

### 5.10.2 Potential Impacts

Project construction may cause short-term but unavoidable noise impacts due types of construction and equipment. Construction activity would also generate traffic that would have potential noise effects, such as trucks travelling to and from the site on public roads. Sound generated by construction activities is generally exempt from state and local noise regulation. Once the Project has been built, no significant noise impacts are anticipated from regular maintenance.

A screening level acoustic assessment was conducted to determine the feasibility of the Project to operate within applicable noise criteria (Appendix A). The assessment is representative of worse-case scenario because the Project layout includes more than the target number of turbine locations needed to meet the Project's nameplate capacity to account for alternate locations. Noise was modeled at a distance of 100 feet from each residential structure in consideration of the North Dakota noise standard. The acoustic modeling results were compared to the State's numerical limits of 50 dBA. Table 22 summarizes the number of noise sensitive receptors within selected sound pressure level ranges (in dBA) under each of the modeled operational conditions.

**Table 22. Number of Noise Sensitive Receptors by Sound Level Range and Exceedance Condition for each Wind Turbine Layout**

Sound Level Range (dBA)	Siemens 2.3-108		Vestas V-100		Vestas V-110	
	Typical Downwind	Anomalous Meteorological	Typical Downwind	Anomalous Meteorological	Typical Downwind	Anomalous Meteorological
Less than 35	11	6	11	6	11	5
35 – 40	10	10	10	10	10	11
40 - 45	7	10	7	10	7	10
45-50	10	12	10	12	10	12
50-55+	0	0	0	0	0	0
>50 (North Dakota Limit)	0	0	0	0	0	0

The results of the acoustic assessment demonstrate that the Project would comply with regulatory limits and/or guidelines at all noise sensitive receptors.

#### **Potential Noise Impacts to Wildlife**

Although it is likely that construction of the Project will result in short-term disturbance of wildlife, it will be difficult to assess whether the disturbance comes from the noise of construction activities or the activities themselves (e.g., construction vehicles moving along roads). All such activities will be short-term and limited to the period of construction. Available research regarding the noise impacts of wind farm operations suggests that animals in the area would

either habituate to consistent low-frequency noise from the turbines or would alter their behaviors to adapt to the new acoustic environment (e.g., Rabin et al. 2003, Brumm and Slabbekoorn 2005, Wood and Yezerinac 2006)

### ***5.10.3 Mitigative Measures***

Antelope will implement BMPs and mitigation measures applicable to noise as follows:

- Take advantage of topography and the distance to nearby sensitive receptors when positioning potential sources of noise.
- Select equipment with the lowest noise levels available and no prominent discrete tones, when possible.
- Maintain all equipment in good working order in accordance with manufacturer specifications. Suitable mufflers and/or air-inlet silencers should be installed on all internal combustion engines and certain compressor components.
- All vehicles traveling within and around the project area should operate in accordance with posted speed limits.
- Establish a process for documenting, investigating, evaluating, and resolving project-related noise complaints.

BMPs and mitigation measures applicable during construction include the following:

- Limit noisy construction activities to the least noise-sensitive times of day (daytime only, between 7 a.m. and 7 p.m.) and weekdays.
- Schedule noisy activities to occur at the same time whenever feasible, since additional sources of noise generally do not greatly increase noise levels at the site boundary. Less-frequent but noisy activities would generally be less annoying than lower-level noises occurring more frequently.
- Locate stationary construction equipment (e.g., compressors or generators) as far as practical from nearby sensitive receptors.
- In the unlikely event that blasting or pile driving would be needed during the construction period, notify nearby residents in advance.

The same BMPs and mitigation measures applicable to construction activities are applicable to decommissioning activities.

## **5.11 Cultural, Historical, and Architectural Resources**

Cultural resources include archeological sites, historic standing structures, objects, districts, traditional cultural properties and other properties that illustrate important aspects of prehistory or history or have important and long-standing cultural associations with established communities or social groups. Significant archeological and architectural properties are usually defined by eligibility criteria for listing in the National Register of Historic Places (NRHP), and in consultation with the State Historic Preservation Office (SHPO).