

## Information on Alternatives to Small Cell Telecommunication Technology and Design

### TECHNOLOGY

#### Current Technology

Verizon Wireless uses technology called Long Term Evolution, or LTE. LTE is a type of 4G (fourth generation) technology that has been improved to deliver the best performance and speeds currently available for wireless networks.

Small cell technology was standardized approximately 10 years ago to provide additional network capacity with the first stations being roughly the size of a large refrigerator. Present day small cells are much smaller in form have a service radius up to 1000 feet.

Currently, small cell technology is the only option available to address the capacity gaps in areas of high demand, other than the installation of macro-towers. Communication technology has evolved greatly over the past 45 years with the range of service provided and also the amount and size of transmission equipment needed with each site.

#### Future Technology

5G is the newest, but yet-to-be-released, mobile network that will ultimately replace the current 4G LTE technology by providing substantial improvements in speed, coverage, and reliability. The deployment of small cell facilities not only will deliver improved capacity for the existing 4G LTE technology in a given region, the 5G-ready infrastructure will provide for the future 5G network.

In response to the question regarding the Ericson design, any design in place by Ericson that is being deployed for future 5G is **not** the same technology that will support the network for the Verizon small cell applications in Millbrae.

### SITE DESIGN ALTERNATIVES

A small cell facility consists of an antenna either on top of the pole or the mounted midway on the pole, remote radio units (RRUs), a power meter and an optional emergency backup battery unit (BBU) that operates to provide continuing service during power outages. Within residential areas Verizon has several options for equipment shrouding (refer to the exhibit on page 3). Note that these example designs do not show the required electric meter that will be placed below the equipment box and have 2 RRUs, as with the new design on the 4 proposed small cells being reconsidered by the Planning Commission. These 4 sites have been redesigned

to the new sunshield design and the number of RRUs from 3 to 2. See below the visual simulation showing an example of the difference in form factor after the design change. The equipment shroud and antenna will all be painted Deep Earth Brown to help blend in with the existing utility pole. This the design of the pole is representing the “least intrusive” equipment layout that is available to Verizon wireless at this time for small cell deployment.

In certain circumstances, landscaping/tree planting between the small cell facility and will be completed to help minimize a visual impact.








Previous Design



New Design

# Equipment Shroud Options

				
<p>'BOX' SHROUD</p>	<p>2 BARE EQUIPMENT</p>	<p>3 'SUN SHIELDS'</p>	<p>4 'CAKE' SHROUD</p>	<p>5 SABRE CAGE</p>