

**City Manager Comments and
Presentations from the**

February 4, 2019

City Council Meeting

CITY MANAGER COMMENTS

02/04/18

Topic: Upgrade Downtown Project Nears Final Stages of Construction

Submitted by: Utilities

The Upgrade Downtown project is moving toward the final stages of construction along University Avenue. Work on the last block of University between High Street and the “on and off” ramps at Alma Street is expected to begin either February 8 or February 11, depending upon weather conditions and the contractor’s progress. City staff are working on a traffic control plan to alleviate congestion around the construction site and ensure the safety of motorists, pedestrians and cyclists. Motorists are also encouraged to take alternative routes around this section of University Avenue to minimize traffic impacts.

Detailed maps of lane closures and detours are provided on the project website at UpgradeDowntownPA.com, and will be included in the City’s weekly email updates. There’s also a dedicated hotline where City staff are available to answer any questions and address concerns. The major utility infrastructure work is expected to be complete by the end of March. Afterward, University Avenue will be repaved once weather conditions allow for it.

Topic: Baylands Boardwalk (includes 1 photo)

Submitted by: Public Works

Public Works staff are excited to announce that the new Baylands Boardwalk is now open for the public to experience panoramic views of the bay and wetlands! Construction finished last Thursday. The original boardwalk was built in 1969, and all but the first 200 feet of the boardwalk was closed for safety reasons in 2014. The project to rebuild the boardwalk hit the ground running last year. The photo you are viewing shows the new, wider boardwalk being built. They used Alaskan Yellow Cedar beams- a natural, more rot resistant material, and Redwood for the post railing and the decking.

Topic: Donation from the Lenore C. Terry 2014 Living Trust to Palo Alto Animal Services

Submitted by: Police

In recognition of the generous \$1M donation from the Lenore C. Terry 2014 Living Trust to Palo Alto Animal Services, a thank you letter from Mayor Filseth on behalf of the City Council was sent to the family today expressing our gratitude.

Because of Ms. Terry’s generosity, we will be able to further our mission of providing the very best of care for animals in our community, and we will continue to promote responsible pet ownership and ensure the protection and well-being of animals in Palo Alto.

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During Construction



City Manager Comments

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Stanford General Use Permit Development Agreement 2018

City Council
February 4, 2019



Background

- General Use Permit (2018 GUP)
- Development Agreement (DA)
- The County Board of Supervisors
 - identify ‘community or public benefits’
- County negotiates with Stanford the terms of DA

Recommendations

Staff recommends that Council consider the following items as most relevant to Palo Alto's interests:

1. Downtown Area Plan, including the Transit Center
2. Fair-Share Implementation of Area Plan
3. Fair-Share Grade Separation at Charleston
4. Contribution to the City's Affordable Housing Fund
5. Long Term Preservation of the Foothills
6. Upstream Flood Water Detention

Additional Items

- On Campus Housing & Fair Share Contribution for Roadways Based on Impact
- County Collect Affordable Housing Funds (w/in 6-mile radius)
- Fair-Share Annual Maintenance Costs for Neighborhood Parks
- Palo Alto Shuttle Support
- Bicycle / Pedestrian Connections Between Stanford and Bol Park

Next Steps

- DA Negotiations underway
- March / April 2019 County Planning Commission Review
- May / June 2019 Board of Supervisors Review & Action
 - FEIR Certification
 - GUP Amendment
 - DA

Stanford General Use Permit Development Agreement 2018

City Council

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Crown Castle Cluster 2 Appeals Wireless Communication Facilities (17PLN-00433)

City Council

February 4, 2019

Overview WCF Decisions and Timeline

Director's Decisions Crown Castle Cluster 2 (University South) 7 WCF nodes

- Director conditionally approved five small cell WCF nodes with a modified design on replacement streetlights:
 - Node 25, CPAU Streetlight #23 (near 275 Forest Av);
 - Node 27, CPAU Streetlight # 82 (near 248 Homer Av);
 - Node 29, CPAU Streetlight # 76 (near 385 Homer Av);
 - Node 30, CPAU Streetlight # 86 (near 845 Ramona St); and
 - Node 31, CPAU Streetlight # 16 (near 190 Channing Av).
- Director denied two WCF nodes:
 - Node 26, CPAU Streetlight # 32 (near 345 Forest Av)
 - Node 28m1 (new pole near 905 Waverley St, AKA 400 Channing Av).

Timeline:

- January 4, 2019 Director's Decisions
- January 17 & 18, 2019 Two (2) Appeals Received
- February 4, 2018 Council Hearing
- February 8, 2019 Expiration of Crown Castle/City Tolling Agreement

Applicable Federal & State Law

- Federal Telecommunications Act of 1996
 - Cannot prohibit the provision of wireless service
 - FCC has interpreted this to apply to enhancement of existing services (not just closing gaps in service)
 - Alternative designs must be both feasible and available.
 - Cannot *unreasonably* discriminate among similarly situated applications
 - Some differential treatment is permitted
 - Preempted from regulating radio frequency (RF) emissions or wireless technologies
- State Public Utilities Code 7901 and 7901.1
 - Utilities have a right to occupy the public right of way, but cities may regulate aesthetics to ensure facilities do not “incommode” the public
 - Local discretion may be further limited by pending Cal. Supreme Court case.

Processing Timeframe

- Shot Clock
 - Tier 3 Wireless Communication Facility Permit Applications have unique application processing timelines commonly referred to as the “Shot Clock,” which may be extended by mutual agreement.
 - For Crown Castle Cluster 2, a tolling agreement is in place and currently extends to February 8, 2019 for final action by the City.
 - Additional extensions must be by mutual agreement.
 - Under an FCC order that went into effect in January 2019, the shot clock for small cell applications will be only 60 days.

Proposed Locations – University South



Crown Castle seeks approval of seven nodes in the University South Neighborhood to expand the existing wireless network for Verizon

Existing Conditions

Node 25



Node 26



Node 27



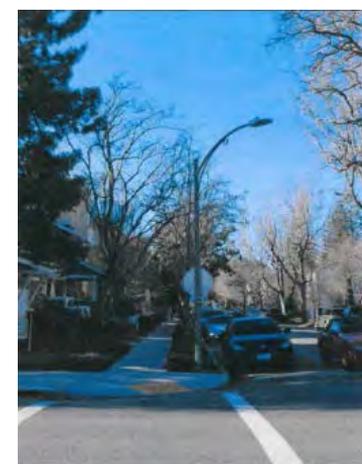
Node 28



Node 29



Node 31



Node 30

Applicant's Proposed Design (with faux mailboxes)

Node 25



Node 26



Node 27



Node 28



Node 29

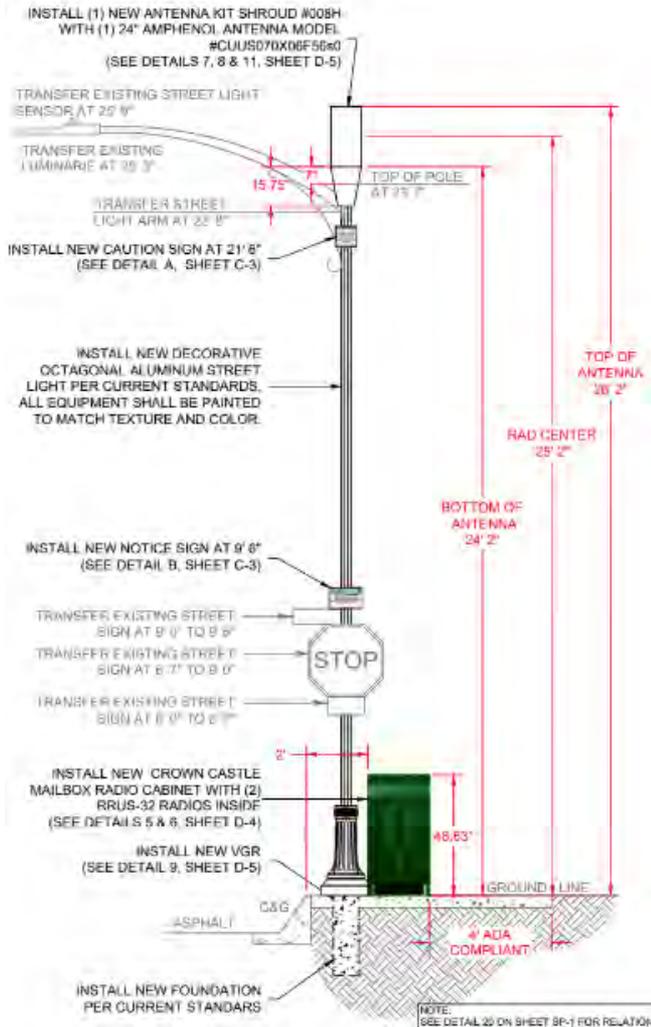


Node 31



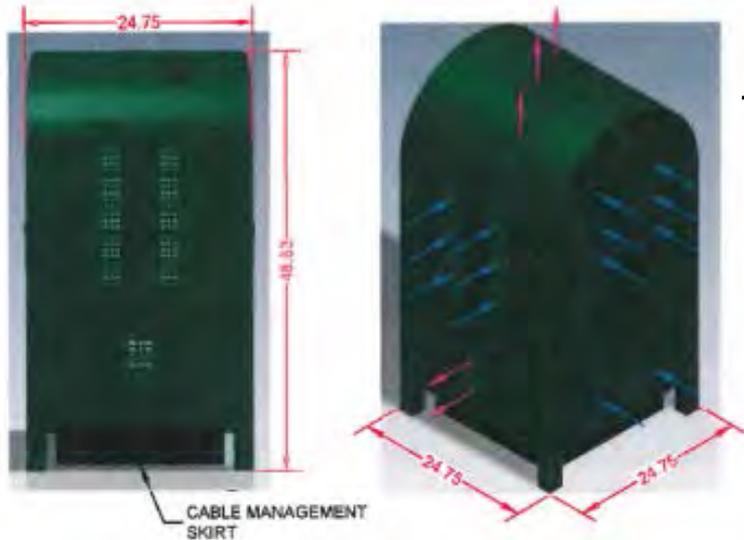
Node 30

Applicant's Proposed Design (with faux mailboxes)



- Seven decorative streetlight poles with light masts replacing six existing poles (where the 7th is proposed in a location where no such pole currently exists).
- Pole-top canister antenna and attachments
- Signage (two locations on pole)
- Conduit for power and fiber inside pole
- Faux mailbox near pole to enclose two RRU32 radios and other equipment (coaxial cables, coupling devices, fiber network housing, and a power disconnect switch)
- CTC report analyzed RFs and alternatives (Attachment G in CMR)

Proposed Design: Faux Mailbox to Store Equipment



Faux mailbox dimensions
24.75" x 24.75" x 48.63")

Damaged "mailbox"
(Florence St)
remains unrepaired
more than 6 months



Concerns:

- Lack of maintenance and hazards to passers-by when damaged
- Obstructs pedestrian flow in general and especially on narrow sidewalks
- Need clear pedestrian and vehicle sight lines needed at street intersection corners
 - Min. 3' horizontal clearance distance from corners
- Need min. horizontal clearance: ADA and 1.5' min. safety setback from curb lines (for bike lanes, red curb zones, on-street parking spaces, etc.)
- Oversized cabinets (relative to the volume of wireless equipment)
- Need clear access to residential front doors/courtyards and commercial front doors
- Aesthetics: Increase of clutter in the right of way and at ground level

Alternative Designs: Side-Mounted Equipment

**Crown Castle's Side-Mounted Designs
presented after and during December 6th ARB hearing**

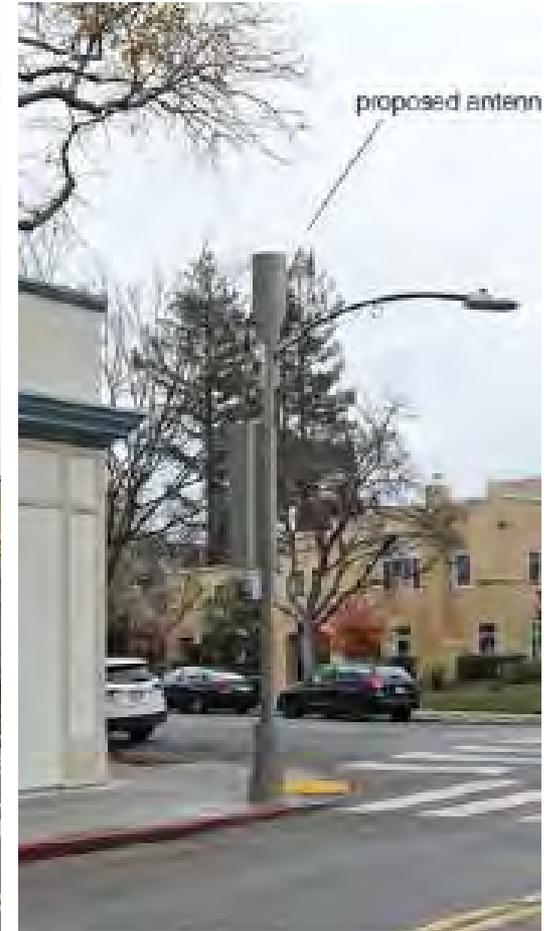
Existing Conditions



Proposed after ARB



Proposed to ARB



Alternative Designs: Pedestal-Mounted Equipment

Crown Castle's Pedestal-Mounted Design

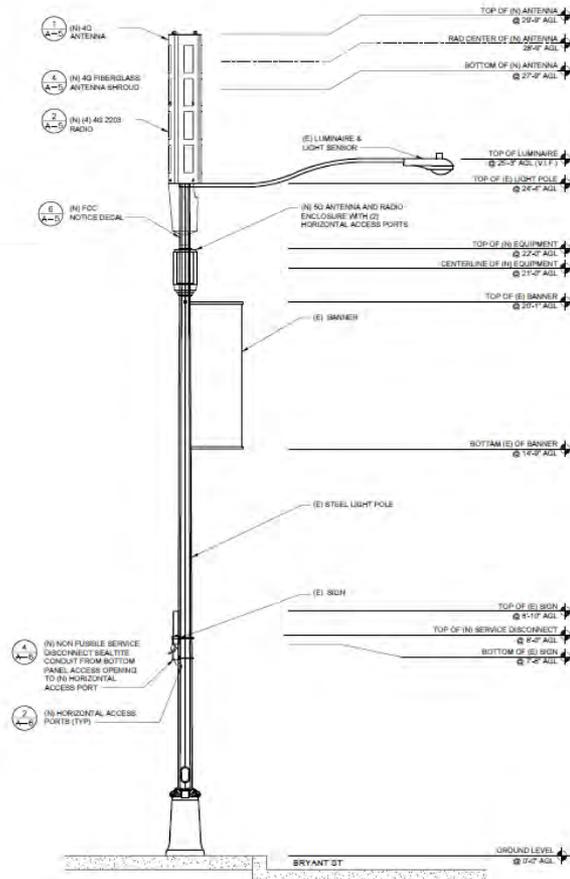
Existing Conditions

Proposed to ARB: Pedestal at base of streetlight



Alternative Designs: Top-Mounted Equipment

Top-Mounted Concept Shown in AT&T Preliminary Architectural Review Application 17PLN-00398 Elevation Excerpt Visual Simulation Excerpt



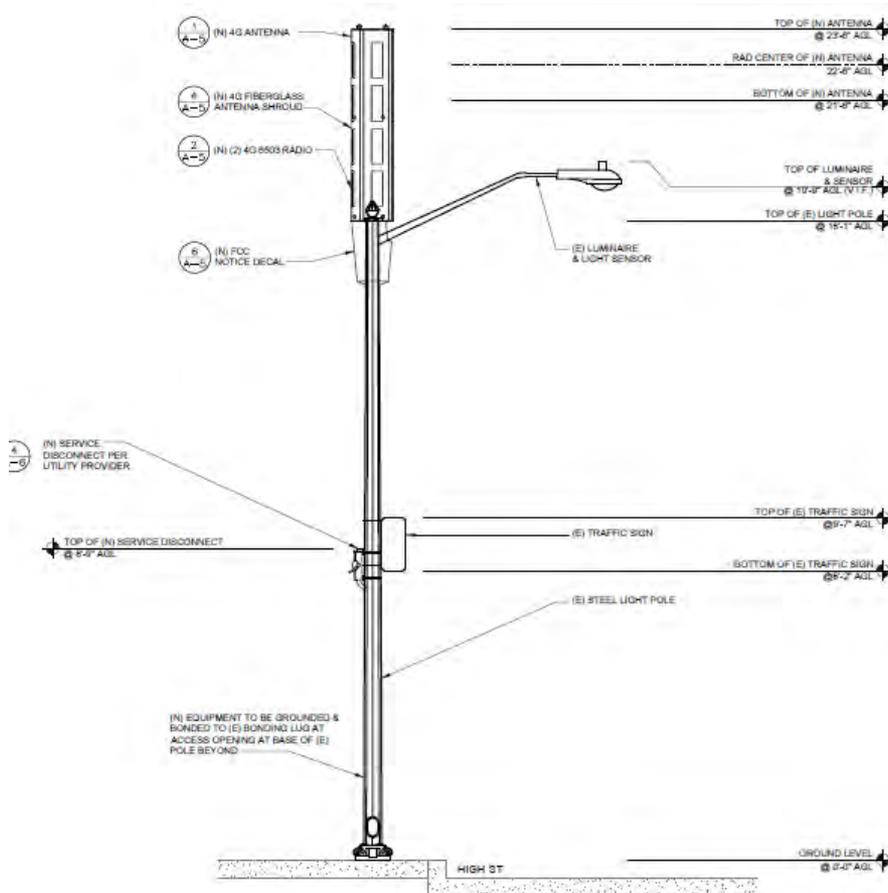
Alternative Designs: Top-Mounted Equipment

Top-Mounted Concept Shown in AT&T

Preliminary Architectural Review Application 17PLN-00398

Elevation Excerpt

Visual Simulation Excerpt



1/4/19 Conditional Approval: Top-Mounted Equipment

- Five small cell nodes with detailed approval conditions requiring a top-mounted design
- ARB recommended vaulting equipment/concealment within existing infrastructure
- Radios top-mounted within a shroud with approximately the same diameter as the proposed antenna
- Approval conditions differ significantly from the applicant's proposed faux mailbox design
- Applicant asserts approved design would require approximately twice as many node locations to provide coverage

1/4/19 Findings for Denial of Two WCF Nodes

Crown's proposed design and alternative pole-top design would be incompatible with the immediate surroundings at the two sites:

- Nodes 26 and 28m1: The faux mailbox would add visual and physical clutter to the sidewalk, regardless of placement
- Node 28m1: A pole top design would not resolve the concerns associated with the placement of new structures (pole structure) for private use in an underground utility district when streetlight poles anticipated by the Master License Agreement are in the area
- Node 26: A pole top design would interfere with views of a listed historic resource

Alternate Sites Available for Denied Nodes

Node 26 could likely be replaced by a combination of nodes at 650 Gilman St and either 303 Forest Ave or 360 Forest Ave.

303 Forest

650 Gilman

360 Forest

Alternate Sites Available for Denied Nodes

Node 28m1 has a viable alternative at 370 Channing Ave.

Review Process & Review Authority

- City may regulate safety (other than RF) and aesthetics by requiring:
 - Consistency with Comprehensive Plan, including:
 - Streetscape and Design of the Right of Way Goals and Policies
 - Bicycle and Pedestrian Transportation Plan
 - Urban Forest Master Plan
 - Design Guidelines
 - Noise Goals and Policies
 - Compliance with Municipal Code, including:
 - Six (6) Architectural Review Findings
 - Two (2) Conditional Use Permit Findings
 - Eleven (11) Wireless Communication Facilities Development Standards
- Two appeals of Director's decision
 - Appeal 19-AP-1, All Nodes, Crown Castle.
 - Appeal 19-AP-2, Five Conditionally Approved Nodes, United Neighbors.

Architectural Review Feedback

- December 6, 2018 Formal ARB Hearing (17PLN-00433):
 - Planning and Transportation noted design concerns.
 - Brief review of side-mounted and pedestal mounted designs shown in applicant presentation
 - 4:0:1 Motion to recommend approval of all seven nodes with the condition that all equipment and associated wiring shall be located underground or completely concealed within existing equipment infrastructure and that any visible above ground alternatives for the equipment would come back to ARB subcommittee.

Public Feedback

- Public Correspondence Uploaded to Project Website
 - <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=4120&TargetID=319>
- The City received a significant number of inquiries and public comments by telephone and email.
- The City received comments of support and opposition.
 - Supporters generally cited a desire for improved wireless coverage.
 - Opposed persons generally cited concerns regarding aesthetics, noise, consistency with the City's undergrounding district policies, radio frequency emissions/health and safety.

Vaulting requires significant space and excavation

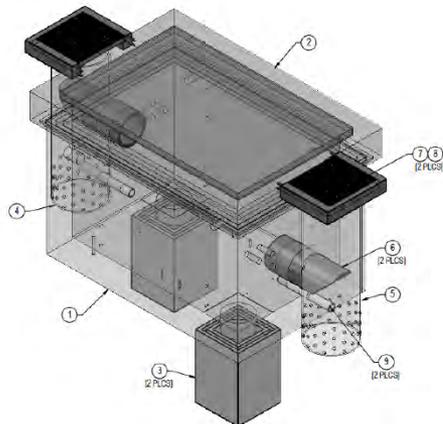
- Placement of Equipment in Underground Vaults



Vault Installed in Santa Cruz (Crown Castle)

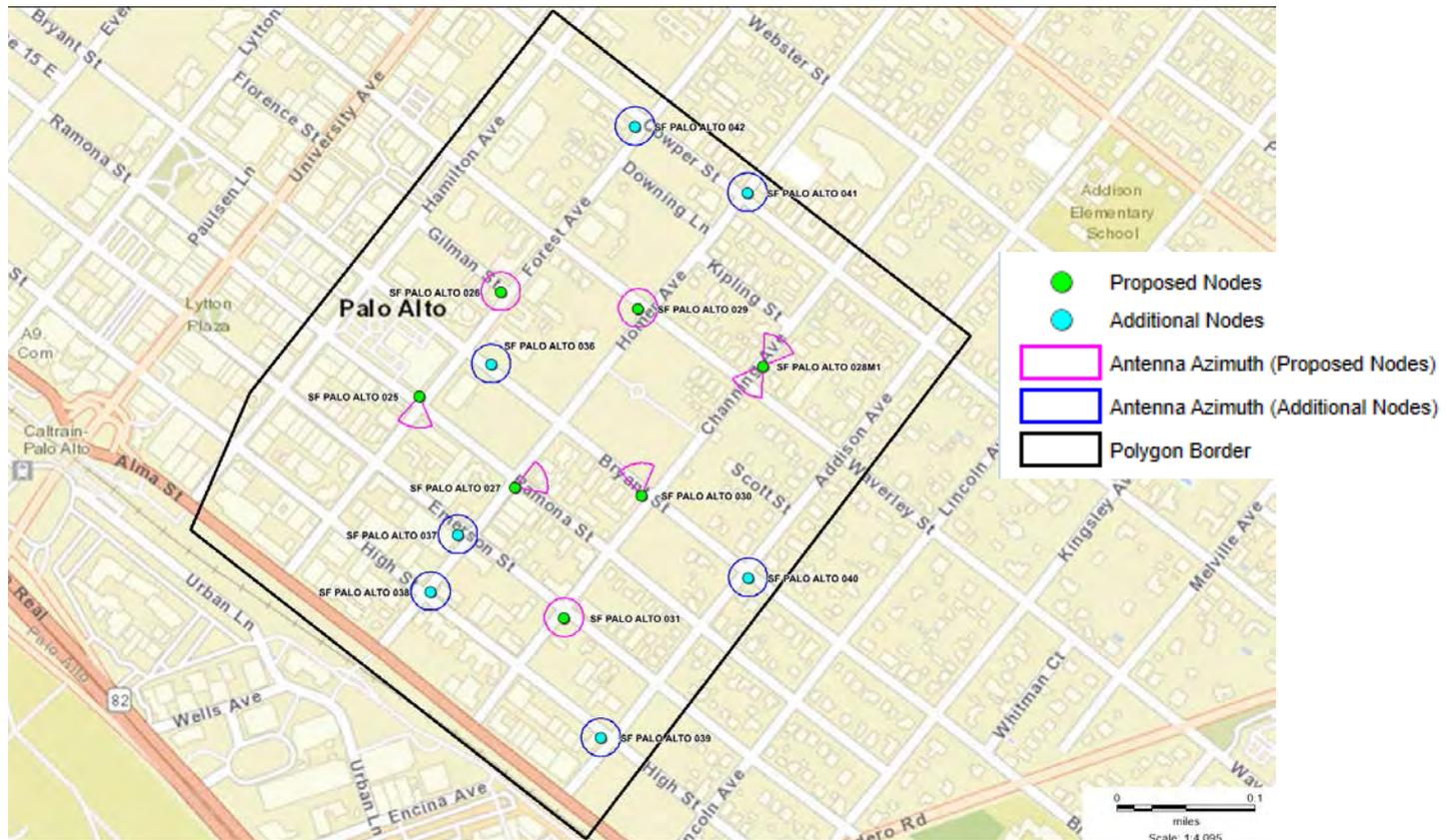


Vault Installed in Rancho Palos Verdes (AT&T)



Policy Consideration

Crown Castle asserts a pole-top configuration would result in approximately twice as many node locations to achieve the same amount of coverage; if Council affirms a top-mounted design, Crown is anticipated to submit applications for additional nodes



Policy Consideration

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Candidate Node 36



Candidate Node 37



Candidate Node 38



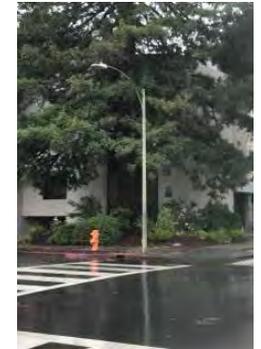
Candidate Node 39



Candidate Node 40



Candidate Node 41



Candidate Node 42

Policy Consideration

- Wireless Code Update: Partially in response to the FCC's order, staff's goals include creation of a "menu" of designs allowed a streamlined review process retaining Council appeal component (to relieve drain on City resources) a la Huntington Beach.
- City Council's Action on Appeal: May inform staff's development of design alternatives associated with a streamlined review.
- New Side-Mounted Design: In discussions of its Cluster 3, Crown Castle alerted the City to a design that would use the smaller number of nodes, but only require approximately 15"x13"x14" in a side-mounted box (rather than having an extra 3'-4' of height at the pole top).

Recommendation

Staff recommends that the City Council conduct a public hearing and take the following action:

Deny the appeals and uphold the Director of Planning and Community Environment's decisions to deny two nodes and conditionally approve five nodes based upon the findings and conditions of approval described in the Record of Land Use Action in Attachment A.



Crown Castle Cluster 2 Appeals Wireless Communication Facilities (17PLN-00433)

City Council

February 4, 2019



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January 31, 2019

VIA PERSONAL DELIVERY AND E-MAIL

Mayor Eric Filseth and Councilmembers of the
Palo Alto City Council
City Hall – Planning Division, Fifth Floor
250 Hamilton Avenue
Palo Alto, CA 94301
city.council@cityofpaloalto.org

Re: APPEAL of the Director of Planning and Community Environment decision on Seven Pending Applications for Wireless Communications Facilities Permits Pursuant to Palo Alto Municipal Code section 18.77.070(f) – Crown Castle Cluster 2 (17PLN-00433).

Dear Mayor Filseth,

This office represents Crown Castle NG West, LLC (“Crown Castle”) in the above-referenced matter related to seven pending applications for wireless communications facility permits (“Project”). This letter presents Crown Castle’s grounds for its appeal of the Director of Planning and Community Environment’s (“Director”) decision to conditionally approve five and deny two wireless communication facilities (“Nodes”) pursuant to Palo Alto Municipal Code (“PAMC”) section 18.77.070(f) (“Appeal”). This Appeal was timely filed pursuant to the written requirements prescribed by the Director, pursuant to PAMC section 18.77.070(f). A brief summary of the grounds for the appeal follows.

1. INTRODUCTION

A. The Project

The Project proposes to install seven small wireless communication facilities (“Node” or “Nodes”) on seven separate streetlights, each located entirely within the public right of way (“ROW”) of the City of Palo Alto (“City”). Together, the Nodes integrate with one another (and with pre-existing infrastructure) to provide critical telecommunications services within the City.¹

Each Node consists of a canister antenna and two remote 40 watt radio units (“RRUs”). RRUs convert light from fiber optic cables into radio frequencies (“RF”), which is then

¹ The Federal Communications Commission (“FCC”) has described development of 5G infrastructure as “critical.” See generally Accenture Strategy, Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities, (2017); attached to Letter from Scott Bergmann, Vice Pres. Reg. Affairs, CTIA to Marlene H, Dortch, Secretary, FCC, WT Docket No. 16-421 (filed Jan. 13, 2017).

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NEWPORT BEACH, CA 92660
T 949 854 7000
F 949 854 7099

3800 HOWARD HUGHES PKWY
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F 702 777 7599

broadcast from the antenna to provide signal to mobile users. As originally proposed, each Node's RRUs would either be housed in a ground-level cabinet designed to mimic the shape of a mailbox (or some other acceptable housing) or would be mounted to the side of the pole. The antenna would be mounted at the top of the streetlight, above the luminaire arm. Here is a photo simulation of one of the nodes proposed as part of the Project with an adjacent RRU "faux mailbox" cabinet and pole-top antenna:



The Nodes would be located at the following locations:

List of Proposed Node Sites		
Node Number	Streetlight Number	Adjacent Address
Conditionally Approved Permit Applications		
Node 25	CPAU Streetlight 23	275 Forest Avenue
Node 27	CPAU Streetlight 82	248 Homer Avenue
Node 29	CPAU Streetlight 76	385 Homer Avenue
Node 30	CPAU Streetlight 86	845 Ramona Street
Node 31	CPAU Streetlight 16	190 Channing Avenue
Denied Permit Applications		
Node 26	CPAU Streetlight 32	345 Forest Avenue
Node 28m1	New Pole Structure	905 Waverley Street

Photo-simulations for each Node are included as **Exhibit A**. Construction drawings for each Node are included as **Exhibit B**.

B. Critical Telecommunication Services for the 21st Century

It is often incorrectly assumed that Crown Castle’s networks are intended only to enhance specialized data needs, such as video streaming and online gaming. The Project actually provides essential infrastructure to support critical voice telecommunications and broadband services to residents, visitors, and other mobile users in the City. Networks like Crown Castle’s are replacing traditional wireline telephone service and *soon may constitute the only form of telephonic infrastructure*.² Without a reliable wireless telecommunications network, the City could be left without adequate telephone service -- including 911 service. The Project is critical for the following reasons, among others:

² See, e.g., Robert Channick, *Illinois OKs End of Landlines*, Chicago Tribune (Jul. 5 2017). <<https://www.chicagotribune.com/business/ct-att-landline-end-illinois-0706-biz-20170705-story.html>. (as of Jan. 8, 2019).

- (a) The world is going wireless. In a recent international study, the United States dropped to fifteenth in the world in wireless broadband penetration, well behind South Korea, Japan, the Netherlands, and France.³
- (b) Over 50 percent of all homes in the U.S. are now wireless only.⁴ That trend will continue until the entire nation conducts its telecommunications exclusively through wireless networks.
- (c) An increasing number of civic leaders and emergency response personnel cite a lack of robust wireless networks as a growing public safety risk. The number of 911 calls placed by people using wireless phones has significantly increased in recent years. It is estimated that more than 70 percent of 911 calls are placed from wireless phones and that percentage is growing.⁵
- (d) Data demand from new smartphones and tablets is leading to a critical deficit in spectrum, requiring more wireless antennas and infrastructure. Global mobile data traffic is expected to reach a seven-fold increase by 2021.⁶

2. APPLICABLE LEGAL STANDARDS FOR APPROVAL

Infrastructure development, like the Project, is essential to establishing a seamless national and statewide telecommunications network. Accordingly, the Project arises under a unique confluence of federal, state, and local law. Given the national and state-level interests at work, both federal and state regimes restrict local land use authority to promote the rapid development of advanced telecommunication networks.

A. Federal Law

(1) The Telecommunications Act of 1996

The City Council of the City of Palo Alto (“City Council”) deliberations on the Project are governed by the federal Telecommunications Act of 1996, Pub. L. No. 104, 110 Stat. 56 (codified as amend in scattered sections of U.S.C., Tabs 15, 18, 47) (“Telecom Act”). In enacting the Telecom Act, Congress expressed its intent “to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.” (Telecom Act, Pub. L. 104 (Feb. 8, 1996) 110 Stat. 56.)

³ Organization for Economic Co-operation and Development (OECD) Directorate for Science, Technology, and Industry, *Broadband Statistics* (June 2010) <www.oecd.org/sti/ict/broadband> (as of Jan. 8, 2019).

⁴ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, *Wireless Substitution: Early Releases of Estimates from the National Health Interview Survey, July-December 2016* (2017) <<https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201705.pdf>> (as of Jan. 8, 2019).

⁵ Federal Communications Commission, *911 Wireless Service* (2018) <<http://www.fcc.gov/guides/wireless-911-services>> (as of Jan. 8, 2019).

⁶ Cisco, *Cisco Visual Networking Index, Forecast and Trends 2017-2022* (Nov. 18 2018) <<https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-741490.html>> (as of Jan. 8, 2019).

As one court noted:

Congress enacted the TCA to promote competition and higher quality in telecommunications services and to encourage the rapid deployment of new telecommunications technologies. Congress intended to promote a national cellular network and to secure lower prices and better service for consumers by opening all telecommunications markets to competition.

(*T-Mobile Central, LLC v. Unified Government of Wyandotte* (D. Kan. 2007) 528 F.Supp. 2d 1128, 1146-47.) One way in which the Telecom Act accomplishes those goals is by reducing impediments imposed by local governments upon the installation of wireless communications facilities, such as antenna facilities. (47 U.S.C. § 332(c)(7)(A) [“Section 332” or “§ 332”].) Section 332(c)(7)(B) limits the general authority reserved to state and local governments. These limitations include:

- (a) State and local governments may not unreasonably discriminate among providers of functionally equivalent services. (§ 332 (c)(7)(B)(i)(I).)
- (b) State and local governments may not regulate the placement, construction or modification of wireless service facilities in a manner that prohibits, or has the effect of prohibiting, the provision of personal wireless services (better known as the “effective prohibition clause”). (§ 332 (c)(7)(B)(i)(II).)
- (c) State and local governments must act on requests for authorization to construct or modify wireless service facilities within a reasonable period of time. (§ 332 (c)(7)(B)(ii).)
- (d) Any decision by a state or local government to deny a request for construction or modification of personal wireless service facilities must be in writing and supported by substantial evidence contained in a written record. (§ 332 (c)(7)(B)(iii).)
- (e) No state or local government or instrumentality thereof may regulate the placement, construction or modification of personal wireless service facilities on the basis of the perceived environmental effects of radio frequency emissions to the extent that such facilities comply with FCC regulations concerning such emissions. (§ 332 (c)(7)(B)(iv).)

Additionally, 47 U.S.C. § 253(a) (“Section 253”) states: “No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.” Section 253(a) preempts local ordinances and regulations that prohibit or have the effect of prohibiting the provision of wireless telecommunications services. (*Sprint Telephony PCS, L.P. v. County of San Diego* (9th Cir. 2008) 543 F.3d 571, 578.)

Implementing regulations and policies to the Telecom Act also guide local governmental actions, including the following.

(2) The Shot Clock Rule

In 2009, the Federal Communications Commission (“FCC”) issued the “Shot Clock Order” to provide a specific timeline for what constitutes a “reasonable period of time” to act on a wireless telecommunications permit application under section 332(c)(7)(B)(ii) of the Telecom Act. (Petition for Declaratory Ruling (“Shot Clock Rule”), 24 F.C.C. Rcd. 13994 (2009) (“Shot Clock Rule”.) It did so in light of significant delays caused by local governments in issuing permits for telecommunications facilities:

Personal wireless service providers have often faced lengthy and unreasonable delays in the consideration of their facility siting applications, and [] the persistence of such delays is impeding the deployment of advanced and emergency services.

(*Id.* at 14004-05; see also *id.* at 14006 [“[t]his record evidence demonstrates that unreasonable delays in the personal wireless service facility siting applications process have obstructed the provision of wireless services.”].)

Under the Shot Clock Rule, a municipality’s failure to allow the construction of a new wireless service facility within 150 days of submission of the application (or 90 days for a collocation site) was presumptively unreasonable and constituted a “failure to act” triggering the right to seek judicial relief (“Shot Clock”). In its most recent Shot Clock order, the FCC refined the previous Shot Clock rulings and *shortened* the Shot Clock time frame: (1) from 150 days to 90 days for new facilities, and (2) from 90 to 60 days for collocations. (FCC’s September 2018 Declaratory Ruling and Third Report and Order in the matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment (2018), FCC 18-133 (“September 2018 Order”).)⁷ The FCC also altered the remedy for violating the Shot Clock. Failure to act within the Shot Clock timeframe now amounts to a presumptive prohibition of service in violation of the Telecom Act. The FCC’s recent ruling underscores the critical impacts of delay on the nation’s telecommunications infrastructure.

(3) White House Broadband Initiative

On February 10, 2011, the White House called for a National Wireless Initiative (“Initiative”) to make available high-speed wireless services to at least 98 percent of Americans. The Initiative would free up spectrum through incentive auctions, spurring innovation, and create a nationwide, interoperable wireless network for public safety with a fiscal goal of catalyzing private investment and innovation and reducing the deficit by \$9.6 billion, “help the United States win the future” and successfully compete in the 21st century economy.⁸

⁷ The September 2018 Order is comprised of two parts: (1) a declaratory ruling on the appropriate interpretation of Section 253 and Section 332(c)(7); and (2) a third report and order. The declaratory ruling portion is the definitive interpretation of the statutory requirements, applying to all pending permit applications, while the third report and order promulgates new regulatory requirements that take effect on January 14, 2019.

⁸ Remarks by the President on the National Wireless Initiative in Marquette Michigan (Feb. 10, 2011) <<https://obamawhitehouse.archives.gov/the-press-office/2011/02/10/remarks-president-national-wireless-initiative-marquette-michigan>> (as of Jan. 8, 2019).

(4) Section 6409

On February 17, 2012, Congress passed the “Middle Class Tax Relief and Job Creation Act of 2012” (“TRA”). TRA section 6409 (“Section 6409”) is part of a series of provisions commonly referred to as the “Spectrum Act.” Section 6409 allows for ministerial approval of collocated wireless facilities, which is intended to facilitate rapid development of wireless infrastructure on a national basis. (47 U.S.C. § 1455.) Section 6409, codified as 47 U.S.C. § 1455, mandates administrative -- not discretionary -- approvals of “modifications” to wireless telecommunications facilities:

[A] State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.

(*Id.*)

B. State Law

In addition to the federal statutes, regulations, and policies, state law also controls the City Council’s deliberation on the Project. Public Utilities Code sections 7901, 7901.1, and Government Code Section 65964.1 are the most pertinent and applicable California statutes.

(1) Public Utilities Code Sections 7901 and 7901.1

Under state law, Crown Castle is a “competitive local exchange carrier” (“CLEC”). CLECs qualify as a “public utility” and therefore have a special status under state law. By virtue of the California Public Utility Commission’s (“CPUC”) issuance of a “certificate of public convenience and necessity” (“CPCN”), CLECs have authority under state law to “erect poles, posts, piers, or abutments” in the ROW subject only to local municipal control over the “time, place and manner” of access to the ROW. (Pub. Util. Code, §§ 1001, 7901; 7901.1; see *Williams Communication v. City of Riverside* (2003) 114 Cal.App.4th 642, 648 [upon obtaining a CPCN, a telephone corporation has “the right to use the public highways to install [its] facilities.”].)

The CPUC issued a CPCN authorizing Crown Castle to construct the Project pursuant to its regulatory status under state law. Crown Castle’s special regulatory status as a CLEC gives rise to a vested right under Public Utilities Code section 7901 to use the ROW in the City to “construct ... telephone lines along and upon any public road or highway, along or across any of the waters or lands within this State” and to “erect poles, posts, piers, or abutments for supporting the insulators, wires, and other necessary fixtures of their lines, in such manner and at such points as not to incommode the public use of the road or highway[.]” (Pub. Util. Code, § 7901.) The nature of the vested right was described by one court as follows:

... “[I]t has been uniformly held that [section 7901] is a continuing offer extended to telephone and telegraph companies to use the highways, which offer when accepted by the construction and maintenance of lines constitutes a binding contract based on adequate consideration, and that the vested right established thereby cannot be impaired by subsequent acts of the Legislature.

