
Distance to existing telco pedestal if known:	75'	75'	Unknown
Existing Telco provider(s) if known:	TBD	TBD	TBD

Location Comments:	Zoning District: (P) - Public Facility - ALLOWED PER WIRELESS ORD.	Zoning District: (AG) zone - ALLOWED PER WIRELESS ORD.	Zoning District: (AG) zone ALLOWED PER WIRELESS ORD. (Adjacent to Existing Parks & Rec)
CANDIDATE LANDLORD DATA			
Tower Owner:	N/A	N/A	N/A
Tower Contact Name:	N/A	N/A	N/A
Tower Contact Address:	N/A	N/A	N/A
Tower Contact Phone:	N/A	N/A	N/A
Tower Contact Email:	N/A	N/A	N/A
Ground Owner:	Davenport Fire Department	Swanton Berry Farm	Big Creek Lumbar
Ground Contact Name:	Brendan Miele	Sandy/Jim	Janet Webb, President
Ground Contact Address:	75 Marine View, Davenport, CA 95017	22 Swanton Road, Davenport, CA 95017	3564 Highway 1, Davenport, CA 95017
Ground Contact Phone:	831-238-0480	(831) 469-8804	(831) 457-5015
Ground Contact Email:	davenportfire@yahoo.com	sandy@cruzio.com	N/A
Is the candidate subject to a Master Lease Agreement (MLA)?	No	No	No
Landlord Comments:	I have reached out to the landlord, and hope to be able to discussing space.	I have been in discussion with the master tenant, Swanton Berry Farm, however the property is owned by an absentee owner, who I am pursuing.	This property owner has been elusive thus far, I will keep pursuing.

GENERAL COMMENTS	
Lease:	Overall, only (3) areas which provide a viable option.
Zoning:	All (3) locations allow "wireless", and in this case, this is just the equipment HUB with a fiber feed, meaning the applicability may not be applicable, meaning planning would only need to take a "administrative" look at our proposal, which would be over the counter.

Permitting:	No permitting issues, other than clearing your compliance issues (see above, if any). BP process takes approximately 6 weeks in Santa Cruz County.
Environmental:	Candidate A - A gas tank exists on property. Candidate B - No none issues, other than standing water, and the facility is used as a farm, potential diesel issues, Candidate C - Lumber company, no known issues.
Regulatory:	Not aware of any issues.
Construction concerns:	None. New Build type construction, "stealthing" would be required, screening the equipment, blending in with the environment.
Fire or Police services:	Volunteer fire department in Davenport. County Sheriff covers Davenport area.

EXHIBIT C: TELECOMMUNICATIONS HUB LOCATION & SIMULATIONS

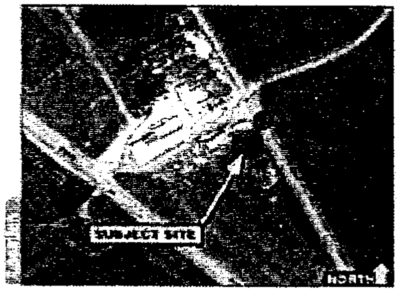
DAVENPORT HUB

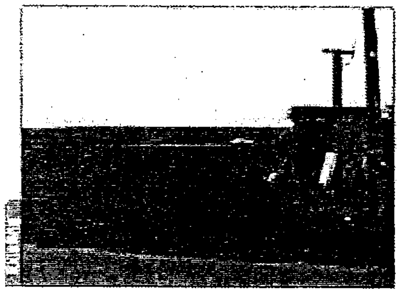
STRAWBERRY FARM
25 SWANTON ROAD
DAVENPORT, CA 95017

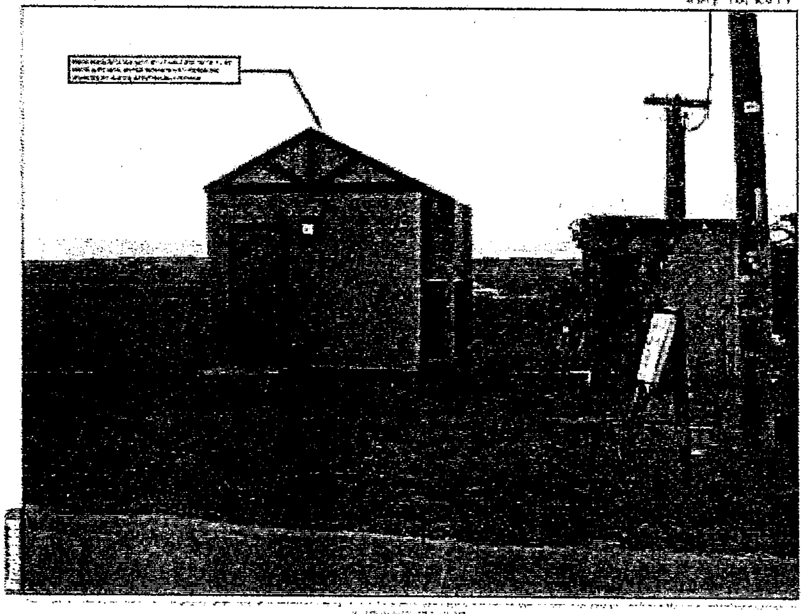
NextG Networks

View #: 1

July 15, 2011







NextG Networks of California, Inc.
2216 O'Toole Avenue
San Jose, CA 95131

RT GRAPHICS

Prepared by:
Approved by:

EDG

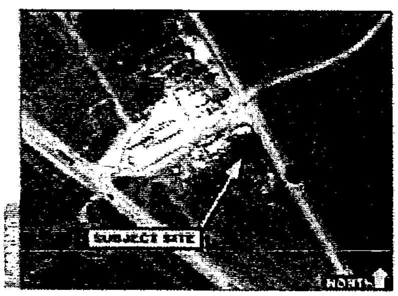
DAVENPORT HUB

STRAWBERRY FARM
25 SWANTON ROAD
DAVENPORT, CA 95017

NextG Networks

View #: 2

July 15, 2011



NextG Networks of California, Inc.
2216 O'Toole Avenue
San Jose, CA 95131

RT GRAPHICS

Prepared by:
Approved by:

