

VISUAL IMPACT ASSESSMENT (Minor Level)

Hickman Road Bridge Replacement Project



California Department of Transportation District 10, Stanislaus County

Hickman Road Bridge Replacement Project
Hickman Road at the Tuolumne River
Stanislaus County
10-Stanislaus-Hickman Road-Stanislaus County
BRLO-5938(199)

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Visual Impact Assessment (Minor Level)

STATE OF CALIFORNIA
Department of Transportation

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Statement of Compliance: Produced in compliance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements, as appropriate, to meet the level of analysis and documentation that has been determined necessary for this project

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VISUAL IMPACT ASSESSMENT

Hickman Road Bridge Replacement Project

PURPOSE OF STUDY AND ASSESSMENT METHOD

The purpose of this visual impact assessment (VIA) is to document potential visual impacts caused by the proposed project and propose measures to lessen any detrimental impacts that are identified. Visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to or perceive those changes. This visual impact assessment follows the guidance outlined in the publication *Visual Impact Assessment for Highway Projects* published by the Federal Highway Administration (FHWA) in March 1981.

PROJECT DESCRIPTION

Stanislaus County (County) Department of Public Works proposes to replace the existing bridge on Hickman Road over Tuolumne River (Bridge No. 38C-0004) located 0.15 mile south of State Route 132 near the town of Waterford in northern Stanislaus County. The general setting is urban with recreational, commercial retail, and public facility uses. The bridge currently carries vehicular traffic over Tuolumne River (Figure 1 and 2).

The project is funded primarily by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through Caltrans Local Assistance. The replacement bridge will meet current applicable County, American Association of State Highway and Transportation Officials (AASHTO), and Caltrans design criteria and standards.

The existing Hickman Road bridge was last inspected by Caltrans in 2013 and has a sufficiency rating (SR) of 64.7 out of a possible score of 100, and is classified as Structurally Deficient (SD). In addition, the existing bridge is deemed “Scour Critical” with a scour rating of 3, meaning that the local scour and predicted future degradation will continue to undermine the bridge supports.

The purpose of this project is to remove the existing structurally deficient structure and replace it with a new bridge designed to current structural and geometric standards while minimizing adverse impacts to the Tuolumne River and the surrounding riparian area.