[Citations.]” ... Thus, telephone companies have the right to use the public highways to install their facilities.

(*Williams Communications v. City of Riverside, supra*, 114 Cal.App.4th at p. 648 [quoting *County of L.A. v. Southern Cal. Tel. Co.* (1948) 32 Cal.2d 378, 384].)

Given the vested nature of the section 7901 right, Crown Castle contends that a discretionary use permit, like those at issue here, constitutes an unlawful precondition for a CLEC’s entry into the ROW. (See, e.g., Michael W. Shonafelt, *Whose Streets? California Public Utilities Code Section 7901 in the Wireless Age* (2013) 35 Hastings. Comm. & Ent. L.J 371.)

Public Utility Code section 7901.1 -- a sister statute to section 7901 -- grants local municipalities the limited “right to exercise reasonable control as to the time, place, and manner in which roads, highways, and waterways are accessed[.]” Nevertheless, such controls cannot have the effect of foreclosing use of the ROW or otherwise prevent the company from exercising its right under state law to “erect poles” in the ROW. That is because “the construction and maintenance of telephone lines in the streets and other public places within the City is today a matter of state concern and not a municipal affair.” (*Williams Communication v. City of Riverside, supra*, 114 Cal.App.4th at p. 653.) Moreover, section 7901.1 specifies that such controls, “to be reasonable, shall, at a minimum, be applied to all entities in an equivalent manner.” (*Ibid.*) Accordingly, to the extent that other public utilities are authorized to use the ROW in the City without having to obtain a discretionary land use permit, such disparate treatment runs afoul of the “equivalent manner” provision of Public Utilities Code section 7901.1.

On the basis of Crown Castle’s status as a CLEC, and its concomitant rights to the ROW, the Project is designed as part of an ROW telecommunications system. With respect to the siting and configuration of the Project, the rights afforded under Public Utilities Code section 7901 and 7901.1 apply. Crown Castle reserves its rights under section 7901 and 7901.1, including, but not limited to, its right to challenge any approval process, that impedes or infringes on Crown Castle’s rights as a CLEC.

(2) Government Code Section 65964.1.

By enacting AB 57, codified as Government Code section 65964.1, the California Legislature echoed the courts’ oft-repeated declaration that “the construction and maintenance of telephone lines in the streets and other public places within the City is today a matter of state concern and not a municipal affair.” (*Williams Communication v. City of Riverside, supra*, 114 Cal.App.4th at p. 653.) Under section 65964.1, if a local government fails to act on an application for a permit to construct a wireless telecommunications facility within the prescribed Shot Clock timeframes the application is deemed approved by operation of law. When it enacted section 65964.1, the Legislature observed that:

The Legislature finds and declares that a wireless telecommunications facility has a significant economic impact in California and is not a municipal affair as that term is used in

Section 5 of Article XI of the California Constitution, but is a matter of statewide concern.

(Gov. Code, § 65964.1, subd. (c).)

3. THE DIRECTOR'S DECISION RESULTS IN A VIOLATION OF THE TELECOM ACT'S PROHIBITION OF SERVICE PROVISION.

As noted above, section 332(c)(7)(B)(i)(II) of the federal Telecom Act bars local governmental decisions from precluding the provision of wireless services:

The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof—

(II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

(47 U.S.C. § 332(c)(7)(B)(i)(II).) In its September 2018 Order, the FCC reaffirmed the definitive interpretation of the effective prohibition standard, stating: “a state or local legal requirement constitutes an effective prohibition if it “materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.” (September 2018 Order, at ¶¶ 34, pg. 14.) Thus, the FCC resolved the conflicting interpretations and standards issued by the First, Second, Third, Fourth, Seventh, and Ninth Circuit Courts of Appeals.⁹ (*Ibid.*) Accordingly, the two-step prohibition of service analysis developed by the Ninth Circuit in *T-Mobile U.S.A. Inc. v. City of Anacortes* (9th Cir. 2009) 572 F.3d 987, does not control. And local review of issues such as “significant gap” and “least intrusive means” are no longer deemed relevant to an analysis of whether a prohibition of service has occurred.¹⁰

⁹ Consistent with the FCC’s broad mandate, courts have consistently recognized the FCC’s authority to interpret Sections 253 and 332 to “further elucidate what types of state and local legal requirements run afoul of the statutory parameters Congress established.” (September 2018 Order ¶ 21; see also *City of Arlington* (5th Cir. 2012) 668 F.3d 229, 253-541, *Spring Telephony PCS, L.P. v. County of San Diego* (9th Cir. 2008) 54 F.3d 571, 578, *RT Communications, Inc. v. FCC* (10th Cir. 2000) 201 F.3d 1264, 1268.) The United States Supreme Court has recognized that definitive FCC interpretations are particularly appropriate when the statutory language is ambiguous or when the subject matter is technical, complex, and dynamic. (*Nat’l Cable & Telecomm. Ass’n v. Gulf Power Co.* (2002) 534 U.S. 327, 328, *FDA v. Brown & Williamson Tobacco Corp.* (2000) 529 U.S. 120 [recognizing “agency’s greater familiarity with the ever-changing facts and circumstances surrounding the subjects regulated”]; see also, e.g., *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.* (2005) 545 U.S. 967, 983-986 [FCC’s interpretation of an ambiguous statutory provision overrides earlier court decisions interpreting the same provision].) According, the FCC’s interpretation of Sections 235 and 332 control.

¹⁰ The FCC mused that “[d]ecisions that have applied solely a “coverage gap” based approach under Section 332(c)(7)(B)(i)(II) reflect both an unduly narrow reading of the statute and an outdated view of the marketplace.” (September 2018 Order ¶ 40.)

The FCC’s definitive standard “applies with equal measure to the effective prohibition standard that appears in both Sections 253(a) and 332(c)(7).” (September 2018 Order, at ¶¶ 34, pg. 14.) The FCC further clarified:

[A] state or local legal requirement will have the effect of prohibiting wireless telecommunications services if it materially inhibits the provision of such services. We clarify that an effective prohibition occurs where a state or local legal requirement materially inhibits a provider’s ability to engage in any of a variety of activities related to its provision of a covered service. ***This test is met not only when filling a coverage gap but also when densifying a wireless network, introducing new services or otherwise improving service capabilities.*** Under the [] standard, a state or local legal requirement could materially inhibit service in numerous ways—not only by rendering a service provider unable to provide an existing service in a new geographic area or by restricting the entry of a new provider in providing service in a particular area, but also by materially inhibiting the introduction of new services or the improvement of existing services. ***Thus, an effective prohibition includes materially inhibiting additional services or improving existing services.***

(September 2018 Order ¶ 37, emphasis added and footnotes omitted.)

A. The Director’s Decision Results in a Prohibition of Service Under Section 332(c)(7) of the Telecom Act.

The Director’s decision relied on staff findings which utilized the aesthetic requirements within PAMC section 18.42.110(i)(1) through (11). This resulted in the conditional approval of five Nodes (Nodes 25, 27, 29, 30, and 31) (“Approved Nodes”) and the denial of two Nodes (Node 26 and 28m1) (“Denied Nodes”) for aesthetic reasons.

Although the FCC recognizes the validity of municipal aesthetic requirements, they must be (1) technically feasible; (2) nondiscriminatory; and (3) objective and published in advance. (September 2018 Order, at ¶¶ 87, pg. 5.) Since the FCC has been delegated the broadest possible authority under the Telecom Act, to the extent that local aesthetic requirements conflict with the FCC’s definitive interpretations, the FCC’s mandate controls and the local aesthetic standards are subject to preemption. (*Ibid.*)

As applied, the City’s aesthetic requirements have the practical effect of purporting to authorize the City to regulate Crown Castle’s technology. Accordingly, the City’s aesthetic criteria can serve as a Trojan horse for the regulation of Crown Castle’s technology. Such regulation is prohibited under FCC preemption principles. (See, e.g., *Freeman v. Burlington Broadcasters, Inc.* (2nd Cir. 2000) 204 F.3d 311, 320 [it is “clear that congress intended the FCC to possess exclusive authority over technical matters related to radio broadcasting [citations] this authority is embedded in the FCC’s broad authority to develop a comprehensive national regulatory system governing telecommunications.”].) As one court observed:

A town plainly may not impose separate, stricter certification requirements for wireless technology than those set forth by the FCC. Federal law has preempted the field of technology authorization and station licensing, and there is no room for state and local authorities to regulate in these areas.

(New York SMSA Ltd. Partnership v. Town of Clarkstown (S.D.N.Y. 2009) 603 F.Supp.2d 715, 725 [“Pursuant to Congress’s explicit delegation, the FCC has used its rule-making power to regulate “technical requirements for use of the spectrum and equipment in the personal communications services.”].)

The Director’s conditional approval violates these principles because it requires Crown Castle to deploy a pole-top radio configuration, rather than housing the RRUs in a ground-mounted housing (e.g., a faux mailbox), in a base-pedestal or on the pole, as proposed. To satisfy this condition, Crown Castle would be forced to use a smaller radio (Ericsson 2203), which has a significantly lower power than proposed. As explained further below, with the smaller radio configuration required by the conditions of approval the Project would require a greater number of nodes -- nearly twice as many locations, for the same degree of coverage as with the originally proposed Project. The Director’s application of the City’s aesthetic requirements in this context is technically infeasible because it results in a significant degradation of the RF signal at each Node. Additionally, the Director’s decision materially limits Crown Castle’s efforts to densify its network by requiring another round of bureaucratic review for the additional nodes required to achieve its original RF service objectives. The Director’s decision appears to assume an unpredictable outcome, namely that Crown Castle can eventually deploy additional nodes to flesh out its network and achieve the RF service objectives that are the reason for this Project. It is not clear that viable vertical elements even exist at the locations where additional nodes would be required. Nor is it reasonable to force Crown Castle to piecemeal its project by requiring another round of applications, complete with application fees, consultant costs, significant delays, and uncertainty as to whether or how such additional nodes might be approved under the City’s discretionary permit review. The City’s approach materially limits Crown Castle’s efforts to deploy its network, and adversely affects residents, businesses and visitors of the City.

The Director’s action on all of the Nodes results in a prohibition of service in violation of 47 U.S.C § 332 (c)(7)(B)(i)(II). The Director’s actions “materially limit[] or inhibit[] the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment” in violation of section 332(c)(7). (September 2018 Order, at ¶¶ 35, p. 15.) To the extent the City’s own code provisions purport to support the Director’s decision, those code provisions are preempted by section 253 of the Telecom Act.

B. The Director’s Decision Results in a Prohibition of Service in the Face of Clear Evidence of a Significant Gap in Service.

The Director’s decision forecloses Crown Castle’s ability to achieve its service objectives in the City, in the face of clear evidence of a significant gap in service.¹¹ Data reveals that the Project area has insufficient signal strength to address current needs and statistical projections of data demand. Verizon, which will provide service from the Project, conducted a radio-frequency propagation study of the Project (See ARB Submittal for Major Project – Project Description 17 PLN-00433, pp. 3-4, attached as Exhibit A.) Exhibit A identifies service levels in terms of the following criteria.

Proposed LTE Coverage	
	In-Building (≥ -85 dBm)
	In-Car (≥ -95 dBm)
	Poor (< -95 dBm)

The key to coverage is having a signal level strong-enough to allow customers to maintain contact with the network so they can make and maintain calls. Signal level, the strength of the radio signal customers’ devices receive, is measured in negative decibels per milliwatt (“dBm”). The larger the negative dBm number, the weaker the coverage. For example, a signal strength of -100 dBm is weaker than a signal strength of -80 dBm.

A minimum signal level of -85 dBm (green) is the industry standard required for adequate in-building coverage. As noted, the courts have upheld the use of in-building minimum standards as a proper benchmark for determining whether a significant gap in coverage exists. (See, e.g., *Verizon Inc. v. City and County of San Francisco* (N.D. Cal. 2006) 2006 U.S. Dist. LEXIS 43985 [“careful reading of existing cases that contain a significant gap analysis persuades the court that any analysis should include consideration of a wireless carrier’s in-building coverage.”].) Generally, there is a direct correlation between the size of the Node and the strength of the service. In this case, Crown Castle is seeking to strike a balance between service penetration and Node size to achieve a minimum level of -85 dBm, which is sufficiently powerful to reach indoors users.

The Project is designed to densify, and in some areas fill actual gaps in coverage and/or capacity. If the Project is completed as proposed, the majority of the project area would have a minimum of -85 dBm at both the 1900 MHz and 2100 MHz bands. (See Exhibit A, pp. 3-4.) This level of service significantly decreases, as seen in **Exhibit C**, if the Project is completed using lower-powered RRUs, as required by the Director’s decision. Page 7 of Exhibit C reveals the level of coverage at -85 dBm (1900 MHz band) if the Project is implemented with its originally proposed 40 watt radios. If the Director’s decision is allowed to stand, the coverage provided by the Project will be diminished substantially. (See Exhibit C, p. 8.) The same

¹¹ As noted, the “significant gap” demonstration no longer is relevant under the September 2018 Order. We discuss it here for illustration of the extent of the impact to Crown Castle’s network.

outcome is depicted in the 2100 MHz band. (See Exhibit C, pp. 11-12.) Because of the diminishment of signal level the Project would require seven additional nodes, designated in blue on page 4 of Exhibit C. As noted above, Crown Castle would have to prepare an entirely new set of applications for those additional nodes, and it is not clear that they would even be approved. The Director's decision therefore has prohibited service, and has created significant delay and uncertainty, in violation of the Telecom Act.

Ultimately, the Project -- as proposed -- will provide sufficient signal strength to ensure not only adequate signal for mobile and outdoor users, but reliable in-building coverage for all those customers who may seek to abandon their home landlines. The Project also will add sufficient capacity to address new data demands from smartphones and tablets. Wireless customers must be able to count on a level of service commensurate with landlines. Such considerations are relevant -- if not critical -- to a determination of significant gap. (See e.g., *T-Mobile Central LLC v. City of Fraser* (E.D. Mich. 2009) 675 F.Supp.2d 721 [considering failure rate of 911 emergency calls].)

C. Crown Castle Exhausted Alternatives for the Denied Nodes. The City Offered No Technically Feasible Alternatives.

The location of each Node is driven by RF propagation needs. Each node must be located within the relatively small RF objective polygon (search ring) in order to achieve its propagation objective. The RF objective polygon is identified for each node in Exhibit C, page 3. The RF objective is labeled "Polygon Border" and outlined in black. Each node is locationally dependent on the other to relay signal from one node to the other and thereby create a viable network on a city-wide basis.

The antenna heights and location of the Project nodes were chosen to provide the minimum signal level needed to meet critical coverage and capacity needs in the service area. Despite the technical limitations of a low-profile, small-cell system, Crown Castle seeks to maximize the coverage of each node location, since maximization of the node performance equates to a lower overall number of facilities and, therefore, a less intrusive system. Accordingly, the Node locations were chosen to provide an effective relay of signal from adjacent sites, so that ubiquitous coverage of the minimum signal level is provided throughout the service area with the minimum number of facilities. The selected locations maximize the RF coverage of the Project and minimize interference/overlap with the other facilities, resulting in a lower overall number of facilities and a less intrusive system. The ROW is ideal for the Project from an aesthetic standpoint because the ROW is an area already impacted with utilities and similar features typical of developed roadways.

Even apart from the careful siting of the facilities that are part of a small cells or DAS system, the technological configuration of small cells and DAS nodes is inherently minimally intrusive by design. Small cells and DAS were developed as a smaller-scale solution to the larger macro-site or cell tower. It therefore represents a significant technological advance in the development of reduced-profile wireless transmission devices. The nodes are designed to be smaller scale and lower power to allow them to integrate more easily into their surroundings and thereby render them less aesthetically intrusive. While it is impossible to make the facilities

invisible, each facility has been designed to blend with existing features in the road to the extent feasible.

In addition to significantly degrading Crown Castle's RF objectives, the Director's decision also removes two nodes (Node 26 and Node 28m1) from the polygon. Even under the "least intrusive means" standard that existed prior to the September 2018 Order, Crown Castle demonstrated that it proposed the "least intrusive means" to fill the service gaps in the area. (See *T-Mobile U.S.A. Inc. v. City of Anacortes*, *supra*, 572 F.3d 987 [articulating the "significant gap" and "least intrusive means" tests for establishing a prohibition of service].) The proposed sites were determined after multiple site walks, multiple meetings with staff, community meetings and input received from the Architectural Review Board ("ARB") on September 21, 2017. (See **Exhibit F** [Crown Castle University South Small Cell Nodes (12-6-18)], p. 5.)

Only very late in the process did the Architectural Review Board and the Director, express concerns about the locations and equipment profile for the Nodes. At a December 12, 2018, conference call with the City staff and the Director, Crown Castle's engineers explained that the ARB's preference for smaller pole-top radios was infeasible and would preclude Crown Castle's ability to achieve the RF service objectives of the Project. Crown Castle attempted to address the concerns by locating alternative sites and equipment profiles. For the two Denied Nodes (Node 26 and Node 28m1), Crown Castle examined potentially feasible alternative locations to mitigate any perceived aesthetic impacts, including moving the faux mailbox across the street, to a less visually intrusive site. (See **Exhibit D** [Alternatives Analysis for Node 26]; **Exhibit E** [Alternatives Analysis for Node 28m1].) Crown Castle also presented a number of design alternatives to achieve a more aesthetically acceptable solution. (See **Exhibit F** [Crown Castle University South Small Cell Nodes (12-6-18)], pp. 7-37.) Among other things, Crown Castle presented options for ground-mounted equipment, pedestal radio housings at the base of the pole, and pole-mounted radios. (*Ibid.*) The Director rejected all of Crown Castle's potentially feasible alternatives and left Crown Castle with no feasible design or siting options.¹²

4. THE DIRECTOR'S DENIALS DO NOT REST ON SUBSTANTIAL EVIDENCE.

The Director's denials rest only on conclusions, none of which is supported by evidence, let alone substantial evidence. The Director's decision contain limited node-by-node factual analysis and otherwise contain no reasoning to which Crown Castle could adequately respond, because the aesthetic judgements on which they were based were inherently subjective. Moreover, the denials rest on impermissibly onerous aesthetic criteria which are preempted by section 253 of the Telecom Act; accordingly, they grounds for the denials cannot qualify as substantial evidence. (See also Pub. Resources Code, § 21080, subd. (e)(2) ["[s]ubstantial evidence is not argument, speculation, unsubstantiated opinion or narrative, [or] evidence that is clearly inaccurate or erroneous ..."]; *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515 [agency "must set forth findings to bridge the analytic gap between the raw evidence and ultimate decision or order."].) Ultimately, the Director's failure to

¹² All parties to this discussion appeared to reach consensus that undergrounding the proposed radios in the sidewalks of the City would result in significant construction impacts and would be infeasible from a constructability and technical perspective.

base the denial on substantial evidence violates 47 U.S.C. § 332(c)(7)(B)(iii). (47 U.S.C. § 332(c)(7)(B)(iii) [requiring state and local governments to have substantial evidence when denying requests to construct or modify wireless services facilities].)

5. THE DIRECTOR’S DENIAL SERVE AS A BARRIER TO MARKET ENTRY, IN VIOLATION OF CLEARLY ESTABLISHED FEDERAL LAW.

The Director’s denials discriminate against Crown Castle, in violation of the Telecom Act. The stringent aesthetic criteria imposed by the City stand in stark contrast to more permissible approval criteria enjoyed by other utility providers. For instance, we understand that the City has allowed Pacific Gas and Electric (PG&E) to operate transformers in the ROWs at issue while denying Crown Castle’s requests for installation of similar ROW equipment. By imposing prohibitory barriers, including discretionary conditional use permit requirements, on telephone providers, like Crown Castle, but not on other public utilities, the City violates Section 253(c) as regulations of the ROWs must be “competitively neutral and nondiscriminatory.” (47 U.S.C. § 253(c).)

Additionally, the Director’s decision approved five Nodes with the condition that they abandon the reasonable and technically feasible design of housing the 40 watt RRUs in a faux mailbox or similar disguised street furniture or installations on the pole. Notably, and as noted in the staff report, the City approved faux mailbox radio cabinets for a prior Crown Castle network in the City’s downtown. Even a casual review of the City’s streetscapes reveals many instances where the City has approved ground-mounted cabinetry for other public utilities. Just a few examples of such cabinets are to be found at the following locations in the City:

• 400 Webster Street	• 601 Hamilton Avenue
• 400 Cowper Street	• 201 University Avenue
• 675 Lytton Avenue	• 235 University Avenue
• 720 Lytton Avenue	• 399 University Avenue
• 501 Guinda Street	• 488 University Avenue
• 700 Hamilton Avenue	

By imposing prohibitory barriers on some public utilities but not others, the City’s actions violate Section 253(c). (*Id.*) Ultimately, the Director’s actions “materially limit[] or inhibit[] the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment” in violation of section 332(c)(7). (September 2018 Order, at ¶¶ 35, p. 15.)

6. THE DIRECTOR'S DENIALS VIOLATE CROWN CASTLE'S STATEWIDE FRANCHISE RIGHTS UNDER PUBLIC UTILITIES CODE SECTION 7901.

Crown Castle's special regulatory status as a CLEC gives rise to a vested right under Public Utilities Code section 7901 to use the ROWs in the City to "construct ... telephone lines along and upon any public road or highway, along or across any of the waters or lands within this State" and to "erect poles, posts, piers, or abutments for supporting the insulators, wires, and other necessary fixtures of their lines, in such manner and at such points as not to incommode the public use of the road or highway[.]" (Pub. Util. Code, § 7901; *Williams Communications v. City of Riverside* (2006) 114 Cal.App.4th 642, 648 quoting *County of L. A. v. Southern Cal. Tel. Co.* (1948) 32 Cal.2d 378, 384.)¹³ Given the vested nature of the section 7901 right, Crown Castle contends that a discretionary use permit -- like the conditional use permit required by the City in this case -- constitutes an unlawful precondition for a CLEC's entry into the ROWs. Moreover, the denials constitutes a definitive prohibition on the use of the City's ROWs in direct collision with Section 7901.

7. CONCLUSION.

Crown Castle respectfully requests that the City Council grant the Appeal, overturn the denials and the conditional approvals, and approve the Project as originally proposed. Crown Castle representatives will be on hand to answer any questions about the Project and this letter.

Very truly yours,



Michael W. Shonafelt

MWS

Enclosures

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¹³ Notwithstanding the submittal of the Applications to this discretionary process, Crown Castle reserves its rights under Public Utilities Code sections 7901 and 7901.1, including the right to proceed with construction of its networks without having to obtain a local franchise and/or discretionary grant of entry to the ROW.

EXHIBIT A



ARB Submittal for Major Project
PROJECT DESCRIPTION 17PLN-00433

RE: Crown Castle – Cluster 2 of 3 for 16 Small Cell Node Expansion Project in Downtown Palo Alto.

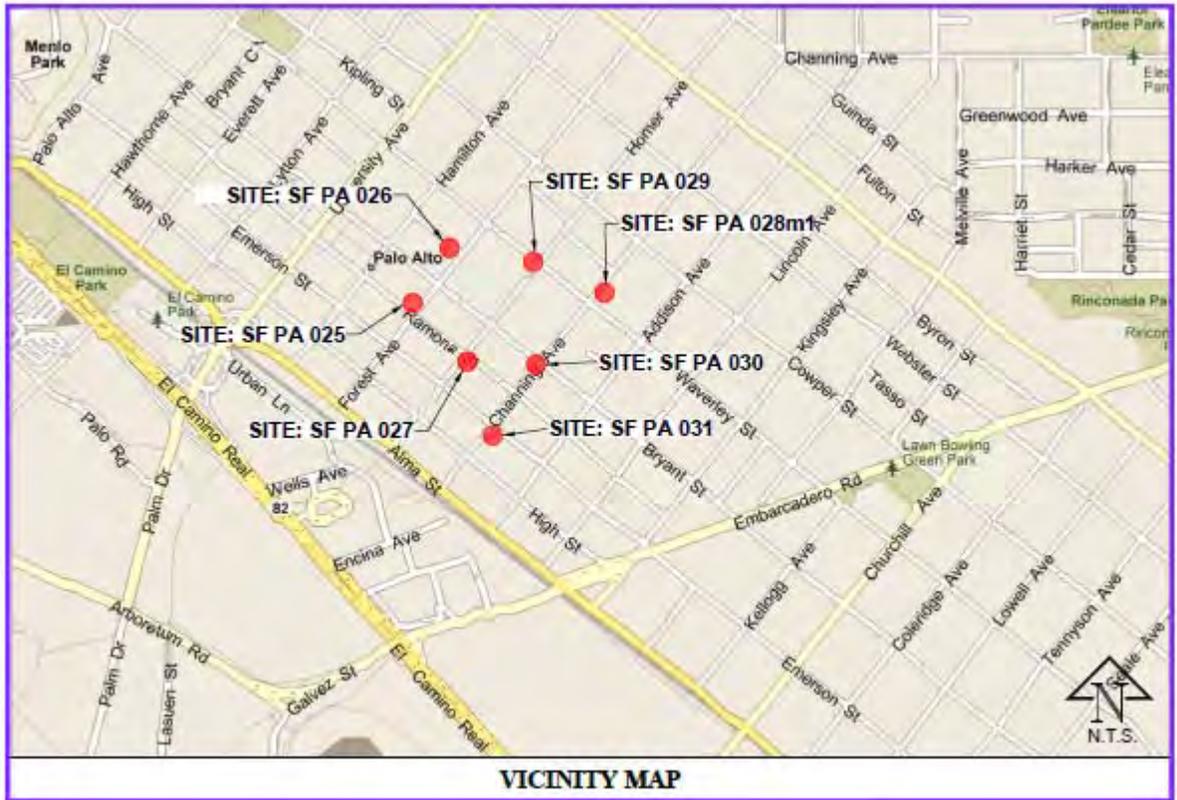
Cluster 2: Six (6) small cell nodes on new highly decorative replacement street lights at existing streetlight locations and one (1) proposed small cell node on a highly decorative streetlight at a location with accessory radio equipment within the University South Neighborhood.

Introduction

Crown Castle (formerly NextG Networks) is seeking approval of a Crown Castle node expansion project in the core area of Palo Alto. This project will utilize the similar designs as approved in the previous project in 2015 (15PLN-00140). As with the 2015 small cell project, the 2017 expansion project proposes sixteen (16) nodes overall to provide capacity coverage to the macro cell at 525 University Avenue. This application seeks approval for seven nodes within the University South Neighborhood. Crown Castle has a Master License Agreement with the City of Palo Alto that allows for use of city-controlled space on utility poles and streetlight poles and in conduits owned by CPAU. This Crown Castle project small cell project is designed to be installed in the public right of way on existing utility poles, including wood poles and streetlights. The small cell wireless sites provide capacity coverage to the larger cell site or cell tower in the area. Verizon Wireless is the carrier identified to be the tenant in these expansion nodes.

As stated above, this application requests approval for Cluster 2 consisting of seven (7) nodes of the 16 nodes in proposed expansion project. To summarize the overall expansion 16 node project, Verizon Wireless and Crown Castle Radio Frequency (RF) engineers have identified locations throughout the city that require service. Sixteen (16) installations are currently planned to be co-located on wood utility poles and metal streetlights. Six (6) of these small cells are proposed to be co-located on existing city street light poles (poles to be replaced with new highly decorative octaflute aluminum poles), one (1) on a new streetlight, and the remaining six (9) small cells are proposed to be installed on existing wood utility poles. These small cells will provide the City of Palo Alto much needed improvements in network capacity and coverage. Small cells are currently proposed in three (3) configurations that are dependent on the design opportunities and constraints of

specific pole locations within the City of Palo Alto. The seven (7) nodes in this application are distributed within the University South Neighborhood. Please see Vicinity Map.



Coverage Needs

The unprecedented current and future demand for wireless service requires the densification of existing cellular networks. More people are using a wireless connection for personal and professional needs, both in home and in transit. As a result, wireless communication facilities are diminishing in height and being located closer to the user to meet both daily needs as well as provide essential coverage for emergency personnel. The coverage map below demonstrates the current need. Intermittent dots indicates poor coverage and solid green indicates good coverage for capacity. Diagram 1 shows the area identified for the 16 nodes is predominately intermittent dots. On the following page, Diagram 2 shows the improvement in capacity is achieved where the green line is solid.

Diagram 1 - Current level of coverage for 1900 MHz:

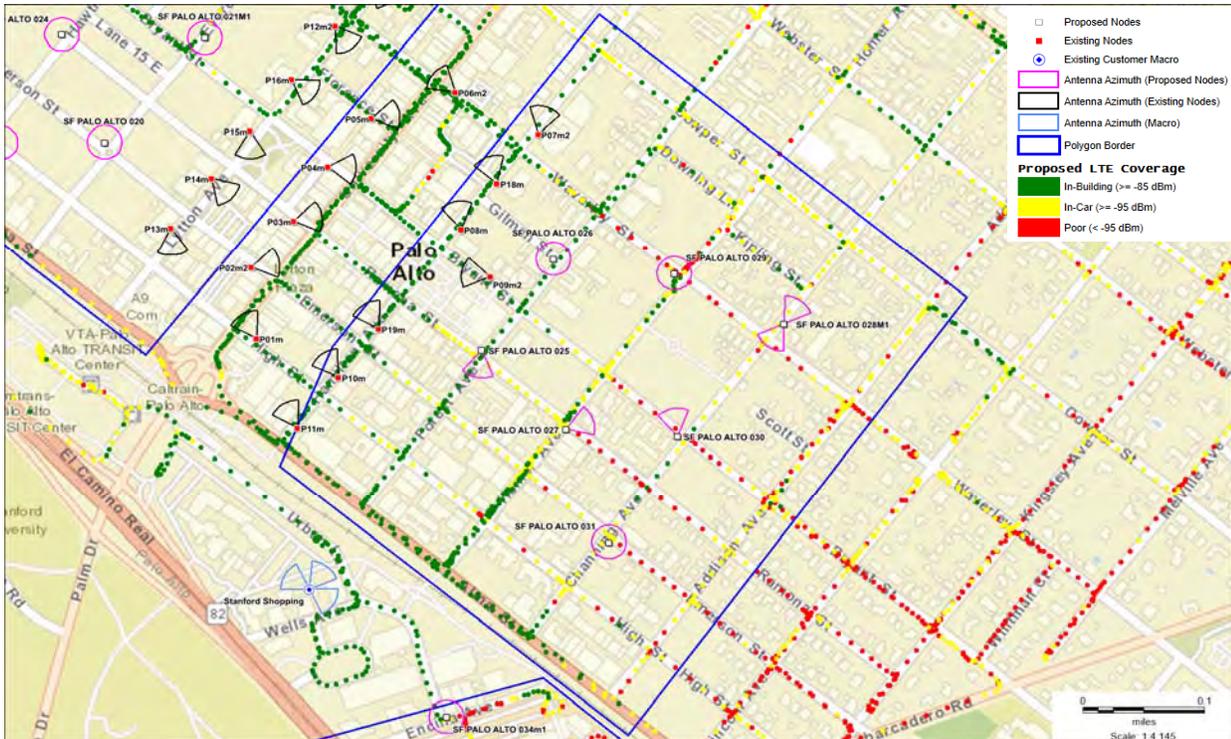


Diagram 2 - Proposed Improvement in coverage for 1900 MHz:

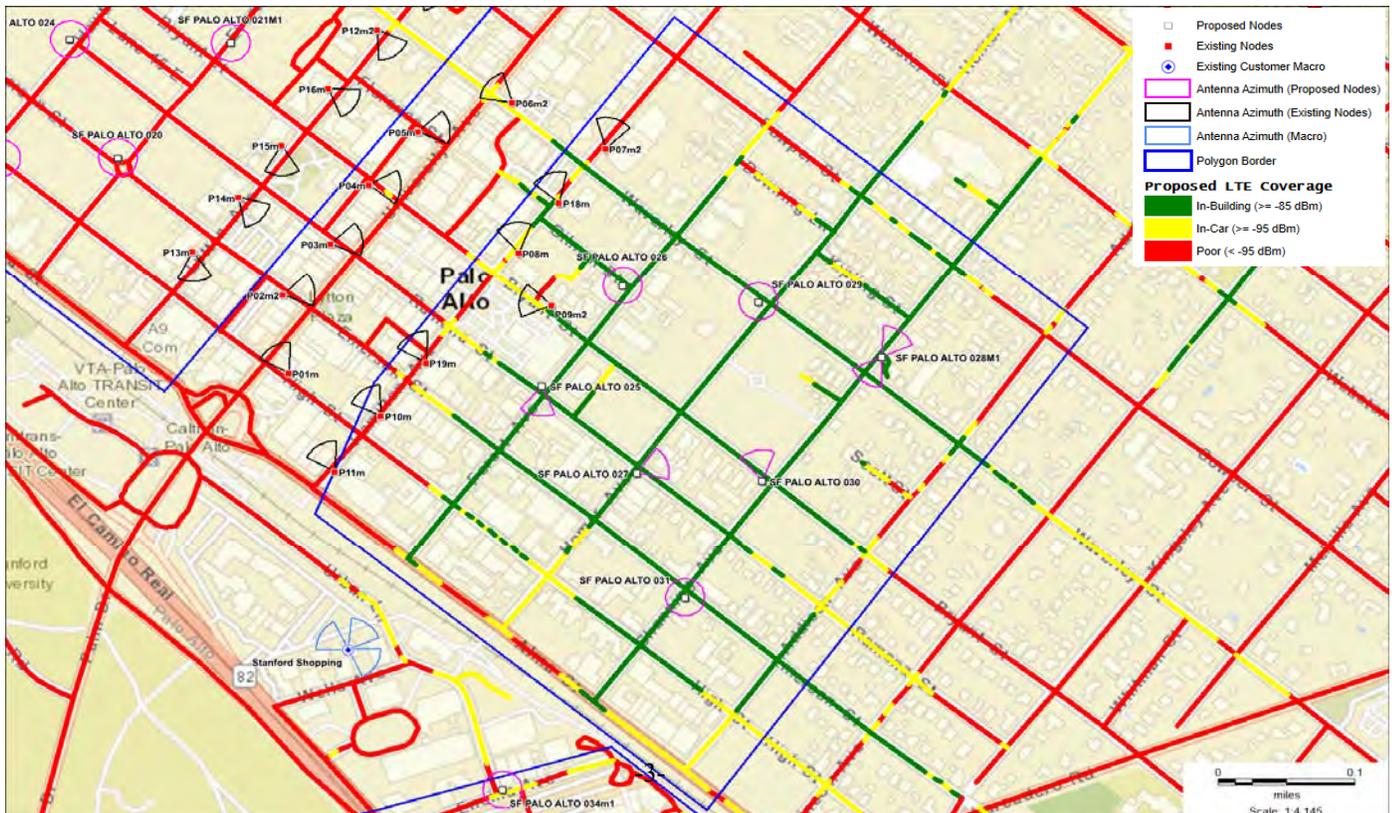


Diagram 3 - Current level of coverage for 2100 MHz:

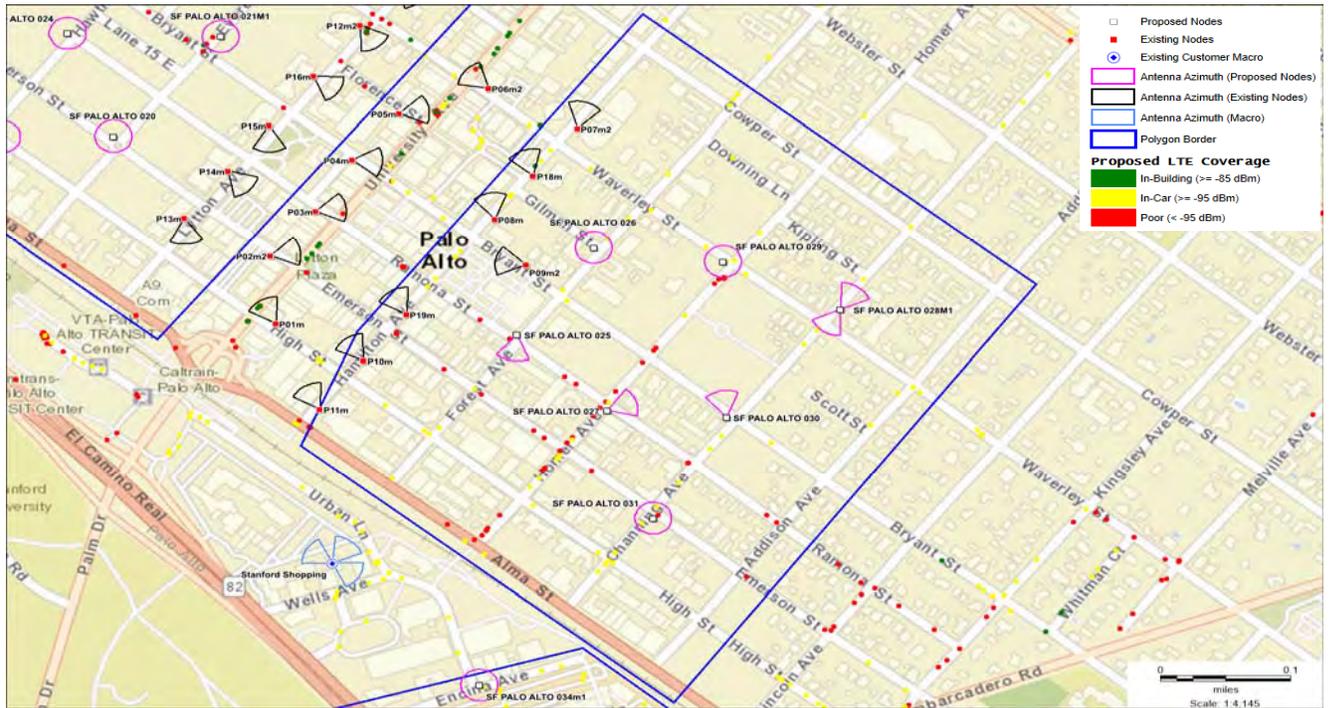
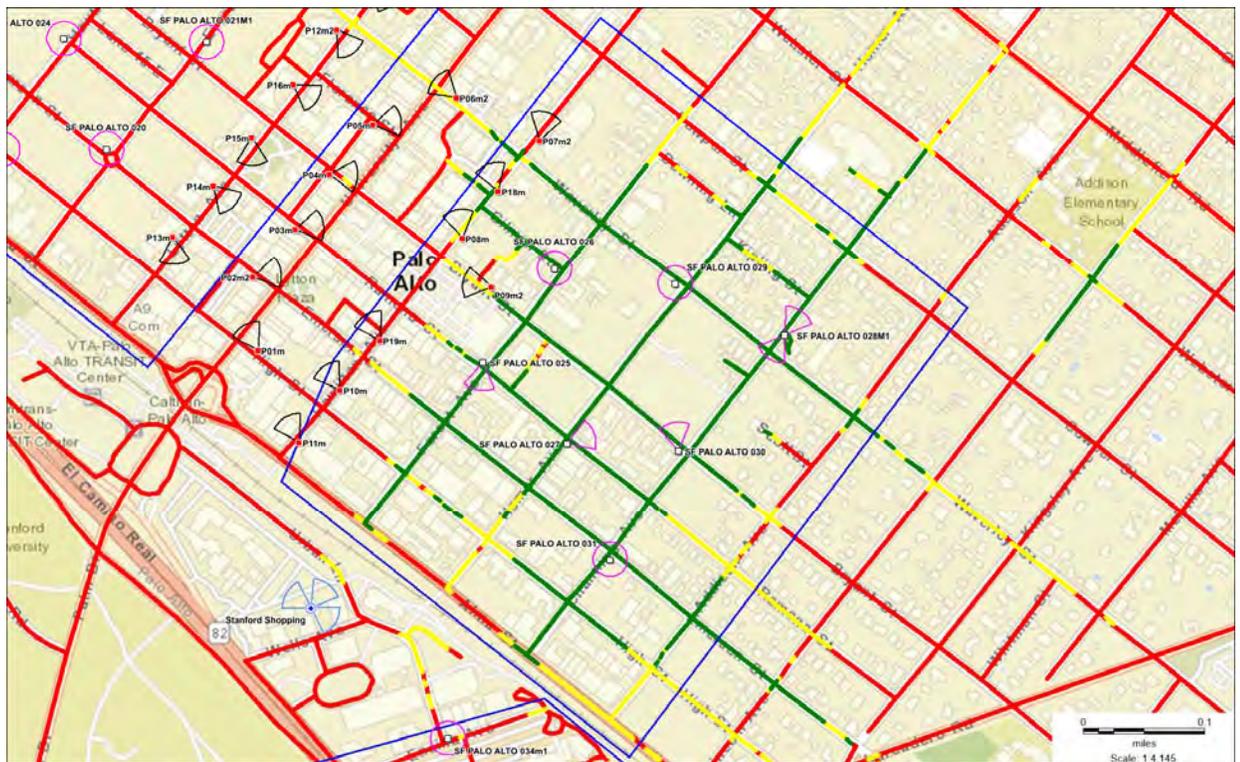