EDG

ATTACHMENT 2

EXHIBIT G

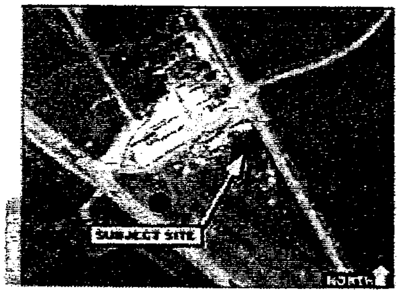
DAVENPORT HUB

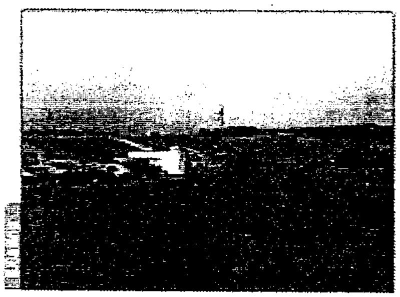
STRAWBERRY FARM
20 SWANTON ROAD
DAVENPORT, CA 95017

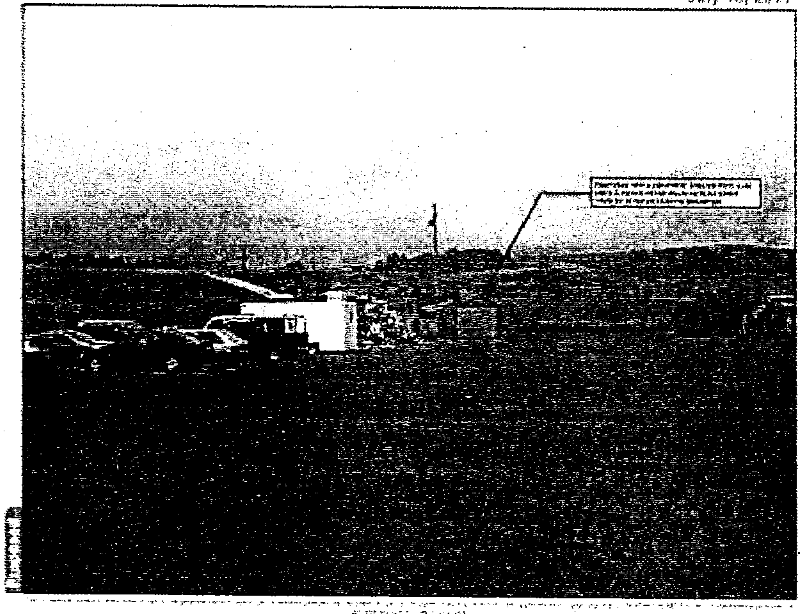
NextG Networks

View #: 3

July 13, 2011







NextG Networks of California, Inc.
2216 O'Toole Avenue
San Jose, CA 95131
Chad Rasmussen - Phone: (739) 201-7009

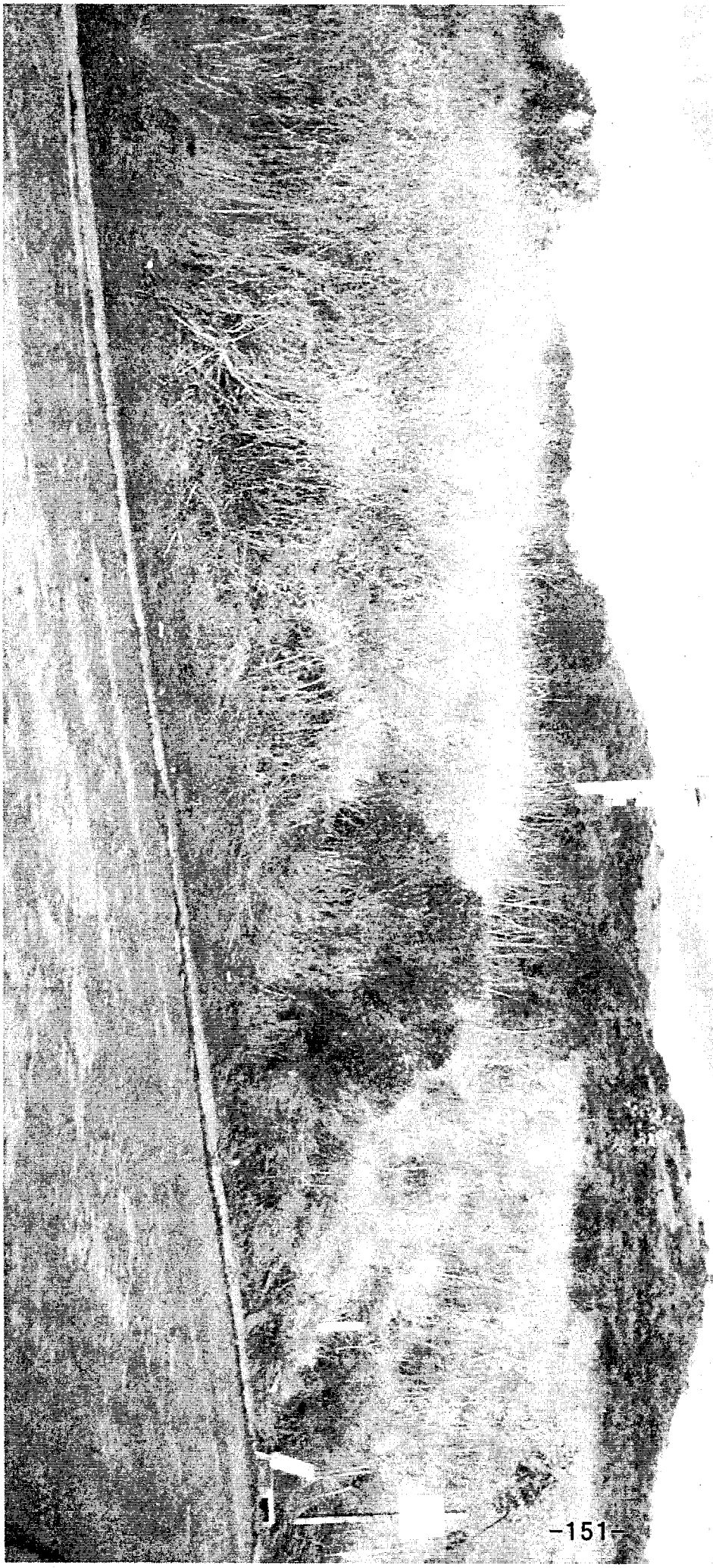
RT GRAPHICS

Prepared by: RT
Approved by: RT

CDG

2

ATTACHMENT 3



ATTACHMENT 4

Engineering Report
Radio Frequency Exposure Study
VRZ - Kathrein Scala 840 10525

Presented to:

