PETITION NO. 809 - Extenet Systems, Inc. petition for a declaratory ruling that the Connecticut Siting Council does not have jurisdiction or, in the alternative, that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction of a Distributed Antenna System along the Merritt Parkway from New York state line to Westport, Connecticut.	}	Connecticut Siting Council November 5, 2007

Findings of Fact

Introduction

1. On April 26, 2007, Extenet Systems Inc. (Extenet), pursuant to Connecticut General Statute (CGS) §16-50k, submitted a petition to the Connecticut Siting Council (Council) for a declaratory ruling that that the Connecticut Siting Council does not have jurisdiction over the proposed installation of a Distributed Antenna System (DAS) on the Merritt Parkway, or, in the alternative, that such installation would not require a Certificate of Environmental Compatibility and Public Need (Certificate). (Extenet 1, p. 1)

2. Pursuant to General Statutes § 16-50m, the Council, after giving due notice thereof, held a public hearing on August 8, 2007, beginning at 3:30 p.m. and continuing at 7:00 p.m. at the Westport Town Hall, 110 Myrtle Avenue, Westport, Connecticut. (Council's Hearing Notice dated July 6, 2007; Transcript 1 - 08/08/07, 3:30 p.m. [Tr. 1] p. 4; Transcript 2 - 08/08/07, 7:00 p.m. [Tr. 2], p. 4)

3. The party in this proceeding is the petitioner. The intervenors in this proceeding are Cellco Partnership d/b/a Verizon Wireless (Verizon), The Merritt Parkway Conservancy, Omnipoint Communications, Inc. (T-Mobile), New Cingular Wireless PCS LLC d/b/a AT&T, Sprint Nextel Corporation (Sprint Nextel), Lightower Wireless LLC, Mr. Cliff Berger, and Ms. Elizabeth Galt. (Tr. 1, pp. 6-7)

4. On July 25, 2006, ClearLinx Network Corporation (ClearLinx), the predecessor to Extenet, filed a Petition with the Council (Petition No. 782) to install a DAS on the Merritt Parkway in the towns of Greenwich, Stamford, New Canaan, Norwalk, and Westport. (Council Administrative Notice Item No. 23, p. 1; Attachment C)

5. On October 27, 2006, ClearLinx withdrew Petition 782 from Council consideration to address comments from the State Historic Preservation Officer (SHPO) regarding visual impacts to historic overpasses on the Merritt Parkway. (Council Administrative Notice Item No. 23)

6. ClearLinx was renamed Extenet on January 1, 2007. Extenet revised the DAS design to accommodate the SHPO comments and resubmitted the petition to the Council on April 26, 2007. (Tr. 1, p. 25)

7. Extenet discussed the project and provided a technical report to the municipal officials in the towns of Greenwich, Stamford, New Canaan, Norwalk, and Westport. (Extenet Petition cover letter, April 25, 2007)

8. Public notice of the proceeding was published in The Greenwich Time, Norwalk Citizen News, The Connecticut Post, The Hour, Minuteman, The Stamford Advocate, Brooks Community Newspaper, The Fairfield Citizen, and The New Canaan Advertiser. (Record)

9. Extenet is a Delaware Corporation with its headquarters in Oakbrook Terrace, Illinois. (Extenet 1, p. 2)

10. Extenet is an infrastructure provider to telecommunication carriers and implements DAS networks in areas that are difficult to locate traditional wireless facilities. (Extenet 1, p. 2; Tr. 2, p. 72)

11. Extenet has over 650 DAS nodes either in operation or under construction in Michigan, Texas, Florida, California, Nevada, Hawaii, New York, Ohio, and Massachusetts. All of the networks have at least one committed carrier. (Extenet 2, Q. 1)

12. Extenet is constructing a DAS network in Brookline, Massachusetts that consists of 26 nodes to serve a four square mile residential area. The nodes would be placed on existing utility poles. (Extenet 1, Q. 1)

13. On March 15, 2006, Extenet received a Certificate of Public Convenience and Necessity from the Department of Public Utility Control for the operation of intrastate telecommunication services. Extenet would be required to submit its construction plan to the DPUC for approval and oversight since the DAS would utilize public right-of-ways. (Extenet 1, pp. 9-11)

