

will be located principally within existing, well-established ROWs. Similarly, the transmission facilities are anticipated to have minimal effects on existing and future land uses within and adjacent to the ROW. Along most of the proposed overhead line routes, the easement for the existing 115-kV transmission lines already precludes the availability of the land for the construction of new, non-utility related, permanent structures. In areas where the existing ROW must be expanded or new ROW is required to accommodate the proposed transmission lines, WMECO will acquire easement rights from the affected property owners. In such areas, future land uses along the ROW will be restricted to those that are compatible with utility use.

The Project may temporarily affect certain recreational resources (e.g. Oak Ridge Golf Club and Robinson State Park in Agawam), particularly those that are crossed by the transmission facilities. WMECO expects to consult with representatives of these affected recreational areas in order to identify site-specific mitigation measures.

5.3.3 Noise

The existing environment and impacts and mitigation measures for the Preferred Northern Route and the Noticed-Alternative Southern Route are in the following subsections. The existing environment and impacts and mitigation measures for noise at the Agawam and Ludlow Substations where noise-producing equipment exists and where modifications to noise-producing equipment will be made are presented in Section 5.4, below.

5.3.3.1 Existing Environment

The existing noise environment for the Preferred Northern Route and the Noticed-Alternative Southern Route is summarized below.

5.3.3.1.1 Preferred Northern Route

The GSRP region is generally characterized by urban and suburban environments, where ambient sound levels are influenced by diverse factors such as vehicular traffic, commercial and industrial activities, and outdoor activities typical of developed environments. Certain types of activities may be considered to be more sensitive to changes in noise conditions; such uses include residences, schools, and designated recreational areas.

The Preferred Northern Route, which generally traverses developed portions of the Greater Springfield Area, is characterized by existing noise levels that are typical of such urban – suburban environments.

Table 5-9: Typical Noise Levels Associated with Different Indoor and Outdoor Activities

Outdoor Noise Levels	A-Weighted Sound Level (dBA)	Indoor Noise Levels
Jet aircraft take-off at 100 feet	+120	
Riveting machine at operator's position	+110	
Cut-off saw at operator's position	+100	
Elevated subway at 50 feet		Newspaper press
Automobile horn at 10 feet		
	+90	Industrial boiler room
Diesel truck at 50 feet		Food blender at 3 feet
Noisy urban daytime	+80	Garbage disposal at 3 feet
Diesel bus at 50 feet		
		Shouting at 3 feet
	+70	
Gas lawn mower at 100 feet		Vacuum cleaner at 10 feet
Quiet urban daytime	+60	Normal conversation at 5 - 10 feet
		Large business office
Quiet urban nighttime	+50	Open office area background level
Substation (transformer)	+43	
Quiet suburban nighttime		
	+40	Large conference room
		Small theater (background)
Quiet rural nighttime	+30	Soft whisper at 2 feet
		Bedroom at nighttime
	+20	Concert hall

Sensitive receptors along the Preferred Northern Route are extracted from Table 4-3 and summarized below in Table 5-10.

Table 5-10: Preferred Northern Route Noise Sensitive Receptors

Evaluation Criteria Metrics	Preferred Northern Route
Residences within 100 feet of edge of ROW (Number)	316
Residences within 101 to 300 feet of edge of ROW (Number)	754
Businesses within 100 feet of edge of ROW or centerline (Number)	46
Businesses within 101 to 300 feet of edge of ROW (Number)	42
Public Facilities within 300 feet of edge of ROW (Number)	2
Public Facilities within 301 to 1,200 feet of edge of ROW (Number)	9
Length by land use (Park/School/Open Space)	3.3 miles

5.3.3.1.2 Noticed-Alternative Southern Route

In general, the ambient sound levels in the vicinity of the Noticed-Alternative Southern Route are typical of those that characterize the residential and suburban land uses nearby. Vehicular traffic on the larger highways along the route, such as the Mass Pike, also contributes to the sound environment.