890 Tasman Drive
Milpitas, CA 95035

April 12, 2011

Trott Communications Group, Inc.
1303 W. Walnut Hill Lane, Suite 300
Irving, Texas 75038
Office: (972) 518-1811
www.trottgroup.com

ATTACHMENT 4

VRZ - Kathrein Scala 840 10525

Table of Contents

ENGINEERING REPORT
RF EXPOSURE STUDY
(VRZ - Kathrein Scala 840 10525)

Introduction

NextG Networks, Inc. (NextG), located in Milpitas, California has contracted Trott Communications Group, Inc. (Trott), an independent RF engineering consulting firm located in Irving, Texas to conduct a Radio Frequency Exposure (RFE) Study for the NextG **Antenna Configuration** referenced below.

NextG Site Name:	VRZ - Kathrein Scala 840 10525
Site Address:	N/A
City, State:	N/A
Structure Type:	Pole
Antenna Configuration:	2 panel antennas

NextG has requested this RFE Study to analyze, using Roofview® predictions, the "worst-case" (highest possible) RF field levels that could exist at Ground-Level taking into account the NextG Antenna Configuration noted above installed atop/on a pole. No site survey was performed by Trott for this RFE Study. In addition, NextG has informed Trott that at the time of this Study no co-located (non-NextG) antennas existed at any of the applicable NextG sites where this Antenna Configuration is installed.

This RFE Study was performed using Roofview® predictions/calculations to determine if the analyzed area of RF fields for the noted Antenna Configuration comply with the Maximum Permissible Exposure (MPE) Limits for human exposure to RF fields adopted by the Federal Communications Commission (FCC) and also recognized by the Occupational Safety and Health Administration (OSHA). The technical RF data used in the Roofview® prediction analysis for the NextG Antenna Configuration noted above is provided in the Roofview® prediction data contained in Exhibit Trott-1.

This Report describes the methodology used in this Study and documents the results of the Roofview® predictions. This Report also provides, if necessary, relevant RF compliance recommendations/options and RF safety procedures to mitigate and/or minimize human exposure to RF fields for a site(s) where the NextG Antenna Configuration analyzed in this Study is installed on a pole at the same mounting height above ground level. This Report also provides a list of general RF safety guidelines that should

be followed by all persons when working at a communications site.

Methodology

Appendix B of this Report contains information and links to websites that provide details about the FCC human exposure standards (MPE Limits), information on evaluating compliance with the FCC guidelines for human exposure to radiofrequency electromagnetic fields, information on the biological effects and potential hazards of RF fields and answers to the most frequently asked questions received by the FCC concerning RF fields and their application. Also included in Appendix B is a list of vendors and distributors of RF Signs, Barriers, power breaker and electrical plug lockout devices and Personal Protective Equipment (PPE). The PPE includes personal RF monitors and RF protective clothing.

Roofview® Predictions

The Roofview® prediction analysis performed for the noted NextG Antenna Configuration took into considering a "worst-case" scenario, which assumed that all of the analyzed transmitters associated with the Antenna Configuration are broadcasting all of the time (100% duty-cycle). The Roofview® prediction software provides a means of re-analyzing the Antenna Configuration in the future if changes are made at a VRZ - Kathrein Scala 840 10525 NextG site by NextG and/or if a new FCC Licensee is added to the site that could affect the RF field levels at a particular location. Roofview® is a Microsoft Excel®-based prediction and analysis program developed by Richard Tell Associates. Roofview® produces color prediction maps of the percentage levels of the selected FCC MPE Limits that exist on each analyzed location/area (Ground-Level in this case) using a near-field/far-field spatial averaging model.

The Roofview® MPE Legend provided with the Roofview® prediction map contained in Exhibit Trott-2 of this Report specifies what each threshold color represents on the Roofview® prediction map with regards to the predicted RF field levels exceeding one or both of the FCC MPE Limits. All yellow areas shown on a Roofview® prediction map contained in this Report represent RF fields that have the potential to exceed the FCC General Population/Uncontrolled MPE Limit and all red areas shown on a Roofview® prediction map represent RF fields that have the potential to exceed both FCC MPE Limits (this includes the FCC General Population/Uncontrolled MPE Limit and

the FCC Occupational/Controlled MPE Limit). The green areas depicted on a Roofview® prediction map contained in this Report represent RF fields that are many orders of magnitude below each of the FCC MPE Limits. In addition, the blue areas depicted on a Roofview® prediction map represent RF fields that are below each of the FCC MPE Limits. However, please note that blue areas depicted on a Roofview® prediction map that are located near yellow or red areas or near an antenna could represent levels of RF fields that are approaching 100% of an FCC MPE Limit.

The Roofview® prediction analysis performed as part of this Study utilized both the FCC General Population/Uncontrolled and the FCC Occupational/Controlled MPE Limits since members of each group could have access to Ground-Level areas at a NextG site. The NextG Antenna Configuration being analyzed in this Study along with the associated transmitters were considered in the Roofview® prediction analysis.

If a Ground-Level area of RF fields for this Antenna Configuration is predicted to be greater than 100% of an FCC MPE Limit then the RF fields in this area are considered as exceeding the respective MPE Limit. If a prediction reveals a level of RF fields to be 90%-100% of an FCC MPE Limit then the RF fields at this Ground-Level location could be considered as approaching the respective FCC MPE Limit for this Antenna Configuration.

