



# COUNTY OF SONOMA

## PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

2550 Ventura Avenue, Santa Rosa, CA 95403  
(707) 565-1900 FAX (707) 565-1103

July 22, 2014

To: Interested Agencies

The following application has been filed with the Sonoma County Permit and Resource Management Department.

**File Number:** PLP14-0012  
**Applicant Name:** Steve Martin Associates Inc.  
**Owner Name:** Walter Schug  
**Site Address:** 602 Bonneau Road, Sonoma  
**APN:** 128-451-054

**Project Description:** Request for a Use Permit and Design Review to modify UP90-006 to increase production at an existing winery from 10,000 cases per year to 30,000 cases per year, add a 6,300 square foot tasting/hospitality building, including two marketing accommodation units, and three special events with up to 500 people each on a 10 acre parcel.

We are submitting the above application for your review and recommendation. Additional information is on file in this office.

Responses to referrals should include: (1) statement of any environmental concerns or uncertainties your agency may have with the project; (2) any comments you wish to make regarding the merits of the project; and (3) your proposed conditions and mitigations for this project. Responsible agencies under CEQA are requested to indicate whether permits will be required for this project.

Your comments will be appreciated by August 12, 2014, and should be sent to the attention of:

**PLP14-0012, Melinda Grosch (Melinda.Grosch@sonoma-county.org).** The Project Planner can also be reached at 707-565-2397.

Please send a copy of your comments to the applicant(s) or their representatives as indicated on the attached Planning Application.

- |  |   |
|--|---|
| <input type="checkbox"/> PRMD County Surveyor                              | <input type="checkbox"/> ALUC/CLUP  |
| <input checked="" type="checkbox"/> Health Specialist                      | <input type="checkbox"/> BOS Dist ___ Director                                    |
| <input type="checkbox"/> Sanitation  | <input checked="" type="checkbox"/> BOS Dist 1 Director and SVCAC                 |
| <input checked="" type="checkbox"/> Grading and Storm Water                | <input type="checkbox"/> BOS Dist 4 Director and Jason Liles                      |
| <input type="checkbox"/> SUSMP   | <input checked="" type="checkbox"/> Valley of the Moon Alliance and Kenwood Press |
| <input checked="" type="checkbox"/> Building Inspection                    | <input checked="" type="checkbox"/> NW Information Center, S.S.U.                 |
| <input type="checkbox"/> Code Enforcement                                  | <input checked="" type="checkbox"/> Milo Baker Chapter Conservation Committee     |
| <input type="checkbox"/> Road Naming                                       | <input type="checkbox"/> PG&E   |
| <input checked="" type="checkbox"/> So County Environmental Health         | <input type="checkbox"/> School District -  |
| <input checked="" type="checkbox"/> DTPW, Land Development                 | <input type="checkbox"/> Water District -   |
| <input type="checkbox"/> DTPW, Drainage                                    | <input checked="" type="checkbox"/> North Bay Corporation (Disposal)              |
| <input type="checkbox"/> Ag Commissioner                                   | <input type="checkbox"/> U.S. Army Corps of Engineers                             |
| <input checked="" type="checkbox"/> Regional Parks Dept                    | <input type="checkbox"/> State Coastal Commission - Appealable Yes / No           |
| <input checked="" type="checkbox"/> Fire and Emergency Services            | <input type="checkbox"/> State Dept of Transportation (Caltrans)                  |
| <input checked="" type="checkbox"/> Local Fire District - SCHELL-VISTA FPD | <input checked="" type="checkbox"/> State Dept of Fish & Wildlife                 |
| <input checked="" type="checkbox"/> Treasurer/Special Assessment           | <input type="checkbox"/> State Dept of Forestry                                   |
| <input checked="" type="checkbox"/> Assessor                               | <input checked="" type="checkbox"/> State Water Resources Control Board           |
| <input type="checkbox"/> Landmarks Commission                              | <input type="checkbox"/> State Parks and Recreation                               |
| <input checked="" type="checkbox"/> Transit/BPAC                           | <input checked="" type="checkbox"/> Regional Water QCB: SF Bay                    |
| <input type="checkbox"/> Communications                                    | <input checked="" type="checkbox"/> City of Sonoma, Planning Dept                 |
| <input checked="" type="checkbox"/> SCTA/RCPA                              | <input checked="" type="checkbox"/> Sonoma MOAG                                   |
| <input type="checkbox"/> Sheriff Community Service Officer                 | <input checked="" type="checkbox"/> Federated Indians of Graton Rancheria         |
| <input type="checkbox"/> LAFCO   | <input checked="" type="checkbox"/> Sonoma Valley Chamber of Commerce             |

# Planning Application

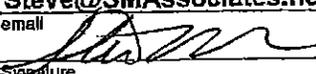
PJR-001

File#: PLP 14-0012

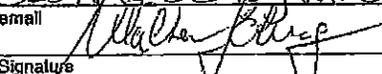
**Type of Application:**

- |  |  |   |                                       |
|--|--|---|---------------------------------------|
| <input type="checkbox"/> Admin Cert. Compliance          | <input type="checkbox"/> Design Review Comm./Ind.  | <input type="checkbox"/> Minor Subdivision            | <input type="checkbox"/> Variance     |
| <input type="checkbox"/> Ag./Timber Preserve/Contract    | <input type="checkbox"/> Design Review Residential | <input type="checkbox"/> Mobile Home Zoning Permit    | <input type="checkbox"/> Zone Change  |
| <input type="checkbox"/> Cert. of Compliance             | <input type="checkbox"/> Design Review Signs       | <input type="checkbox"/> Ordinance Interpretation     | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Cert. of Modification           | <input type="checkbox"/> General Plan Amendment    | <input type="checkbox"/> Second Unit Permit           |                                       |
| <input type="checkbox"/> Coastal Permit                  | <input type="checkbox"/> Lot Line Adjustment       | <input type="checkbox"/> Specific Area Plan Amendment |                                       |
| <input checked="" type="checkbox"/> Design Review Admin. | <input type="checkbox"/> Major Subdivision         | <input checked="" type="checkbox"/> Use Permit        |                                       |

**Applicant (Contact Person):**

**SMA-Steve Martin Associates, Inc.**  
 Name  
 130 South Main Street, Suite 201  
 Mailing Address  
 Sebastopol CA 95472  
 City/Town State Zip  
 (707)824-9730 (707)824-9707  
 Phone Fax  
 Steve@SMAAssociates.net  
 email  
  
 Signature Date 2-18-14

**Owner, if other than Applicant:**

**Walter Schug**  
 Name  
 602 Bonneau Road  
 Mailing Address  
 Sonoma CA 95476  
 City/Town State Zip  
 (800)916-9365 (707)824-9707  
 Phone Fax  
 scott@schugwinery.com  
 email  
  
 Signature Date 11/4/13

**Other Persons to be Notified:** (Specify: Other Owner(s), Agent, Lender, Architect, Engineer, Surveyor)

Name	Name	Name
Mailing Address	Mailing Address	Mailing Address
City/Town State Zip	City/Town State Zip	City/Town State Zip
Title	Title	Title
Phone Fax	Phone Fax	Phone Fax
email	email	email

**Project Information:**  
 602 Bonneau Road

Address(es) 128-451-054 City/Town Sonoma  
 Assessor's Parcel Number(s) UP 90-006 Acreage 18  
 Project Description: increase wine production from 10,000 cases per year to 30,000 cases per year; addition of new 2-story hospitality & admin bldg. daily public tasting, tours and 3 special events (up to 500 people each) per year- see PLR02-0059  
 Site Served by Public Water?  Yes  No Site Served by Public Sewer?  Yes  No Number of new lots proposed N/A

**DO NOT WRITE BELOW THIS LINE - To Be Completed by PRMD Staff**

Planning Area: 9 Supervisorial District: 1 Current Zoning: DA-B7-SR-UO1H General Plan Land Use: DA 20  
 Specific Plan: NA S.P. Land Use: NA Needs CEQA Review?  Yes  No

**Commercial/Industrial Uses:** (Enter numbers where applicable)  
 Bldg. sq. ft. Existing: \_\_\_\_\_ Proposed: 6,300 sq ft Existing Employees: \_\_\_\_\_ New Employees: \_\_\_\_\_  
 New Manufactured Homes: \_\_\_\_\_ New Units For Sale: \_\_\_\_\_ New Units For Rent: \_\_\_\_\_ Density Bonus Units: \_\_\_\_\_  
 Violation?  yes  no; Application resolve planning violation?  yes  no; Penalty applicable?  yes  no; Civil Penalty Factor \_\_\_\_\_  
 Previous Files: PLP 02-0059 ZPE 12-0069 PM 89-746 UP 90-006  
 Application accepted by SCOTT HUMSPERGER Date 3/17/14

**Sonoma County Permit and Resource Management Department**  
 2550 Ventura Avenue + Santa Rosa, CA + 95403-2829 + (707) 565-1900 + Fax (707) 565-1103

# Supplemental Application Information

Existing use of property: Vineyards/winery

Acreage: 10

Existing structures on property: Winery

Proximity to creeks, waterways and impoundment areas: (E)drainage improvements in vineyard (swale)

Vegetation on site: Vineyards/landscaping (trees, shrubs, native grasses)

General topography: Gently rolling hills

Surrounding uses to (Note: An adjoining road is not a use.)  
North: Vineyard South: Owners Vineyard & dairy  
East: Owners vineyard West: Vineyard/undeveloped grassland

New structures proposed (size, height, type): 6,300 SF, 32 feet high (partially cut in hillside)

Number of employees: Full time: 8 (no increase) Part time: 8 (no increase) Seasonal: 3 (no increase)

Operating days: Daily Hours of operation: 8:00 am-5:00 pm

Number of vehicles per day: Passenger: 33 Trucks: 2

Water source: Well Sewage disposal: Subsurface Leachfield

Provider, if applicable: N/A Provider, if applicable: N/A

New noise sources (compressors, power tools, music, etc.): No additional noise sources

Grading proposed: Amount of cut (cu. yds.): <1,000 CY Amount of fill (cu. yds.): <1,000 CY Will more than one acre be disturbed by construction of access roads, site preparation and clearing, fill or excavation, building removal, building construction, equipment staging and maintenance, or other activities? Yes      No      If Yes, indicate area of disturbance(acres): 17,000 SF  
Identify method of site drainage (sheet flow, storm drain, outflow to creek or ditch, detention area, etc.):  
    

Vegetation to be removed: Native grasses, vineyard

Will proposal require annexation to a district in order to obtain public services: Yes      No X

Are there currently any hazardous materials (chemicals, oils, gasoline, etc.) stored, used or processed on this site? Yes X No     

Will the use, storage, or processing of hazardous materials occur on this site in the future if this project is authorized? Yes X No     

Fire safety information (existing/proposed water tanks, hydrants, emergency access and turnaround, building materials, etc.): Existing fire protection tank and hydrants

# Schug Carneros Estate Winery

602 Bonneau Road  
Sonoma, California

## Use Permit Modification Application

### Proposal Statement

The existing Schug Carneros Estate Winery, located at 602 Bonneau Road in Sonoma, California, (APN 128-451-054) has increased their wine production from 10,000 cases to 30,000 cases per year. Recent Use Permit – PLP02-0059 was approved October 24, 2004, but later expired. (PLP02-0059 - Project Description according to the Conditions of Approval dated October 28, 2004 are as follows: "A Use Permit for an expansion of production at an existing winery from 10,000 cases per year to 30,000 cases per year; addition of a new 6,300 square foot, two-story hospitality and administration building to include tasting, offices and two rooms for overnight accommodations for industry representatives only. Tours of facility are also included in this permit and three special events with up to 500 people in attendance.)

The increased production does not require new wine processing buildings and is being accomplished within the existing structures on site. The increase in production does not require any additional full-time personnel from the current level of 12 full time and 8 part time employees. During bottling and harvest, temporary help will be furnished by an employment agency. Typically three additional workers are needed during that time. Bottled wine will continue to be stored off-site at a shipping warehouse. To better accommodate the staff, they are requesting the addition of a new 6300 SF, two-story hospitality and administrative building to include tasting, offices and two rooms for overnight accommodations for industry representatives only (not for public use).

Parking for the winery is currently provided for by 21 existing marked spaces in front of the winery and approximately 20 additional unmarked spaces adjacent to the water storage tanks to the west of the winery. There are an additional 9 spaces that will be created adjacent to the proposed new hospitality building. During the three annual events proposed, winery visitors would parallel park along the existing vineyard shoulder of the 1,200 foot private access road at the site providing an additional 70 overflow parking spaces.

The permitted hours of operation are 8:00 a.m. to 5:00 p.m. Monday through Friday and 10:00 a.m. to 5:00 p.m. on weekends. However, during harvest and crush, operations may run 24 hours per day as necessary to process grapes. Special events are to be held during normal business hours on weekends. Large special events will be limited to weekends. Special events shall not be held on Saturday and/or Sunday on the same weekends as the three largest events held at Sonoma Raceway each calendar year. The three largest events are: NASCAR Winston Cup, NHRA Autolite Nationals and NASCAR Craftsman Truck Series.

**SMA Steve Martin Associates, Inc.**

130 South Main Street, Suite 201  
 Sebastopol, CA 95472  
 707-824-9730  
 707-824-9707 (fax)

606 Alamo Pintada Road #3-221  
 Solvang, CA 93463  
 805-541-9730

**Schug Carneros Estate Winery****PROJECT DESCRIPTION**

The existing Schug Carneros Estate Winery plans to continue winemaking within their existing winery and wine cave structures on their 10 acre parcel located at 602 Bonneau Road in Sonoma, California. The facility will continue to be an owner-operated winery dedicated primarily to the production of premium wines

The winery is situated within their existing 50 acres of vineyard on a separate ten acre parcel owned by Schug Winery. Access to the facility will be from the existing entrance and driveway off of Bonneau Road. No vineyards will be removed for the new building and parking expansion. It is the owner's desire to continue to have a quiet operation and winemaking facility.

Under this Use Permit Modification, the project includes:

1. An existing winery facility with an ultimate production of 30,000 cases
2. Continued public tours, tasting and retail sales
3. Continued wine marketing and promotional events including: 33 promotional gatherings per year with 75 persons maximum plus 3 special events with 500 persons maximum. Promotional events are as described below:

<u>Event Description</u>	<u>Quantity</u>	<u>Date &amp; Time</u> <u>Period</u>	<u>Attendees</u> <u>(maximum)</u>
Wine Distributors Tastings & Dinner	6	January - December	25
Chef Tastings & Dinner	12	January - December	25
Harvest Party	1	October - November	75
Wine Club Member's Event <sup>1</sup>	10	March - October	50
Agricultural Promotional Events <sup>2</sup>	4	March - October	50
Special Events	3	January-December	500

Notes

1. Wine Club Member events include Pick-up Weekend, Barrel Tasting Day, and other marketing activities to support and build the Wine Club list.
2. Promotional gatherings may include a vintner association lunch and seminar or other hospitality event for the promotion of the wines.
3. Weddings and rehearsals are not proposed with this Use Permit Application
4. Amplified sound is not planned to occur with the promotional gatherings.

4. Participation in 7 industry-wide events including:
  - a. 5 - one day events
  - b. 2 - two day events
5. A new 6,000 +/- SF hospitality and administration building
  - a. 3,000 SF 1<sup>st</sup> floor
  - b. 3,000 SF 2<sup>nd</sup> floor
6. Infrastructure includes new paved parking area, sanitary wastewater leach field system expansion, process wastewater treatment system modification, storm water management improvements, fire protection water storage, utilities and associated grading and landscape improvements.
7. 12 full-time employees & 8 part-time during non-harvest, and 3 employees during the harvest season and bottling.
8. Tasting room visitors are anticipated to be on the order of 40 for an average day and 60 for a peak day.
9. Operating hours shall be 7 AM to 6 PM Monday through Friday off harvest and 6 AM to 10 PM Monday through Sunday during harvest season.
  - a. Tasting Room: 10:30 AM to 5 PM Monday through Sunday
  - b. Promotional Events: 11 AM to 10 PM Monday through Sunday
10. Wine produced primarily from the estate vineyards and local Sonoma County vineyards.

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**Schug Carneros Estate Winery  
Sonoma County, CA**

**MODIFICATION TO EXISTING WINERY FACILITY**

**PRELIMINARY ENGINEERING AND PLANNING INFORMATION**

In order to verify the suitability of the site for the proposed winery modification, an initial investigation of various relevant aspects of the existing property was performed. The described modification to the Use Permit is the same as that approved by Sonoma County PRMD in October, 2004 under PLP02-0059.

The following items were, or are in the process of being evaluated:

1. Sonoma County Planning Department

Preliminary discussions were held with Sonoma County PRMD to determine existing zoning and General Plan requirements and conformity for the proposed winery development project. Related potential project impacts and the suitability of the site for the existing winery were reviewed.

2. Property Information

a) Zoning –The parcel is zoned DA B7, SR VOH and the land use is DA20. The parcel is located at 602 Bonneau Road in Sonoma. The Sonoma County Zoning Ordinance includes wineries as a permitted use upon grant of a Use Permit.

b) Use Permits - The winery property has had the prior Use Permits approved:

Use Permit	Description	Approved
UPE90-006	10,000 case wine production with public tastings and retail sales	4-26-90
PLP02-0059	Increase to 30,000 case wine production, new 6300 SF hospitality building w/ 2 guest accommodations	10-28-04

c) The following documents were obtained and reviewed for restrictions and conflicts:

- i) Assessor's Parcel Map. APN 128-451-054
- ii) Preliminary Title Report

No conflicts with the General Plan were noted. The proposed project is in Supervisorial District 1.

d) Topographic Mapping – Field surveying and topographic mapping of the subject property and proposed development areas was performed in July 2010 by Phelps & Associates of Sebastopol, CA. The resulting information is used on the attached Overall Site Plan, Facility Site Plan and Preliminary Grading & Drainage Plan. Topographic mapping will be utilized for engineering design purposes, with additional supplemental fieldwork if necessary.

3. Environmental Information and related Engineering Data

- a) **Aesthetics (Visual)** – The existing winery is sited on a knoll on the northwestern side of the property and is surrounded on three sides by 50 acres of its own vineyards. To the south is a dairy, to the east is the majority of the Schug's vineyards, giving way to rural residential uses near the intersection of Bonneau Road and Highway 116/121. At the intersection there is a cluster of businesses including a gas station, deli, hotel, pottery sales and several others. To the north are more vineyards and open pasture lands with residences scattered throughout. To the west of the site the land rises steeply to form the hills which rim this side of the Sonoma Valley.

All buildings will minimize glare from windows and all exterior lighting will be shielded and directed downward.

b) **Agricultural Resources**

AGRICULTURAL RESOURCES ELEMENT

2.0 GOALS AND POLICIES RELATED TO AGRICULTURE

2.1 ASSIST IN THE MARKETING AND PROMOTING OF SONOMA COUNTY'S AGRICULTURAL PRODUCTS

Successful promotion and marketing of agricultural products grown in Sonoma County can both enhance the County's image and reduce economic pressure on farmers and ranches to subdivide or convert the land to nonagricultural uses.

This element shall establish policies that will assist in promoting and marketing agricultural products grown or processed in Sonoma County.

Goal AR-1: Promote a healthy and competitive agricultural industry whose products are recognized as being produced in Sonoma County.

Objective AR-1.2: Permit marketing of products grown and/or processed in Sonoma County in all areas designated for agricultural use.

2.5 REGULATE THE LOCATION AND INTENSITY OF AGRICULTURE RELATED COMMERCIAL AND INDUSTRIAL USES IN AGRICULTURAL AREAS

Objective AR-5.1: Facilitate County agricultural production by allowing agricultural processing facilities and uses in all agricultural land-use categories.

Policy AR-5e: Local concentrations of any commercial or industrial uses, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for the production of food, fiber and plant materials and shall be avoided.

*The winery has been in operation since the early 1990's. Other visitor serving uses in the area are relatively old, reflecting the fact that the intersection of Bonneau Road, Highway 116/121 represents a crossroads where services naturally tended to find advantageous business conditions. These uses include a gas station, café/deli, hotel, etc. Expansion of the existing winery's production from 10,000 to 30,000 cases, the replacement of the tasting room with a larger building, the addition of overnight accommodations for industry representatives and three events per year does not significantly increase visitor serving uses in this area.*

Policy AR-5f: Permit storage facilities for agricultural products either grown or processed on the site. Size the facilities according to the processing operation.

- c) **Air Quality** – Emissions from traffic accessing the existing winery site will be below the Bay Area Air Quality Management District Criteria ("BAAQMD") and will not obstruct the implementation of the applicable air quality plan. The Winery Trip Generation, estimated by using the average daily trips (ADT) generated by the proposed ultimate project, is estimated at 40 net new trips. For reference, the average daily trips generated by the creation of one new residence, is approximately 10 one-way trips per day. The BAAQMD CEQA guidelines do not recommend further analysis of vehicle emissions if the amount of new traffic generated would be less than 2,000 vehicles per day.

The hot water boiler will approximately generate annual hot water volume equivalent to three 3-bedroom residences. Process wastewater from the facility will be screened, settled in settling tanks and treated by an aerobic unit, stored in holding tanks and discharged to the vineyard via drip irrigation. Pomace will be spread and decomposed within the vineyard or hauled offsite in a timely manner. Sanitary sewage will be treated in new septic tanks and disposed of in a new onsite standard septic system (with expansion). Consequently, odors associated with wastewater treatment will not be present.

- d) **Biological Resources** – The proposed hospitality/administration building is greater than 650' away from an unknown creek on the adjacent property. The unknown creek will not be impacted by the winery development.

The California Natural Diversity Database indicated that no endangered plants are present on the property.

There are no identified wetlands within the vicinity of the proposed project area.

The project is not located within an area subject to a local, regional, or state habitat conservation plan.

- e) **Cultural Resources** (Archeology and Historic) – Study #11469 (1989: ARS), covering 100% of project area, identified no historical resources. Further study for historical resources was not recommended by the California Historical Resources Information System.
- f) **Geology and Soils** – A geotechnical report, specific to the project development area has been performed previously by Young Engineering Services.
- g) **Hazards and Hazardous Materials** (Winery Chemicals) – Wine production operations typically involve the use or production of materials classified as "hazardous" in the California Health and Safety Code. These include nitrogen, carbon dioxide and sulfur dioxide gases. County Fire Department regulations require the establishment of a Hazardous Materials Business Plan (HMBP) that specifies the use, quantities, storage, transportation, disposal and upset conditions for hazardous materials in accordance with state and county regulations. An HMBP will be required to ensure no significant public exposure from the potential use of hazardous materials at the winery site because the winery will include chemical storage and fermentation areas.

- (a) There is no active school proposed, or existing, within one-quarter mile of the site.