Diagram 4 - Proposed Improvement in coverage for 2100 MHz:



Site Locations

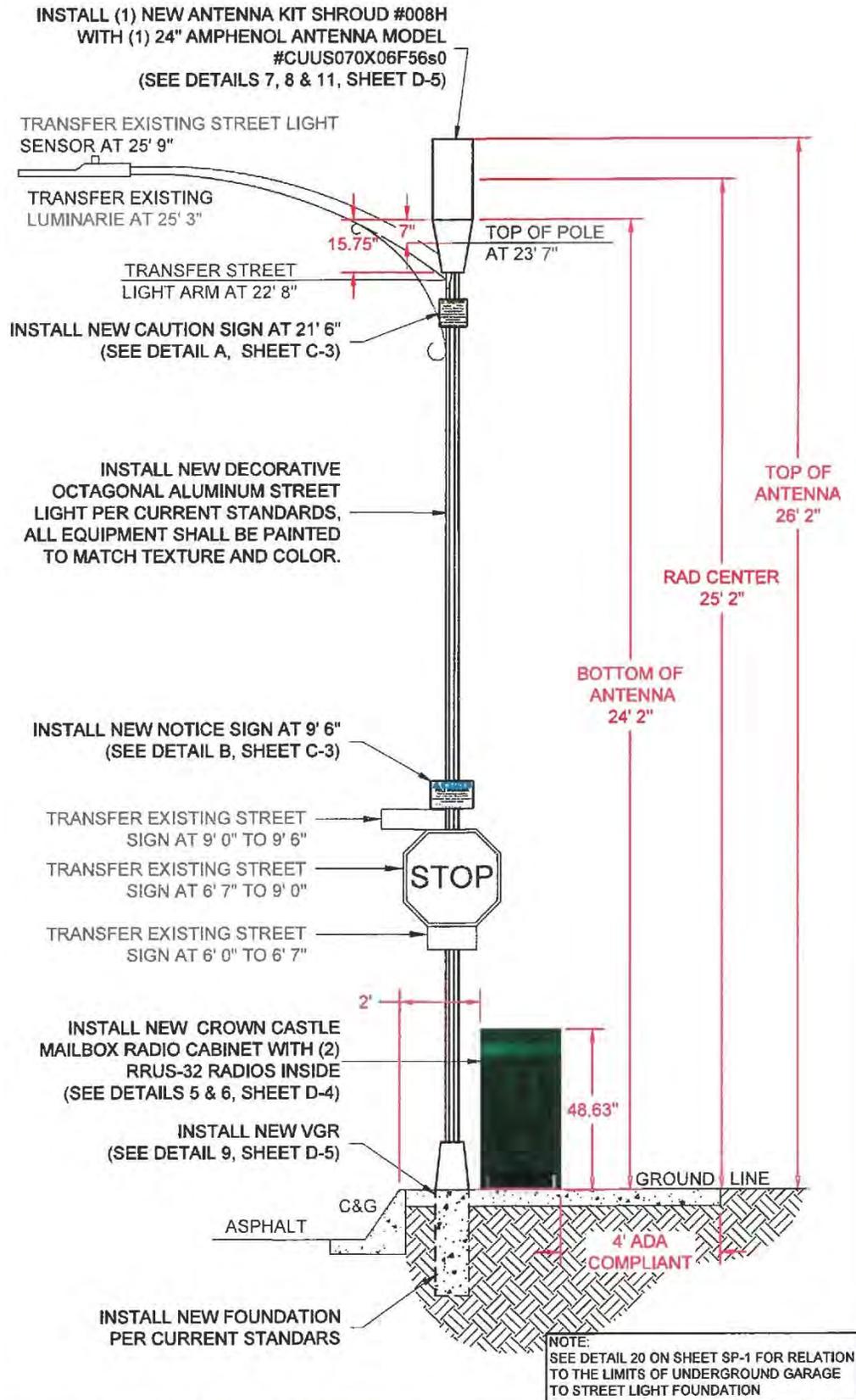
The process for site selection by Crown Castle aim to meet the need for service coverage, while at the same time locating poles that will have the least impact. With high demand of wireless services, the small facilities need to be located within a relatively narrow area as compared to a 'macro' or traditional larger wireless facility. The sites were initially chosen based upon the greatest needs in coverage in the area identified. Each site was walked by a team that included RF (radio frequency) engineers, a construction manager, A&E (architectural and engineering) professionals and government relations consultants in order to make on the spot decisions of the best pole in the neighborhood that could accommodate the wireless equipment within the City's criteria and with sensitivity to the neighborhood. Pole location proximity to a residence and sidewalk, orientation of the placement of the equipment on the pole and general visibility were taken into account as to which pole in any given area was finally chosen. There are typically only one or two poles that are viable candidates due to the small size design of the sites and limited range of the signal. Pole selection in determined in the field ensuring the RF need for the facility and constructability are met while meeting zoning and other requirements by the City, including sensitivity to the community needs. The team also walked the sites with staff from Compliance to confirm which locations were feasible. Two new alternative streetlights installations were proposed to accommodate requests from staff, the ARB and community members for Nodes 26 and 28. Currently the only new proposed streetlight is Node 28 as Node 26 has moved back to the original location on an existing streetlight as requested by the neighbors to utilize existing infrastructure, rather than add a new light in this particular neighborhood.

The alternative location for Node 26 near 332 Forest Avenue has been removed due to feedback from CPAU staff that it will not be supported, as well as feedback from the nearby residents. Crown has returned to the original Node 26 was proposed at the corner of Gilbert and Forest Avenue as it was the only existing streetlight in the immediate area that worked with the RF network design. This streetlight is located in front of the historic Staller Court at 345 Forest Avenue. The RF engineer did a review of the streetlights in the area and confirmed no other existing streetlight would provide a feasible alternative. At the Design Review Committee meeting, the Historic Preservation Planner confirmed there is concern that this location would have an aesthetic impact, thereby requiring the Node be located to another pole. Despite multiple efforts to find an alternative, no other existing pole is feasible. Comments from the neighborhood also reflect a desire to utilize the existing pole at the corner of Gilbert and Forest, as opposed to a new streetlight or pole.

The original Node 28 was proposed in front of 370 Channing as the only existing streetlight in that area that could accommodate the RF need. At the Preliminary ARB hearing, the commissioners discussed a possibility of locating a site near the corner as the residents at 370 Channing raised concerns on the impacts in front of their home. The existing poles on the corner are traffic signals, which are not allowed to be used for collocation. The Crown team did an RF analysis and determined a site at the corner would be feasible and a new streetlight was submitted for review of feasibility. The new location was reviewed and allowed to be submitted with this location.

Site information on each node

Node	Closest address for identity purposes	Assessor's address based on location in plans	Adjacent APN	Pole #	Adjacent Zone	Overlay Zone
25	275 Forest Ave (corner of Ramona St & Forest Ave)	250 Hamilton Ave	12027011	23	PF	MISP
26	Row across from 675 Gilbert St aka 345 Forest Ave	345 Forest Ave	12016033	32	RM-40	SOFA I CAP
27	248 Homer (across from 819 Ramona St)	248 Homer Ave	12028012	82	RT-35	SOFA II CAP/ HE Corr SOFA II
28m1	near 400 Channing Ave	400 Channing Ave	12017043	new	R-2	SOFA I CAP
29	751 Waverley St (near 760 Waverley)	385 Homer Ave	12016066	76	DHS	SOFA I CAP
30	411 Bryant St (corner of Channing Ave and Bryant St)	845 Ramona St	12028109	86	AMF	SOFA I CAP
31	190 Channing Ave (across from 913 Emerson St)	190 Channing Ave	12028051	16	RT-35	SOFA II CAP/ HIS 5



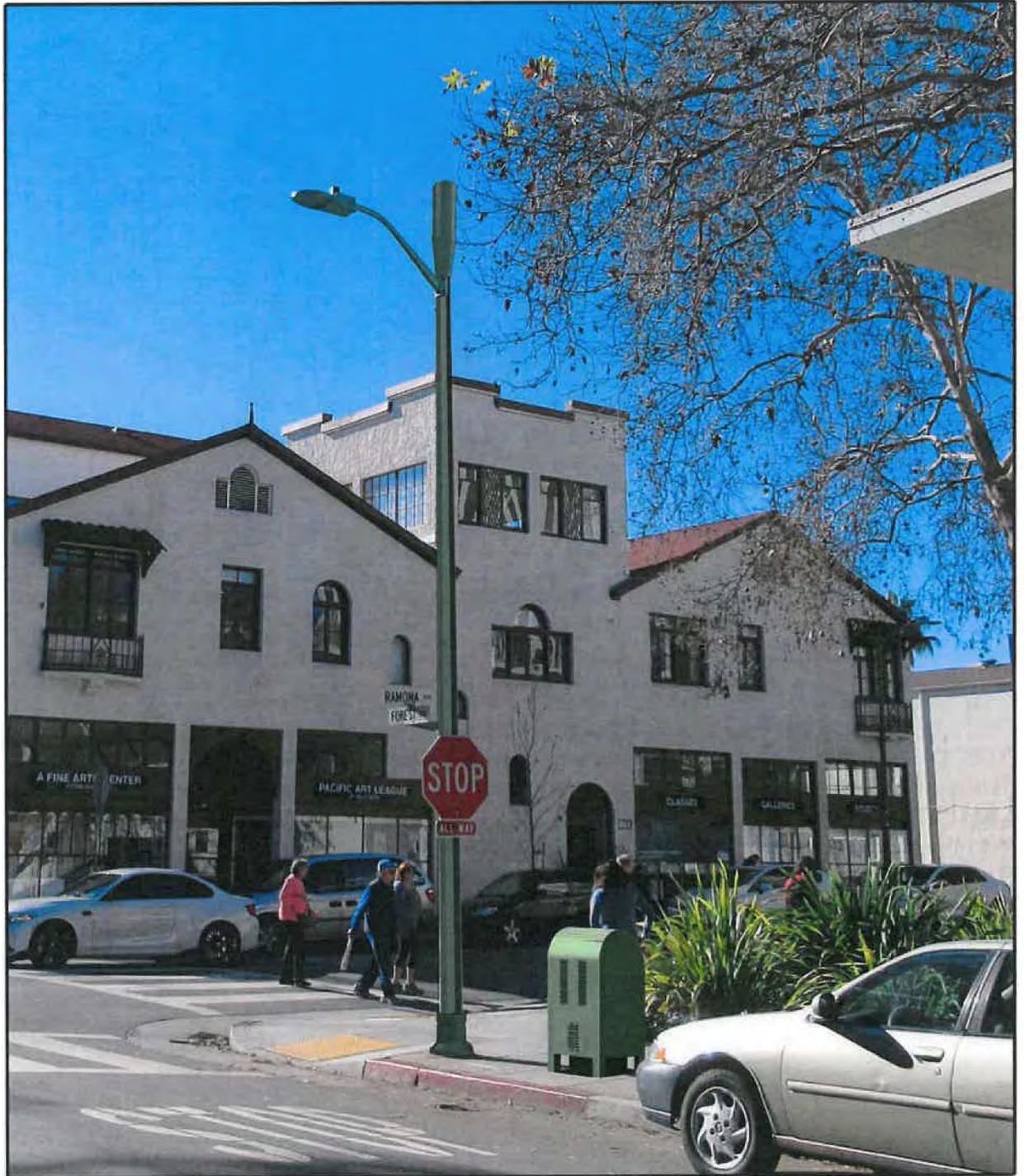
PROPOSED - 9 O'CLOCK ELEVATION

Elevation of example of the installation. Please see site plans for specific elevation of each Node and accompanying radio equipment cabinet.

Minimizing Visual Impacts

To minimize visual impacts the 24” antenna is located on the pole on the top. All equipment will be painted to match the proscribed color of the pole. At the Preliminary ARB meeting, the option of using art wrapped boxes and the mail utility box were discussed, along with other potential options. For ground equipment, the faux mailbox styled radio equipment cabinet painted green continues to be proposed as it continues the consistency of the existing faux mailboxes and appears to have the least visual impact and least disturbance to the existing sidewalk and street. No concerns have been raised by community members as to the color and design of the mailboxes.

Node 25 Photo simulation is on the following page. Photo simulations for each node can be found within the site plans in the planning packet.



Proposed Site

Scope of Work

The scope of work includes replacing six (6) existing streetlights and adding one (1) new streetlight (Node 28). The final design of the new streetlight is pending final direction from staff. The equipment will be added to these poles, includes adding a 24" antenna on the top with additional radio equipment to be located in a 24.75" x 48.63" mailbox styled mailbox cabinet. Conduit for fiber will be installed inside the pole. Where trenching is required for the conduit, the trench will use a bore pit at each end of the conduit run and bore from one point to the other or a trench will be dug. See SP-2 for specific depths for each installation of the seven proposed sites. In order to trench, segments of the sidewalk will be removed in squares and will be replaced after trenching is complete. Any disturbance to the asphalt in the street to accommodate the work will also be completely repaired and restored. Project information can be found at http://www.crowncastle.com/projects/palo-alto_ca.aspx

Respectfully submitted,

Rochelle Swanson
Government Relations Consultant for
Crown Castle
r.swanson@sure-site.com
916-801-317810

EXHIBIT B

STREET LIGHT

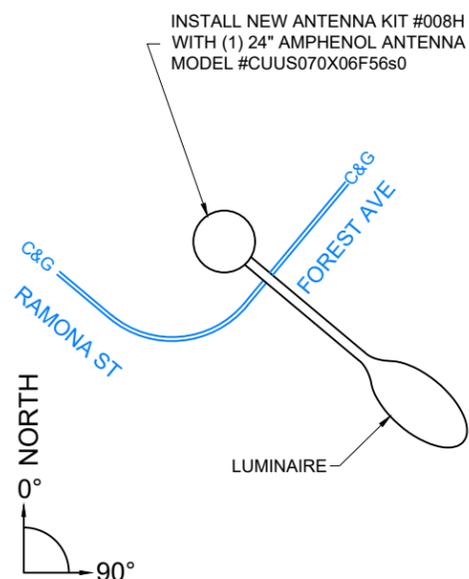
POLE ID #23

TOP OF EXISTING POLE: 23' 7"
 TOP OF ANTENNA(S): 26' 2"
 RAD CENTER: 25' 2"
 AZIMUTH(S): 190°
 PROFILE VIEW: 9 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

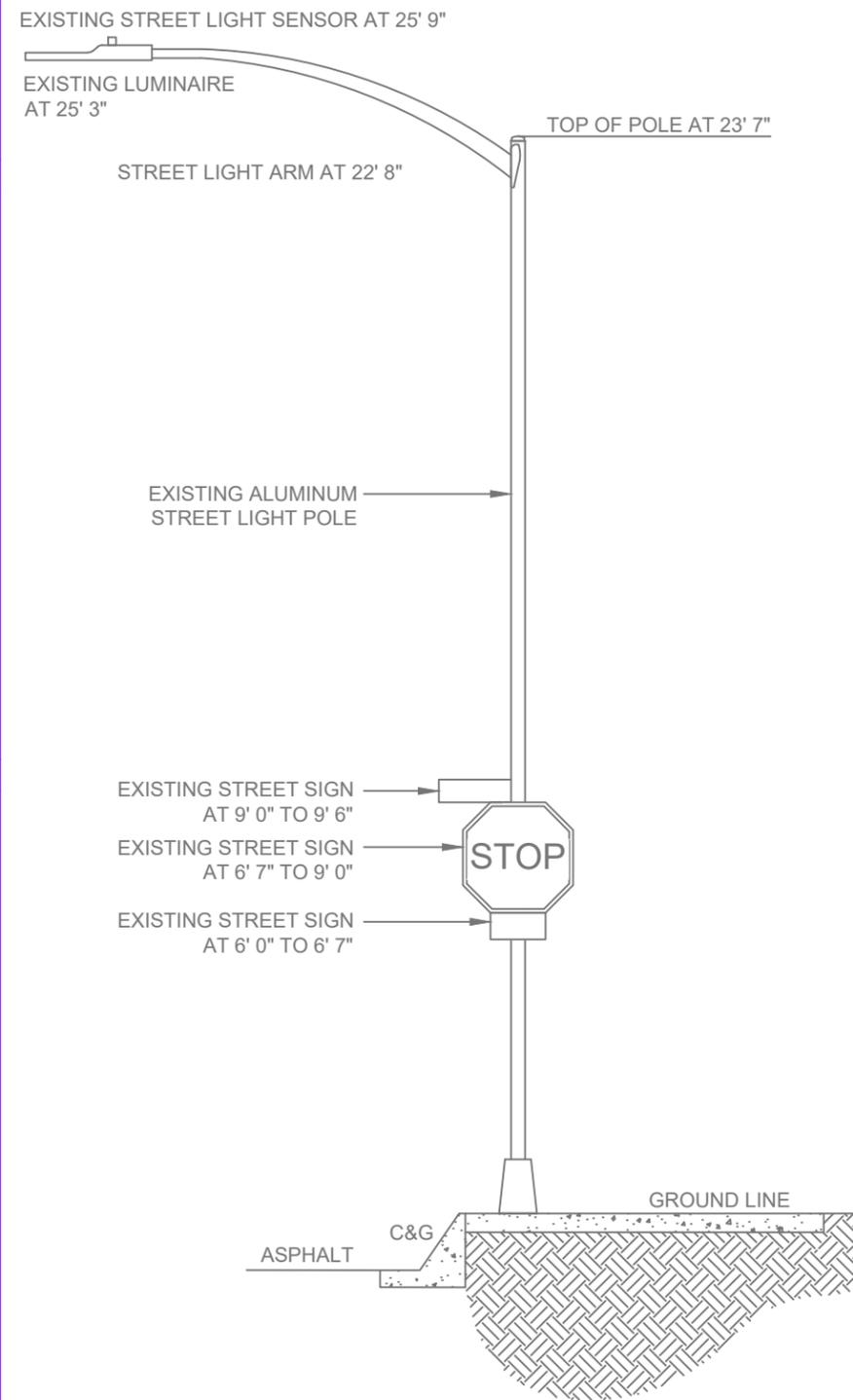
NEW CONSTRUCTION NOTES



TOP VIEW

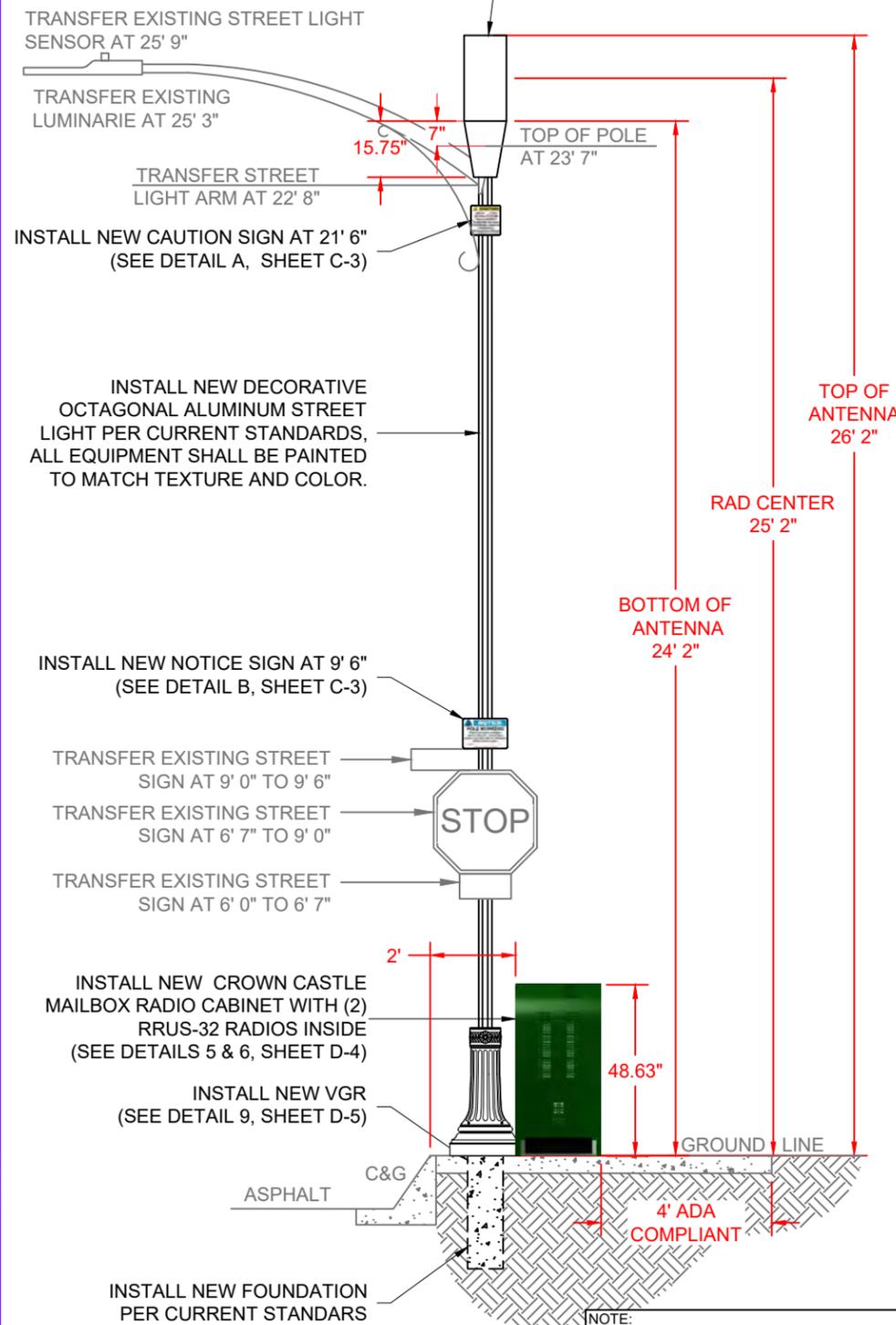
N.T.S.

EXISTING - 9 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0 (SEE DETAILS 7, 8 & 11, SHEET D-5)



PROPOSED - 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 025
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

Coastal Communications
 Telecommunications Engineering
 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomminc.com

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1	ZONING COMMENTS	04/12/18
	REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ADJACENT TO 200 FOREST AVE
 ALSO KNOWN AS 275 FOREST AVE
 PALO ALTO, CA
 37.443835/-122.159714

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BW	02/12/18	TT

SHEET NO.
P-3

STREET LIGHT

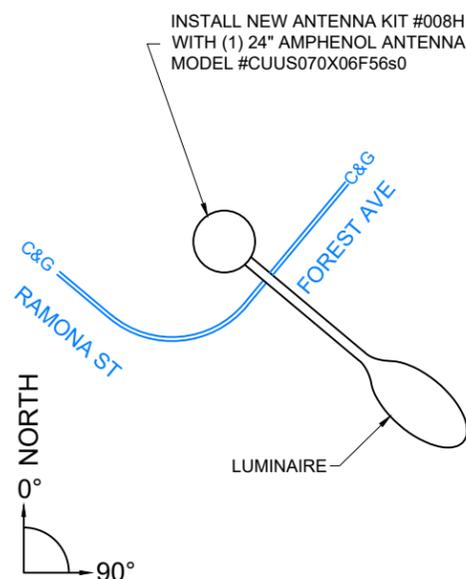
POLE ID #23

TOP OF EXISTING POLE: 23' 7"
 TOP OF ANTENNA(S): 26' 2"
 RAD CENTER: 25' 2"
 AZIMUTH(S): 190°
 PROFILE VIEW: 12 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

NEW CONSTRUCTION NOTES

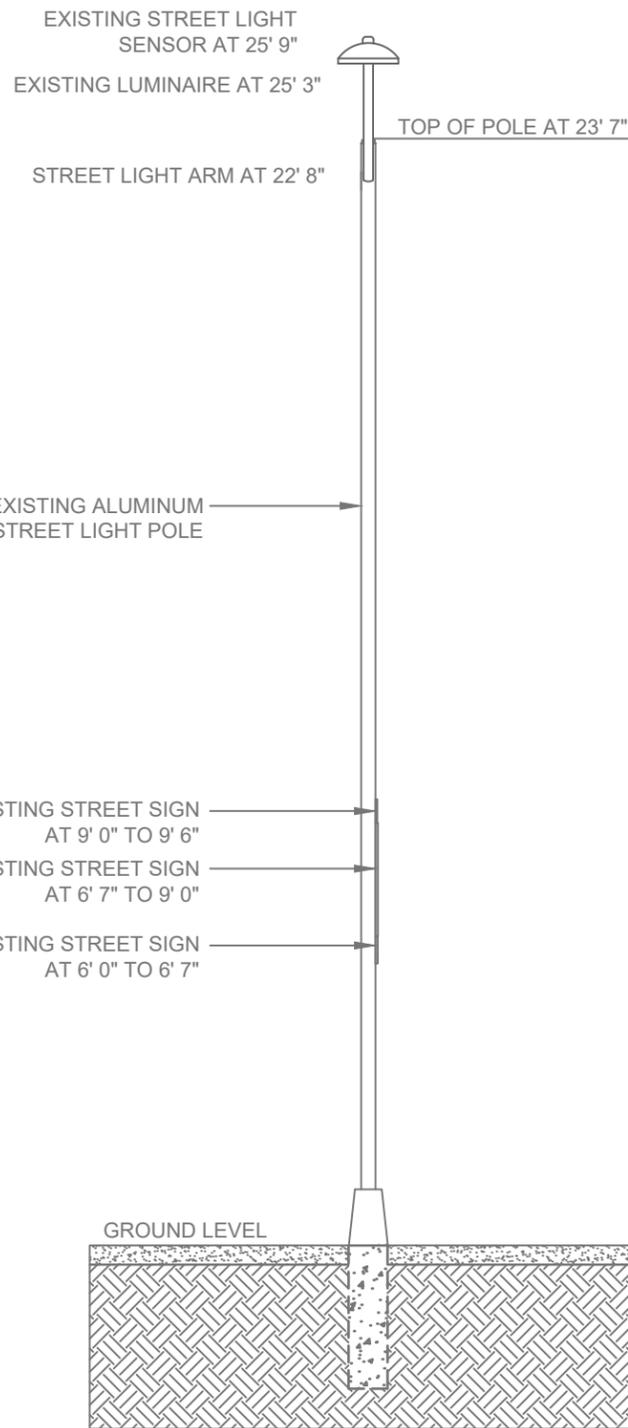


TOP VIEW

N.T.S.

EXISTING 12 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0 (SEE DETAILS 7, 8 & 11, SHEET D-5)

TRANSFER EXISTING STREET LIGHT SENSOR AT 25' 9"

TRANSFER EXISTING LUMINAIRE AT 25' 3"

TRANSFER STREET LIGHT ARM AT 22' 8"

INSTALL NEW DECORATIVE OCTAGONAL ALUMINUM STREET LIGHT PER CURRENT STANDARDS, ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

TRANSFER EXISTING STREET SIGN AT 9' 0" TO 9' 6"

TRANSFER EXISTING STREET SIGN AT 6' 7" TO 9' 0"

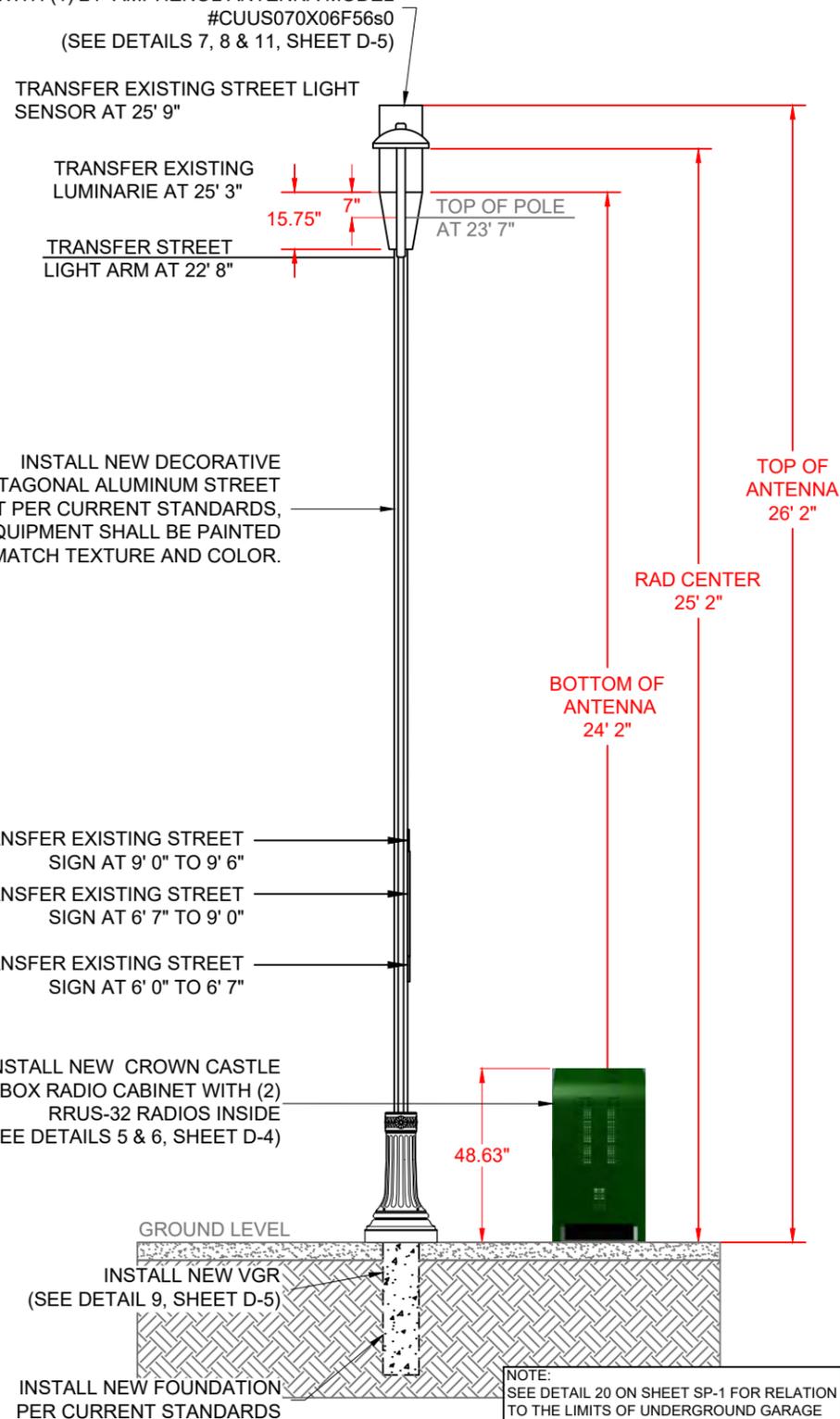
TRANSFER EXISTING STREET SIGN AT 6' 0" TO 6' 7"

INSTALL NEW CROWN CASTLE MAILBOX RADIO CABINET WITH (2) RRUS-32 RADIOS INSIDE (SEE DETAILS 5 & 6, SHEET D-4)

INSTALL NEW FOUNDATION PER CURRENT STANDARDS

PROPOSED 12 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



**SF PALO ALTO 025
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomminc.com

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1	ZONING COMMENTS	04/12/18
	REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ADJACENT TO 200 FOREST AVE
 ALSO KNOWN AS 275 FOREST AVE
 PALO ALTO, CA
 37.443835/-122.159714

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BW	02/12/18	TT

SHEET NO.
P-4

STREET LIGHT

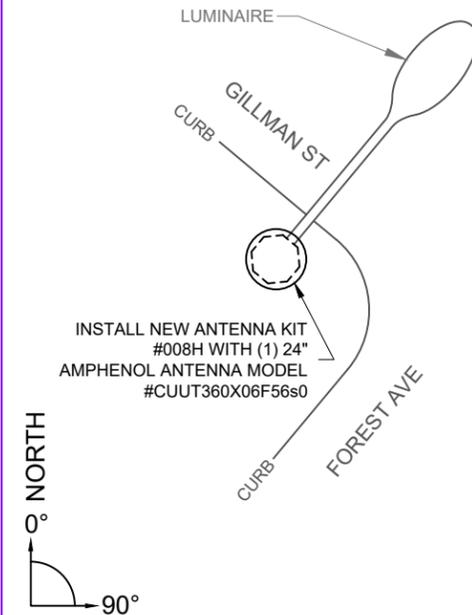
POLE ID #32

TOP OF EXISTING POLE: 18' 9"
 TOP OF ANTENNA(S): 21' 4"
 RAD CENTER: 20' 4"
 AZIMUTH(S): OMNI
 PROFILE VIEW: 9 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

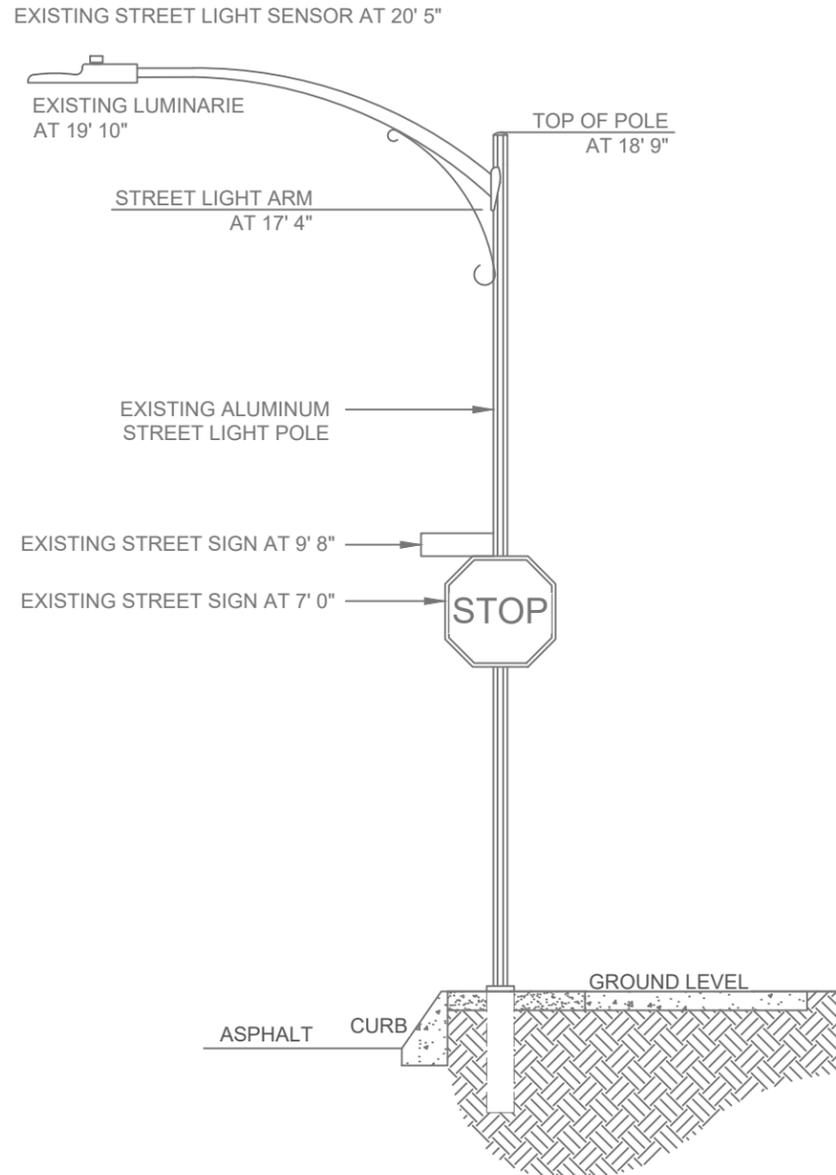
NEW CONSTRUCTION NOTES



TOP VIEW

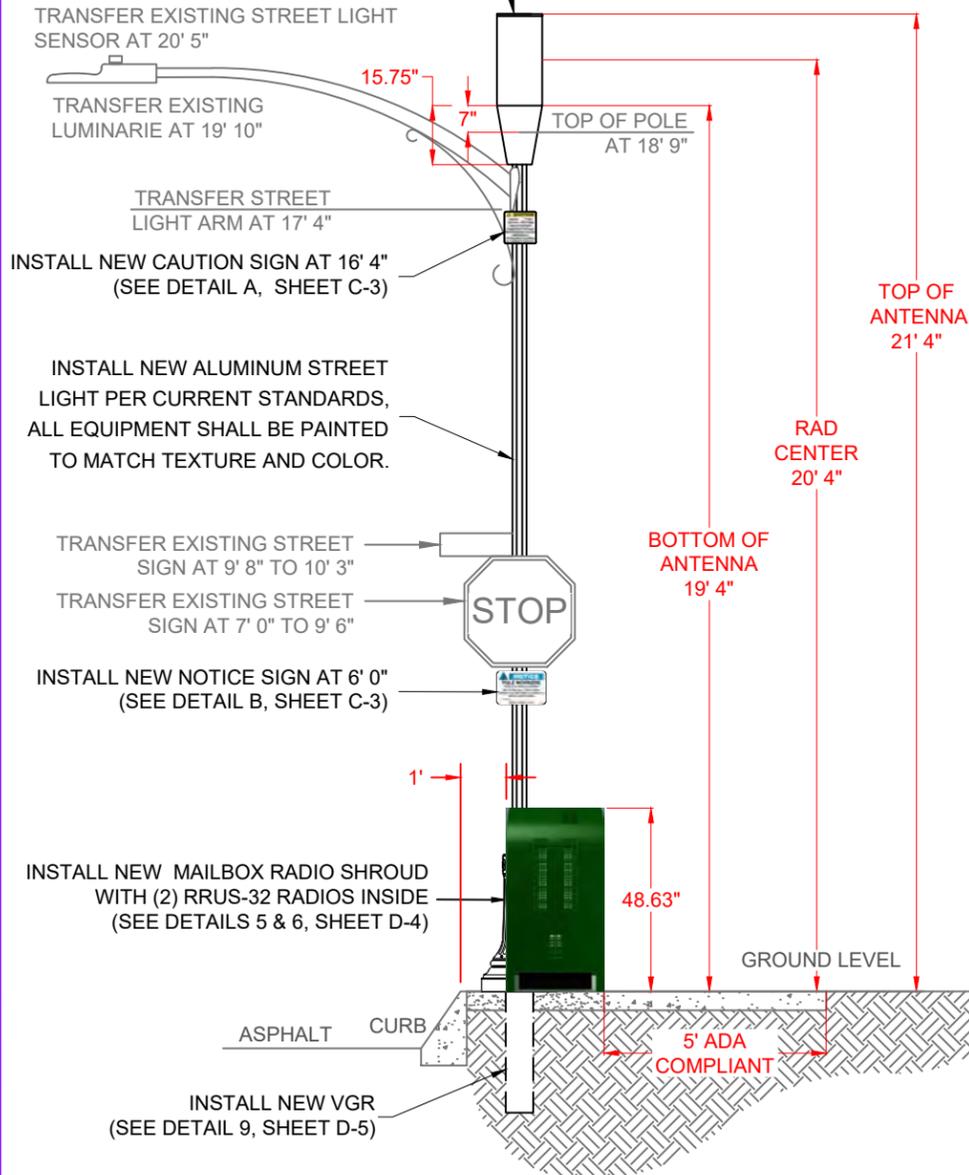
N.T.S. EXISTING - 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



N.T.S. EXISTING - 9 O'CLOCK ELEVATION

INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUT360X06F56s0 (SEE DETAILS 7, 8 & 11, SHEET D-5)



PROPOSED - 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 026
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA



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ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE



SITE NAME & ADDRESS:
 ROW ACROSS FROM
 675 GILMAN ST
 PALO ALTO, CA
 37.444953/-122.158639

PROFILE

DRAWN BY: BW	DRAFT DATE: 02/13/18	APPROVED BY: TT
-----------------	-------------------------	--------------------

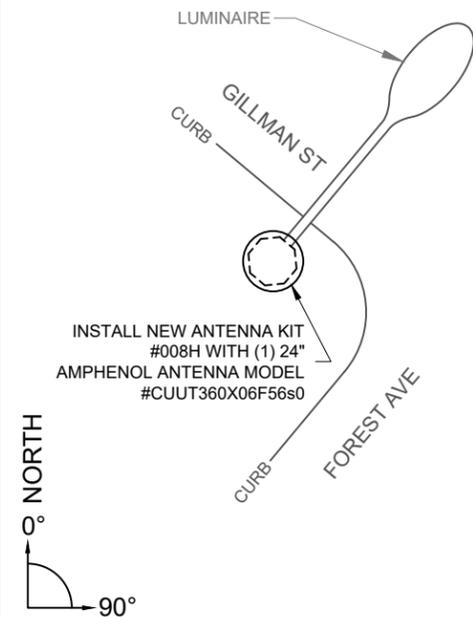
SHEET NO.
P-3

STREET LIGHT
POLE ID #32
TOP OF EXISTING POLE: 18' 9"
TOP OF ANTENNA(S): 21' 4"
RAD CENTER: 20' 4"
AZIMUTH(S): OMNI
PROFILE VIEW: 12 O'CLOCK ELEVATION

PROFILE NOTES

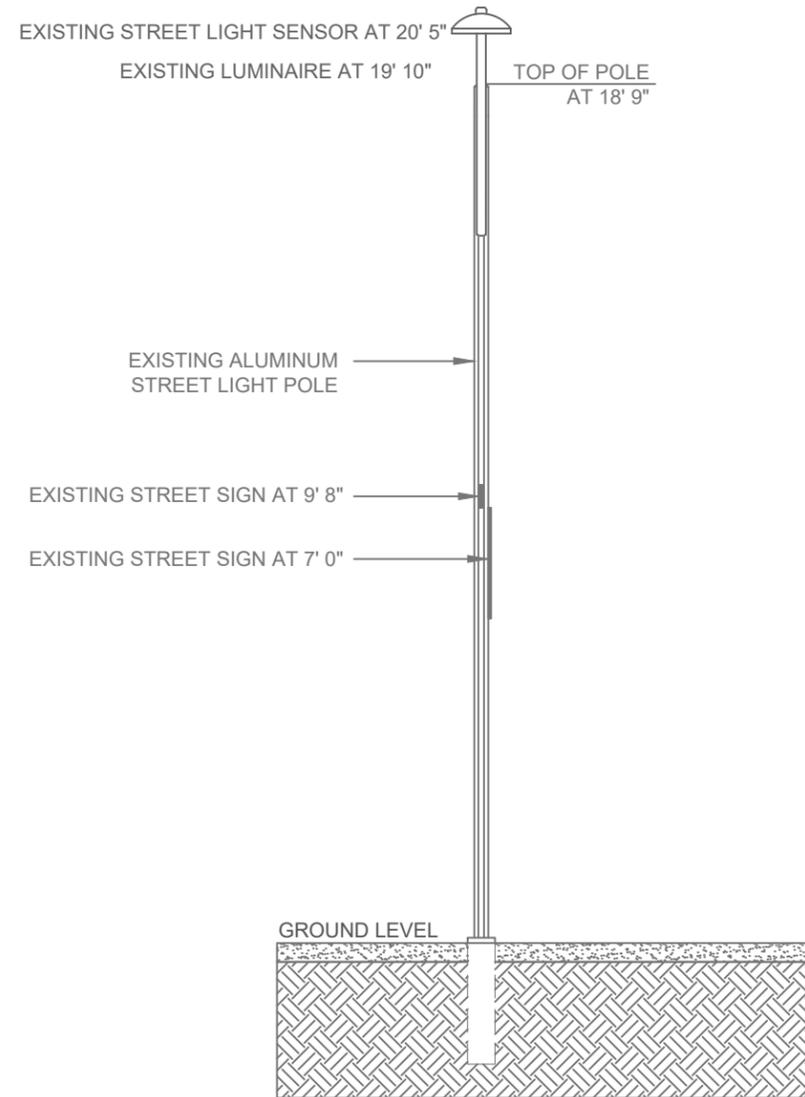
- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

NEW CONSTRUCTION NOTES



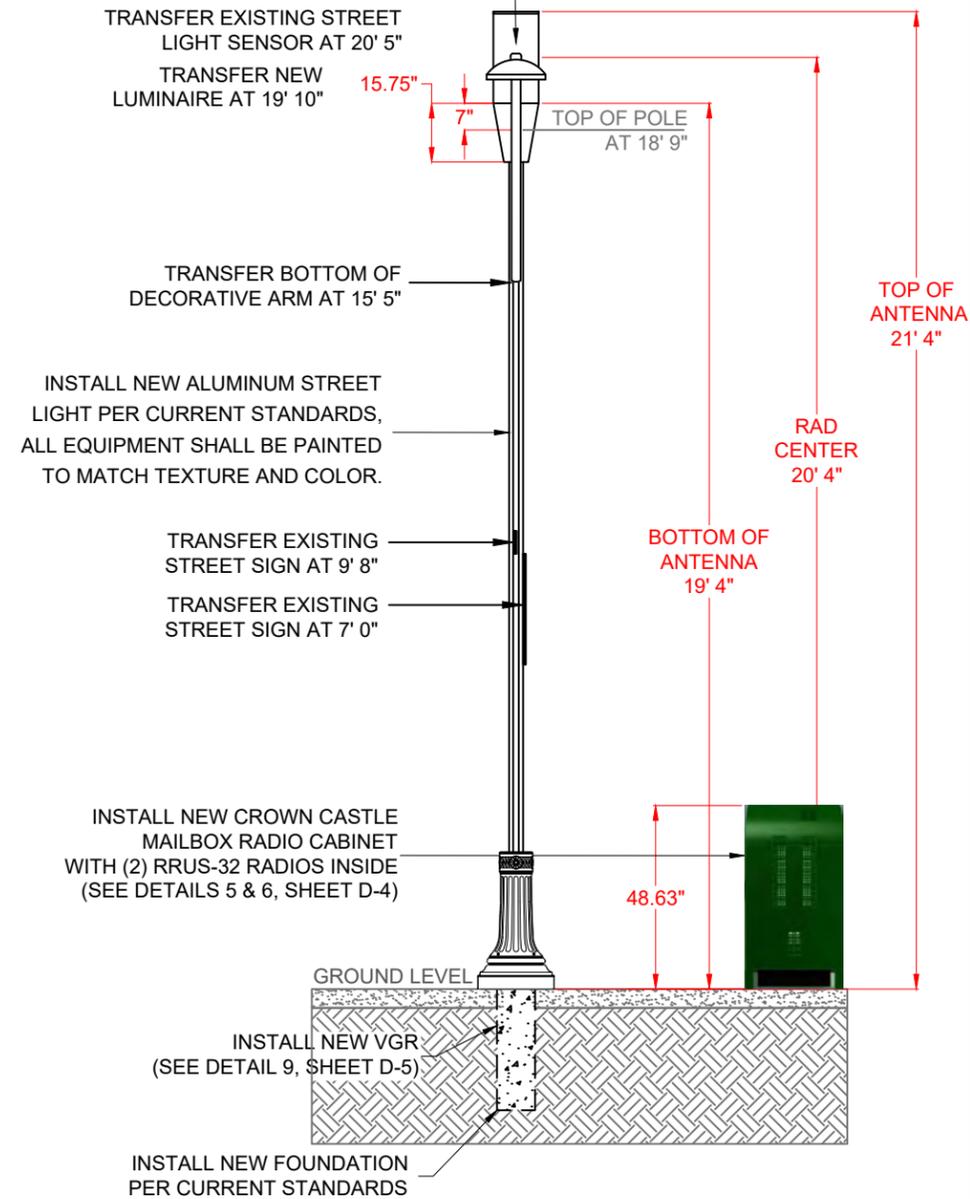
TOP VIEW

N.T.S. EXISTING - 12 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUB180X06F56S0 (SEE DETAILS 7, 8 & 11, SHEET D-5)



PROPOSED - 12 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

SF PALO ALTO 026
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomm.com

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ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ACROSS FROM
 675 GILMAN ST
 PALO ALTO, CA
 37.444953/-122.158639

PROFILE

DRAWN BY: BW	DRAFT DATE: 02/13/18	APPROVED BY: TT
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SHEET NO.
P-4

STREET LIGHT

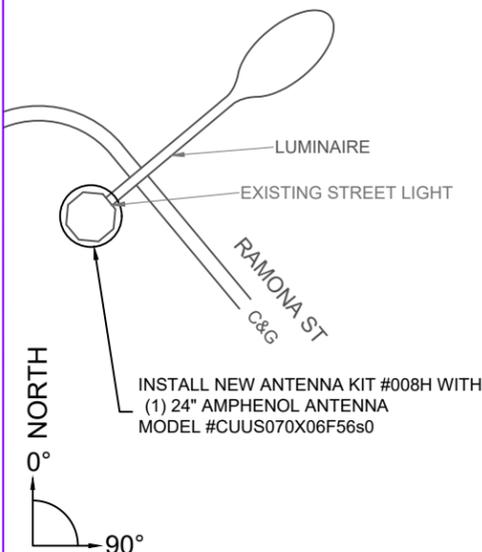
POLE ID #82

TOP OF EXISTING POLE: 18' 10"
 TOP OF ANTENNA(S): 19' 5"
 RAD CENTER: 20' 5"
 AZIMUTH(S): 70°
 PROFILE VIEW: 9 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56s0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

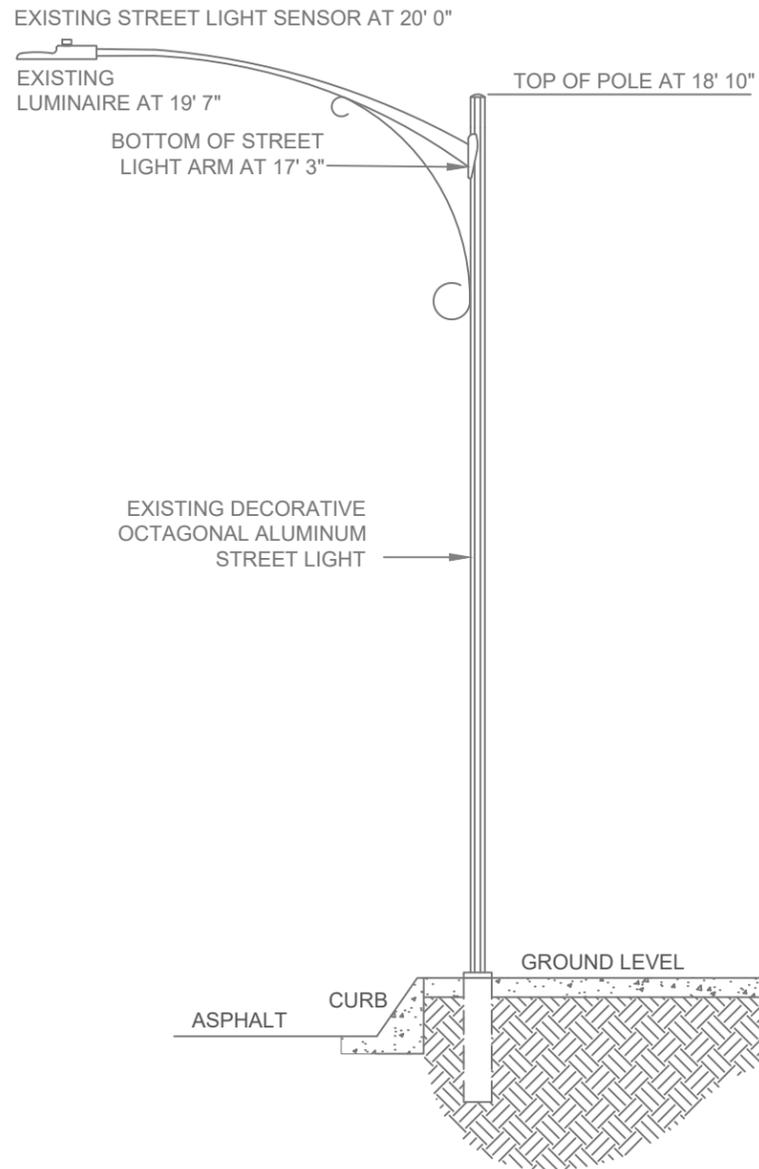
NEW CONSTRUCTION NOTES



TOP VIEW

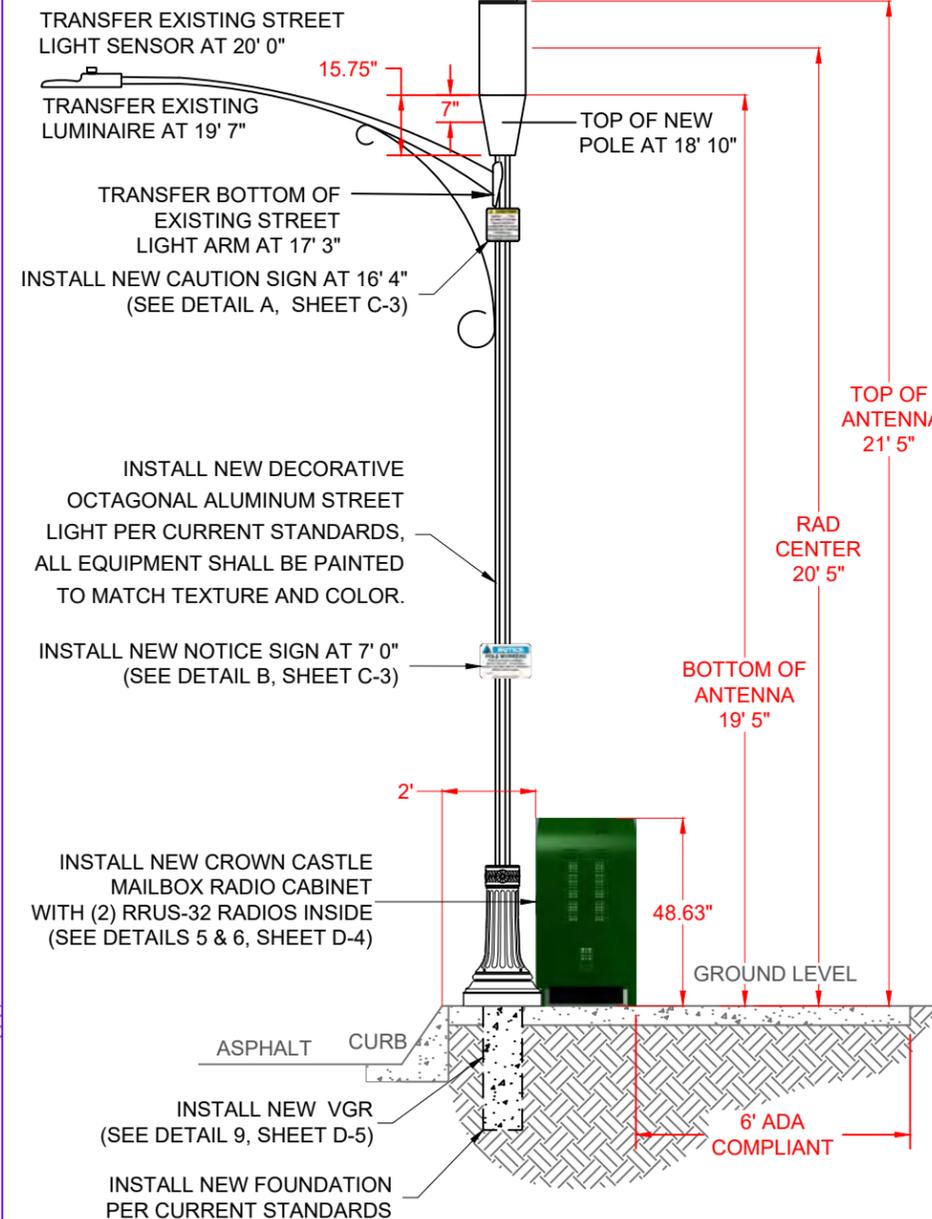
N.T.S.

EXISTING 9 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56s0 (SEE DETAILS 7, 8 & 11, SHEET D-5)



PROPOSED 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 027
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ACROSS FROM 819 RAMONA ST
 & ADJACENT TO 248 HOMER AVE
 PALO ALTO, CA
 37.442865/-122.158448

PROFILE

DRAWN BY: BW	DRAFT DATE: 02/13/18	APPROVED BY: TT
-----------------	-------------------------	--------------------

SHEET NO.
P-3

STREET LIGHT

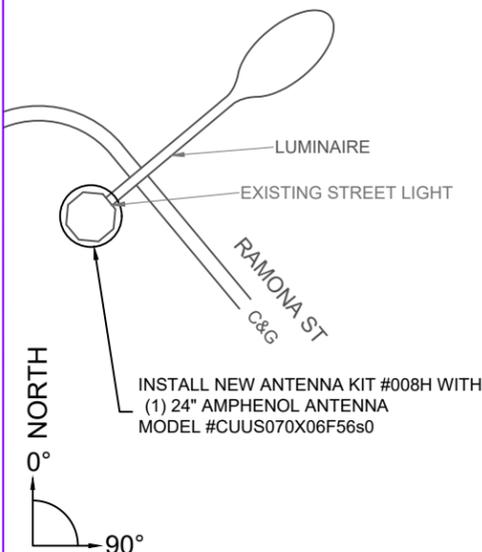
POLE ID #82

TOP OF EXISTING POLE: 18' 10"
 TOP OF ANTENNA(S): 19' 5"
 RAD CENTER: 20' 5"
 AZIMUTH(S): 70°
 PROFILE VIEW: 12 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

NEW CONSTRUCTION NOTES

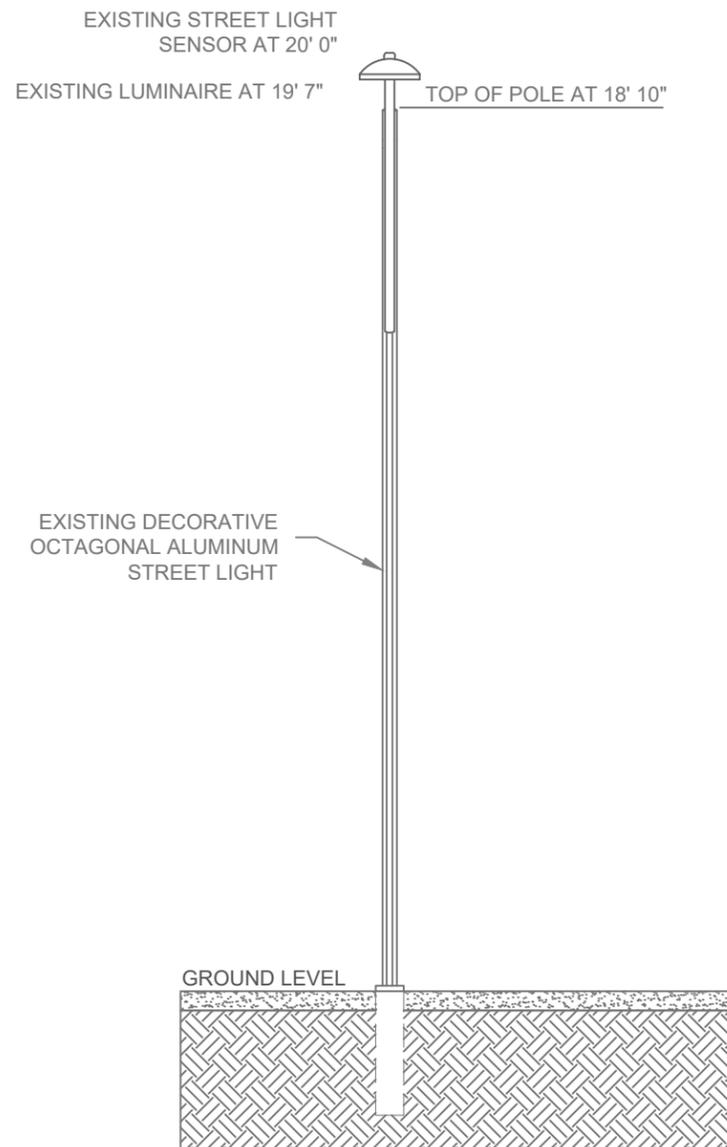


TOP VIEW

N.T.S.

EXISTING 12 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0 (SEE DETAILS 7, 8 & 11, SHEET D-5)

TRANSFER EXISTING STREET LIGHT SENSOR AT 20' 0"

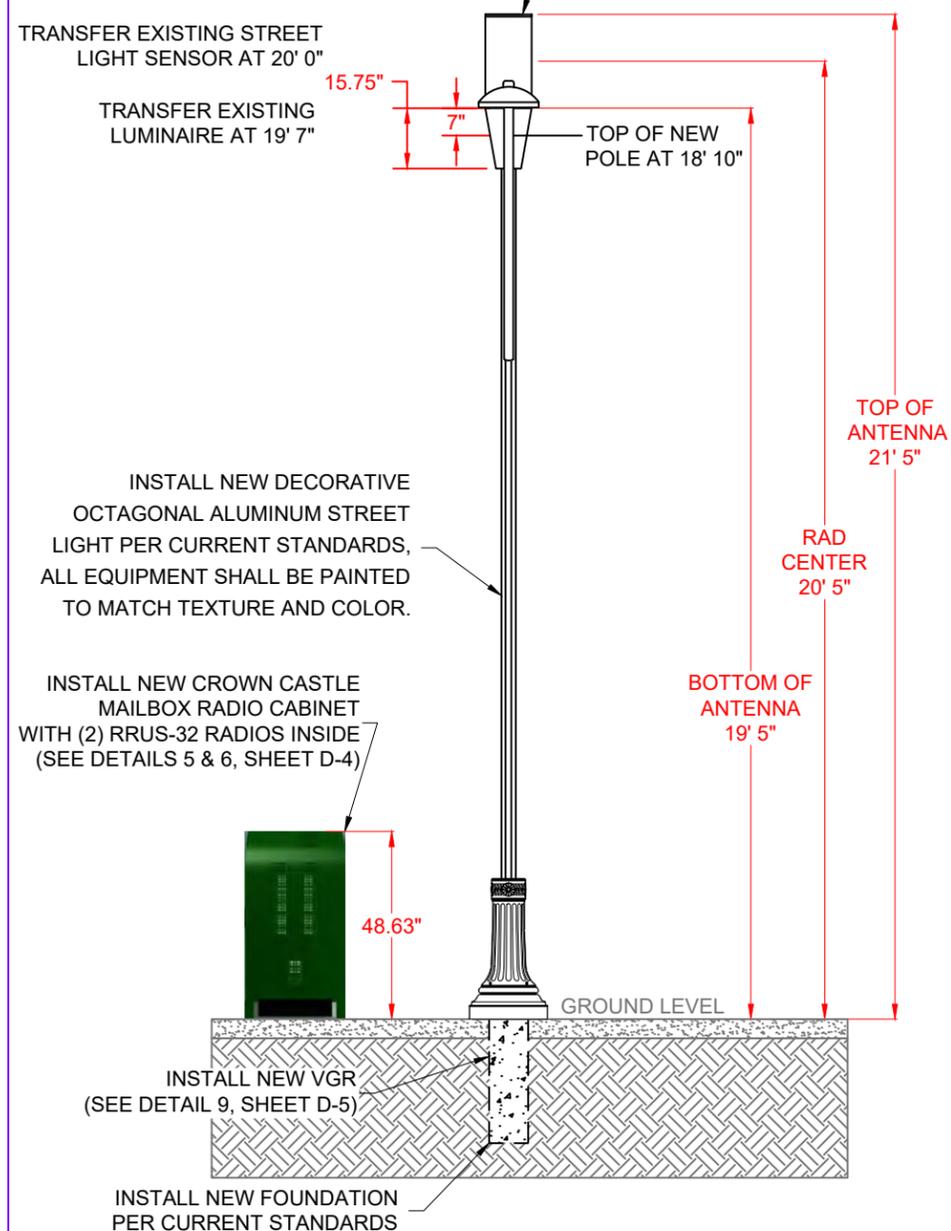
TRANSFER EXISTING LUMINAIRE AT 19' 7"

INSTALL NEW DECORATIVE OCTAGONAL ALUMINUM STREET LIGHT PER CURRENT STANDARDS, ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

INSTALL NEW CROWN CASTLE MAILBOX RADIO CABINET WITH (2) RRUS-32 RADIOS INSIDE (SEE DETAILS 5 & 6, SHEET D-4)

INSTALL NEW VGR (SEE DETAIL 9, SHEET D-5)

INSTALL NEW FOUNDATION PER CURRENT STANDARDS



PROPOSED 12 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 027
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

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ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ACROSS FROM 819 RAMONA ST
 & ADJACENT TO 248 HOMER AVE
 PALO ALTO, CA
 37.442865/-122.158448

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BW	02/13/18	TT

SHEET NO.
P-4

STREET LIGHT

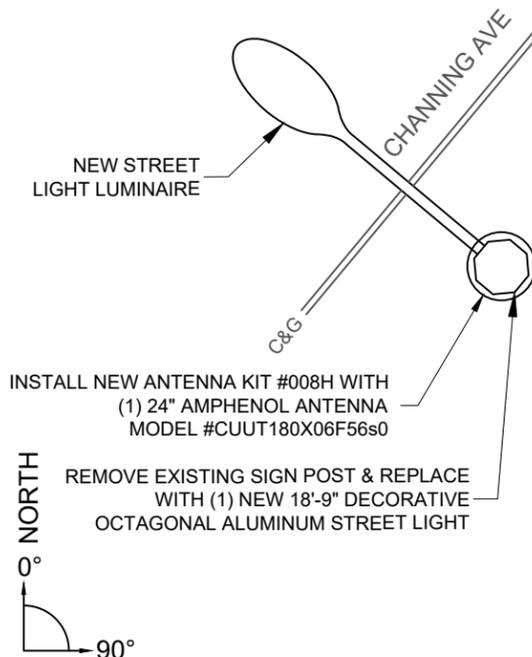
POLE ID #34

TOP OF NEW POLE: 18' 9"
 TOP OF ANTENNA(S): 21' 4"
 RAD CENTER: 20' 4"
 AZIMUTH(S): 35° & 215°
 PROFILE VIEW: 9 O'CLOCK ELEVATION

A PROFILE NOTES

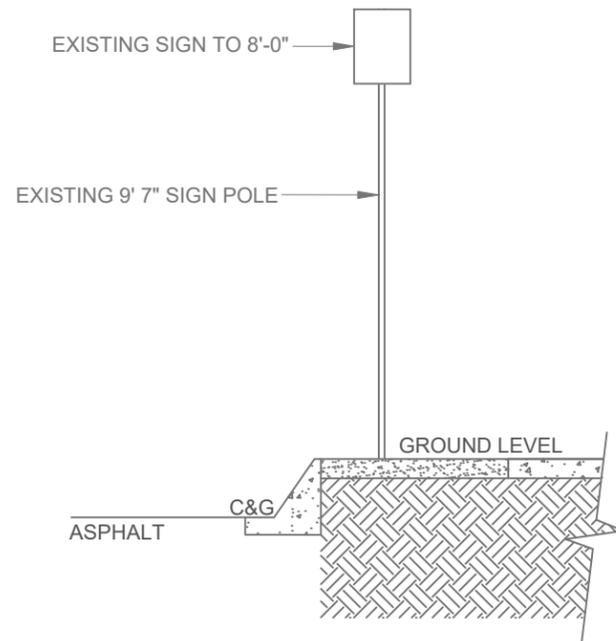
- REMOVE EXISTING SIGN POST & REPLACE WITH (1) NEW 18'-9" DECORATIVE OCTAGONAL STEEL STREET LIGHT WITH CURRENT STANDARDS.
- TRANSFER EXISTING SIGN.
- INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUB180X06F56S0.
- INSTALL NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

B NEW CONSTRUCTION NOTES



C TOP VIEW

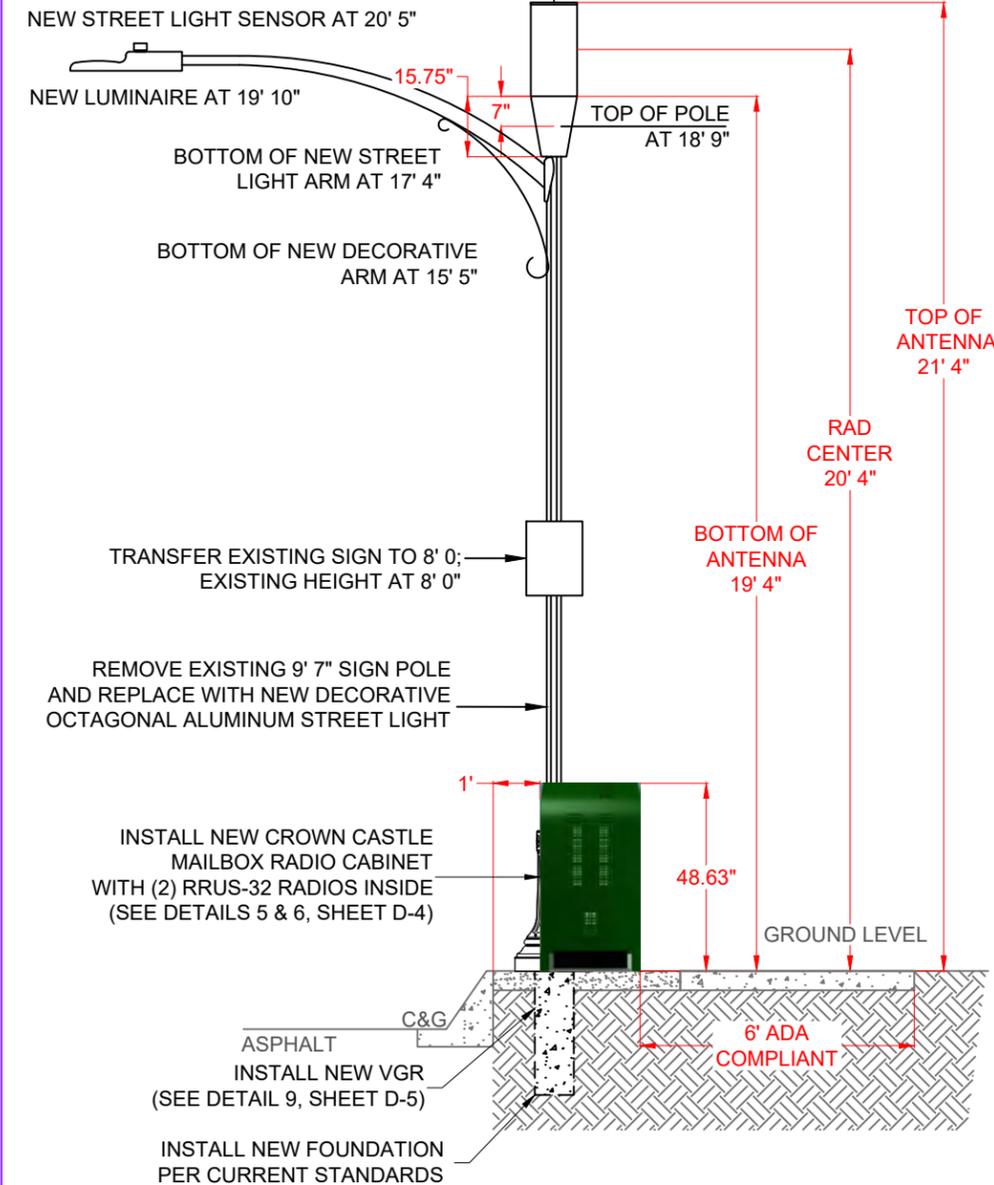
N.T.S.



D EXISTING - 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUB180X06F56S0 (SEE DETAILS 7, 8 & 11, SHEET D-5)



E PROPOSED - 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 028m1
 PALO ALTO**

CROWN CASTLE PROJECT NO.
 VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomminc.com

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DIGALERT

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 LEAST TWO
 DAYS BEFORE
 YOU DIG
 UNDERGROUND SERVICE ALERT
 TICKET #

ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ADJACENT TO
 400 CHANNING AVE
 PALO ALTO, CA
 37.444157/-122.155167

PROFILE

DRAWN BY: BMW	DRAFT DATE: 02/13/18	APPROVED BY: TT
------------------	-------------------------	--------------------

SHEET NO.
P-3

STREET LIGHT

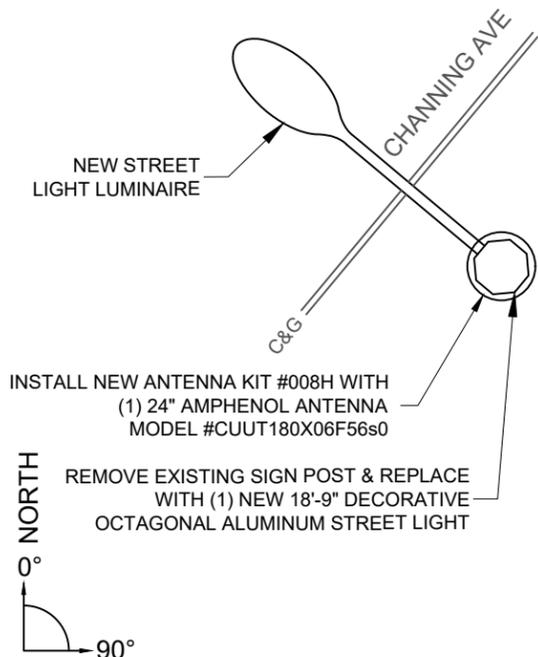
POLE ID #34

TOP OF NEW POLE: 18' 9"
 TOP OF ANTENNA(S): 21' 4"
 RAD CENTER: 20' 4"
 AZIMUTH(S): 35° & 215°
 PROFILE VIEW: 12 O'CLOCK ELEVATION

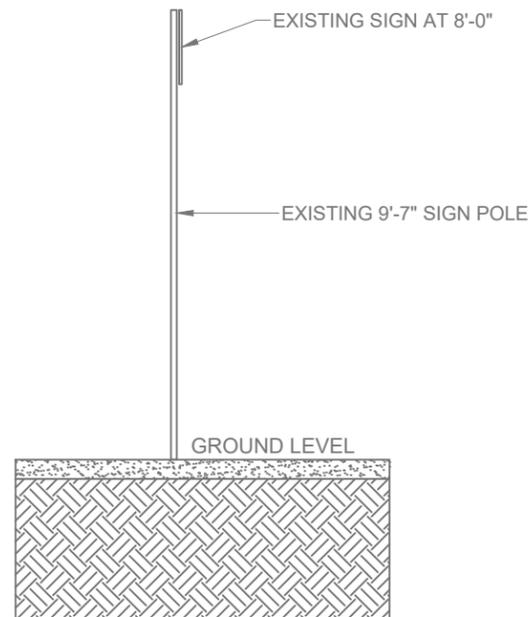
F PROFILE NOTES

- REMOVE EXISTING SIGN POST & REPLACE WITH (1) NEW 18'-9" DECORATIVE OCTAGONAL STEEL STREET LIGHT WITH CURRENT STANDARDS.
- TRANSFER EXISTING SIGN.
- INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUB180X06F56S0.
- INSTALL NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

G NEW CONSTRUCTION NOTES

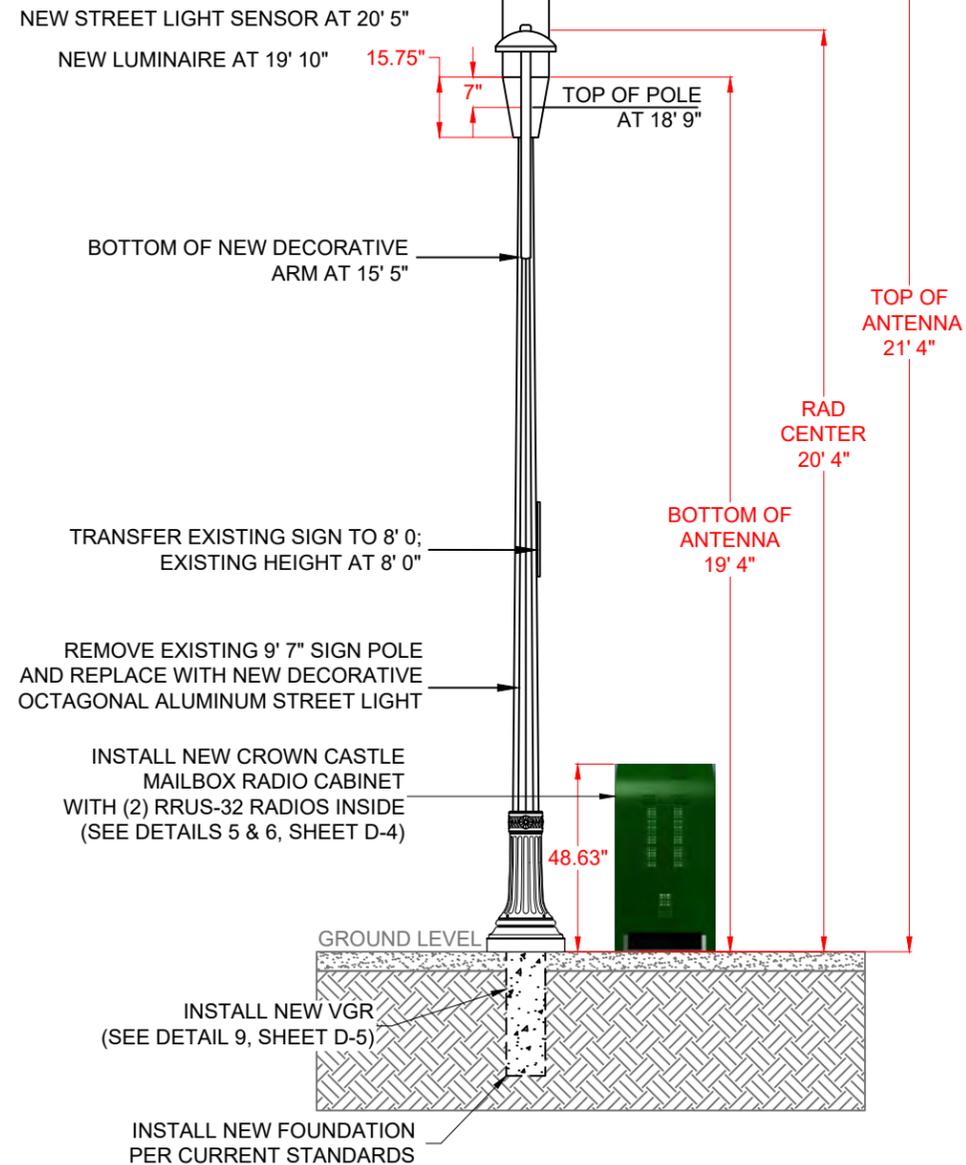


H TOP VIEW N.T.S.



