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# Visual Impact Assessment of the proposed Highway 217 San Jose Creek Bridge Project

On Route 217 in Santa Barbara County  
Near the City of Goleta at the  
San Jose Creek Bridge



**SB 217 Postmile 1.02 EA 1C3600 ID 05 12000134**

*Caltrans District Five Landscape Architecture Department – October 2018*

This study assesses the visual impacts which may result from the proposed bridge replacement along Highway 217 at San Jose Creek near Goleta in Santa Barbara County. The primary purpose of this report is to determine if a change in the visual environment would occur, the extent of that change, and whether that change would likely be perceived as a positive or negative one. This analysis attempts to identify the specific cause of potential change, and if a change in character is identified it is compared to viewer's expected sensitivity.

The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 U.S.C. 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of NEPA (23 U.S.C. 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic and historic environmental qualities” (CA Public Resources Code Section 21001[b]). This report analyzes and discloses potential project affects consistent with the California Environmental Quality Act (CEQA) definitions and guidelines.

## **Project Proposal**

The project bridge structure is located near the City of Goleta, in Santa Barbara County on Highway 217 near postmile 1.0. The project would replace the existing bridge over San Jose Creek due to the discovery of reactive aggregate in the structure. The bridge would be replaced with a wider structure to provide standard lane and shoulder widths and would replace the existing bike/pedestrian path on the eastbound side of the freeway.

Highway 217 is primarily a four-lane freeway with 12-foot wide lanes, 10-foot wide inside and outside shoulders, and a continuous single concrete median barrier. The route changes to a two-lane freeway just west of the bridge. There also is an eight-foot wide parallel bicycle/pedestrian path on the south (eastbound) side of the freeway within the project limits, separated from freeway

traffic by a concrete barrier and chain link fence. The proposed bridge would maintain the existing two eastbound and two westbound traffic lanes and provide safety improvements, including standard bridge rails with bicycle rails and standard shoulders. The proposed work would also include reconstructing the existing roadway approaches to the bridge, replacing the bicycle/pedestrian path, replacing existing guardrails and end treatments, relocating existing conflicting utilities, and minor drainage work such as new dikes and overside drains. A new retaining wall approximately 240 feet long and ranging from 4 to 8 feet tall would be constructed east of the bridge between the eastbound lanes and the bike/pedestrian path. After bridge construction, the slopes and streambed would be graded to finished elevations, to approximate pre-construction conditions as closely as possible.

## **Design Variations**

The project proposes one “build” alternative with two design variations. Design Variation 2, the preferred variation, provides elements for future jacking and raising of the bridge structure to accommodate future sea level rise. Design Variation 1 replaces the bridge without any possibility to raise it in the future.

The existing bridge structure is 192-ft. long, 94-ft. wide, and 1.5-ft. deep. It is currently supported by six piers, with a total of eleven 15-inch diameter columns per pier. Both proposed bridge design variations would be approximately 213-ft. long, 105-ft. wide, and 4.7-ft. deep. The new bridge would have three piers, one in the creek and two out of the creek at the abutments. Each new pier would have eight 48-inch diameter columns.

Both design variations include a two-span bridge, which has a single central pier, located between abutment 1 (west side of the bridge) and abutment 3 (east side of the bridge). As proposed, the two-span, precast, pre-stressed option provides a more reasonable structure depth, minimizes onsite construction days, and would have less environmental impacts to wetlands and other resources outside of the stream channel as a result of a smaller overall construction footprint.

Design Variation 2 (the preferred variation)) accommodates the 100-year flood event, which would have a surface water elevation between 10 and 11 ft. The lowest soffit elevation of the proposed replacement structure would be at an elevation of 12-ft. The proposed variation also reduces the number of bents in the streambed by increasing the depth of the superstructure from 1.5-ft. to 4.5-ft.. This reduces the number of spans from seven to two.