Sources of RF Data used in the Roofview® Predictions

The RF data used in this Study was provided by the NextG RF Engineer noted below.

Company Name	Contact Name / Data Source	Title / Department
NextG	David Yarlagada	NextG RF Engineer

The technical antenna/transmitter RF data used in the Roofview® predictions for this Antenna Configuration is contained in Exhibit Trott-1.

Results of Roofview® Predictions

As stated previously, the Roofview® prediction analysis performed for this Antenna Configuration took into consideration the corresponding antenna(s) and each of the transmitters connected to them. The prediction analysis evaluated the "worst-case" (highest possible) RF field levels that could exist at Ground-Level for the corresponding antennas by utilizing the FCC General Population/Uncontrolled MPE Limit and the FCC Occupational/Controlled MPE Limit. The Roofview® MPE Legend provided with the Roofview® prediction map contained in Exhibit Trott-2 specifies what each threshold color represents on the Roofview® prediction map with regards to the predicted RF field levels exceeding one or both of the FCC MPE Limits. A written description of what each Roofview® threshold color represents is also provided in the Methodology section of this Report.

A Roofview® prediction analysis was performed for the noted Antenna Configuration for the elevation/area listed in the table below. This table contains where in Appendix A of this Report the Roofview® prediction map and Roofview® statistical summary are located for each analyzed location/area.

Description of Analyzed Location/Area	Roofview® prediction map contained in:	Roofview® statistical summary contained in:
Ground-Level	Exhibit Trott-2	Exhibit Trott-3

Exhibit Trott-3 contains the Roofview® statistical summary in terms of the Occupational/Controlled MPE Limit for the analyzed elevation/area. Please note that the MPE Limit for General Population/Uncontrolled exposure is five times more stringent or greater than the MPE Limit for Occupational/Controlled exposure. For example, 10% of the FCC Occupational/Controlled MPE Limit equates to 50% of the General Population/Uncontrolled MPE Limit.

The highest predicted level of RF fields for the analyzed elevation/area for the Antenna Configuration being analyzed in this RFE Study are listed below in terms of each FCC MPE Limit. A description is also provided to define where on the analyzed elevation/area the maximum predicted RF field level exists per the results of the Roofview® prediction analysis. Also below is a description where the RF fields were predicted in Roofview® to have the potential to exceed or to approach the FCC MPE Limits for the analyzed Antenna Configuration. A notation of "N/A" below signifies that no RF fields

on the were predicted to exceed or to approach the respective MPE Limit and a notation of "(approaching)" signifies that the predicted RF fields have the potential to approach the respective FCC MPE Limit for the listed antenna(s).

Ground-Level Analysis

FCC General Population/Uncontrolled MPE Limit (Maximum Predicted):	28.0%
FCC Occupational/Controlled MPE Limit (Maximum Predicted):	5.6%
Location of Max. MPE Limits:	Within ~1' directly in front of and below the 700/800/1900MHz panels (Antennas A & B)

FCC Occupational/Controlled MPE Limit exceeding/approaching areas:

- N/A

FCC General Population/Uncontrolled MPE Limit exceeding/approaching areas:

- N/A

Conclusions/Recommendations

As stated previously, the RF compliance evaluation of the NextG noted Antenna Configuration installation (VRZ - Kathrein Scala 840 10525) was performed using Roofview® predictions. The following table is a summary of the Roofview® predictions that were performed for this Antenna Configuration. The use of "N/A" below denotes that no co-located (non-NextG) antennas were evaluated in this Study.

NextG Installation:	
No	The analyzed NextG installation was **predicted** in Roofview® to **exceed/approach** one or both of the FCC MPE Limits
Co-located (non-NextG) Installations:	
N/A	One or more co-located (non-NextG) installations/antennas were **predicted** in Roofview® to exceed one or both of the FCC MPE Limits

The results of the Roofview® predictions presented in the Results of Roofview® Predictions section are a "worst-case" scenario of the highest possible RF field levels that could exist at Ground-Level located near the NextG antenna installation that make up the Antenna Configuration that was analyzed in this Study. Thus, the results of the predictions will be used in this Report for developing the RF compliance/mitigation options and recommendations for this Antenna Configuration.

NextG RF Compliance Summary

The following table denotes if the Antenna Configuration that was analyzed in this Study is compliant or non-compliant with the FCC MPE Limits on the analyzed elevation/area per the results of the Roofview® predictions.

Description of Analyzed Location/Area	FCC General Population / Uncontrolled MPE Limit	FCC Occupational / Controlled MPE Limit
Ground-Level	Compliant	Compliant

The elevation/area noted above where the Antenna Configuration was determined to be "Non-Compliant" with the FCC MPE Limits are the areas at each pertinent NextG VRZ - Kathrein Scala 840 10525 site where NextG should implement RF compliance actions and/or RF mitigation measures. If the analyzed elevation/area above is designated as "Compliant" then no RF compliance/mitigation actions are required at this type of site by NextG.

It is important that all persons accessing and/or working at a NextG communications site be made aware in advance of all the active antennas that are installed and operational atop/on of this pole, that they are properly informed in advance of the high RF fields that exist or that could exist in specific Ground Level areas or on elevated locations/areas at the site due to the Antenna Configuration and that they are told in advance not to access locations/areas where the "worst-case" RF fields (if applicable) have the potential to exceed one or both of the FCC MPE Limits per the results of the Roofview® predictions.

The rules for human exposure to RF fields adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring an area where the RF fields exceeds one or both of the FCC MPE Limits into compliance with the guidelines are the shared responsibility of all FCC Licensees (antenna owners) whose transmitters produce RF fields (field strengths or power density levels) at the area in question in excess of 5% of the exposure limit (MPE Limit) applicable to their particular transmitter. An example of a multiple transmitter site would be a communications site where NextG is installed along with co-located antennas that are owned, licensed and operated by a another company or individual.

