

City of San Mateo

Sustainability & Infrastructure Commission Meeting

CA SF San Mateo 101 - (NEAR) 5 W 37TH AVE

CA SF San Mateo 133 - (NEAR) 2942-2944 S NORFOLK ST

CA SF San Mateo 157 - (NEAR) 1626 EL CAMINO REAL

CA SF San Mateo 190 - (NEAR) 1001 RAILROAD AVE

CA SF San Mateo 255 - (NEAR) 733 N SAN MATEO DR



Agenda

I. General Wireless FAQs

II. Project Details

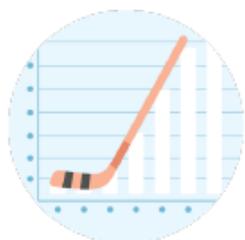
- a) Timeline
- b) Design
- c) Alternative Site Analysis

III. Required Findings Under §17.10.070(c)(1)

IV. Q&A

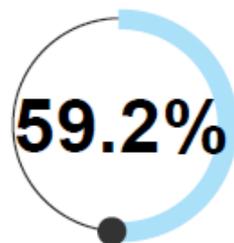
General Wireless FAQs

Why are we expanding the wireless network?

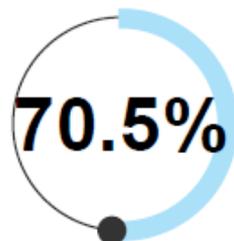


2017: 7.1 GB per month

2023: 48 GB of data¹

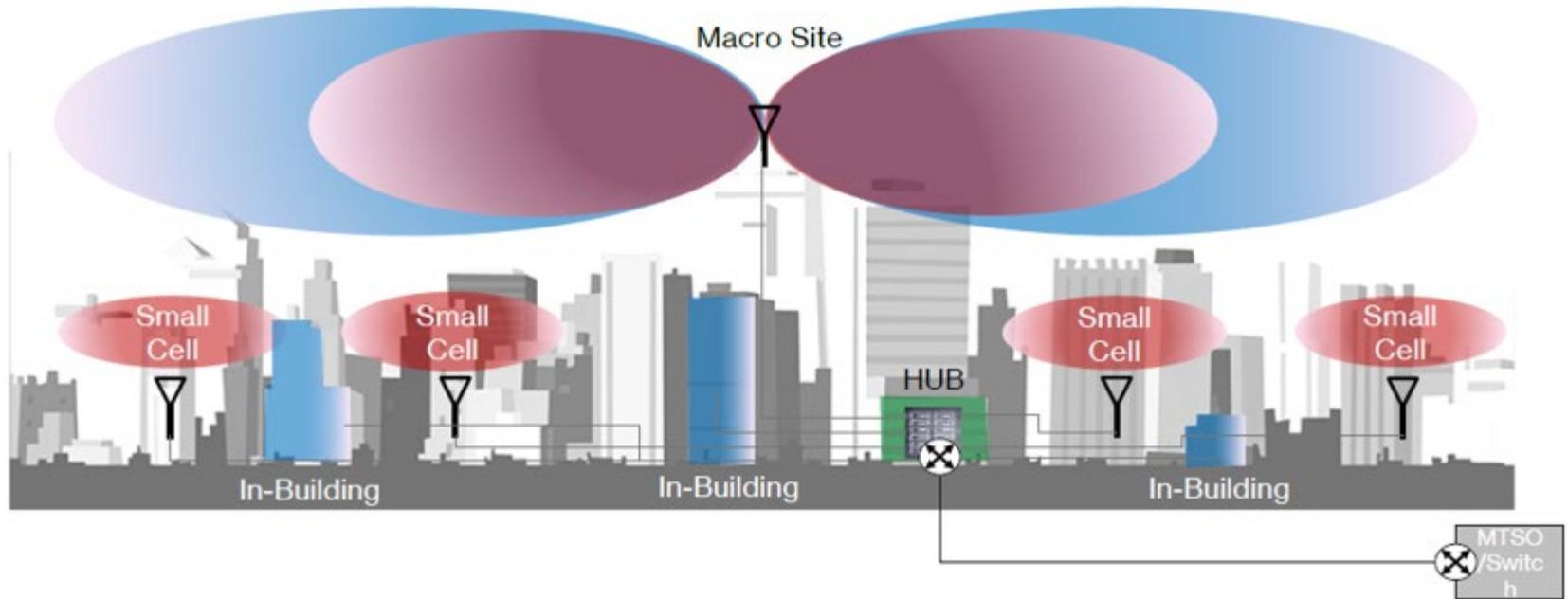


Adults living in wireless-only households²



Children living in wireless-only households²

Wireless Ecosystem



- Small cells supplement macro networks
 - Offload traffic from nearby macros
 - Add localized data capacity
 - Shorter range
- Work best in densely populated areas or areas with challenging topography, hills, and trees

Siting Criteria

- **Target service area/network need**
 - Proximity to other facilities
 - Potential signal degradation from nearby tree cover or terrain
- **Compliance with Local, State and Federal Regulations:**
 - San Mateo Municipal Code Chapter 17.10 “Wireless Communication Facilities in the Right of Way”
 - CPUC 7901
 - CPUC General Order 95 Rules governing overhead electrical line construction
 - Environmental law
 - ADA rules regarding path of travel
- **Community Impacts**
 - Proximity to point of connection for power
 - Visual impacts
 - Accommodating existing street trees and landscaping
 - Impact on existing utilities and infrastructure (sewer laterals and water mains)