### Design Variation 1: Replace the Existing Bridge

Design Variation 1 would consist of replacing the existing bridge with a two-span precast, pre-stressed, wide flange-girder bridge. The existing bridge is 192-ft. long, 94-ft. wide, and 1.5-ft. deep. It is currently supported by six piers, with a total of eleven 15-inch diameter, 12.8-ft. high columns per pier (66 total columns). All of these columns are within the “ordinary high water mark”. The existing abutments are located behind the streambanks. The proposed bridge would be approximately 213-ft. long, 105-ft. wide, and 4.7-ft. deep. The east abutment would be located in approximately the same location as the existing east abutment, while the west abutment would

be about 10-ft. to the west. The new abutments would also be located outside streambanks. As in the existing condition, the center of the bridge would be located near the west bank.

The existing six piers would be removed and replaced with one pier supported by eight piles. Each new pile would be 66-inches in diameter below ground and would support 10-ft. high, 42-inch diameter columns. A concrete bent cap would be formed at the top of the columns to attach them to the bridge deck, well above the ordinary high water mark. Piles would also be used at each of the abutments, which are located behind the existing stream banks, not within the ordinary high water mark. Design Variation 1 would not address future sea level rise.

#### Design Variation 2: Replace the Existing Bridge (Jackable)

As described above, the basic design for the bridge is the same for both design variations. The only difference with Design Variation 2 is that the bridge structure would contain certain features to raise the structure approximately 33 inches in the future to accommodate sea level rise within the expected 75 year life of the bridge. Additional rebar with couplers and pins would be installed to allow for extension of columns, whereby the superstructure [girders and deck] could be raised by jacking at some point in the future. This design variation defers the impacts associated with accommodating sea level rise. A future project that involves raising the structure and completely re-designing the road approaches would be addressed at such a time when the structure would need to be raised for sea level rise.

### **Visual Setting**

#### Visual Context

The project is located on Highway 217 approximately 0.3 mile inland from the Pacific Ocean, in an unincorporated area of Santa Barbara County, California. The project is located in a coastal environment in an urban fringe area, and the visual context of the project includes both natural and built elements. The project site is in the general vicinity of the urbanized areas of the city of Goleta, Isla Vista, the University of California Santa Barbara (UCSB), and the Santa Barbara Airport. Views from the project site include the natural creeks, glimpses of the Pacific Ocean, the Goleta Slough and the inland hills, as well as development such as Goleta Beach Park recreation and parking areas and the La Goleta natural gas storage facilities. Portions of the UCSB campus can be seen in the distance to the west.

*Figure 1. View toward the San Jose Creek Bridge (in the distance) from Goleta Beach Park.*



The project bridge crosses San Jose Creek just upstream of its confluence with Atascadero and Tecolotito Creeks. Goleta Beach Park and Goleta Pier are located approximately 0.2 mile south of the project, where the creeks meet the Pacific Ocean. The natural creek setting is characterized by tidal and formerly tidal salt marsh, stream channels, bordering mud and sand flats and transitional wetland-to-upland and estuarine-to-fresh-water habitats, and naturally elevated uplands.

*Figure 2. View of the San Jose Creek Bridge looking northeast from Sandspit Road.*



### Existing Highway Facility

Highway 217 is a freeway and provides connectivity between Highway 101 and the campus of the University of California Santa Barbara. It also provides access to the nearby Santa Barbara Regional Airport and the Goleta Beach County Park. The existing bike/pedestrian path was constructed in 1975 parallel to the freeway within the state right of way for approximately 800 feet to allow for the crossing of San Jose Creek.

Figure 3. Approaching the San Jose Creek Bridge from eastbound Highway 217.



Figure 4. Approaching the San Jose Creek Bridge from westbound Highway 217.



The existing four lane highway bridge structure is a seven span reinforced concrete slab bridge. Highway 217 is primarily a four-lane freeway with 12-foot wide lanes, 10-foot wide inside and outside shoulders with a continuous single concrete median barrier which results in a 22-foot wide median. At the project location Highway 217 changes from a four lane freeway to a two lane freeway.