Sensitive receptors along the Noticed-Alternative Southern Route are extracted out of Table 4-3 and summarized below in Table 5-11. Note that the totals in each row of Table 5-11 are the sensitive receptors which are unique to the Noticed-Alternative Southern Route, and therefore differ from the totals shown in Table 4-3, which aggregate receptors over both routes to reflect the need to do the 115-kV upgrades on the Preferred Northern Route in all events.

Table 5-11: Noticed-Alternative Southern Route Noise Sensitive Receptors

Evaluation Criteria Metrics	Southern Route
Residences within 100 feet of edge of ROW (Number)	112
Residences within 101 to 300 feet of edge of ROW (Number)	362
Businesses within 100 feet of edge of ROW or centerline (Number)	8
Businesses within 101 to 300 feet of edge of ROW (Number)	16
Public Facilities within 300 feet of edge of ROW (Number)	1
Public Facilities within 301 to 1,200 feet of edge of ROW (Number)	9
Length by land use (Park/School/Open Space)	0.6 miles

5.3.3.2 Impacts and Mitigation

The impacts and mitigation for noise of the Preferred Northern Route and the Noticed-Alternative Southern Route are summarized below.

5.3.3.2.1 Preferred Northern Route and Related Facilities

The Preferred Northern Route, which is partially located in Springfield and Chicopee, has ambient sound levels that are largely dictated by interstate highways, and commercial and industrial zones. Construction activities are not expected to substantially affect the local noise environment. Construction-related noise impacts will be short-term (lasting only for the duration of the construction period) and will generally stem from the operation of construction equipment, truck traffic, earth-moving vehicles and equipment, jackhammers and structure erection equipment (cranes) etc. The type of equipment used and operations performed to install the Project facilities is expected to be typical of a large-scale construction effort. In general, the highest noise level from this type of equipment is approximately 92 dB(A) at the immediate source. The operation of the Project along this route will not result in any permanent adverse noise impacts, or create new sources of long-term noise generation.

5.3.3.2.2 Noticed-Alternative Southern Route

The ambient sound noise levels along the Noticed-Alternative Southern Route are generally consistent with what is generated by residential properties, and traffic using state and town roadways. Construction activities are not expected to substantially affect the local noise environment. Construction-related noise

impacts will be short-term (lasting only for the duration of the construction period) and will generally stem from the operation of construction equipment, truck traffic, earth-moving vehicles and equipment, jackhammers and structure erection equipment (cranes) etc. The type of equipment used and operations performed to install the Project facilities is expected to be typical of a large-scale construction effort. In general, the highest noise level from this type of equipment is approximately 92 dB(A) at the immediate source. The operation of the Project along this route will not result in any permanent adverse noise impacts, or create new sources of long-term noise generation.

5.3.3.2.3 Comparison of Noise Impacts

The Preferred Northern Route traverses more developed and industrial/commercial areas, as well as two of the most industrialized cities in western Massachusetts. The ambient sound levels along this route would be greater than the less-developed, more rural areas traversed by the Noticed-Alternative Southern Route. Although the operation of the Project along either route will not result in any permanent adverse noise impacts, or create new sources of long-term noise generation, the potential noise impacts of overhead transmission line construction activities, though temporary in nature, will be greater on the Noticed-Alternative Southern Route.

5.3.3.2.4 Mitigation Measures

Elevated noise levels generated during construction will be temporary. Where feasible, construction work adjacent to commercial or industrial areas will be scheduled at night time, whereas work near residential areas would typically be performed during the daytime (when human sensitivity to noise is lower). Taking into consideration the factors that could result in an increase in sound levels and could cause annoyance at noise-sensitive sites, procedures will be applied during construction to minimize noise effects at sensitive sites. Engine-powered construction equipment will be properly muffled and maintained to minimize excessive noise. Such equipment will not be permitted to operate or idle unnecessarily near noise-sensitive sites. In areas where blasting or rock hammering is required (e.g., to install foundations for overhead line structures), efforts will be made to schedule or muffle blasts to minimize noise and vibration disturbances.

5.3.4 Visual and Aesthetics

The existing environment and impacts and mitigation measures for the Preferred Northern Route and the Noticed-Alternative Southern Route are in the following subsections.