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January 23, 2014

**VIA EMAIL**

Chair Karen Mitchoff
Vice Chair John Gioia
Supervisors Candace Anderson,
Mary Piepho and Federal Glover
Contra Costa County Board of Supervisors
651 Pine Street
Room 107
Martinez, California 94553

Re: Appeal of AT&T Kensington Distributed Antenna System Node
Application No. LP13-2020 (Near 110 Ardmore Road)
Board of Supervisors Agenda, February 4, 2014

Dear Chair Mitchoff, Vice Chair Gioia and Supervisors:

We write on behalf of our client AT&T Mobility ("AT&T") regarding the distributed antenna system ("DAS") proposed for Kensington. We want to thank you for your careful consideration and approval of five of the six DAS nodes proposed by AT&T for Kensington. As you know, the proposed node at 110 Ardmore Road was continued by the Board for further review and has been scheduled on your agenda of February 4, 2014.

In keeping with the Board's request, AT&T carefully reevaluated the coverage gap to be served by the proposed 110 Ardmore Road facility. This coverage gap, as detailed in the AT&T Radio Frequency Engineer's Statement attached as Exhibit A to this letter, includes 45 acres of Kensington, approximately 500 residents and nearly two miles of roadway and footpath.

AT&T also carefully reevaluated the available utility poles for a wireless facility in the Ardmore Road neighborhood, including a review of the commercial strip along Arlington Avenue. The results are detailed in the Alternatives Analysis attached as Exhibit B to this letter, which confirms that the proposed facility near 110 Ardmore Road serves the coverage gap with the least impacts to neighbors' views.

AT&T appreciates the Board's careful consideration of the Kensington DAS to date. We trust that the attached information will provide sufficient background for the

Board to conclude its analysis and approve the preferred facility so that AT&T can provide much-needed service improvements in the Ardmore Road area.

Sincerely.

Paul B. Albritton

cc: Thomas L. Geiger, Esq.
Francisco Avila
Telma Moreira
William Nelson

**Schedule of Exhibits**

Exhibit A: Radio Frequency Engineer's Statement
Exhibit B: Alternatives Analysis

**Exhibit A**

AT&T Mobility Radio Frequency Statement
of Significant Coverage Gap

Area of Ardmore Road
Kensington, Contra Costa County

I am the AT&T radio frequency engineer assigned to resolving coverage and capacity gaps in the AT&T wireless network in Contra Costa County. In order to provide in-building 3G and 4G wireless services to the Kensington area of Contra Costa County, AT&T proposed installation of six distributed antenna system ("DAS") nodes along public rights-of-way. On December 17, 2013, the Contra Costa County Board of Supervisors approved five AT&T DAS nodes to serve the Kensington area. The sixth DAS node, proposed to be located on an existing utility pole in the public right-of-way of 110 Ardmore Road, will be heard on appeal by the Board of Supervisors on February 4, 2014. This statement is submitted to evidence the extent and significance of the gap in in-building 3G and 4G wireless service coverage that exists in the Ardmore Road area and which will remain following installation of the five Kensington DAS nodes approved by the Board of Supervisors. Based on my personal knowledge of AT&T's wireless network in Contra Costa County, as well as my review of AT&T's records with respect to Kensington, I have concluded that the proposed DAS facility to be located in the public right-of-way of 110 Ardmore Road (the "Proposed Facility") is needed to close a coverage gap in AT&T's 3G and 4G in-building wireless service in the vicinity of Ardmore Road in Kensington, Contra Costa County.

The AT&T DAS facilities approved by the Board of Supervisors on December 17, 2013, will provide in-building 3G and 4G service to a large portion of Kensington. Three of the DAS nodes approved by the Board of Supervisors will provide in-building 3G and 4G service to the west, north and east of the Proposed Facility and will be located less than one-third mile away from the Proposed Facility in each direction. Service to the south will be provided by a DAS facility in the City of Berkeley. The Proposed Facility will fill a gap in in-building 3G and 4G coverage to the residences along roadways including Ardmore Road, Amherst Avenue, Yale Avenue and Princeton Avenue as well as the western halves of

Oberlin Avenue and Wellesley Avenue and a portion of Arlington Avenue (the "Coverage Gap"). The Coverage Gap includes approximately 45 acres and over 500 residents.