NextG's RF Compliance Responsibilities

In the case of this Study, **NextG** is responsible for RF compliance for the following areas for all sites where the Antenna Configuration (VRZ - Kathrein Scala 840 10525) analyzed in this Study is installed. The areas where NextG is responsible for RF compliance are based on the locations where the RF fields have the potential to exceed the FCC General Population/Uncontrolled MPE Limit.

Ground-Level

- N/A

Thus, NextG should utilize the RF compliance recommendations/options provided below to bring the NextG exceeding areas noted above for the analyzed Antenna Configuration into compliance with the FCC human exposure standards (FCC MPE Limits).

RF Safety Plan

The site owner/manager in conjunction with NextG and the actual owners (FCC Licensees) of the existing installations at each NextG VRZ - Kathrein Scala 840 10525 site may elect to implement an RF Safety Plan for the site. This Plan should be designed to completely control all access to an elevation/area at this site if RF fields thereon have the potential to exceed both of the FCC MPE Limits. The Plan should also include properly training all persons classified per the FCC human exposure standards as the General Population if they need to access am elevation/area at the site where the "worst-case" RF fields have the potential to exceed only the FCC General Population/Uncontrolled MPE Limit. The Plan should also define how persons classified per the FCC human exposure standards as Occupational Personnel can access an area at the site where the RF fields have the potential to exceed the FCC Occupational/Controlled MPE Limit if they are properly authorized and are using the appropriate Personal Protective Equipment (PPE). The two forms of PPE that are relevant to RF safety include a personal RF monitor that can be used to detect high level RF fields that exceed the FCC Occupational/Controlled MPE Limit and RF protective clothing that can be worn to attenuate (reduce) high RF fields to levels possibly below the FCC Occupational/Controlled MPE Limit. The RF Safety Plan should also specify which transmitters need to be powered down or locked out and how to coordinate and accomplish this shutdown when work is required by Occupational Personnel or the General Population in a given area at the site that exceeds the corresponding FCC MPE Limit. The RF

Safety Plan will also require posting the appropriate RF Signs in the required areas near access points and posting RF Signs and RF Barriers near all antennas that generate areas of RF fields that exceed one or both of the FCC MPE Limits.

General RF Safety Guidelines for NextG VRZ - Kathrein Scala 840 10525 Sites

If at anytime, a person who is not trained in RF Awareness and Safety (a member of the General Population) needs to work elevated above Ground-Level or in an area at a NextG VRZ - Kathrein Scala 840 10525 site where the RF fields were predicted to exceed the FCC General Population/Uncontrolled MPE Limit, if a worker who is trained in RF Awareness and Safety (Occupational Personnel) needs to work elevated above Ground-Level or in an area at a NextG site where the RF fields were predicted to exceed the FCC Occupational/Controlled MPE Limit, and/or if any person/worker (whether trained or not trained in RF Awareness and Safety) needs to work elevated above Ground-Level so that work is being performed in or near the aperture of an existing antenna, then the work should be carefully coordinated in advance by the Site Owner or Site Manager with the appropriate Wireless Carriers / FCC Licensees (Antenna Owner or Owners) so that the necessary RF safety procedures/guidelines can be implemented at the respective site. These RF safety procedures/guidelines will help to ensure that a worker does not access an area at a NextG VRZ - Kathrein Scala 840 10525 site where the RF fields could exceed one or possibly both of the FCC MPE Limits. Personnel working in an area mentioned above could include, but are not limited to, a person repairing or maintaining a portion of the pole, a person performing a visual inspection of the pole, and/or a person working on existing antennas or installing new antennas on/atop of the pole. The RF safety procedures mentioned above could include but are not limited to modifying the manner in which the work is being performed on/atop the pole in order to maximize the worker's vertical and/or horizontal separation from a specific antenna(s) or an FCC MPE Limit exceeding area, wearing a personal RF monitor to detect high levels of RF fields while working near an antenna(s), scheduling the work at the site during off-peak times (possibly late at night) when the RF fields at the site could be lower, and/or powering down or off (locking out) the radio transmitter(s) that are connected to the pertinent antenna(s) at the site while working near the antenna(s).

As a precautionary measure and as a good rule of thumb, Trott recommends that all personnel accessing a communication site should always strive to maximize their horizontal and vertical separation between

themselves and all of the existing antennas that are installed atop the pole. When an antenna's aperture is accessible from a given elevation/area at a communication site the chance that this antenna could generate RF fields on the location/area that exceeds an FCC MPE Limit when it is transmitting is much greater due to the proximity that a person can get near the RF emitting source (aperture accessibility).

Please note that the aperture of a directional antenna (i.e. panel antenna, microwave dish, yagi) is the front portion of the antenna that is emitting/generating the actual RF energy (fields) in a given direction and the aperture of an omni-directional antenna is the upper portion of the antenna above its mounting area that emits RF energy in all directions (360 degrees). The location near a transmitting antenna where its RF fields have the potential to be at their highest level is located near the aperture of the antenna. For a directional antenna this would be in front of and possibly along the sides of the antenna. When an antenna's aperture is accessible from a given area at a communication site the chance that this antenna could generate RF fields in this area that exceeds an FCC MPE Limit when it is transmitting is much greater due to the proximity that a person can get near the RF emitting source (aperture accessibility).

If work is required on any existing antenna and/or transmitter at the NextG VRZ - Kathrein Scala 840 10525 site, then the radio transmitter connected to the antenna/transmitter being worked on should be disabled for the duration of the maintenance and/or repair. All personnel working on antennas, transmitters and/or climbing the pole should be trained in RF Awareness and Safety (Occupational Personnel) and should use the proper Personal Protective Equipment (PPE) when required. It is always recommended by Trott that all NextG employees, their contractors, and all other personnel climbing the pole and/or working on the NextG radio equipment (transmitter/receivers/antenna) should follow the Guidelines for Working in Radio Frequency Environments at all times (see these Guidelines in Exhibit Trott-4 herein). All personnel **climbing the pole** or **working elevated above Ground-Level** near the pole should understand in advance if and where the RF field levels have the potential to exceed one or both of the FCC MPE Limits in relationship (horizontally and vertically) to the existing antenna(s) so that the necessary RF safety measures can be followed.