**h) Hydrology and Water Quality**

- i) *Water Supply* – Water for process and domestic uses, fire protection, and landscape irrigation is currently supplied by an existing well (200 GPM capacity) and a single 10,000 gallon storage tank. A portion of the existing 10,000 gallon storage tank, a volume of 2,000 gallons, is dedicated to domestic, process and irrigation uses. The remaining 8,000 gallon storage volume is dedicated to site fire protection. The existing process, domestic and irrigation water system will be sufficient to satisfy those requirements for the proposed production expansion. The existing fire protection storage volume will require increased storage capacity to meet Sonoma County Department of Emergency Services requirements. These systems will be sufficient to satisfy process, domestic, landscape irrigation and fire protection water requirements at the proposed ultimate level of production.
- ii) *Groundwater* - The property is within a “major groundwater basin” (Zone 1 classification) per the PRMD Active Map as defined by the Sonoma County General Plan Resource Conservation Map dated December 31, 1998 (Figure RC-2I). The existing and surrounding wells have demonstrated water yield sufficient to support the proposed winery development. The project will not substantially deplete groundwater supplies or interfere with groundwater recharge so that there would be a net deficit in aquifer volume or a lowering of the local groundwater table.
- iii) *Drainage* – The preliminary drainage concept of the proposed winery development is indicated on the Preliminary Grading & Drainage Plan. The project site lies outside of the Standard Urban Stormwater Mitigation Plan (SUSMP) boundary and therefore will not be subject to Low Impact Development (LID) regulations. However, the project will still be subject to Stormwater mitigation as outlined in the Sonoma County Grading ordinance. Storm water runoff from the roofs is being outlet to gravel basins for subsurface discharge and reduced post-development runoff. Drainage improvements to the site as well as erosion/sediment control measures will be supplemented during construction to handle any increases in storm runoff. Final drainage improvements will be designed so that the post-development flows do not exceed the pre-development flows. The winery site and access road are not subject to flooding during a 100-year occurrence.
- iv) *Process Wastewater Management* – Process wastewater (PW) from the proposed facility is collected in a plumbing system separate from the sanitary wastewater (SW). Initial treatment will occur via existing gravity screen and settling tanks with final treatment and disposal in an expanded combined pressure distribution leachfield system. Projected PW flows and preliminary design information on the process wastewater management system is outlined in the Wastewater Feasibility Study. The design will conform to the requirements of the San Francisco Regional Water Quality Control Board (RWQCB) and will be operated under permit with that agency and the Permit Resource Management Department (PRMD).
- v) *Sanitary Sewage System* – Sanitary sewage will continue to be treated in a septic tanks, but final treatment and disposal will occur in the new combined pressure distribution leach field system. The proposed primary and required 200% expansion leachfield areas are indicated on the Overall Site Plan. Detailed background and preliminary design information on the combined sanitary sewage system is provided in the Wastewater Feasibility Study.
- i) **Land Use and Planning (General Plan)** – The Sonoma County Board of Supervisors adopted the new Sonoma County General Plan on September 23, 2008. Relevant and related zoning information is outlined below:

Chapter 26 Sonoma County Zoning Regulations:

Article 04 – DA - Diverse Agriculture District

Sec. 26-08-020 - Uses Permitted with a Use Permit:

Agricultural Processing: Preparation of agricultural products which are not grown on site, processing of agricultural product of a type grown or produced primarily on site or in the local area, storage of agricultural products grown or processed on site, and bottling or canning of agricultural products grown or processed on site, subject, at a minimum, to the criteria of General Plan Policies AR-5c and AR-5g

Promotional Uses: Tasting rooms and other temporary, seasonal or year-round sales and promotion of agricultural products grown or processed in the county subject to the minimum criteria of General Plan Policies AR-6d and AR-6f.

Promotional or marketing accommodations for private guests, provided that the use, at a minimum, meets all of the following criteria:

1. The use promotes or markets agricultural products grown or processed on the site
2. The scale of the use is appropriate to the production and/or processing use on the site
3. The use complies with General Plan Policies AR-6d and AR-6 f
4. No commercial use of private guest accommodations is allowed
5. Any such use on a parcel under a Williamson Act Contract must be consistent with Government Code Section 51200 et seq. (the Williamson Act) and local rules and regulations.

- j) **Neighbors** – The production expansion at the existing winery and the new hospitality/administration building are proposed improvements to the 10 acre sub-parcel owned by the Schug family. The adjacent 40 acre sub-parcel, planted to vineyards, is also owned by the Schug family. A minimum of 700 feet to the south is an existing dairy, to the north are vineyards, to the west are vineyards and undeveloped grassland and to the east across Bonneau Road, approximately 1800 feet from the existing winery and approximately 600 feet from the proposed new hospitality/administration building are developed parcels.

There is no expansion of building footprint associated with the production expansion at the existing winery facility. Installation of additional stainless steel tanks, and a future crush pad awning is proposed. The existing building is adequate for the 30,000 case/yr. capacity currently proposed.

- k) **Noise** – Minimal noise is expected from the winery project. The existing winery site is well removed and sheltered from residences on surrounding properties. The primary noise source from the winery is during harvest. The crush pad and processing equipment will be under a canopy aiding in attenuating potential noise impacts. Additional low-level noise would be generated from motors, refrigeration and process equipment and vehicles. The related mechanical equipment will be housed in an enclosed-mechanical room. The period of highest noise impact will occur during "crush" (August – October).

- l) **Population and Housing** –Schug Winery will not be adding any additional full-time jobs and will continue to hire seasonal workers through employment agencies during peak harvest time. Therefore, there should be no increase in population growth with this project.
- m) **Public Services (Fire District)** – Fire protection requirements such as access, water availability and water storage were reviewed. Fire sprinkler system requirements, building materials, etc. were also reviewed. The project will meet or exceed the Fire Standards in Ordinance No. 5370 or the ordinance in effect at the time of construction. The proposed hospitality/administration building will have a sprinkler system, and has an existing dedicated fire protection water storage tank and fire pump. The fire protection system tank and pump house are shown on the Overall Site Plan.
- n) **Recreation** – The Open Space Element Map of the Sonoma County General Plan (07/01/02) indicates there are no proposed future parks at, or near, the proposed project. The proposed project will not have an adverse impact on existing recreation.
- o) **Transportation/Traffic** – The projected traffic and related impacts from the winery are outlined in the accompanying Traffic Impact Study by W-Trans and as described below. With the traffic volumes projected in the study and as indicated below, there will be less-than-significant impacts on the level of service based on the County's standards.

Traffic would consist primarily of the following:

- i) **Employees** – It is anticipated that there will be a minor increase of 1 to 2 full-time employees from the existing number. Currently there are 12 full time and 8 part-time employees during the non-harvest period and 16 full time during the harvest season. At ultimate development, the employees are projected to be 14 full time and 8 part-time employees during the non-harvest period and 18 full time during the harvest season
- ii) **Grape Transport** – It is anticipated that the overwhelming majority of the grapes to be processed at the facility will be obtained from onsite vineyards and local Sonoma County vineyards. At ultimate capacity, approximately 460 tons of grapes will be processed onsite: 200 tons (50 acres) from onsite vineyards and 260 tons from offsite. Grapes will be delivered by a small flatbed truck from offsite estate vineyards and field trailer from the on-site vineyards.

$$\text{Truck Trips} = \frac{260 \text{ tons}}{8 \text{ tons/truck}} = 33 \text{ trips annually}$$

$$\text{Truck Trips} = 33 \text{ trips} \div 8 \text{ weeks crush} = \underline{4 \text{ trucks per week on average}}$$

- iii) **Shipping and Receiving** -- Minimal casegoods storage will be provided on site; most of the storage and all distribution will continue to be located at a separate warehousing facility. Shipments to the off-site warehousing would be on the order of 27 trips per year. The off-site warehousing facility allows Schug to coordinate casegoods shipments with glass deliveries for more efficient shipping and backhaul capabilities. The facility plans to include on site bottling with a mobile bottling truck.

Truck trips related to shipment off-site is projected as follows:

Use 1,300 cases/truck

$$\text{Truck Trips} = \frac{30,000 \text{ cases/yr}}{1300 \text{ cases/truck trips (80\% eff)}} = 29 \text{ trips/year}$$

$$\text{Truck Trips} = 29 \text{ trips/year} \div 10 \text{ months} = \underline{2.9 \text{ trips/month}}$$

- iv) *Barrel Delivery* – Because the winery will produce an ultra premium product, there will be an 18-24 month barrel program. New barrels would be arriving following the crush for the new vintage year.

$$\text{Truck Trips} = \frac{30,000 \text{ cases/yr}}{24 \text{ cases/barrel (40 barrels/truck trips)}} = 31 \text{ trips/year}$$

$$\text{Truck Trips} = 31 \text{ trips/6 months} = \underline{5 \text{ per month}}$$

- (1) *Miscellaneous Deliveries* – Deliveries of paper products, miscellaneous winery supplies, etc. are expected to be less than three vehicles per week.
  - (2) *Visitors* – Public tours and tasting with retail sales are requested under this permit. Visitation is projected to be 40 visitors on an average day and 60 on a peak weekend day.
  - (3) *Business Visitors* – Business visitors (distributors, marketing personnel, special industry guests, etc.) are anticipated to number 5 per week.
  - (4) *Other Events* – At ultimate production and full marketing program, BCRS Winery is projecting a total of 10 marketing events annually:
    - (a) 5 events with up to 60 people during the months of January through February
    - (b) 3 events with up to 100 people during the months of March through October
    - (c) 2 events with up to 200 people during the months of March through October
    - (d) The winery may also participate in countywide industry events annually. No additional traffic to public roads will be generated during the countywide wine events.
  - (5) *Access* – As indicated on the Overall Site Plan, employee vehicle and truck access to the winery will be from the existing improved entrance at Dry Creek Road.
  - (6) *Parking* - 35 paved parking spaces will be provided, including one ADA van accessible parking space and one bus/limo parking space for employees and visitors. An additional 107 overflow parking for events will be provided around the facility and along the vineyard roads as shown on the Facility Site Plan.
- p) *Utilities and Service Systems* – No new public services will be needed for this project.
- i) *Electrical* – Primary electrical power will continue to be supplied off the existing overhead high voltage lines along the northern property line.
  - ii) *Gas* – Propane gas will continue to be used at the facility and supplied by the onsite tank.

- iii) *Sewage* – see Item 8d and 8e above.
- iv) *Solid Waste* – Pomace, seeds and stems will be composted and spread in the vineyard as a soil conditioner and supplemental nutrient source and disked under on a routine basis. Approximately 17 acres of onsite vineyard is available for this use. Normal winery trash, debris and rubbish will be removed by private haulers. Waste glass and cardboard from the winery will be recycled.



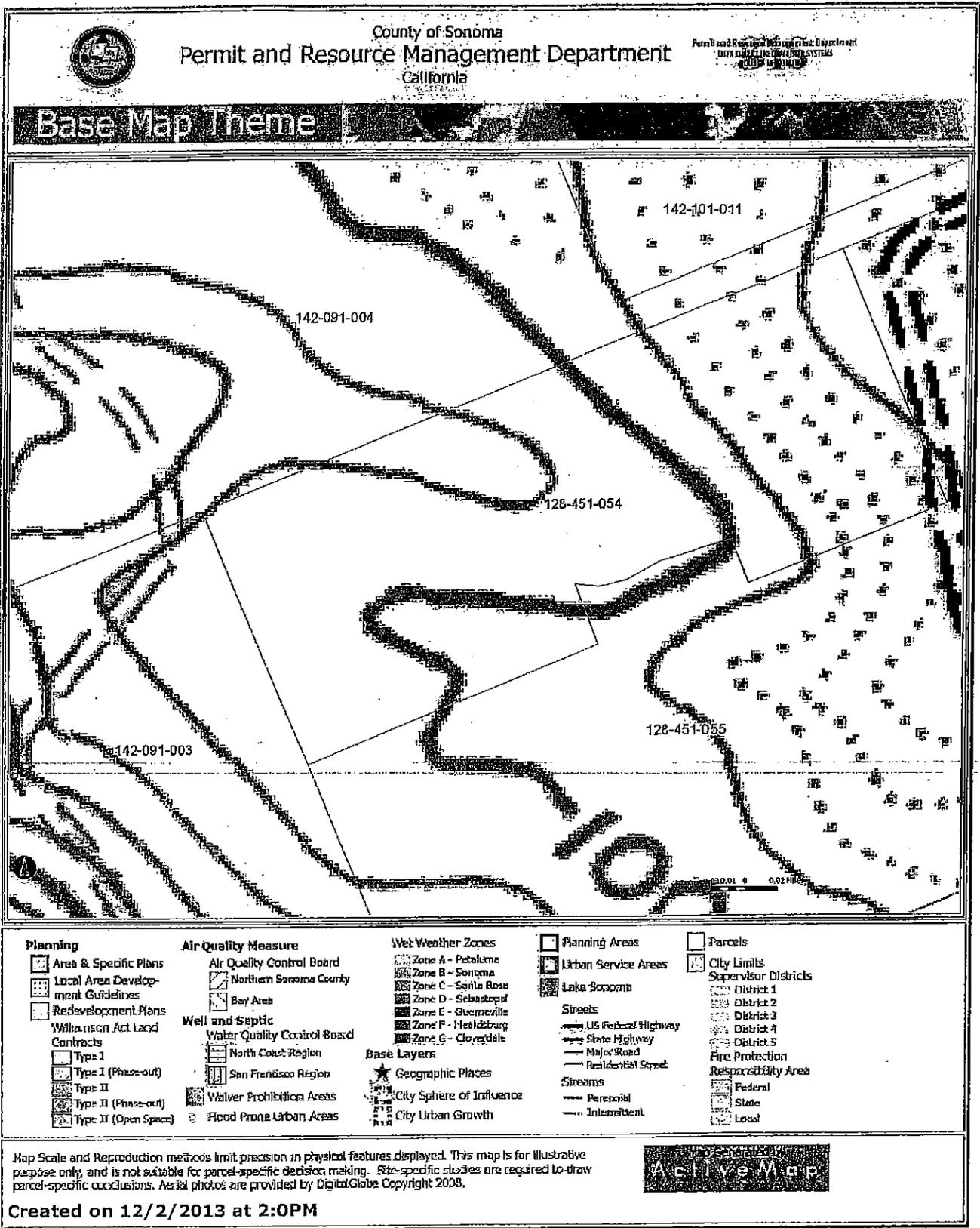






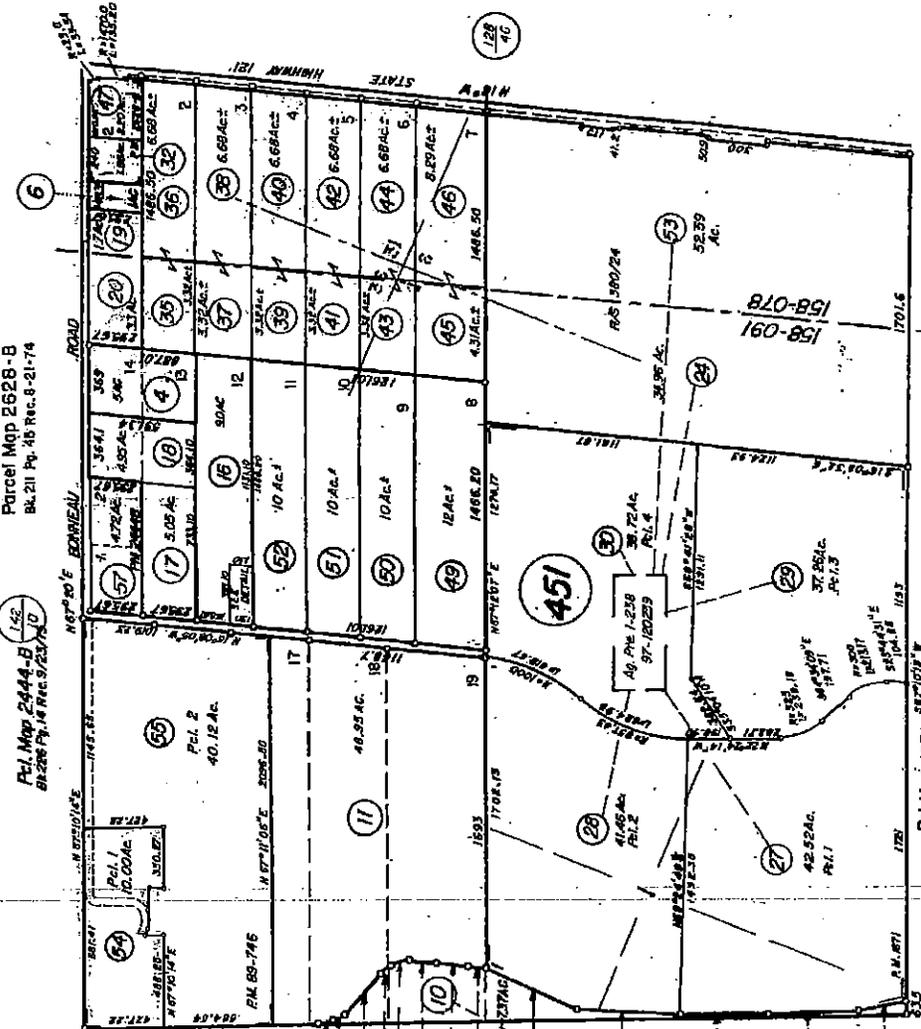






TAX RATE AREA  
158-091  
158-078

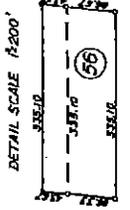
COUNTY ASSESSOR'S PARCEL MAP



Assessor's Map Bl. 128pg 45  
County of Sonoma, Calif.

NOTE: Assessor's parcels do not necessarily constitute legal lots. To verify legal parcel status, check with the appropriate city or county community development or planning division.

Parcel Map No. 89-746  
Bl. 480 Pgs. 38-41, Rec. 9-19-81



NOTE: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA DELINEATED HEREON.



# COUNTY OF SONOMA

## PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

2550 Ventura Avenue, Santa Rosa, CA 95403  
(707) 565-1900 FAX (707) 565-1103

August 1, 2014

To: Interested Agencies

The following application has been filed with the Sonoma County Permit and Resource Management Department.

**File Number:** UPE14-0027  
**Applicant Name:** Modus Inc., Attn: Eric James  
**Owner Name:** Jane Kunde Family LTD Partnership  
**Site Address:** 1393 Nelligan Road, Kenwood  
**APN:** 051-250-010

**Project Description:** Request for a Use Permit for a new telecommunications facility to consist of a 55 foot tall faux tree pole with 12 antennas and associated equipment cabinets with 50 kilowatts backup diesel generator on a 305.66 acre parcel.

We are submitting the above application for your review and recommendation. Additional information is on file in this office.

Responses to referrals should include: (1) statement of any environmental concerns or uncertainties your agency may have with the project; (2) any comments you wish to make regarding the merits of the project; and (3) your proposed conditions and mitigations for this project. Responsible agencies under CEQA are requested to indicate whether permits will be required for this project.

Your comments will be appreciated by August 21, 2014, and should be sent to the attention of:

**UPE14-0027, Karin Theriault (Karin.Theriault@sonoma-county.org).** The Project Planner can also be reached at 707-565-1908.

Please send a copy of your comments to the applicant(s) or their representatives as indicated on the attached Planning Application.

- |   |   |
|---|---|
| <input type="checkbox"/> PRMD County Surveyor                         | <input type="checkbox"/> BOS Dist ____ Director                                   |
| <input checked="" type="checkbox"/> Health Specialist                 | <input checked="" type="checkbox"/> BOS Dist 1 Director and SVCAC                 |
| <input type="checkbox"/> Sanitation                                   | <input type="checkbox"/> BOS Dist 4 Director and Jason Liles                      |
| <input type="checkbox"/> Grading and Storm Water                      | <input checked="" type="checkbox"/> Valley of the Moon Alliance and Kenwood Press |
| <input type="checkbox"/> SUSMP  | <input checked="" type="checkbox"/> NW Information Center, S.S.U.                 |
| <input checked="" type="checkbox"/> Building Inspection               | <input checked="" type="checkbox"/> Milo Baker Chapter Conservation Committee     |
| <input type="checkbox"/> Code Enforcement                             | <input type="checkbox"/> PG&E   |
| <input type="checkbox"/> Road Naming                                  | <input type="checkbox"/> School District -  |
| <input type="checkbox"/> So County Environmental Health               | <input type="checkbox"/> Water District -   |
| <input checked="" type="checkbox"/> DTPW, Land Development            | <input checked="" type="checkbox"/> North Bay Corporation (Disposal)              |
| <input type="checkbox"/> DTPW, Drainage                               | <input type="checkbox"/> U.S. Army Corps of Engineers                             |
| <input type="checkbox"/> Ag Commissioner                              | <input type="checkbox"/> State Coastal Commission - Appealable Yes / No           |
| <input checked="" type="checkbox"/> Regional Parks Dept               | <input type="checkbox"/> State Dept of Transportation (Caltrans)                  |
| <input checked="" type="checkbox"/> Fire and Emergency Services       | <input checked="" type="checkbox"/> State Dept of Fish & Wildlife                 |
| <input checked="" type="checkbox"/> Local Fire District - KENWOOD FPD | <input type="checkbox"/> State Dept of Forestry                                   |
| <input type="checkbox"/> Treasurer/Special Assessment                 | <input type="checkbox"/> State Water Resources Control Board                      |
| <input type="checkbox"/> Assessor                                     | <input type="checkbox"/> State Parks and Recreation                               |
| <input type="checkbox"/> Landmarks Commission                         | <input type="checkbox"/> Regional Water QCB: North Coast / SF Bay                 |
| <input checked="" type="checkbox"/> Transit/BPAC                      | <input type="checkbox"/> Air Pollution Control: No. So. County / Bay Area AQM     |
| <input checked="" type="checkbox"/> Communications                    | <input type="checkbox"/> City of _____ Dept                                       |
| <input checked="" type="checkbox"/> SCTA/RCPA                         | <input checked="" type="checkbox"/> Sonoma MOAG                                   |
| <input type="checkbox"/> Sheriff Community Service Officer            | <input checked="" type="checkbox"/> Kenwood Community Club                        |
| <input type="checkbox"/> LAFCO  | <input checked="" type="checkbox"/> Federated Indians of Graton Rancheria         |
| <input type="checkbox"/> ALUC/CLUP                                    |   |

# Planning Application

PJR-001

File#: UPE 14-0027

**Type of Application:**

- |   |  |   |                                       |
|---|--|---|---------------------------------------|
| <input type="checkbox"/> Admin Cert. Compliance       | <input type="checkbox"/> Design Review Comm./Ind.  | <input type="checkbox"/> Minor Subdivision            | <input type="checkbox"/> Variance     |
| <input type="checkbox"/> Ag./Timber Preserve/Contract | <input type="checkbox"/> Design Review Residential | <input type="checkbox"/> Mobile Home Zoning Permt     | <input type="checkbox"/> Zone Change  |
| <input type="checkbox"/> Cert. of Compliance          | <input type="checkbox"/> Design Review Signs       | <input type="checkbox"/> Ordinance Interpretation     | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Cert. of Modification        | <input type="checkbox"/> General Plan Amendment    | <input type="checkbox"/> Second Unit Permit           |                                       |
| <input type="checkbox"/> Coastal Permit               | <input type="checkbox"/> Lot Line Adjustment       | <input type="checkbox"/> Specific/Area Plan Amendment |                                       |
| <input type="checkbox"/> Design Review Admn.          | <input type="checkbox"/> Major Subdivision         | <input checked="" type="checkbox"/> Use Permit        |                                       |

**Applicant (Contact Person):**

**Modus Inc. (contact: Eric James)**  
 Name  
149 Natoma St 3rd Floor  
 Mailing Address  
San Francisco CA 94105  
 City/Town State Zip  
415-350-5418  
 Phone  
ejames@modus-corp.com  
 email  
[Signature] 3-31-14  
 Signature Date

**Owner, if other than Applicant:**

**Jane Kunde Family Ltd Partnership**  
 Name  
PO Box 1219  
 Mailing Address  
Kenwood CA 95452  
 City/Town State Zip  
707 544-5750 N/A  
 Phone Fax  
robin@plusonepro.com  
 email  
[Signature] \_\_\_\_\_  
 Signature Date

**Other Persons to be Notified:** (Specify: Other Owner(s), Agent, Lender, Architect, Engineer, Surveyor)

Name	Name	Name
Mailing Address	Mailing Address	Mailing Address
City/Town State Zip	City/Town State Zip	City/Town State Zip
Title	Title	Title
Phone Fax	Phone Fax	Phone Fax
email	email	email

1395  
**Project Information:**  
1401 Nelligan Road (approx. address) Kenwood, CA 95452  
 Address(es) City/Town  
051-250-010 305.66  
 Assessor's Parcel Number(s) Acreage

Project Description: AT&T 55' tall stealth tree monopole w/12 antennas & associated ground equipment  
 (Please attach additional sheet(s) if needed)  
 Site Served by Public Water?  Yes  No Site Served by Public Sewer?  Yes  No Number of new lots proposed 0

DO NOT WRITE BELOW THIS LINE - To Be Completed by PRMD Staff

Planning Area: 9 Supervisorial District: 1 Current Zoning: LIA 100 Z 50A General Plan Land Use: LIA 100  
 Specific Plan: N. San Valley Area Plan S.P. Land Use: \_\_\_\_\_ Needs CEQA Review?  yes  no

**Commercial/Industrial Uses:** (Enter numbers where applicable)  
 Bldg. sq. ft. Existing: \_\_\_\_\_ Proposed: \_\_\_\_\_ Existing Employees: \_\_\_\_\_ New Employees: \_\_\_\_\_  
 New Manufactured Homes: \_\_\_\_\_ New Units For Sale: \_\_\_\_\_ New Units For Rent: \_\_\_\_\_ Density Bonus Units: \_\_\_\_\_  
 Violation?  yes  no; Application resolves planning violation?  yes  no; Penalty applicable?  yes  no; Civil Penalty Factor N/A  
 Previous Files: LIA 12-0044  
 Application accepted by [Signature] Date 3/31/14

