

DRAFT Project Report
Clay Street from US 50 to Main Street
03-ED-00-CR
BHLO 5015(011)
Bridge No. 25C-0117



Prepared For:	 <p>City of Placerville Public Works</p>
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Project Report Approval

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1 INTRODUCTION and PROJECT DESCRIPTION

The Project is located at the east end of the Historic District of Downtown Placerville. It encompasses the intersection of Main Street, Cedar Ravine Street and Clay Street. (See Appendix A). The project proposes to improve the intersection of Main Street and Cedar Ravine Street as well as replacing the Clay Street bridge at Hangtown Creek. Funding for design and construction has been programmed from multiple federal, state and local sources including the Highway Bridge Program (HBP), Congestion Mitigation Air Quality (CMAQ), Regional Surface Transportation Program (RSTP), Transportation Enhancement (TE), and local developer Traffic Impact Mitigation (TIM) fees. The totals are as follows:

CMAQ	\$1,600,000
HBP	\$2,450,000
RSTP	\$400,000
BTA/TE	\$180,000
TIM Fees	\$70,000
Total	\$4,700,000

This project proposes the following improvements:

- Replace the bridge over Hangtown Creek at Clay Street. This bridge is considered functionally obsolete. The Federal Highway Bridge Program (HBP) is providing 88% of the project funding with the remaining 12% provided by the City.



- Realign Clay Street between US 50 and Main Street. This will bring Clay Street in to the intersection with Cedar Ravine at Main Street.



- Reconstruct the intersection of Main Street, Cedar Ravine and Clay Street. The current Placerville Main Street Streetscape Plan identifies a roundabout at the Cedar Ravine intersection. Construction of a roundabout intersection has been programmed with Congestion Mitigation Air Quality (CMAQ) funds.
- Extend the El Dorado Trail from Clay Street to Bedford Avenue. Funding from the Transportation Enhancement (TE) program has been obtained for design and construction of the trail extension.
- With the realignment and widening of Clay Street, parking will be lost within the Ivy House Lot. The existing Clay Street alignment will be converted to parking, and the Ivy House lot will be split into two separate lots. The net loss of parking is approximately 34 spaces. The City has identified several locations that can be developed to mitigate and result in no net loss of parking. Locations identified are shown in Appendix B and are discussed below in more detail.

This project is expected to be constructed in 2012. This Project Report summarizes alternatives considered, and includes site-specific data such as topographic surveys, preliminary geotechnical, hydraulic, and environmental information. This Project Report also defines the project criteria to be used in the final design phase of the project development process.

2 RECOMMENDATION

Based on the information described within this Project Report, it is recommended that:

- the bridge be replaced with a single span cast-in-place conventionally reinforced concrete slab bridge,
- the intersection at Cedar Ravine be reconstructed to a four legged roundabout, and
- the lost parking be replaced by developing a new City lot located just south of US 50 on the west side of Locust Ave.

The project construction cost estimate is \$3,000,000 which includes replacement of the bridge, reconstruction of the roundabout and the extension of the bike trail. Construction is expected to begin in the Spring of 2012.

3 BACKGROUND

Project History

In 2006 the City adopted a streetscape plan for the Historic Center of Downtown Placerville. The plan included a roundabout at the east end where Cedar Ravine Road intersects with Main Street. Traffic projections indicate future conditions will be heavily congested on Main Street. A roundabout would not only provide an aesthetic gateway to the Downtown shopping area, but would also provide improved traffic circulation and a safer facility for vehicles as well as pedestrians.

The bridge across Hangtown Creek is considered functionally obsolete, funding was made available through the HBP program to evaluate the alternatives to bring the bridge up to standard.

Existing Facility

The intersection at Main Street and Cedar Ravine is currently a 3-way stop controlled intersection. Main Street is a two lane east-west running minor arterial and is frequently congested throughout the day. Cedar Ravine Road is a two lane north-south minor arterial that accesses Marshall Hospital south of downtown. The north end of Cedar Ravine terminates at Main Street. Clay Street is a local road that runs north from Main Street and serves residences north of US 50. Clay Street intersects Main Street approximately 150' west of the intersection with Cedar Ravine. Clay Street is a two lane two way roadway (one lane at the bridge), and crosses Hangtown Creek just south of US 50.