State Agency Comment

14. Pursuant to CGS § 16-50j (h), on July 6 and August 9, 2007, the following State agencies were solicited by the Council to submit written comments regarding the proposed project; Department of Environmental Protection (DEP), Department of Public Health (DPH), Council on Environmental Quality (CEQ), Department of Public Utility Control (DPUC), Office of Policy and Management (OPM), Department of Economic and Community Development (DECD), and the Department of Transportation (DOT). (Record)

15. The Council received responses from the DOT's Bureau of Engineering and Highway Operations on August 8, 2007. The comments are presented in Finding 40. (Record)

16. The following agencies did not respond with comment on the petition: CEQ, DEP, DPUC, OPM, DPH, and the DECD. (Record)

Project Description

17. Extenet proposes to install a DAS along 20 miles of the Merritt Parkway in areas that lack existing reliable coverage. (Extenet 1, pp. 2, 4)

18. The proposed DAS would accommodate multiple service providers utilizing the same infrastructure. The DAS could support all current wireless service technologies, including carriers utilizing different technologies and/or frequencies. (Extenet 1, pp. 2, 3, 6)

19. Extenet would primarily utilize existing utility infrastructure and rights of way for the placement of its equipment and routing of fiber optic cable. Extenet has secured the necessary use agreements with the respective utilities. (Extenet 1, p. 10; Extenet 4, Asta Jr., p. 2)

20. The proposed DAS is comprised of two base stations and 27 nodes. The base stations would house the wireless service provider equipment and would be connected to the nodes by fiber-optic cable. The nodes consist of radio equipment connected to a small antenna that transmits wireless radio frequency signals to the coverage area. (Extenet 1, pp. 3, 4)

21. Wireless radio frequency signals are received from the telecommunication carrier at the base station where they are converted to an optical signal. The optical signal is then routed via fiber optic cable from the base station to the nodes, where it is converted back into a radio frequency signal and transmitted. (Extenet 1, p. 3)

22. Each node can transmit the signal for all wireless service provider technologies. (Extenet 1, p. 3)

23. The radio equipment for each node would be contained within an 18-inch by 20-inch metal cabinet and mounted on the nearest utility pole to the antennas. The cabinets would be mounted eight to 12 feet above the ground. Each equipment cabinet can accommodate four technologies, but not necessarily four carriers. An additional cabinet would be installed at each node if there were a need to support additional technologies in the future. (Extenet 1, p. 6; Extenet 5; Tr. 2, pp. 38-39)

24. In the current proposal, two base stations would be installed to serve the DAS, one for the northern part and one for the southern part. A single base station would not be practical due to the following:
    a) limited space at the potential base station locations;
    b) long distances of fiber optic cable could hinder network performance; and
    c) project costs associated with fiber optic cable.
    (Tr. 2, pp. 48-49)

25. The tentative location of the southerly base station is at an existing Crown Castle tower facility on Guinea Road in Stamford. The base station may be installed within an existing equipment shelter or may be installed in a new 12-foot x 15-foot equipment shelter within the existing compound. (Extenet 1, Tab B)

26. The tentative location of the northerly base station is at an existing water tank facility on West Rocks Road in Norwalk. The base station would consist of a 12-foot by 15-foot equipment shelter within the existing compound. (Extenet 1, Tab B)

27. Extenet has not executed any lease agreements for placement of the base stations. (Tr. 2, p. 81)

28. The antennas for each node would be installed in one of three ways:
    a) attached to new cable suspended from existing or new wood poles;
    b) attached to existing wood utility poles; or
    c) mounted on new wood poles.
    (Extenet 1, p. 4; Tr. 2, p. 29)

29. Seventeen of the nodes would consist of two pairs of nine-inch square panel antennas mounted back-to-back on two 3/8-inch cables suspended above highway overpasses. The cables would extend across the overpass from poles on either end; 22 to 30 feet above the highway (refer to Figure 1). (Extenet 1, p. 5, Tab A; Tr. 2, p. 39)

30. Two of the overpass nodes would require the installation of new wood poles. Node 17, located at the Riverbank Road overpass in Stamford, would require one new 25-foot high pole to support the cable-mounted antennas. Node 10, located at the Lapham Road overpass in New Canaan, would require five new poles: three to extend the existing utilities to the node location, and two to support the cable mounted antennas. All five poles would be 25 feet in height. (Extenet 1, p. 5, Tab 1; Tr. 2, pp. 24-25)

31. One node (Node 25) would cross over the highway at an existing utility line crossing rather than at an overpass. (Extenet 1, p. 5, Tab A)