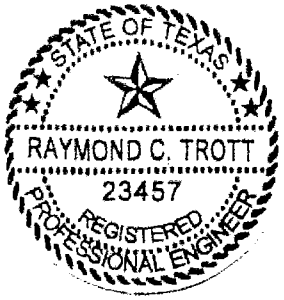
RF Signs - Please refer to Exhibit Trott-4 contained herein for details regarding the RF Signs (**if any**) that Trott recommends to be installed at a site where this Antenna Configuration is installed per the results of this Study.

Anil Jacob, RF Systems Engineer

April 12, 2011

Raymond C. Trott, P.E.

April 12, 2011



Trott Communications Group, Inc.
Texas Registration # F-000134

Appendix A - Exhibits

Roofview® Prediction Data

Exhibit Trott-1

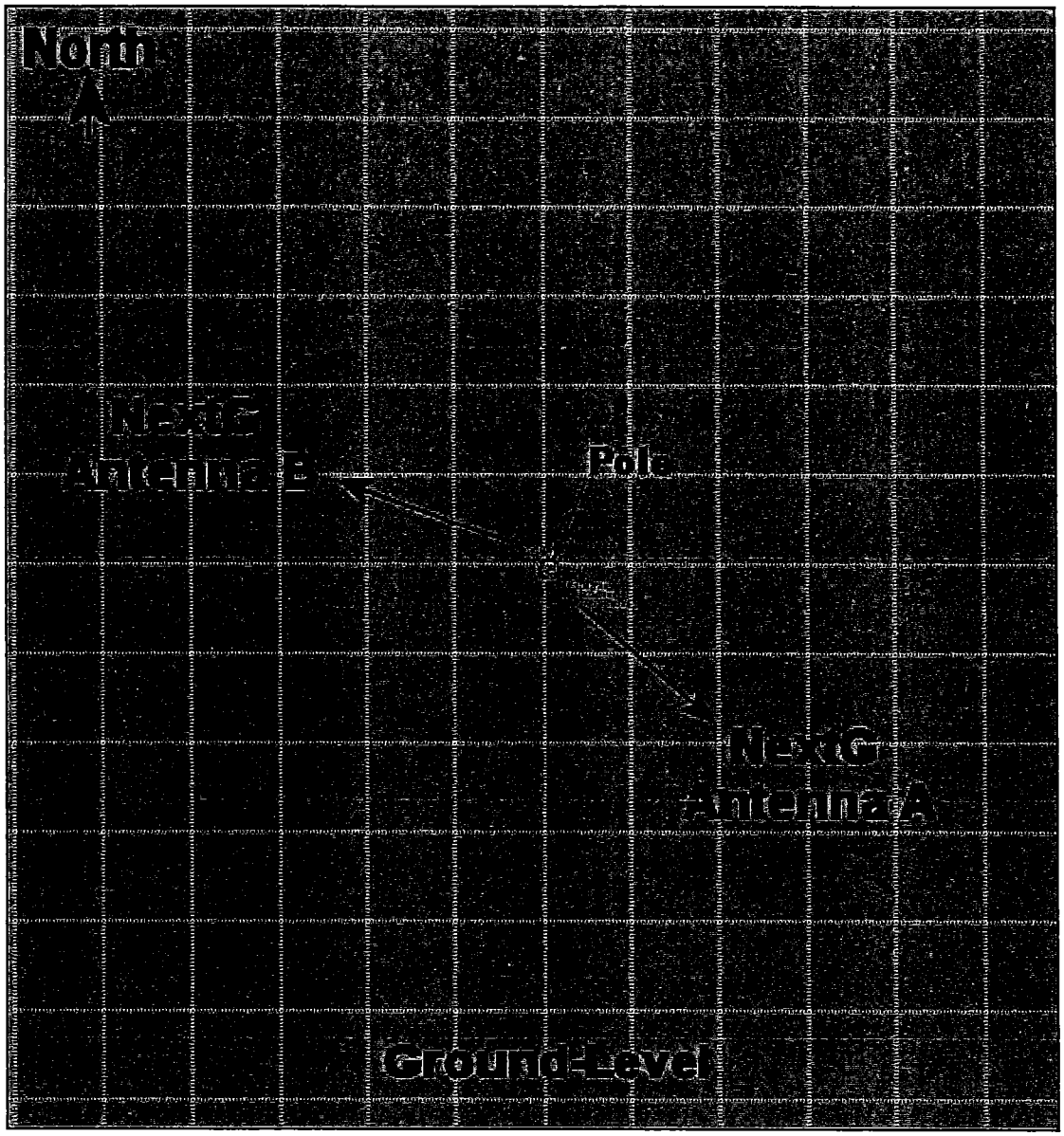
Antenna Data Table				ver 25001130	st File Imported-> NextG RV Data_KS 840 10525 (Ground-Level_2011)).xls									Date 4/12/11 12:07 PM					
Ant Num	ID	Name	(MHz) Freq	Input Power	Calc Power	Mfg	Model	(ft) X	(ft) Y	(ft) Z	Type	(ft) Aper	dBd Gain	BWidth Pt Dir	ON flag	Antenna Pixel X	Y	Z	Ant Num
1	A.700	Panel Antenna 1a (LTE)	746.00000	16.0	16.0	Kathrein Scala	840 10525	103.0	98.0	18.0	TX/RX	1.9	8.4	72;120	ON	103	98	18.0	1
2	A.800	Panel Antenna 1b (CELL)	880.50000	8.0	8.0	Kathrein Scala	840 10525	103.0	98.0	18.0	TX/RX	1.9	8.9	66;120	ON	103	98	18.0	2
3	A.1900	Panel Antenna 1c (PCS)	1976.25000	8.0	8.0	Kathrein Scala	840 10525	103.0	98.0	18.0	TX/RX	1.9	11.2	64;120	ON	103	98	18.0	3
4	B.700	Panel Antenna 2a (LTE)	746.00000	16.0	16.0	Kathrein Scala	840 10525	98.0	102.0	18.0	TX/RX	1.9	8.4	72;300	ON	98	102	18.0	4
5	B.800	Panel Antenna 2b (CELL)	880.50000	8.0	8.0	Kathrein Scala	840 10525	98.0	102.0	18.0	TX/RX	1.9	8.9	66;300	ON	98	102	18.0	5
6	B.1900	Panel Antenna 2c (PCS)	1976.25000	8.0	8.0	Kathrein Scala	840 10525	98.0	102.0	18.0	TX/RX	1.9	11.2	64;300	ON	98	102	18.0	6