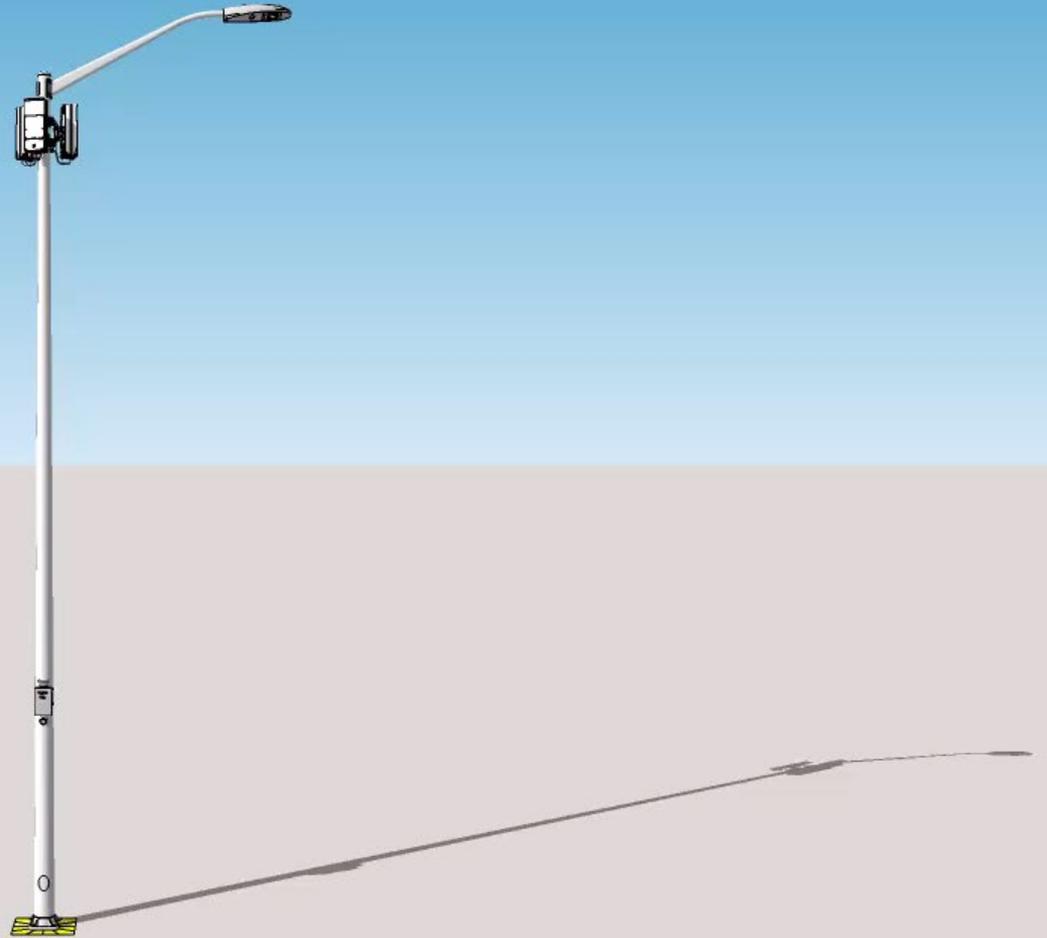
Project Details: Timeline

Project Timeline

DATE	STATUS
September 2019	Verizon kicks off project
October 2019 – April 2020	Due diligence period
May 20, 2020	Wireless Permit Application filed to Public Works
May 21, 2020	Comments received from Public Works
June 2020 – October 2020	Addressing City comments
November 12, 2020	Comment response submitted to Public Works
November 20, 2020	Second set of comments received from Public Works. Mailed and posted public notices
December 2020	Community meeting requested for 2 of 5 sites
January 13, 2021	Community meeting held. Attended by 1 resident
January 21, 2021	Application deemed complete
March 10, 2021	Sustainability and Infrastructure Commission Meeting