I EXISTING - 12 O'CLOCK ELEVATION 11"x17" SCALE: 1/4" = 1'-0"
24"x36" SCALE: 1/2" = 1'-0"

INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUB180X06F56S0 (SEE DETAILS 7, 8 & 11, SHEET D-5)



J PROPOSED - 12 O'CLOCK ELEVATION 11"x17" SCALE: 1/4" = 1'-0"
24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 028m1
PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

Coastal Communications
 Telecommunications Engineering
 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomminc.com

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ADJACENT TO
 400 CHANNING AVE
 PALO ALTO, CA
 37.444157/-122.155167

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BMW	02/13/18	TT

SHEET NO.
P-4

STREET LIGHT

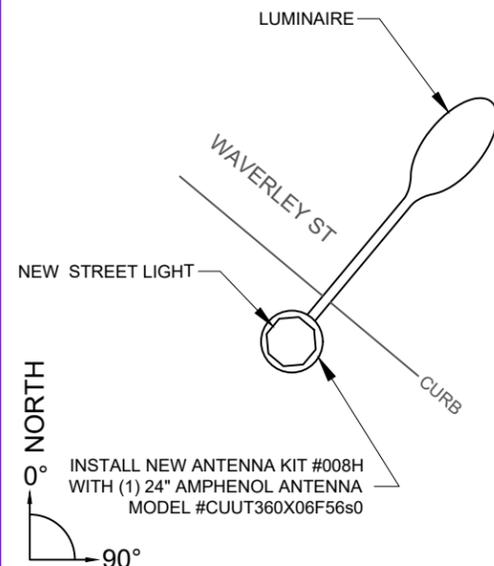
POLE ID #76

TOP OF EXISTING POLE: 18' 10"
 TOP OF ANTENNA(S): 21' 5"
 RAD CENTER: 20' 5"
 AZIMUTH(S): OMNI
 PROFILE VIEW: 9 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUT360X06F56s0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

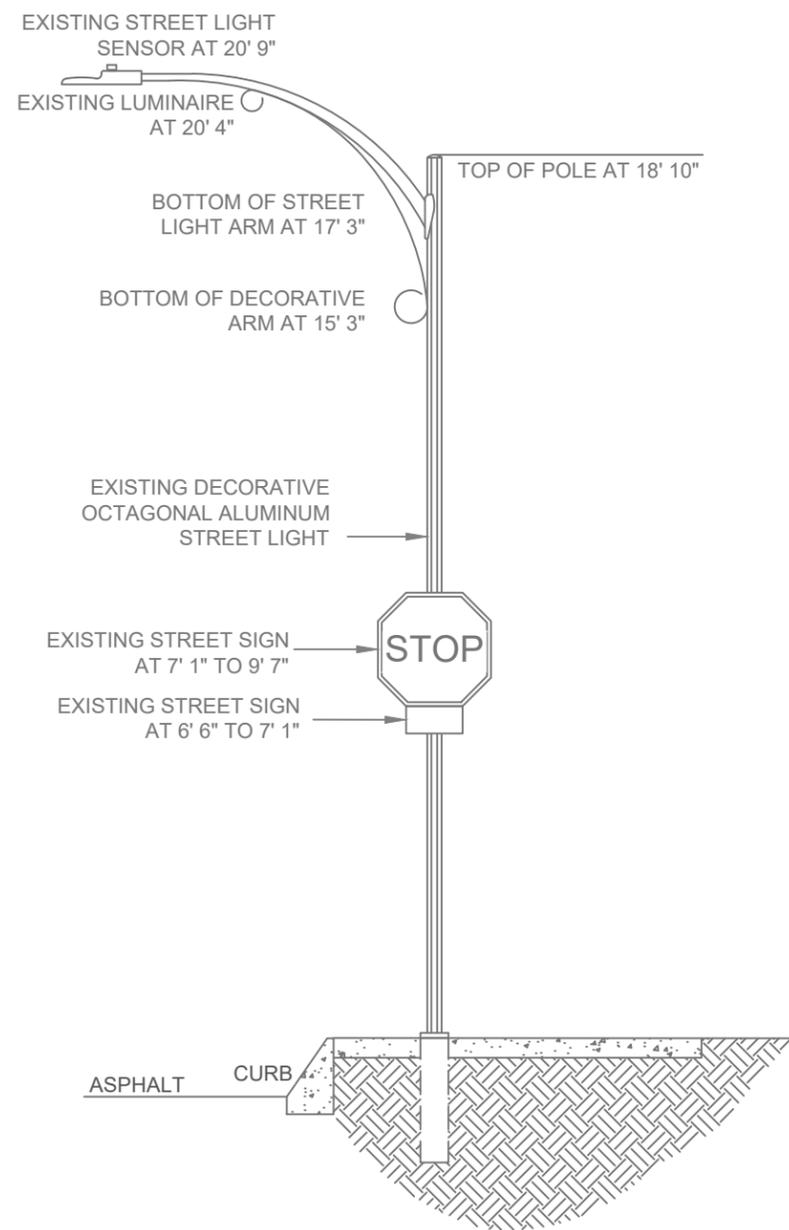
NEW CONSTRUCTION NOTES



TOP VIEW

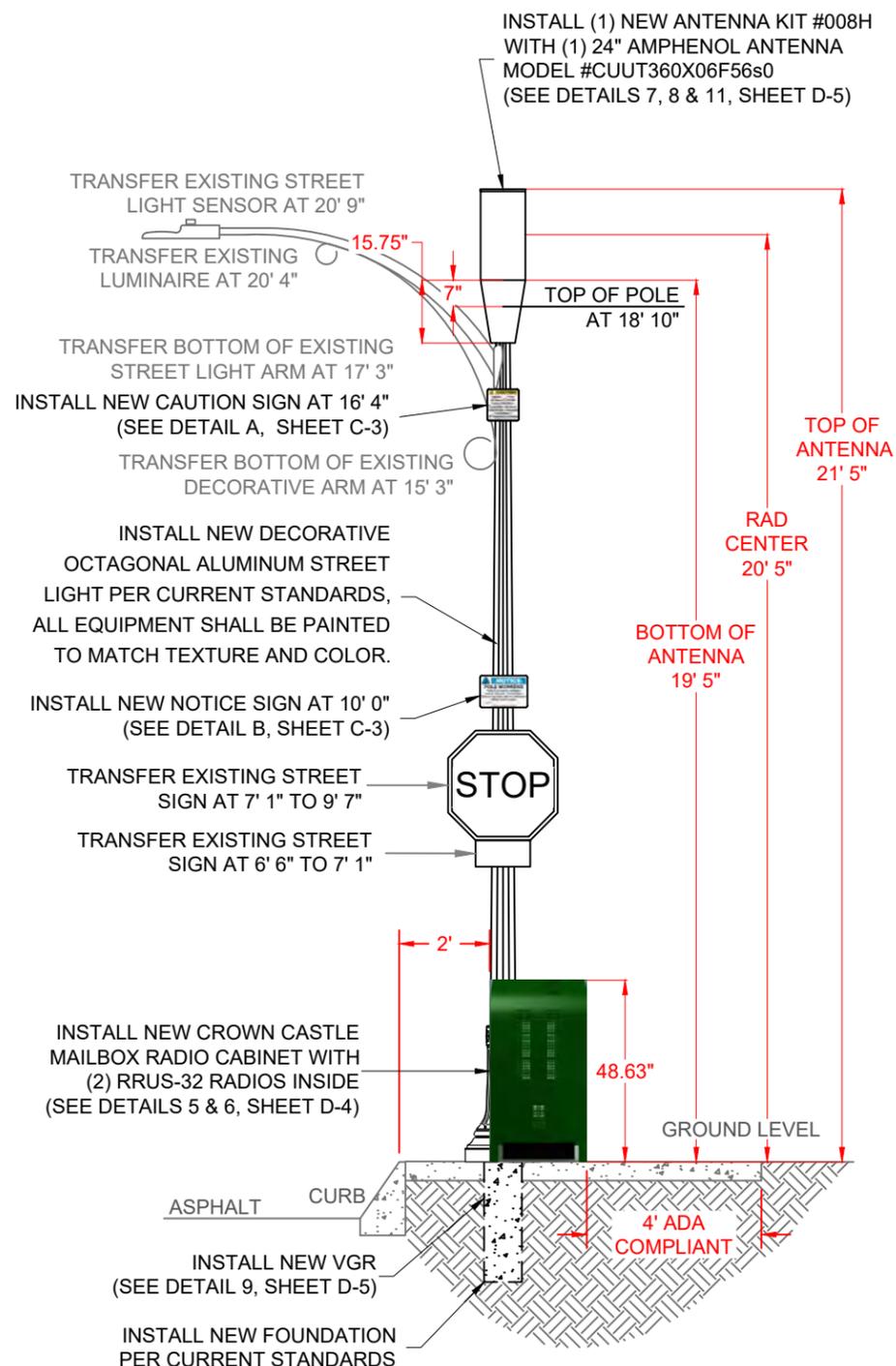
N.T.S. EXISTING 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



PROPOSED 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



**SF PALO ALTO 029
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomminc.com

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DIGALERT

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 TICKET # _____

ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ACROSS FROM 751 WAVERLEY ST & NEAR 760 WAVERLEY ST
 PALO ALTO, CA
 37.444773/-122.156820

PROFILE

DRAWN BY: BMW	DRAFT DATE: 02/13/18	APPROVED BY: TT
------------------	-------------------------	--------------------

SHEET NO.
P-3

STREET LIGHT

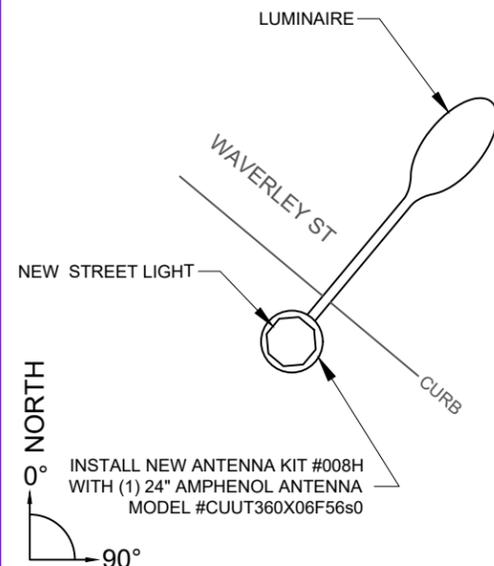
POLE ID #76

TOP OF EXISTING POLE: 18' 10"
 TOP OF ANTENNA(S): 21' 5"
 RAD CENTER: 20' 5"
 AZIMUTH(S): OMNI
 PROFILE VIEW: 12 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

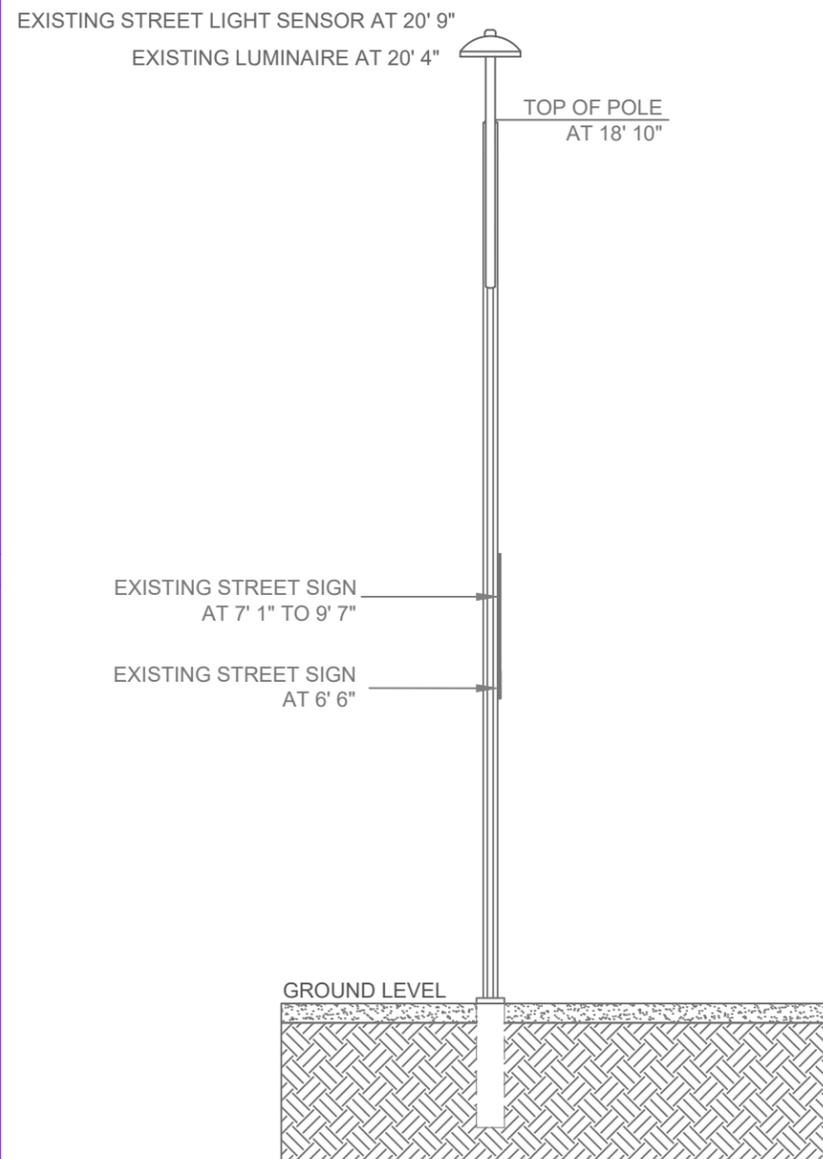
NEW CONSTRUCTION NOTES



TOP VIEW

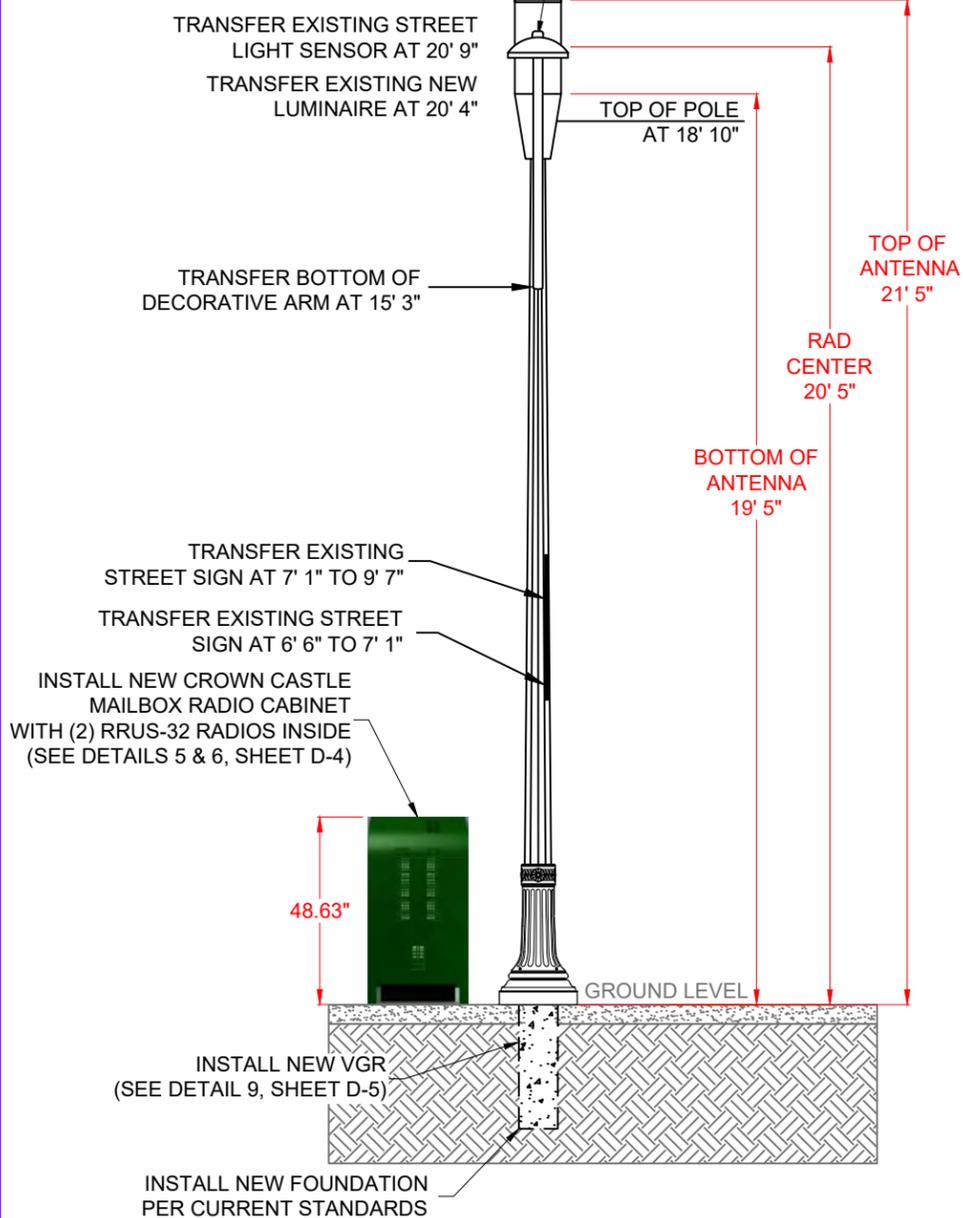
N.T.S.

EXISTING 12 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUT360X06F56S0 (SEE DETAILS 7, 8 & 11, SHEET D-5)



PROPOSED 12 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 029
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:



695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:



5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
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 TICKET # _____

ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE



SITE NAME & ADDRESS:
 ROW ACROSS FROM 751 WAVERLEY ST & NEAR 760 WAVERLEY ST
 PALO ALTO, CA
 37.444773/-122.156820

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BMW	02/13/18	TT

SHEET NO.
P-4

STREET LIGHT

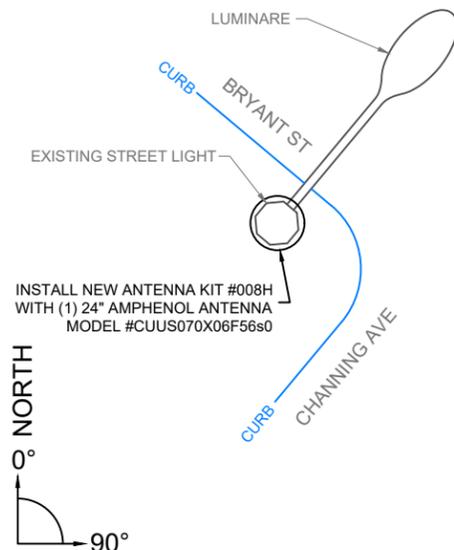
POLE ID# 86

TOP OF EXISTING POLE: 18' 9"
 TOP OF ANTENNA(S): 21' 4"
 RAD CENTER: 20' 4"
 AZIMUTH(S): 350°
 PROFILE VIEW: 9 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOITCE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

NEW CONSTRUCTION NOTES

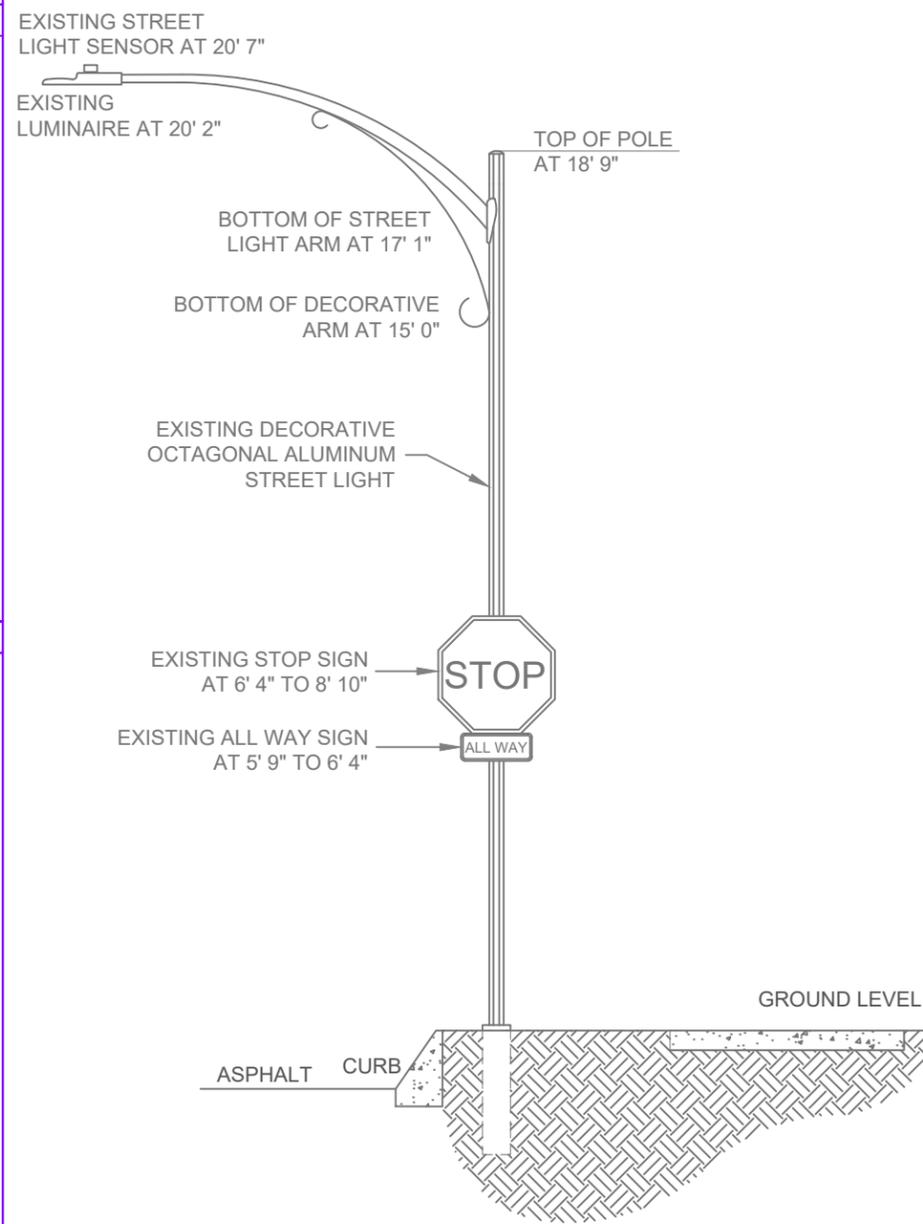


TOP VIEW

N.T.S.

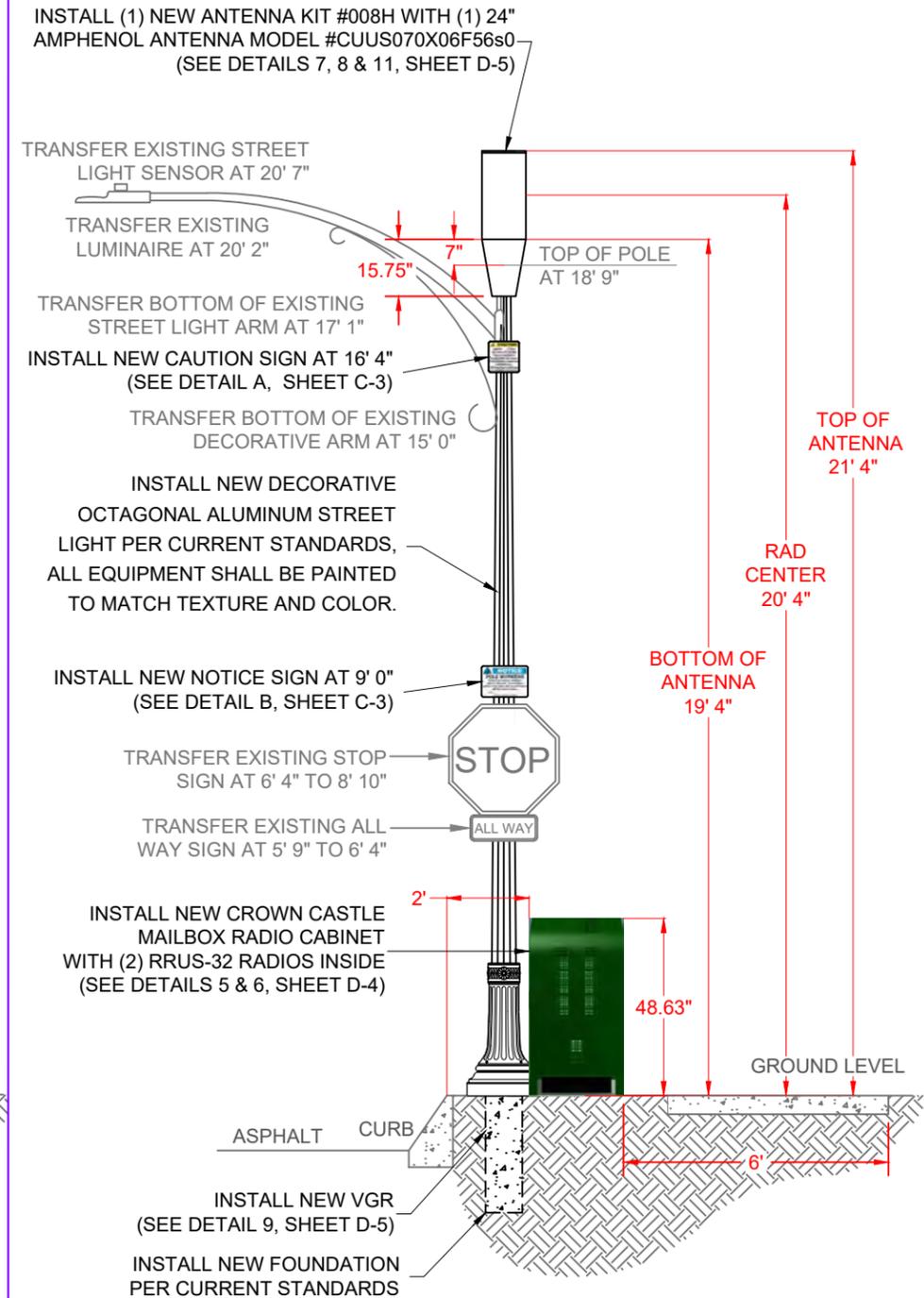
EXISTING 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



PROPOSED 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



**SF PALO ALTO 030
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomminc.com

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 TICKET # _____

ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

SITE NAME & ADDRESS:
 ROW ADJACENT TO 411 BRYANT ST
 NEAR CORNER OF CHANNING AVE
 AND BRYANT ST
 PALO ALTO, CA
 37.442776/-122.156771

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BW	02/14/18	TT

SHEET NO.
P-3

STREET LIGHT

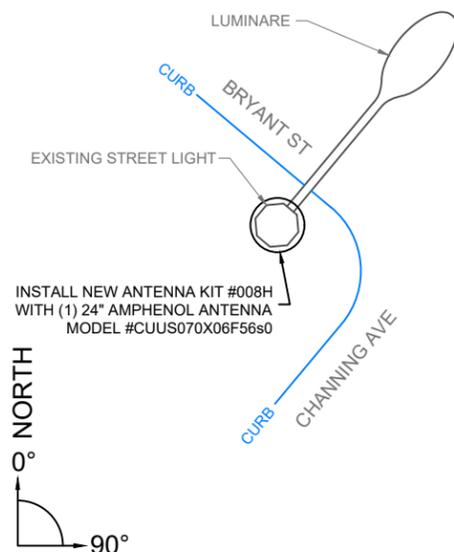
POLE ID# 86

TOP OF EXISTING POLE: 18' 9"
 TOP OF ANTENNA(S): 21' 4"
 RAD CENTER: 20' 4"
 AZIMUTH(S): 350°
 PROFILE VIEW: 12 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOITCE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

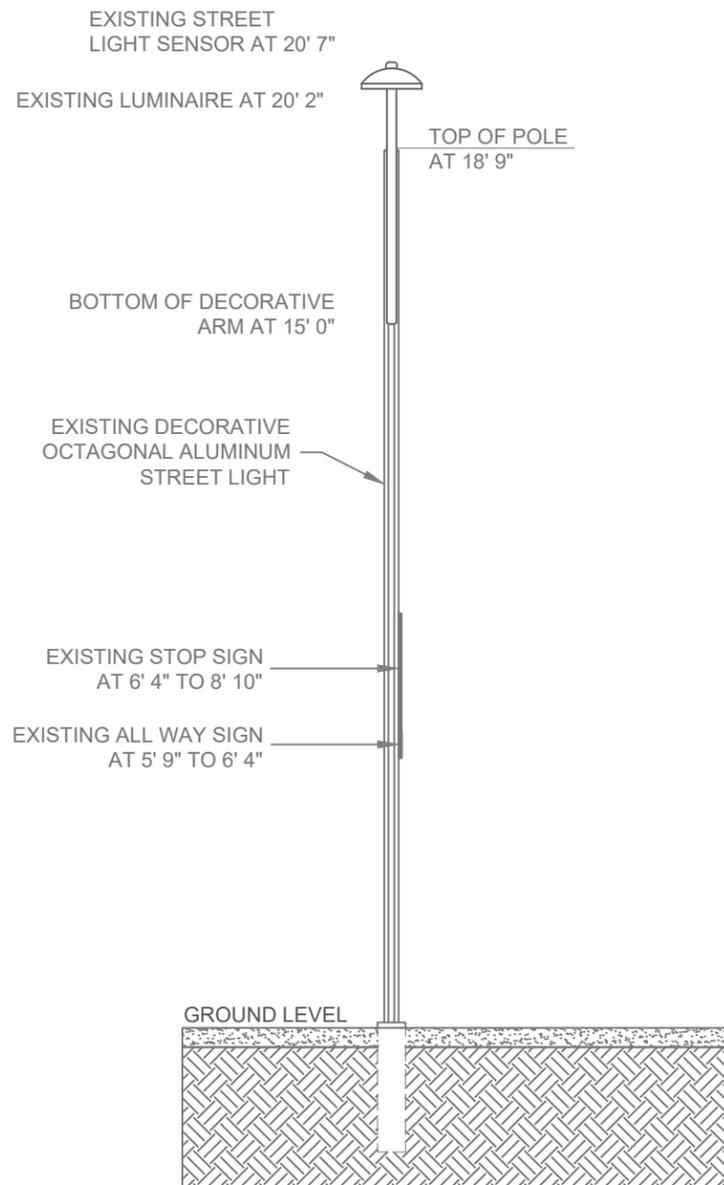
NEW CONSTRUCTION NOTES



TOP VIEW

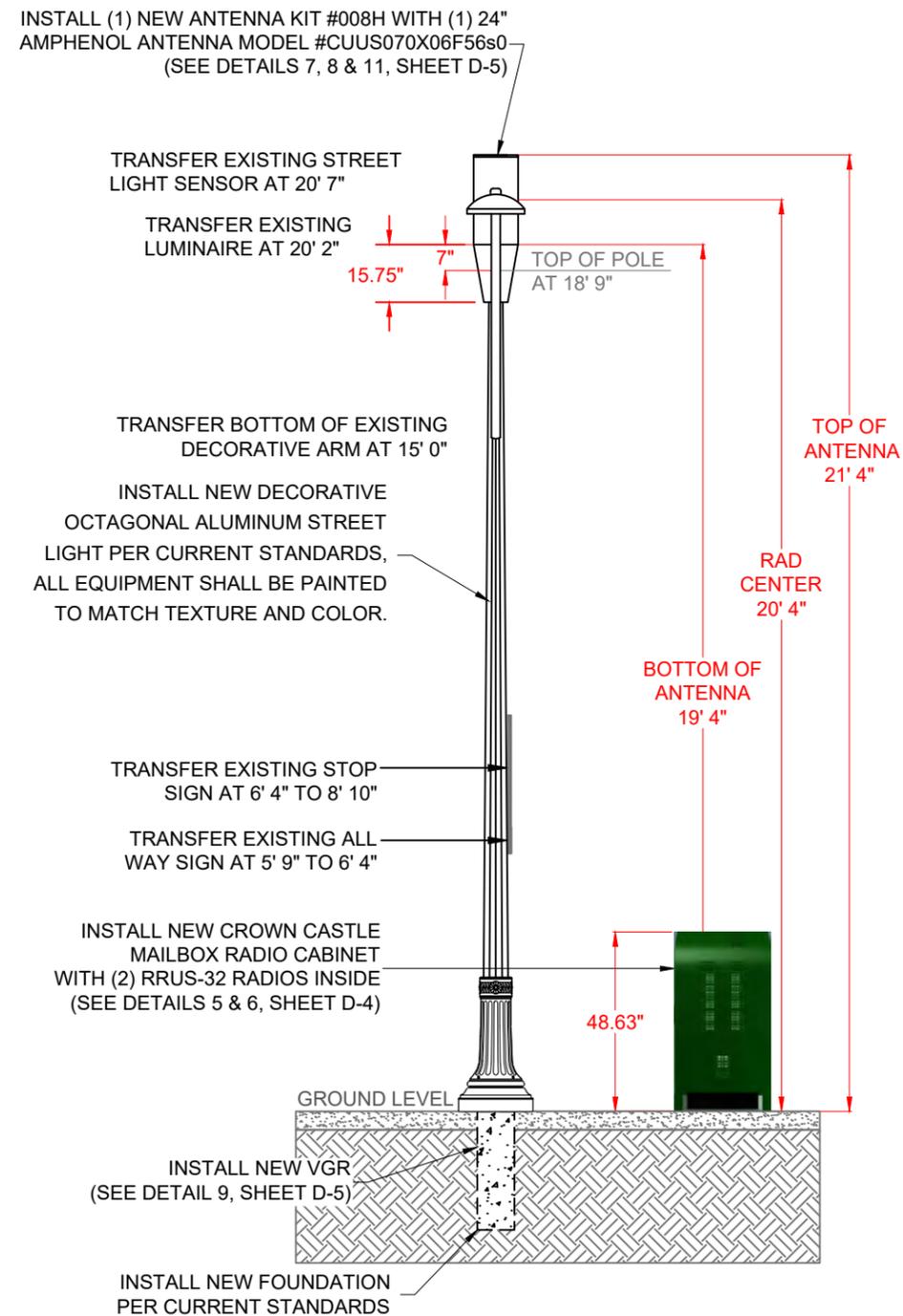
N.T.S.

EXISTING 12 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

PROPOSED 12 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 030
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
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 www.coastalcomminc.com

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ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

SITE NAME & ADDRESS:
 ROW ADJACENT TO 411 BRYANT ST
 NEAR CORNER OF CHANNING AVE
 AND BRYANT ST
 PALO ALTO, CA
 37.442776/-122.156771

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BW	02/14/18	TT

SHEET NO.
P-4

STREET LIGHT

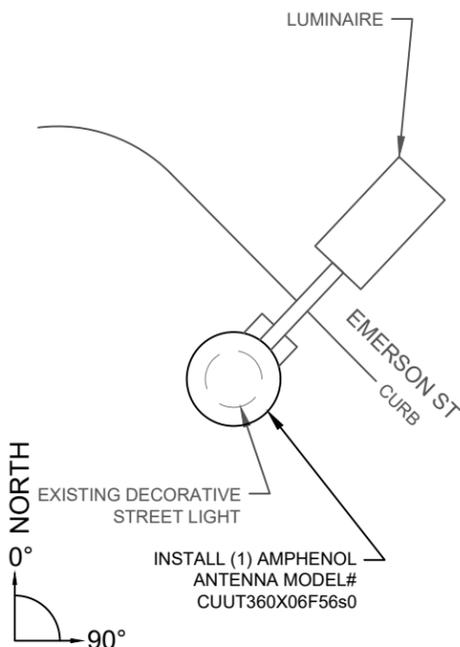
POLE ID #16

TOP OF EXISTING POLE: 25' 3"
 TOP OF ANTENNA(S): 27' 10"
 RAD CENTER: 26' 10"
 AZIMUTH(S): OMNI
 PROFILE VIEW: 9 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

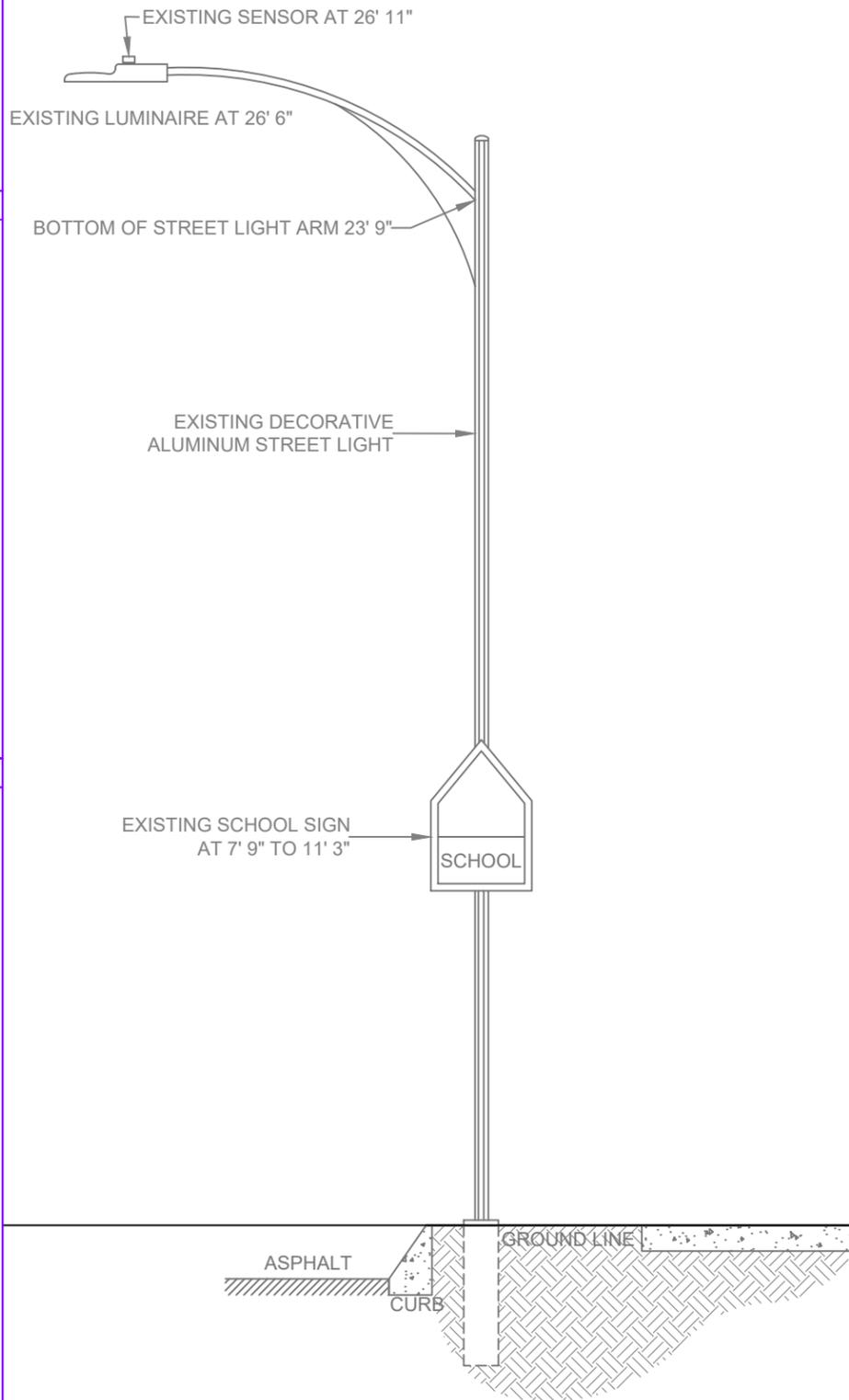
NEW CONSTRUCTION NOTES



TOP VIEW

N.T.S.

