

**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.

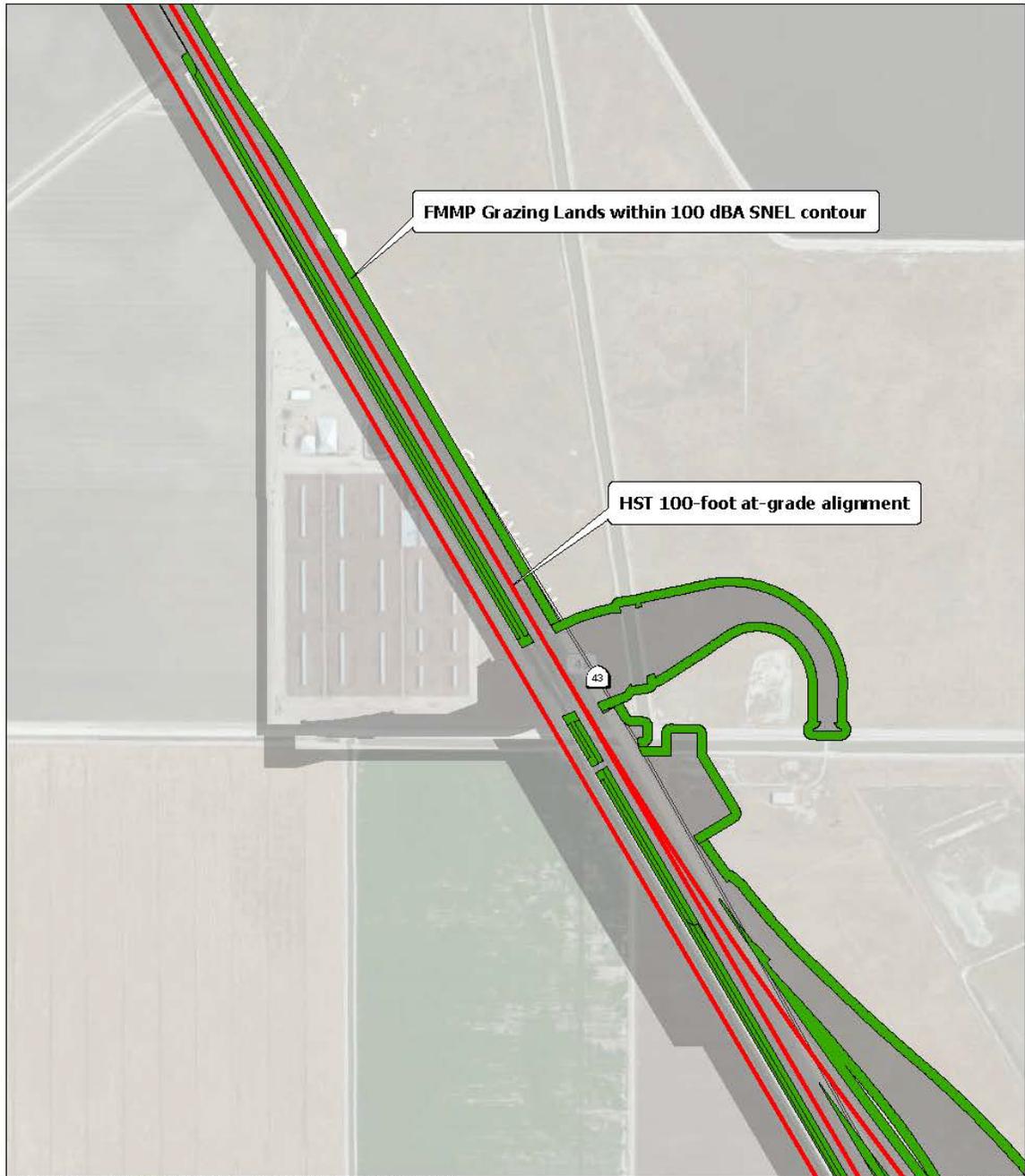
**Table 3.14-C-1**  
 Acres of Grazing Land Indirectly Impacted by Noise

Alternative Name	Acres Impacted
BNSF Alternative	83.28
In Comparison to the Corresponding Portion of the BNSF	
Hanford West Bypass 1 Alternative	24.01
Hanford West Bypass 1 Modified Alternative	12.98
Hanford West Bypass 2 Alternative	23.08
Hanford West Bypass 2 Modified Alternative	19.66
Corcoran Elevated Alternative	41.77
Corcoran Bypass Alternative	43.24
Allensworth Bypass Alternative	-7.86
Wasco-Shafter Bypass Alternative	-17.91
Bakersfield South Alternative	-6.28
Bakersfield Hybrid Alternative	-6.28

Within these areas, HST operation would result in noise levels that would disturb livestock (i.e., over 100 dBA SEL). The largest number of noise-impacted acres would occur with the selection of both the Hanford West Bypass 1 and Corcoran Bypass alternatives. Under this combination, noise disturbance to grazing animals would result in a maximum of 150.53 impacted acres. The minimum amount of grazing land affected would be 51.23 acres if the Allensworth Bypass, Wasco-Shafter Bypass and either the Bakersfield South or Bakersfield Hybrid alternatives were chosen. The affected acreages in comparison with the corresponding portions of the BNSF Alternative are shown in Table 3.14-C-1.

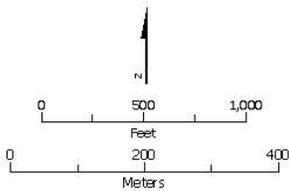
The impact would not convert grazing lands to non-agricultural use; however, it could result in increased stress to grazing cattle that remain within the affected area. Cattle could move from the affected area, which would eliminate the noise-related stress but would also reduce the usable grazing area. 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.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED  
Source: Department of Conservation, State of California, Farmland Mapping and Monitoring Program, 2008-2010; URS, 2012

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- Alignment alternative
- Grazing land
- Footprint

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

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