32. Eight nodes would be installed on the top or near the top of an existing utility pole adjacent to the highway. The antennas associated with these nodes would be placed behind a PVC shroud 18 inches wide by 23 inches tall (refer to Figure 2). (Extenet 1, p. 5; Tab A)

33. One node (Node 35) would be installed on a new 40-foot high wood pole adjacent to the Den Road exit ramp in Stamford (refer to Figure 3). (Extenet 1, p. 5, Tab A)

34. Two overpass nodes may require the replacement of existing utility poles, at their existing heights, due to sagging utility lines. (Extenet 1, Tab A; Tr. 2, pp. 37-38)

35. The nodes operate independent of each other. If one node was damaged or disconnected by an event such as a windstorm or vehicle impact, the remaining nodes and network would remain operating. (Tr. 2, pp. 63-64)

36. The proposed DAS would require the installation of 37 miles of fiber optic cable to connect the nodes and base stations. The cable would be installed overhead utilizing existing utility infrastructure. (Extenet 1, p. 6; Tr. 2, pp. 45-46)

37. Extenet would provide all operational services, including regular maintenance, network monitoring, and facility upgrades. (Extenet 3, Q. 7)

38. The DAS would be continuously monitored by a Network Operations Center based in Chicago, Illinois. (Extenet 1, p. 7; Tr. 2, p. 47)

39. The DOT's Bureau of Engineering and Highway Operations had the following comments regarding the design of the DAS;
    a. The mid-span antennas at Node 25 should be no lower than the existing utility wire;
    b. The new pole installation at the Den Road exit ramp (Node 35) must be outside of the highway non-access line. Access to this pole must be from property adjacent to the non-access highway. Additionally, the Applicant must enter into a Master License Agreement (MLA) with the DOT for the placement of the pole;
    c. A DOT encroachment permit must be obtained prior to construction;
    d. Vegetation removal must be approved by the Merritt Parkway Advisory Committee (MPAC); and
    e. DAS equipment must not block any signs. A minimum of 800 feet of unobstructed view shall be maintained.

    (Record)

40. The mid span antennas at Node 25 would be installed above the existing utility wires.

41. Extenet would consult with the DOT for issues related to Node 35. Extenet believes the pole would have to be relocated only a few feet to move it out of the highway non-access line. Extenet also believes an MLA would not be required for the pole. (Tr. 2, p. 88-93)

42. Extenet would file for a DOT Encroachment Permit for any work within the DOT right of way. (Extenet 4, Asta Jr., p. 2)

43. No vegetation would be removed for the DAS installation. (Tr. 2, p. 34)

44. The DAS equipment would not obstruct the views of any highway signs. (Tr. 2, pp. 34-36)

Wireless Service Design

45. Extent designed the network after being approached by several wireless carriers who were experiencing coverage deficiencies on several areas of the Merritt Parkway: specifically, the section of the parkway from Greenwich to Westport. Extenet examined the current locations of all wireless facilities and conducted several drive tests to prepare the network design. (Extenet 4, Larsen, pp. 2, 3; Tr. 2, pp. 51-53, 65)

46. The proposed DAS could support all current wireless technologies (TDMA, GSM, CDMA, UTMS) and could support multiple technologies and or frequencies used by a single carrier. (Extenet 1, p. 7)

47. The proposed DAS could support TDOA E-911 services utilized by AT&T and T-Mobile. Verizon and Sprint use another technology, A-GPS, that uses a phone-based GPS system. (Extenet 2, Q. 4)

48. The proposed DAS would provide a signal level threshold of -84 dBm in at least 90% of the network area, based on 1900 MHz service. Significant impact on voice quality would not occur until the receiver signal level is below -95 dBm. (Extenet 2, Q. 5)

49. The signal from each node would extend off the parkway several hundred feet to a quarter mile in either direction, depending on the area tree density and node locations. The network is designed to provide coverage only to the Merritt Parkway. (Extenet 1, Tab B; Tr. 2, pp. 53-54, 66)

50. Extenet does not have any signed contracts with any wireless service provider to use the DAS. (Tr. 2, p. 74)

Environmental Considerations

51. All new pole installations would be along roadways in areas that were previously disturbed. (Extenet 4, Shamas p. 2)

52. Construction of the DAS would not impact any wetlands or watercourses. Surface drainage features would not be disturbed. (Extenet 1, p. 17)

