Appendix 3.14-C
High-Speed Train Noise Disturbance on Grazing Lands

High-Speed Train Noise Disturbance on Grazing Lands

FRA has used existing research to establish a threshold of 100 A-weighted decibels (dBAs) sound exposure level (SEL) for HST noise effects on livestock (FRA 2005). SEL is a measurement that describes the noise from a single event, such as a train passing a given point. At a distance of 100 feet from the tracks, the SEL along the alignment would be less than 100 dBA SEL. To identify potential impacts on grazing cattle, geographic information system (GIS) analysts measured 100 feet from the centerline of the HST tracks within areas designated as Grazing Lands by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). Results of the GIS calculations are presented in Table 3.14-C-1 for each of the HST alternatives. GIS analysts also produced a visual representation of the data, which is presented in Figure 3.14-C-1.

Table 3.14-C-1
Acres of Grazing Land Indirectly Impacted by Noise

Alternative Name	Acres Impacted
BNSF Alternative	48.09
In Comparison to the Corresponding Portion of the BNSF	
Hanford West Bypass 1 Alternative	12.43
Hanford West Bypass 2 Alternative	5.32
Corcoran Elevated Alternative	-9.39
Corcoran Bypass Alternative	16.87
Allensworth Bypass Alternative	-2.76
Wasco-Shafter Bypass Alternative	181.41
Bakersfield South Alternative	0.00
Bakersfield Hybrid Alternative	0.00

Within these areas, HST operation would result in noise levels that would disturb livestock (i.e., over 100 dBA SEL). Selection of the Hanford West Bypass 1, Corcoran Bypass, and Wasco-Shafter Bypass alternatives would result in noise disturbance to grazing animals in a maximum of 258.8 acres. The minimum amount of grazing land affected would be 35.94 acres if the Corcoran Elevated and Allensworth Bypass alternatives were chosen. The affected acreages in comparison with the BNSF Alternative are shown in Table 3.14-C-1.

The impact would not convert grazing lands to non-agricultural use; however, it could result in increased stress to grazing cattle that remain within the affected area. Cattle could move from the affected area, which would eliminate the noise-related stress but would also reduce the usable grazing area. Losses in farm productivity from these effects would be considered an economic impact. To the extent that productivity would be impaired within this zone, the impact could be alleviated by providing the farmer with financial compensation. In most cases, appropriate compensation would be settled during the right-of-way acquisition process. In addition, owners who believe they have suffered a loss of property value as a result of the project may file a claim with the State of California's Government Claims Board. It should be noted that many of the affected areas are located along existing roadway and railroad rights-of-way. Because the impact from noise disturbance would not preclude agricultural use and would not result in farmland conversion, there would be no impact on agricultural resources under NEPA or CEQA.

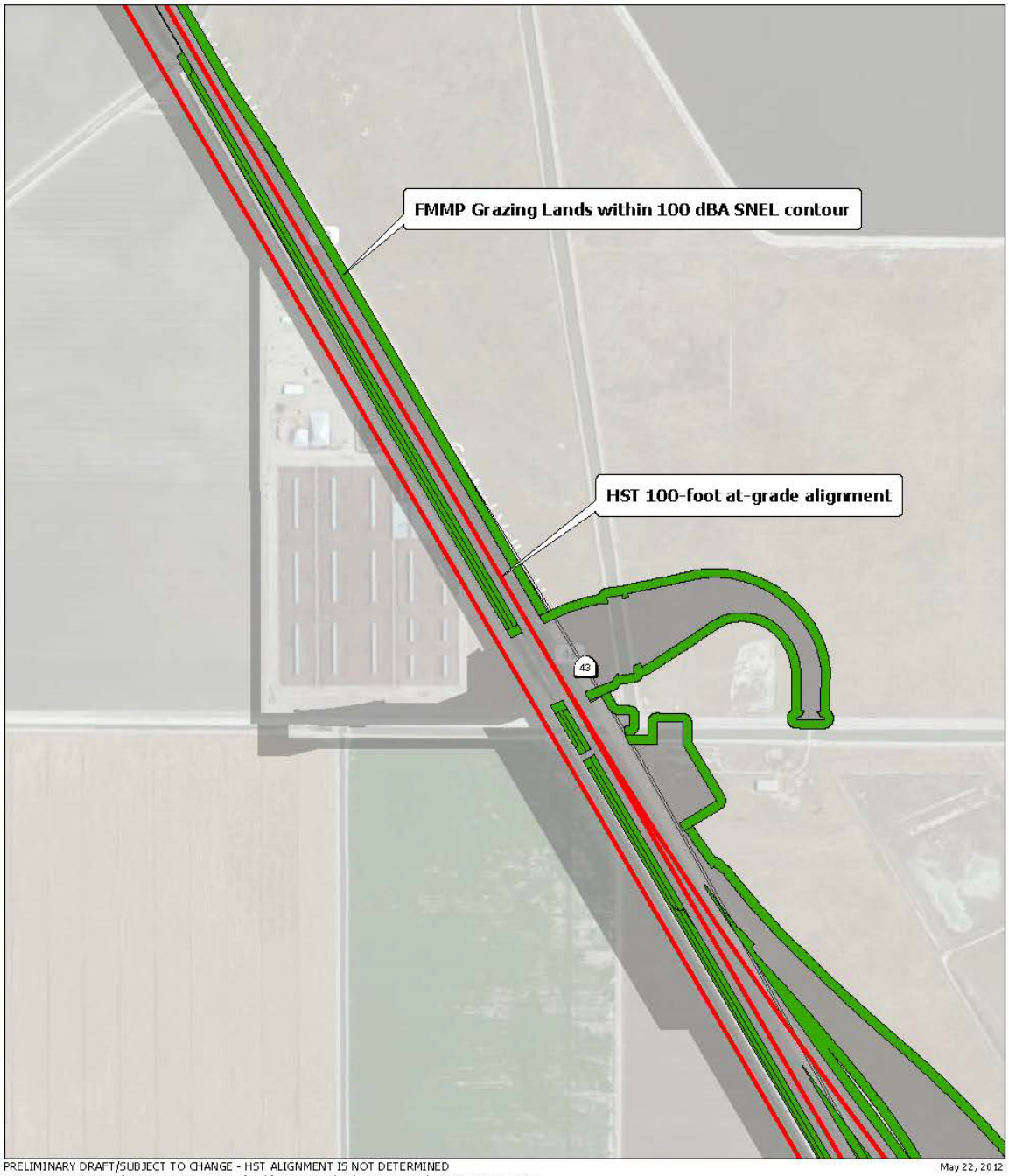

Figure 3.14-C-1
Example of 100-dBa SEL Contour