

# Memorandum

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**To:** Amanda Lee  
Environmental Planner  
California Department of Transportation

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PM: 59.8/62.1  
EA: 01-0B220

**From:** Ryan Pommerenck  
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**Subject:** **Construction Noise Analysis for the Fort Bragg ADA Project**

## **Introduction**

The project would upgrade a section of State SR (SR) 1 to current Americans with Disabilities Act (ADA) standards from post miles (PM) 59.80 to 62.10 in the city of Fort Bragg, Mendocino County, California. This project is included in the ADA Compliance Program of the State Highway Operation and Protection Program (SHOPP). The project limits would begin at the intersection of SR 20 north to Elm Street, with a gap in work along the Noyo River Bridge. This project is needed to address ADA deficiencies. This segment of SR 1 is within the city of Fort Bragg and was identified as a priority location for ADA upgrades due to its urban nature, traffic volumes, and pedestrian traffic.

There is currently one alternative for the proposed project. To bring this location of SR 1 to current ADA standards, the scope of work would entail reconstructing approximately 1,900 linear feet of sidewalk, installing approximately 2,300 linear feet of new sidewalk, constructing 36 curb ramps, installing two new retaining walls, performing associated drainage inlet and culvert work, and placing pavement markings at specified locations.

The proposed retaining wall #1 from the intersection of SR 20 and SR 1 (PM 59.8) to Boatyard Drive (PM 60.0) ranges from 3'-4" to 6' max at its highest point near SR 20 and would reduce in height moving north. The retaining wall would be approximately 780 linear feet long, 1 foot wide with a concrete footing that would be 7 feet wide and 2 feet deep. The maximum depth of excavation is estimated to be 3 feet from the finished grade. Proposed retaining wall #2 is located intersection of SR 1 and Spruce Street, from PM 61.9 to PM 62.0. The proposed wall is 128 linear feet long, 4 feet high and 1 foot wide with a concrete footing that would be 4 feet wide and 2 feet deep. The maximum depth of excavation is estimated to be 3 feet from the finished grade. Cable railing would be installed on top of the retaining walls, and the face of the walls would be smooth to allow for future art installations.

This project would require Temporary Construction Easements (TCEs) for 30 properties.

As of March 2022, Caltrans has obtained all 30 TCEs. Installation of new sidewalks, driveways, and retaining walls would involve minor clearing and grubbing of soil and vegetation. No trees would be removed for this project. Staging is anticipated to utilize existing paved shoulders and developed gravel turnouts. Temporary traffic control would be used, as required for safety, and consist of portable delineators and traffic signs for a single lane closure for all phases of the project.

The following equipment would be utilized to perform the various construction activities: bulldozer, excavator, saw cutter, slip form paving machine, concrete mixer, and support trucks.

## **Noise**

### **Existing Noise Environment**

Existing land uses in the project area include a mix of commercial, residential, recreational and vacant uses. The majority of the parcels immediately adjacent to Highway 1 within the project limits are designated as commercial and vacant uses. Commercial land uses include restaurants, retail stores and hotels/motels. There are couple residential land uses located approximately 60 feet from the construction area between East Fir Street and East Bush Street. The remaining residential land uses are greater than 100 feet from the construction area.

### **Short-Term Effects (Construction Noise)**

Construction of this project is anticipated to occur during daytime and nighttime hours. Implementing nighttime construction will reduce traffic impacts on the community as well as expedite the construction process. During construction, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Noise generated by construction activities would be a function of the noise levels generated by individual pieces of construction equipment, the type and amount of equipment operating at any given time, the timing and duration of construction activities, and the proximity of nearby sensitive receptors. Construction noise would primarily result from the operation of heavy construction equipment and arrival and departure of heavy-duty trucks. Construction noise levels will vary on a day-to-day basis during each phase of construction depending on the specific task being completed.

Table 1 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

**Table 1. Construction Equipment Noise**

<b>Equipment</b>	<b>Maximum Noise Level (dBA at 50 feet)</b>
Bulldozers/Grader	85
Heavy Trucks	88
Excavator	85
Pneumatic Tools	85
Concrete Pump	82
Concrete Saw	90

Source: Federal Transit Administration, 2006.

[http://www.fhwa.dot.gov/environment/noise/construction\\_noise/handbook/handbook09.cfm](http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm)

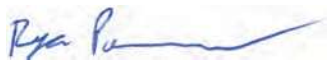
### **Minimization Measures**

Noise associated with construction is controlled by Caltrans Standard Specification Section 14-8.02, "Noise Control," which states the following:

- Control and monitor noise resulting from work activities.
- Do not exceed 86 dBA  $L_{max}$  at 50 feet from the job site from 9 p.m. to 6 a.m.

In addition to the Standard Specifications, construction noise can be minimized through the following measures:

- Where feasible, limit operation, jackhammer, concrete saw, pneumatic tools and demolition equipment to daytime hours.
- Unnecessary idling of internal combustion engines should be prohibited.
- Stationary equipment, such as compressors and generators, should be shielded and located as far away from residential areas and hotels/motels as practical.
- Locate equipment and materials storage sites as far away from residential and hotels/motels uses as practicable.
- Notify residents within 500 feet of the project area at least two weeks prior to the start of nighttime construction.



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