53. DAS infrastructure would not be visible from area residences due to topography and vegetation. The DAS infrastructure would be consistent with the existing utility infrastructure. (Extenet 1, p. 15; Extenet 2, Q. 6)

54. The worst-case radio frequency emissions from each node, at ground level, from each node is expected to be 0.24% of the applicable public exposure limit, as established by the Federal Communications Commission. (Extenet 1, Tab G)

55. The Merritt Parkway is listed on the National Register of Historic Places and is designated a National Scenic Byway by the U.S. Department of Transportation. (Extenet 1, Tab F)

56. The State Historic Preservation Office (SHPO) states the proposed DAS would have no adverse effect on the historic qualities of the parkway. (Extenet 1, Tab F)

57. The SHPO strongly recommends Extenet establish a fund in the amount of $50,000 per year for every year the DAS is in operation, to be administered by the Merritt Parkway Conservancy for the sole purpose of restoring and maintaining the scenic and historic qualities of the parkway. (Extenet 1, Tab F)

58. Extenet has completed preliminary National Environmental Policy Act (NEPA) analysis for each node location and determined the project would have no environmental effect. A final NEPA review would be completed prior to construction. (Extenet 4, p. 2; Tr. 2, p. 80)

59. Extenet would be willing to paint the antennas if deemed necessary. (Extenet 3, Q. 9)

60. Extenet would comply with the Merritt Parkway Landscape Master Plan. (Extenet 3, Q. 11)

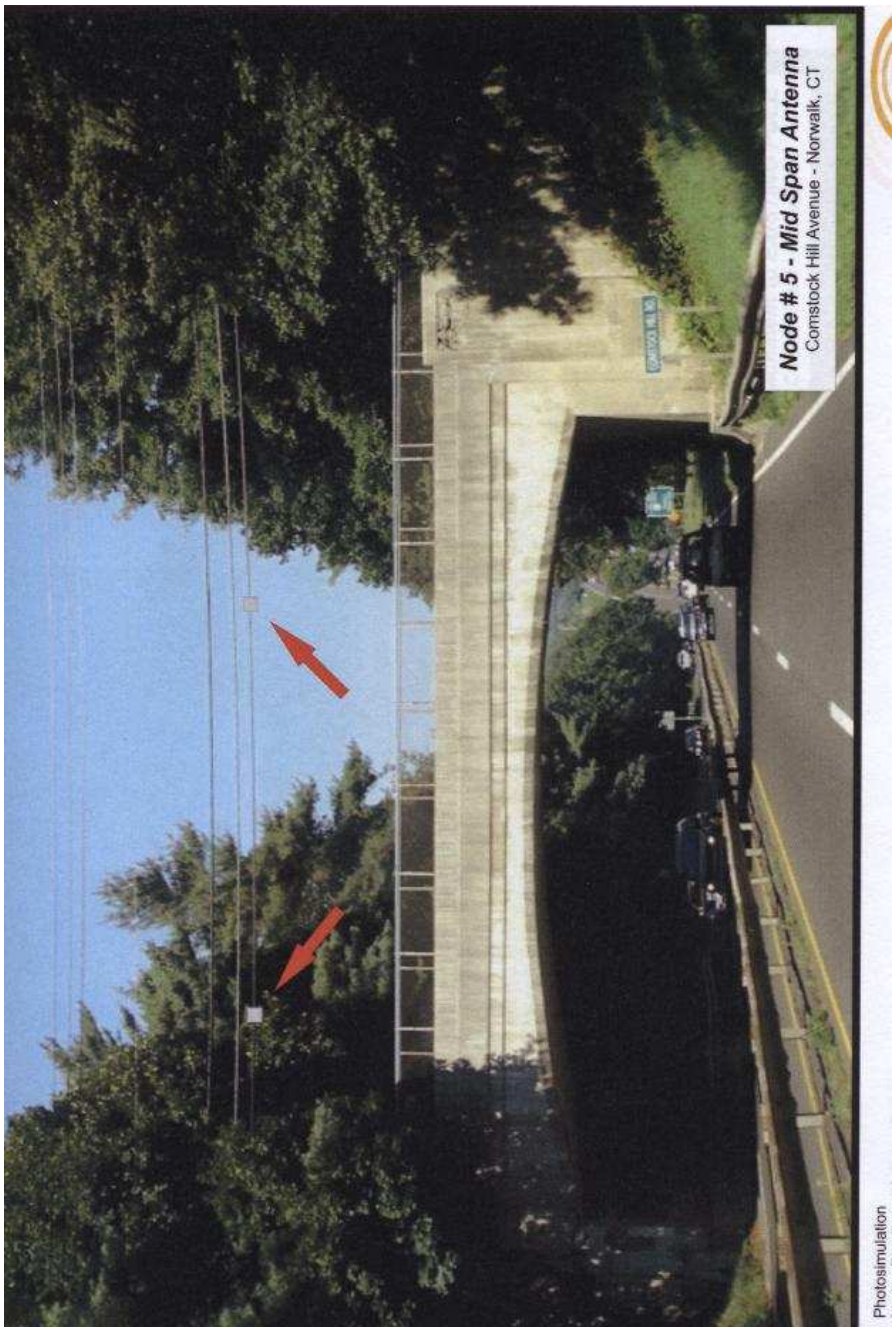

Figure 1 – Node 5 – simulation of cable mounted antennas at overpass.

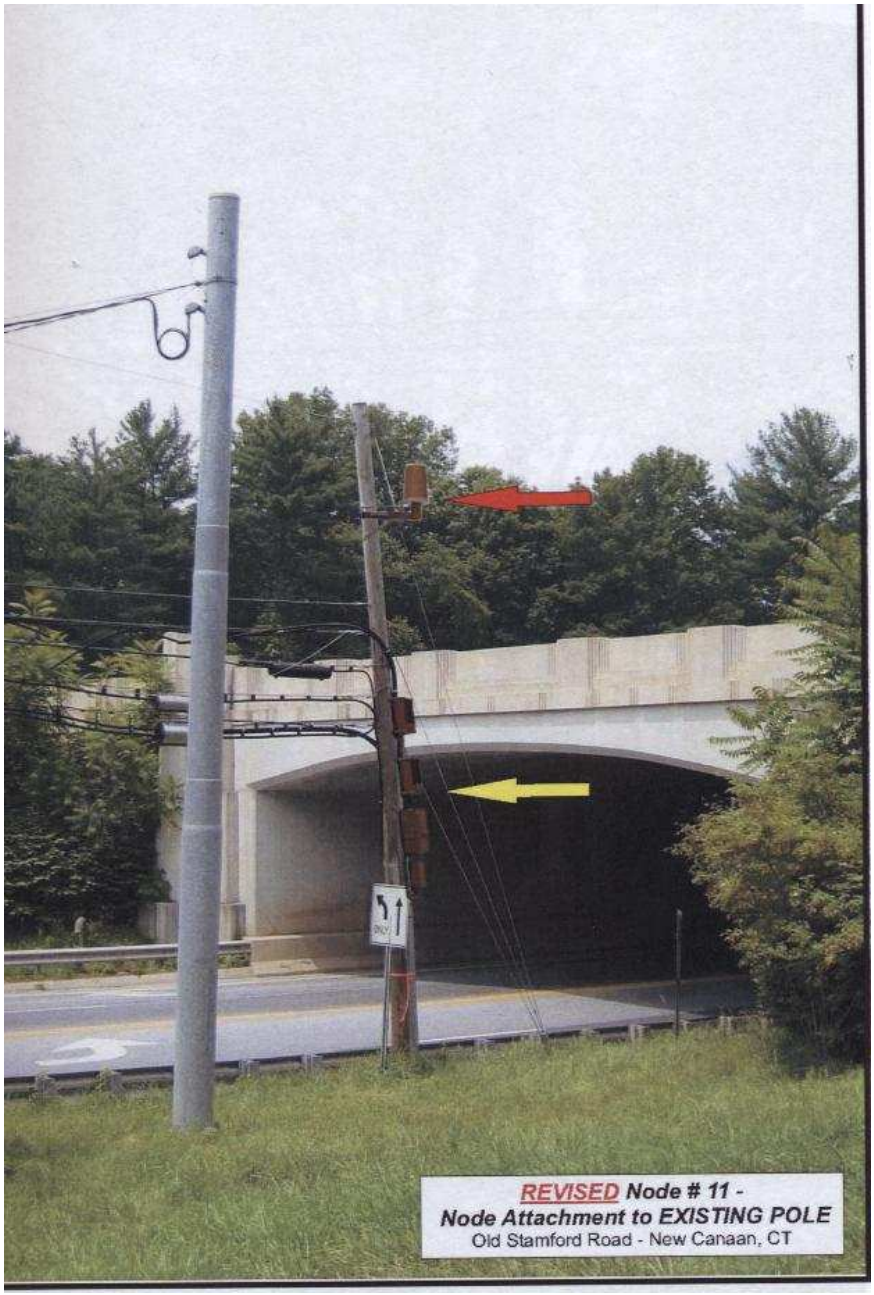

Figure 2 – Node 11 – simulation of antenna mounted to an existing utility pole.