Existing Bridge

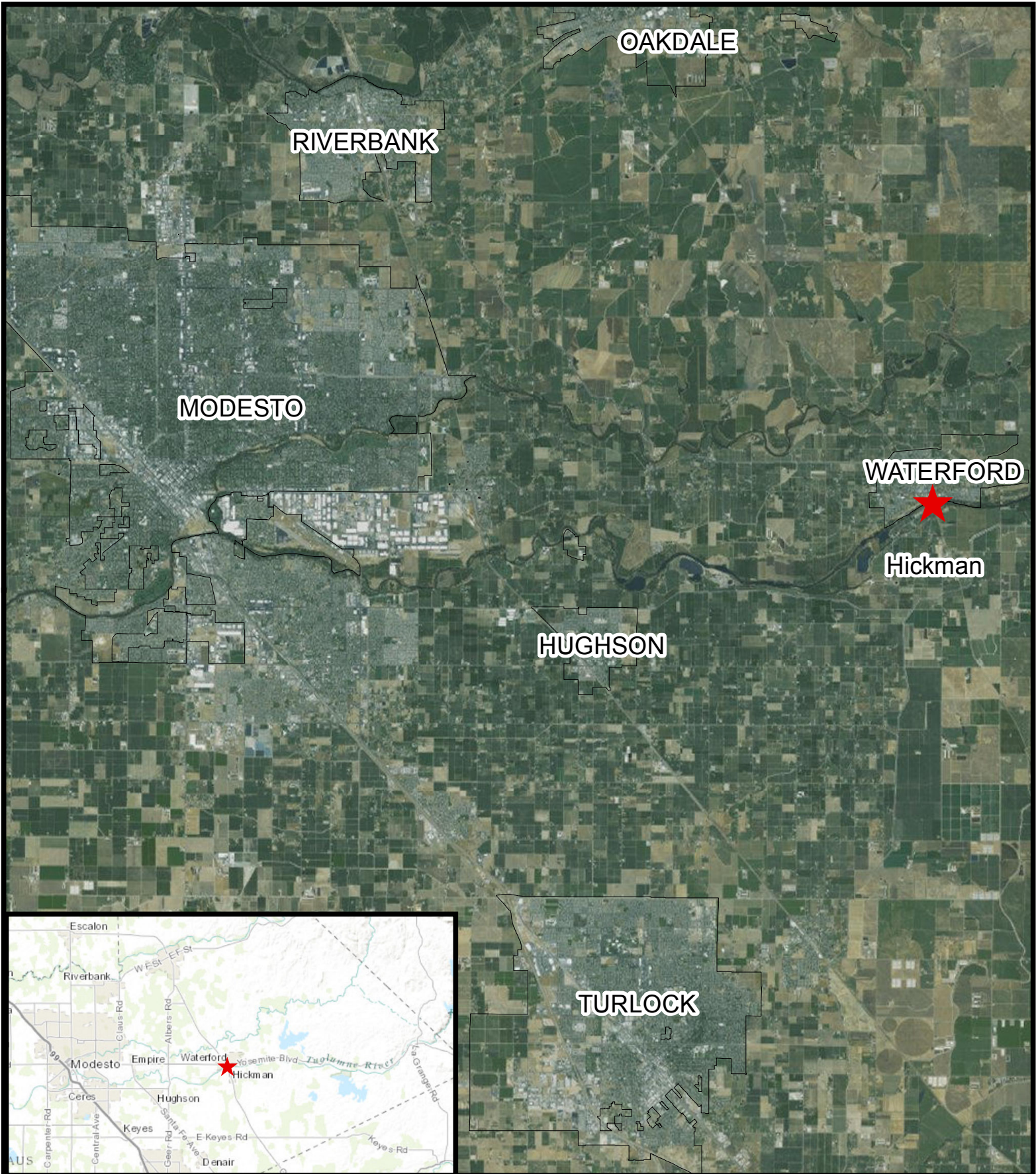
Constructed in 1946, the existing Hickman Road over Tuolumne River Bridge is a reinforced concrete (RC) box girder on RC solid pier walls and RC wing abutments supported by steel piles. The bridge is 652.9 feet long, 33.5 feet wide, and within the existing 175 to 200 feet public right-of-way. The curb-to-curb width is 27.9 feet, with two 12-foot-wide travel lanes and two 2-foot-wide shoulders. The bridge is classified as structurally deficient and scour critical. The Caltrans bridge inspection report identifies major deficiencies:

- The bridge deck has 12 to 16 inch long transverse and pattern cracks throughout.
- There are several edge spalls up to 3 feet long by 4 inch wide by 1 inch deep along the right curb in Span 4.
- There is an erosion gulley of approximately 3 feet wide by 5 feet deep along the right slope embankment at Abutment 8 due to roadway runoff.
- The scour protection at Piers 4 and 5 has deteriorated in front and at the upstream right side of the footing with up to 6 feet wide sections missing.
- Settlement and displacement has been observed at Piers 4 and 5.

Replacement Bridge

The replacement bridge will likely consist of a cast-in-place (CIP) concrete box girder with two 12-foot-wide travel lanes and two 8-foot-wide shoulders. A 5-foot, 6-inch -wide sidewalks will also be added to the eastern side of the bridge. The sidewalk will end with a ramp down to the road shoulder on the south end of the bridge and extend to the existing sidewalk curve returns at the SR 132 intersection on the north end of the bridge. The added sidewalk will improve pedestrian safety and facilitate access to River Park and Tuolumne River Parkway.

The replacement bridge will be constructed upstream to the existing structure, in order to keep the existing road and bridge open to public traffic during construction. This alignment option would transition and connect back to the existing Hickman Road alignment using a design speed of 60 mph.



Project Location

0 1.25 2.5 5 Miles





- | | |
|--|---|
|  Proposed Bridge |  Crane Pad |
|  Proposed Road Alignment |  Access ramp trestle |
|  Staging Area |  Work Trestle Low Flow Channel |
|  Crane Assembly Area | |



0 250 500
Feet

PROJECT LOCATION AND SETTING

The project location and setting provides the context for determining the type of changes to the existing visual environment. The project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance.

