- Best Management Practices (BMPs) for avoiding and minimizing stream impacts (temporary and permanent) will be developed in coordination with the appropriate resource agencies. The BMPs will be implemented during construction.

4.3 Noise

The FRA procedures and guidance used for assessing potential noise impacts from high-speed ground transportation projects are found in the FRA report, *High-Speed Ground Transportation Noise and Vibration Impact Assessment* (U.S. DOT, December 1998). Additional guidance is provided in the *Transit Noise and Vibration Impact Assessment* (USDOT, April 1995).

The assessment of potential noise impacts found in this section includes a quantitative analysis of noise sources associated with proposed maglev operations and a qualitative assessment of the noise influence from fixed facilities such as storage/maintenance yards, passenger stations, terminals, parking facilities, and substations.

4.3.1 Methodology

The noise analysis began with the initial noise evaluation. During this phase of the analysis, all noise-sensitive land uses within the project area were identified and characterized within one of three specific land use categories. Complete descriptions of these categories are shown on Figure 4.3.1-1.

Land Use Category	Noise Metric* (dBA)	Description of Land Use Category
1	Outdoor $L_{eq}(h)$**	Tracks of land where quiet is an essential element in their intended purpose (e.g., outdoor amphitheaters, concert pavilions, and National Historic Landmarks).
2	Outdoor $L_{dn}(h)$	Residences and buildings where people normally sleep (e.g., homes, hospitals, and hotels).
3	Outdoor $L_{eq}(h)$**	Institutional land uses with primarily daytime and evening use (e.g., schools, libraries, churches, medical offices, conference rooms, recording studios, concert halls), cemeteries, monuments, museums, certain historical sites, parks, and other recreational facilities

*Onset-rate adjusted sound levels (l_{eq} and L_{dn}) are to be used where applicable.
**L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.

SOURCE: High-Speed Ground Transportation Noise and Vibration Impact Assessment (FRA, 1998).

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Land Use Categories for High Speed Rail Noise Impacts

Figure 4.3.1-1

Following the identification of noise-sensitive land uses within the 212-meter (700-foot) study corridor, the analysis continued with a general noise evaluation. Noise monitoring was conducted at approximately 300 representative locations along the alternative alignments to establish existing noise levels throughout the study area. In accordance with FRA procedures, Land Use Categories 1 and 3 were monitored for 15-minute periods during peak noise hours to estimate existing peak-hour average noise levels (Leq). Category 2 land uses were monitored for 1-hour periods and noise levels were projected to represent existing 24-hour levels (Ldn).

Projections of future noise levels were developed from field data, estimated maglev noise emission rates, and likely operating conditions. Estimates of the likely operating conditions were based on schedule, peak-hour volumes for a three-vehicle consist, daytime/night-