**Sonoma County Permit and Resource Management Department**  
 2550 Ventura Avenue + Santa Rosa, CA + 95403-2829 + (707) 565-1900 + Fax (707) 565-1103  
 Carrie Muller S:\Hanoouts\PJRPJR-001 Planning Application.WPD 11/13/09

# 5012

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### Supplemental Application Information

PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

Existing use of property: Agriculture vineyards

Acreage: 305.66

Existing structures on property: Viticulture vines, barb wire fence

Proximity to creeks, waterways and impoundment areas: 3,400 ft Calabazas Creek

Vegetation on site: Oak Trees, ground cover, some shrubs

General topography: Flat

Surrounding uses to (Note: An adjoining road is not a use.)	North: <u>Vineyard</u>	South: <u>Vineyard</u>
	East: <u>Residential lot with vineyard</u>	West: <u>Vineyard</u>

New structures proposed  
(size, height, type): 55' Monopole with Faux Oak Tree Disguise and 5' Canopy  
At Grade Equipment Shelter 10' tall, pad mounted back-up generator

Number of employees: Full time: \_\_\_\_\_ Part time: \_\_\_\_\_ Seasonal: 2

Operating days: 24/7 hours, unmanned Hours of operation: 24/7

Number of vehicles per day: Passenger: 0 Trucks: 4-6 times a year

Water source: TBD Sewage disposal: N/A

Provider, if applicable: \_\_\_\_\_ Provider, if applicable: \_\_\_\_\_

New noise sources  
(compressors, power tools, music, etc.): Back-up generator for 48 hours run-time during  
primary power blackout

Grading proposed: Amount of cut (cu. yds.): 77 Amount of fill (cu. yds.): 77 Will more  
than one acre be disturbed by construction of access roads, site preparation and clearing, fill or  
excavation, building removal, building construction, equipment staging and maintenance, or other  
activities? Yes \_\_\_\_\_ No x If Yes, indicate area of disturbance(acres): \_\_\_\_\_  
Identify method of site drainage (sheet flow, storm drain, outflow to creek or ditch, detention area, etc.):  
Site to remain pervious for rainwater, only about 400 sf will be added structure (shelter, wall, gen pad)

Vegetation to be removed: Existing small shrubs and grasses, no trees to be removed

Will proposal require annexation to a district in order to obtain public services: Yes \_\_\_\_\_ No x

Are there currently any hazardous materials (chemicals, oils, gasoline, etc.) stored, used or  
processed on this site? Yes \_\_\_\_\_ No x

Will the use, storage, or processing of hazardous materials occur on this site in the future if this  
project is authorized? Yes x No \_\_\_\_\_

Fire safety information (existing/proposed water tanks, hydrants, emergency access and turnaround,  
building materials, etc): 190 gallons diesel for generator, 16 gallons battery electrolyte, may have rainwater tank

County of Sonoma  
Planning Division  
2550 Ventura Avenue  
Santa Rosa, California 95403

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MAR 31 2014

PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

Modus Inc.  
149 Natoma Street 3<sup>rd</sup> Floor  
San Francisco, CA 94105  
Eric James, Land Use Planner



March 31, 2014

Site Acquisition Specialist for AT&T Mobility

Proposed New AT&T Wireless Telecommunications Facility at  
~~1401~~ Nelligan Road (approx address) - APN 051-250-010  
AT&T Site "CCU1219 Nelligan Road"

1393

### Project Description

AT&T Mobility is proposing a new wireless telecommunications facility to provide better service and data capacity to businesses and residents in the County of Sonoma. The proposed project involves the installation of new antennas and equipment as follows:

#### Support Structure & Antenna Location

- The installation of (1) 55 foot tall faux oak tree monopole with:
  - The installation of (12) 6' panel antennas (Andrew/CommScope)
  - The installation of (21) remote radio units (Ericsson RRUS-11)
  - The installation of (4) surge suppression units (CommScope)

#### Base Equipment:

- Demarcation of a 26' x 40' leasing area with CMU wall (6' tall)
- The installation of (1) 11'5 x 12' pre-fabricated equipment shelter with:
  - The installation of (3) interior telecom cabinets and (1) battery rack.
  - The installation of (2) GPS antennas mounted on top (~1 foot tall)
  - The installation of (2) A/C wall units (Bard) on side of shelter.
- Power and telco conduit routed by cable bridge and not visible above fence line. Conduit is trenched or bored from shelter to nearby JPA pole.
- The installation of (1) utility H-frame for metering, switches, remote shutdowns
- The installation of (1) back-up diesel generator (Generac 50kw, 190 gallons diesel)

#### Landscaping:

- The installation of new landscaping trees and bushes along Nelligan Road outside the property line and wire fence. Irrigation to be determined.

#### Colors, Finishes, Surfaces:

- Concrete foundation & concrete pad to comprise 20'x~12' of area, with remaining area as tamped soil with pervious gravel.
- Faux oak tree to be purchased by TBD concealment vendor (ie: Larson or Sabre) and color matched to nearby trees. Density of 3 branches per foot to maximize antenna stealthing. Fence area encompasses entirety of tree radius for capture.
- Concrete masonry (CMU) wall selected for long-term durability, colored earth-tone

#### Siting & Property:

APN 051-250-010 (91-2001 Nelligan Road) is a 305.66 acre parcel forming the east hillside of Highway 12. The site is situated on the east border with Nelligan Road. The monopole center is 26 feet from the property line. A setback waiver is requested per Sonoma County zoning. The attached alternative analysis further details selection of this site as the least intrusive means.

County of Sonoma  
Planning Division  
2550 Ventura Avenue  
Santa Rosa, California 95403

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PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

Modus Inc.  
149 Natoma Street 3rd Floor  
San Francisco, CA 94105  
Eric James, Land Use Planner



March 31, 2014

Site Acquisition Specialist for AT&T Mobility

Proposed New AT&T Wireless Telecommunications Facility at  
1401 Nelligan Road (approx address) - APN 051-250-010  
AT&T Site "CCU1219 Nelligan Road"

1393

### Alternative Analysis

AT&T Mobility identified a significant gap in its service coverage in the County of Sonoma. AT&T Radio Frequency (RF) design engineers outlined a search ring area to locate a wireless antenna facility to meet surrounding gap coverage objectives. The facility is necessary to benefit the public with crucial improved communications in the gap area.

#### Search Ring

The search ring delineates the geographic boundary of both the coverage gap, and a search area to locate an antenna to reach this gap. The gap area identified by AT&T Radio Frequency is approximately one square mile centered on Nelligan Road and Highway 12 (Sonoma Highway). The stated intent for this ring by the RF engineer is: **To provide coverage parity to TMO site BA00406A which includes providing coverage along HWY12 (Sonoma Highway) from Arnold Dr. to Adobe Canyon Rd. Will also improve coverage to the residential and winery areas in Kenwood.**

Figure 1. Search Ring map issued by AT&T RF. The red line represents the search area requested by RF to locate antennas in order to achieve coverage objectives. RF requested a height of 60 feet.



### Defining a Significant Gap

The definition of a significant gap generally delineates a geographic area in which antenna signal is weak. Whether a device may be phone, tablet, or computer, the user may experience poor reception, inability to make calls and slow or intermittent data.

AT&T has a technological necessity to provide improved wireless cell and data service. The gap can be measured by either the service levels in the geographic area, or by the number of users (capacity) needing to access service. AT&T RF engineers calculate signal strengths and capacity based on nearby AT&T wireless sites.

Service levels are categorized in the following manner:

- In-Building Service: Indicates good cell signal that can be received well within buildings or obstructions, and indicates proximity to the cell tower.
- In-Transit Service: Indicates moderate cell signal that can be received while moving within vehicles or signals through open thoroughfares not impeded by obstructions.
- Outdoor Service: Indicates lowest cell signal strength that can only be received while outdoors or that reception has degraded given the distance to the nearest antenna. Service at this level can be easily impeded by objects, structures, weather or by the user.

### Filling the Coverage Gap

The RF engineer issued the attached propagation maps, which show the coverage gap, coverage fulfillment (how the site meets the gap) and nearby cell sites.

The **Existing UMTS Service Coverage** map reveals coverage is primarily on the east hillside where Kunde Winery sits. However coverage lacks or is non-existent on the west hillside along Highway 12. In valley topography, antennas can only be aimed at the opposing hillside.

The **Proposed UMTS Service Coverage** map reveals the new site expands the "in-building" service levels throughout Highway 12 and the west hillside, an approximate 2 mile swath.

The **Existing Surrounding Sites** reveals two (2) nearby AT&T sites that are 5.0 and 5.1 miles from the proposed site on Nelligan Road. The distant arrangement of these sites correlate with the existing coverage, and produce the lack of coverage in this area.

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### Least Intrusive Means – Design & Construction

AT&T proposes a stealth faux oak tree as the least intrusive means to locate antennas in this area.

- Concealing the antennas among a tree design will ensure antennas are well hidden, thereby minimizing visual impacts.
- Siting among an existing grove of trees takes advantage of existing ridgeline stealthing and further minimizes vertical visual impacts.
- Increased Nelligan Road landscaping ensures sight lines from nearby residential properties are preserved as woodland.
- A fully contained leasing area next to an existing paved access road allows for a minimized construction and ground impact. There is no need for a new access road.
- Combining all antennas and base equipment into one enclosed leasing area will also ensure minimal environmental impact.
- This design was supported by the property owner, preferring as it creates a single confined facility that is placed strategically out of vineyard operations, within an unused portion of the property, and avoids creating new access roads through the property.

Alternative designs would present a more intrusive and impactful development:

- A water tank design creates a large man-made looking silhouette which is not preferred by County code. Though tank designs can be attractive, the top portion would be readily visible on the ridgeline from Highway 12, as antennas must be in visual line of sight with the road. This design option was considered by the property owner but not preferred.
- Windmill or silo structures also present similarly impactful silhouettes and visibility along the ridgeline. Windmill design may be distracting. There are no other visible man-made structures in this portion of the hillside.
- A slimline monopole or flagpole can be considered a stealth design as it places antennas in an enclosed vertical shaft. However the pole would need to be upwards of 70 feet in order to allow all antennas to shoot over the treeline. Though it can present a "smaller" silhouette, the vertical element would still be readily visible on the ridgeline.
- Ground mounted "stick" antennas along the ridge line may allow them to blend into the hillside, however this also necessitates removal of active vines to place antennas. The valley slope is gradual, not steep, therefore each individual antenna may need to be quite tall (20-30 feet) to clear the slope, not necessarily making ground-mounted design any less intrusive. In addition ground mounted antenna sets would create much more boring or trenching to connect power-telco conduits, further impacting soils and creating environmental mitigations. A base equipment area is still needed. This design option was also rejected by the property owner as intrusive on their operations. The RF engineer rejects this design as well for reasons above, in addition to that the ground absorbs and degrades signal.

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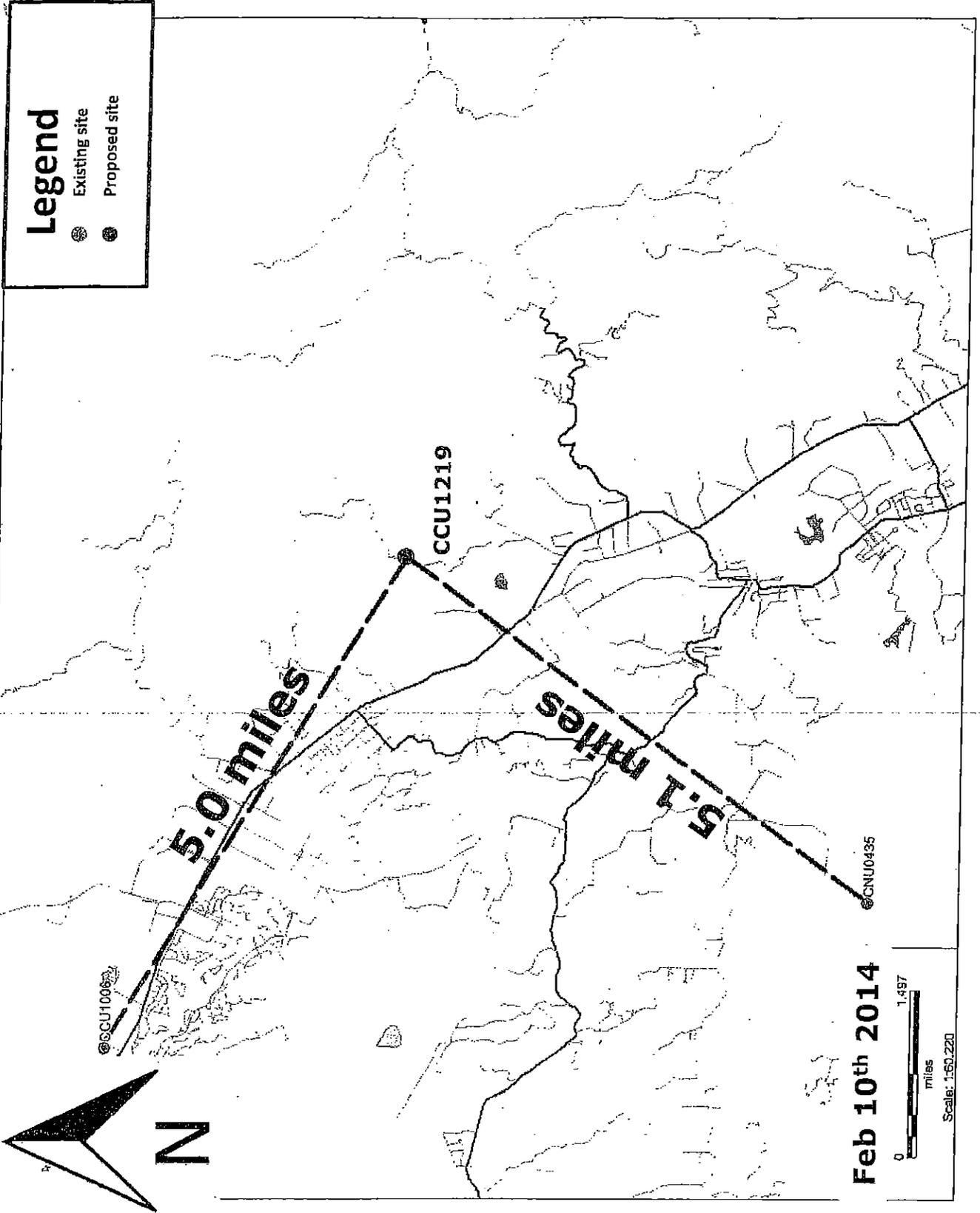
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Existing On-Air Sites Locations



Feb 10th 2014





PROJECT NO. 001219  
 PROJECT I.D. 001219  
 COUNTY I.D. 001219  
 CHECKED BY: C.M.

NO.	DATE	DESCRIPTION
1	03/27/14	ISSUE FOR PERMIT
2	03/27/14	ISSUE FOR PERMIT
3	03/27/14	ISSUE FOR PERMIT
4	03/27/14	ISSUE FOR PERMIT

APPROVED BY: [Signature]

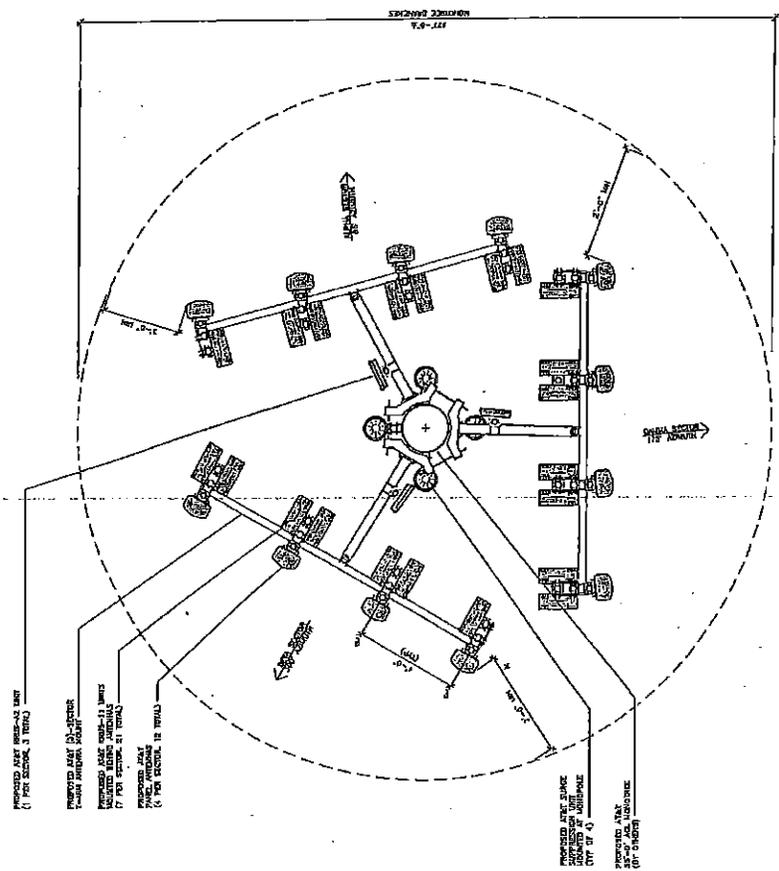
ISSUED FOR: NELLIGAN ROAD  
 CC011219  
 91-2001 WELLSFARLOW ROAD  
 KENWOOD, CA 95422

PROJECT TITLE: ANTENNA PLAN

SHEET NUMBER: A-4

NOTE: ALL DIMENSIONS TO BE CHECKED BY MANUFACTURER. DIMENSIONS TO BE CHECKED BY MANUFACTURER. DIMENSIONS TO BE CHECKED BY MANUFACTURER. DIMENSIONS TO BE CHECKED BY MANUFACTURER.

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 MANAGEMENT DEPARTMENT



PROVIDED ANTENNA PLAN  
 (1 FOR RECORD, 1 FOR PERMIT)

PROVIDED ANTENNA PLAN  
 1-ONE ANTENNA PLAN

PROVIDED ANTENNA PLAN  
 1-ONE ANTENNA PLAN  
 1-ONE ANTENNA PLAN  
 1-ONE ANTENNA PLAN

PROVIDED ANTENNA PLAN  
 1-ONE ANTENNA PLAN  
 1-ONE ANTENNA PLAN

PROVIDED ANTENNA PLAN  
 1-ONE ANTENNA PLAN  
 1-ONE ANTENNA PLAN

SCALE: 1/8" = 1'-0"

ANTENNA PLAN | 1





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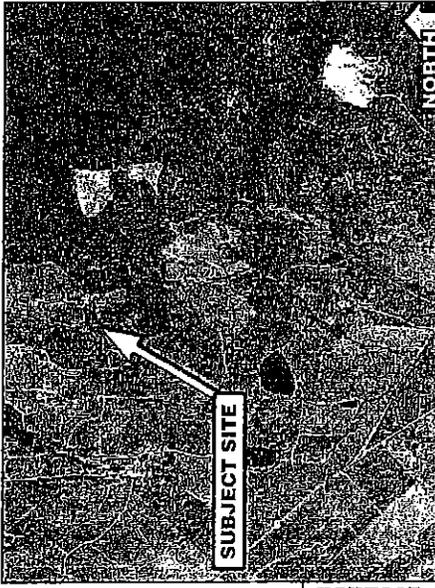


February 26, 2014

View #: 1

CCU1219 / FA: 10151399

NELIGAN ROAD  
99-2001 NELIGAN ROAD  
KENWOOD, CA 95452



SUBJECT SITE

Location



Existing



The illustration above is a representation of this proposed project based on information provided by the client. Actual construction may vary depending on approved permit conditions and other factors. Pacific Telecom Services is not responsible for any cost production design changes. Moreover, the illustration is not intended to be an exact representation of an actual living tree. The final regulation will have width, scale, and other details, and will be made in accordance with the actual site conditions. While every effort will be made to ensure that the illustration is as accurate as possible, it may not be a true representation of the actual site conditions.

AT&T Mobility  
2600 Camino Ramon  
San Ramon, CA 94583  
Jimmy Stillman - Phone: (530) 913-9577

Prepared by: C-JL

Pacific Telecom Services, LLC  
3158 E. Airport Loop Drive, Suite 1000, San Ramon, CA 94583-3414

REV. A

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MAR 31 2014

PERMIT AND RESOURCE  
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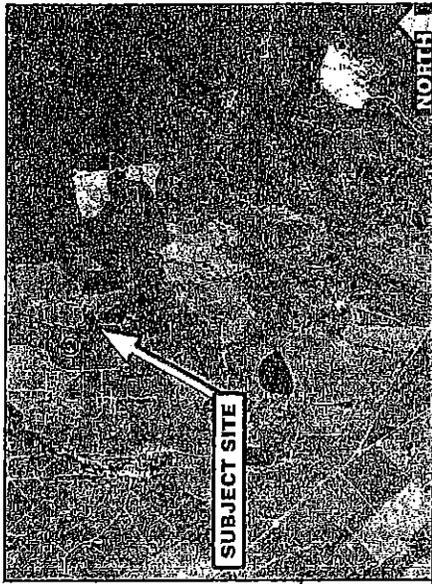
CCU1219 / FA: 10151399

NELLIGAN ROAD  
89-2001 NELLIGAN ROAD  
KENWOOD, CA 95452



View #: 2

February 26, 2014



Location



Existing



Proposed

The illustration above is a representation of the proposed subject based on information provided by the client. Actual construction may vary dependent on approved construction plans and therefore PTS (Pacific Telecom Services) is not responsible for any cost, production design changes. All services, equipment, materials, and labor are to be provided by the client. While every effort will be made to duplicate the actual existing conditions, the illustration is not intended to be an exact reproduction of the actual existing conditions. The illustration is not intended to be an exact reproduction of the actual existing conditions. The illustration is not intended to be an exact reproduction of the actual existing conditions.

