

Section 30

Generating Facility Visual Quality and Scenic Character

May 17, 2012

TO: Andy Novey / Canton Mountain Wind, LLC

FR: Terry DeWan / Amy Segal / TJD&A

**RE: VISUAL IMPACTS OF PROPOSED TURBINE CHANGE
CANTON WIND PROJECT**

Canton Mountain Wind, LLC is proposing an alternate turbine model for Canton Mountain Wind project (Project). The Project as originally proposed consisted of seven GE 2.75-103 wind turbines and one GE 2.75-100 wind turbine. CMW is now proposing eight Siemens 3.0-113 turbines, in the same locations, for the Project. These Siemens turbines have 113-meter-diameter rotors on 90-meter towers. The purpose of this memo is to summarize the change in potential visual impact from the Siemens turbines. The blades on the Siemens turbines would be 5 meters (16 ± feet) longer than the blades on the GE 2.75-103 turbines and 6.5 meters (21± feet) longer than the blades on the GE 2.75-100 turbine. The hub height of the Siemens turbines is 90 meters, 5 meters (16± feet) taller than the hub height of the GE turbines. The height from the tower base to the apex of the Siemens turbine blades would be 146.5 meters (480.5 feet), which would be 10 meters (33± feet) taller than the GE 2.75-103 turbines and 11.5 meters (38 ± feet) taller than the GE 2.75-100 turbine, an increase in height of 7 and 8%, respectively.

TJD&A remodeled all three photosimulationsⁱ involving scenic resources of state or national significance, using the taller Siemens turbines in the same locations, to assess whether the change in the turbine model would affect the conclusions in our December 2011 Visual Impact Assessment. The Canton Mountain Wind Project will be approximately 3.6 to 4.6 miles from the three scenic resources: Jay Niles Memorial Library and the North Jay Grange Store in Jay, and Forest Pond in Canton. The increased height and longer blade length are noticeable when comparing the original photosimulations to the new images, but the overall visual change at those distances will not be discernible. We also revised the topographic viewshed map and the landcover viewshed map. The changes to the potential areas of visibility did not change significantly.

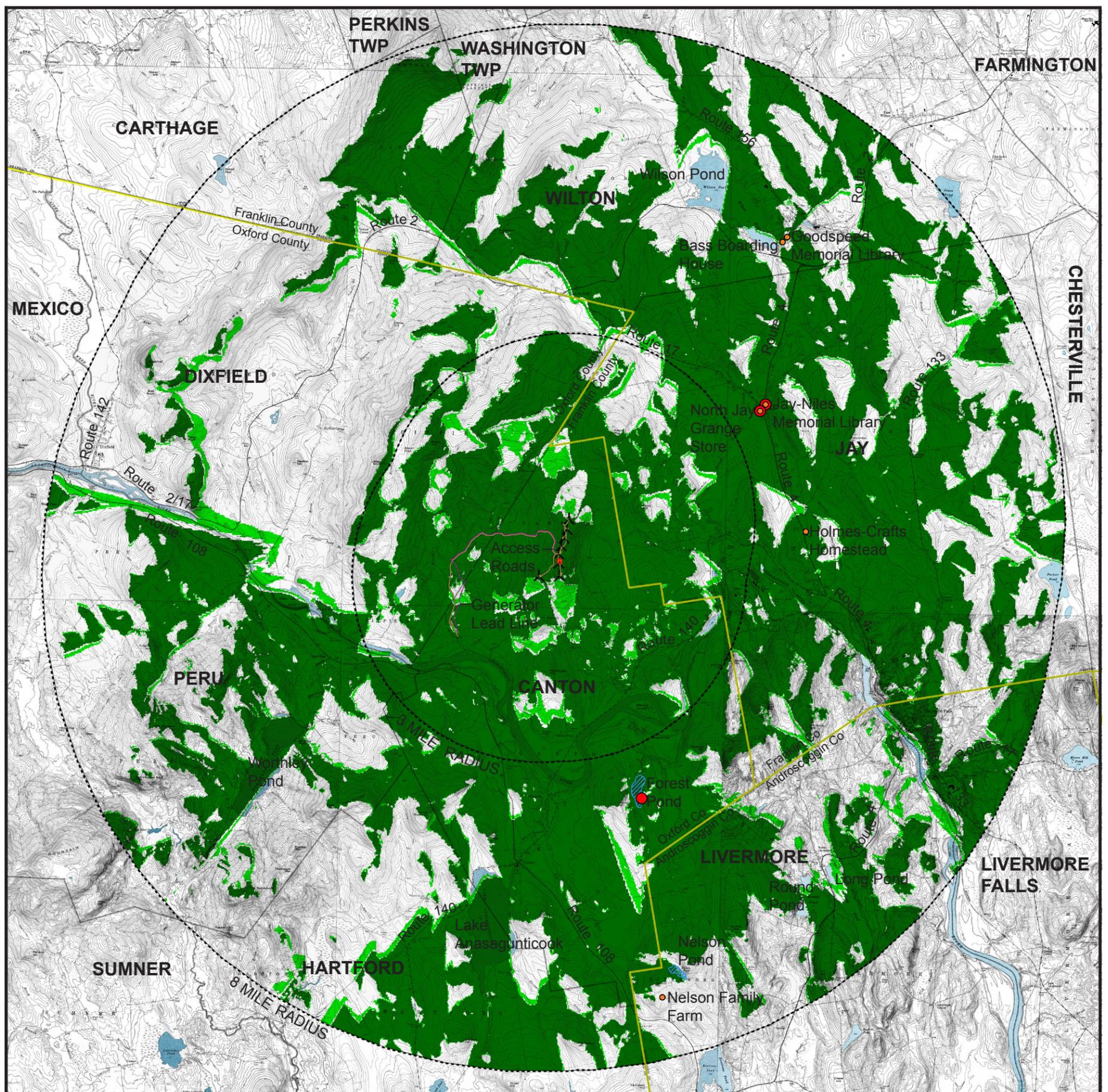
Based upon these analyses we determined that there would be no appreciable change in visibility between the GE turbines and the Siemens turbines throughout the 8-mile study area. The proposed change in turbines does not affect our conclusion that the Project will not have an unreasonable adverse impact on scenic values and existing uses of scenic resources of state or national significance.