Project Details: Design

San Mateo 5G Design – 3D Model

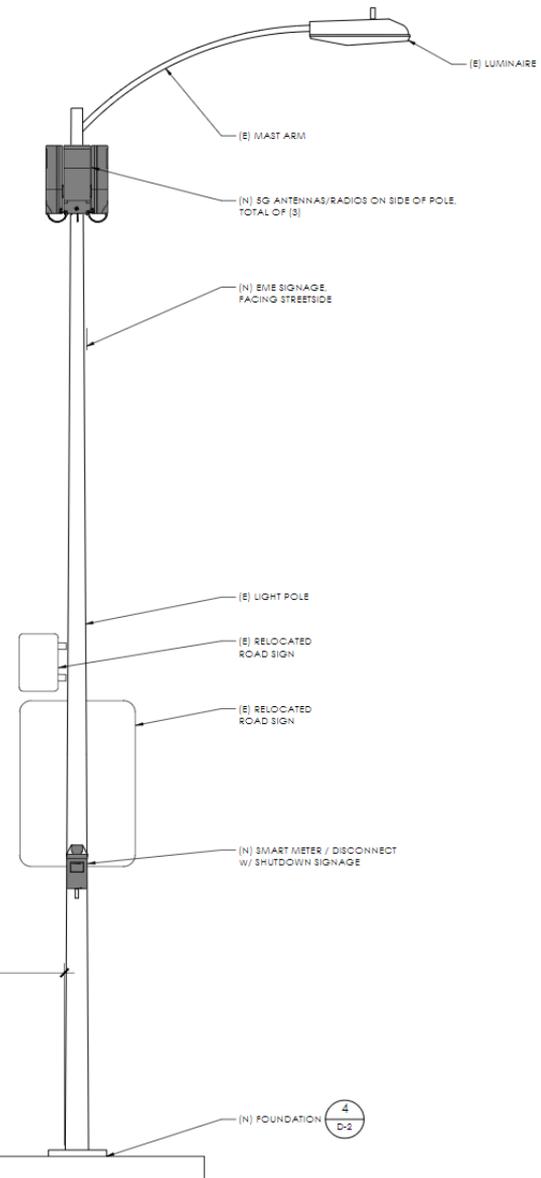
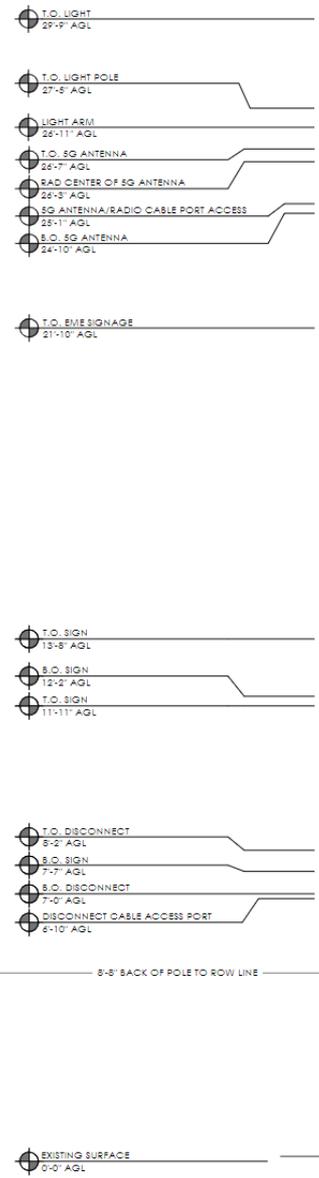
