MARK THOMAS

MEMORANDUM

To:	Chris Carroll, Caltrans District 3 North Region Local Assistance	Project No.:	SA-17132
Cc:	Tracy Bettencourt, City of Chico		
From:	Julie Passalacqua, Mark Thomas		
Date:	October 13, 2020		
RE:	**BRLO-5037(036) - Pomona Avenue Bridge Construction Noise Technical Memorandum**		

PURPOSE

The purpose of this construction noise technical memorandum is to demonstrate the noise generated from the construction of the Pomona Avenue over Little Chico Creek Replacement Project will result in less than significant impacts to the area residents.

PROJECT DESCRIPTION

Project Need

The existing bridge (Bridge No. 12C0328) has been given a sufficiency rating of 19.5 and has a status of structurally deficient. The bridge is considered scour critical, with the spread footings and concrete apron at Bent 3 exposed, along with the foundation at Abutment 4. The structure also has a history of debris build-up at the bents, which only intensifies the scour issue at the site.

Existing Conditions

Pomona Avenue is residential road that provides a connection between Miller Avenue and Dayton Road. The Pomona Avenue Bridge connects the South Campus Neighborhood over Little Chico Creek. The existing bridge is approximately 21 feet wide consisting of two narrow travel lanes and no shoulders. The structure, built in 1917, is a 66-foot long three-span reinforced concrete "T" girder bridge. The current Average Daily Traffic (ADT) over the bridge is 1100.

Proposed Improvements

The proposed project will replace the existing bridge along a similar alignment as the existing structure. The new bridge will accommodate two 11-foot travel lanes, five-foot shoulders and five-foot sidewalks. The profile will be raised slightly to maintain the same bridge soffit elevation as the existing structure. The new bridge is anticipated to be a single-span structure, approximately 75 feet in length. The structure type is expected to be a cast-in-place post-tensioned concrete slab.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on cast-in-drilled-hole concrete piles. Other temporary work within the Little Chico Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Little Chico Creek is a seasonal creek and construction is anticipated to proceed without the need for a temporary water diversion system. Construction of the roadway approaches will involve the removal of existing pavement and placement of roadway fill material, aggregate base and hot mix asphalt pavement. New curb, gutter, and sidewalk will be constructed on the approach roadways and will connect with existing pedestrian facilities.

Temporary construction easements will be needed from six parcels adjacent to the bridge to facilitate driveway conforms, utility relocations, and allow construction access. Permanent acquisition may be needed from four parcels (APNs 004-530-066, 004-510-032, 004-510-011, and 004-530-005).

CONSTRUCTION NOISE

Project construction would generate noise that could affect sensitive receptors within the project vicinity. The FHWA defines a noise sensitive receptor as a property where frequent outside human use occurs and where a lowered noise level would be beneficial.

The table below shows typical equipment noise levels for various construction equipment and activities, including measured sound levels at a distance of 50 feet from the source. Noise sources associated with the project construction would include excavation, construction truck traffic, and other noises typically associated with a construction site.

Construction Equipment Noise Levels

Construction Equipment	Maximum Noise Level dBA at 50 feet
Backhoe	78
Compactor (ground)	83
Compressor (air)	78
Concrete Mix Truck	79
Concrete Pump Truck	81
Crane	81
Dozer	82
Drill Rig Truck	79
Dump Truck	76
Excavator	81
Front End Loader	79
Generator	81
Paver	77
Pneumatic Tools	85
Pumps	81
Roller	80
Scraper	84

Source: FHWA Roadway Construction Noise Model User's Guide, 2006

There are several sensitive receptors bordering the project area. These include five residential properties located at 910, 914, 915, 921, and 922 Pomona Avenue. These residences are located approximately 10 feet southwest, 10 feet southeast, 10 feet northeast, 40 feet northeast, and 40 feet southeast of the bridge respectively.

The City of Chico's Noise Ordinance contained in Chapter 9.38 of the City's Municipal Code states, "…no person shall produce, suffer or allow to be produced on public property by human voice, machine, animal, or device, or any combination of same, a noise level that exceeds sixty (60) dBA at a distance of 25 feet or more from the source." Per Section 9.38.060, construction-related source noise is exempt from the provisions set forth in the noise ordinance except (i) the construction-related noise must not exceed 86 dBA at any point outside of the property plane of the project; and (ii) construction noise generating activities are restricted to the hours of 7:00 a.m. to 9:00 p.m., Monday through Saturday and 10:00 a.m. to 6:00 p.m. on Sunday and holidays.

EQUIPMENT NOISE CONTROL

To avoid substantial construction-period noise impacts to nearby sensitive receptors, the best practices listed below will be included during project construction. With implementation of these standard construction-period specifications, the project will not result in excessive construction-period noise effects.

1. Project-related noise-generating activities at, or adjacent to, the construction site shall comply with the Chico Municipal Code Section 9.38.060.B. and shall be restricted to the hours of 7:00 a.m. to 9:00 p.m., Monday through Saturday. Should it become necessary to work on Sundays or holidays, construction hours shall be limited to 10:00 a.m. to 6:00 p.m. Should it become necessary to work after 9:00 p.m. and before 7:00 a.m., businesses will be notified, and the generated noise levels will be subject to a special provision that would prohibit noise from exceeding 83 dBA at a distance of 25 feet from the source.
2. All internal combustion engine driven equipment shall be equipped with the appropriate intake and exhaust mufflers, which are in good condition.
3. "Unnecessary" idling of internal combustion engines shall be strictly prohibited.
4. Avoid staging construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment as far as practical from existing noise receptors. Construct temporary barriers to screen noise generating equipment when located in areas adjoining noise-sensitive land uses.
5. "Quiet" air compressors and other stationary noise sources shall be used when applicable.
6. All construction traffic shall be routed to and from the project site via designated truck routes. Construction-related heavy truck traffic shall be prohibited in residential areas where feasible. Construction truck traffic shall be prohibited in the project vicinity during non-allowed hours.
7. The businesses, residents and schools in the project area shall be notified in writing by the City of the construction schedule.
8. The City shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint and implement reasonable measures to correct the problem. The contractor shall visibly post the telephone number for the disturbance coordinator at the construction site. The City shall include the telephone number in the notice sent to residents regarding the construction schedule.