ⁱ All photosimulations were prepared using WindPro software, which has an extensive library of turbines that are selected by the user. When comparing the details in WindPro for both the GE 2.75-103 and Siemens 3.0-113 turbines, we noticed a discrepancy in the original turbine base dimensions. The

WindPro model for the GE 2.75-103 depicts a turbine tower that is significantly wider than what the actual manufacturer's specifications indicate. GE's specifications show a base diameter of 4.3 meters (14.1 feet) and a top diameter of 3.1 meters (10.1 feet); whereas the WindPro model depicts a turbine base of nearly 7.6 meters (25 feet) in diameter and a top diameter of 5.1 meters (17 feet). Therefore, the original photosimulations overstate the diameter of the GE 2.75-103 turbine tower base by nearly 11 feet. The WindPro model for the Siemens 3.0-113 depicts tower dimensions consistent with the manufacturer's specifications; i.e., 4.5 meters (14.7 feet) at the base and 2.7 meters (8.8 feet) at the top. Photosimulations were not revised to show the corrected GE 2.75-103 turbines, as the difference is not discernible on the scale of the photosimulations for the Canton Mountain Wind Project. In reviewing the differences between the photosimulations, we based our conclusions for this memo on the difference between the corrected GE 2.75-103 and the Siemens 3.0-113.

NOTE: Viewshed mapping is a preliminary means of visual analysis. While beneficial for preliminary orientation and investigation, viewshed maps are not a definitive indication of visibility. Potential visibility was confirmed through cross sectional analysis, field investigation, and other visualization techniques.

Figure 3: Topographic Viewshed Map
MAY 16, 2012
CANTON MOUNTAIN WIND PROJECT



LEGEND

-  PROPOSED TURBINES - SIEMENS 3.0
-  EXISTING MET TOWER
-  SCENIC LAKE OR POND
-  STUDY AREA PHOTOGRAPHS (SEE APPENDIX A)
-  PHOTOSIMULATION LOCATION (SEE APPENDIX B)
-  STRUCTURE ON NATIONAL REGISTER
-  COUNTY LINES
-  TOWN LINES
-  PROPOSED ACCESS ROADS
-  PROPOSED GENERATOR LEAD LINE

NUMBER OF TURBINES VISIBLE

-  1-4 VISIBLE TURBINES
-  5-8 VISIBLE TURBINES

NOTES

Viewshed Map does not account for the screening effects of existing vegetation, buildings, or other structures that will block views of the Project.