The Proposed Facility will also provide needed in-vehicle 3G and 4G service throughout the residential roadways in the Ardmore Road area for residents, including emergency E911 call locator services used by Contra Costa County first responders. Several County agencies also use AT&T wireless services including Contra Costa Fire District, Contra Costa County Sheriff, the Contra Costa County Emergency Operations Center and Contra Costa County Health Services. In times of crisis such as inland wildfires and earthquakes, the ability of these first responders and critical County agencies to receive resident E911 calls and otherwise use AT&T wireless services when necessary, absent dropped calls and coverage gaps, is critical to the Ardmore Road area.

The Coverage Gap results from the absence of infrastructure in the area. AT&T's existing and approved facilities would provide insufficient coverage in the Ardmore area to provide service to customers in the Ardmore area, let alone address rapidly increasing data usage. Moreover, 4G LTE service coverage has not yet been deployed in this area. To remedy this service Coverage Gap, AT&T needs to install new wireless infrastructure.

AT&T uses industry standard propagation tools to identify the areas in its network where signal strength is too weak to provide reliable in-building service quality. This information is developed from many sources including terrain and clutter databases, which simulate the environment, propagation models that simulate signal propagation in the presence of terrain and clutter variation, drive tests measuring existing radio signals, and signal propagation from test antennas. AT&T designs and builds its network to ensure customers receive reliable in-building service quality.

Exhibit 1 to this Statement is a map of predicted service coverage from the adjacent planned and approved AT&T DAS nodes to be installed to serve the Kensington area. The map has been prepared using the AT&T proprietary prediction tools described above and includes refinements based upon actual drive test data. The green shaded areas depict areas

within a signal strength range that provide acceptable in-building service coverage. In-building coverage means customers are able to place or receive a call on the ground floor of a building. The quality of service experienced by any individual can differ greatly depending on whether that customer is indoors, outdoors, stationary, or in transit.

Exhibit 2 predicts service coverage based on signal strength in the vicinity of the Proposed Facility with the Proposed Facility and surrounding nodes all operational. As shown, predicted coverage from the Proposed Facility closes the Coverage Gap, providing seamless indoor 3G and 4G service with the surrounding planned and approved nodes.

In addition to these 3G wireless service gap issues, AT&T is in the process of deploying its 4G LTE service in Contra Costa County with the goal of providing the most advanced personal wireless experience available to residents. The AT&T Kensington DAS already approved by the Board of Supervisors are an integral part of this process. 4G LTE is capable of delivering speeds up to 10 times faster than industry-average 3G speeds. What's more, LTE uses spectrum more efficiently than other technologies, creating more space to carry data traffic and services and to deliver a better overall network experience. This is particularly important in Kensington because of the likely high penetration of the new 4G LTE tablets, smart phones, and other LTE devices. As clearly depicted in Exhibit 2, the Proposed Facility will provide new LTE service to 45 acres and over 500 residents of the Ardmore Road area.

This is also important in part because as existing customers migrate to 4G LTE, the LTE technology will provide the added benefit of reducing 3G data traffic, which can cause capacity issues on the UMTS (3G) network during peak usage periods, especially in light of forecasted increase in usage. AT&T customers are using these services in a manner that caused a 20,000% increase in mobile data usage on AT&T's network between 2007 and 2011. AT&T expects total mobile data volume to grow 8-10 times over the next five years.

The Proposed Facility is essential to close the predicted 45-acre Coverage Gap around Ardmore Road with in-building 3G and 4G service and to provide seamless wireless service throughout the AT&T Kensington DAS network.

