

## 4.0 EXISTING CONDITION

The Project area is located southeast of the St. Lawrence River and NYS State Route 12E. The Project area extends from approximately one-half mile from the St. Lawrence River to about two and one-half miles inland and extends from one mile south of the Village of Cape Vincent northeasterly to about 10 miles southeast of Route 12E.

As previously described, the dominant current land use in the Project area is agriculture. Historical records indicate that the majority of the project area has been intensively farmed for more than 150 years. There are very few mature stands of forest in the wetland delineation and “preliminary” jurisdictional determination area or project study area. The vast majority of the local landscape is managed to maximize the level topography and relatively fertile soils in the area. Forested areas in the Project area are primarily located along drainages, farm land wind-rows, areas of shallow bedrock and near farm residences, and further suggest the long history of agricultural use.

### 4.1 Physiographic and Existing Landscape Setting

The Project is located in the physiographic basin of the St. Lawrence River. Based on the Jefferson County Soil Survey and observations in the field in the Project study area, the soil parent material includes both glacial lake and marine sediments (USDA, NRCS, 2006). As result of these geomorphic soils formations, the soils have fairly silty content and tend to render soil matrix colors that are relatively dark (see section 5.3 of the Wetland Delineation Report). Elevations in this vast sediment plain are generally below 350 feet (at mean sea level); with relatively few natural perennial streams or significant drainage areas (see Figure 1). When one examines the USGS quadrangles maps relative to the Project area, the flatness of the landscape is diminished within the 10-foot contour intervals shown on the USGS quadrangle maps. TRC’s field inspections confirm that the proposed wind turbine layout area has only slight topographic relief or gradients, and thus the landscape is not subject to frequent or significant erosive forces that create contours and/or stream valleys or large broad saturated areas that form large wetland complexes. The relatively large natural wetland complexes that do exist in the Project area are located south of the proposed wind farm (see Figure 2), and in two large wetland areas crossed by the proposed electric transmission corridor (see Figure 3). These larger wetland complexes are also NYSDEC mapped state wetlands located to the south of the proposed wind farm.

The Project area is characterized by a network of large dairy-based agricultural fields (crop and pasture land), with state roads and farm roads. Small forested areas occur along wind-rows, and there are numerous drainage ditches that apparently were constructed in upland, or graded along natural topographic low areas and swales that intermittently flow during spring runoff and high intensity rainfall events. There are some areas that have shallow bedrock, and areas with poorly drained soils, where farming is not productive, and in several locations, support all three wetland indicators (see Attachment B).

All Project components, that is, turbine sites and associated access roads, interconnected buried electric cable corridors, the substation and O&M building, and the proposed overhead transmission interconnect will be located on individual leased land parcels with easements

located within the larger Project area (see Figure 1 and Figure 2). As proposed, the Project and associated turbines will be located within the Agricultural Residential District of Cape Vincent, and part of the electric overhead transmission line will be located within the Agricultural and Rural Residence District in Lyme. Most of the Project area will be located in the Town of Cape Vincent. The overhead transmission line will extend approximately 9 miles in an easterly direction from the southwest corner of wind farm area to the existing Lyme Substation.

## **4.2 Existing Wetlands, Streams and Rivers in the Project Area**

To determine the potential of wetland impacts resulting from construction of the St. Lawrence Wind Farm, TRC conducted a field assessment of specific corridors within the Project study area determined by the alternative siting criteria developed for the proposed access roads and cable routes that lead to turbine sites. The field assessment focused on primarily determining the presence of federal and state jurisdictional wetlands in addition to observing other natural features such as topography, indications of wildlife and surrounding vegetation communities. Wetland scientists from TRC conducted wetland delineations in July, August, and September 2007 and in August and October 2008 during the wind farm design layout process. The delineations were performed in accordance with the U.S. Army Corps of Engineers (USACE) wetland delineation criteria and methodology. All specific wetland delineation information including but not limited to field wetland delineation data sheets, individual resource area descriptions etc. are included in the SLW Wetland Delineation Report found in Attachment B submitted with this application.