Ground-Level Analysis

(The antenna z-heights listed above are referenced to the base of the pole)

ATTACHMENT 4

Roofview® Prediction Map
Exhibit Trott-2

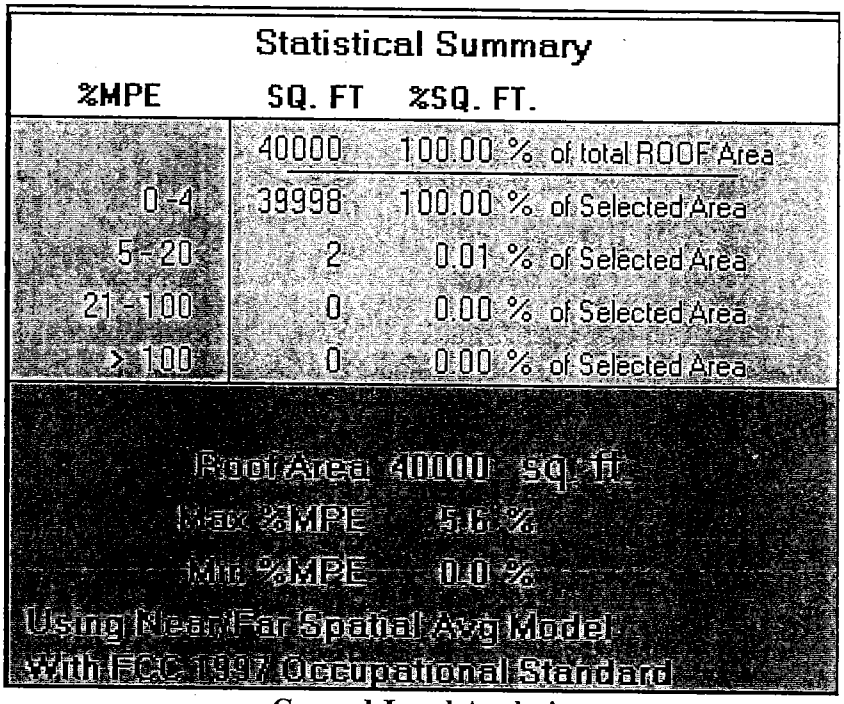


Ground-Level Analysis

Color	Occupational (Controlled)	General Population (Uncontrolled)
	Non-rooftop Area	Non-rooftop Area
	Non-analyzed Rooftop	Non-analyzed Rooftop
	≤ 4%	≤ 20%
	≤ 20%	≤ 100%
	≤ 100%	≤ 500%
	> 100%	> 500%

Roofview® MPE Legend

Roofview® Statistical Summary
Exhibit Trott-3



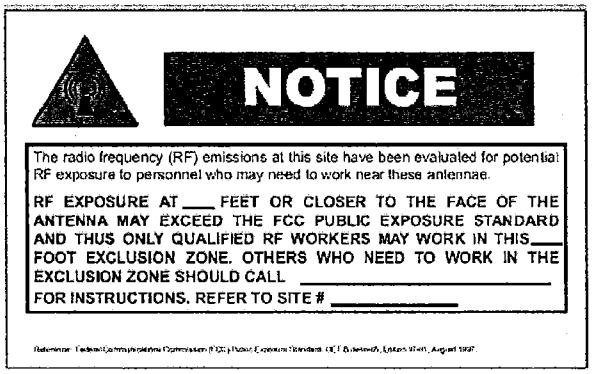
Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	40000	100.00 % of total ROOF Area
0-4	39998	100.00 % of Selected Area
5-20	2	0.01 % of Selected Area
21-100	0	0.00 % of Selected Area
> 100	0	0.00 % of Selected Area

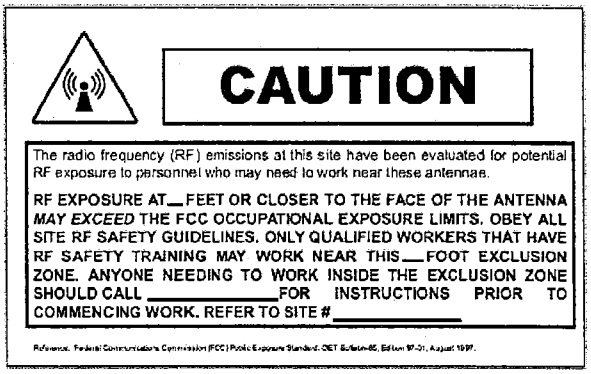
Roof Area 40000 sq. ft.
Max %MPE 5.6 %
Min %MPE 0.0 %
Using Near Far Spatial Avg Model
with FCC 1997 Occupational Standard

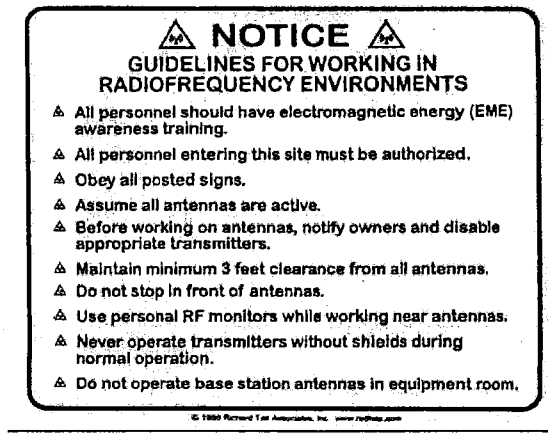
Ground-Level Analysis

ATTACHMENT 4

Existing and Recommended RF Signage
Exhibit Trott-4







RECOMMENDED RF SIGNS:

Type of RF Sign:	Quantity:	Sign Location Description:
Blue NOTICE RF Sign *(see top-right sign above)*	0	N/A
Yellow CAUTION RF Sign *(see top-left sign above)*	0	N/A
Yellow GUIDELINES RF Sign *(see bottom sign above)*	0	N/A

Note: If applicable, the following page(s) of this Report contain(s) the NextG NOTICE and/or CAUTION RF Sign(s) noted above with the RF safety distances (exclusion zones) filled in.