Figure 5. Along the bike/ pedestrian path looking west toward the San Jose Creek Bridge.



There also is an 8-foot wide bike/pedestrian path parallel to the eastbound lanes. Concrete barrier and chain link fencing separate the highway shoulder and the path, extending along the on-ramp approximately 250 feet west of the actual bridge structure. Concrete bridge rail and additional chain link fence are located at the outer edge of the bridge deck along the outside of the bike/pedestrian path.

Figure 6. Along the bike/ pedestrian path looking east toward the San Jose Creek Bridge.



Approximately 0.3 mile west of the project Highway 217 crosses another bridge over the Goleta Slough and Sandspit Road. Just west of the San Jose Creek bridge a concrete box culvert extends under the highway. Chain link fencing with barbed wire prevents public access to the culvert and associated Gas Company property. An existing natural gas pipe bridge crosses San Jose Creek immediately downstream of the Highway 217 bridge.

## Visual Quality

*Figure 7. Looking inland from the San Jose Creek Bridge.*



The overall visual quality of coastal Santa Barbara County is high due primarily to panoramic views of the Pacific Ocean and beaches, the inland hillsides, varied topographic relief, exposed rock outcroppings, open space, and native vegetative patterns. Within the project vicinity the visual quality of the natural setting is moderated to a great extent by the surrounding development.

*Figure 8. Looking toward the Pacific Ocean from the San Jose Creek Bridge.*



The expected viewer sensitivity to visual quality is also considered moderately high. The project is located in the Coastal Zone which places a high value on visual resources. In addition, recreational users visiting the Goleta Beach Park are expected to have a heightened sensitivity to changes in the scenic environment. Highway 217 is also a primary entrance for UCSB commuters and visitors to the campus.

## **Project Impacts**

Appendix G of the California Environmental Quality Act (CEQA) Guidelines requires that the following issues be considered in determining the level of project impacts:

Will the project:

- a. Have a substantial adverse effect on a scenic vista?

Scenic vistas in the project vicinity include views of the Pacific Ocean, the coastline cliffs and beaches, distant views of the inland mountains, and the natural creeks and slough. From the project site San Jose Creek is the most visually dominant scenic element because of its close proximity to the bridge. The inland hills and the Pacific Ocean are also primary contributors to the scenic vista but are less visually dominant because of intervening vegetation, topography and viewing distance.

The proposed bridge would cause a minor effect on views of scenic vistas in the area. As seen from Highway 217, the primary public viewpoint, the project would add approximately 250 feet of new concrete barrier along the eastbound roadside east of the bridge, somewhat affecting views to Atascadero Creek. This view effect would be relatively short in duration, and would only affect travelers in the eastbound outside lane. In addition the other creeks in the immediate vicinity would remain visible and would continue to contribute to the scenic vista.

All existing concrete rail and fencing would be replaced by similar-type features and would not diminish availability of the scenic viewshed. Visual access to resources such as the Pacific Ocean, the creeks and the inland hills would not be diminished by the project. The bridge structure would be somewhat larger in scale, however much of the visual change would be below the bridge deck and not seen from the roadway or adjacent path. The proposed retaining wall would be below the roadway and would not block or limit views to surrounding visual resources. Off-site public vantage points to the new bridge would be limited to a portion of the bike/ped path, the Sandspit Road on-ramp, and the Goleta Beach parking lot area. However from these viewpoints, because of either viewing distance and/or intervening vegetation and development the bridge would not obscure views of the identified scenic vista elements.

Both design variation slightly increase the length and width of the existing bridge, and would be constructed with the same alignment and deck profile as the existing bridge. The slightly wider and longer bridge structure would not reduce or block views of the surrounding scenic vistas. The project proposes open-style bridge railing which would maintain outward views to the surrounding scenic vistas similar to the existing condition.

