



VERIZON SMALL CELL FOR SAN SUNNYVALE POLYGON ALTERNATIVE SITE ANALYSIS

Verizon Small Cell Node “Sunnyvale 016” (near 214 Commercial St.)

Prepared December 21, 2017



OVERVIEW

- Verizon is proposing to install a small cell standalone project in the area to improve network coverage and capacity.
- A small cell is just like the name implies. A small cell augments Verizon's capacity in a given area. It consists of a radio, antenna, power and a fiber connection. Small Cells are short range mobile cell sites used to complement larger macro cells (or cell towers). Small cells enable the Verizon network team to strategically add capacity to high traffic areas.
- Demand for wireless data services has nearly doubled over the last year, and is expected to grow 650% between 2013 and 2018 according to Cisco. It's part of Verizon's network strategy to provide reliable service and to stay ahead of this booming demand for wireless data.

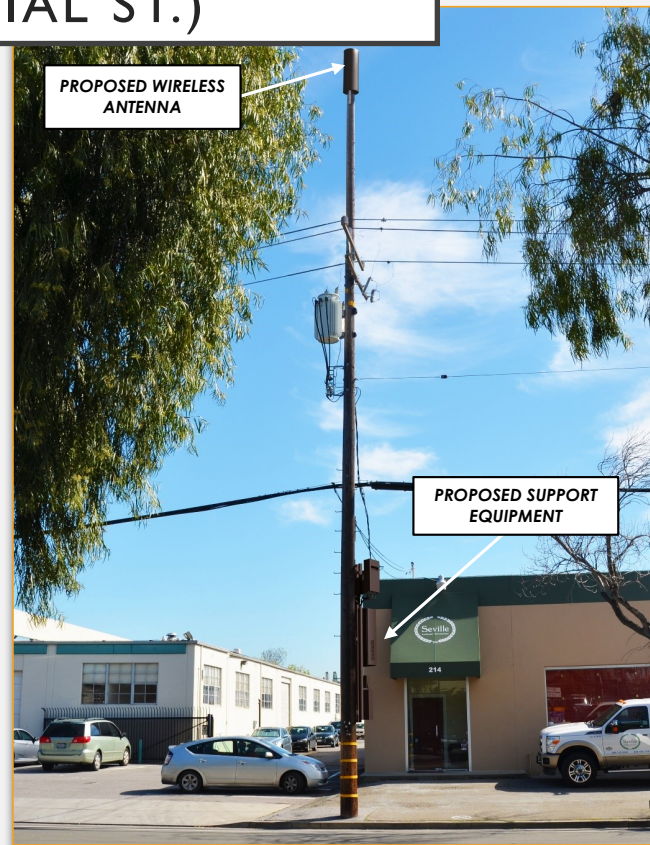
ALTERNATIVE ANALYSIS

- In addition to the proposed existing wooden utility pole location for this Node, Verizon considered poles immediately adjacent to the proposed pole to explain why it was selected.
- Existing antenna towers, monopoles, and rooftops located more than 150 feet from the proposed location are not viable alternatives for the small cell network because they do not meet Radio Frequency Coverage requirements, i.e., network objectives.
- The Node site is low in height, has low power, and is a reduced size antenna site that provides coverage to small areas.
- Cells interact with each other, and are laid out in a logical pattern to provide optimal coverage conditions to address service, capacity, reliability, and access for users. This network architecture in Small Cells is geographically very tight, and precludes alternative locations at greater distances.

SHOT MAP OF PROPOSED SITE LOCATION AND ALTERNATIVES CONSIDERED



PROPOSED POLE (214 COMMERCIAL ST.)



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ALTERNATE SITE #1 (198 COMMERCIAL ST.)

Node - Alternative Site #1

This alternative location is a wood utility pole located in the Public ROW. This pole is located near 198 Commercial St.

Pole Elimination Justification:

There is not adequate climbing space to add the Verizon equipment to the existing utility pole as it would comply to GO95 Rule 94.



ALTERNATE SITE #2 (221 COMMERCIAL ST.)



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Node - Alternative Site #2

This alternative location is a wood utility pole located in the Public ROW. The nearest address is 221 Commercial St.

Pole Elimination Justification:

This candidate was eliminated as the City does not have a Master License Agreement in place for Verizon to locate equipment on the existing City Light Pole.

ALTERNATE SITE #3 (222 COMMERCIAL ST.)

Node - Alternative Site #3

This alternative location is a wood utility pole located in the Public ROW. This pole is located near 222 Commercial St.

Pole Elimination Justification:

PG&E does not allow cell sites on Primary Riser poles. This pole has Primary Riser on the pole and thereby PG&E will not allow Verizon equipment to be placed on the pole.



ALTERNATE SITE #4 (221 COMMERCIAL ST.)



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Node - Alternative Site #4

This alternative location is a wood utility pole located in the Public ROW. The nearest address is 221 Commercial St.

Pole Elimination Justification:

This candidate was eliminated as the City does not have a Master License Agreement in place for Verizon to locate equipment on the existing City Light Pole.

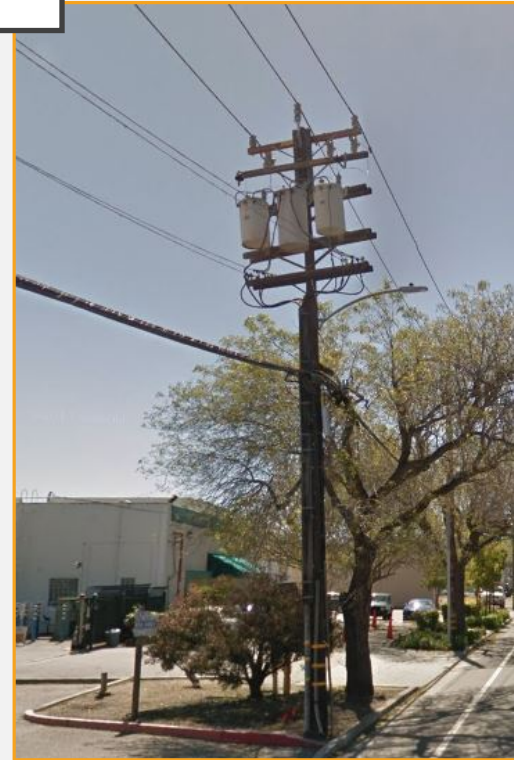
ALTERNATE SITE #5 (230 COMMERCIAL ST.)

Node - Alternative Site #5

This alternative location is a wood utility pole located in the Public ROW. This pole is located near 230 Commercial St.

Pole Elimination Justification:

There is not adequate climbing space to add the Verizon equipment to the existing utility pole as it would comply to GO95 Rule 94.



LEAST INTRUSIVE MEANS

Small Cell facilities are small form factor, smaller radio frequency footprint base stations that allow carriers to place appropriate facilities in areas where full size radio base stations are not appropriate. Some equipment is located in a switch or Hub facility some miles away, further reducing the scale and quantity of equipment on site. This proposal is consistent with the least intrusive means to provide coverage for current generation of service within a residential district.

Typical Macro facility – industry standard sized colocateable facility with full compliment of radios



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Small Cell example similar to this proposal



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THANK YOU

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