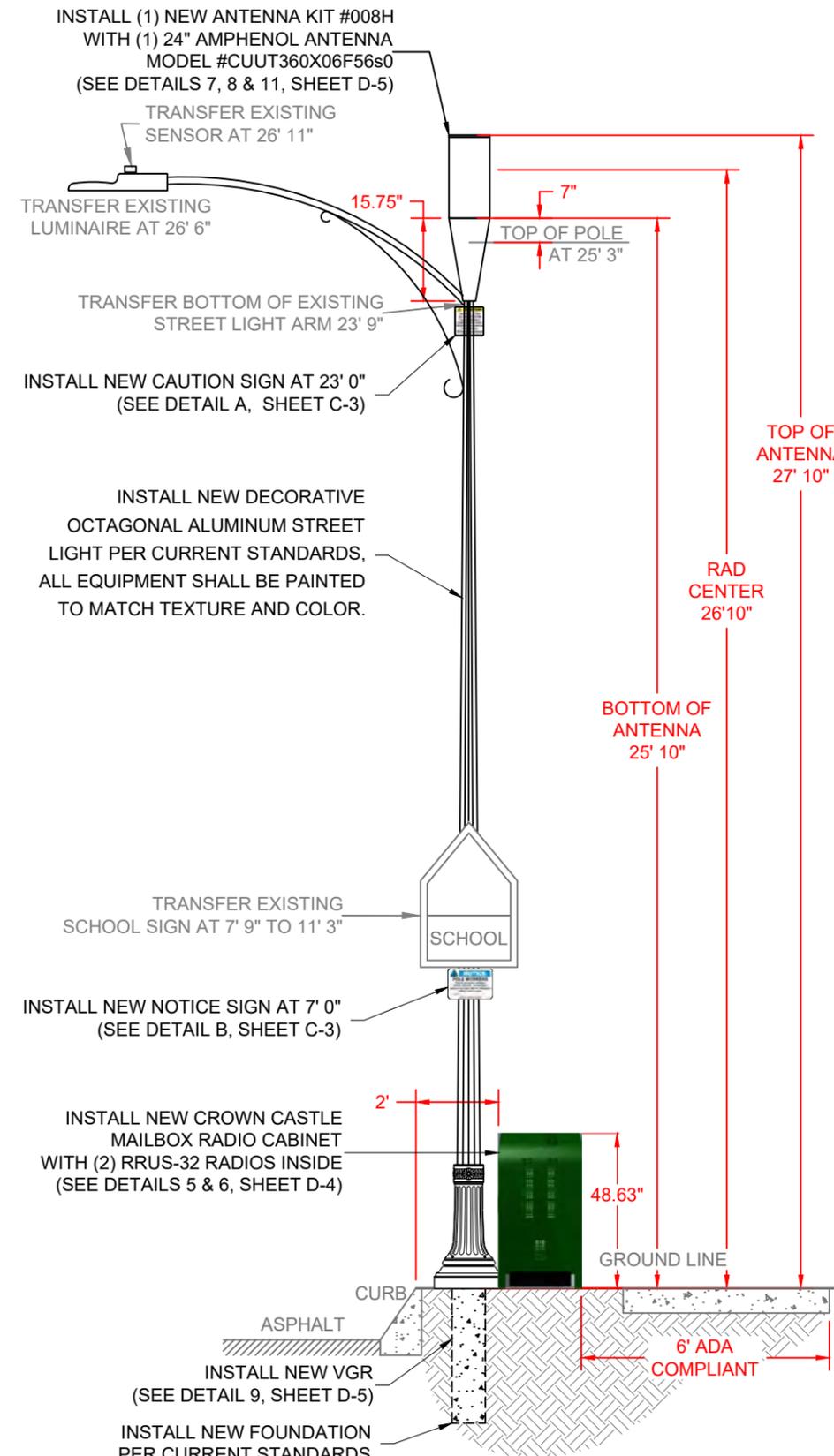
EXISTING 9 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

PROPOSED 9 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"



**SF PALO ALTO 031
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

Coastal Communications
 Telecommunications Engineering
 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
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ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ACROSS FROM 913 EMERSON ST NEAR CORNER OF CHANNING AVE AND EMERSON ST PALO ALTO, CA
 37.441468/-122.157801

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BW	02/15/18	TT

SHEET NO.
P-3

STREET LIGHT

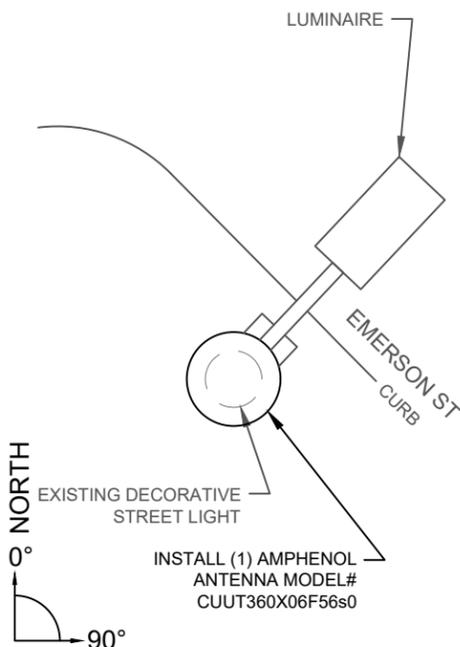
POLE ID #16

TOP OF EXISTING POLE: 25' 3"
 TOP OF ANTENNA(S): 27' 10"
 RAD CENTER: 26' 10"
 AZIMUTH(S): OMNI
 PROFILE VIEW: 12 O'CLOCK ELEVATION

PROFILE NOTES

- EXISTING STREET LIGHT TO BE REPLACED WITH CURRENT STANDARDS.
- EXISTING FOUNDATION TO BE REPLACED WITH CURRENT STANDARDS.
- INSTALL (1) NEW ANTENNA KIT SHROUD #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUS070X06F56S0.
- INSTALL (1) NEW VGR.
- ANTENNA(S) & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL NEW CROWN CASTLE 2' X 2' MAILBOX RADIO CABINET WITH (2) RRUS32 RADIOS INSIDE.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

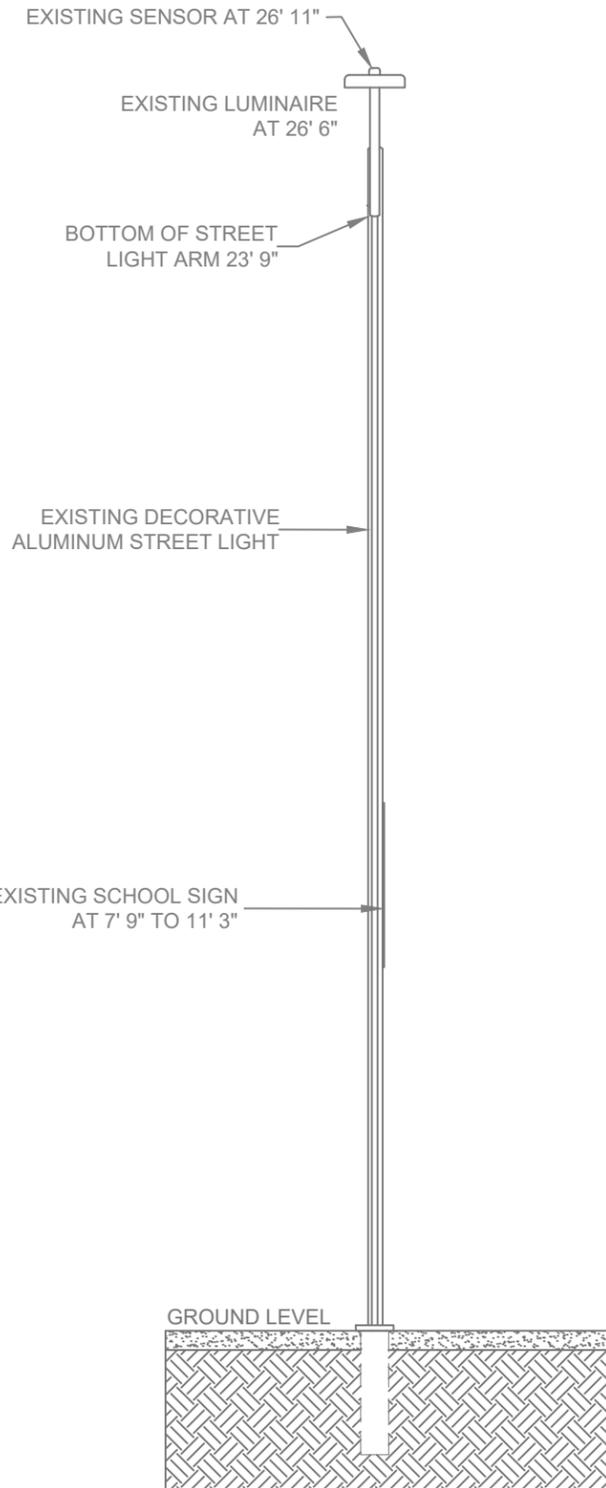
NEW CONSTRUCTION NOTES



TOP VIEW

N.T.S.

EXISTING 12 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

INSTALL (1) NEW ANTENNA KIT #008H WITH (1) 24" AMPHENOL ANTENNA MODEL #CUUT360X06F56s0 (SEE DETAILS 7, 8 & 11, SHEET D-5)

TRANSFER EXISTING SENSOR AT 26' 11"

TRANSFER EXISTING LUMINAIRE AT 26' 6"

TRANSFER BOTTOM OF EXISTING STREET LIGHT ARM 23' 9"

INSTALL NEW DECORATIVE OCTAGONAL ALUMINUM STREET LIGHT PER CURRENT STANDARDS, ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

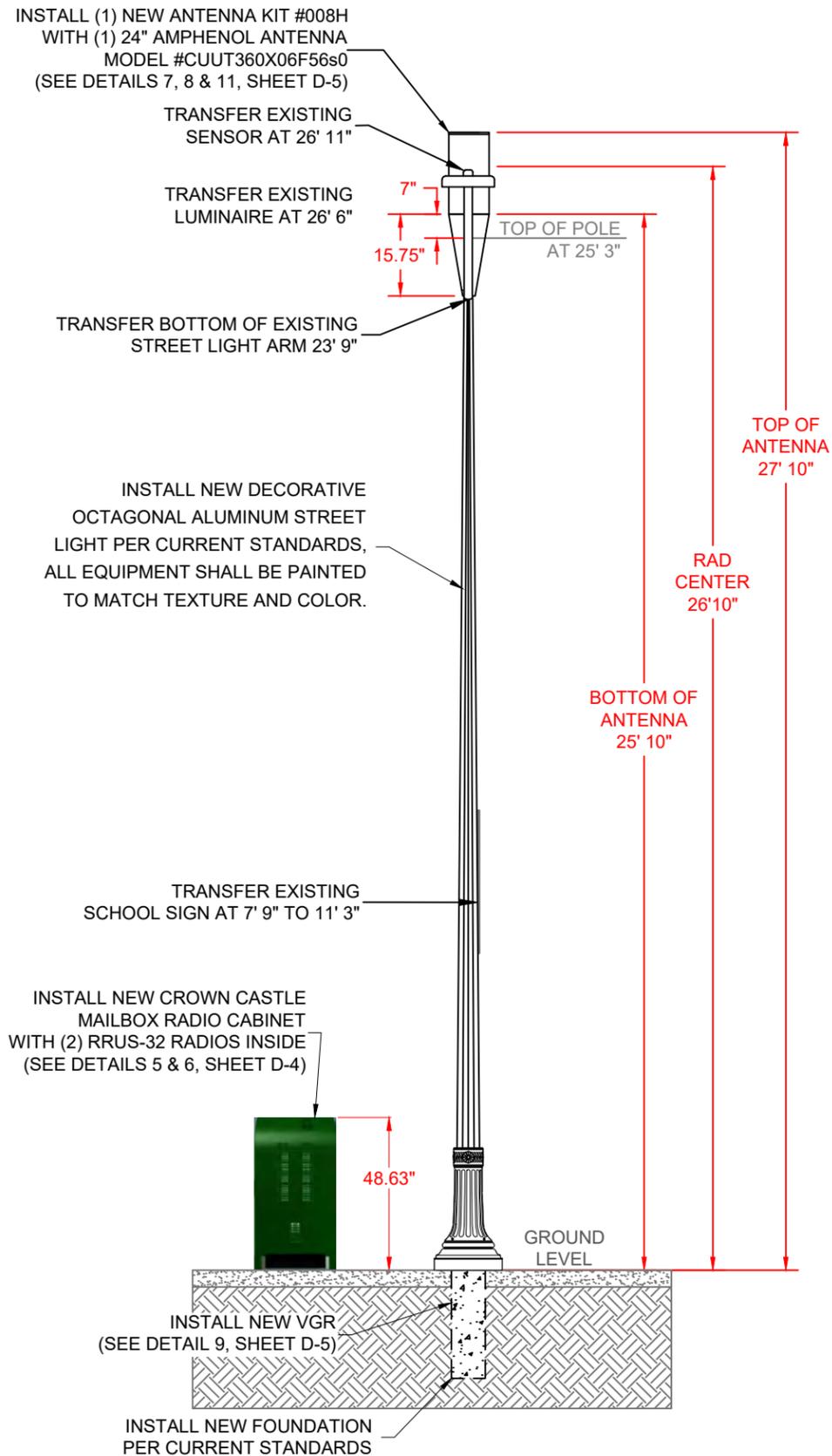
TRANSFER EXISTING SCHOOL SIGN AT 7' 9" TO 11' 3"

INSTALL NEW CROWN CASTLE MAILBOX RADIO CABINET WITH (2) RRUS-32 RADIOS INSIDE (SEE DETAILS 5 & 6, SHEET D-4)

INSTALL NEW VGR (SEE DETAIL 9, SHEET D-5)

INSTALL NEW FOUNDATION PER CURRENT STANDARDS

PROPOSED 12 O'CLOCK ELEVATION



11"x17" SCALE: 1/4" = 1'-0"
 24"x36" SCALE: 1/2" = 1'-0"

**SF PALO ALTO 031
 PALO ALTO**

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:

 695 RIVER OAKS PARKWAY
 SAN JOSE, CA 95134
 www.crowncastle.com

PREPARED BY:

 5841 EDISON PLACE, SUITE 200
 CARLSBAD, CA 92008
 PHONE: (760) 929-0910
 FAX: (760) 929-0936
 www.coastalcomminc.com

PROPRIETARY INFORMATION
 THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY AND CONFIDENTIAL TO VERIZON. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO VERIZON IS STRICTLY PROHIBITED.

DIGALERT

 1-800-227-2600
 CALL AT LEAST TWO DAYS BEFORE YOU DIG
 UNDERGROUND SERVICE ALERT
 TICKET # _____

ZONING SUBMITTAL	03/03/18
ZONING COMMENTS	04/12/18
REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
 JERRY L. MICHAL
 No. C42590
 Exp. 03-31-20
 CIVIL
 STATE OF CALIFORNIA

SITE NAME & ADDRESS:
 ROW ACROSS FROM 913 EMERSON ST NEAR CORNER OF CHANNING AVE AND EMERSON ST
 PALO ALTO, CA
 37.441468/-122.157801

PROFILE

DRAWN BY: BW	DRAFT DATE: 02/15/18	APPROVED BY: TT
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SHEET NO.
P-4

EXHIBIT C



12/17/2018

Verizon CA Palo Alto Expansion oDAS

Cluster 2 (5W vs 40W)

CW Results (1900 MHz and 2100 MHz LTE MIMO)

Street Lights: SF PALO ALTO 025, 026, 027, 028m1, 029, 030 and 031

Amplifier Equipment (40W): 1 RRUS32 4x40W (1900) and 1 RRUS32 B4/66 4x40W (2100)

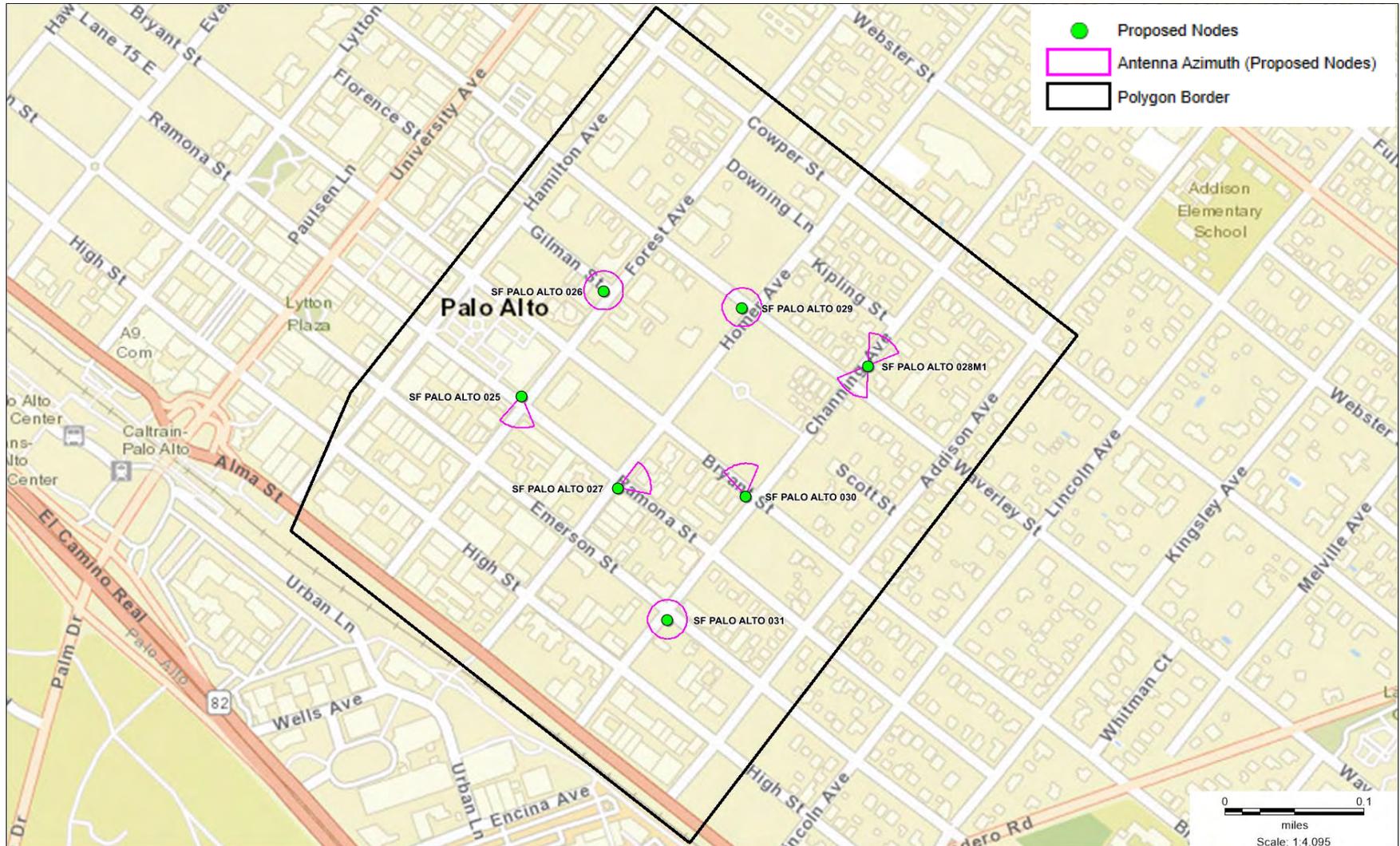
Amplifier Equipment (5W): 2 2203 radios 2x5W (1900) and 2 2203 radios for 2x5W (2100)

Cluster 2 (5W vs 40W) Summary

- Coverage maps were updated to show results for 5W vs 40W.
- Page 3 shows the Crown Castle design for 7 nodes with 40W radios.
- Page 4 shows the City design for 14 nodes with 5W radios. Seven additional locations were added to cover the gaps that were created by changing the equipment.
- Pages 5, 6, 9 and 10 shows the existing coverage for 1900MHz and 2100MHz.
- Pages 7, 9, 11 and 12 shows the proposed coverage for 1900MHz and 2100MHz.
- The legend for pages 7 thru 12 is shown below.
 - Green for In-Building signal level between -30 dBm and greater than -85 dBm,
 - Yellow for In-Car signal level between less than -85 dBm and greater than -95 dBm and
 - Red for Poor signal level between less than -95 dBm and -120 dBm.
- The seven additional locations need to be approved by carrier.

Node Locations

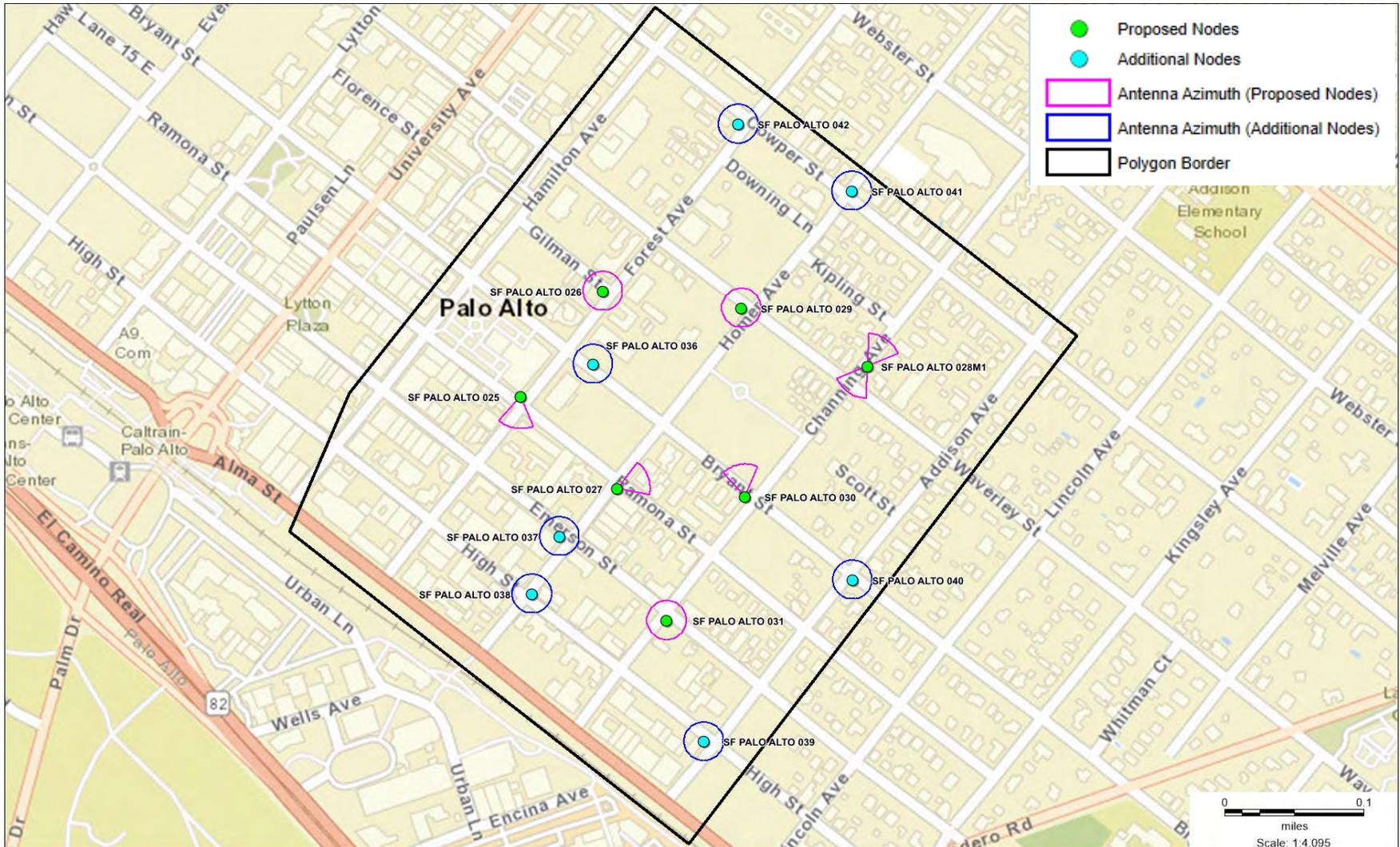
Crown Castle design with 40W radios



Proprietary &
Confidential

Node Locations

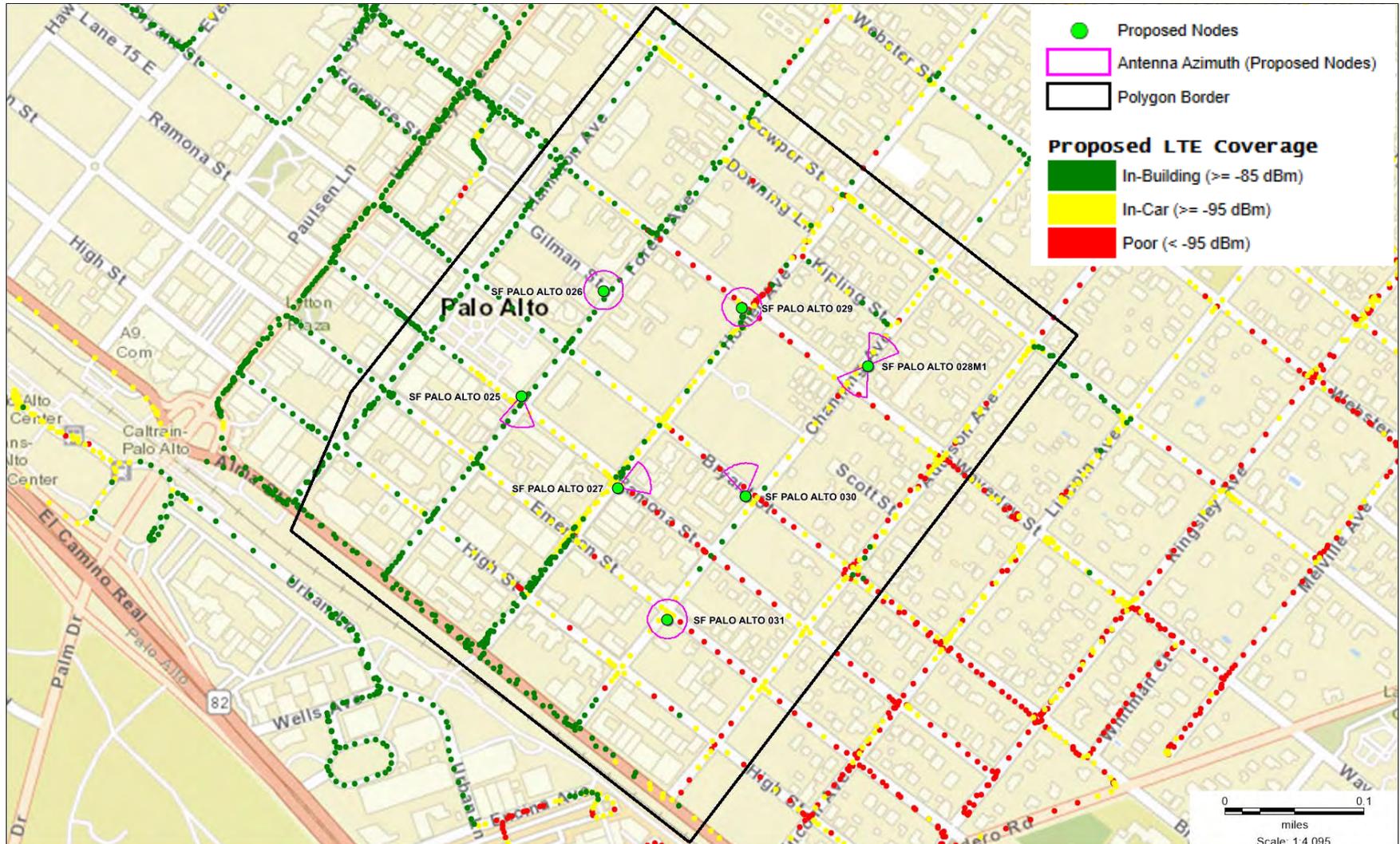
City design with 5W radios



Existing RF Coverage

Crown Castle design with 40W radios

1900 MHz Band

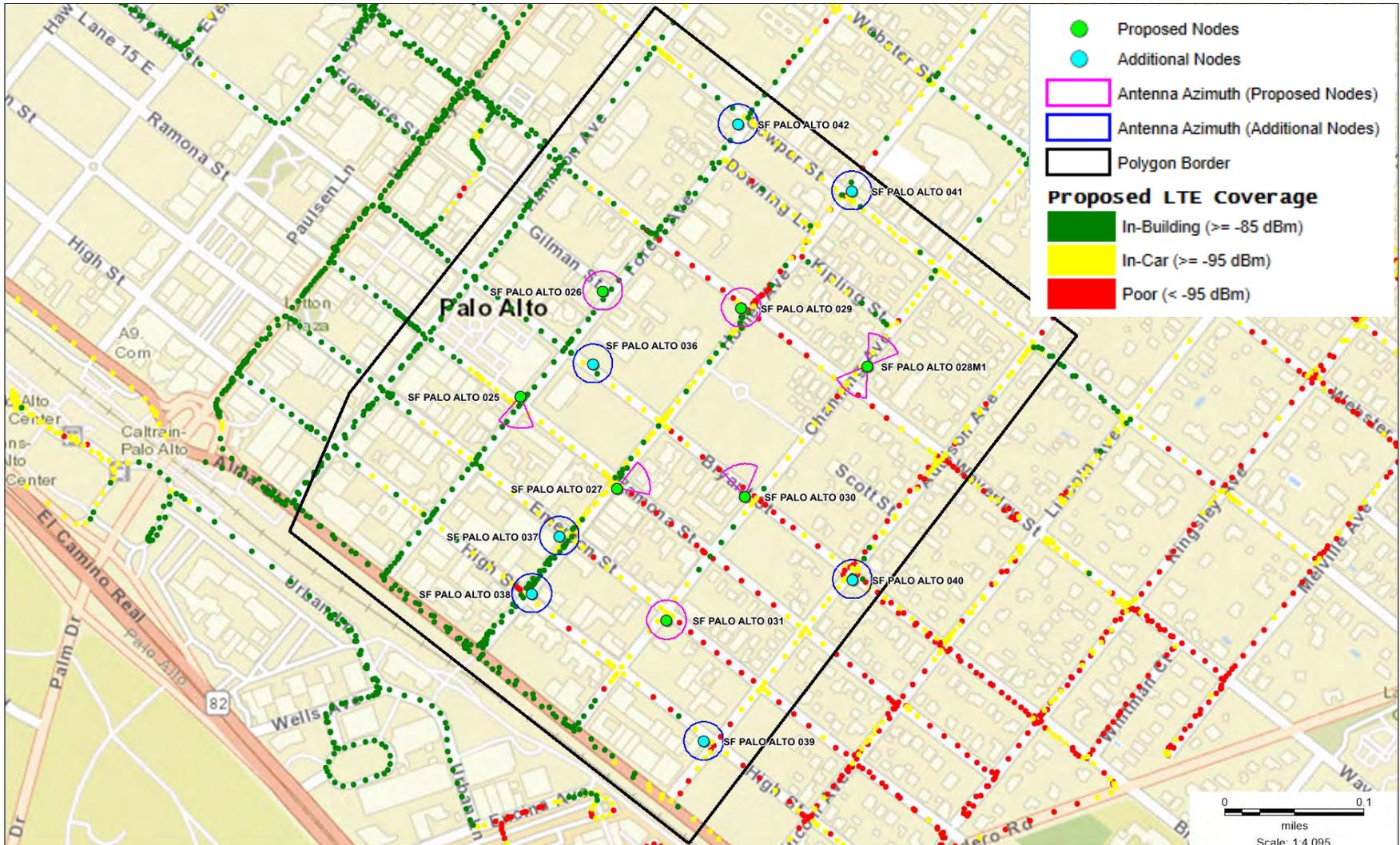


Proprietary & Confidential

Existing RF Coverage

City design with 5W radios

1900 MHz Band

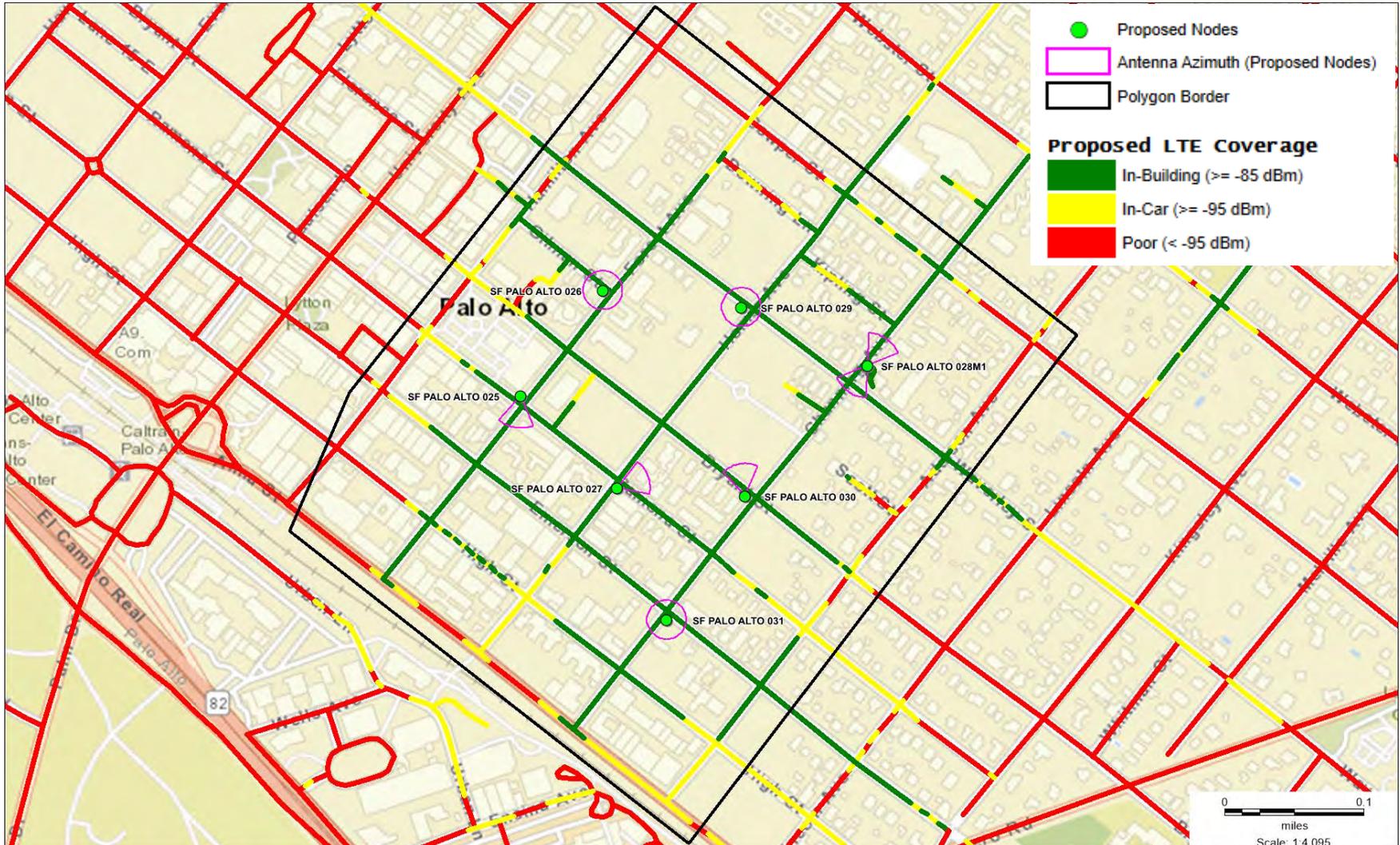


Proprietary & Confidential

Proposed RF Coverage

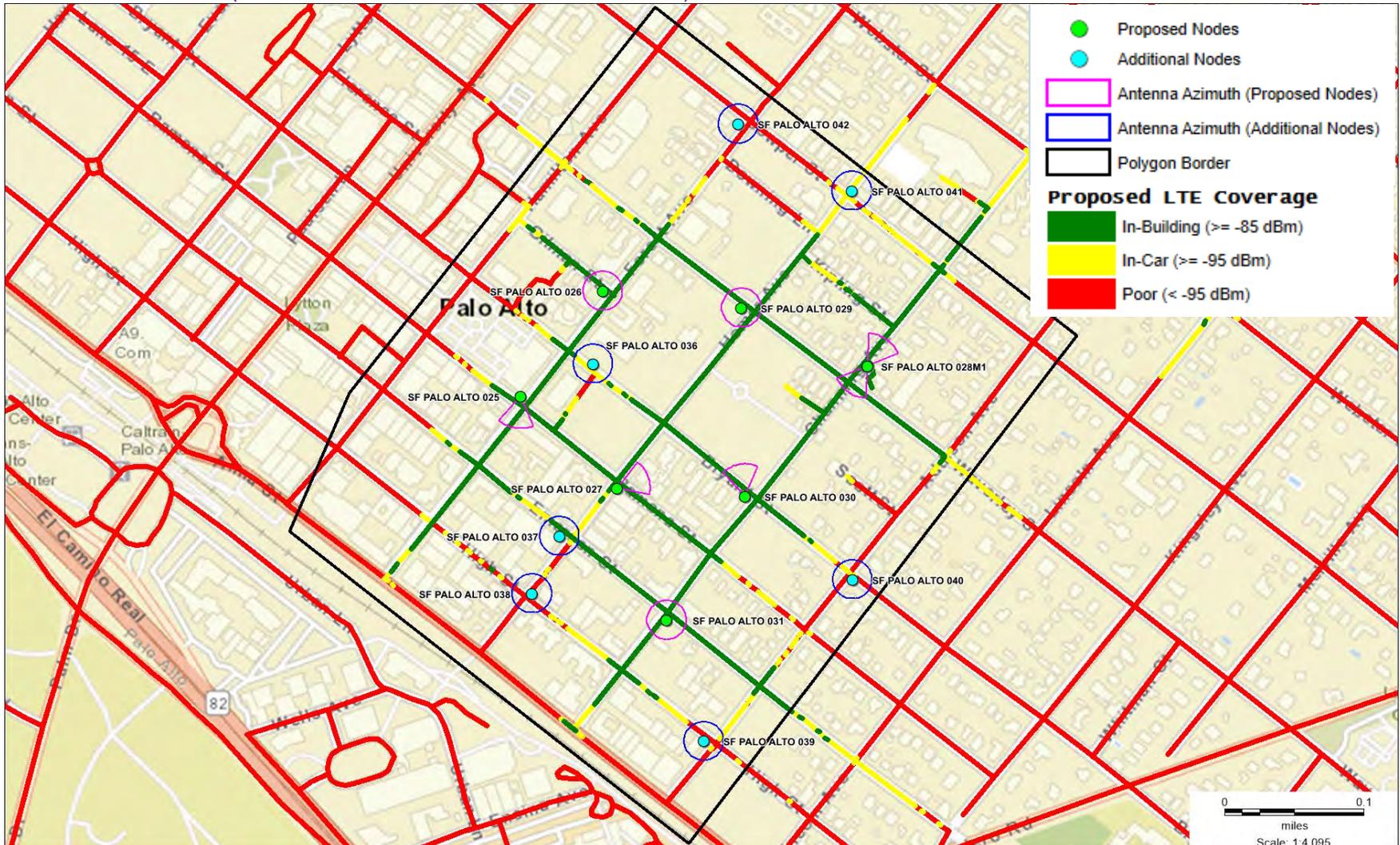
CW Results - Crown Castle coverage for 7 proposed nodes with 40W radios

1900 MHz Band



Proposed RF Coverage

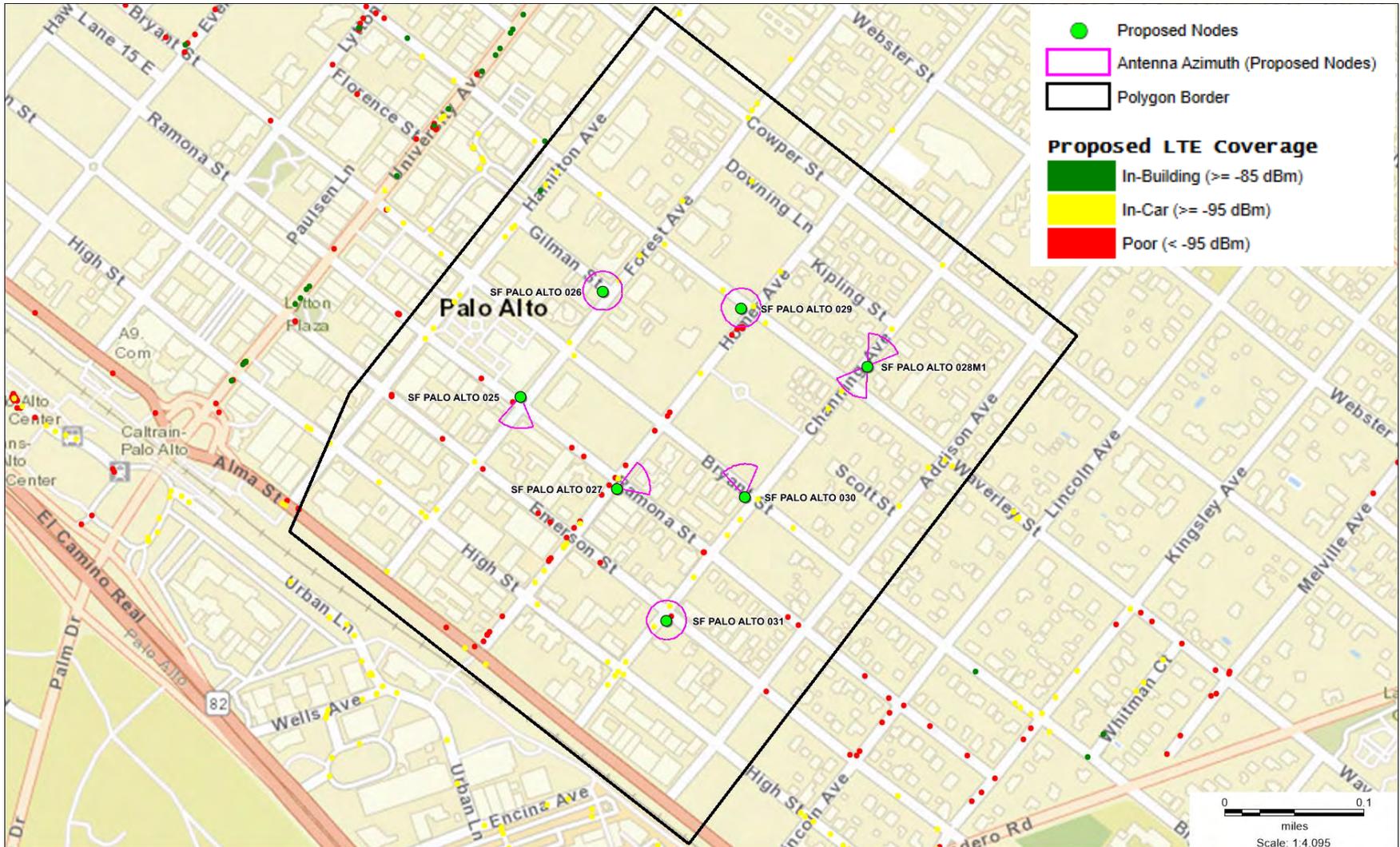
CW Results - City coverage for 7 proposed nodes with 5W radios
1900 MHz Band (No CW data for the additional nodes)