As a result, the project would have little to no adverse effect on the existing scenic vistas, including but not limited to views of the Pacific Ocean, the coastline, the creekways, and views of the inland mountains.

- b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

This question is not applicable to the project since Highway 217 through the project limits is not classified as an Officially Designated State Scenic Highway.

- c. Substantially degrade the existing visual character or quality of the site and its surroundings?

The existing visual character of the project area is based primarily on its proximity to the Pacific Ocean, San Jose Creek and other waterways, and the inland hillsides visible in the distance. The nearby development of Goleta Beach Park, La Goleta gas facilities, and to a lesser extent the UCSB campus and Santa Barbara County airport also contribute to the overall character of the site and its surroundings.

Although the existing San Jose Creek bridge is a visually dominant element in the immediate project vicinity, it is not architecturally unique nor does it establish a particularly memorable style in support of the semi-rural, coastal character of the setting. Project elements above the bridge deck such as bridge and roadside railing, median barrier and fencing would be readily noticeable project features, and as such would have the potential to alter the existing visual character of the area. However these type elements are already seen on the existing bridge structure and adjacent roadside and their replacement would not add new or unexpected visual elements. The proposed retaining wall between the eastbound lanes and the bike path would not be visible from the highway, but would be visually dominant as seen from the bike path. The wall would range in height from 4 to 8 feet, however concrete barrier would be placed directly on top of the wall, effectively adding three more feet to its height as seen from the path. The visibility of the new retaining wall would add to the engineered appearance and scale of the bridge and highway facility at that location. This visual change would however not be unexpected in the immediate highway context, which includes bridge structures, a box culvert and other utilitarian elements.

The slightly wider and longer bridge structure, although readily visible from the highway and bike path, would likely appear as an incremental change in scale and would not appreciably add to the visual mass or engineered character of the project. The thicker bridge deck and column alterations would have limited off-site visibility and would have little effect on the existing visual character. From off-site locations the project elements would be partially obscured by vegetation and topography, and would be seen at distances that would minimize its noticeability in the landscape.

The default design for the replacement bridge would be to construct it in a relatively simple, efficient style without extensive ornamentation. This somewhat simple design style would be consistent with the character of the existing bridges on Highway 217, and would not result in an adverse effect to the existing visual character of the site and its surroundings. The relatively intact visual character of the setting would not be substantially reduced by the proposed changes.

However because of the project's location in the Coastal Zone, the final design of the new bridge structures will be determined with input from the local community, with approval by Santa Barbara County. California Coastal Act policy requires sensitivity to coastal visual resources. Accordingly, the local review process could result in an aesthetic design that reflects other context-

defining elements, such as the nearby bridge structure on Sandspit Road at the entrance to Goleta Beach Park. Implementation of context-sensitive related features such as these would result in no adverse effect to the existing visual character of the site and its surroundings. It is possible that a project which better reinforces the immediate visual context could have a positive influence on the existing visual quality of the area.

Any vegetation removal associated with the project would be fully planted and established. As a result, any work in and near the creek would over time be fully revegetated and result in a natural visual condition.

- d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project proposes no new lighting or sources of glare and would have no related effect on day or nighttime views.

### **Required Minimization Measures**

With implementation of the following measures, the project would be consistent with the aesthetic and coastal resource protection goals along Highway 217, and potential visual impacts would be minimized:

- Replacement bridge rail and roadside rail shall be an open style, as determined in consultation with the County of Santa Barbara.
- All fencing associated with the bridge structure and the bicycle/pedestrian path shall be visually compatible with the bridge rail and roadside rail. No standard galvanized chain link fencing shall be used except at the right-of-way line, if necessary.
- At the box culvert west of the bridge, alternative type security fencing shall be used that does not include barbed wire.
- The retaining wall shall include aesthetic treatment so that it visually recedes and reduces the potential for graffiti.
- Native shrubs shall be planted along the face of the retaining wall to reduce its noticeability.