REV: A  
Pacific Telecom Services, LLC  
1590 S. Airport Blvd, Suite 100, San Jose, CA 95128-3114

Prepared by: GJJ

AT&T Mobility  
2600 Camino Ramon  
San Ramon, CA 94583  
Jimmy Stillman - Phone: (530) 913-9577

RECEIVED

MAR 31 2014

PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

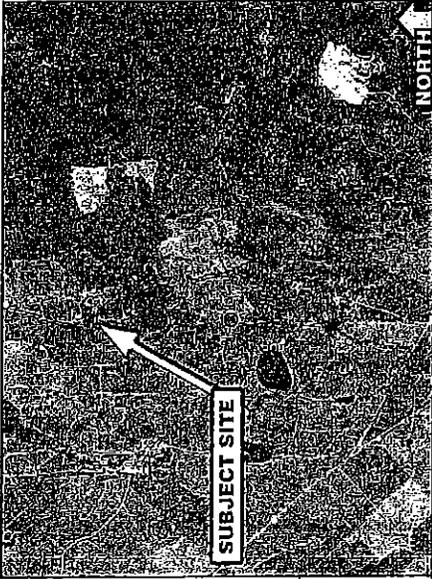


February 26, 2014

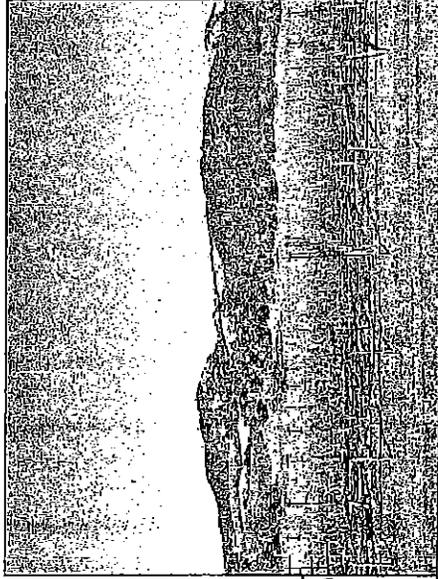
View #: 3

CCU1219 / FA: 10151399

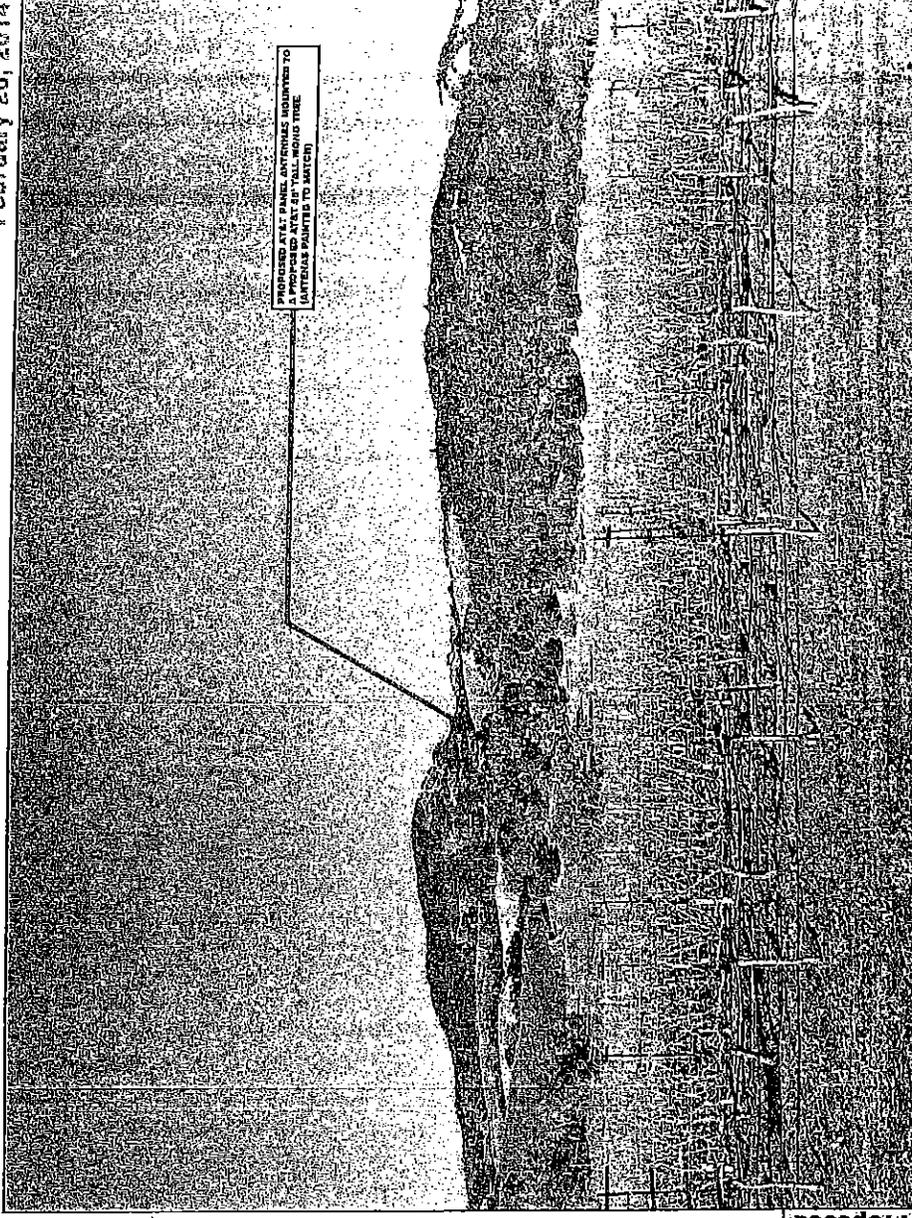
NELLIGAN ROAD  
99-2001 NELLIGAN ROAD  
KENWOOD, CA 95452



Location



Existing



The illustration above is a representation of the proposed project based on information provided by the client. Actual construction may vary depending on approved construction plans and drawings. Pacific Telephone Services, LLC is not responsible for any poor production or design changes. Where necessary, the proposed illustration is an artistic representation of a tree, and not intended to be an exact reproduction of an actual living tree. The final illustration will have cables, utility poles, and various structures, such as antennas, which are not shown in this illustration. However, upon close scrutiny, the true nature of the landscape will be apparent.

REVISIONS  
Pacific Telephone Services, LLC  
3155 Elvert Way, San Ramon, CA 94583

Prepared by: CJL

REV: A

AT&T Mobility  
2600 Camino Ramon  
San Ramon, CA 94583  
Jimmy Stillman - Phone: (530) 913-9577



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MAR 31 2014

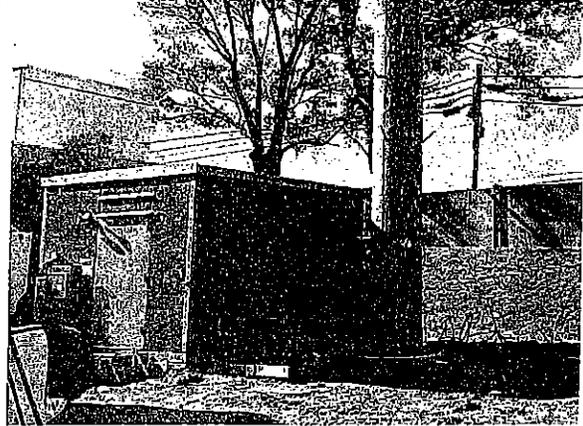
PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

Color Sample Guide

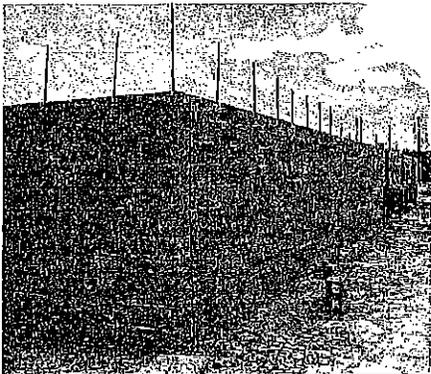
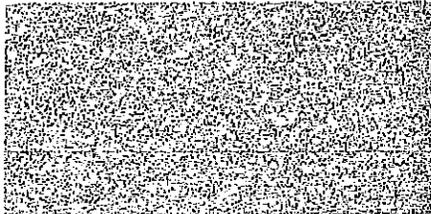
Larson Monopole Pine (oak sample to be provided)



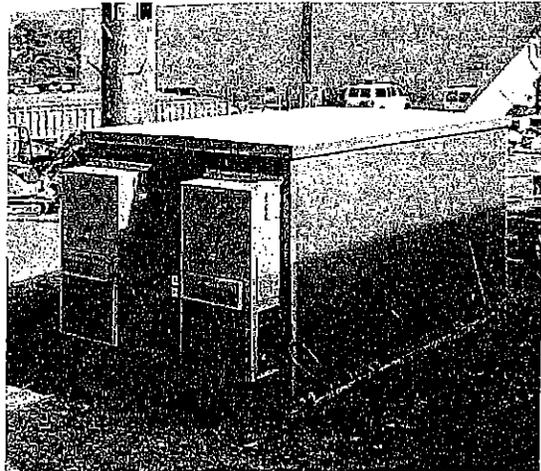
Shelter in aggregate finish with tan trim



CMU wall earth-tone



BARD wall-mounted air conditioners

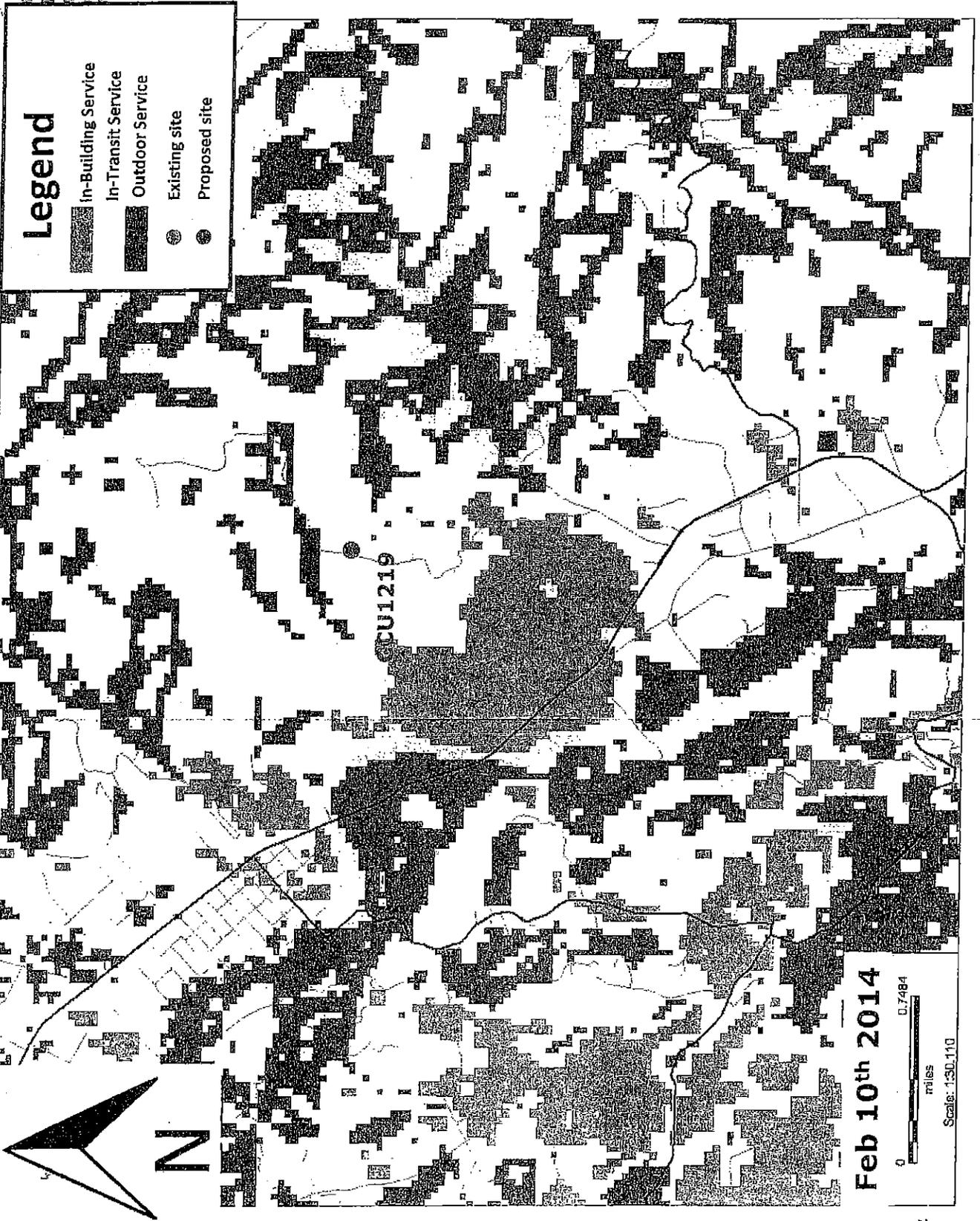


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MAR 31 2014

PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

Existing UMTS Service Coverage

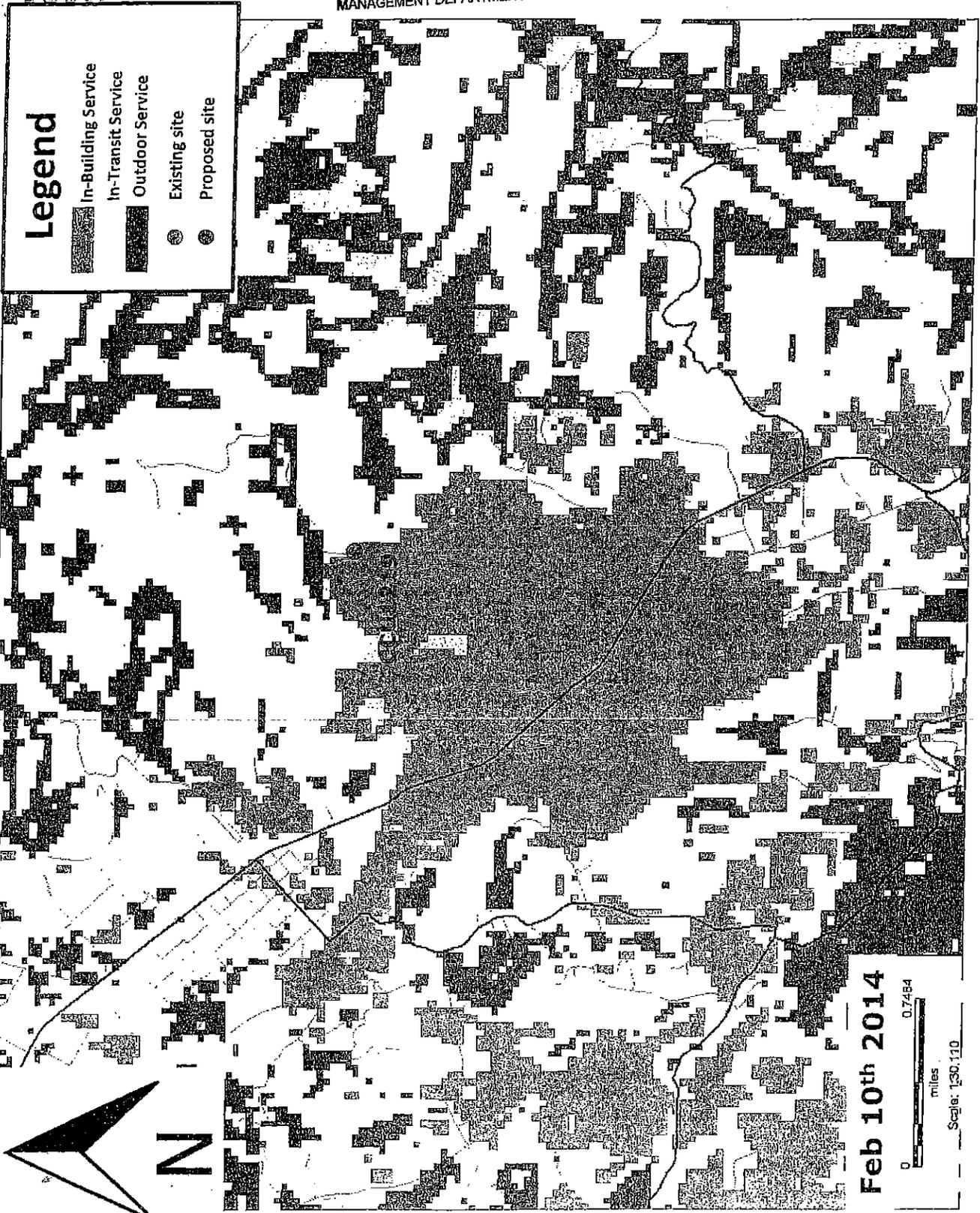


RECEIVED

MAR 31 2014

PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

Proposed UMTS Service Coverage Kunde Estates @ 43 feet



Feb 10th 2014

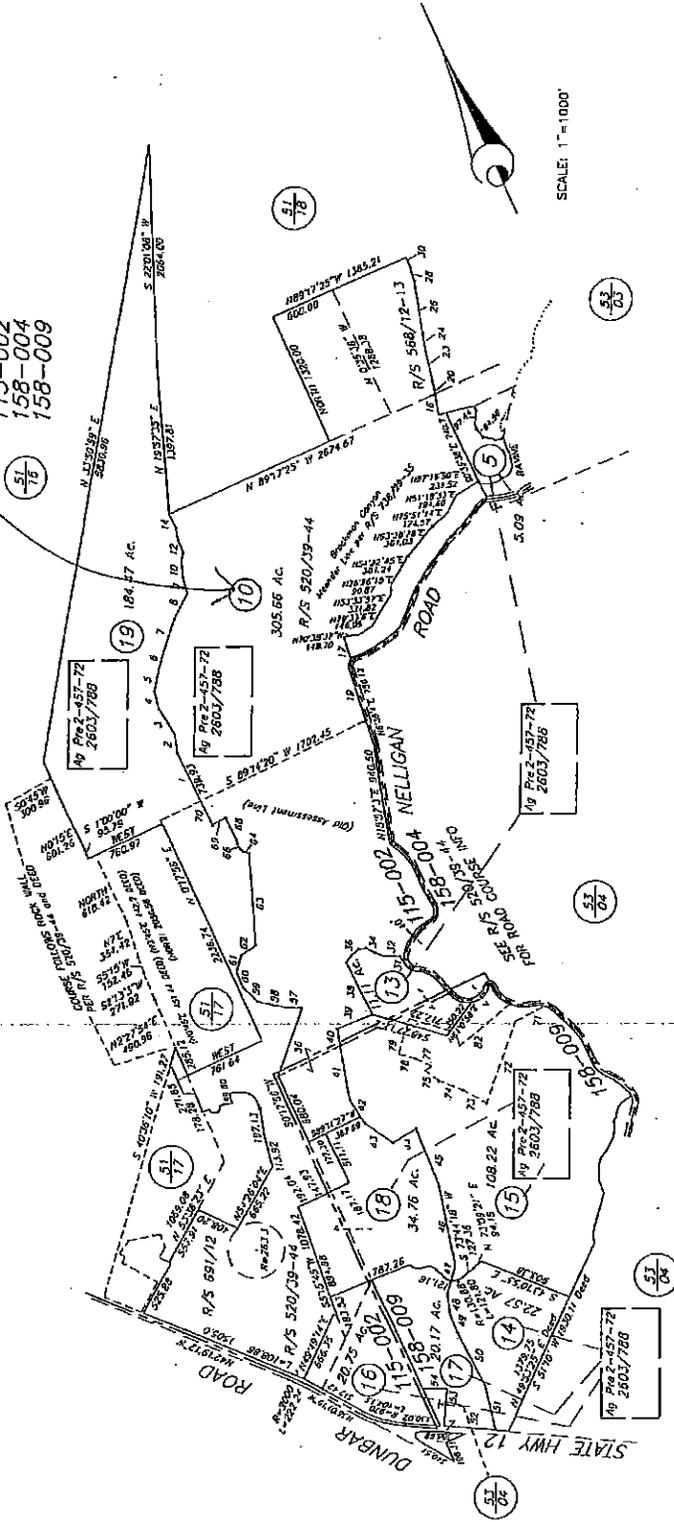
0.7484  
miles  
Scale: 1:30,110

# COUNTY ASSESSOR'S PARCEL MAP

51-25

TAX RATE AREA  
115-002  
158-004  
158-009

Site



REVISED  
08-14-09-09-KB  
08-17-09-15-KB  
01-13-10-19-KB  
01-05-12-Corr.-BC

Assessor's Map Bk. 051, Pg. 25  
Sanoma County, Calif. (ACAD)  
KEY 10/1/08=7 M.

1	N 17°44'55" W 1742.45'	21	N 12°02'26" W 510.02'	41	S 17°36'18" W 510.02'	61	N 40°42'20" E 161.19'
2	N 17°40'15" E 1742.45'	22	S 12°02'26" W 510.02'	42	S 08°17'45" E 281.45'	62	N 29°48'39" E 163.31'
3	N 89°12'35" W 2674.61'	23	N 11°18'20" E 281.45'	43	S 20°00'09" E 316.63'	63	N 20°21'01" E 462.31'
4	S 10°13'28" W 1662.94'	24	N 11°30'59" E 1662.94'	44	N 03°29'53" E 250.64'	64	N 43°23'23" W 366.20'
5	N 89°12'35" W 2674.61'	25	N 89°12'35" W 2674.61'	45	S 02°41'20" W 284.84'	65	N 26°39'17" W 389.23'
6	N 29°17'35" W 1662.94'	26	N 89°12'35" W 2674.61'	46	S 17°48'48" W 278.24'	66	N 01°49'52" W 522.69'
7	S 29°17'35" W 1662.94'	27	N 12°45'37" E 545.15'	47	S 41°39'18" W 223.06'	67	N 71°53'55" E 472.29'
8	S 29°17'35" W 1662.94'	28	N 12°45'37" E 545.15'	48	S 17°48'48" W 278.24'	68	N 27°52'20" W 322.72'
9	S 03°23'23" W 366.20'	29	N 12°45'37" E 545.15'	49	S 02°41'20" W 284.84'	69	N 01°49'52" W 522.69'
10	S 10°13'28" W 1662.94'	30	N 11°30'59" E 1662.94'	50	S 02°41'20" W 284.84'	70	N 43°23'23" W 366.20'
11	N 89°12'35" W 2674.61'	31	S 11°30'59" E 1662.94'	51	S 11°30'59" E 1662.94'	71	N 43°23'23" W 366.20'
12	S 02°41'20" W 284.84'	32	S 02°41'20" W 284.84'	52	N 03°29'53" E 250.64'	72	N 43°23'23" W 366.20'
13	N 11°18'20" E 281.45'	33	S 02°41'20" W 284.84'	53	N 03°29'53" E 250.64'	73	N 43°23'23" W 366.20'
14	S 12°02'26" W 510.02'	34	S 12°02'26" W 510.02'	54	N 03°29'53" E 250.64'	74	N 43°23'23" W 366.20'
15	S 12°02'26" W 510.02'	35	S 12°02'26" W 510.02'	55	N 03°29'53" E 250.64'	75	N 43°23'23" W 366.20'
16	S 12°02'26" W 510.02'	36	S 12°02'26" W 510.02'	56	N 03°29'53" E 250.64'	76	N 43°23'23" W 366.20'
17	S 12°02'26" W 510.02'	37	S 12°02'26" W 510.02'	57	N 03°29'53" E 250.64'	77	N 43°23'23" W 366.20'
18	S 12°02'26" W 510.02'	38	S 12°02'26" W 510.02'	58	N 03°29'53" E 250.64'	78	N 43°23'23" W 366.20'
19	S 12°02'26" W 510.02'	39	S 12°02'26" W 510.02'	59	N 03°29'53" E 250.64'	79	N 43°23'23" W 366.20'
20	S 12°02'26" W 510.02'	40	S 12°02'26" W 510.02'	60	N 03°29'53" E 250.64'	80	S 46°19'28" E 462.31'

NOTE: This map was prepared for Assessment purposes only and does not indicate either parcel boundaries or the location of any easements. The survey is based on the information furnished by the applicant (i.e., recorded survey maps, subdivision maps, etc.).

NOTE: Assessor's parcels do not necessarily constitute legal lots. To verify legal parcel status, check with the appropriate city or county community development or planning division.

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AT&T Mobility • Proposed Base Station (Site No. CCU1219)  
99-2001 Nelligan Road • Kenwood, California

1393

Statement of Hammett & Edison, Inc., Consulting Engineers

PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of AT&T Mobility, a personal wireless telecommunications carrier, to evaluate the base station (Site No. CCU1219) proposed to be located at 99-2001 Nelligan Road in Kenwood, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

### Executive Summary

AT&T proposes to install directional panel antennas on a tall pole to be sited at 99-2001 Nelligan Road in Kenwood. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

### Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm <sup>2</sup>	1.00 mW/cm <sup>2</sup>
BRS (Broadband Radio)	2,600	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

### General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some



HAMMETT & EDISON, INC.  
CONSULTING ENGINEERS  
SAN FRANCISCO

**AT&T Mobility • Proposed Base Station (Site No. CCU1219)  
99-2001 Nelligan Road • Kenwood, California**

height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

**Computer Modeling Method**

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

**Site and Facility Description**

Based upon information provided by AT&T, including zoning drawings by Pacific Telecom Services, LLC., dated January 22, 2014, it is proposed to install nine Andrew Model SBNHH-1D65B directional panel antennas on a 53-foot pole, configured to resemble a pine tree, sited among the vineyards located at 99-2001 Nelligan Road in the hills about a mile southeast of Kenwood. The antennas would be mounted with up to 8° downtilt at an effective height of about 46 feet above ground and would be oriented in groups of four toward 100°T, 175°T, and 300°T. The maximum effective radiated power in any direction would be 15,300 watts, representing simultaneous operation at 5,760 watts for WCS, 6,660 watts for PCS, 1,000 watts for cellular, and 1,880 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

**Study Results**

For a person anywhere at ground, the maximum RF exposure level due to the proposed AT&T operation is calculated to be 0.062 mW/cm<sup>2</sup>, which is 6.2% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby residence\* is 1.4% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

---

\* Located at least 425 feet away, based on photographs from Google Maps.