Existing RF Coverage

Crown Castle design with 40W radios

2100 MHz Band

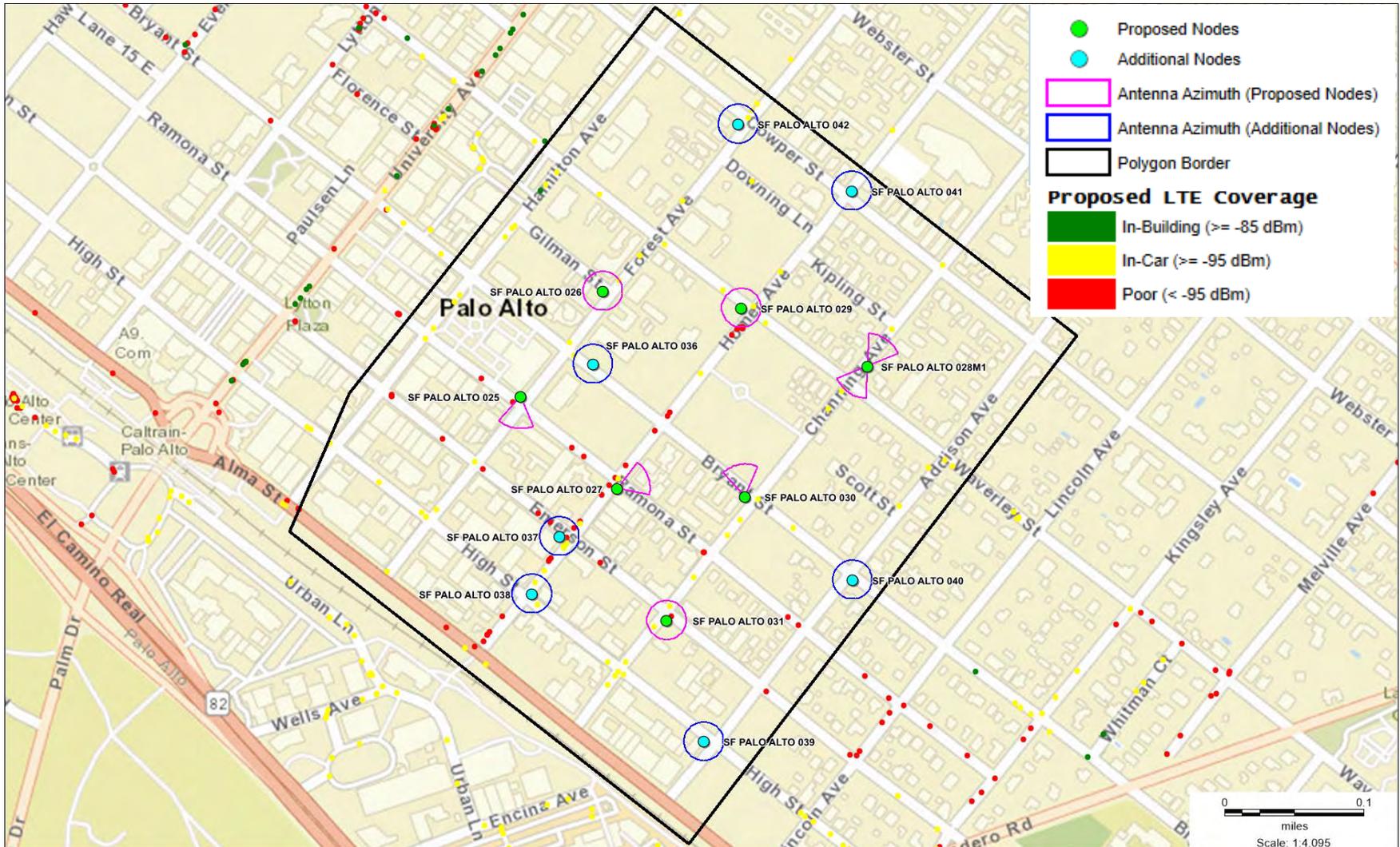


Proprietary & Confidential

Existing RF Coverage

City design with 5W radios

2100 MHz Band

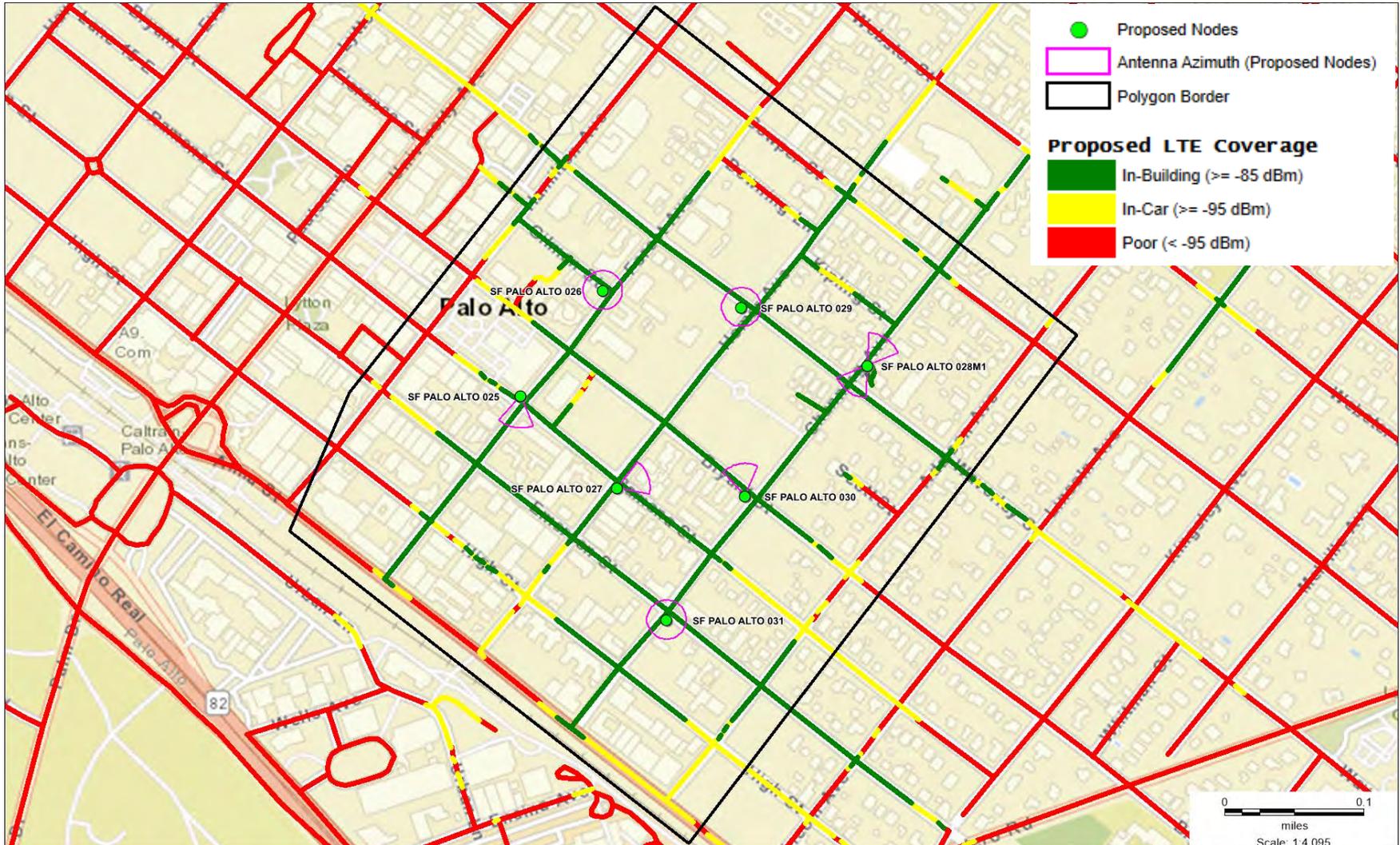


Proprietary & Confidential

Proposed RF Coverage

CW Results - Crown Castle coverage for 7 proposed nodes with 40W radios

2100 MHz Band



Proposed RF Coverage

CW Results - City coverage for 7 proposed nodes with 5W radios
2100 MHz Band (No CW data for the additional nodes)

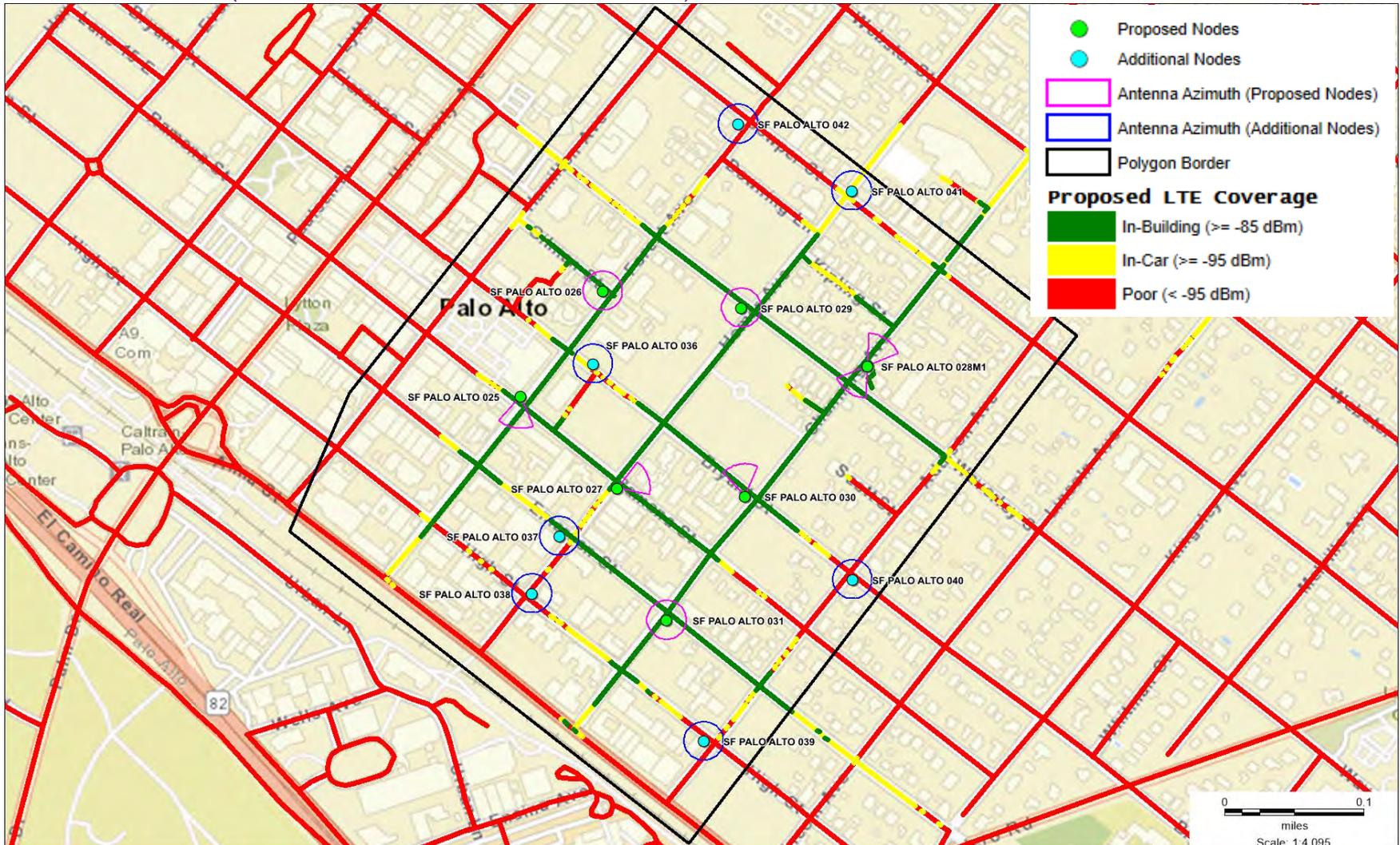
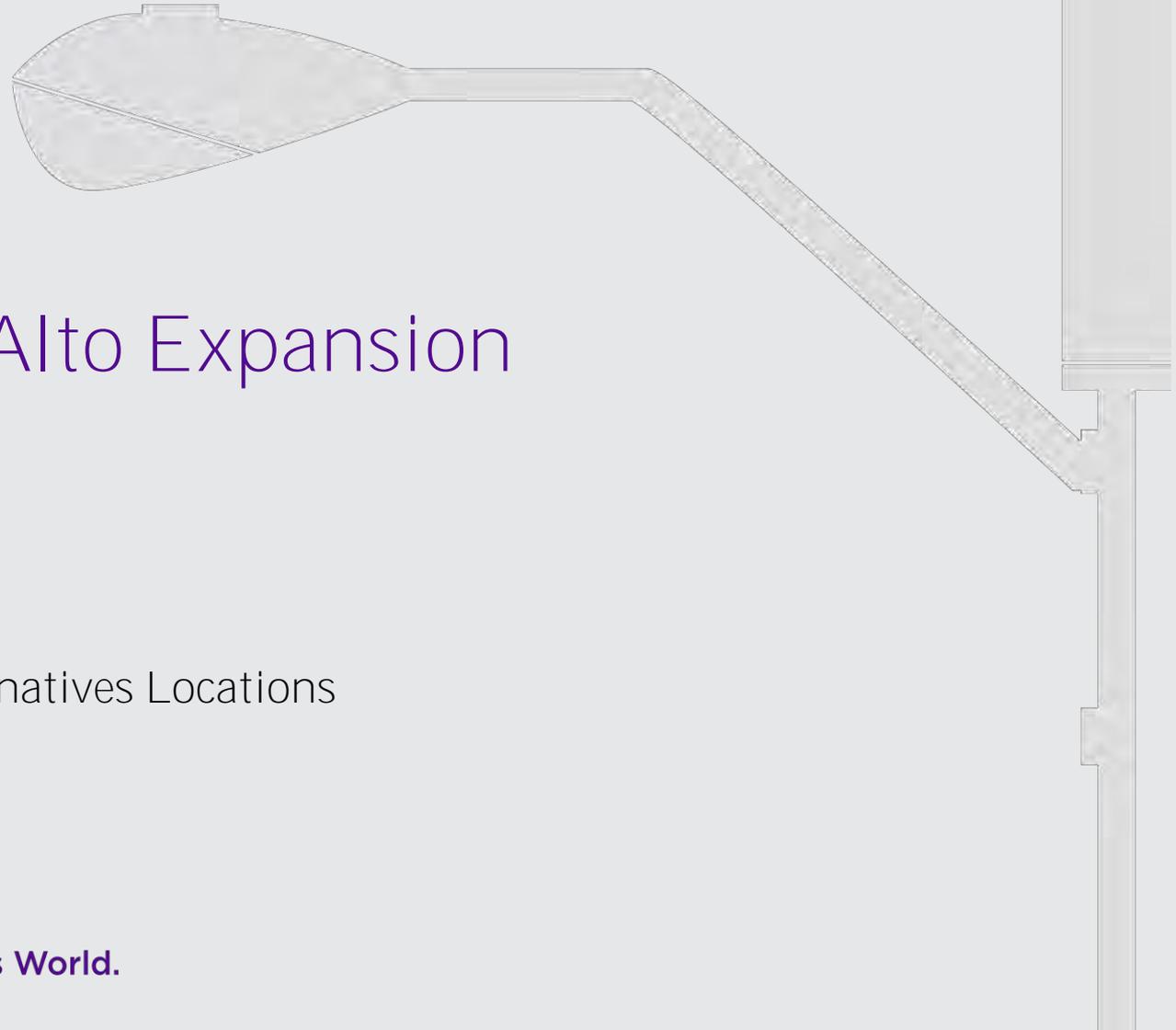


EXHIBIT D



12/04/2018

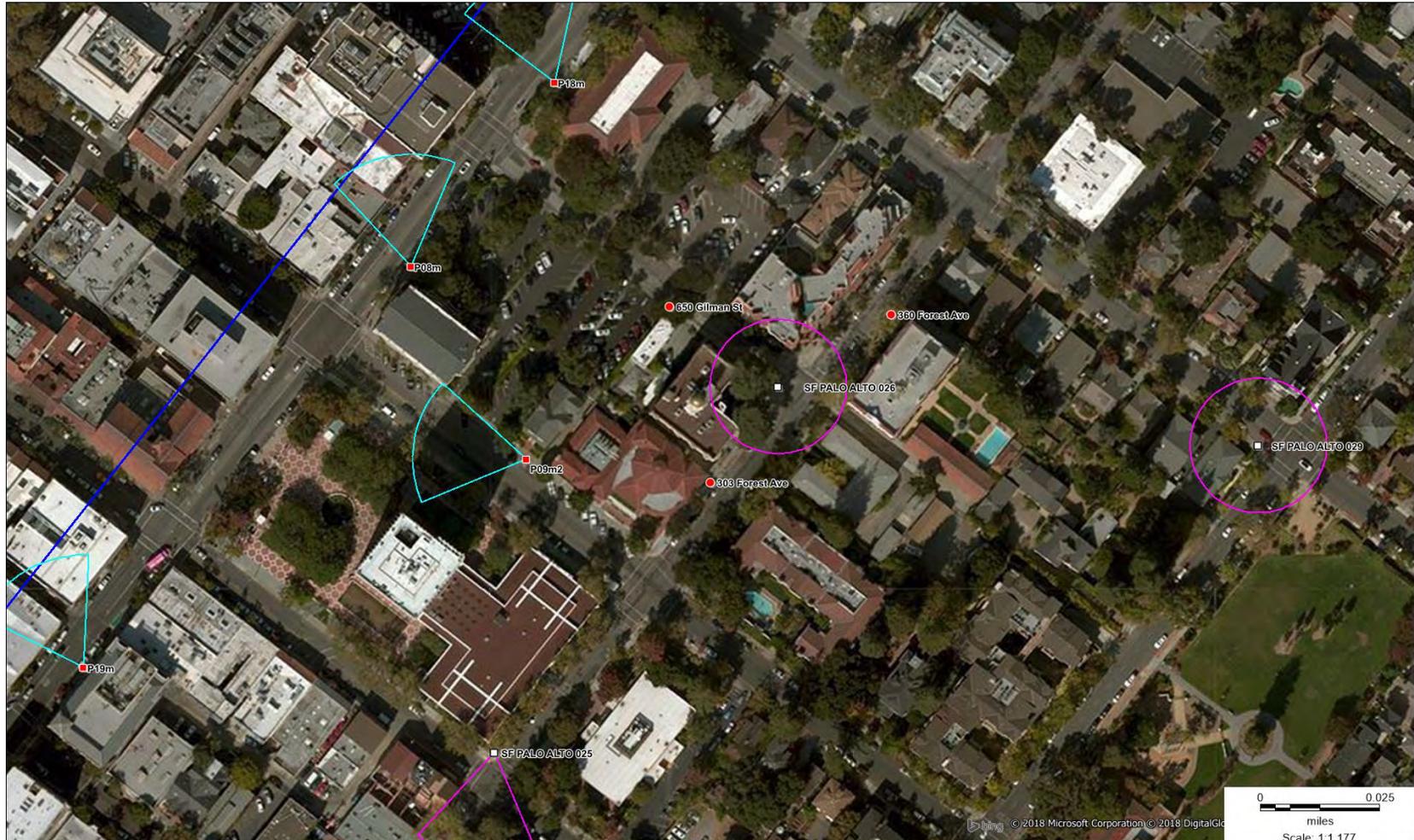


Verizon Palo Alto Expansion

SF Palo Alto 026 – Alternatives Locations

SF Palo Alto 026 (Overview)

The objective for node SF PALO ALTO 026 (Across from 675 Gilman St) is to provide continuous coverage on Forest Avenue and Gilman St. The closer the node is to the intersection the better coverage. Once you start moving farther away from the intersection, the coverage objective will start degrading. Besides the distance, we also need to take into account any obstacles blocking the signal like trees, buildings, etc. The antenna needs to have a clear line of sight in order to accomplish the best coverage results. Also, there are existing nodes for the same carrier on Hamilton Ave and Bryant St.



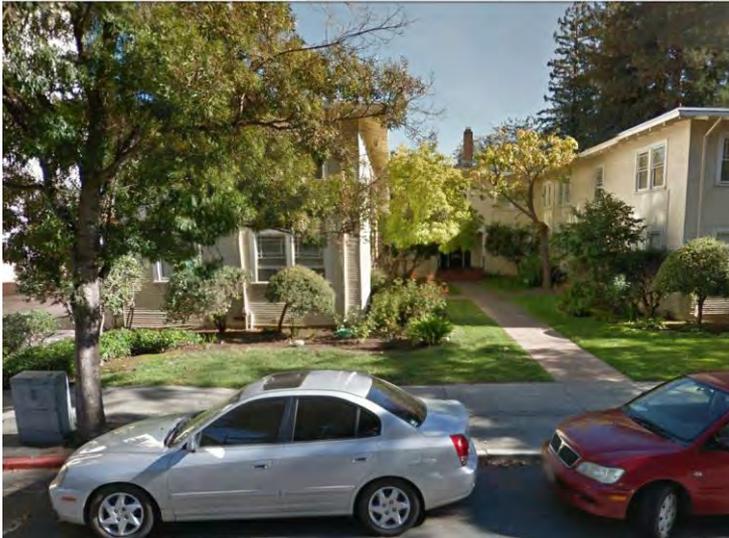
SF Palo Alto 026

(Alternative Locations)



Across from 675 Gilman St (SF Palo Alto 026)

- Proposed location meets the coverage objective.
- No obstacles blocking the signal.



332 Forest Ave (SF Palo Alto 026m1)

- Will meet coverage objective.
- No obstacles blocking the signal.
- Has clear view of Forest Ave and Gilman St intersection.
- Alternative location to SF Palo Alto 026.

SF Palo Alto 026

(Failed Locations)



303 Forest Ave

- View of Gilman St is getting block by the building on 325 Forest Ave. This is a 5 story building.
- This building will decrease the coverage on Gilman St.
- No line of sight on Gilman St.
- Coverage objective is not meet on Gilman St.



360 Forest Ave

- View of Gilman St is getting block by the building on 675 Gilman St. This is a 5 story building.
- This building will decrease the coverage on Gilman St.
- No line of sight on Gilman St.
- Streetlight is between trees.
- Coverage objective is not meet on Gilman St.

SF Palo Alto 026

(Failed Location)



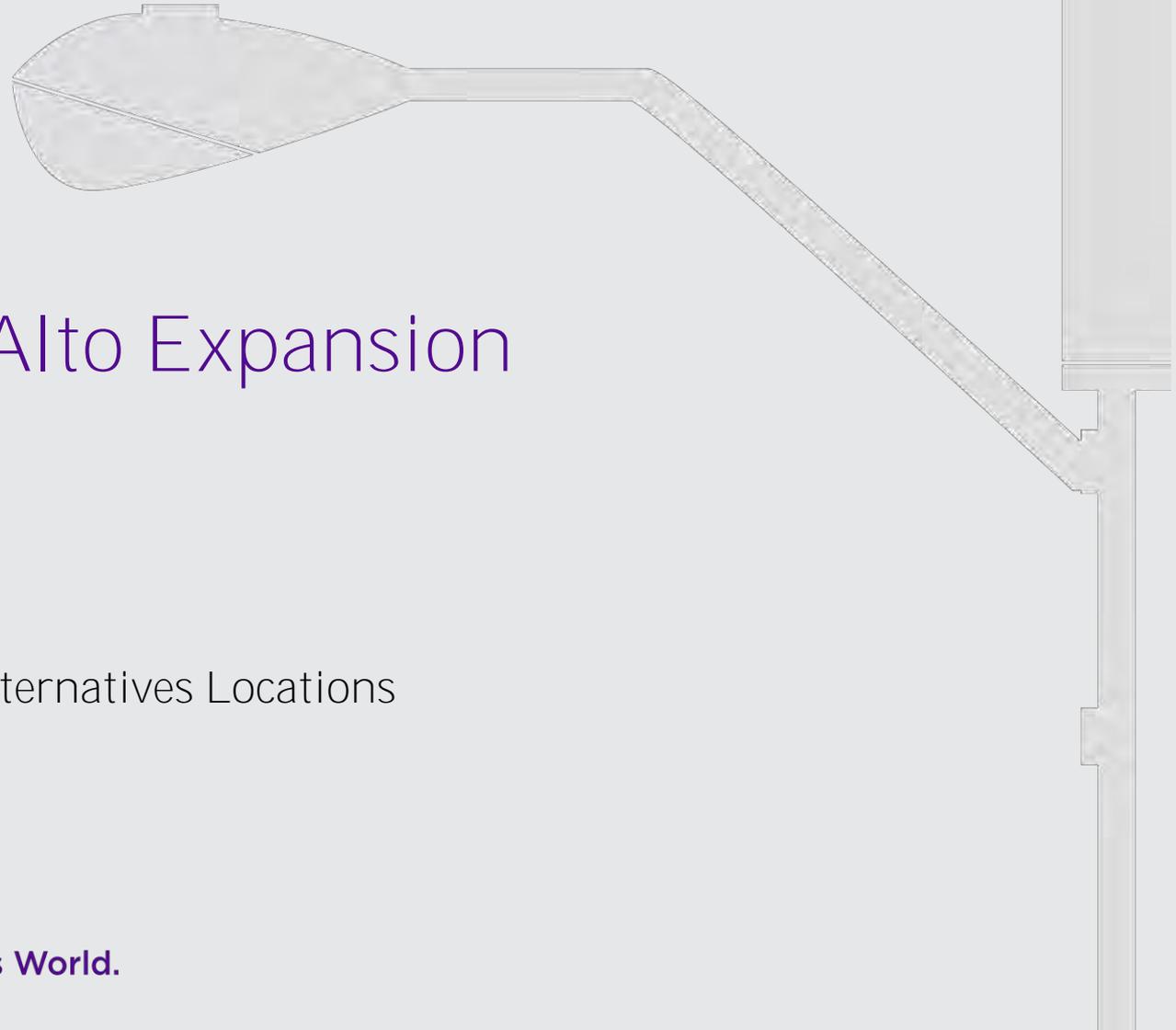
650 Gilman St

- View of Forest Ave is getting block by two buildings on 325 Forest Ave and 675 Gilman St. These are 5 story buildings.
- These buildings will decrease the coverage on Forest Ave.
- No line of sight on Forest Ave.
- Streetlight is next to tree.
- Coverage objective is not meet on Forest Ave.

EXHIBIT E



12/04/2018

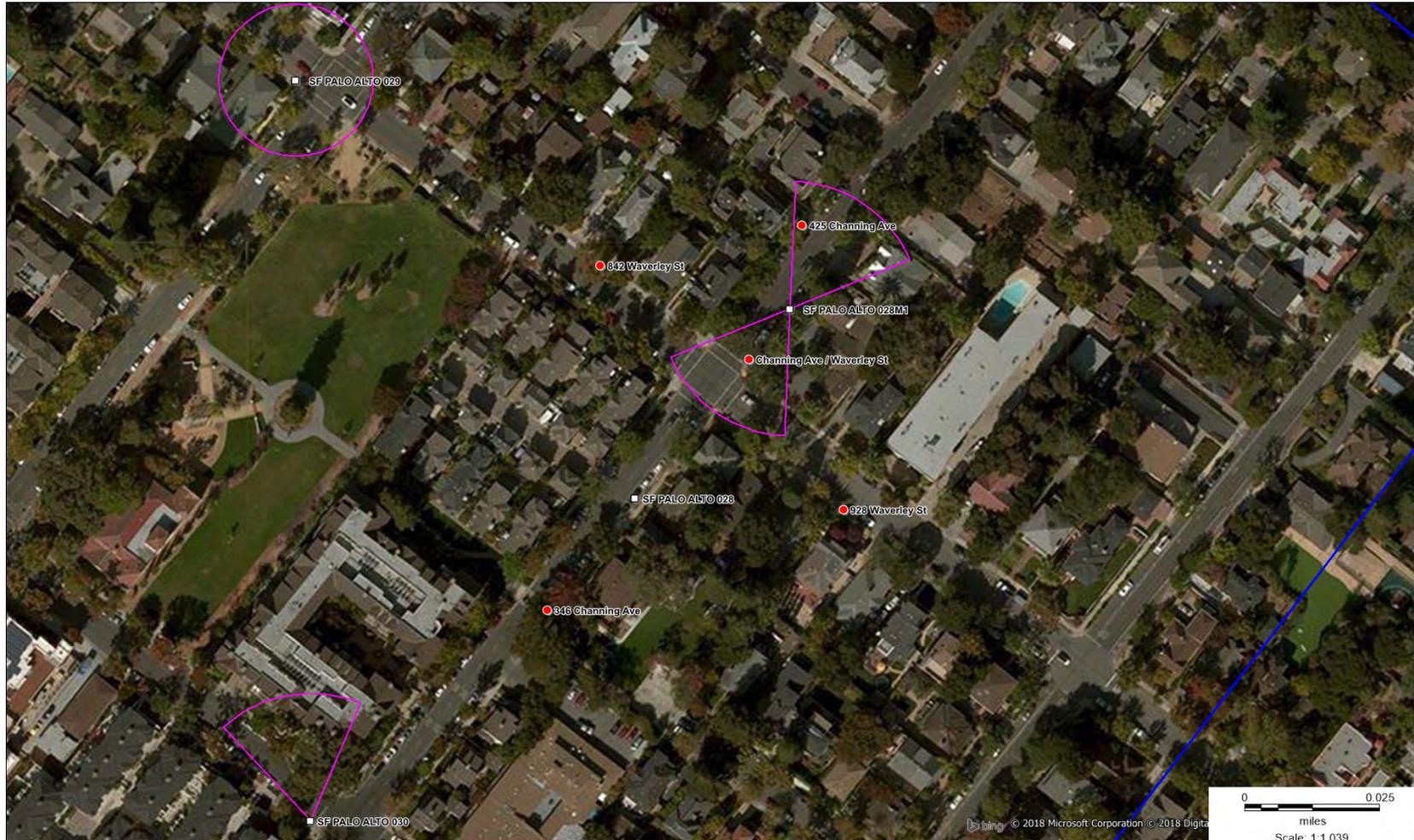


Verizon Palo Alto Expansion

SF Palo Alto 028m1 – Alternatives Locations

SF Palo Alto 028m1 (Overview)

The objective for node SF PALO ALTO 028m1 (400 Channing Ave) is to provide continuous coverage on Channing Avenue on both directions and partial coverage on Waverley St. The closer the node is to the intersection the better coverage. Once you start moving farther away from the intersection, the coverage objective will start degrading. Besides the distance, we also need to take into account any obstacles blocking the signal. The antenna needs to have a clear line of sight in order to accomplish the best coverage results.



SF Palo Alto 028m1 (Alternative Locations)



400 Channing Ave (SF Palo Alto 028m1)

- Proposed location meets the coverage objective.
- This is an alternative location to SF Palo Alto 028.
- No obstacles blocking the signal.
- Close to Channing Ave and Waverley St intersection.



370 Channing Ave (SF Palo Alto 028)

- Original location.
- Will meet coverage objective.
- No obstacles blocking the signal.
- Close to Channing Ave and Waverley St intersection.

SF Palo Alto 028m1

(Failed Locations)



Channing Ave and Waverley St intersection

- Traffic poles cannot be use otherwise this would be the best option.



425 Channing Ave

- This streetlight is farther from the intersection and it's next to a tree.
- This tree is partially blocking the southwest view of Channing Ave.
- The line of sight will be affected by this tree and will also affect the coverage on Waverley St.

SF Palo Alto 028m1

(Failed Locations)



346 Channing Ave

- No streetlight available therefore a new pole is needed.
- Farther from the intersection.
- Getting closer to SF Palo Alto 030.
- Coverage on Waverley St will decrease.
- Coverage objective will not be meet .



928 Waverley St

- The coverage objective is Channing Ave on both directions and partial coverage on Waverley St.
- This location would mainly get coverage on Waverley St and get partial coverage on Channing Ave.
- The coverage objective will be compromise by changing the direction of the antennas.
- Farther from the intersection.

SF Palo Alto 028m1

(Failed Location)



842 Waverley St

- The coverage objective is Channing Ave on both directions and partial coverage on Waverley St.
- This location would mainly get coverage on Waverley St and get partial coverage on Channing Ave.
- The coverage objective will be compromise by changing the direction of the antennas.
- Line of sign and coverage will be affected by nearby trees.
- Getting closer to SF Palo Alto 029.

EXHIBIT F



12/6/2018

Crown Castle University South Small Cell nodes

Verizon Palo Alto Expansion – Cluster 2 of 3

Architectural Review Board Study Session

The Foundation for a Wireless World.

Crown Castle Background

Crown Castle is a Competitive Local Exchange Carrier (CLEC). A CLEC qualifies as a “public utility” and therefore has special status to use the public Right of Way (ROW) to erect poles and equipment within the ROW.

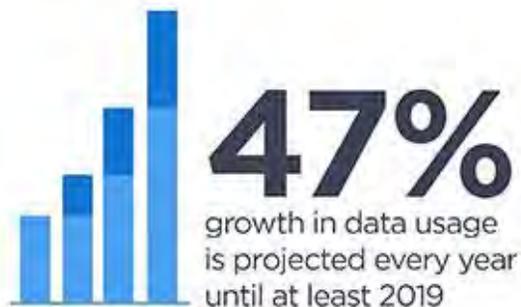
The project is an expansion of the approved and constructed project consisting of 19 sites under 15PLN-00140 where Verizon is a tenant of Crown Castle.

This build out, along with those across the nation, is to bolster the fiber and wireless infrastructure to support 5G and our every expanding demand for connectivity.

The current and future need - Coverage & Capacity.

Snapshot of underlying demands

Growth In Demand



Communication Accessibility



Basic Infrastructure



Reliable Capacity



Source of data : see final page

Request for Feedback: Specific direction

Crown Castle requests specific guidance as to balancing the competing guidelines to allow for placement of wireless infrastructure

- All Nodes - preference for housing of radio equipment – faux mailbox, pedestal or side mount
- Node 26 – preference for housing radio equipment in the pedestal design, side mount or the faux mailbox across the street.
- Node 28m1 – preference for locating the node at the original location in front of 370 Channing or allowing for the new location at 400 Channing.
- Node 25 – request a condition approval of the current location to continue to work with staff for a feasible construction outcome that meets all needs.
- Any additional feedback to the appreciated recommended conditional approvals, including landscaping at direction of the Urban Forester (subject to final agreement by all parties).

Site Selection and History

1. Multiple “initial” site walks in November of 2016
2. Meetings with staff prior to the pre-application and Preliminary Hearing
3. Follow up site walks after feedback from the ARB and staff.
4. Multiple DRC and staff meetings after each submittal and Notice of Incomplete.
5. Multiple Community Meetings to discuss the original proposed locations, as well as alternatives where feasible.
6. Follow up site walk following community feedback
7. Calls and emails with community members and their representatives
8. Weighing all factors, including applicable codes sections, within the lens of Least Intrusive Means while meeting the RF objective of the network.

Community Comments – General

RF Concerns – Reports demonstrate all nodes are well within the safe limits as determined by the FCC. Reports will be submitted with the formal application.

Noise – The radio units used for the installation do not emit noise as they use unaided convection for cooling.

Siting – Each node was identified in field by our team and by a separate walk with staff to determine alternatives within the Right of Way.