Narrative descriptions of wetland hydrology, soils and vegetation observed within the Project study area are presented in the Wetland Delineation Report. Table 5.1 below includes general wetland information such as the wetland ID number, wetland type, and indication if the wetland is a state mapped wetland, and it also includes proposed temporary and permanent impacts subject to this Joint Application. Table 5-1 also includes waterways, streams and wetland ditches crossed by and adjacent to the Project and subject to regulation.

### **4.2.1 Project Area Wetlands**

A total of eighty one (81) wetland areas were identified along the alternative siting corridors considered during the design phase of the Project. Of the 81 wetlands identified, 71 wetlands are within the final wind farm layout area and mapped on Figure 2 (see large scale location map and 8½" X 11" detail sheets). These wetlands are described in the SLW Wetlands Delineation Report due to their occurrence within or in close proximity to the proposed project corridors and/or facility sites (see Attachment B). The Wetland Delineation Report describes in detail those wetlands within and in relative proximity to the proposed turbine sites, roads and underground cable corridors, the proposed transmission right-of-way corridor, and other facility sites associated with the Project. The Wetland Delineation Report (Attachment B) provides a summary of the wetlands identified along the Project corridor, including their classification in accordance with Cowardin et al (1979) and identifies those wetlands that are mapped by the New York State Department of Environmental Conservation (NYSDEC). Wetland area descriptions and ACOE data sheets for the wetlands delineated in the project area are provided in the Wetland Delineation Report in Attachment B.

Figure 2 (shown on 8½" X 11" Sheets 1-28) shows the unavoidable wetlands and waterways crossings in the Project area. Proposed wetland impact areas are listed in Table 5-1 with corresponding Figure 2 cross-references. These proposed temporary and permanent wetland impacts area described in section 5.0.

The 71 wetlands shown in Figure 2 consist of the following general wetland types: eighteen (18) are deciduous broad-leaf forested wetlands; twenty-six (26) are emergent vegetated wetlands; four (4) are scrub-shrub wetlands; and one (2) open water areas (namely a pond and the Chaumont River). Twenty-one (21) of the delineated wetlands within the Project study corridor consist of two or more wetland types, including two 2 perennial (W26 and W26-T2) streams and four (4) intermittent streams with undefined banks associated palustrine wetlands, as well as 15 others that are mixed emergent and forested wetland habitat.

### **4.3 Project Area Streams and Surface Waters**

There are several rivers and streams mapped on the USGS quadrangle map and listed by the NYSDEC within the Project layout area. The NYSDEC water quality classification for these streams is Class C and D waters. Class C waters are best used for fishing, but are also suitable for fish propagation and survival, and primary and secondary contact recreation. Class D waters are best used for fishing and are also suitable for primary and secondary contact recreation. Field verification of mapped streams on the USGS quadrangle revealed that many of these streams are not perennial and also would not meet the NYSDEC definition of a stream as described in the NY Environmental Conservation Law code Part 608 § 608.1, or as navigable waters of the U.S. While many of these apparent swales and drainages convey runoff from adjacent upland (mostly farm fields) in the Project layout area, they are located in low gradient areas where runoff flow volume and velocity in these swales and drainages have not formed definable banks or natural eroded stream bed characteristics. Several of these areas are actively plowed for crop and hayland rotation. Most of these areas do receive runoff for sufficient duration to meet the criteria of federal wetlands, and have been field delineated as wetlands and/or within wetlands as described in the Wetlands Report in Appendix B.

In summary, all the streams or intermittent drainages identified in the field are surface water features located low gradient topography in natural and altered swales with evidence of surface runoff, persistent hydrology or saturation, and are mostly located within delineated wetlands. Such surface water features, with intermittent drainage or flow, were included within the delineated boundaries for wetlands W9, W10, W17, 17T, W45, W47, W54 and W60 shown in Figure 2. Two ponds, delineated as part of wetlands OT11 and OT12, and one wetland ditch, connected and delineated as part of wetland W49, also do not meet NYSDEC definitions of a stream or watercourse.

SLW also proposes to construct an overhead wire crossing of the Chaumont River and floodway for the overhead transmission line. This is the only overhead crossing of a navigable water of the U.S. within the Project layout.