AT&T Mobility • Proposed Base Station (Site No. CCU1219)  
99-2001 Nelligan Road • Kenwood, California

**No Recommended Mitigation Measures**

Due to their mounting locations, the AT&T antennas would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that AT&T will, as an FCC licensee, take adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

**Conclusion**

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by AT&T Mobility at 99-2001 Nelligan Road in Kenwood, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

**Authorship**

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2015. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

February 28, 2014



*William F. Hammett*  
William F. Hammett, P.E.  
707/996-5200



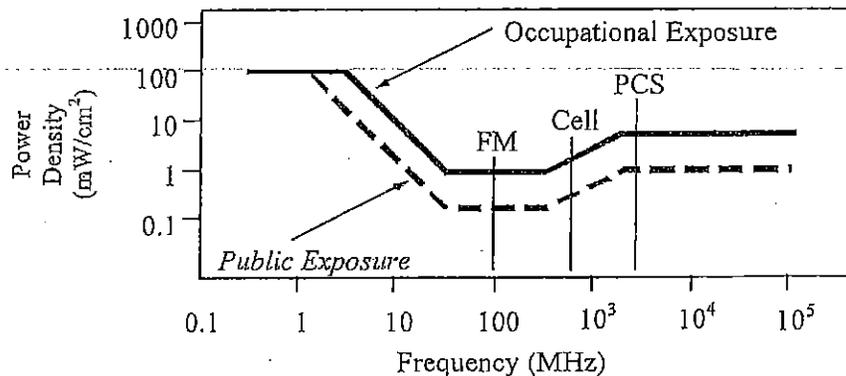
HAMMETT & EDISON, INC.  
CONSULTING ENGINEERS  
SAN FRANCISCO

## FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

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

Frequency Applicable Range (MHz)	Electromagnetic Fields ( <i>f</i> is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm <sup>2</sup> )	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f<sup>2</sup></i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f <sup>2</sup>	<i>180/f<sup>2</sup></i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√ <i>f</i>	<i>1.59√f</i>	√ <i>f</i> /106	<i>√f/238</i>	<i>f/300</i>	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



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



**HAMMETT & EDISON, INC.**  
CONSULTING ENGINEERS  
SAN FRANCISCO

FCC Guidelines  
Figure 1

## RFR.CALC™ Calculation Methodology

### Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

#### Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density  $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$ , in mW/cm<sup>2</sup>,

and for an aperture antenna, maximum power density  $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$ , in mW/cm<sup>2</sup>,

where  $\theta_{BW}$  = half-power beamwidth of the antenna, in degrees, and

$P_{net}$  = net power input to the antenna, in watts,

$D$  = distance from antenna, in meters,

$h$  = aperture height of the antenna, in meters, and

$\eta$  = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

#### Far Field.

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

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

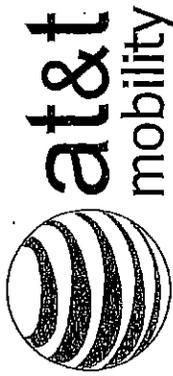
where ERP = total ERP (all polarizations), in kilowatts,

RFF = relative field factor at the direction to the actual point of calculation, and

$D$  = distance from the center of radiation to the point of calculation, in meters.

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





SITE NUMBER: CCUI219 / FA: 10151399  
 SITE NAME: NELLIGAN ROAD

99-2001 NELLIGAN ROAD  
 KENWOOD, CA 95452

JURISDICTION: CITY OF KENWOOD

SITE TYPE: MONOTREE

			AT&T SITE NO: CCUI219 PROJECT NO: DRAWN BY: AF CHECKED BY: CYK	1. 03/27/14 10:00 AM 2. 04/24/14 10:00 AM 3. 07/22/14 10:00 AM 4. 07/22/14 10:00 AM	1. ALL WORK SHALL BE PERFORMED AND INSPECTED IN ACCORDANCE WITH THE LOCAL GOVERNMENT ORDINANCES TO BE APPLIED TO THE PROJECT. 2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LOCAL GOVERNMENT ORDINANCES TO BE APPLIED TO THE PROJECT.	NELLIGAN ROAD CCUI219 2001 NELLIGAN ROAD KENWOOD, CA 95452	SHEET TITLE TITLE SHEET	SHEET NUMBER TH
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REV	SHEET INDEX	DESCRIPTION
1-1		TITLE SHEET
01		TOPOGRAPHIC SURVEY (BY OTHERS)
A-1		PARCEL PLAN
A-2		SITE PLAN
A-3		DETAILED SITE PLAN
A-4		APPROVAL PLAN
A-5		CONTRACT DOCUMENTS
A-6		POST & SIGN ELEVATIONS

**PROJECT TEAM**

**AT&T CONSULTING:**  
 2000 CHURCH AVENUE  
 SAN FRANCISCO, CA 94103  
 PH: (415) 774-2000

**CLIENT:**  
 AT&T MOBILITY  
 2000 CHURCH AVENUE  
 SAN FRANCISCO, CA 94103  
 PH: (415) 774-2000

**DESIGNER:**  
 AT&T MOBILITY  
 2000 CHURCH AVENUE  
 SAN FRANCISCO, CA 94103  
 PH: (415) 774-2000

**CONTRACTOR:**  
 AT&T MOBILITY  
 2000 CHURCH AVENUE  
 SAN FRANCISCO, CA 94103  
 PH: (415) 774-2000

**PERMITS:**  
 CITY OF KENWOOD  
 100 NELLIGAN ROAD  
 KENWOOD, CA 95452  
 PH: (415) 338-3415

**APPROVALS:**

**GENERAL CONTRACTOR NOTES**

DO NOT SCALE DRAWINGS

PLEASE PRINTED AND PRINTED TO BE FULL SIZE AT 24" x 36". THE ARCHITECT OF RECORD AND ALL CONTRACTORS SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED IN THESE DRAWINGS. THE ARCHITECT OF RECORD SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED IN THESE DRAWINGS.

**PROJECT INFORMATION**

**PROPERTY OWNER:**  
 AT&T MOBILITY  
 2000 CHURCH AVENUE  
 SAN FRANCISCO, CA 94103

**POWER AGENCY:**  
 CALIFORNIA ELECTRIC POWER & GAS  
 210 MARKET STREET, 14TH FLOOR  
 SAN FRANCISCO, CA 94102  
 PH: (415) 774-2000

**TELEPHONE AGENCY:**  
 AT&T MOBILITY  
 2000 CHURCH AVENUE  
 SAN FRANCISCO, CA 94103  
 PH: (415) 774-2000

**APPROVED USE: TELECOMMUNICATIONS FACILITY**

**APPROVED BY: CITY OF KENWOOD**

**APPROVED DATE: 03/27/14**

**APPROVED BY: [Signature]**

**APPROVED DATE: 03/27/14**

**CONTRACT NUMBER: 774533.A02**

**VICINITY MAP**

**PROJECT DESCRIPTION**

NEW SITE BUILD UNIMPAIRED TELECOMMUNICATIONS FACILITY:

- INSTALL 100' DIA. MONOTREE (4 PER SECTION, 3 SECTIONS TOTAL)
- INSTALL 100' DIA. MONOTREE (4 PER SECTION, 3 SECTIONS TOTAL)
- INSTALL 100' DIA. MONOTREE (4 PER SECTION, 3 SECTIONS TOTAL)
- INSTALL 100' DIA. MONOTREE (4 PER SECTION, 3 SECTIONS TOTAL)
- INSTALL 100' DIA. MONOTREE (4 PER SECTION, 3 SECTIONS TOTAL)
- INSTALL 100' DIA. MONOTREE (4 PER SECTION, 3 SECTIONS TOTAL)

**CODE COMPLIANCE**

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSPECTED IN ACCORDANCE WITH THE LOCAL GOVERNMENT ORDINANCES TO BE APPLIED TO THE PROJECT.

- 2013 CALIFORNIA ELECTRICAL CODE (CEC)
- 2013 CALIFORNIA MECHANICAL CODE (CMC)
- 2013 CALIFORNIA PLUMBING CODE (CPC)
- 2013 CALIFORNIA FIRE CODE (FC)
- 2013 CALIFORNIA BUILDING CODE (CBC)
- 2013 CALIFORNIA ENERGY CODE (CEC)
- 2013 CALIFORNIA FIRE CODE (FC)
- 2013 CALIFORNIA MECHANICAL CODE (CMC)
- 2013 CALIFORNIA PLUMBING CODE (CPC)
- 2013 CALIFORNIA ELECTRICAL CODE (CEC)
- 2013 CALIFORNIA ENERGY CODE (CEC)
- 2013 CALIFORNIA FIRE CODE (FC)
- 2013 CALIFORNIA MECHANICAL CODE (CMC)
- 2013 CALIFORNIA PLUMBING CODE (CPC)

**SPECIAL INSTRUCTIONS**

- MONOTREE BRUSH TRIMMING AND REMOVAL

**OCCUPANCY AND CONSTRUCTION TYPE**

CONSTRUCTION: 5-2 (UNIMPAIRED)

PERMITS: TELECOMMUNICATIONS FACILITY PERMITS

APPROVALS: CITY OF KENWOOD

DATE: 03/27/14

**QUALITY CONTROL**

800-221-6600

QUALITY CONTROL





County of Sonoma  
Planning Division  
2550 Ventura Avenue  
Santa Rosa, California 95403

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PERMIT AND RESOURCE  
MANAGEMENT DEPARTMENT

AT&T Mobility Corporation  
c/o Modus Inc.  
149 Natoma Street 3<sup>rd</sup> Floor  
San Francisco, CA 94105  
Eric James, Land Use Planner



July 17, 2014

**Proposed New AT&T Wireless Telecommunications Facility at  
1393 Nelligan Road - APN 051-250-010 - Application UPE14-0027  
AT&T Site "CCU1219 Nelligan Road"**

**Response to Completeness Letter**

Dear Karin Theriault, this letter comprises the full re-submittal response to your request for more information on April 25, 2014 in regards to this AT&T telecom facility application.

**Required Submittal Items:**

**1. Use Permit App**

- a. Second page of use permit is included.
- b. No work proposed on neighboring sites, the Nelligan Road right of way is owned by the County.

**2. Proposal:**

- a. The tower does meet the 110% min distance (60.5 feet of 55 feet monopole) to nearest off-site dwelling unit as it is 444' feet from residence on the east. However the tower does not meet the more restrictive yard setback, and the applicant requests to waive this requirement under Section 26-88-130(a)(3)(xy)(C) "Overall the reduced setback enables further mitigation of adverse visual and other environmental impacts than would otherwise be possible." As Sonoma Highway is a protected scenic resource, the applicant has explored the entirety of the parcel property for a location, and has determined the proposed location is the most suitable to mitigate adverse visual and environmental impacts.

- i. Visually, the location is an existing grove of oak trees which provide line-of-sight visual shielding from Sonoma Highway and will fully mask the at-grade equipment and nearly 40 feet of the tower.
- ii. Environmentally, the location is an un-used area for boulder storage whereas alternative locations on the parcel would require removal of viticulture structures or impairment of agriculture and drainage in respect to Williamson Act.
- iii. By virtue of the chosen location, the setback from Nelligan Road is below the setback requirement and the facility has been positioned as far west as possible without entering/impacting the existing oak tree driplines. This positional change was done in advice of the County planner.
- iv. LIA zoning requires setback of 30' feet and 55' from centerline of Nelligan. The tower is positioned 26' feet from the property line and approx. 45 feet from the centerline. The compound wall is 12.8' from property line. To mitigate this setback, additional extensive landscaping is proposed along the buffer zone between the compound and the property line extending north and south. In contrast to the east side of Nelligan, it appears existing mature trees are planted inside the County right of way.

### 3. Site Plan

- a. Sheet A-1 is a contextual overview of the site, the project does not cross into other parcels.
- b. Sheet A-2 shows all power and telco routing work to be performed only in the Nelligan Road 40'-wide right of way and not to cross the adjacent parcels. Lines are routed from a nearby wood pole inside the ROW and brought north and west into the parcel. An Encroachment permit can be applied for, please advise.
- c. The Surveyor has identified one residence near the project, a house east of the parcel and has called out 444' feet setback on the Survey (C1 SITE PLAN).

### 4. Sample

- a. A tree sample will be provided.

### 5. Visual Criteria

- a. Revised photographic simulations by a respected high-quality agency AdvanceSim are submitted to demonstrate the visual impact from Sonoma Highway.
  - i. As indicated the lengthy distance between Nelligan Road and the Highway, and the use of existing mature trees of the ridgeline, the proposed monopine will be barely visible.
  - ii. In regards to the impact from Nelligan Road, views are prepared from north, south and "in front" of the facility. The top canopy of concealed antennas will be visible along Nelligan, while the majority will be concealed by existing trees and proposed landscaping. The use of an oak disguise allows the tower to seamlessly blend into the landscape, and given Nelligan Road's existing mature trees drivers will not readily notice the installation. In addition, from the original submittal, the applicant has relocated the Nelligan access entrance to an existing access north of the facility, by advice of the County planner.
- b. The CMU wall can be painted in any manner the County finds reasonable (i.e: green). Do note the visual sim demonstrates the facility will be shielded by proposed landscaping.

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### 6. Landscaping & Irrigation

- a. Landscape has been relocated and re-proposed inside the property line to include Coast Live oaks and Island Mountain Mahogany bushes. The final irrigation system is to be determined and to have water retentive material.

### 7. Telecom Facilities:

- a. I hereby state that I have notified property owners within 300 feet of the subject property by having mailed an attached flier to their tax addresses listed on their properties. Please note, the applicant has additionally attempted to manually find mailboxes along Nelligan to deliver and none were present. The post office has also returned several mailings attempted to the parcel addresses.

### 8. Arborist Report

- a. An arborist report is submitted analyzing the existing tree conditions. The arborist concludes "existing tree stresses are likely sustainable" and has proposed guidelines to ensure minimal construction impact. Do note the positioning of the site is changed but the new layout does not enter the tree dripline and is generally within the scope of the report.

Sincerely,  
Eric James, Land Use Planner



*Proposed New AT&T Wireless Telecommunications Facility  
1393 Nelligan Road (APN 051-250-010)  
County of Sonoma Zoning Application UPE14-0027*

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June 24, 2014

### **Our Neighbors,**

AT&T Mobility is bringing improved wireless coverage to Sonoma County and Kenwood residents, businesses, and visitors in the Highway 12 corridor. This new wireless facility will help accommodate the growing number of wireless calls and data transmissions on the AT&T network, and fulfill gaps in coverage in this area. Our customers have told us they expect solid coverage where they live, work and play. Important transportation corridors like Sonoma Highway rely on continuous data coverage for homes, businesses, tourism, emergency response, and transportation of goods.

### **Wireless Facility**

We will be constructing a new telecommunications facility at 1393 Nelligan Road (approximate address). The property is the Kunde Winery vineyards and is 206.33 acres. The proposed facility will consist of a 55' faux oak tree with 12 panel antennas installed below the canopy and shielded from view by the leaves. The facility is sited among a group of existing oak trees to provide visual buffer from Sonoma Highway, a County scenic corridor. The installation also minimizes visual impact from Nelligan Road, consisting of a CMU walled equipment area to contain the tree pole, equipment shelter, and back-up only diesel generator. Significant landscaping will be installed along Nelligan Road. Main power and telco will be brought to site in underground conduits in the public ROW via a nearby PG&E wood pole.

### **Benefits of New Facility**

- The needed coverage and capacity by the facility will help ensure 911 calls to First Responders placed from wireless phones in the area will reach and stay connected with all emergency services personnel.
- AT&T customers will benefit from new coverage and enhanced capacity throughout their homes and in the service area.
- The facility is designed to blend into the surrounding area while ensuring coverage, call quality and data transfer of critical information is not diminished.
- The facility is sited to minimize impact to the vineyards, being placed in an unused storage area, and be hidden among a grove of trees. The facility location takes advantage of existing elevation and topography to reach users along Sonoma Highway in addition to the Nelligan Road neighbors. This avoids needing to put the cell site on the valley floor.

### **Thank You For Your Support**

I have included some materials for you to review that will provide some added details about the installation. You may contact me at 415-350-5418 or via email at [ejames@modus-corp.com](mailto:ejames@modus-corp.com). A use permit has been filed at the County of Sonoma and the related county planner Karin Theriault can be contacted referencing the address above. The planning office phone is 707-565-1900.

*Thank you for your support in our efforts to bring coverage and service to your community,*

Eric James, Land Use Planner on behalf of AT&T Mobility

AT&T Mobility Corporation c/o Modus Inc 149 Natoma Street 3<sup>rd</sup> Floor San Francisco, CA 94105

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MAILING NOTIFICATION FOR AT&T SITE 1393 NELLIGAN ROAD

Parcel Number	Mailing Name	Subject property	Mailed?	Returned	Tax Mailing address	2nd Mail
051-180-011	Nuns Canyon Lic	2449 Nelligan Rd Glen Ellen CA 95442	24-Jun	30-Jun	15401 Sonoma Hwy, Sonoma CA 95476	1-Jul
053-040-001	Ridgeview Vineyards Lic	1400 Nelligan Rd Glen Ellen CA 95442	24-Jun	30-Jun	23 Old Kings Hwy S #200, Darien CT 06820-4538	1-Jul
051-180-012	Larson Family Trust	2441 Nelligan Rd Glen Ellen CA 95442	24-Jun	30-Jun	2441 Nelligan Rd, Glen Ellen CA 95442	
053-040-037	Vendimia Lic	Glen Ellen CA 95442			2882 Sand Hill Rd #150, Menlo Park CA 94025-7057	1-Jul
053-030-030	Baldwin Jane / Baldwin Gerald	Upper Nelligan Ln Glen Ellen CA 95442	24-Jun		Po Box 1627, Glen Ellen CA 95442-1627	1-Jul
053-030-031	Baldwin Jane / Baldwin Gerald	Upper Nelligan Ln Glen Ellen CA 95442	24-Jun		Po Box 1627, Glen Ellen CA 95442-1627	1-Jul
053-040-014	Kirk Richard F / Kirk Phylliss R	1200 Nelligan Rd Glen Ellen CA 95442	24-Jun		Po Box 1956, Glen Ellen CA 95442-1956	1-Jul
051-180-013	Nelligan Rd Lic	2401 Nelligan Rd Glen Ellen CA 95442	24-Jun	30-Jun	Po Box 2654, Mill Valley CA 94942-2654	1-Jul
051-250-019	Arthur W Kunde & Leslie M Kunde Family	1101 Hwy 12 Glen Ellen CA 95442	24-Jun	30-Jun	Po Box 639, Kenwood CA 95452-0639	1-Jul
051-180-014	Lazy K Land	2451 Nelligan Rd Glen Ellen CA 95442	24-Jun	30-Jun	Po Box 639, Kenwood CA 95452-0639	dupe
051-250-013	Lazy K Land	Glen Ellen CA 95442			Po Box 639, Kenwood CA 95452-0639	dupe
051-250-015	Lazy K Land	Glen Ellen CA 95442			Po Box 639, Kenwood CA 95452-0639	dupe
051-250-018	Jane Kunde Family Limited Partnership	Glen Ellen CA 95442			Po Box 639, Kenwood CA 95452-0639	dupe
051-170-024	Lazy K Land	Hwy 12 Glen Ellen CA 95442	24-Jun		Po Box 639, Kenwood CA 95452-0639	1-Jul
051-250-010	Jane Kunde Family Ltd Ptp	Nelligan Rd Kenwood CA			Po Box 639, Kenwood CA 95452-0639	dupe
051-250-005	Lazy K Land	Nelligan Rd Kenwood CA			Po Box 639, Kenwood CA 95452-0639	dupe

County of Sonoma  
Planning Division  
2550 Ventura Avenue  
Santa Rosa, California 95403  
July 17, 2014

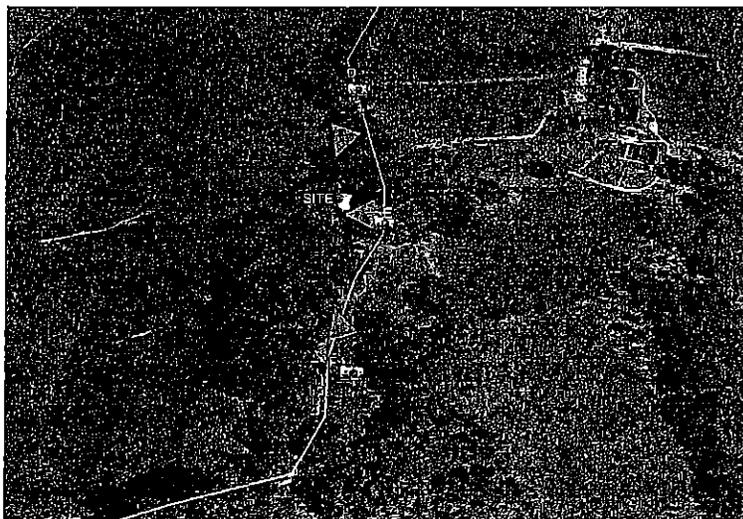
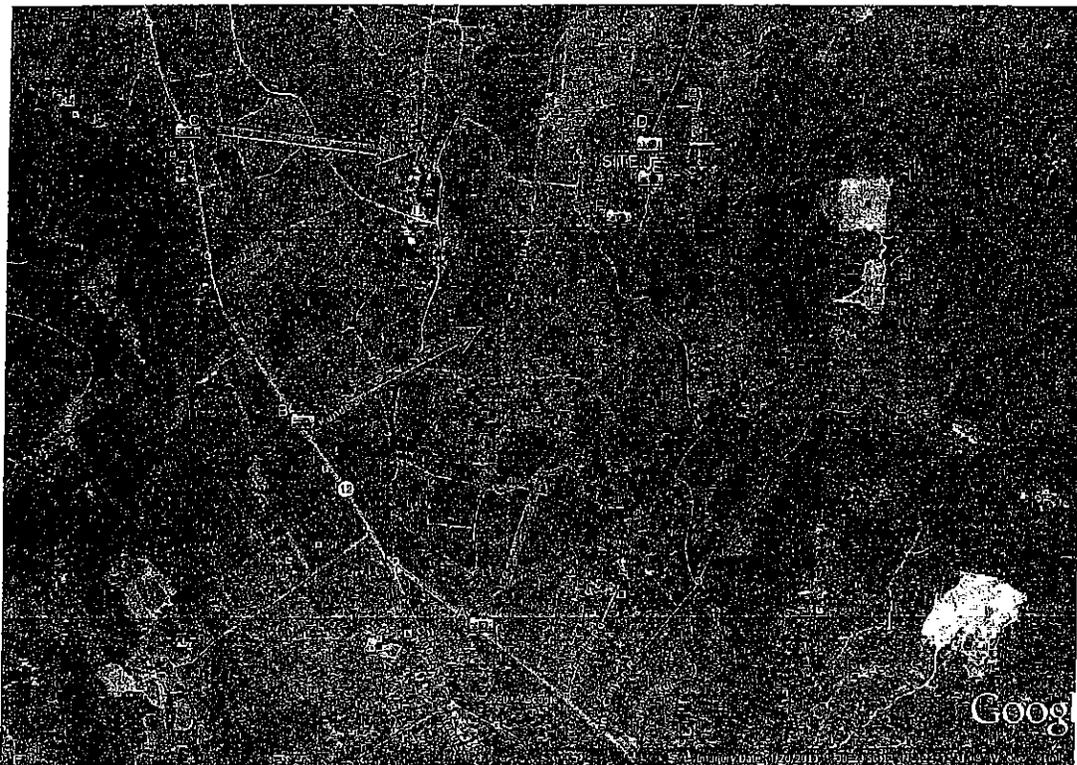
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Eric James, Land Use Planner



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### Photographic Simulations

Photo simulations were contracted to AdvanceSim, a reputable high-quality simulation developer respected in the Bay Area. Three vantage points A, B, C, from Sonoma Highway and three vantage points D, E, F along Nelligan Road were requested to sufficiently document the visual analysis and impact of the facility.



