

MEMORANDUM

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Date: April 2, 2010

To: Kristine Pederson
Town of Shawangunk

From: George M. Janes, AICP

CC: Drayton Grant, Esq.
Bonnie Franson, AICP
Ronald Graiff, PE

RE: Cellco Partnership 03/11/2010 submission

I am in receipt of the March 11, 2010 submission for the Proposed Verizon Wireless Telecommunications Structure at 23 Twin Pond Lane. This memo details my comments on that submission.

Reformed Church of Shawangunk

The applicant provided additional materials that show that the Reformed Church of Shawangunk Complex will likely not have any view of the proposed tower at its new height. Without a view of the action there cannot be any visual impact.

Discussion of Impacts

In response to my comment regarding the lack of discussion of visual impacts, and Ulster County's request for an assessment that evaluated "distance of view, sensitivity of site, context of surround[ing] land uses, number of people impacted, length of time element will be in the view, incongruity of the element," the applicant has stated that the materials provided are enough and no additional discussion of impacts on resources is required. In essence, the applicant is stating that the impacts are self-evident.

In a full visual assessment, photosimulations and visibility analysis would be used as evidence used in a systematic, written assessment that discusses and discloses the visual impacts of the project explicitly and in writing. The criteria used in a written assessment of visual impacts are fairly well-documented¹ and widely used. I find the refusal to prepare such an analysis odd, but ultimately, the completeness regarding this issue is one for the Board. Photosimulations and viewshed analyses can be interpreted by both professionals and lay-people and if the Board believes that it is able to assess impacts using the evidence without a written description, then it can reasonably make that judgment.

¹ The Bureau of Land Management has written the *Visual Resource Contrast Rating Manual*, which discusses the criteria, measures and techniques used in assessing contrast and visual impact. It is found on-line here: <http://www.blm.gov/nstc/VRM/8431.html>.

Attached to this memo I have provided an example of such an assessment for this project. Because it was written quickly as an example, it is not thoroughly researched, but it is provided so that the Planning Board may see an example of how such an assessment might be written and judge the value of such an assessment.

New camouflage techniques

The new application includes photosimulations showing the proposed tower using two new designs: a flagless flagpole and using pine tree camouflage. The photosimulation print quality is very good and the applicant includes every viewpoint and shows each of the four designs discussed:

- The unmodified design (October 2, 2009),
- The modified design (January 8, 2010),
- Flag-less flagpole (March 11, 2010),
- Artificial pine tree (March 11, 2010).

The following images have been taken from the new application for Viewpoint 18. These have been included here for reference and ease of reading; when assessing impacts, the full-sized, color simulations found in the application should be used.



Simulation of Viewpoint 18 from October 2, 2009 with taller tower, larger panel array and microwave antenna



Simulation of Viewpoint 18 from January 8th 2010 reflecting shorter tower, no microwave antenna and additional antenna array



Simulation of Viewpoint 18 from March 11, 2010 showing the flagless flagpole design



Simulation of Viewpoint 18 from March 11, 2010 showing a pine tree design

Both camouflage techniques are effective at reducing the visual impact of the tower from this and other viewpoints. The flagless flagpole has two advantages: First, it reduces the size of the top of the pole by attaching the panels to the pole itself, reducing its profile and making it less noticeable. Second, the form of the pole is less of a contrast when compared with the uncamouflaged poles, as it mimics an oversized utility pole, which are common even in this rural landscape. The pine tree simulation shows exceptional camouflage from this viewpoint, as its actual height is obscured by trees in the foreground, and only looks slightly taller than the surrounding trees. Further, the artificial tree shown actually looks like a real tree. The Planning Board should realize, however, that it is much easier to make a photosimulation of an artificial pine tree look realistic, than it is to make the real-life physical version look realistic. This is not a trivial concern, as a poorly designed pine tree may attract even more attention than the originally proposed design.

As simulated, both methods are a significant improvement over either of the uncamouflaged towers. When considering other information the applicant provided demonstrating need, it is my opinion that either of the camouflaged designs presented in the current application are camouflaged to the greatest extent *practicable*. Your Town Law states that telecommunications facility must be ". . . designed so as to be camouflaged to the greatest extent *possible*, . . ." (page 11 emphasis added). Lowering the tower height to below the treeline would be possible, and would be a visual improvement, but, according to the radio frequency engineers, dramatically reduces the signal range and makes the tower impractical considering the applicant's objectives. The distinction between "possible" and "practicable" is an issue you may wish to discuss with your attorney.

Close

With the exception of the written description of impacts, and the written description requested by Ulster County Planning Board, the applicant produced the visual material that was requested of it. The Planning Board should review the Appendix to assess if such a written description is necessary for their understanding of impacts. At minimum, the applicant should include information that addresses the Ulster County Planning Boards comments directly.

The Planning Board should carefully consider camouflage techniques with the understanding that design matters, and photosimulations may not completely capture all details. For example, simulations of artificial pine trees may very well look much better than an actual artificial pine tree, as it is easier to simulate that camouflage technique than to actually build it. This concern also applies to the recent discussions of silos as a camouflage technique. While there are excellent examples of silos done well, these, too, can also be designed poorly, which makes them even more noticeable.

