



## Project Description

Twin Energy LLC (“Twin”) has designed and proposes the siting of a three-turbine wind energy facility (the “Project”) in Rumford, Oxford County, Maine, a town that has a wind bylaw permitting the development of wind energy projects that comply with the bylaw. The Twin wind turbines will be on South Twin Mountain (elevation 1900 ft to 2156 ft), 0.85 miles south of the operational RoxWind Project, and within the area designated as expedited for permitting under the Maine Wind Energy Act. This location is immediately south of the border between Rumford and Roxbury, Maine.

Project components include three wind turbine generators (GE-6.1-158 or similar machines) with a nameplate capacity of approximately 6.1 megawatts (“MW”) each, access roads, overhead and underground collection lines, and laydown areas. The Project site will be accessed off Horseshoe Valley Road, through an easement agreement over the RoxWind access road granted by the landowner and RoxWind LLC. From there, a new road will be constructed connecting North Twin and South Twin. The interconnection route will follow the new road and then along the existing transmission line (located south of the existing transmission corridor) interconnecting to an existing collector substation off Route 120 in Roxbury.

The Project is primarily located on land that has been historically used for timber harvesting and will continue to be used for timber harvesting during the project’s operations. Only a small portion of the parcels’ acreage will be removed from timber harvesting during the life of the project. The new infrastructure designed for the Project will include improving access that has been historically used by equipment on site and stabilizing stream crossings that were impacted by harvesting activities. At the end of the project’s useful life, and after it has been decommissioned, the land used for the Project will be revegetated as dictated through the decommissioning process.

A portion of the project’s electrical and communications infrastructure will be on land that is not actively used for timber harvesting and currently is used to host electrical and communications infrastructure, both for Central Maine Power (“CMP”) and the RoxWind LLC project. The addition of the Project will not noticeably alter the current use of this property.

The siting of individual turbines has taken into account the wind resource, site-specific topography, access road locations, and proximity to wetlands, wildlife habitat, and other site conditions including setback requirements. The proposed turbines have an 117m hub height, a rotor diameter of 158m, and a maximum tip of blade height of 196m (~643 feet). The turbines are controlled electronically so they will always face into the wind when generating electricity.



An existing access road originating from Horseshoe Valley Road will be used to provide access to the project. This road will then be extended along private property, connecting North Twin to South Twin. The new road will be approximately 24' wide and will drop in elevation as it leaves the peak of North Twin and then will ascend at South Twin. A ridgeline road along South Twin connecting each of the turbines has been designed to avoid wetlands and habitat and minimize cut and fill slopes. This road connecting the turbines will be used to walk the crane between the locations and thus it needs to be approximately 40' wide. At the base of each turbine will be a crane pad. Each crane pad will be approximately 120' x 70'. In most locations the new access road, ridge line road, and crane pads are screened by existing vegetation and will not be highly visible from outside the immediate area.

The wind turbines will be the most visible part of the Project. The wind turbines will be lit per FAA regulations. In addition, Twin proposes a 10-meter tall met-tower to collect data as required by ISO-NE (the transmission operator).

Power from the turbines will be collected in a series of 34.5 kilovolt collection lines, and connect to an existing collector substation off Route 120 in Roxbury.

The Project is designed to minimize wetland and stream impacts. 140 wetlands were surveyed and the Project design will only impact 18 of those 140. In addition, the impact has been minimized by designing the Project to primarily impact previously impacted wetlands (12 of the 18 wetlands) and by minimizing the overall square feet ("SF") of impact below 15,000 SF.

Approx. Station	Wetland ID	Total Wetland Area (SF)	Directly Impacted Area (SF)	Evidence of Forestry Impacts
1+00	143-WBL-RDK-33	3,610	1,294	Isolated depression adjacent to old logging road
2+00	141-WBL-KMN-80	10,887	1,529	Forestry impacts
3+00	142-WBL-KMN-81	813	336	Forestry impacts
13+00	139-WBL-KMN-77	346	281	
27+00	136-WBL-KMN-74	2,299	1,644	Wetland in skidder trail; groundwater seep; forestry impacts
57+00	130-WBL-KMN-67	10,137	1,114	Forested groundwater seep adjacent to stream and skid road

58+00	128-WBL-KMN-3	1,255	1,153	Small side slope seep crossing skid trail
63+00	125-WBL-KMN-4	1,098	903	Wetland in naturalized woods road on side slope
70+00	123-WBL-KMN-5	406	406	
110+50	121-WBL-KMN-7	666	666	Small wetland in skidder trail; site of previous timber harvest
114+00	42-W-KMN-37	309	118	
117+00	97-WBL-KMN-38	10,730	709	
118+50			205	
123+50	151-WBL-KMN-84	515	515	Forestry impacts
124+16	152-WBL-KMN-83	781	781	Forestry impacts
200+50	149-WBL-RDK-32	1,492	309	
202+00	95-WBL-KMN-44	1,781	953	
301+00	92-WBL-KMN-42	2,150	707	Toe slope wetland; forestry impacts; disturbed soils
303+00	96-WBL-KMN-40	1,321	1,321	Regenerating skid road at base of slope
<b>Total Square Feet</b>		<b>50,595</b>	<b>14,943</b>	

The Project design includes 6 stream crossings. Twin has consulted with ACOE and MDIFW to design thoughtful crossings.

The six stream crossings are:

Stream ID	Average bankfull width	Proposed Culvert	Notes
S-KMN-7	37"	Open bottom structure, minimum of 1.2 bankfull width  (Exhibit 4, sheet 9)	Perennial
S-KMN-37	67"	84" culvert, 42" embedded	Intermittent



		(Exhibit 4, sheet 8)	
S-KMN-38	68"	84" culvert, 42" embedded (Exhibit 4, sheet 8)	Intermittent stream begins at center of crossing.
S-KMN-40	33"	60" culvert, 30" embedded (Exhibit 4, sheet 7)	Intermittent
S-KMN-41	53"	72" culvert, 36" embedded (Exhibit 4, sheet 7)	Intermittent
S-JLH-13	35"	48" culvert, 24" embedded (Exhibit 4, sheet 7)	Intermittent

MDIFW has reviewed four of the six stream crossings. The Project proposes to improve two streams (S-KMN-40 and S-KMN-7). The design for S-KMN-40 will route a previously diverted stream to its assumed original streambed. The design for S-KMN-7 will stabilize the habitat for NSS in a previously impacted stream. (All other streams with NSS habitat will have 250-foot buffers.) The designs for crossing S-KMN-41 and S-KMN-38 were also reviewed by MDIFW. The remaining two stream crossings will adhere to Stream Smart Crossing standards.

Due to its thoughtful design, the Project is not proposing additional mitigation. While the Project is filing a Tier 1 NRPA Application, the Project is voluntarily including supplemental information including a wetland functional assessment and an alternatives analysis with its statement of minimization and avoidance.