Dimitri Gogas

January 20, 2014

# Proposed RSCP of DAS Nodes excluding Node 14

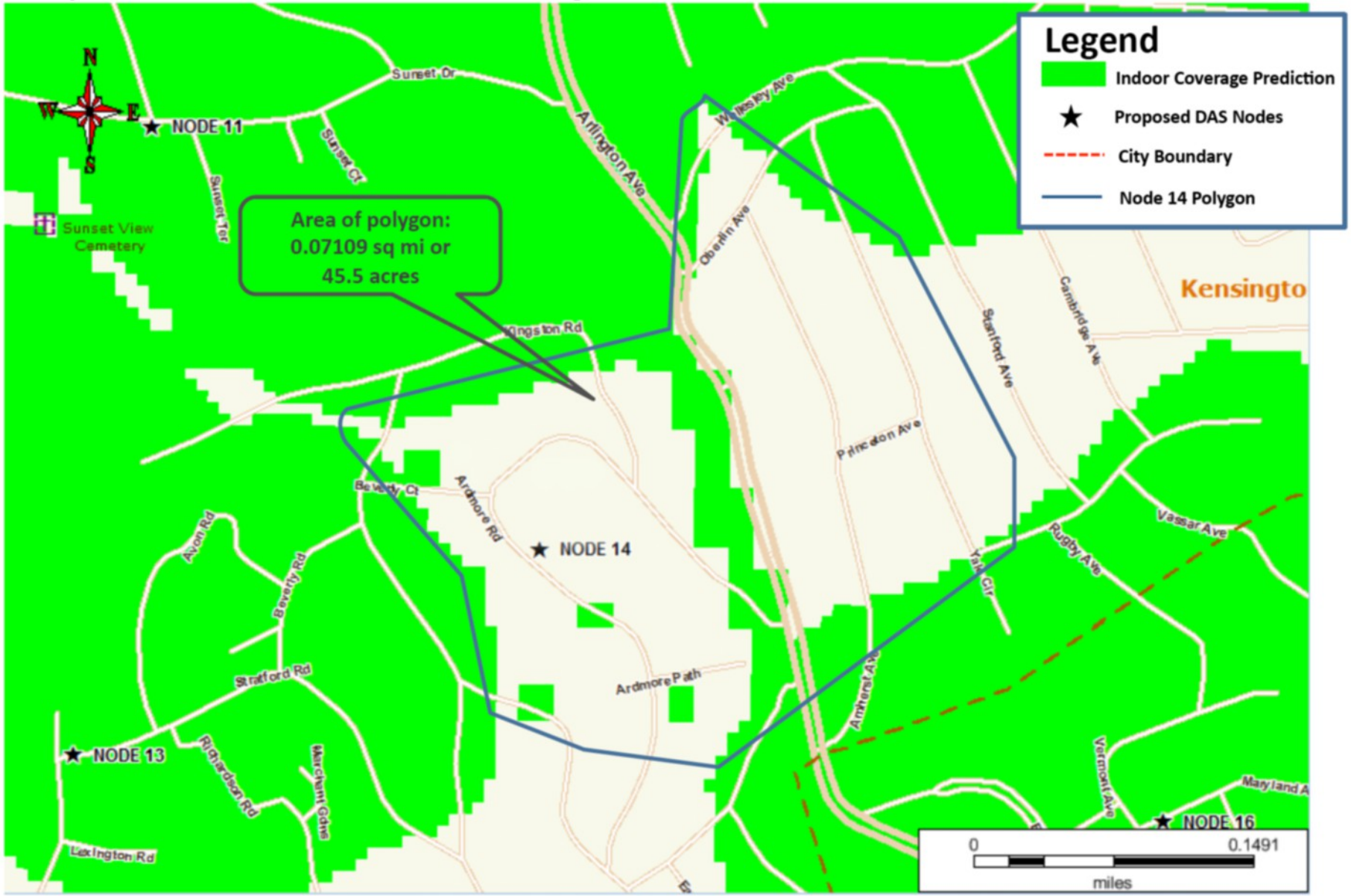



**Exhibit 1**

## Proposed RSCP of DAS Nodes

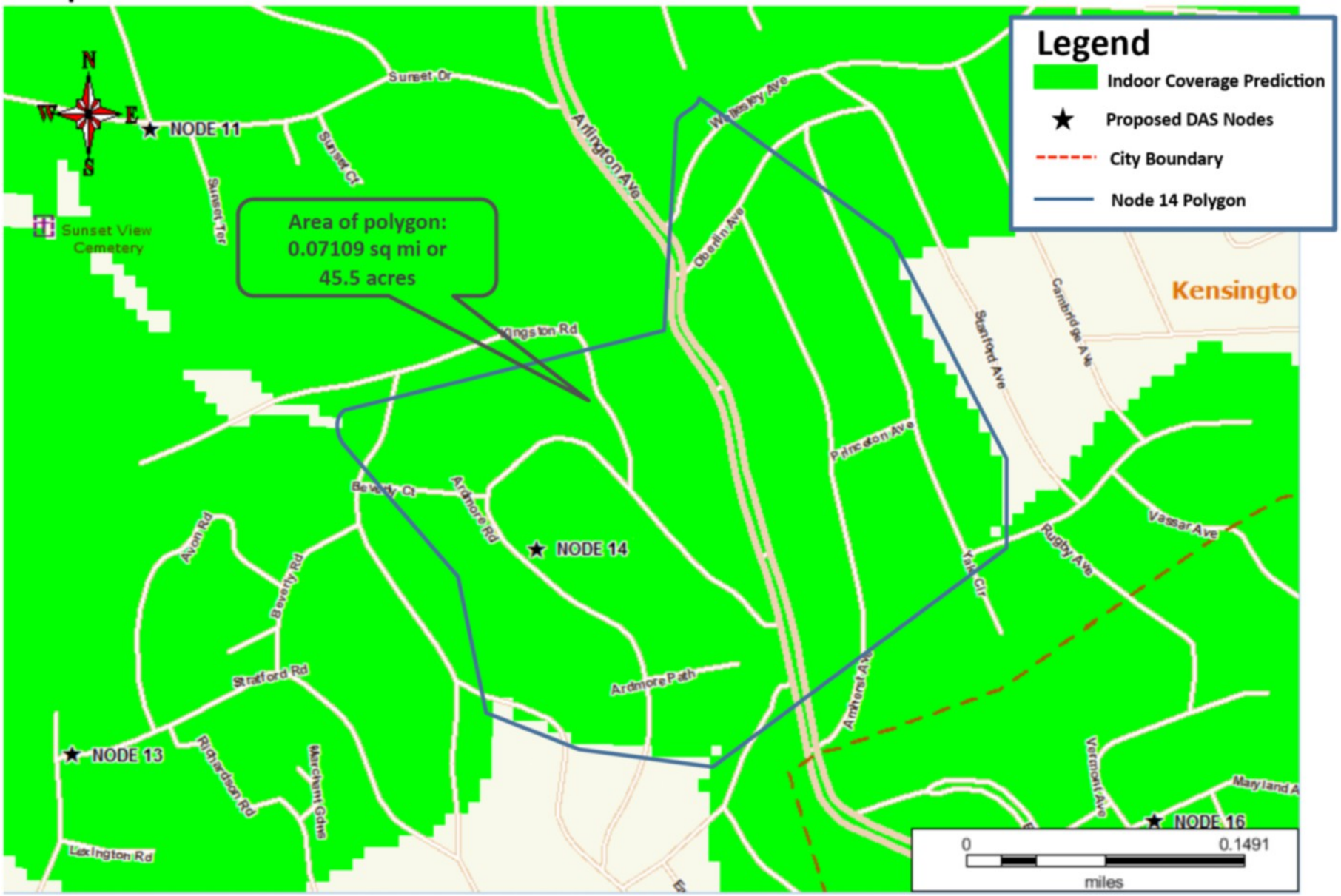


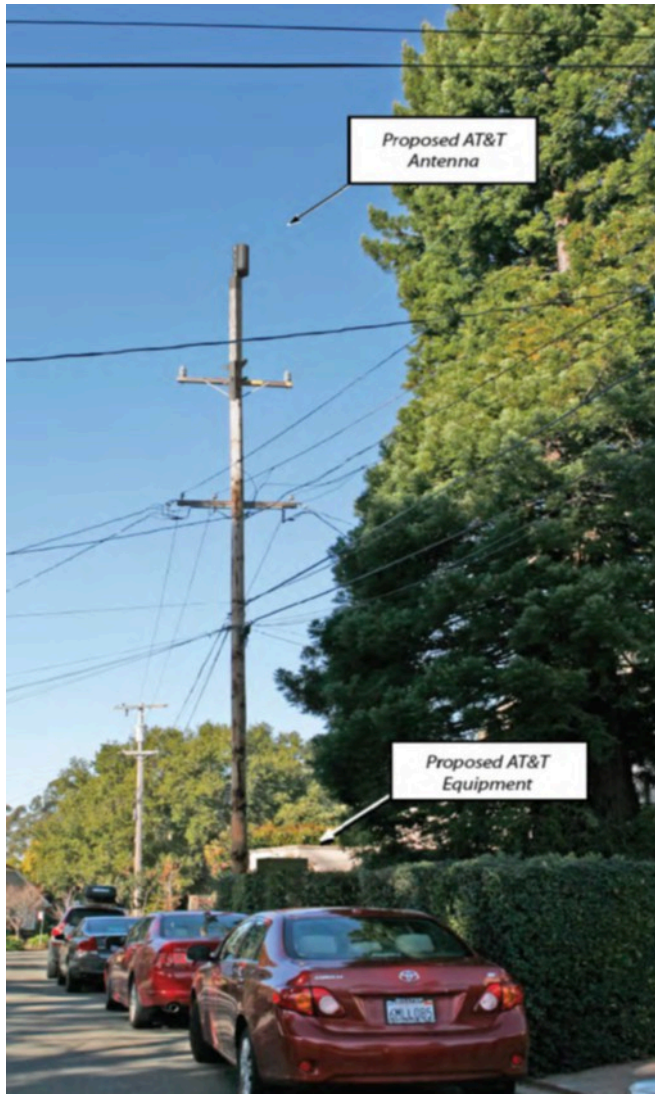

**Exhibit 2**

# Alternatives Analysis

**Exhibit B**

**PRIMARY CANDIDATE**
**OAKN-014B**
**In Front of 110 Ardmore Road**

This DAS Node (Node 14B) is proposed to be constructed on a PG&E utility pole on Ardmore Road in Kensington. The coverage gap to be served by this node is described in the AT&T Mobility Radio Frequency Statement of Significant Coverage Gap dated January 20, 2014 (the "Coverage Gap"). The primary candidate, OAKN-014B, is designed as a pole top extension on PG&E pole #110306453, in the public right-of-way adjacent to 110 Ardmore Road, Kensington (at latitude/longitude 37°54'17.45"N, 122°16'51.04"W). This pole, which is directly adjacent to a large evergreen tree, is situated to the side of a residence. Given the nearby foliage and orientation of nearby residences, AT&T's facility will not result in a view corridor obstruction. AT&T proposed placement of radio equipment on the utility pole and remains willing to implement that design. As requested by the County, the equipment for this proposed facility was approved by the Planning Commission to be located in a ground-mounted equipment cabinet located four feet southeast from the existing pole within the public right-of-way along Ardmore Road.