Appendix A: An example of a written form of evaluation of impacts on visual resources

Please note: This example was not thoroughly researched and is presented here simply to provide the applicant and the Planning Board an example of materials requested by both George M. Janes & Associates and the Ulster County Planning Board

The visual character of a landscape is often defined by patterns that compose it. In visual resource assessment these patterns are often broken into component elements so that each may be assessed to develop a fuller understanding of the visual impact of an action. These elements typically include: form, line, color, texture, scale/spatial dominance² and are helpful to assessing the more qualitative aspects of a particular view. The qualitative impact of a project is determined by evaluating the compatibility of these visible patterns with the visual character of the surrounding landscape. The following is an evaluation of the compatibility of the proposed project with the patterns of the regional landscape in which it is viewed. This evaluation is based on the information contained in the photographs and the photographic simulations.

Form: The form of the regional landscape is gently rolling topography of mostly agricultural fields, pasture land and wood lots interspersed with modest single-family homes. The open spaces and varied agricultural and non-agricultural uses help to create a landscape that is varied in color and enhances visual interest. In the distance to the west the Shawangunk Ridge rises and is the backdrop to many western views. To the east of the project site the 565 acre Shawangunk Grasslands National Wildlife Refuge occupies the site of a former military airfield. To the northwest of the site is the hamlet of Bruynswick.

The action proposed introduces a 120 foot monopole into an area without any such structures or uses. It will be seen from several viewpoints rising above the forested treeline, and in some cases can be seen rising above the backdrop of the Shawangunk Ridge. Uncamouflaged, the top of the monopole holds two antenna panel arrays on booms that are visually prominent from several viewpoints. Camouflaged as a flagless flagpole the panels are hidden in the monopole, which becomes less visually prominent.

Line: The forested ridge to the west forms a horizontal line that bounds open western views from the project site. In the immediate area, forested areas form horizontal tree-lines. The linear pattern is regionally reinforced by the fences that generally follow the pasture land and agricultural fields. From many viewpoints the proposed structure contrasts with the existing line of the landscape as it rises vertically above the forested treeline, or the Shawangunk Ridge in the distance.

The uncamouflaged tower accentuates this break in the line of the landscape by placing the most visible portion of the action (the antenna array) in the most prominent break of the line of the landscape. The flagless flagpole, while still breaking the line of the landscape, makes a smaller impact to that line.

² Definitions and examples of these terms can be found in the Bureau of Land Management Visual Resource Manual, which can be found on-line here: <http://www.blm.gov/nstc/VRM/8431.html>

Color: The color proposed for the tower will be designed either to match the existing patterns in the landscape, or to be camouflaged against the sky, to minimize contrast to the greatest extent practicable.

Texture: Texture is the aggregation of forms of various sizes, which when viewed as a whole form a larger view. For example, grasslands are a fine texture, as the grasses which make up the view are fine, while a conifer forest is a coarse texture, as its component elements are large. Most man-made structures are coarser still. The tower introduces a coarse texture to views that are dominated by finer elements. The uncamouflaged design puts the coarsest elements of the action above the fine texture branches at the tops of the trees, accentuating the contrast. The camouflaged tower removes the coarsest elements, reducing contrast.

Scale/Spatial Dominance: While scale of the proposed tower is dependent upon the distance from which it is being viewed, the proposed structure is much taller than existing built elements in the landscape. In terms of scale the only nearby elements that are comparable are farm silos that are 60 feet shorter, but more massive. In the immediate area, the proposed tower is of much larger scale than surrounding structures and contrasts with both existing built structures and the natural elements in the views. Distance mitigates the impact of scale, however, and from of the viewpoints from further afield the scale of the tower makes less of an impact. Camouflaging does not materially change the tower's contrast with the existing scale of the area.

Viewers, duration of views and context: The tower will be viewed by visitors to the Shawangunk Grasslands National Wildlife Refuge as it is visible from most of the 565 acre resource. Due to the nature of visits to this resource, the views are likely to be long and sustained on all views looking to the west. The Fish and Wildlife Service estimates that approximately 5,500 people visit the Grasslands every year.

The proposed tower will also be visible to travelers along Hoagerburgh Road, but because the tower is set back and in an area with some vegetative screening those views will not be for long durations. Hoagerburgh Road is also County Road 18 and is a reasonably well-traveled rural road.

Views from Old Hoagerburgh Road--a ½ mile long, largely residential street that starts and stops at Hoagerburgh Road, and is the direct access to the project site--will be more pronounced and for much longer durations, as the few people who travel this low speed road and typically live on this street. Views to the tower are clear from much of this road. Residents along Old Hoagerburgh, especially those near the project site will have the most sustained views of the tower.

The tower will also be briefly visible to travelers along Red Mills Road near the Hamlet of Bruynswick. These views should be relatively brief and mitigated by the one-mile distance to the project site. The redesign of the tower, which reduced tower height by 20 feet, eliminated views to the tower from the Shawangunk Reformed Church, a national historic landmark.