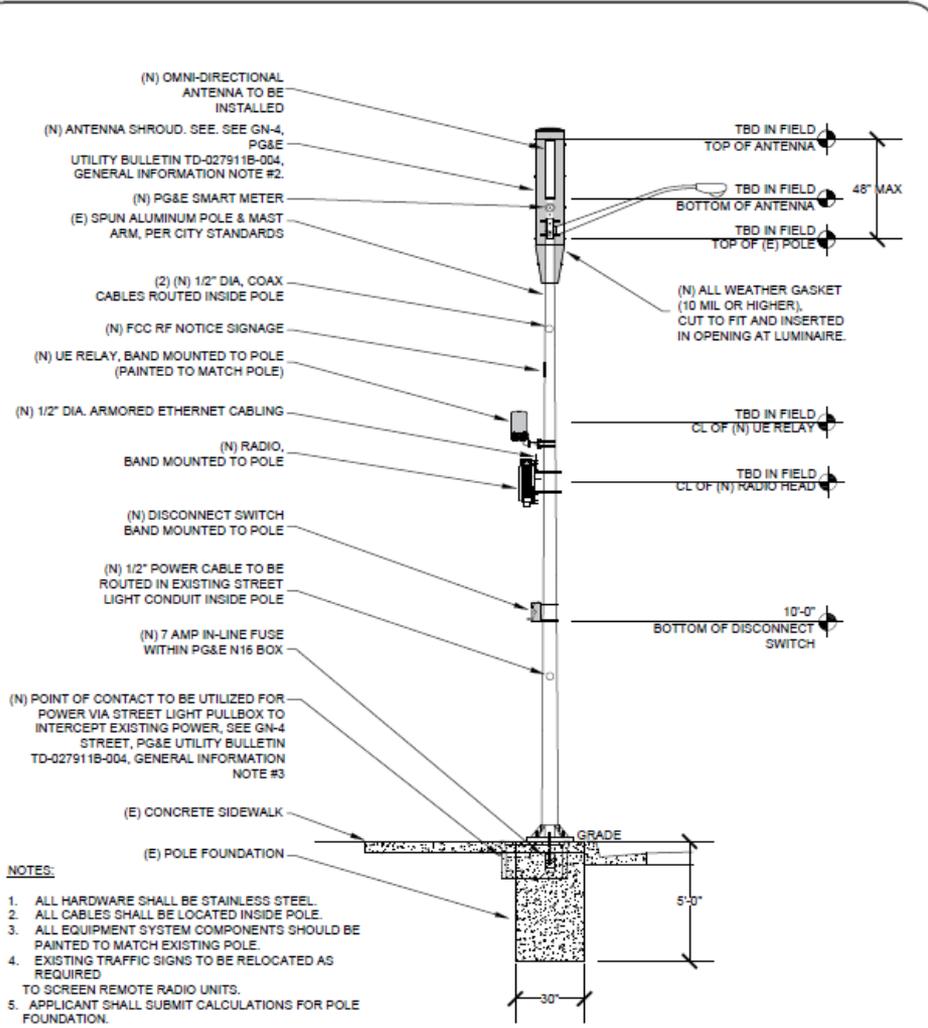


San Mateo 5G Proposed Design

City Design Standard

vs.