Clay Street bridge spans Hangtown Creek as well as a culvert that carries Cedar Ravine which flows into Hangtown Creek immediately downstream of the bridge. The existing bridge was built in 1940, and is an approximately 32 foot long two span, reinforced concrete, filled spandrel arch bridge supported on concrete abutments. The north span crosses Hangtown Creek. The south span crosses Cedar Ravine Creek. The foundations are unknown, but are assumed to be spread footings on bedrock. The single lane bridge has a width of 19 feet (17.5 feet clear) that is substandard, with a sufficiency rating of 70.1, the bridge is functionally obsolete. The existing bridge rails are deteriorating concrete post and beam. At the ends of the bridge, the railings extend out approximately 8 to 10 feet and flare out at about a 30 degree angle. On the southeast corner, the approach railing is a low concrete and stone retaining wall. Otherwise, there are no other bridge approach rails. During the investigation of this project, it was noted that several utilities, including sewer and storm drain, were located within the channel and cross under the bridge. Since the investigation, the sewer has been relocated out of the channel.

The Cedar Ravine Creek channel has been converted to a large diameter pipe and covered over for development between Pacific Way and Hangtown Creek. The pipe parallels Cedar Ravine Street, runs under Main Street and the Ivy House parking lot, then passes under Clay Street and exits into Hangtown Creek on the downstream side of Abutment 1. The outlet structure is

composed of concrete barrel arch and is separated from Hangtown Creek by the Pier 2 pier wall. The north span of the bridge accommodates Hangtown Creek. City staff has reported that the condition of the pipe within the project limits is unknown. Contingency funds should be made available during construction for any damage the pipe might sustain due to excavation or other related activities.

The south bank of Hangtown Creek is a vertical concrete retaining wall that extends a considerable distance both up and downstream of the bridge site. Abutment 1 of the existing bridge sits directly on top of this retaining wall. The north bank is natural terrain covered in dense brush. The main channel of the creek is composed primarily of loose sands and silts on exposed bedrock

The El Dorado Trail is a pedestrian/bike facility which runs parallel to the north bank of Hangtown Creek east of Clay Street. The trail terminates at Clay Street.

US 50 runs parallel to Hangtown Creek, with the El Dorado trail in between. The project will terminate at its the north end on Clay Street at the US 50 undercrossing. South of the bridge, adjacent land uses include commercial businesses on the west side of Clay Street, and on both sides of Cedar Ravine Road. The Ivy House parking lot, owned by the City, is located on the east side of Clay Street between Main Street and Hangtown Creek.

There is a small viewing area between the south bank of Hangtown Creek and the Ivy House Parking Lot.

Community Interaction

The preliminary design process included a public meeting in November 2007 where the community was invited, impacts and operations of the roundabout were discussed, and concerns were aired. The primary concerns were for traffic, parking and drivers unfamiliar with the roundabout. After the public meeting, the alternatives were again revised to take into consideration some of the concerns raised at the meeting. The location of the roundabout was shifted to optimize the entry/exit angles, and to eliminate parking impacts to the adjacent Inter County Title parcel. Alternatives for replacement parking were also further studied.

In January 2009 three alternatives were presented to the City Council, and the Council approved the Staff recommendation of Alternative 2, a four legged roundabout.

A second community meeting was held in January 2010 to show the community the changes to the design that were incorporated as a result of their input. Additional concerns raised were the impacts to businesses during construction. The recently completed "50 Ops" project which improved US 50 through Placerville had an impact on businesses when the access was limited due to construction and congestion. Ingress to the parking lot for eastbound left turning vehicles and the potential to back traffic into the roundabout was also a raised as a concern.

4 NEED AND PURPOSE

Problem, Deficiencies, Justifications

The purpose of this project is to improve roadway safety, reduce congestion meet current and future traffic needs.