The proposed project is located on Hickman Road between Yosemite Boulevard (State Route 132; located approximately 0.12 miles north of the proposed project), and S. Appling Road, (located approximately 0.15 miles south of the proposed project), near the City of Waterford in Stanislaus County, California. Hickman Road Bridge crosses the Tuolumne River, which is part of the San Joaquin watershed located in central California. The land use within the vicinity of the project consists of residential housing, businesses, agricultural land, a public park, a municipal water treatment facility, and the existing Hickman Road and bridge (Figure 2).

Waterford's Tuolumne River Parkway

The City of Waterford recently constructed a trail, known as the Tuolumne River Parkway, within the boundaries of River Park. The purpose of the trail is to provide the community with access to recreation, open space, education and habitat conservation along approximately two miles of the Tuolumne River corridor. The boundary for River Park and the Tuolumne River Parkway can be found in the appendix (Figure 3). Temporary construction easements will be located on portions of the Tuolumne River Parkway adjacent to the project location. Any newly planted trees within the construction staging area will be hand dug and placed into planters during the winter months preceding construction. The trees will be irrigated and cared for by a qualified professional to ensure survival during construction. If the trees do not survive repotting prior to construction and/or replanting after construction is complete, they will be replaced at a 1:1 ratio. Benches located along the trail will also have to be removed, however, all benches will be reinserted at the end of construction at the same location without damages.

National Scenic Byway Designation

The project site does not have officially designated National Scenic Byways. The nearest National Scenic Byway is Ebbetts Pass National Scenic Byway Post-Mile (PM) 41.6 on SR-4 to PM 14.6 on SR-89, which begins approximately 48 miles (mi) northeast.

State Scenic Highway Designation

The project site does not contain officially designated State Scenic Highways (Caltrans 2015). The nearest officially designated State Scenic Highway is approximately 35 mi west on I-5, from Merced County to San Joaquin County.



- Proposed Bridge
- Proposed Sidewalk
- Proposed Road Alignment
- Tuolumne River Parkway
- River Park Boundary



Sources: Esri Online Basemap, Aerial Imagery,
Stanislaus County
Coordinate System: NAD 83 State Plane
California II FIPS
Notes: This map was created for informational
and display purposes only.

Project Name:
**Hickman Road Bridge
Replacement Project**

**Tuolumne River Parkway
and River Park Boundary**

**Figure
3**

VISUAL RESOURCES AND RESOURCE CHANGE

Visual resources of the project setting are defined and identified below by assessing visual character and visual quality in the project corridor. Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after the construction of the proposed project.

The visual character of the proposed project would be compatible with the existing visual character of the corridor. The proposed project would not affect the pattern elements (forms of rural residences, green/natural colors, and rural textures) of the project area. The proposed project would not interrupt land use diversity with the addition of new land uses. The profile of the proposed bridge and approaches would be similar as the existing bridge and located immediately upstream. Overall, changes to the visual character of the proposed project site would remain compatible to the existing visual corridor after construction.

The visual quality of the existing corridor would not be altered by the proposed project. Visual quality of the project area was assessed using the concepts of vividness, intactness, and unity. Visual quality is the intrinsic appeal of a landscape or scene due to the combination of natural and built features in the landscape, and this analysis rates visual quality as high, moderate, or low. High visual quality ratings would be used if the scene is particularly distinctive or appealing, moderate if representative of the general visual character of the surrounding area, and low if negatively uncharacteristic. Vividness, intactness and unity would be characteristics of a high visual quality rating.

The visual quality of the project site is high to moderate due to the proximity of the Tuolumne River riparian corridor. As stated previously, the proposed project is located adjacent to River Park; however, no contributing elements to the park are located in the project impact footprint. The land adjacent to the project area is composed of residential housing, businesses, River Park, and a municipal water treatment facility (Figure 2). The introduction of the proposed project would not change the current land uses in the area, thus maintaining the unity of the area. Furthermore, adding sidewalk to the bridge enhances the intactness of the area because it serves as a link for pedestrians to access the Tuolumne River Parkway on both sides of the riparian area. The sidewalk also potentially provides a scenic lookout for pedestrians crossing the bridge. The proposed bridge and approach work would not change the vividness or integrity of the area, as the proposed project would be constructed upstream to the existing bridge in the same general location. The proposed bridge would be constructed with the same aesthetic design elements and may incorporate additional aesthetic designs such as architectural form liners, and concrete staining on the exterior girders and bridge railing.