5G Design



ENGINEERING DEPARTMENT		TELECOMMUNICATION FACILITIES ON		CALIFORNIA 94403	
		STREET LIGHT POLES			
DATE	DRAWN BY	CHECKED BY	APPROVED	CASE	DRAWER SET
2018	JAG	TAS		03	01 200
			CITY ENGINEER		

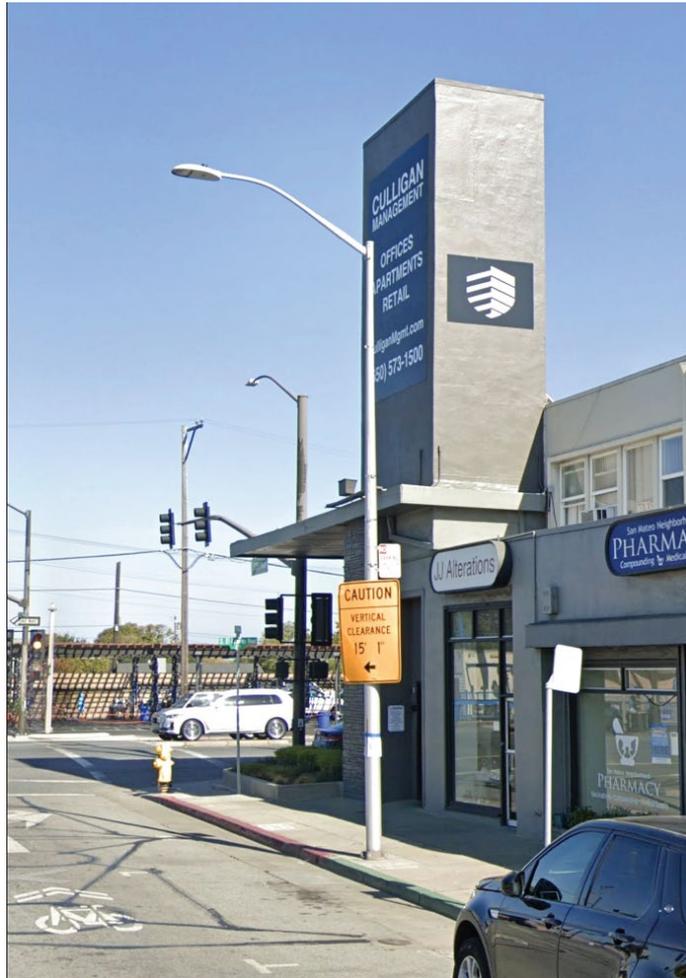
San Mateo 5G Proposed Design

Equipment	San Mateo Design Standards	Verizon Wireless 5G Design	Compliant ?
Equipment location	Within antenna shroud and behind street signs located on the pole	<ul style="list-style-type: none"> Shroud significantly impedes technical performance due to higher frequencies. 	
Antenna arrangement	<ul style="list-style-type: none"> Vertically stacked No higher than 48" above top of pole Shall not be mounted on the side 	<ul style="list-style-type: none"> Horizontal arrangement Mounted below luminaire to the side 	
Cables, Wires, Connectors	<ul style="list-style-type: none"> Routed through conduit when possible Concealed from public view to the extent feasible 	<ul style="list-style-type: none"> Routed vertically within the streetlight In cable sleeve, and swept upwards behind antennas 	✓
PG&E Meter	Smart Meter or flat-rate billing	PG&E Smart Meter	✓
Fans	Not to be utilized to the maximum extent possible	<ul style="list-style-type: none"> 5G unit includes fans. Meets noise ordinance 	✓
Equipment Color	Painted to match pole	Equipment matches pole's color	✓