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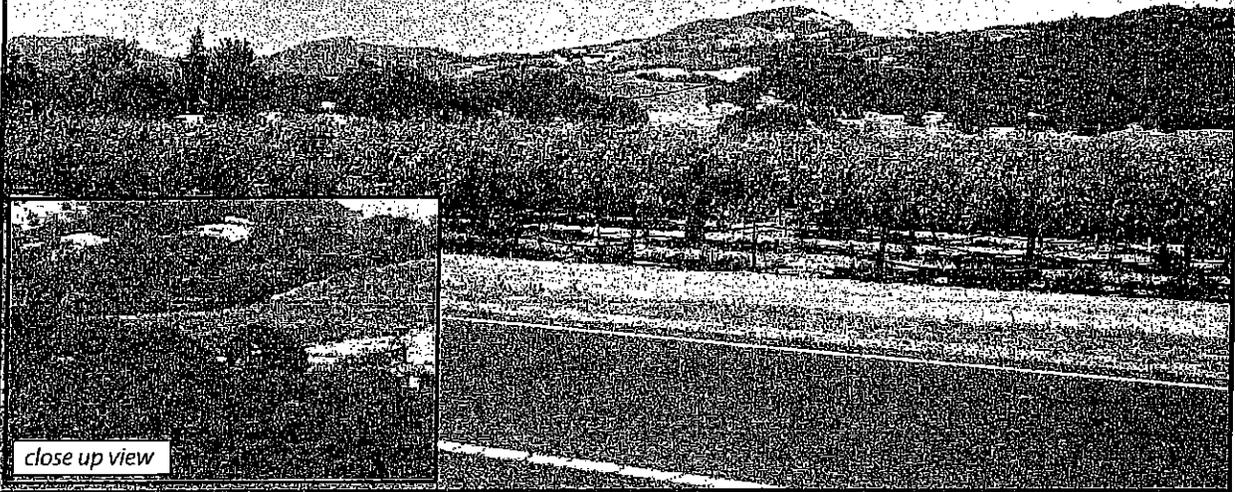
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*Existing*

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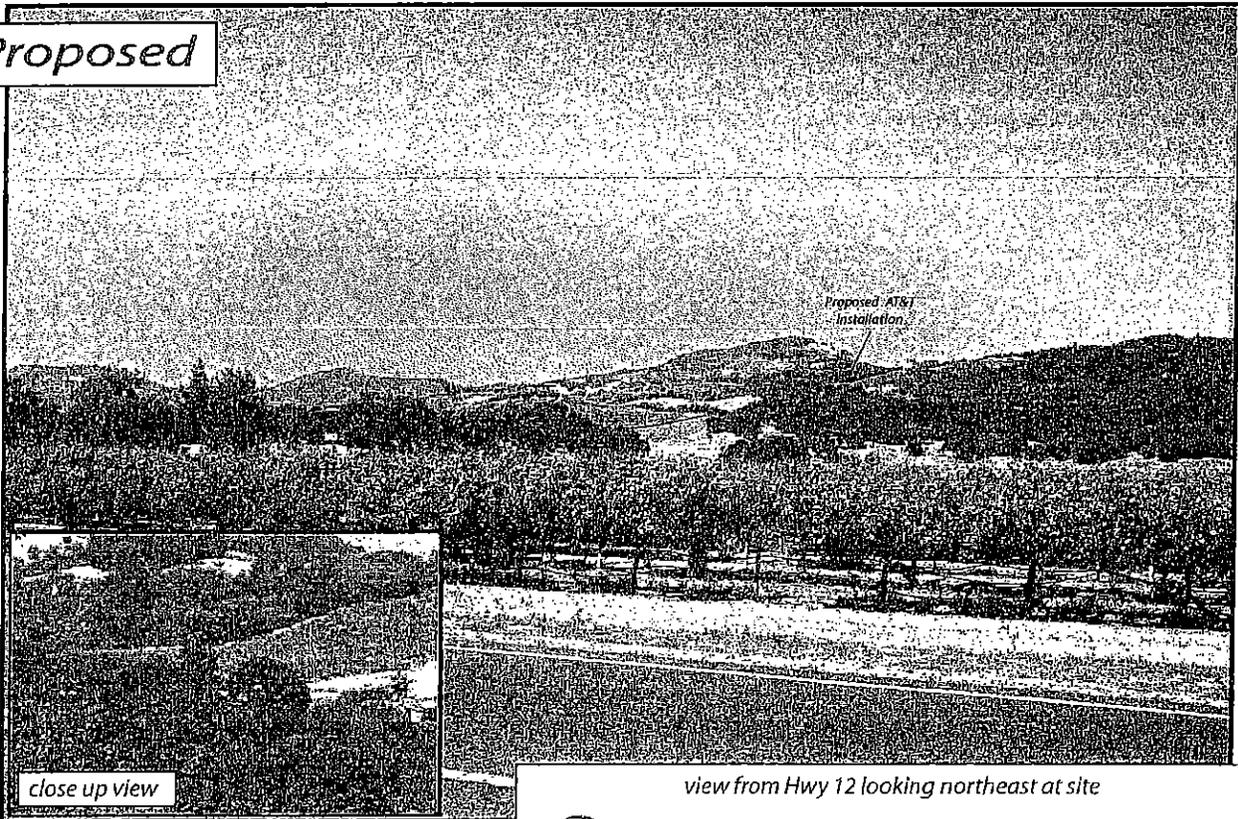
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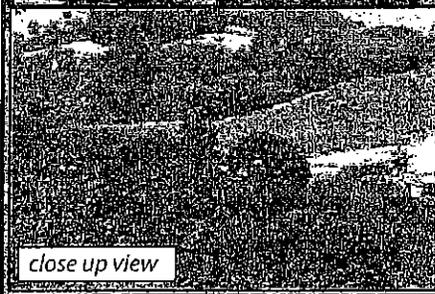


*close up view*

*Proposed*



Proposed AT&T  
installation



*close up view*

*view from Hwy 12 looking northeast at site*

AdvanceSi  
Engineering & Construction  
Corporation 925.262.8500



AT&T Wireless

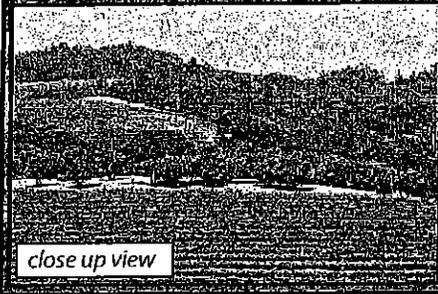
CCU1219 Nelligan Road  
1393 Nelligan Road, Kenwood, CA

**Existing**

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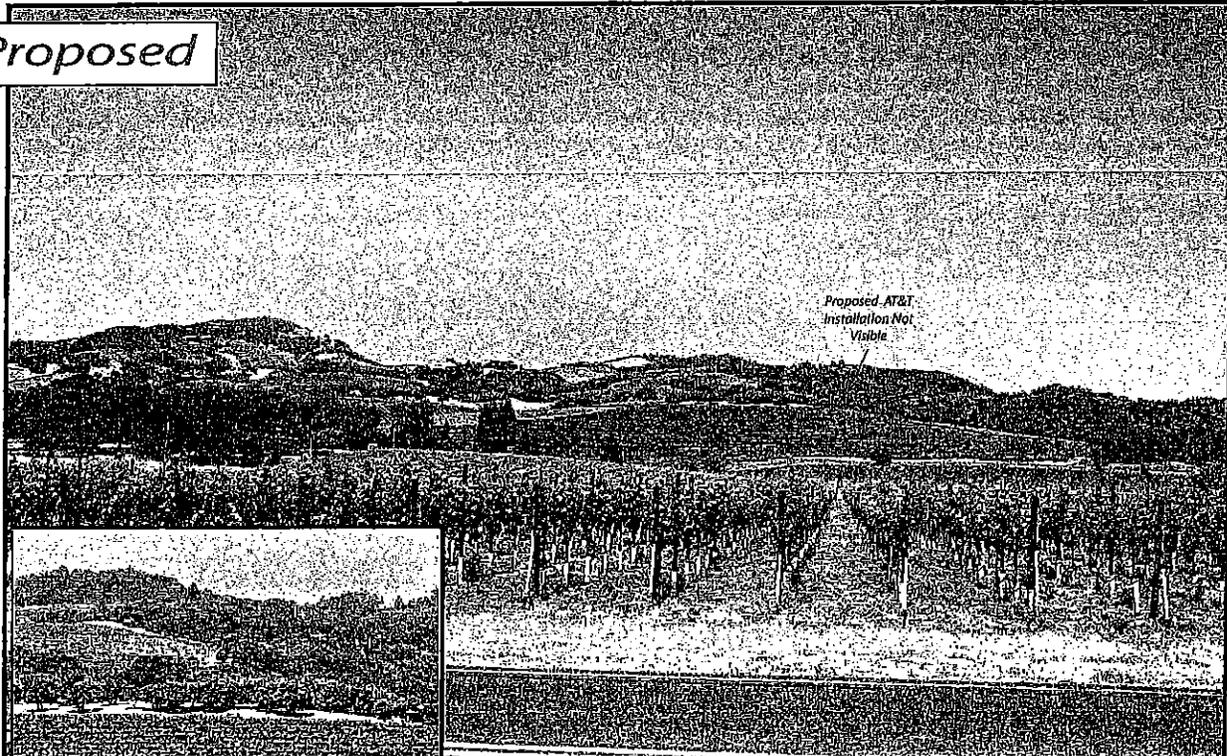
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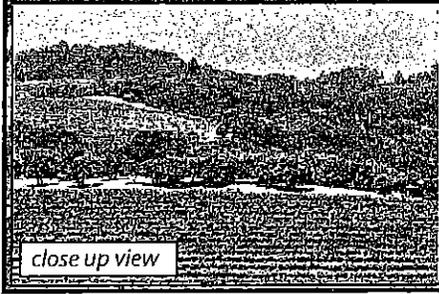


close up view

**Proposed**



Proposed AT&T  
Installation Not  
Visible



close up view

view from Hwy 12 looking east at site

**AdvanceSite**  
PROFESSIONAL SITE ANALYSIS  
CONTACT: 1-825-592-2597

 **AT&T Wireless**

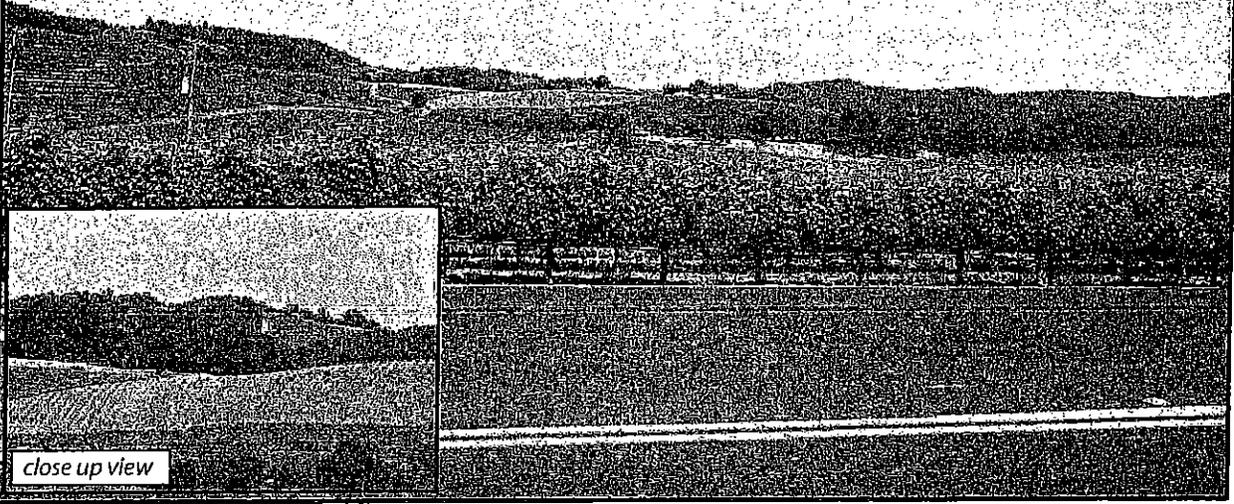
CCU1219 Nelligan Road  
1393 Nelligan Road, Kenwood, CA

Existing

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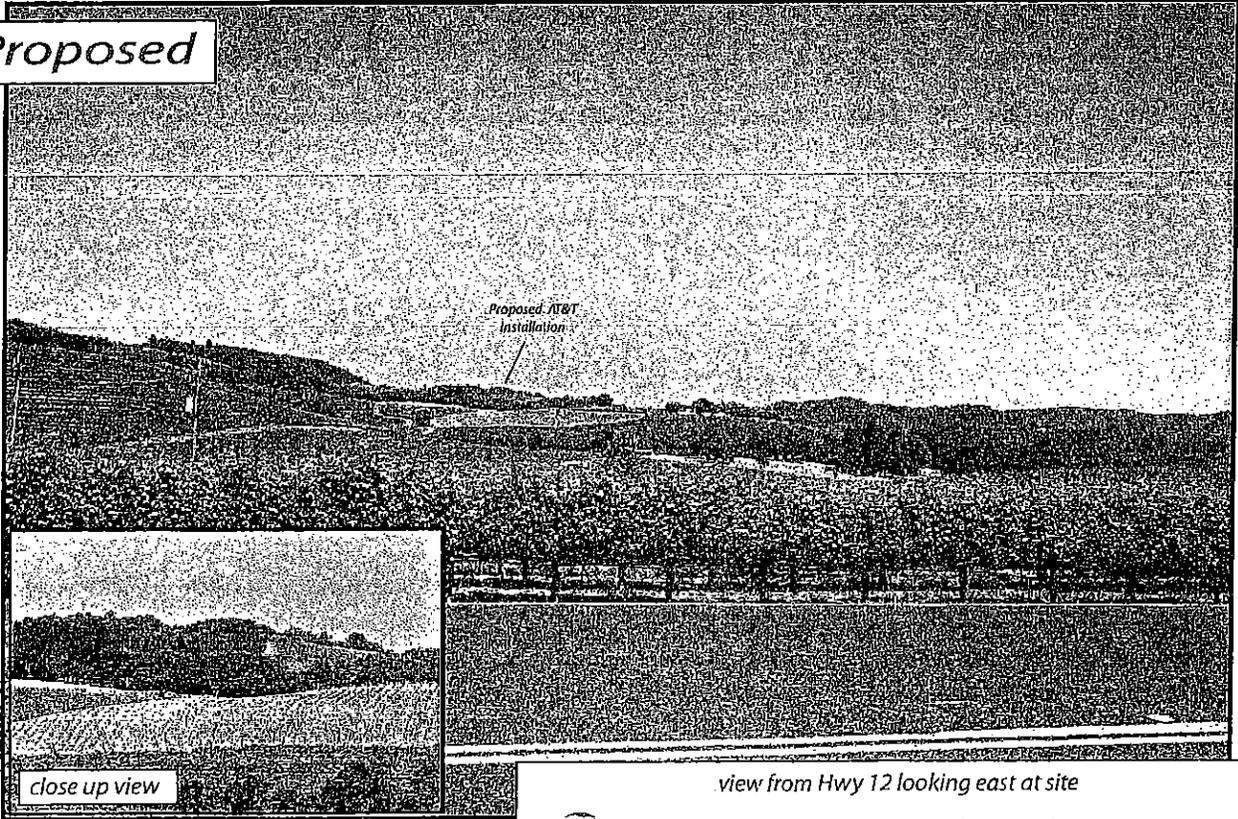
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close up view

Proposed



Proposed NWT  
Installation

close up view

view from Hwy 12 looking east at site

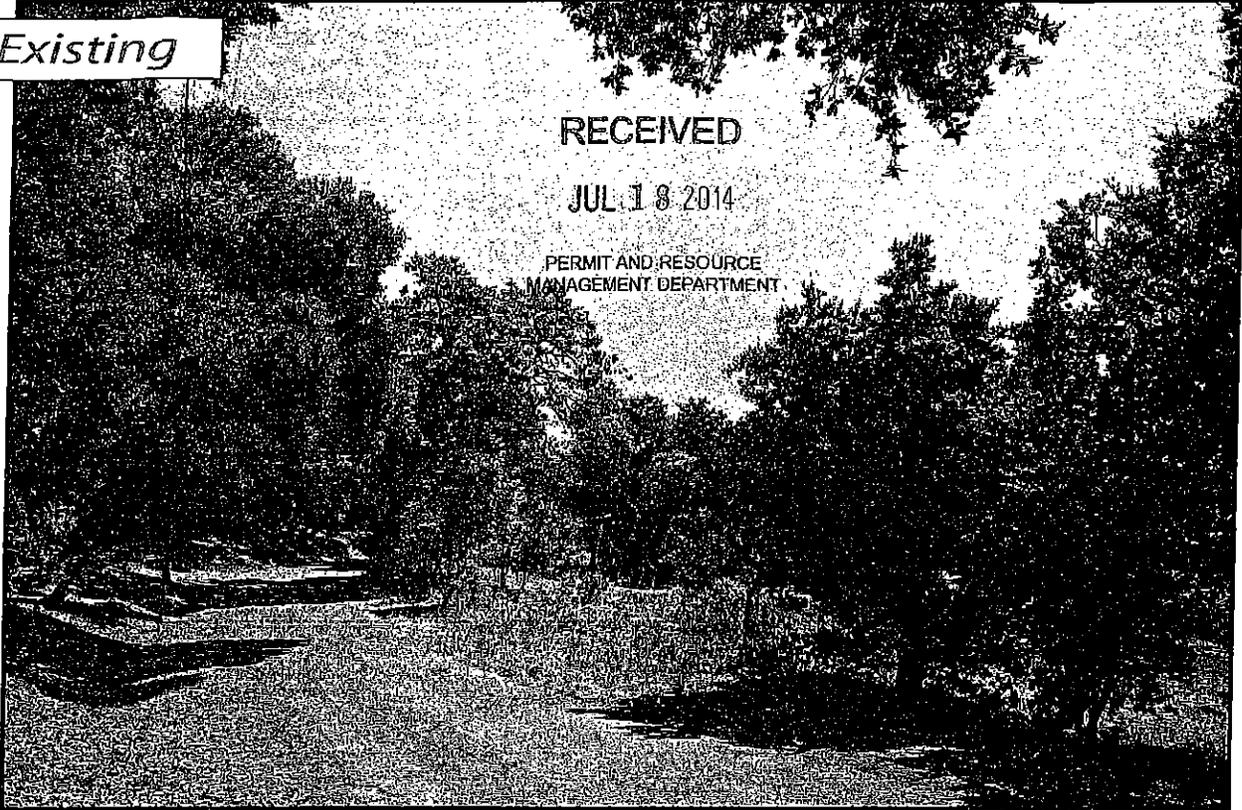
AdvanceSim  
PROJECT SUPPORT & ANALYSIS  
CONTACT 1-925-261-8507



AT&T Wireless

CCU1219 Nelligan Road  
1393 Nelligan Road, Kenwood, CA

*Existing*



*Proposed*



*view from Nelligan Road looking south at site*

**AdvanceSim**  
PROFESSIONAL SIMULATION ASSOCIATES  
CONTACT: 925.262.0501



**AT&T Wireless**

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1393 Nelligan Road, Kenwood, CA

*Existing*



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*Proposed*



Proposed AT&T  
Treepole & Equipment  
Area With Landscaping

*view from Nelligan Road looking southwest at site*

**AdvanceSite**  
PROFESSIONAL LANDSCAPE ARCHITECTS  
CONTACT: 925.202.8302



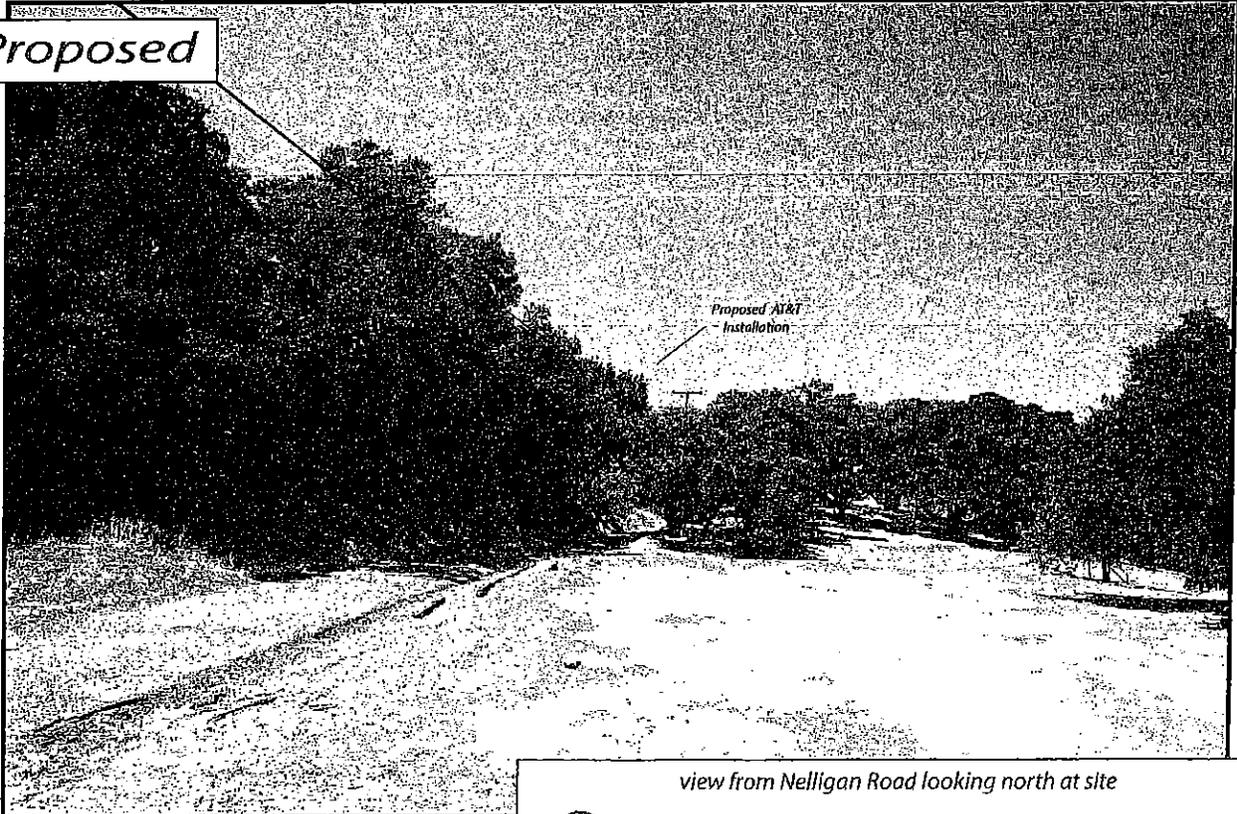
**AT&T Wireless**

CCU1219 Nelligan Road  
1393 Nelligan Road, Kenwood, CA

Existing



Proposed



view from Nelligan Road looking north at site

AdvanceSim  
Contact: 925 / 202-8507



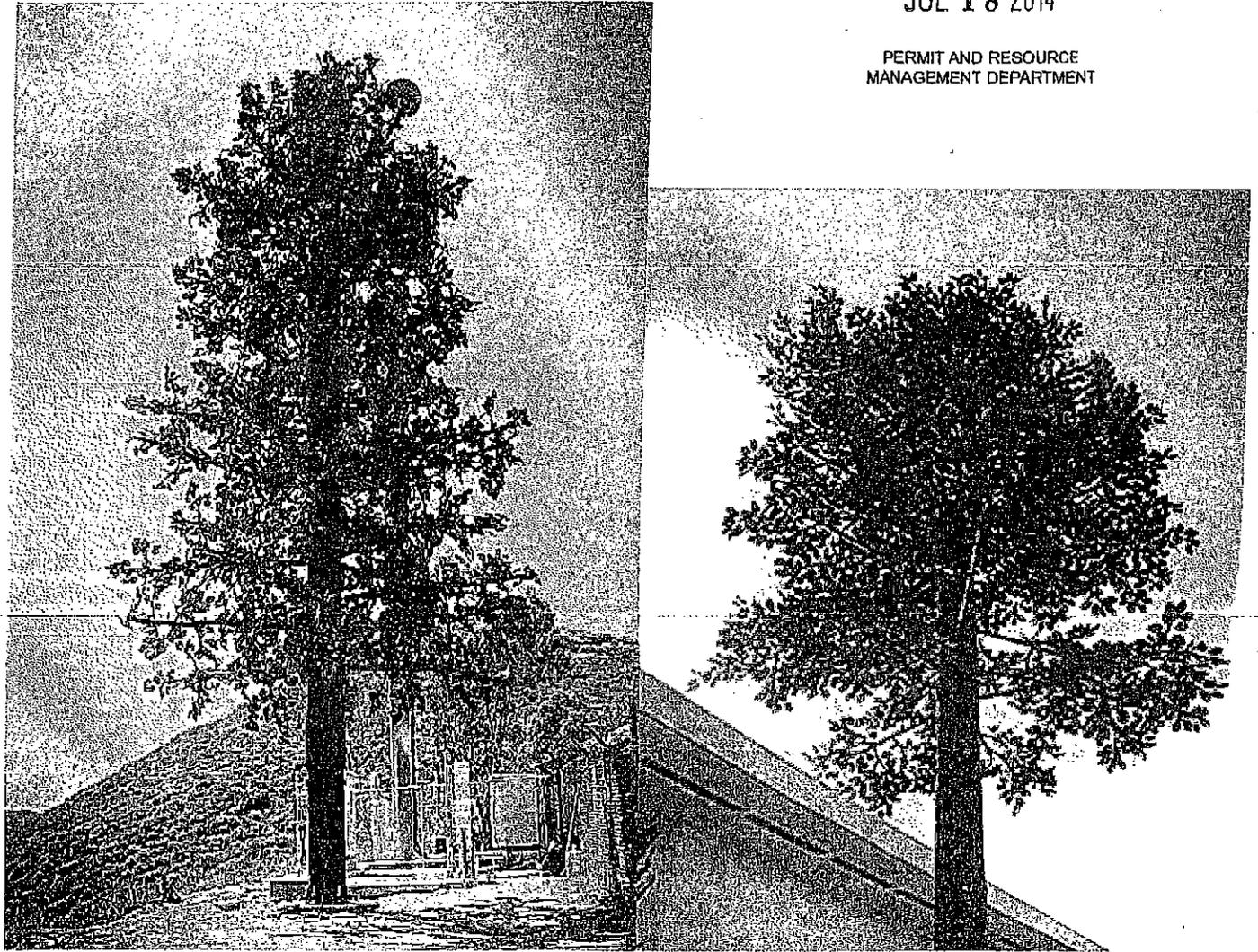
AT&T Wireless

CCU1219 Nelligan Road  
1393 Nelligan Road, Kenwood, CA

**AT&T WIRELESS TELECOMMUNICATIONS FACILITY – CAMOUFLAGE SAMPLES**

Note: Industry concealment vendors currently offer Elm and Eucalyptus towers which are adapted from the Pine. The bid vendor would be asked to provide a possible equivalent of an Oak that may vary in regards to final silhouette and branching. To accommodate for possible variation in the building drawing stage, it is recommended planning provide performance design conditions on the final tree equivalent, that is 3 branch per foot density and that branches extending minimum 1 foot beyond the antennas.