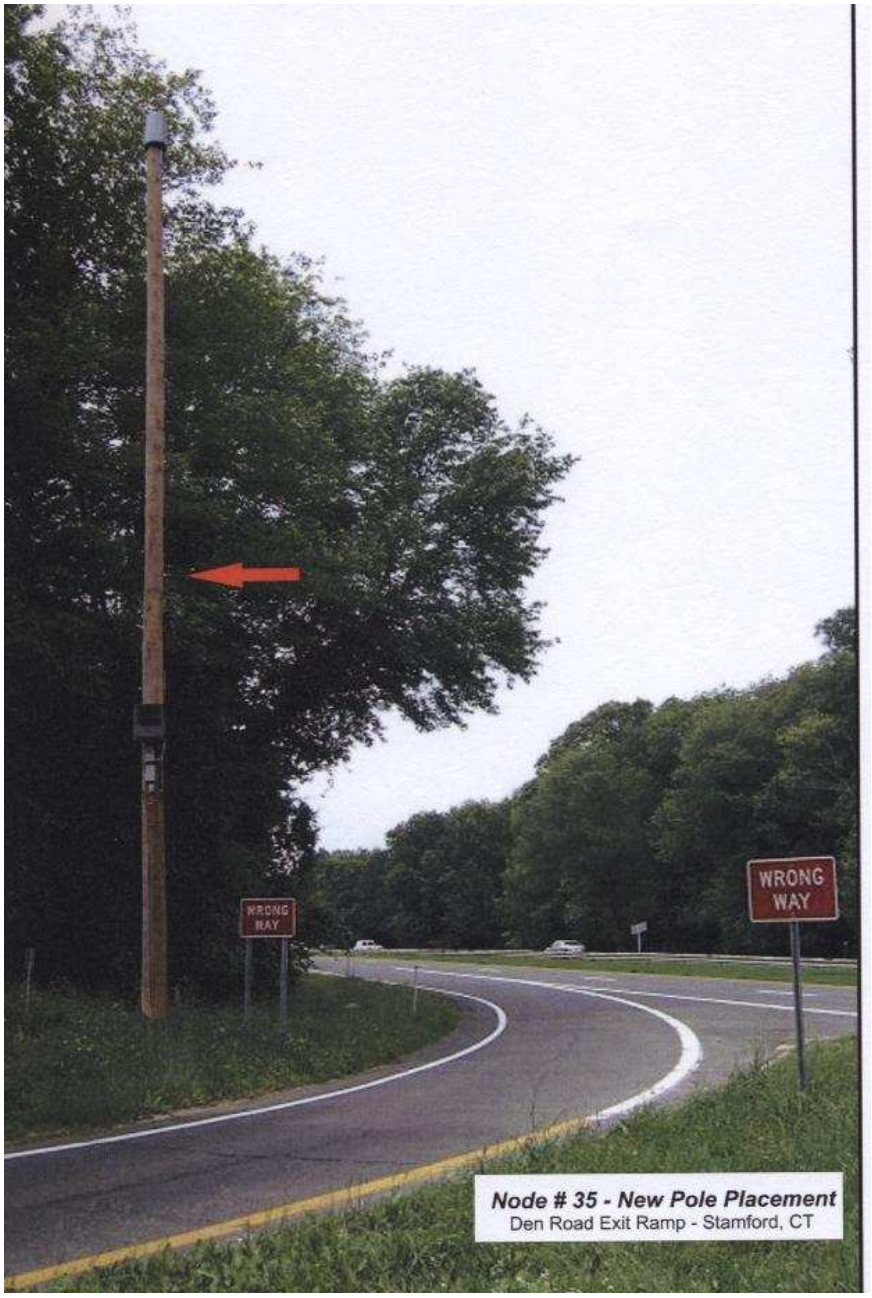

Figure 3 – Node 35 – simulation of new 40-foot pole for pole mounted antenna.