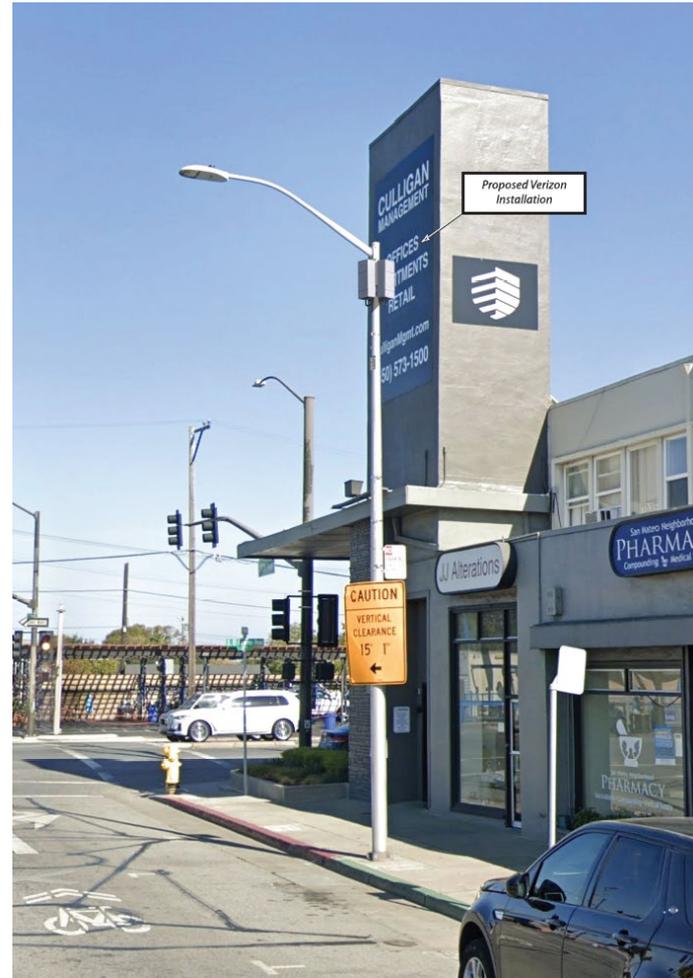
CA SF San Mateo 101 Photo Simulations

(NEAR) 5 W 37TH AVE

Existing



Proposed



CA SF San Mateo 133 Photo Simulations

(NEAR) 2942-2944 S NORFOLK ST

Existing



Proposed



CA SF San Mateo 157 Photo Simulations

(NEAR) 1626 EL CAMINO REAL

Existing



Proposed



CA SF San Mateo 190 Photo Simulations

(NEAR) 1001 RAILROAD AVE

Existing



Proposed



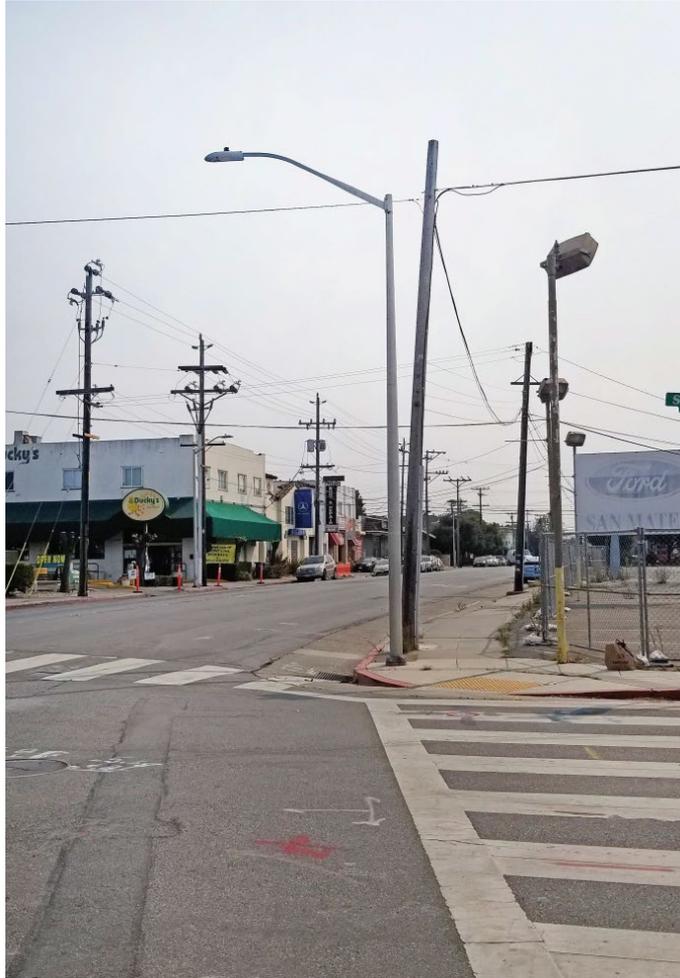
View from S Railroad Avenue looking northeast at site



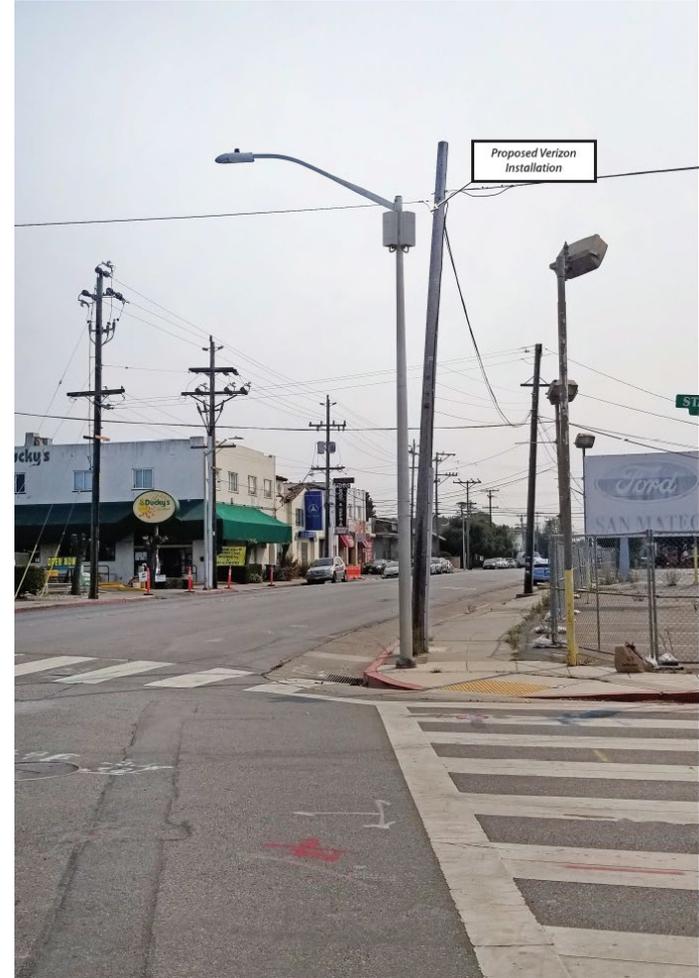
CA SF San Mateo 255 Photo Simulations

(NEAR) 733 N SAN MATEO DR

Existing



Proposed



Project Details: Alternative Site Analysis

CA SF San Mateo 101 Alternate Site Analysis Map



- 32 Sites Evaluated
- All other sites eliminated due to being less preferable locations or structures under the ordinance, in Caltrans ROW, or deemed more intrusive due to environmental and visual impacts

CA SF San Mateo 133 Alternate Site Analysis Map



- 7 Sites Evaluated
- All other sites eliminated due to being less preferable structures under the city ordinance or located on private property