**Monopole Elm by Larson Concealment**



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Leaf Detail on a Monopole Eucalyptus

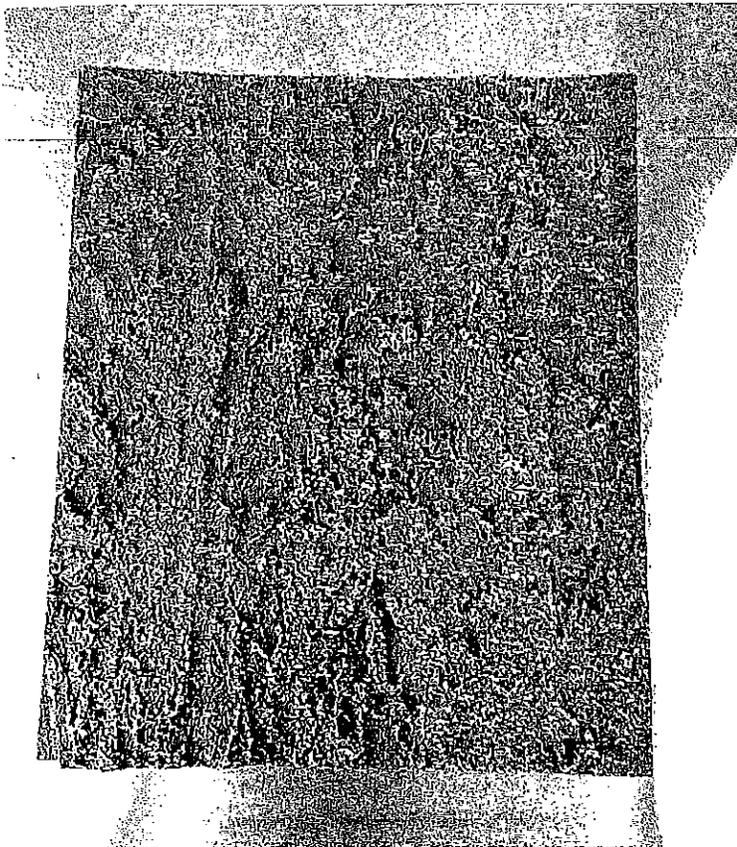


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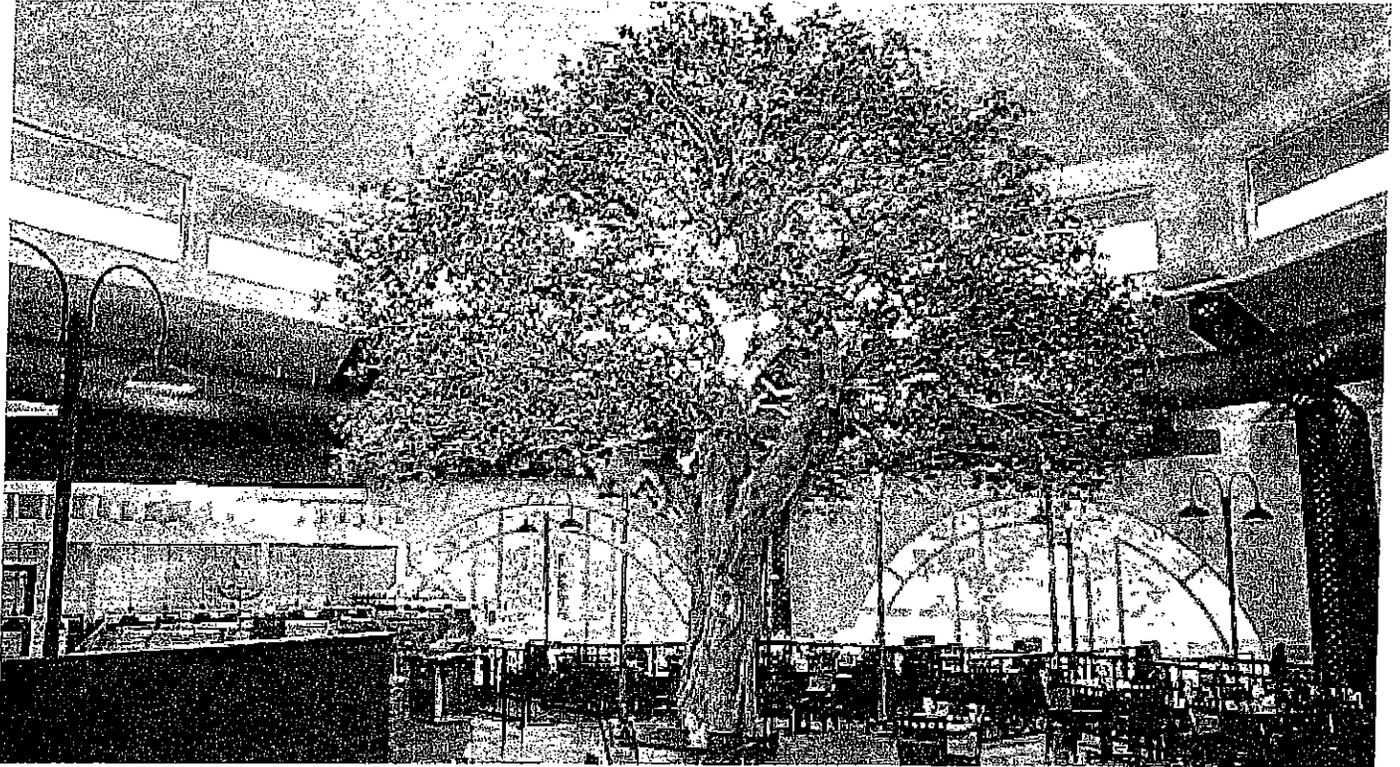
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Typical Bark Sample



Artificial Oak Tree by Commercial Silk



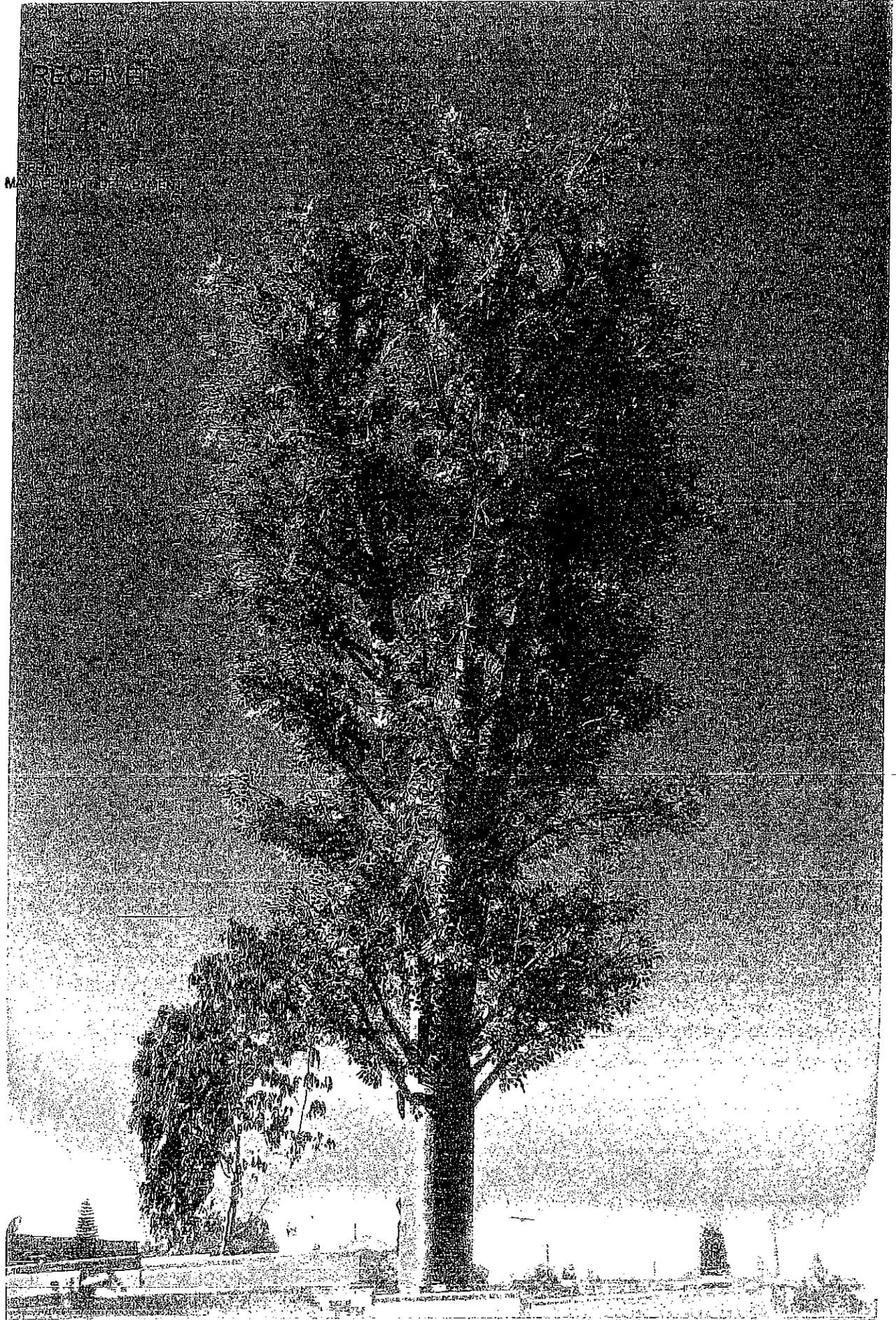
Silk Leaves, Actual Leaves will be FRP polymer and rigid



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*Novo Eucalyptus for reference*

*Mono Eucalyptus*

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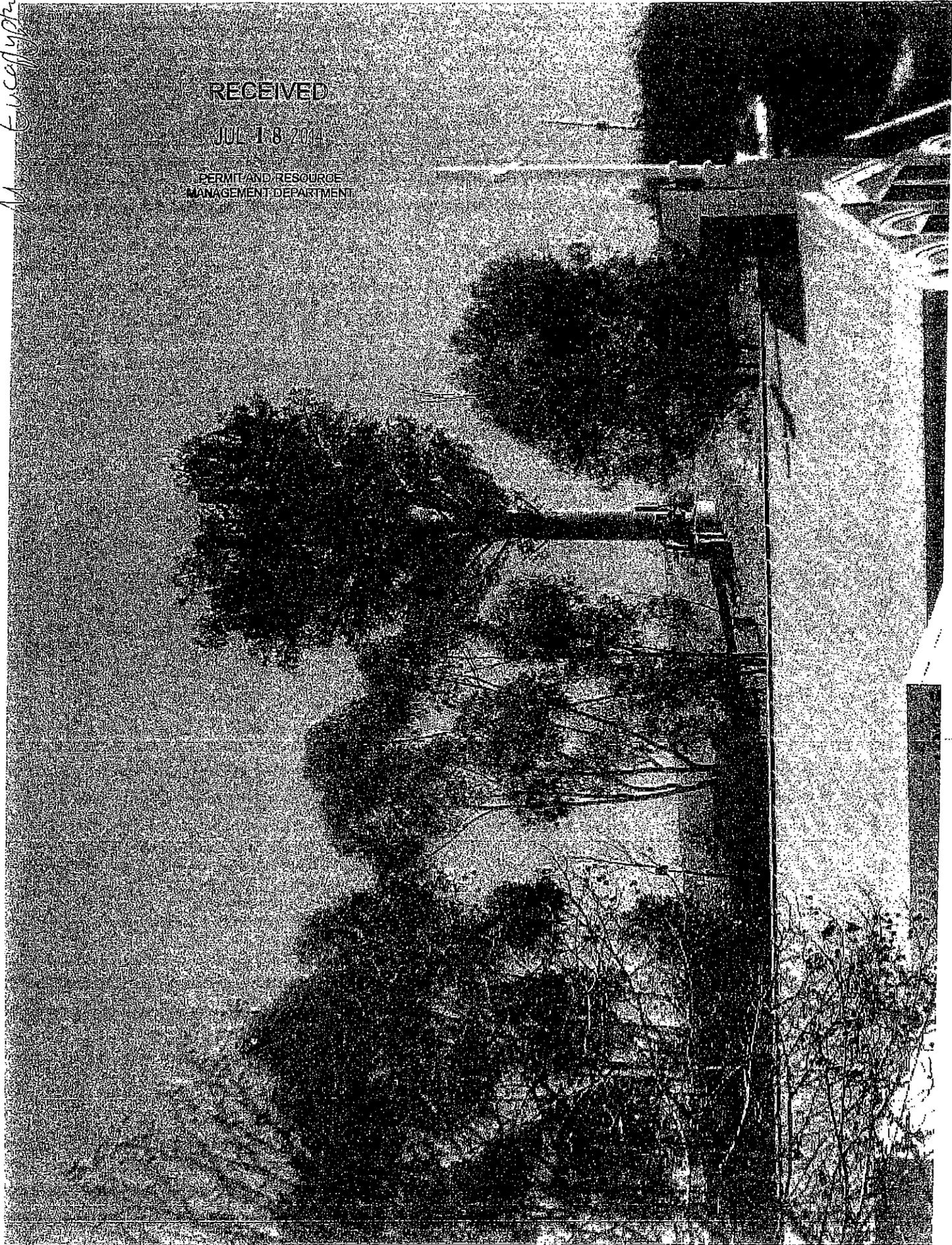


*Mr. Eucalyptus*

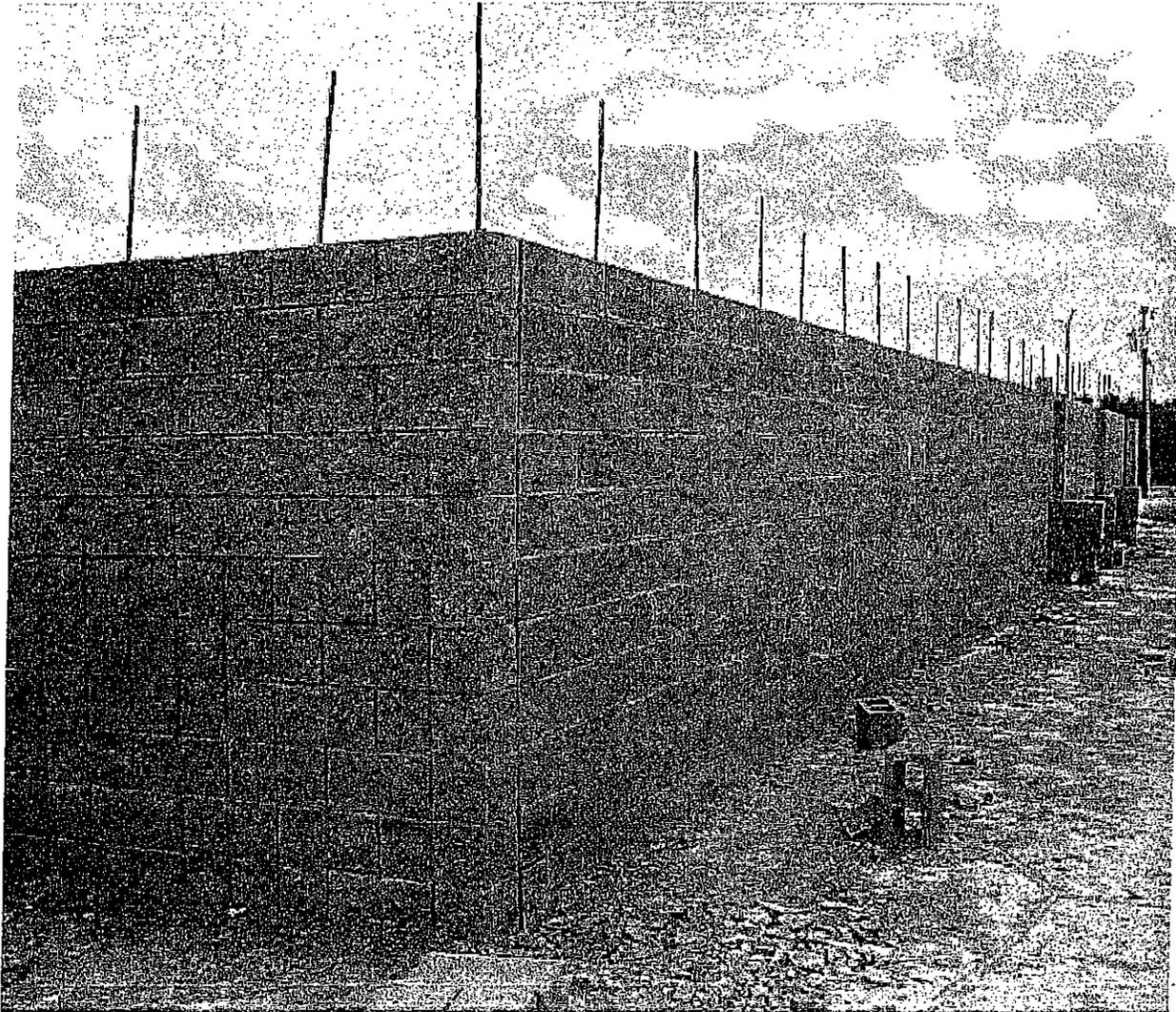
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Earth Tone CMU Wall, suggested over typical silver/gray CMU



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149 Natoma Street 3<sup>rd</sup> Floor  
San Francisco, CA 94105  
Eric James, Land Use Planner



July 14, 2014

Proposed New AT&T Wireless Telecommunications Facility (CCU1219) at  
1393 Nelligan Road, Kenwood CA - APN 051-250-010

## Alternative Analysis Report

AT&T Mobility identified a significant gap in its service coverage in the County of Sonoma. AT&T Radio Frequency (RF) design engineers outlined a search ring area to locate a wireless antenna facility to meet surrounding gap coverage objectives. The facility is necessary to benefit the public with crucial improved communications in the gap area.

### Search Ring

The search ring delineates the geographic boundary of both the coverage gap, and a search area to locate an antenna to reach this gap. The gap area identified by AT&T Radio Frequency is approximately one square mile centered on Nelligan Road and Highway 12 (Sonoma Highway). The stated intent for this ring by the RF engineer is: **To provide coverage parity to TMO site BA00406A which includes providing coverage along HWY12 (Sonoma Highway) from Arnold Dr. to Adobe Canyon Rd. Will also improve coverage to the residential and winery areas in Kenwood.**

Figure 1. Search Ring map issued by AT&T RF. The red line represents the search area requested by RF to locate antennas in order to achieve coverage objectives. RF requested a height of 60 feet.



### Defining a Significant Gap

The definition of a significant gap generally delineates a geographic area in which antenna signal is weak. Whether a device may be phone, tablet, or computer, the user may experience poor reception, inability to make calls and slow or intermittent data.

AT&T has a technological necessity to provide improved wireless cell and data service. The gap can be measured by either the service levels in the geographic area, or by the number of users (capacity) needing to access service. AT&T RF engineers calculate signal strengths and capacity based on nearby AT&T wireless sites.

Service levels are categorized in the following manner:

- In-Building Service: Indicates good cell signal that can be received well within buildings or obstructions, and indicates proximity to the cell tower.
- In-Transit Service: Indicates moderate cell signal that can be received while moving within vehicles or signals through open thoroughfares not impeded by obstructions.
- Outdoor Service: Indicates lowest cell signal strength that can only be received while outdoors or that reception has degraded given the distance to the nearest antenna. Service at this level can be easily impeded by objects, structures, weather or by the user.

### Filling the Coverage Gap

The RF engineer issued the attached propagation maps, which show the coverage gap, coverage fulfillment (how the site meets the gap) and nearby cell sites.

The **Existing UMTS Service Coverage** map reveals coverage is primarily on the east hillside where Kunde Winery sits. However coverage lacks or is non-existent on the west hillside along Highway 12. In valley topography, antennas can only be aimed at the opposing hillside.

The **Proposed UMTS Service Coverage** map reveals the new site expands the "in-building" service levels throughout Highway 12 and the west hillside, an approximate 2 mile swath.

The **Existing Surrounding Sites** reveals two (2) nearby AT&T sites that are 5.0 and 5.1 miles from the proposed site on Nelligan Road. The distant arrangement of these sites correlate with the existing coverage, and produce the lack of coverage in this area.

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### Least Intrusive Means – Design & Construction

AT&T proposes a stealth faux oak tree as the least intrusive means to locate antennas in this area.

- Concealing the antennas among a tree design will ensure antennas are well hidden, thereby minimizing visual impacts.
- Siting among an existing grove of trees takes advantage of existing ridgeline stealthing and further minimizes vertical visual impacts.
- Increased Nelligan Road landscaping ensures sight lines from nearby residential properties are preserved as woodland.
- A fully contained leasing area next to an existing paved access road allows for a minimized construction and ground impact. There is no need for a new access road.
- Combining all antennas and base equipment into one enclosed leasing area will also ensure minimal environmental impact.
- This design was supported by the property owner, preferring as it creates a single confined facility that is placed strategically out of vineyard operations, within an unused portion of the property, and avoids creating new access roads through the property.

Alternative designs would present a more intrusive and impactful development:

- A water tank design creates a large man-made looking silhouette which is not preferred by County code. Though tank designs can be attractive, the top portion would be readily visible on the ridgeline from Highway 12, as antennas must be in visual line of sight with the road. This design option was considered by the property owner but not preferred.
- Windmill or silo structures also present similarly impactful silhouettes and visibility along the ridgeline. Windmill design may be distracting. There are no other visible man-made structures in this portion of the hillside.
- A slimline monopole or flagpole can be considered a stealth design as it places antennas in an enclosed vertical shaft. However the pole would need to be upwards of 70 feet in order to allow all antennas to shoot over the treeline. Though it can present a "smaller" silhouette, the vertical element would still be readily visible on the ridgeline.
- Ground mounted "stick" antennas along the ridge line may allow them to blend into the hillside, however this also necessitates removal of active vines to place antennas. The valley slope is gradual, not steep, therefore each individual antenna may need to be quite tall (20-30 feet) to clear the slope, not necessarily making ground-mounted design any less intrusive. In addition ground mounted antenna sets would create much more boring or trenching to connect power-felco conduits, further impacting soils and creating environmental mitigations. A base equipment area is still needed. This design option was also rejected by the property owner as intrusive on their operations. The RF engineer rejects this design as well for reasons above, in addition to that the ground absorbs and degrades signal.