Bridge

The bridge is considered functionally obsolete with a sufficiency rating of 70.1. The low rating of the bridge is due to the following:

- the 17.5' wide bridge width does not meet standards for roadway width for this type of facility and ADT;
- hydrologically, the 50 and 100-year flows overtop the existing bridge;
- the bridge rail consists of non standard concrete rails which have spalled surfaces;
- there is no bridge approach rail;
- there is inadequate width for pedestrians to use the bridge safely.

Traffic

Currently, PM peak hour delays occur on southbound Clay Street at Main Street. Eastbound queues from the Main Street/Cedar Ravine Road intersection in combination with westbound through volume provide infrequent gaps for southbound Clay Street vehicles to turn left (eastbound) onto Main Street. Additionally, eastbound Main Street traffic turning left onto Clay Street blocks eastbound through traffic, resulting in periodic queues. The Clay Street/Main Street intersection currently operates at a Level of Service (LOS) F during the peak hour. The following table summarizes the existing and future (no project) LOS:

Intersection		Current (2007)	Future (2025)
Main Street/Cedar Ravine Road	AM	A/8	C/20
Main Street/Cedar Ravine Road	PM	C/23	F/>50
Main Street/Clay Street	AM	C/18 (SBL)	F/>50
Main Street/Clay Street	PM	F/>50 (SBL)	F/>50

Notes: LOS = Level of service
SBL = Southbound left turn
The table lists the LOS (level of service) and average delay (measured in seconds per vehicle) for each intersection.
Source: Fehr & Peers, 2009

Fehr and Peers Traffic Report (2009) cites the following Daily traffic counts:

Street Segment	Total Volume (vehicles per day)	Date(s) Collected
Cedar Ravine Road – South of Main Street	10,250	May 16-17, 2006
Clay Street – North of Main Street	1,030	May 24-25, 2006
Main Street – Between Bedford Avenue and Clay Street	11,620	October 4, 2006

5 PROJECT CRITERIA

Design Criteria that affect feasibility for each alternative were identified based upon field observations, guidelines published by the various agencies with jurisdictional authority, and our Team’s experience with similar projects.

Appendix C includes a Basis of Design for this project including the parameters that govern the design for all alternatives in accordance with the following criteria:

- **Bridge Design – Caltrans “*Bridge Design Specifications*” LRFD Version**
The proposed structure will be designed for HS 20, permit, and alternative truck live loading, and will satisfy the current Seismic Design Criteria (SDC) Version 1.3. Only preliminary structural calculations were performed for this feasibility study.
- **Roadway Design**
The roadway design will be based upon AASHTO – “*A Policy on Geometric Design of Highways and Streets*”, 2004 (Green Book), and the City of Placerville standards. Based on the functional classification and ADT, Clay Street will consist of two 11’ paved lanes, 3’ paved shoulders, curb and gutter with 2’ gutter pans, and 5’ sidewalks on each side. The design speed along Clay Street will be 20 mph.
- **Hydraulic Analysis**
Hydraulic design criteria for the proposed bridge will be based on Caltrans' Local Assistance Procedures Manual Chapter 11, which requires two feet of freeboard in the 50-year event and the ability to convey the 100-year flow without overtopping. Evaluation of scour at the bridge is based on criteria and methodologies developed by the Federal Highway Administration, Hydraulic Circular No. 18 (HEC-18), *Evaluating Scour at Bridges, Fourth Edition* (May 2001). Domenichelli and Associates prepared a Location Hydraulic Study (December 2007), which is included in Appendix G.
- **Roundabout**
There are currently no published “design standards” for roundabouts. FHWA has a publication entitled “Roundabouts: An Informational Guide” that provides national

guidance on the geometric features of roundabouts. This guide will be utilized to develop the final design for the roundabout.

There are several geometric considerations that are involved with roundabout design. The diameter of the roundabout and the entry and exit angles are all carefully laid out to control vehicle speeds and to maximize safety. The alternatives were developed to avoid any impact to Inter County Title Company at the southwest corner and the auto parts store at the southeast corner. Since the City requires no net loss to parking, minimizing loss of parking in the Ivy House lot was considered a constraint. The range of diameters that were considered for design ranged from 90' to 150'.