CA SF San Mateo 157 Alternate Site Analysis Map



- 23 Sites Evaluated
- All other sites eliminated due to being less preferable locations or structures under the ordinance, prohibited structures, or deemed more intrusive locations due to environmental and visual impacts

CA SF San Mateo 190 Alternate Site Analysis Map



- 18 Sites Evaluated
- All other sites eliminated due to being less preferable locations or structures under the ordinance, prohibited structures, or deemed more intrusive locations due to environmental and visual impacts

CA SF San Mateo 255 Alternate Site Analysis Map



- 33 Sites Evaluated
- All other sites eliminated due to being less preferable locations or structures under the ordinance, prohibited structures, or deemed more intrusive locations due to environmental and visual impacts

**Required
Findings Under
§17.10.070(c)(1)**

Required Findings Under §17.10.070(c)(1)(A)

(A) the proposed wireless facility qualifies as a “personal wireless service facility” as defined in 47 U.S.C. § 332(c)(7)(C)(ii), as may be amended or superseded; and

Yes, the proposal is for a “personal wireless service facility” as defined by 47 U.S.C. § 332(c)(7)(C)(ii).

Required Findings Under §17.10.070(c)(1)(B)

(B) the applicant has provided the Sustainability and Infrastructure Commission with a reasonable and clearly defined technical service objective to be achieved by the proposed wireless facility; and

- The purpose of this specific project is to enhance the network by providing additional data capacity through the installation of a small cell wireless facility.
- As this is a 5G facility, this site will also enable higher speed and low latency to support the next generation of technological advances.

Required Findings Under §17.10.070(c)(1)(C)

(C) the applicant has provided the Sustainability and Infrastructure Commission with a written statement that contains a detailed and fact-specific explanation as to why the proposed wireless facility cannot be deployed in compliance with the applicable provisions in this Chapter; and

- The current design and engineering standards do not have an adopted design that is technically feasible for a 5G marketplace solutions on a street light pole.
- The 5G antenna and radio integrated unit cannot be shrouded due to the range of frequency being transmitted.
- The current streetlight designs in the City's standards requires a radome antenna shroud that would render the units ineffective.

Required Findings Under §17.10.070(c)(1)(D)

(D) the applicant has provided the Sustainability and Infrastructure Commission with a meaningful comparative analysis with the factual reasons why all alternative locations and/or designs identified in the administrative record (whether suggested by the applicant, the City, public comments or any other source) are not technically feasible or potentially available to reasonably achieve the applicant's reasonable and clearly defined technical service objective to be achieved by the proposed wireless facility; and

- Each application includes an in-depth Alternate Site Analysis within a 350' radius around the subject pole. We vetted all the poles in the area to confirm the target pole was the least intrusive means to meet Verizon's network needs, city location and structure preferences, and state engineering standards.
- The design has been revised to incorporate design feedback received from the Department of Public Works including reducing the cable visibility.
- The cable port has been moved on the pole behind the antenna to allow the minimal cables from the antenna/radio unit to be swept tightly upwards behind the unit itself, reducing cable visibility.
- The proposed design is a standard 5G design being deployed in other Bay Area jurisdictions where Verizon has deployed 5G including San Jose and Fremont.

Required Findings Under §17.10.070(c)(1)(E)

(E) the applicant has demonstrated to the Sustainability and Infrastructure Commission that the proposed location and design is the least non-compliant configuration that will reasonably achieve the applicant's reasonable and clearly defined technical service objective to be achieved by the proposed wireless facility, which includes without limitation a meaningful comparative analysis into multiple smaller or less intrusive wireless facilities dispersed throughout the intended service area.

- The proposed location and design is the least non-compliant configuration that will achieve the technical service objective of the proposed wireless facility.
- It includes a minimalist design that integrates the antenna and radio into a single unit which reduces the overall volume and size of the on-pole equipment, and thus reducing the overall visual impact of the facility.

Thank You

Q&A