**VIEWSHED MAP
Topographic**

Canton Mountain Wind Project



tjd&a



1.0 MILE

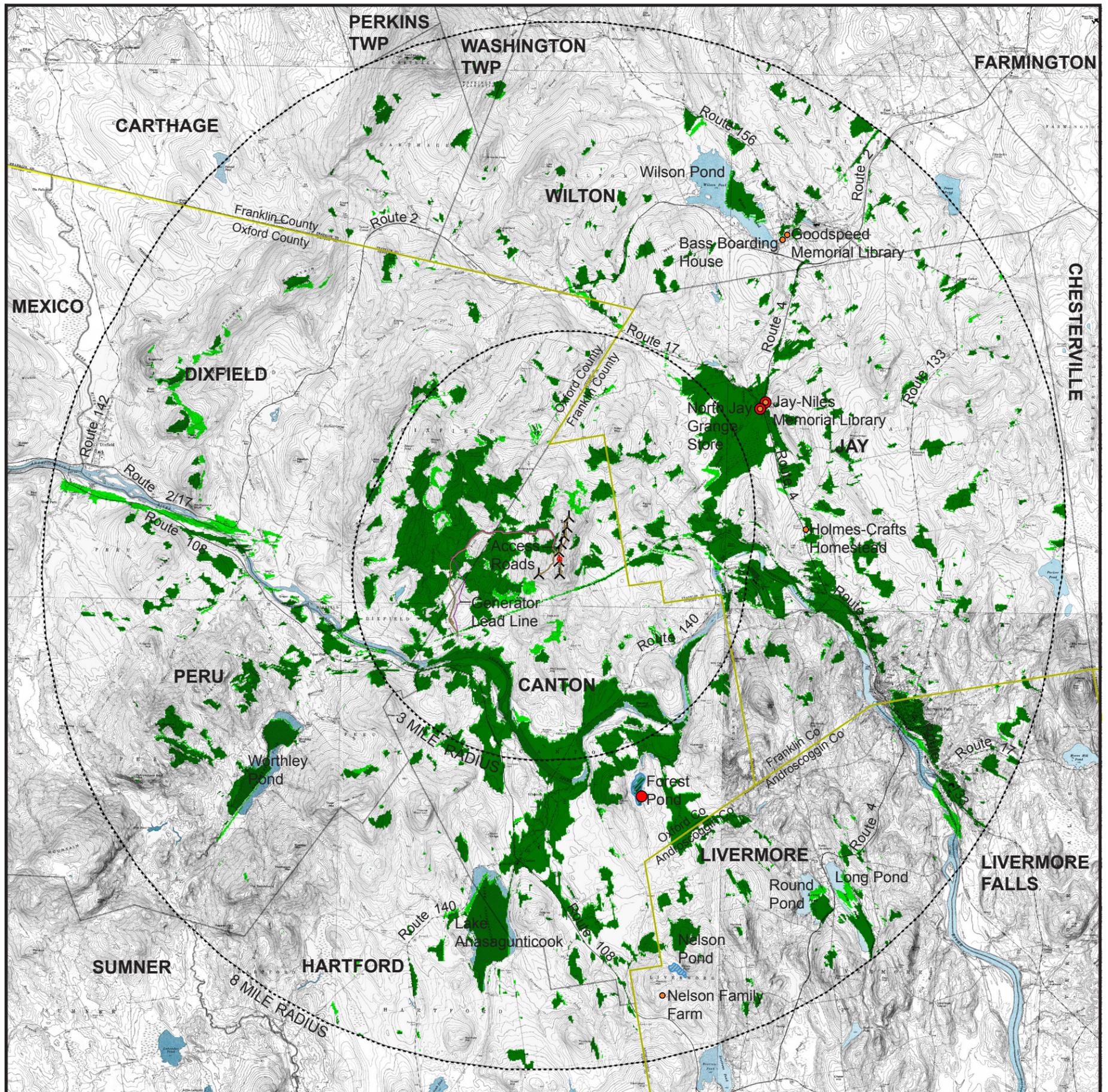
May 2012

Figure 4: Topographic and Landcover Viewshed Map

MAY 16, 2012

CANTON MOUNTAIN WIND PROJECT

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- PROPOSED TURBINES - SIEMENS 3.0
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NUMBER OF TURBINES VISIBLE

- 1-4 VISIBLE TURBINES
- 5-8 VISIBLE TURBINES

NOTES

This Viewshed Map accounts for the screening effects of 3 existing vegetation types as well as topography.

Landcover data from the Maine OGIS.