ATTACHMENT 4

N/A – No NextG NOTICE or CAUTION RF Signs Needed per this RFE Study

APPENDIX B – Background Information & RF Safety Equipment Vendors

The following two pages of information were taken from the FCC Office of Engineering and Technology (OET) Bulletin 65 -*"Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields"*.

The National Environmental Policy Act of 1969 (NEPA) requires agencies of the Federal Government to evaluate the effects of their actions on the quality of the human environment. To meet its responsibilities under NEPA, the Federal Communications Commission (FCC) has adopted requirements for evaluating/analyzing the environmental impact of its actions (see 47 CFR ' 1.1301, et seq.). One of several environmental factors addressed by these requirements is human exposure to RF energy (RF fields) emitted by FCC-regulated transmitters and facilities.

The FCC adopted guidelines to be used for evaluating human exposure to RF fields incorporates limits for Maximum Permissible Exposure (MPE) for transmitters operating at frequencies between 300 kHz and 100 GHz. The FCC MPE Limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronic Engineers (IEEE) and adopted by the American National Standards Institute (ANSI).

The results of the Roofview® predictions and OET 65 calculations presented in this Report are based on the FCC MPE Limits. The FCC's two tiers of MPE Limits are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. The decision on which tier (MPE Limit) applies in a given situation should be based on the application of the following definitions for the FCC General Population/Uncontrolled MPE Limit and the FCC Occupational/Controlled MPE Limit.

The **FCC Occupational/Controlled MPE Limit** applies to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. The Occupational/Controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general

population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over their exposure by leaving the area or by some other appropriate means.

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

Another feature of the FCC MPE Limits is that exposures may be averaged over certain periods of time with the average not to exceed the Limit for continuous exposure. It is very important to note that for General Population/Uncontrolled exposures it is often not possible to control exposure to the extent that averaging times can be applied. In these situations (general population/uncontrolled) it is often necessary to assume continuous exposure. In general, time averaging of exposures is usually more practical in controlled situations where occupational exposure is the only issue. Since this RFE Study deals with uncontrolled situations and general population, exposure time averaging will not be addressed in this Report as a recommendation for RF compliance and thus continuous exposure will be assumed in all cases.

If an area of RF fields at communications site is predicted to be greater than 100% of an FCC MPE Limit then the RF fields in this area are considered as exceeding the respective MPE Limit. If a prediction/calculation reveals a level of RF fields to be 90%-100% of an FCC MPE Limit then the RF fields at this location could be considered as approaching the respective FCC MPE Limit.

For additional background information about radio frequency electromagnetic fields, information on the FCC's MPE Limits and information on the biological effects and potential hazards of RF fields please visit the FCC radio frequency safety website at: www.fcc.gov/oet/rfsafety/.

As you scroll down the FCC's RF safety webpage you will see links to and/or downloadable documents for the following:

▣ **Background Information** – This section contains information about the FCC policy on human exposure to RF electromagnetic fields

▣ **Radiofrequency Energy Frequently Asked Questions (FAQ)** - This section contains answers to the most frequently asked questions received by the FCC concerning RF fields and their application.

▣ **OET Bulletin 56** - *Questions and Answers about Biological Effects Potential Hazards of Radiofrequency Electromagnetic Fields (Fourth Edition, August 1999)*

This is an informative bulletin written as a result of increasing interest and concern of the public with respect to this issue. The expanding use of radio frequency technology has resulted in speculation concerning the alleged "electromagnetic pollution" of the environment and the potential dangers of exposure to non-ionizing radiation. This publication is designed to provide factual information to the public by answering some of the most commonly asked questions.

▣ **OET Bulletin 65** - *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*

This technical bulletin was issued to provide guidance in the implementation of the Commission's new exposure Limits and policies. The bulletin provides acceptable methods of determining compliance Commission Limits through the use of mathematical and empirical models.

▣ **A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance**. The LSGAC and the FCC have developed this guide to aid local governmental officials and citizens in understanding safety issues related to radiofrequency emissions from telecommunications towers.

▣ **Information on Human Exposure to Radiofrequency Fields from Cellular and PCS Radio Transmitters** - This page explains technical information on cellular and PCS base stations, mobile, and portable telephones.

Also please visit the FDA (Food and Drug Administration) website at the link provided below to get additional information about the safety of cell phones.

www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm

RF Safety Equipment Vendors

The following is a partial list of vendors and distributors of RF Signs, Personal Protective Equipment (PPE) including personal RF monitors and RF protective clothing, Barriers, and power breaker and electrical plug lockout devices. Please consult with the vendor and/or distributor of each product in order to select the best model or device for your particular need or application.

NARDA Microwave-East
Telephone #: (631) 231-1700 www.nardamicrowave.com
Products: *Personal RF Monitors, RF Area Monitors*

NSP America, Inc.
Telephone #: (704) 372-6620 www.nspworldwide.com
Products: *RF Protective Clothing*

TESSCO Technologies, Inc.
Telephone #: (800) 508-5444 www.tessco.com
Products: *RF Signs, Personal RF Monitors, RF Protective Clothing*

SETON Identification Products
Telephone #: (800) 571-2596 www.seton.com
Products: *Barriers, Power breaker lockouts, power cord and plug lockout devices, and more*