Resource Change (changes to visual character and visual quality) would be low. Overall, the proposed project would not change any of the current land uses in the project area. Aesthetic details, such as the additional sidewalk, would be added to the proposed bridge to mitigate any potential concerns the community may have over the appearance of the new structure. Removal of approximately 22 trees, within the riparian corridor of the Tuolumne River, would be needed to accommodate the new bridge structure, and staging areas. After the project is approved, the Project Proponent will apply for any

necessary permits from US Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW). Impacts to vegetation will be mitigated in accordance with agency requirements. Additionally, the project proposes to revegetate areas of temporary disturbance within the project footprint with native riparian vegetation. Materials and design of site features are proposed to be appropriate for the rural visual character of the riparian corridor along the Tuolumne River.

Trees and vegetation will be replanted after construction to restore the visual character of the proposed project site consistent with Section 20, "Landscape" of the Caltrans Standard Specification 2015. Additionally, removal of exotic plant species, such as Himalayan blackberry (*Rubus discolor*) and revegetation with native plants would help restore the site to a more natural condition, making it more consistent with the indigenous aesthetics of the area.

VIEWERS AND VIEWER RESPONSE

Neighbors (people with views towards the road) and *roadway users* (people with views *from* the road) would be temporarily affected by the proposed project. **Figure 4** shows key view points in the project area. Residences and businesses are located immediately adjacent to, or within close proximity to, north of the project area; however residences are screened from direct views of the roadway and bridge by existing vegetation and privacy screen fencing. Although some trees adjacent to the bridge site would be removed to accommodate the new bridge and staging; trees, shrubbery and fencing immediately adjacent to the residences and businesses would not be removed. *Viewer exposure* level for *neighbors* would be moderate-low, but lessened to the level of low by the presence of landscaping vegetation screening.

Hickman Road is a two lane major collector road located near the City of Waterford in Stanislaus County with a current average traffic volume of 5,450 cars per day (Caltrans 2013). Travelers along the proposed roadway would only be exposed to changes from the proposed project for a short duration of time (approximately 30 seconds), as the speed limit of the roadway is 25 mph; therefore, *viewer exposure* for *roadway users* is generally low. Additionally, Hickman Road is not designated as a scenic highway and construction activities will not block a scenic vista.

Visual Sensitivity is the level of interest or concern that the public has for maintaining the visual quality of a particular aesthetic resource. Visual sensitivity is a measure of how noticeable proposed changes might be in a particular scene and is based on the overall clarity, distance, and relative dominance of the proposed changes in the view, as well as, the duration that a particular view could be seen. Viewer sensitivity to the proposed project would be moderate because of the proximity of urban development.