Evergreen: 40'
Deciduous: 40'
Mixed: 40'

VIEWSHED MAP
Topographic and Landcover

Canton Mountain Wind Project



tjd&a



1.0 MILE
May 2012



Photosimulation 1 updated with Siemens 3.0 turbines: Panoramic view looking southwest from Jay-Niles Memorial Library in Jay toward the proposed Canton Mountain Wind Project. Approximately eight turbines will be visible from this location. The visibility of seven of the eight turbines will be filtered during leaf on season.

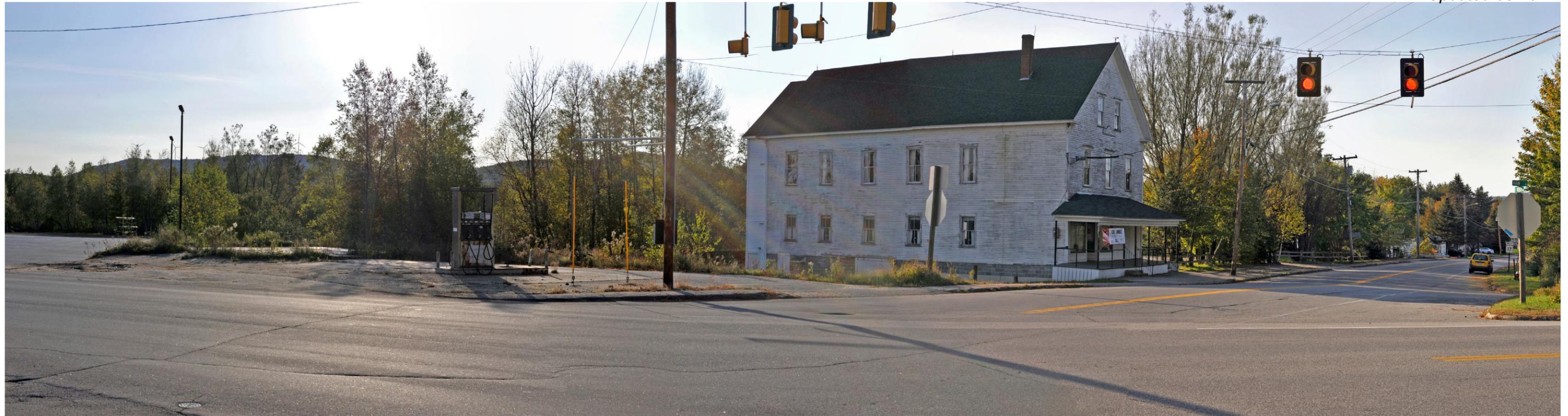
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Photosimulation 1A from December 2011 VIA using GE 2.75-100 and 103 turbines: Normal view looking southwest from Jay-Niles Memorial Library toward the proposed Canton Mountain Wind Project. Approximately eight turbines would be visible from this location at distances of 3.7 to 4.6 miles.



Photosimulation 1A updated with Siemens 3.0 turbines: Normal view looking southwest from Jay-Niles Memorial Library toward the proposed Canton Mountain Wind Project. Approximately eight turbines would be visible from this location at distances of 3.7 to 4.6 miles.



Photosimulation 2 updated with Siemens 3.0 turbines: Panoramic view looking southwest from the intersection of Route 17 and Route 4 in Jay toward the proposed Canton Mountain Wind Project. Approximately eight turbines will be visible from this location. The visibility of five of the eight turbines will be filtered during leaf on season.

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Photosimulation 2A from December 2011 VIA using GE 2.75-100 and 103 turbines: Normal view looking southwest from intersection of Route 17 and Route 4 toward the proposed Canton Mountain Wind Project. Approximately eight turbines would be visible from this location at distances of 3.6 to 4.5 miles.



Photosimulation 2A updated with Siemens 3.0 turbines: Normal view looking southwest from intersection of Route 17 and Route 4 toward the proposed Canton Mountain Wind Project. Approximately eight turbines would be visible from this location at distances of 3.6 to 4.5 miles.



Photosimulation 3 updated with Siemens 3.0 turbines: Panoramic view looking northwest from Forest Pond in Canton toward the proposed Canton Mountain Wind Project. Eight turbines will be visible from this location.

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Photosimulation 3A from December 2011 VIA using GE 2.75-100 and 103 turbines: Normal view looking northwest from Forest Pond toward the proposed Canton Mountain Wind Project. Eight turbines would be visible from this location at distances of 3.8 to 4.6 miles.



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