Another consideration in the design of a roundabout is the design vehicle. This influences the size of the inscribed diameter, as well as the width of the approaches. A "California Legal" design vehicle was selected for through movements on Main Street which is a truck tractor-semitrailer with a maximum length of 65 feet and width of 8.5 feet. A bus/fire truck is the design vehicle for Clay Street movements.

Utilities

Underground utilities (electric, telephone, sewer and water) run along Main Street and throughout the project. PG&E (electric) vaults are located on the north side of Main Street at the Cedar Ravine intersection will likely need adjustment to the new grade elevation. These vaults fall mostly within the center island of the roundabout. A plan showing existing utility locations is included in Appendix E

Depending on the depth of the existing utilities, relocations or construction details to protect in place may be required.

PG&E has underground electric that runs east-west along Main Street, as well as a line that runs south from Main Street along Cedar Ravine.

A new sewer line will be placed from the manhole in Main Street (located in the proposed truck apron of the roundabout) to a manhole on the south side of the creek near the northeast corner of the Ivy House Parking Lot.

Contractor Access

Contractor heavy equipment will access the channel from the existing roadway. There will not be need for large equipment to access the creek bottom. Personnel and light equipment may work from the creek bottom. Equipment staging can occur within the right of way, north of the creek west of Clay Street (proposed El Dorado Trail Extension), or can be acquired by the contractor from an adjacent parcel.

Traffic Handling and Construction Staging

Clay Street may be closed for periods during construction. It will remain closed for the duration of the bridge replacement (likely June 2012 to October 2012). Alternate routes exist on

Mosquito Road and Bedford Avenue. The existing Main Street/Cedar Ravine intersection will be staged during construction of the roundabout to maintain two-way traffic during peak hours, with one way traffic control utilized during off peak hours (re-opened to two-way traffic during non-working hours). It is recommended that the City provide weekly updates in the form of newsletters, or newspaper articles that inform the public of traffic restrictions during construction.

During construction, parking at the Ivy House Lot will be limited, and for some periods, not available. Because some of the parking spaces are leased monthly, the City will provide alternatives either at the new parking location (Stancil Lot or other location to be determined), by use of a shuttle, and/or by permitting long term parking along Main Street.

Cost

An estimated construction cost has been developed using Caltrans cost data and unit prices from similar projects constructed recently within the general geographical area. A 20% contingency is included in the subtotal to account for the preliminary nature of the estimates. A cost summary is in Appendix D.



Landscaping and Aesthetics

The bridge railing will match the railing that was recently constructed at the Bedford Avenue bridge over Hangtown Creek. This railing is also proposed for use on the Blairs Lane bridge replacement at Hangtown Creek.

The realignment of Clay Street and the roundabout construction will impact existing planters and decorative walls that border the Ivy House parking lot. It will also impact an overlook area between the parking lot and Hangtown Creek. Replacement of these features as well as landscaping the center island of the roundabout should be incorporated into the PS&E.

The druid monument that is currently located at the Main Street/Cedar Ravine intersection will be relocated to the center of the roundabout. An interpretive sign will be placed outside the roundabout adjacent to a sidewalk for pedestrians to read within view of the monument.

6 ALTERNATIVES

Roadway Geometric Alternatives

There were four primary alternatives considered for intersection design at Main Street and Cedar Ravine.

- Alternative 1 incorporates Cedar Ravine and both legs of Main Street into a three leg roundabout configuration. Clay Street is maintained at its existing location, intersecting Main Street approximately 120' west of Cedar Ravine.
- Alternative 2 realigns Clay Street to bring it into a roundabout configuration along with Cedar Ravine and both legs of Main Street.
- Alternative 3 is essentially no project. The intersections at Cedar Ravine and Clay Street would remain as they are today.
- Alternative 4 would realign Clay Street to the intersection at Main Street and Cedar ravine, and provide a traffic signal at the reconstructed intersection.

Alternatives 1, 2 and 4 would also include:

- some impact to the overlook area located between Hangtown Creek and the Ivy House Parking Lot;
- extension of the bike trail from Clay Street to Bedford Ave;
- replacement of the bridge across Hangtown Creek at Clay Street;
- widening Clay Street to a standard width.