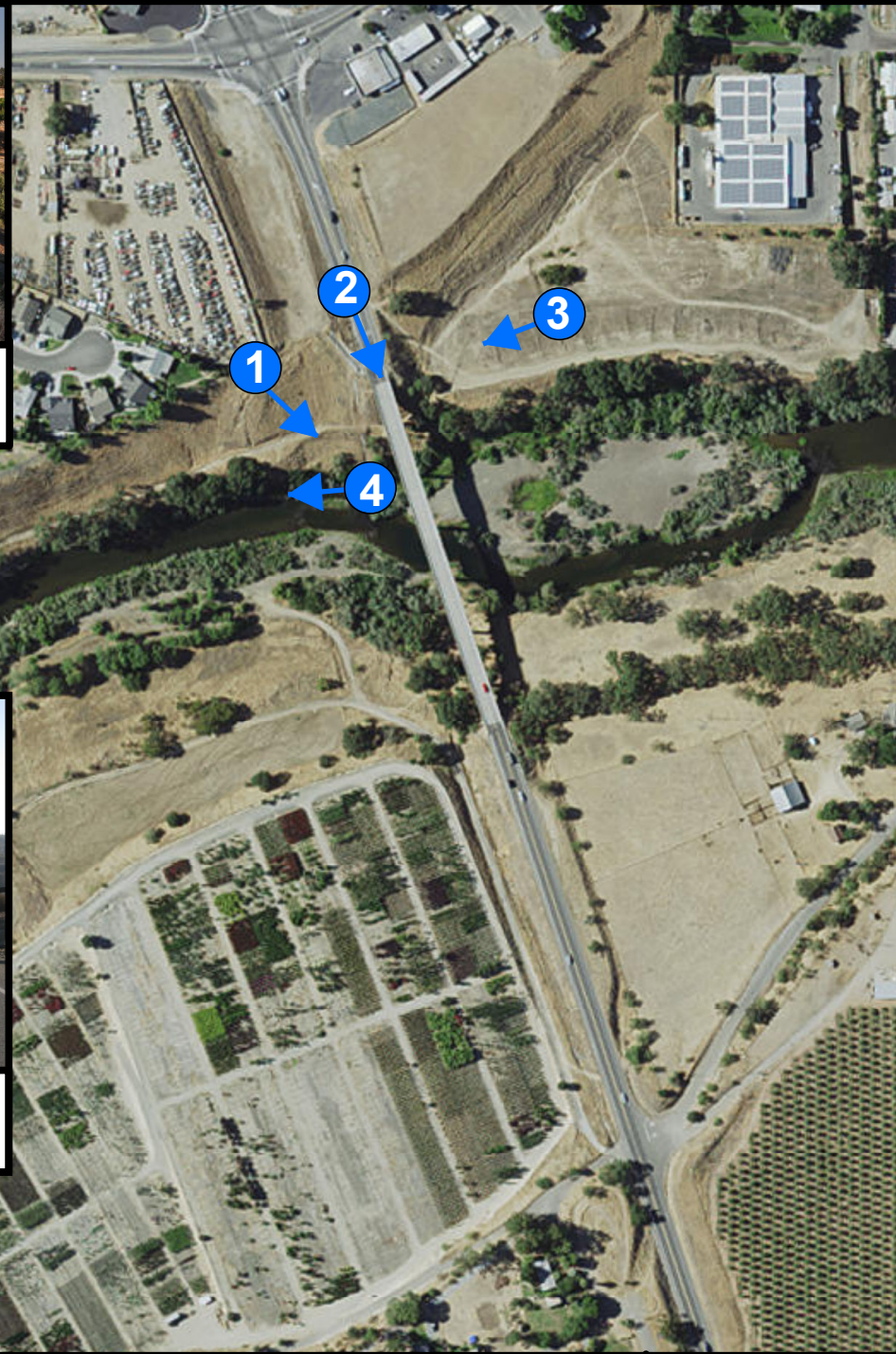
1

Looking Southeast-
Current View of Hickman bridge
over Tuolumne River



2

Looking South-
Current view of Hickman Bridge
without sidewalk incorporated



3

Looking West towards Bridge-
A section of the proposed
Tuolumne River Trail



4

Looking West-
View of Tuolumne River from
below the bridge

To the north of the project location, land use is predominately suburban residences and commercial properties. Activities conducted north of the project area will be located in the vicinity of city owned public space and private commercial parcels. Roadway and park users and members of the community may have moderately-high sensitivity to the bridge appearance, and have requested that the character of the existing bridge be maintained.

For roadway users, in the short term, viewer sensitivity would increase with construction of the roadway approaches, new bridge, and use of the construction detour. In the long term, viewer sensitivity would return to its current condition as the new bridge will be similar in design as the existing bridge.

Viewer Response is assessed as a combination of viewer exposure and sensitivity. It is anticipated the average response of all viewer groups will be moderate. Roadway users and neighbors would have a moderate-low response due to their limited time exposure and presence of landscape vegetation and privacy screening. For more sensitive parkway users, changes to visual resources would be lessened by maintaining the existing aesthetic features of the existing bridge while potentially adding additional visually pleasing features, such as architectural form liners, concrete staining on the exterior girders and bridge railing, and replanting impacted areas with native vegetation.

VISUAL IMPACT

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. Visual impacts for the No-Build Alternative and proposed project are discussed below.

No-Build Alternative

Under the No-Build Alternative, the proposed project would not be constructed. The existing bridge would still be structurally deficient; therefore, the purpose and need of the proposed project would not be met. In addition, the existing bridge is deemed “Scour Critical” with a scour rating of 3, meaning that the local scour and predicted future degradation will continue to undermine the bridge supports. No impacts to visual resources or viewer groups would result.