Alternative radio equipment cabinets

All 7 Nodes :

Faux Mailbox – current proposal

Pole Mounted

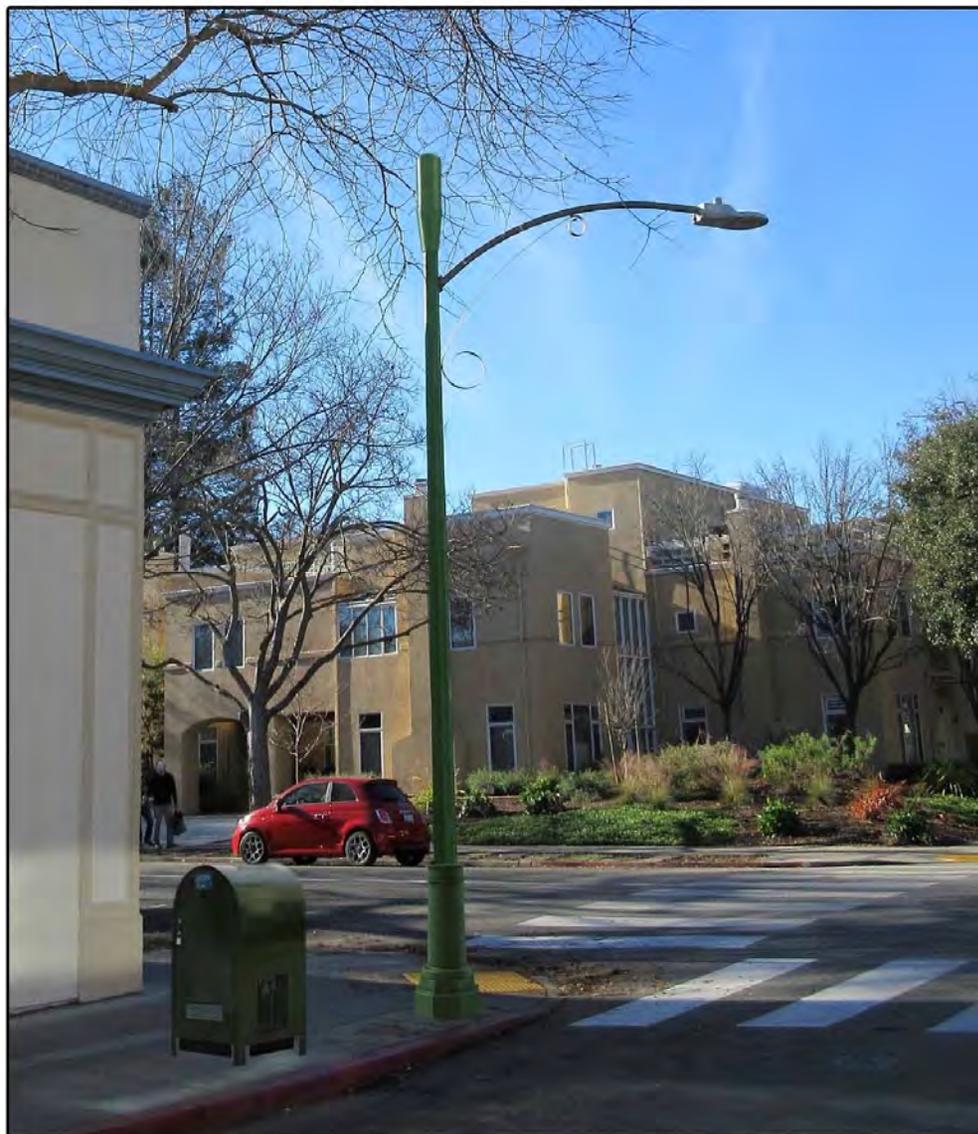
Pedestal

Node 26:

Faux Mailbox across the street

Vault

Original Faux Mailbox – Node 27



Pole Mounted Equipment – Node 27 Viewpoint 1



CROWN CASTLE
12/4/18

SF Palo Alto 027
ROW Across From 819 Ramona St & Adjacent to 248 Homer Ave
Palo Alto, CA

Looking East from Homer Avenue
View #1
Applied Imagination 510 914-0500



Proprietary &
Confidential

Pole Mounted Equipment – Node 27 Viewpoint 2



CROWN
CASTLE
12/4/18

SF Palo Alto 027
ROW Across From 819 Ramona St & Adjacent to 248 Homer Ave
Palo Alto, CA

Looking Southwest from Ramona Street
View #2
Applied Imagination 510 914-0500



Proprietary &
Confidential

Pedestal Mounted Equipment – Node 27 Viewpoint 1



Existing



Proposed

CROWN CASTLE
12/4/18

SF Palo Alto 027
ROW Across From 819 Ramona St & Adjacent to 248 Homer Ave
Palo Alto, CA

Looking East from Homer Avenue
View #1
Applied Imagination 510 914-0500



Proprietary &
Confidential

Pedestal Mounted Equipment – Node 27 Viewpoint 2



CROWN
CASTLE
12/4/18

SF Palo Alto 027
ROW Across From 819 Ramona St & Adjacent to 248 Homer Ave
Palo Alto, CA

Looking Southwest from Ramona Street
View #2
Architect Registration 519 914-0500



Proprietary &
Confidential

Original Faux Mailbox – Node 31



Pole Mounted Equipment – Node 31 Viewpoint 1



Existing



Proposed


12/4/18

SF Palo Alto 031
ROW Across From 913 Emerson St Near Corner of Channing Ave
Palo Alto, CA

Looking Southeast from Channing Avenue
View #1
Applied Imagination 510 914-0500

Pole Mounted Equipment – Node 31 Viewpoint 2




12/4/18

SF Palo Alto 031
ROW Across From 913 Emerson St Near Corner of Channing Ave
Palo Alto, CA

Looking Southeast from Emerson Street

View #2

Applied Imagination 510 914-0500



Proprietary &
Confidential

Pedestal Mounted Equipment – Node 31 Viewpoint 1



CROWN
CASTLE
12/4/18

SF Palo Alto 031
ROW Across From 913 Emerson St Near Corner of Channing Ave
Palo Alto, CA

Looking Southeast from Channing Avenue
View #1
Applied Imagination S10 914-0500



Proprietary &
Confidential

Pedestal Mounted Equipment – Node 31 Viewpoint 2



Existing



Proposed

 CROWN
CASTLE
12/4/18

SF Palo Alto 031
ROW Across From 913 Emerson St Near Corner of Channing Ave
Palo Alto, CA

Looking Southeast from Emerson Street

View #2

Applied Imagination 510 914-0500

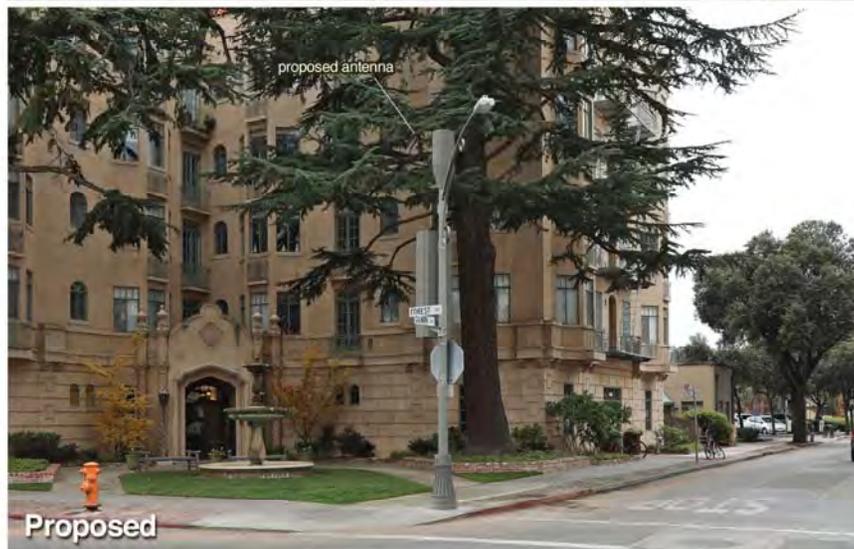


Proprietary &
Confidential

Original Faux Mailbox – Node 26



Pole Mounted Equipment – Node 26 Viewpoint 1



 CROWN
CASTLE
12/4/18

SF Palo Alto 026
ROW Across From 675 Gilman Street
Palo Alto, CA

Looking Northwest from Forest Ave.

View #1

Applied Imagination 510 914-0500



Proprietary &
Confidential

Pole Mounted Equipment – Node 26 Viewpoint 2



 CROWN
CASTLE
12/4/18

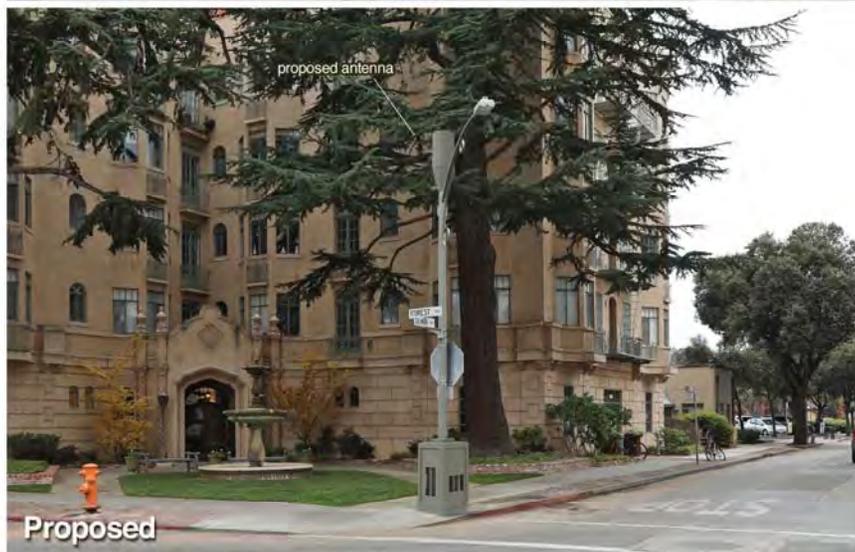
SF Palo Alto 026
ROW Across From 675 Gilman Street
Palo Alto, CA

Looking South from Gilman Street
View #2
Applied Imagination 510 914-0500



Proprietary &
Confidential

Pedestal Mounted Equipment – Node 26 Viewpoint 1



CROWN CASTLE
12/4/18

SF Palo Alto 026
ROW Across From 675 Gilman Street
Palo Alto, CA

Looking Northwest from Forest Ave.

View #1

Applied Imagination 510 914-0500



Proprietary &
Confidential

Pedestal Mounted Equipment – Node 26 Viewpoint 2



Existing



Proposed

 CROWN
CASTLE
12/4/18

SF Palo Alto 026
ROW Across From 675 Gilman Street
Palo Alto, CA

Looking South from Gilman Street

View #2

Applied Imagination 510 914-0900



Proprietary &
Confidential

Node 26 – Faux Mailbox across Gilman adjacent to newsstand boxes



Existing



Proposed

CROWN CASTLE
12/4/18

SF Palo Alto 026
ROW Across From 675 Gilman Street
Palo Alto, CA

Looking Northeast from Gilman Street
View #3
Applied Imagination 510 914-0500

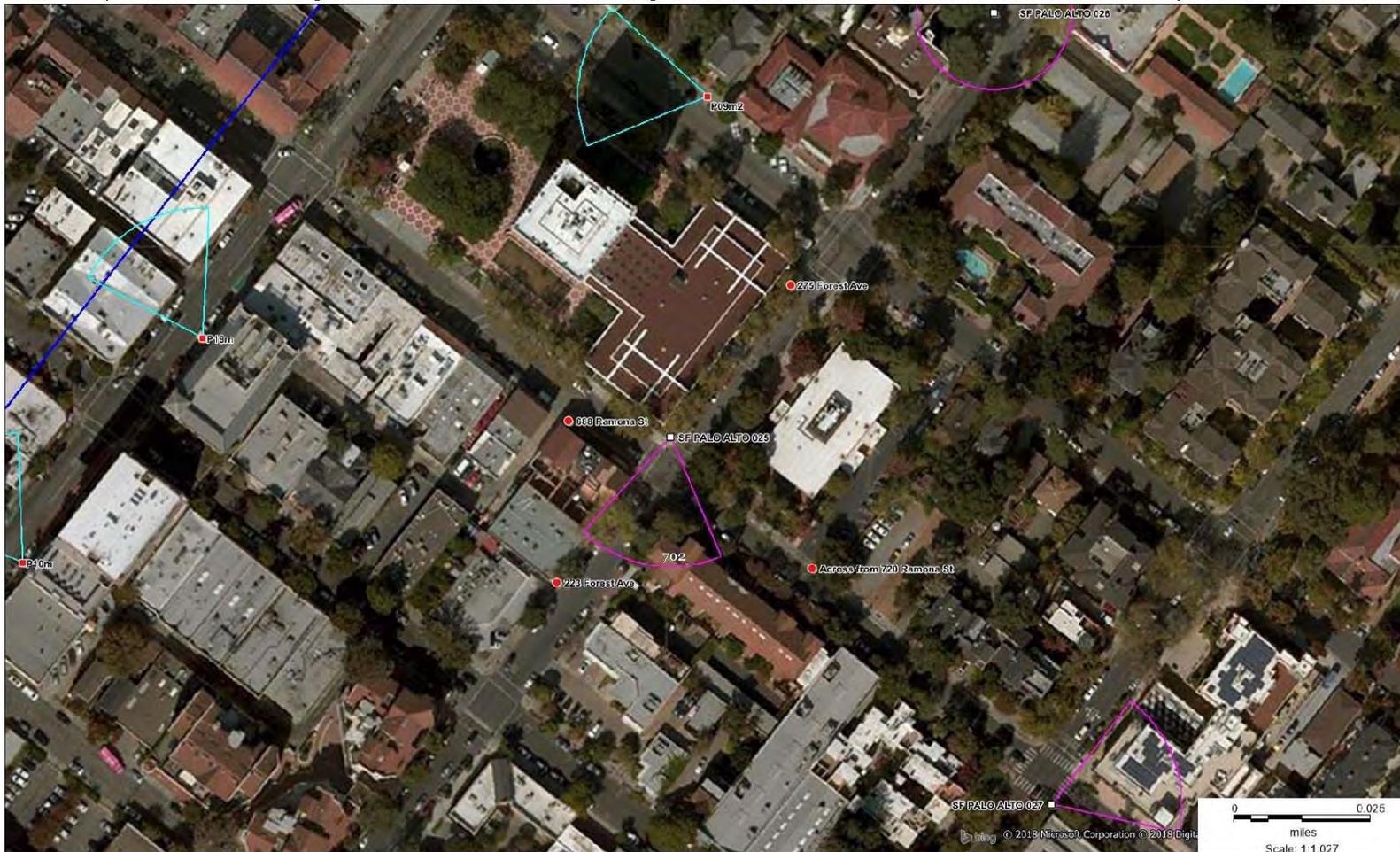


Proprietary & Confidential

Node 25

(Overview)

The objective for node SF PALO ALTO 025 (Adjacent to 200 Forest Ave) is to provide continuous coverage on Forest Avenue and Ramona St. The closer the node is to the intersection the better coverage. Once you start moving farther away from the intersection, the coverage objective will start degrading. Besides the distance, we also need to take into account any obstacles blocking the signal. The antenna needs to have a clear line of sight in order to accomplish the best coverage results. Also, there are existing nodes for the same carrier on Hamilton Ave and Bryant St.



Node 25 – Current Location



Adjacent to 200 Forest Ave (SF Palo Alto 025)

- Proposed location meets the coverage objective.
- No obstacles blocking the signal.

Node 25 – Failed alternatives



688 Ramona St

- Cannot use.
- Streetlight is next to Balcony.



275 Forest Ave

- Too far from the intersection (Forest Ave / Ramona St) and no line of sight.
- Streetlight is on the same side as SF Palo Alto 025. Parking garage is below these streetlights.

Node 25 – Failed alternatives



Across from 720 Ramona St

- View of Forest Ave is getting block by the building on 702 Ramona St. This is a three story building.
- This building will decrease the coverage on Forest Ave.
- Moving towards SF Palo Alto 027.
- Streetlight is next to tree.
- Coverage objective is not meet on Forest Ave.



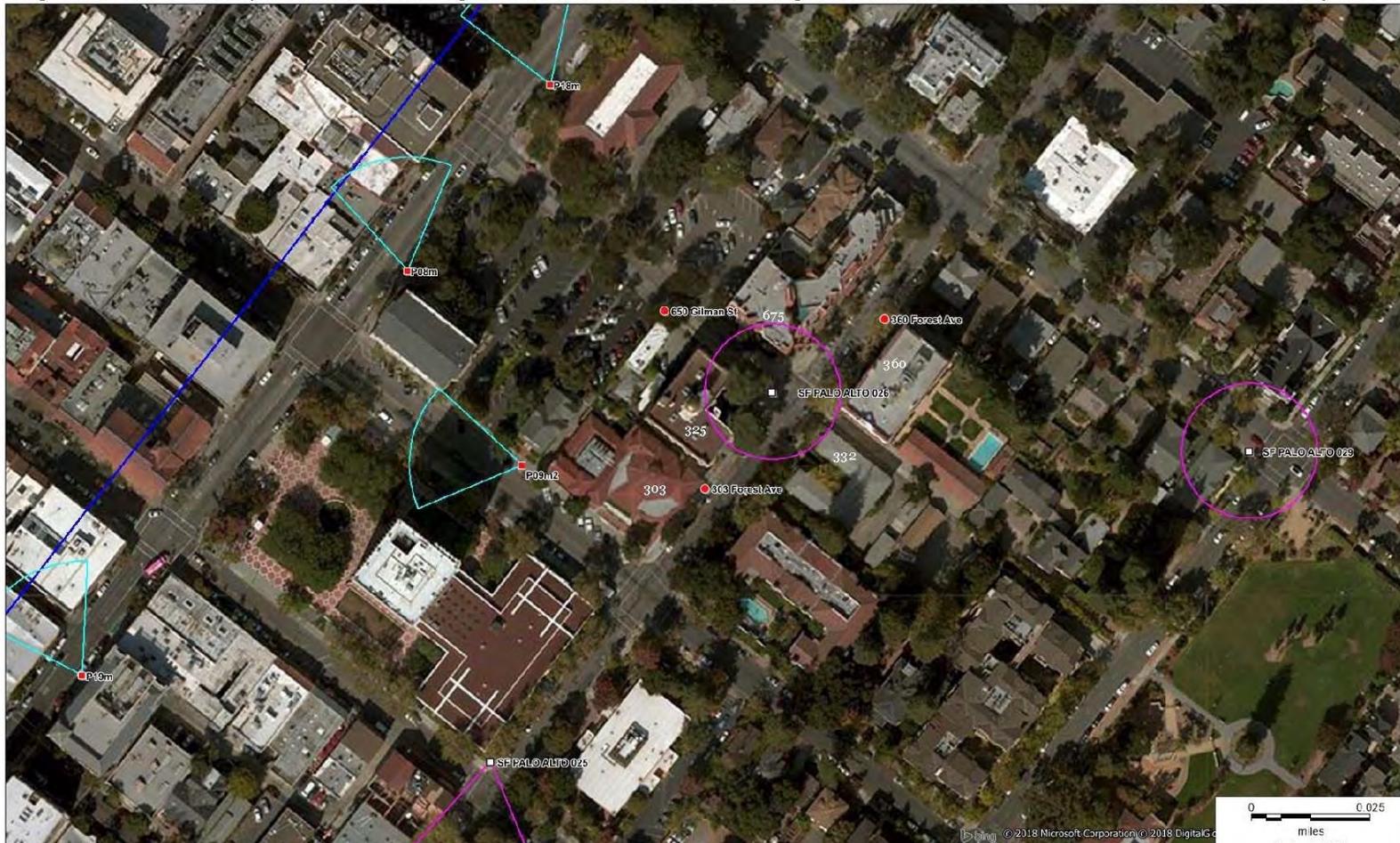
223 Forest Ave

- View of Ramona St is getting block by the building on 702 Ramona St. This is a three story building.
- This building will decrease the coverage on Ramona St.
- Coverage objective is not meet on Ramona St.

Node 26

(Overview)

The objective for node SF PALO ALTO 026 (Across from 675 Gilman St) is to provide continuous coverage on Forest Avenue and Gilman St. The closer the node is to the intersection the better coverage. Once you start moving farther away from the intersection, the coverage objective will start degrading. Besides the distance, we also need to take into account any obstacles blocking the signal like trees, buildings, etc. The antenna needs to have a clear line of sight in order to accomplish the best coverage results. Also, there are existing nodes for the same carrier on Hamilton Ave and Bryant St.

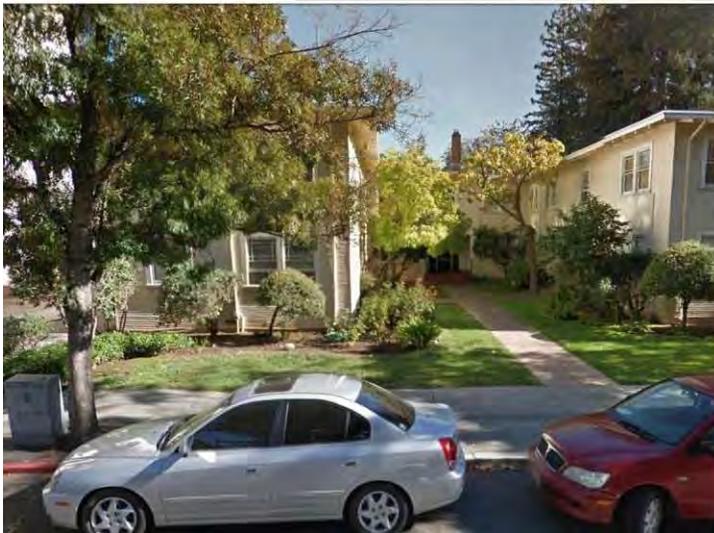


Node 26 – original proposed location & Node 26m1 – prior proposed alternate



Across from 675 Gilman St (SF Palo Alto 026)

- Proposed location meets the coverage objective.
- No obstacles blocking the signal.



332 Forest Ave (SF Palo Alto 026m1)

- Will meet coverage objective.
- No obstacles blocking the signal.
- Has clear view of Forest Ave and Gilman St intersection.
- Alternative location to SF Palo Alto 026.

Node 26 – failed alternatives



303 Forest Ave

- View of Gilman St is getting block by the building on 325 Forest Ave. This is a 5 story building.
- This building will decrease the coverage on Gilman St.
- No line of sight on Gilman St.
- Coverage objective is not meet on Gilman St.



360 Forest Ave

- View of Gilman St is getting block by the building on 675 Gilman St. This is a 5 story building.
- This building will decrease the coverage on Gilman St.
- No line of sight on Gilman St.
- Streetlight is between trees.
- Coverage objective is not meet on Gilman St.

Node 26 - failed alternative



650 Gilman St

- View of Forest Ave is getting block by two buildings on 325 Forest Ave and 675 Gilman St. These are 5 story buildings.
- These buildings will decrease the coverage on Forest Ave.
- No line of sight on Forest Ave.
- Streetlight is next to tree.
- Coverage objective is not meet on Forest Ave.

Node 28

(Overview)

The objective for node SF PALO ALTO 028m1 (400 Channing Ave) is to provide continuous coverage on Channing Avenue on both directions and partial coverage on Waverley St. The closer the node is to the intersection, the better coverage. Once you start moving farther away from the intersection, the coverage objective will start degrading. Besides the distance, we also need to take into account any obstacles blocking the signal. The antenna needs to have a clear line of sight in order to accomplish the best coverage results.



Node 28m1 – current proposed location & Node 28 – original proposed alternate



400 Channing Ave (SF Palo Alto 028m1)

- Proposed location meets the coverage objective.
- This is an alternative location to SF Palo Alto 028.
- No obstacles blocking the signal.
- Close to Channing Ave and Waverley St intersection.



370 Channing Ave (SF Palo Alto 028)

- Original location.
- Will meet coverage objective.
- No obstacles blocking the signal.
- Close to Channing Ave and Waverley St intersection.

Node 28 – failed alternatives



346 Channing Ave

- No streetlight available therefore a new pole is needed.
- Farther from the intersection.
- Getting closer to SF Palo Alto 030.
- Coverage on Waverley St will decrease.
- Coverage objective will not be meet .



928 Waverley St

- The coverage objective is Channing Ave on both directions and partial coverage on Waverley St.
- This location would mainly get coverage on Waverley St and get partial coverage on Channing Ave.
- The coverage objective will be compromise by changing the direction of the antennas.
- Farther from the intersection.

Node 28 – failed alternatives



Channing Ave and Waverley St intersection

- Traffic poles cannot be use otherwise this would be the best option.



425 Channing Ave

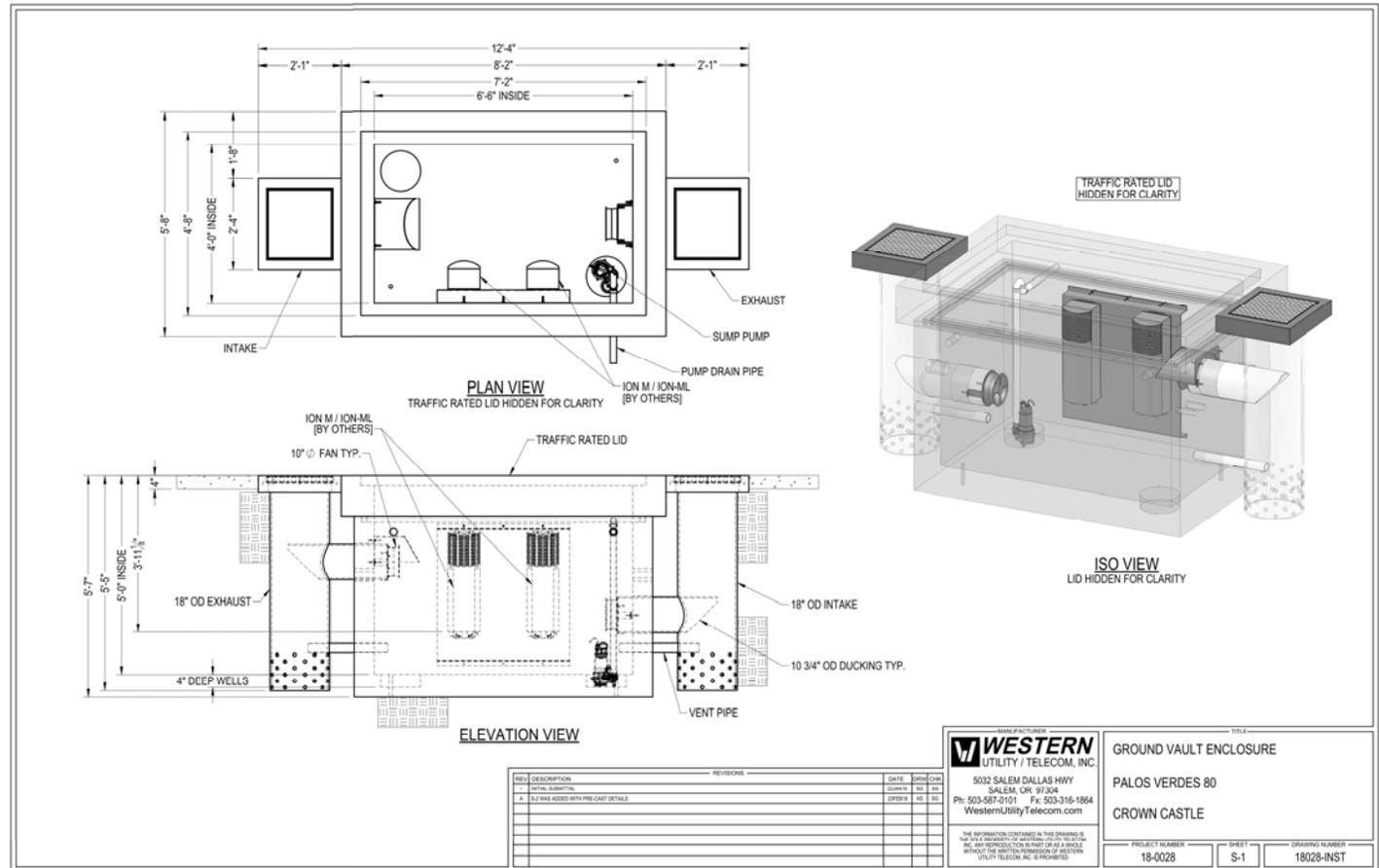
- This streetlight is farther from the intersection and it's next to a tree.
- This tree is partially blocking the southwest view of Channing Ave.
- The line of sight will be affected by this tree and will also affect the coverage on Waverley St.

Vault – footprint within the street and/or sidewalk and yards

The typical Fantech Fan used in the vaults for cooling emit between 83-87 dba.

When underground, the noise emitted is potentially reduced to 55 – 56 dba.

Each installation requires additional venting



Proprietary & Confidential

Request for Feedback: Specific direction

Crown requests specific guidance as to balancing the competing guidelines to allow for placement of wireless infrastructure

- All Nodes - preference for housing of radio equipment – faux mailbox, pedestal or side mount
- Node 26 – preference for housing radio equipment in the pedestal design, side mount or the faux mailbox across the street.
- Node 28m1 – preference for locating the node at the original location in front of 370 Channing or allowing for the new location at 400 Channing.
- Node 25 – request a condition approval of the current location to continue to work with staff for a feasible construction outcome that meets all needs.
- Any additional feedback to the appreciated recommended conditional approvals (subject to final agreement by all parties).

Thank You

FOR FURTHER INFORMATION
PLEASE CONTACT:

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916-801-3178

r.swanson@sure-site.com

Sharon James

408-426-6629

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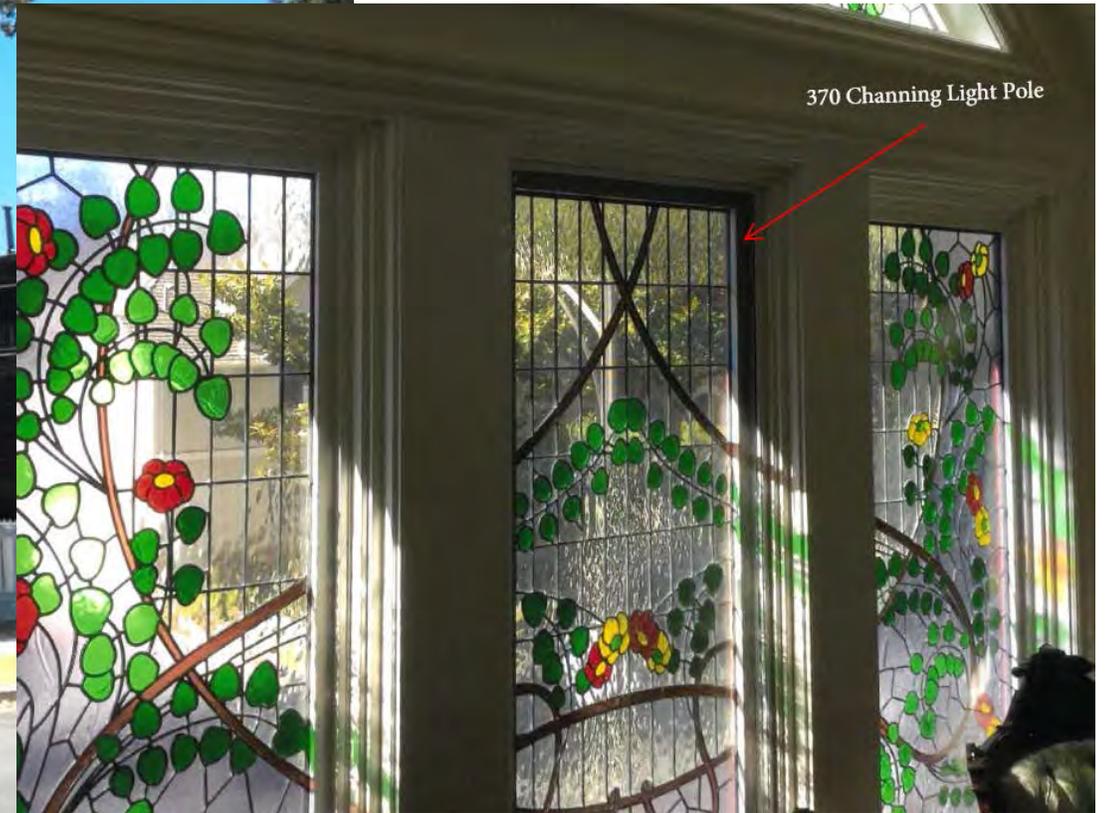
Source data slide 4: 89% of public safety... - "Building Safer, More Resilient Communities in a New Era of LMR Intelligence," Motorola, 2014.

48% of households - "CTIA's Annual survey Report" CTIA, 2015.

53% of Americans... - "Pew Research Center American Trends Panel Survey" Pew research center, 2014.

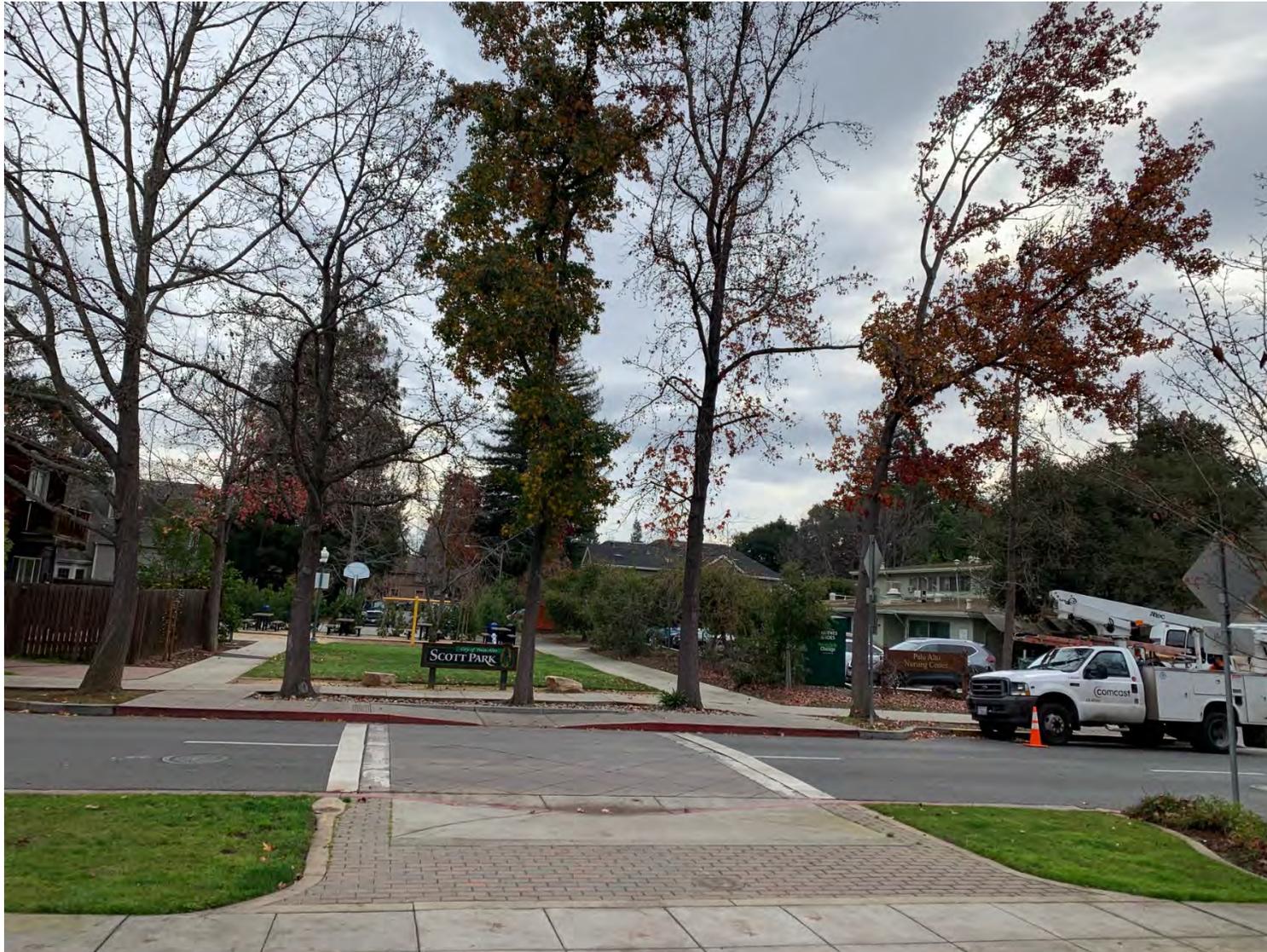
47% growth ... - "Cisco VNI: Global Mobile Data Traffic Forecast Update, 2014-2019, Cisco 2015."

362 Channing Ave – Mike and Neil's Home



No tree screening!

346 Channing Ave - Scott Street Mini Park

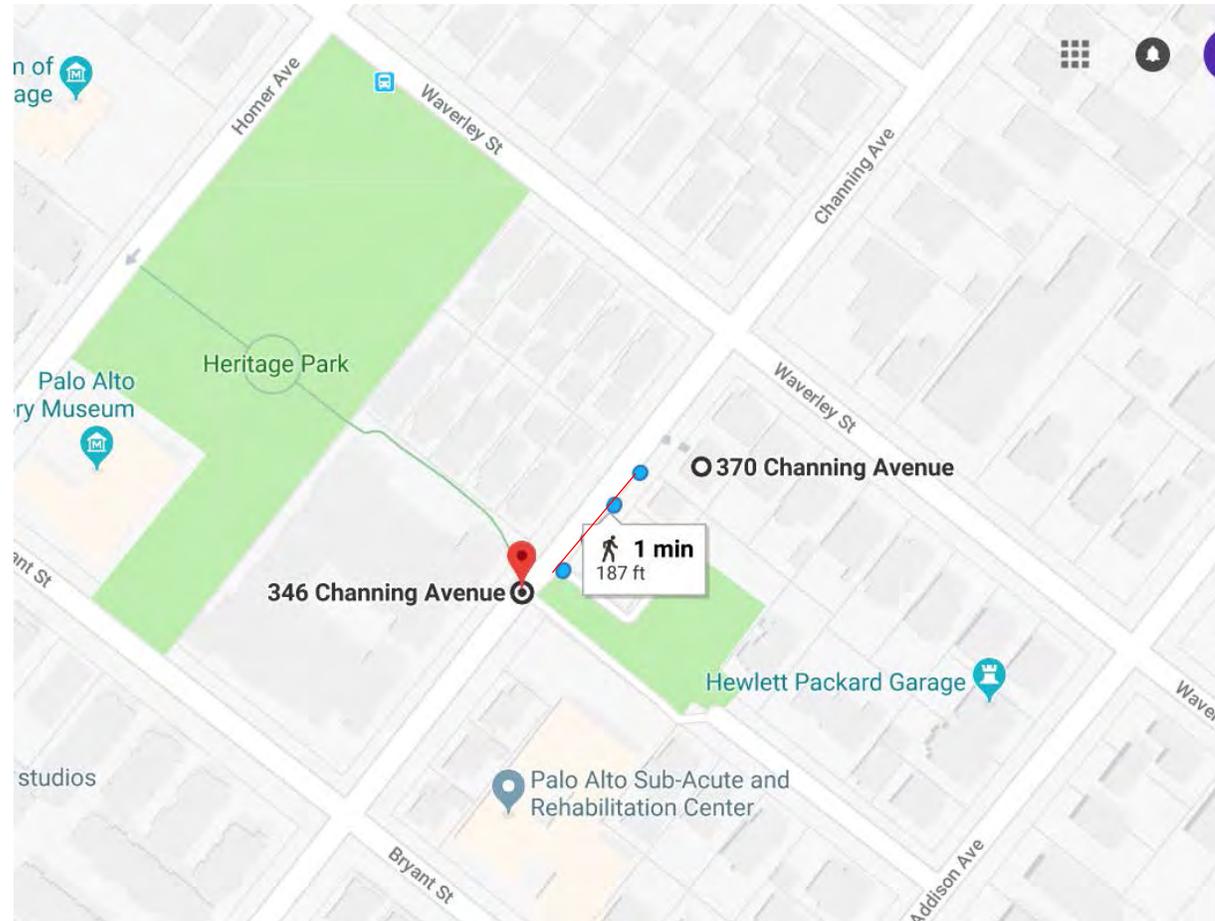


Remove pole at 370 Channing and replace at this location.

346 Channing Ave - Scott Street Mini Park



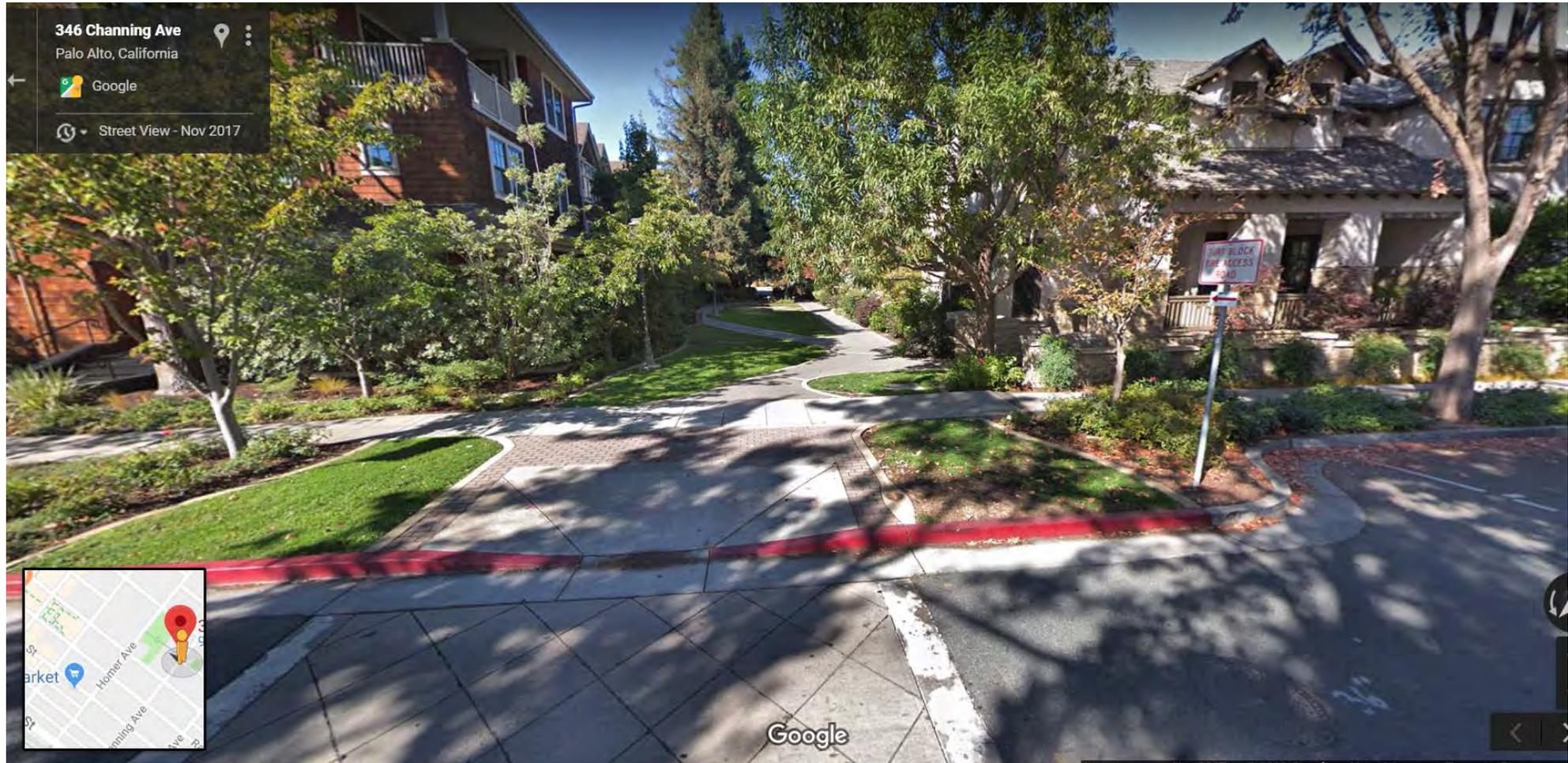
Remove pole at 370 Channing and replace at this location.



Distance between current location and proposed location.



No impact on residential properties nearby.



View from proposed relocation at 346 Channing