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Page 3 of 7

### Alternative Analysis

AT&T Mobility seeks to fill a significant gap using the least intrusive means. However, wireless communication is line-of-sight technology that requires antennas to be in relatively close proximity to the wireless handsets to be served. Ultimately, the site must meet the needs of the service carrier, property owner, and jurisdiction.

The search ring was evaluated for a viable site to meet the coverage gap:

Topography & existing structures	The search area is Sonoma Highway, an agricultural valley that has a gradual and rolling slope from Nelligan Road. There are few structures along the ridgeline, which is composed of active vineyards and tree croppings. The superior location for a site to reach both the hillsides and highway
Zoning ordinance	<p>The County of Sonoma has a wireless ordinance to minimize adverse visual impacts to the community.</p> <p>Location – The location shall be sited to reduce adverse visual impacts, therefore applicant examined sites which would have existing landscape shielding.</p> <p>Collocation/Antenna siting – A standard monopole is necessary to provide coverage, as no existing towers exist in the area (PG&amp;E or other carriers), a new facility is required.</p> <p>Visual – Antennas must have line of sight and therefore by virtue will have a visual presence, as such proposing faux water tanks or disguised trees will be utilized in this area to ensure antennas are concealed.</p> <p>Landscaping is provided to offset visual impacts.</p>
Available utilities to service site	The area is rural with wood PG&E poles that allow for power to be brought to the site. Telco can also be brought together.
General access	Nelligan Road is 10'-wide asphalt road which can accommodate construction equipment.
Space for equipment shelter	Equipment areas to encompass all structures range from 800 to 1,000 square feet. Therefore, sufficient at-grade space is necessary. Hillside or topographically challenged sites are not advised.
Approval of RF engineer	The Radio Frequency engineer looks at the feasibility of reaching their coverage objectives from the location AND height offered by candidate sites. To span a radius of around 0.5 mile-1 mile, antenna heights between 50 to 80 feet are generally required. An engineer may accept a lower height if the installation provides superior line of sight among other factors. Tree foliage can block antenna signal at the source, therefore, any antennas in a grove of trees must be at least 10 feet above the existing canopy.
Willingness & response time of underlying property owner	Landlords must be amenable and willing to preliminarily move forward with AT&T. Landlords also can dictate the final design presented.

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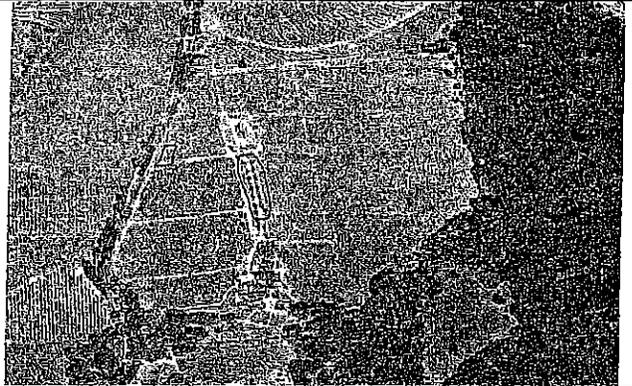
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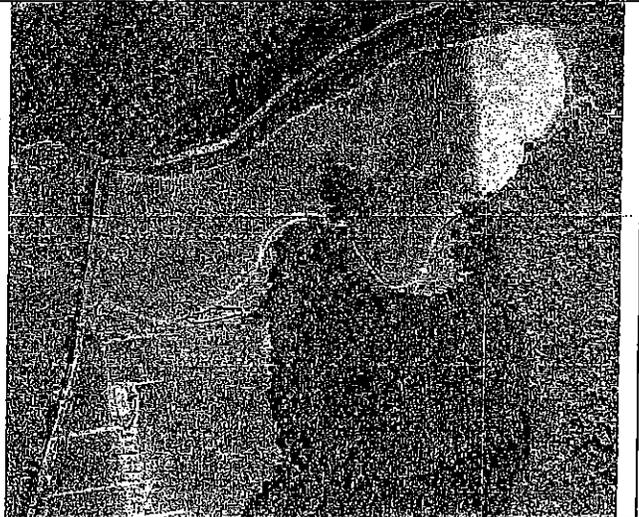
**A2:** Kunde Vineyards – Alternative locations in the northern part of the parcel were examined. These were rejected by the landlord and planner as they offer complicated access from Nelligan, and do not have existing trees to conceal the facility. These locations also require wireline poles as landlord will not allow bore/trench through vine structures. These locations would be more readily visible from Sonoma Hwy.



**B:** APN 053-040-001 Ridgeview Vineyards LLC – 1400 Nelligan – Candidate is a residential lot with a vineyard surrounding. No clearings appropriate for a telecom facility were identified, unless removal of vineyards or existing improvements. A new facility is visually intrusive in the open vineyards and visible from Nelligan Road. Difficult line of sight due to trees along Nelligan Road potentially blocking signal west. Rejected.



**C:** APN 053-040-037 Vendimia LLC – Existing Sprint installation in south side of parcel abutting candidate B. Consists of low profile ground-mounted antenna providing UMTS. Not suitable for vertical collocation as pole is not built for carrier expansion. Landlord declined offer to place a new facility and indicated was waiting to decommission site.



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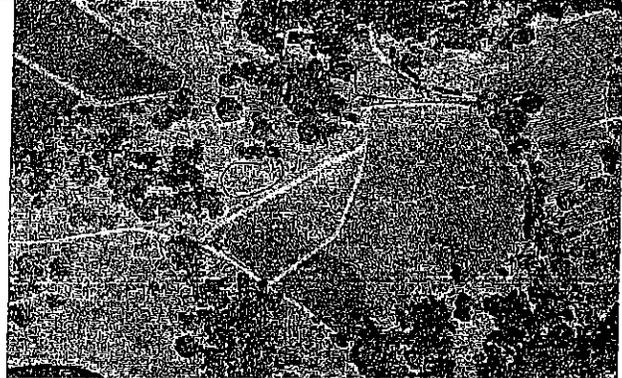
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**D:** APN 053-040-014 Kirk's Residence 1200 Nelligan Road – Location next to Nelligan Road provides proper clearing and access to road/utilities. RF rejected this candidate as too far south of preferred location. Not suitable place to make coverage objectives, and signal would be complicated on the north-northwest angle by trees/topography. Presents visual impacts to Nelligan Road and likely visible on ridgeline.



**E:** APN 051-250-015 Kunde Vineyard parcel – As in Candidate A2, these clearings presented access and visibility issues. RF rejected this location as too far south to make coverage objectives. Elevation is much lower than in the search ring.



**F:** APN 053-040-036 Vineyard – Provides proper clearing and access to road/utilities. RF rejected this location as too far south to make coverage objectives as like candidate E. Elevation is much lower than in the search ring.



**G:** APN 051-160-029 Kunde Vineyard parcel – Alternative back-up candidate west of search ring. Does provide coverage reach but is rejected due to issues with access, utility routing, and visual impact.



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# Tree Survey

99-2001 Nelligan Road  
Kenwood, CA  
#CCU1219

May 13, 2014



*Sustainable Solutions in the Urban  
Interface Since 1980*

Certified Arborist #WB 0704 A

## Introduction

I am retained by Modus, Inc. to provide this tree survey for the proposed unmanned telecommunications facility pursuant to the City of Sonoma Tree Protection Ordinance that mandates protection for any project that affects existing trees. Trees are reviewed to evaluate their individual health, their contribution to the site and the affects of proposed construction.

My review of the site occurred on May 7, 2014. I have reviewed plans A-1 through A-3 by PTS dated 03.31.4., and plans C-1. Tree numbers in this survey correspond to those in the A-2 Plan provided herein. Guidelines for tree protection are provided.

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## Summary

The telecommunications equipment is proposed in native oak woodlands setting adjacent to Nelligan road. Four separate antenna clusters and supporting equipment are proposed within the natural clearing at tree canopy edges. Seven (7) trees are inventoried representing the immediate area where construction is proposed shown on the C-1 Plan enclosed. Existing trees consist of one (1) Black oak (*Quercus kelloggii*) and six (6) coast Live oaks (*Quercus agrifolia*). No tree removals are required as a result of construction.

Inventoried trees are mature and range in health from good to fair. Trees survive exiting impacts as a result of grading for the vineyard access road and distribution of rocks within the canopy of trees from soil cultivation where soil compaction suffocates tree roots. Existing tree stresses however are likely sustainable and guidelines to improve tree health are also provided.

Power and conduits are to be routed underground within the 5-foot wide utility easement from the existing utility pole further south on the east side of Nelligan road to the proposed site. Bore and retrieval pit locations shall be located outside of tree canopies with bores 36-inches below grade to avoid critical tree roots. Any soil disturbance inside tree canopies however will require hand excavations and the root zone avoidance procedures provided. Tree canopies shall be fenced at canopy edges to minimize secondary impacts from construction activity.

In my opinion, the proposed telecommunications equipment location outside of tree canopies minimizes tree root zone disturbances. Tree and Root Zone Protection Guidelines are provided to maintain long term sustainability.

The following pages contain my evaluation.



Timothy C. Ghirardelli  
CONSULTING ARBORIST  
WC ISA CERTIFIED ARBORIST WE #0704 A

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## Construction Impact Evaluation

Most nutrient and water absorbing roots that sustain the trees can be found in the top 6 to 12 inches of soil. Raising or lowering grades just 4 to 6 inches, or trenching and compacting soils with equipment within natural tree canopies will all affect tree health and longevity.

Construction impact ratings are intended to serve as a guideline for evaluating the long term sustainability of trees as a result of impacts. Trees are evaluated to determine the potential impact of construction relative to their location on the site plan. Tree impact ratings are estimated and limited to the plan sets provided. The rating system measures to canopy edges to establish the critical root zone. Viewing canopy edges as one hundred percent of the critical root zone, proposed impacts are rated in percentages of root loss to the critical area. The more root loss that occurs to a tree, the less it will be able to survive. Tree species, age, health and vigor influence impact ratings.

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### High Impact

Trees in the High Impact category are considered to be at, or beyond the maximum range of root loss for that specimen. Trees in this category are unlikely to sustain the proposed impacts for the long term. A significant change in the proposed plan is required in order to retain the tree. Specific recommendations are required from the Arborist to reduce proposed impacts.

- Grade cuts, fills and/or alterations that result in root loss to 30% and greater of the critical root zone.

### Moderate Impact

Trees in the Moderate Impact category are considered to be within the range of sustainable root loss for that specimen. Trees in this category undergo alterations that require specific recommendations from the Arborist to reduce proposed impacts.

- Grade cuts, fills and/or alterations that result in root loss to less than 30% of the root zone.

### Low Impact

Trees in the Low Impact category are considered to be well within the acceptable range of root loss for that specimen. Trees in this category may require specific recommendations from the Arborist to reduce proposed impacts.

- Grade cuts, fills at canopy edges or beyond and/or supervised alterations within the canopy.

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# Tree Survey

Tree No.	Species	Size @ 54"	Health Vigor	<sup>3</sup> Proposed Const. Impacts	Remove	<sup>2</sup> Retention Rating	Comments
186	Coast Live oak <i>Quercus agrifolia</i>	25-22	Good	None		Good	Located upslope ±5 ft. in elevation to east from dirt access road adjacent to Nelligan rd. Survives existing grade cuts ±14" ±10-ft. from tree trunk, ±6-ft. inside tree canopy.
187	Coast Live oak	23-10	Good	None		Good	Located upslope ±4-ft. in elevation to east from dirt access road adjacent to Nelligan rd. Survives existing grade cuts ±14" ±8-ft. from tree trunk, ±6-ft. inside tree canopy.
188	Black oak <i>Quercus kelloggii</i>	26	Good	None		Good	4x4 fence post attached to trunk adjacent to Nelligan rd. Minor existing grading ±15-ft. from trunk, ±9-ft. inside tree canopy.
189	Coast Live oak <i>Quercus agrifolia</i>	22-15-14	Good	Low-None		Good	Survives existing 4-6" grade cuts for the dirt access road ±5-ft. from tree trunk. Located at temporary entrance to telecom site.
190	Coast Live oak <i>Quercus agrifolia</i>	23-20-16-22	Fair	Low-None		Fair	Survives existing 4-8" grade cuts for the dirt access road ±5-ft. from tree trunk. Soil from grading placed over natural trunk and root flare. Rocks from vineyard cultivation placed inside 50% of tree canopy. Long term tree retention requires mitigation of existing soil disturbances. (See page 7 Root Zone Restoration).
191	Coast Live oak <i>Quercus agrifolia</i>	22-12-20	Good-Fair	Low-None		Good	Rocks from vineyard cultivation placed inside 50% tree canopy. Long term tree retention will benefit from rock removal and recommended mitigation. (See page 7 Root Zone Restoration).
192	Coast Live oak <i>Quercus agrifolia</i>	18-14	Good	Low-None		Good	Rocks from vineyard cultivation placed inside 50% tree canopy. Long term tree retention will benefit from rock removal and recommended mitigation. (See page 7 Root Zone Restoration).

<sup>1,2,3</sup> See Tree Health Evaluation

### <sup>1</sup>Health & Vigor Rating

Excellent	A healthy, vigorous tree relatively free of signs and symptoms of disease.
Good	Tree with normal shoot elongation, interior dead wood, manageable twig dieback, and/or pest problems. Tree structure may influence considerations.
Fair	Tree with moderate amounts of twig and branch dieback, thinning canopy, reduced vigor, wounds that are slow to recover, with 65 to 80% of the canopy alive. May have poor branch structure and/or suppressed canopy. May have conditions that are manageable to improve tree health.
Poor	Tree with dieback of large limbs, large wounds with little callus growth, visible decay, and 30 to 60% of the canopy alive. Tree may also have dieback and decay in primary or scaffold limbs and/or trunk structure. May have large cavities and be structurally unsound beyond any reasonable management.

### <sup>2</sup>Retention Rating

Excellent	Ideal specimen both functionally and aesthetically with good health and longevity.
Good	Tree suited to retention for the long term. Individual characteristics are weighed. Any health or structural concerns are manageable with reasonable care.
Fair	Tree may have age, health, and/or structural concerns that may, or may not be manageable. Aesthetics are likely to be affected or affect other more valuable trees. Removal may benefit others.
Poor	Tree is likely to be in decline and/or have non-manageable structural concerns. Removal is likely to benefit others.

### <sup>3</sup>Proposed Construction Impacts

High Impact	Impacts that are at, or beyond the maximum range of root loss. Significant changes in the proposed plan are required in order to retain the tree. Specific recommendations are required from the Arborist to reduce proposed impacts.
Moderate Impact	Impacts considered to be within the range of sustainable root loss. Specific recommendations are required from the Arborist to reduce proposed impacts.
Low Impact	Minor impacts well within the sustainable range of root loss. Arborist supervised alterations within the tree canopy are required.

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## Tree & Root Zone Protection Guidelines

### A. Tree Evaluation & the Affects of Construction

General Tree & Root Zone Protection Guidelines are provided as a guideline to mitigate the impacts to trees that will occur as a result of construction. Most nutrient and water absorbing roots that sustain the trees can be found in the top 6 to 12 inches of soil. Raising or lowering grades just 4 to 6 inches, or trenching and compacting soils with equipment within natural tree canopies will all affect tree health and longevity.

B. Any tree to be retained within the construction envelope will require special considerations during the construction process. A good working relationship between the Arborist and contractor and a clear understanding of contractor issues relative to arboricultural issues is essential to avoid any debilitating tree damage.

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### Summary of six key construction phases to navigate with the Project Arborist:

- 1) **Pre-construction:** Review the site with the Arborist prior to alterations to identify specific site limitations such as vehicle access and material handling and equipment storage. Review methods needed to retain valuable trees.
- 2) **Protective tree fencing:** Prior to any alterations, proper fence placement is key to limiting damages to trees selected to remain. Identify protective tree fencing locations at tree canopy edges with marking paint on ground. Review site limitations and discuss non-invasive alternatives.
- 3) **Grading:** Raising or lowering grades is the single most destructive process to trees. There is no substitute for understanding sustainable limits and employing effective solutions.
- 4) **Trenching:** Severing roots can destabilize tree structure and result in rapid decline. Review proper techniques and guidelines prior to any trenching.
- 5) **Construction:** Requirements for space, access and storage places high demands near trees. Soil becomes compacted under material or equipment weight below unprotected tree canopies resulting in root suffocation and long-term tree decline. Periodic review of the site is needed to assess tree health and review protective measures.
- 6) **Landscaping:** Any requirement for landscape plantings proposed within the canopy of existing trees shall require review. Trenching for irrigation, hardscape construction and the installation of incompatible plants can be just as traumatic to tree health as any of the above can be.

### **1. Root Zone Protection—Demolition & Construction**

- 1.1 Prior to any approved activity, assign a confined, dedicated area for material and equipment storage away from the established tree canopies and the immediate project area.
- 1.2 Under Project Arborist direction install chain-link fencing or approved equal at canopy perimeters prior to any alteration to establish the Critical Root Zone for all trees affected by construction.
- 1.3 All protective fencing shall remain in place throughout the construction process.

### **2. Pruning—Prior to Antenna Installation**

- 2.1 Any pruning and clearance work directly related to construction will occur under Project Arborist direction.
- 2.2 Any necessary pruning of the trees should be done prior to construction to avoid unnecessary limb damage.
- 2.3 All pruning shall be completed by approved Certified Arborists familiar with the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A-300) and Best Management Practices for Pruning published by the International Society of Arboriculture.

### **3. General Lateral Bore Guidelines—Power/Telco/Utilities**

- 3.1 Locate bore, receiving or splice pits and boxes outside of tree canopies. Any deviation must be hand dug under Project Arborist direction. (See Hand Trenching/Retrieval Pit Guidelines).
- 3.2 No bore, receiving or splice pits or boxes within five (5) feet of the trunk.
- 3.3 Underground conduits passing through tree canopies shall be bored at a minimum depth of 36 inches.

### **4. Hand Trenching Retrieval Pit Guidelines Inside Tree Canopies—Power/Telco/Utilities**

- 4.1 The process of hand trenching or pit retrieval shall be used to minimize trauma to protected trees inside the tree canopy. Excavation is performed by hand and careful equipment operation under the direction of the Project Arborist.
- 4.2 Digging by hand leaves roots 2-inches in diameter and larger undisturbed. Soil is removed from under and around tree roots to form the necessary trench or pit.
- 4.3 Roots less than 2-inches in diameter must be pruned with loppers or hand saw.
- 4.4 Roots 2-inches in diameter and larger may only be removed with the approval of the Project Arborist.

### **5. Vehicle or Equipment Access Guidelines Inside the Critical Root Zone**

- 5.1 All alternative routes shall be explored with the Project Arborist secs. 5.1 to 5.5. to avoid vehicle or equipment access inside the Critical Root Zone.
- 5.2 To create an access corridor inside protected tree canopies, apply a 6-inch layer of wood chips or mulch by hand without equipment access on the soil surface over the selected access route.
- 5.3 Distribute ¾ thick or greater Plywood over wood chips to laterally disperse heavy equipment weights and reduce soil compaction.
- 5.4 Maintain the access corridor with protective fencing on each side of the path as long as it is required to access this area of the project.
- 5.5 Any approved construction inside the tree canopy close to the tree trunk shall apply straw wattles directly to the trunk for protection of contact from material handling or equipment use. Straw wattles shall be attached around the tree from ground level to 5-feet above grade. All applications shall be non-invasive.

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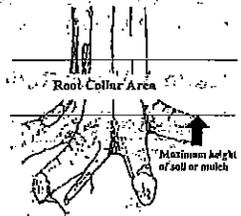
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### 6. Root Zone Restoration

- 6.1 Remove rocks distributed from vineyard operations inside tree canopy.
- 6.2 Remove soil placed above the natural grade of the trunk and root flare.
- 6.3 Hand till with a pick, or rip of soil within the compacted soil areas using light, approved equipment to reduce soil compaction and improve soil aeration under Project Arborist direction. Work in a radial hub-and-spoke direction from canopy interior to canopy exterior.
- 6.4 No mechanical rototilling shall occur to avoid secondary levels of compaction associated with rotary tines.
- 6.5 Apply organic mulch such as wood chips to a depth of 4-6 inches over the restored soil area. Do not allow mulch or wood chips to make contact with the tree trunk to avoid moisture related diseases. Use only wood chips from other oaks, or other non-acidic, non-pine or fir products. Wood chips will serve to regulate soil temperatures and improve soil fertility.



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# Tree Health Evaluation

Several factors are involved in the evaluation process. Healthy, vigorous trees are better able to tolerate impacts such as root injury, soil compaction and changes in soil moisture than are trees that are in poor condition prior to impact. The tree Health & Vigor ratings below provide an initial guideline for evaluating tree health. Trees with a Health & Vigor Rating of *excellent* or *good* will be more likely to survive development trauma than those with *fair* or *poor*.

## <sup>1</sup>Health & Vigor Rating:

<b>Excellent</b>	A healthy, vigorous tree relatively free of signs and symptoms of disease.
<b>Good</b>	Tree with normal shoot elongation, interior dead wood, manageable twig dieback, and/or pest problems. Tree structure may influence considerations.
<b>Fair</b>	Tree with moderate amounts of twig and branch dieback, thinning canopy, reduced vigor, wounds that are slow to recover, with 65 to 80% of the canopy alive. May have poor branch structure and/or suppressed canopy. May have conditions that are manageable to improve tree health.
<b>Poor</b>	Tree with dieback of large limbs, large wounds with little callus growth, visible decay, and 30 to 60% of the canopy alive. Tree may also have dieback and decay in primary in scaffold limbs and/or trunk structure. May have large cavities and be structurally unsound beyond any reasonable management.

## Retention Rating---Factors Considered in the Evaluation of Trees Suitable for Retention

### 1. Tree Location, Structure and Competition

The location of the tree is considered with respect to the future environment. Site development increases the frequency of use thereby increasing the concern for structural deficiencies or trees in decline that might become a liability. Trunks and limbs are visually examined to evaluate structural defects and decay that could lead to breakage, or failure.

### 2. Species Tolerance

Trees respond to environmental changes according to individual genetic ability. For example, Coast live oaks are more capable of withstanding development trauma than Valley oaks similar in size condition and relative construction impacts. Considerations also include age and longevity

### 3. Contribution

Contribution refers to the evaluation of individual, and/or grove characteristics to the site, neighborhood and benefits to the public. Factors also weigh the above Health/Vigor assessments and both function and aesthetic:

Functional considerations may include species, age and longevity, structure, stability and risks, benefits that include shade, screening and/or sun protection, wildlife habitat or ecological considerations, and the effects of competition.

Aesthetic considerations may include species importance, rarity or uniqueness, natural or exotic, visual interest including seasonal and structural features, appearance and placement in the environment.

## <sup>2</sup>Retention Rating

<b>Excellent</b>	Ideal specimen both functionally and aesthetically with good health and longevity.
<b>Good</b>	Tree suited to retention for the long term. Individual characteristics are weighed. Any health or structural concerns are manageable with reasonable care.
<b>Fair</b>	Tree may have age, health, and/or structural concerns that may, or may not be manageable. Aesthetics are likely to be affected or affect other more valuable trees. Removal may benefit others.
<b>Poor</b>	Tree is likely to be in decline and/or have non-manageable structural concerns. Removal is likely to benefit others.

## <sup>3</sup>Proposed Construction Impacts

<b>High Impact:</b>	Impacts that are at, or beyond the maximum range of root loss. Significant changes in the proposed plan are required in order to retain the tree. Specific recommendations are required from the Arborist to reduce proposed impacts.
<b>Moderate Impact:</b>	Impacts considered to be within the range of sustainable root loss. Specific recommendations are required from the Arborist to reduce proposed impacts.
<b>Low Impact:</b>	Minor impacts well within the sustainable range of root loss. Arborist supervised alterations within the tree canopy are required.