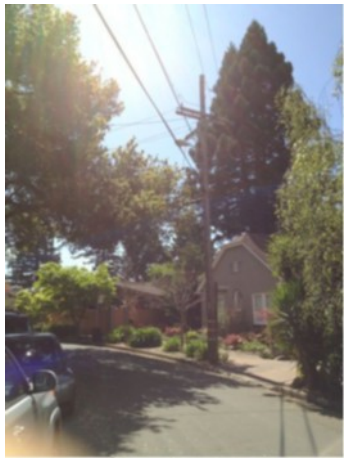

**Design Considerations**

In response to comments of the Kensington Municipal Advisory Council and Planning Staff, pole-mounted radio equipment has been relocated to a ground-mounted cabinet. AT&T has not proposed lowering the antennas due to inadequate space on the utility pole for a side mount above 30 feet and due to an adjacent tree that would block radio signal coverage. Based upon resident submitted photographs that failed to show view blockage from the mock facility and evidence from AT&T showing signal blockage from lower antennas, the Planning Staff rescinded its recommendation to lower the antennas and the Planning Commission approved the facility at the originally proposed height.

Following approval by the Board of Supervisors of the Kensington DAS, except for this site, AT&T reevaluated the potential for lowering the antennas to 30 feet. A constant wave study conducted by AT&T RF engineers on January 9, 2014 confirms an approximate 50% loss in in-building coverage from the facility at the lowered antenna height. A photosimulation of the primary candidate with a 30 foot antenna height is attached. A drive test map showing coverage deficiencies from the lowered antennas is also attached.

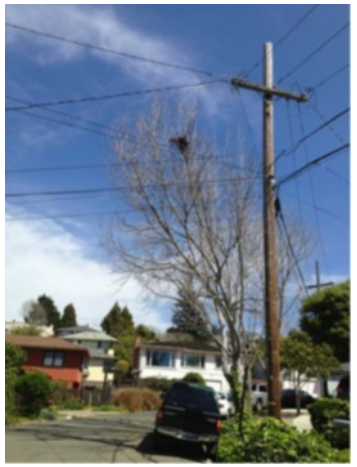
## ALTERNATIVES

**OAKN-014B-C1**
**In front of 97 Ardmore Road**



Alternative 1, OAKN-014B-C1, is PG&E pole #110286165, in the public right-of-way in front of 97 Ardmore Road, Kensington (at latitude/longitude 37°54'19.01"N, 122°16'52.67"W). This pole is situated at the intersection of Ardmore Road and Beverly Ct., directly in front of a residence and across the street from another residence. This site is not feasible because climbing space is obstructed by existing facilities on the pole, including a streetlight and cross arms. Further, this site is not available because a facility there would create a view corridor obstruction. This pole also would need to be reframed to accommodate a pole top extension to house AT&T's facility, or replaced due to its condition.

**OAKN-014B-C2**
**In front of 48 Ardmore Road**

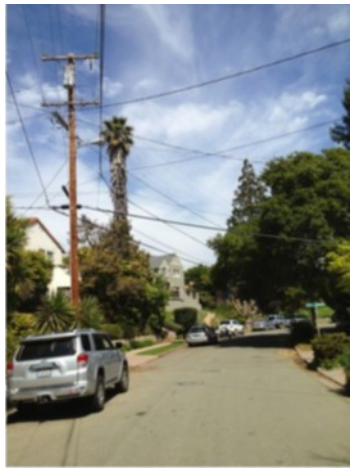


Alternative 2, OAKN-014B-C2, is PG&E pole #110286203, in the public right-of-way in front of 97 Ardmore Road, Kensington (at latitude/longitude 37°54'20.60"N, 122°16'50.45"W). This pole is directly in front of a residence and across the street from another residence. This site is not available because a facility there would create a view corridor obstruction. Further this pole would need to be reframed to accommodate a pole top extension to house AT&T's facility.

