

# Wireless Telecommunication Facilities Design Guidelines



## INTRODUCTION

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This document includes guidelines to minimize the visual impact of wireless telecommunication facilities and encourage co-location of those facilities. These review guidelines are adopted and amended by the Board of Supervisors. Public notice shall be provided prior to significant changes to the guidelines.

Checklists and handouts prepared by staff to facilitate implementation of these guidelines shall be consistent with these guidelines.

## INTENT OF THE GUIDELINES

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The purpose of these guidelines is to assure a degree of consistency in the wireless telecommunication facility review process. These guidelines provide direction to service providers and their consultants in regard to the types of facilities that are allowed and those that are encouraged, and the types of submittal documentation required for telecommunication facility application.

Substantial conformity with these guidelines is required as applicable to a given facility type. These guidelines should be interpreted with flexibility by staff and are not rigorous requirements like adopted ordinance, but rather a means of adapting documentation and review needs to the scope of a particular facility request. Not all guidelines will be applicable on all projects, and the guidelines are suggestive versus restrictive.

## REVIEW GUIDELINES

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The primary goals of these guidelines are to ensure visually acceptable facility design, co-location of facilities, stealth design where appropriate and to provide a guide to preferred and acceptable design of wireless telecommunication facilities.

### 1. Review Criteria

- (a) The proposal minimizes visual impact to the extent possible through design, screening and siting.
- (b) The proposal minimizes removal or modification of any site landscaping and provides appropriate replacement landscaping, if necessary.

- (c) The request does not increase the height of the existing, approved facility.
- (d) For façade-mounted facilities, the antenna and associated equipment is of a scale and design compatible with the building, is mounted to a building facade and does not project beyond 12 inches from the face of the building.
- (e) The proposal will blend with and/or complement the color, design and/or character of the surrounding context, whether natural backdrop, building or existing facility.
- (f) No exterior, artificial lighting is proposed unless required for safety purposes by State or Federal Law.
- (g) Ground equipment and vertical elements have been screened/buffered using landscaping and fencing to the extent possible.
- (h) Facility incorporates stealth/aesthetic designs such as public art, clock towers, flagpoles or other appropriate visual forms, if possible.
- (i) No guy wires are used on the structure.
- (j) Facility, tower and/or antenna-mounted signage is limited to warning and informational signs.
- (k) The facility has been designed to discourage unauthorized access.
- (l) Facilities have been co-located where feasible.
- (m) Ridgeline/hilltop siting has been avoided or the related visual impacts have been eliminated through design and landscaping.

## 2. Facility Scenarios

- (a) Stealth Tree Facilities

In the facility scenarios shown in the photos below, the importance of blending with surroundings is evident.

The facility in scenario “A” is poorly designed in terms of context. The constructed “tree” bears no relationship to the size, shape and character of surrounding physical elements (deciduous trees, luminaires approximately half the height of the tree, and buildings). A columnar monopole with fully enclosed



A

equipment may present a better choice in this instance.

Scenario "B" provides a better false tree design that is similar in appearance to the surrounding trees, but still a bit higher than those trees. If height was reduced to that of the surrounding trees and the trunk treatment was extended up to the first limbs, the design would be a better.



B

Scenario "C" illustrates a design that maintains contextual tree height, but presents a pine in the midst of Eucalyptus trees. In a mixed parkland setting this variation may be desirable, but for most cases consistency between existing trees and the proposed structure is preferable.

The final scenario (D) is a well-adapted design that exhibits consistency in tree size, character and color to that of the surrounding vegetation. The resultant effect is that of a design that is well-adapted to local context.



C



D

(b) Co-located Facilities

Co-located facilities utilize existing towers or utility poles to extend wireless service area. When appropriately mounted on suitable utility poles, the additional antenna facilities have little effect beyond that which the existing structure presents. The above illustrations





show co-located facilities on light and power poles. Co-located facilities are eligible for ASA small project exemptions.

(c) Monopoles

Monopole facilities are those mounted on a tower structure constructed for the specific purpose of wireless transmissions. The towers generally are of an open-lattice or solid columnar design and are sometimes guyed for tower stabilization. Columnar towers are often painted to help them blend into their surroundings.



Generally, columnar, non-guyed monopole designs are preferred; however, towers with intensive co-location of antennae (scenario "E" above) may be less visually obtrusive if the tower is of open-lattice design/construction. With multiple antenna mounted on an open-lattice tower, the lattice can effectively soften the appearance of the antenna. Guyed towers are being constructed with less frequency than in the past. In part, because the cellular system is based on smaller towers in greater number versus towers constructed in the past for radio and television transmissions, which are often



constructed to great height for large areas of coverage, necessitating guy stabilization. Scenario "F" (left) illustrates how visually obtrusive guylines can be. Furthermore, guylines necessitate the use of a larger site for anchor points. Since guyline sway precludes other construction or landscaping, guylines compromise the use of effective visual mitigation. As a consequence of these issues, guyline use is strongly discouraged.

E

F



G



H



## (d) Public Art

The development and evolution of stealth facilities approaches facility design from the standpoint of making it as unnoticeable as possible. Though there are limited examples to draw upon, one alternative to stealth design is through public art facilities. Public art facilities marry functional and aesthetic design to arrive at attractive and stimulating visual qualities versus the stealth approach of making the facility visually obscure. Both are valuable design methods, though public art facilities are particularly suitable for areas with heavy pedestrian use (parks, entertainment facilities, etc.). The following photos provide examples of public art features that could be used to enclose telecommunication facilities.