Proposed Project

Under the proposed project, the existing bridge would be demolished and a replacement bridge would be constructed. Anticipated short-term visual impacts during the construction phase include tree removal, ground disturbance, and other construction activities. The new bridge will be constructed on a new alignment that is upstream from the existing bridge. Traffic will be able to use the existing bridge to cross Tuolumne River during construction of the replacement bridge. The existing bridge will be demolished upon completion of the new bridge construction. Trees and vegetation would be removed to accommodate the replacement structure and construction detour and staging areas, but any areas disturbed by construction activities would be replanted with native vegetation in compliance with Section 20, “Landscape” of the Caltrans Standard Specifications 2015. The proposed project’s impact on visual character and quality is expected to be minimal. Visual renderings of the proposed changes are included in **Figure 5**. The new bridge would incorporate designs that are aesthetically similar to the existing bridge.

Moderate changes to viewer response would result through the replacement of the existing bridge; however; visual impacts from the proposed project would be minor, due to limited change in visual character and visual quality.

In addition to not changing any of the current land uses in the project area, the proposed project would not block a scenic vista, change the visual character of the area or impact scenic resources. The proposed project is not within or near a scenic highway or byway system. Additionally, no sources of light or glare would be added as part of the proposed project, since there would be no increase in the number of passing motorists.

AVOIDANCE AND MINIMIZATION MEASURES

This section describes additional avoidance and/or minimization measures to address specific visual impacts. These will be designed and implemented with concurrence of the District Landscape Architect. Avoidance or minimization measures have been identified and can lessen the minor visual impacts caused by the project. The inclusion of aesthetic features in the project design can help generate public acceptance of a project.

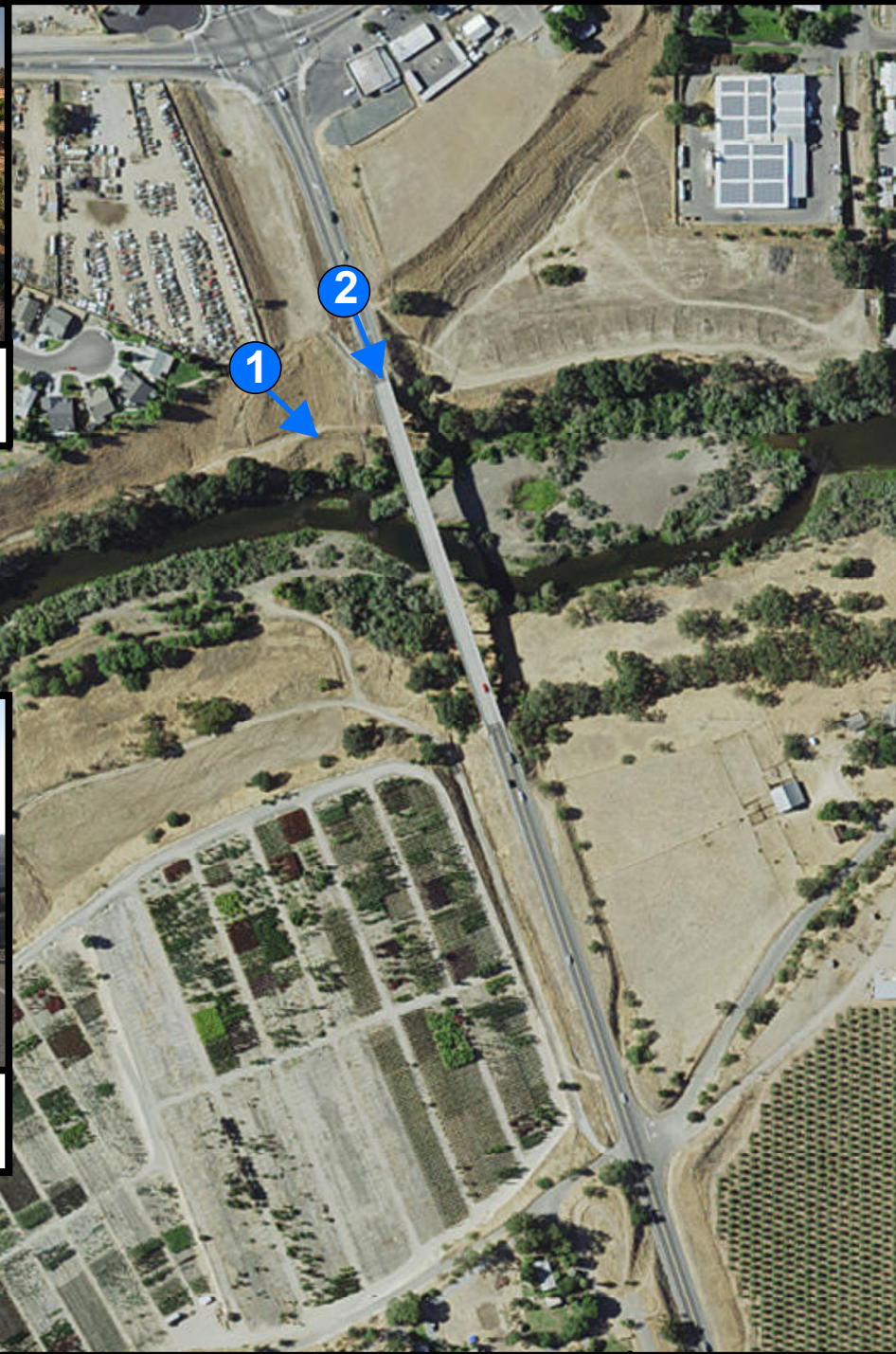
The following measures to avoid or minimize visual impacts will be incorporated into the project:

1. Incorporate designs, possibly architectural form liners, and concrete staining on the exterior girders and bridge railing to maintain the character of the existing bridge and the natural surroundings.
2. Revegetate and restore any disturbed areas with the appropriate native vegetation to minimize erosion and visual contrast with existing vegetation in compliance with Section 20, "Landscape" and Section 21 "Erosion Control" of the Caltrans Standard Specifications 2015.
3. Construct sidewalk along the eastern side of bridge to improve pedestrian safety and facilitate access to River Park and Tuolumne River Parkway. The sidewalk will also improve the visual quality of the area by creating additional viewpoints of the Tuolumne River riparian corridor. The sidewalk will end with a ramp down to the road shoulder on the south end of the bridge and extend to the existing sidewalk curve returns at the SR 132 intersection on the north end of the bridge.
4. Replace benches located along the trail to the same location without damages.
5. Any newly planted trees within the construction staging area will be hand dug and placed into planters during the winter months preceding construction. The trees will be irrigated and cared for by a qualified professional to ensure survival during construction. If the trees do not survive repotting prior to construction and/or replanting after construction is complete, they will be replaced at a 1:1 ratio.



1

**Looking Southeast-
Current View of Hickman bridge
over Tuolumne River**



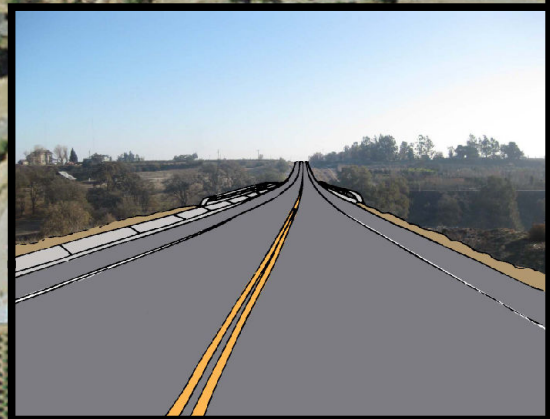
1

**Looking Southeast-
Proposed View of Hickman bridge
over Tuolumne River**



2

**Looking South-
Current view of Hickman Bridge
without sidewalk incorporated**



2

**Looking South-
Proposed view of Hickman Bridge
with sidewalk incorporated**



CONCLUSIONS

In general, the scale of the proposed project would not detract from the total visual environment of the project surroundings. It is anticipated that the average response of all viewer groups will be moderate due to the limited time exposure and presence of landscape vegetation and privacy screening. The landscape would accommodate the bridge replacement and realignment without affecting the visual character or noticeably reducing the visual quality of the area. Aesthetic concerns of local community members would be addressed by incorporating designs that would maintain or improve the visual character of the existing bridge. Incorporating sidewalk into the new bridge design will enhance the visual quality of the area by adding new viewpoints of the Tuolumne River, while also improving connectivity to the Tuolumne River Parkway. Temporary construction easements located on portions of the Tuolumne River Parkway will be returned to conditions consistent with current conditions. Any newly planted trees within the construction staging area will be hand dug and placed into planters during the winter months preceding construction. The trees will be irrigated and cared for by a qualified professional to ensure survival during construction. If the trees do not survive repotting prior to construction and/or replanting after construction is complete, they will be replaced at a 1:1 ratio. Benches located along the trail will also have to be removed, however all benches will be reinserted at the end of construction at the same location without damages.

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