**OAKN-014B-C3**
**In front of 46 Ardmore Road**

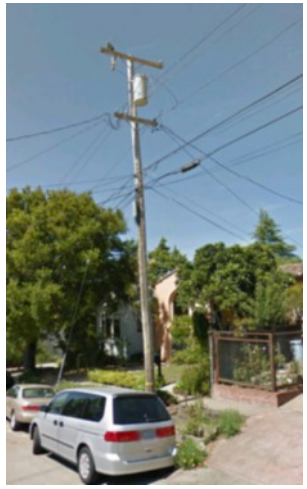
Alternative 3, OAKN-014B-C3, is PG&E pole #110286167, in the public right-of-way in front of 46 Ardmore Road, Kensington (at latitude/longitude 37°54'20.60"N, 122°16'49.35"W). This pole is situated in front of a residence and across the street from another residence. An adjacent tree provides some screening to the bottom two-thirds of the pole. This site is not feasible because climbing space is obstructed by existing facilities on the pole, including a streetlight and cross arms. Further, this site is not available because a facility there would create a view corridor obstruction. This pole also would need to be reframed to accommodate a pole top extension to house AT&T's facility, or replaced due to its condition.

**OAKN-014B-C4**
**In front of 156 Ardmore Road**



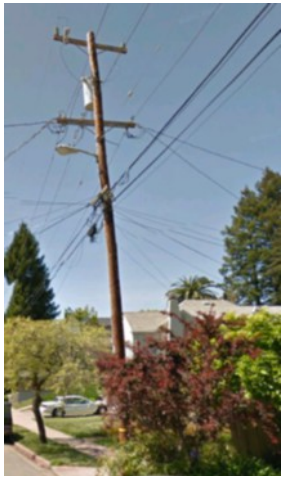
Alternative 4, OAKN-014B-C4, is PG&E pole #110306302, in the public right-of-way in front of 156 Ardmore Road, Kensington (at latitude/longitude 37°54'14.04"N, 122°16'46.61"W). This pole, which is located where Ardmore Path crosses Ardmore Road, is situated in front of a residence and directly across the street from another residence. This site is not feasible because climbing space is obstructed by existing facilities on the pole, including a streetlight and cross arms. Further this pole would need to be reframed to accommodate a pole top extension to house AT&T's facility.

**OAKN-014B-C5**
**In front of 100 Ardmore Road**



Alternative 5, OAKN-014B-C5, is PG&E pole # 110286201, in the public right-of-way in front of 100 Ardmore Road, Kensington (at latitude/longitude 37°54'18.26"N, 122°16'51.95"W). This pole is situated in front of a residence with no adjacent trees, likely causing view obstruction. This site is not feasible because climbing space is obstructed by existing facilities on the pole, including a transformer and cross arms.

**OAKN-014B-C6**
**In front of 130 Ardmore Road**



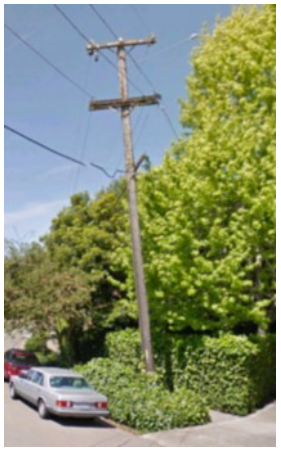
Alternative 6, OAKN-014B-C6, is PG&E pole #110306452, in the public right-of-way in front of 130 Ardmore Road, Kensington (at latitude/longitude 37°54'16.45"N, 122°16'49.65"W). This pole is situated in front of two residences with no adjacent trees for screening. This highly visible pole already supports two cross-arms, a transformer and street light and is likely infeasible for mounting AT&T's DAS antenna. If the pole could be reframed to accommodate a pole-top extension, the elevated antennas would create substantial aesthetic impacts to multiple uphill homes to the east.

**OAKN-014B-C7**
**In front of 137 Ardmore Road**

Alternative 7, OAKN-014B-C7, is PG&E pole #110306451, in the public right-of-way in front of 137 Ardmore Road, Kensington (at latitude/longitude 37°54'15.79"N, 122°16'48.72"W). This pole is situated on the west (downhill) side of the street across the street from an adjacent home to the east with windows facing west. Lower elevation requires a significant pole-top extension to achieve RF coverage that would likely cause view obstruction to homes to the east.

**OAKN-014B-C8**
**Behind 801 Coventry (On Ardmore Road)**

Alternative 8, OAKN-014B-C8, is a PG&E pole in the public right-of-way behind 801 Coventry on Ardmore Road, Kensington (at latitude/longitude 37°54'9.13"N, 122°16'48.19"W). This site is located at the intersection of Coventry Road and Ardmore Road and visible from the street in four directions. The site is screened to the east by trees. Lower pole elevation requires a pole-top extension for adequate RF propagation, which may create view impacts to uphill residences further east above screening trees. A photosimulation of a feasible facility at this location is attached.



**OAKN-014B-C9**
**In front of 845 Coventry**

Alternative 9, OAKN-014B-C9, is a PG&E pole in the public right-of-way in front of 845 Coventry, Kensington (at latitude/longitude 37°54'13.40"N, 122°16'42.33"W). This site is located at the intersection of Arlington Road and Coventry Road and is visible from the street in four directions. This site is not feasible because climbing space is obstructed by existing facilities on the pole, including a streetlight and two sets of cross arms. Propagation maps prepared for this site reveal an unacceptable gap in the northwest portion of the identified Ardmore Road Coverage Gap.

**OAKN-014B-C10**
**In front of 3 Ardmore**

Alternative 10, 10-014B-C9, is PG&E pole #110286189, in the public right-of-way in front of 3 Ardmore Road, Kensington (at latitude/longitude 37°54'15.75"N, 122°16'42.76"W). This site is located across from an elevated parking area above 271 Arlington and is adjacent to 3 Ardmore Road. This site is not feasible because climbing space is obstructed by existing facilities on the pole, including a streetlight and four cross arms.

**OAKN-014B-C11**
**In front of 13 Ardmore**

Alternative 11, 10-014B-C9, is a PG&E pole in the public right-of-way in front of 13 Ardmore Road, Kensington (at latitude/longitude 37°54'16.69"N, 122°16'44.07"W). This pole is located immediately west of second-story windows facing west with no screening trees. Two levels of cross-arms would require reframing this pole to provide for a 7 foot poletop extension. The poletop extension would cause view obstruction to the adjacent residence to the east.

**Decorative Streetlights Along Arlington Avenue Commercial Area**

There are no available utility poles along the commercial area of Arlington Avenue between Ardmore Road and Coventry Road. Historic designed light standards are planned for this stretch of Arlington Avenue as well as in the median strip. These historic designed light standards with the illuminating element at the top of the pole are inadequate in height or structure to support an AT&T DAS node, and placement of AT&T antennas and radios on these historic designed light standards would be inappropriate.

## Conclusion

AT&T evaluated 12 utility poles in the Ardmore Road area to identify the feasible pole that could provide service to the Coverage Gap with the least aesthetic impacts. The majority of the poles evaluated are infeasible due to a lack of climbing space, required under California Public Utilities Code General Order 95, due to existing facilities on each utility pole. Certain poles were eliminated where coverage maps or constant wave tests showed a lack of signal propagation and inadequate signal to the Coverage Gap. Certain other facilities were rejected due to their visual prominence, lack of screening trees, location at street corners and obvious view impact to adjacent residences. Based on its analysis, AT&T considers the primary candidate to be the least intrusive utility pole for providing in-building service to the Coverage Gap.

# Map of Alternatives

view from Ardmore Road looking northwest at site

AT&T Wireless

110 Ardmore Road, Kensington, CA
Oakhills AT&T North Network Node 014B

Existing

Proposed

# OAK Node 14B at Antenna Centerline 29 FT – Indoor Coverage

Existing

Proposed


*view from Coventry Road looking north at site*

AT&T Wireless

*801 Coventry Road, Kensington, CA*
*Oakhills AT&T North Network Node 014D*

AdvanceSim
Photo Simulation Solutions
Contact ( 925 ) 202-8507