Structure

Type Selection

Based upon field observations of the project site, no problems with falsework are anticipated and therefore, the use of cast-in-place construction is recommended. The team looked into several different replacement bridge alternatives for this site. After considering many factors such as span length, site conditions, hydraulics, costs, and project location, the single-span cast-in-place conventionally reinforced concrete slab was determined to be the best alternative.

Of particular importance is the hydraulic requirement to pass the worst case of: 100-year flood, or 50-year flood plus two feet of freeboard. In this case, the 50-year flood plus two feet of freeboard controlled the minimum soffit elevation of 1865.98'.

The bridge will consist of a single span structure of 32'-0" in length and 45'-6" in width. For this project, there were no significant hydraulic or vertical alignment requirements that control the type selection or depth of the superstructure. This allows the use of the conventionally reinforced concrete slab bridge.

The abutments will be diaphragm-type, supported on anchored spread footings. The planning study for the preferred alternative, including the staging layout, is illustrated in Appendix B.

Geotechnical

A Preliminary Foundation Report was prepared by Taber Consultants and is included in Appendix F. Additional geotechnical investigations including site visits and boring samples will be required to determine allowable soil pressures and final determination of the appropriate foundation type for the bridge.

According to Taber, based on available subsurface data and observations made during site visit, the site materials generally appear to be adequately stable and capable of providing support for the proposed bridge. Competent bedrock material appears to exist at shallow depths, possibly

ten feet or less from the top of the bank. However, CIDH or micro piling may be appropriate if there are limitations on excavation because of leaving the existing bridge in place while constructing the new foundation. Shallow groundwater can also be expected at the proposed bridge site.

The subsurface conditions encountered at the site are preliminarily characterized as a Soil Profile C. Using Caltrans Seismic Design Criteria (v. 1.4), the design ARS response spectrum curve can be estimated for Soil Profile Type C, a magnitude of 6.5+/-0.25, and a peak bedrock acceleration of 0.3g. The ARS curve should be linearly scaled up from 0% to 20% for periods of 0.5 to 1.0 seconds and 20% for periods over 1.0 seconds. No increase of the ARS curve is required from 0 to 0.5 seconds.

Hydraulics

Domenichelli and Associates completed a Location Hydraulic Study (December 2007) and found that the existing structure is nearly overtopped by the Hangtown Creek 100-year flood event. In addition, the 50-year event will pass through the bridge opening but without any clearance to the soffit. Cedar Ravine flows were also evaluated but were only included downstream of the bridge.

The water surface elevations and flow velocities shown in the table are located at the upstream and downstream faces of the existing bridge.

Return Period	Upstream Design Flow (cfs)	Downstream Design Flow (cfs)	Water Surface Elevation U/S of Bridge (ft)	Water Surface Elevation D/S of Bridge (ft)	Water Velocity (fps)
100-year	2852	3219	1866.8	1864.3	16.6
50-year	2453	2782	1865.3	1863.9	15.2

The water surface elevations and flow velocities shown in the table are located at the upstream and downstream faces of the proposed bridge.

Return Period	Upstream Design Flow (cfs)	Downstream Design Flow (cfs)	Water Surface Elevation U/S of Bridge (ft)	Water Surface Elevation D/S of Bridge (ft)	Water Velocity (fps)
100-year	2852	3219	1864.1	1864.3	14.5
50-year	2453	2782	1863.3	1863.9	12.6

The proposed bridge passes the 100-year design storm with a freeboard of 2.2 feet and the 50-year design storm with a freeboard of 2.6 feet. The minimum soffit elevation will be 1865.98’.

The scour analysis performed in this study follows the Federal Highway Administration (FHWA) recommended methodology. The estimated potential total scour depths at the bridge are summarized below:

Location	Long Term Scour (ft)	Contraction Scour (ft)	Local Scour (ft)	Total Scour (ft)
Abutment 1	1.0	0.0	2.4	3.4
Abutment 2	1.0	0.0	13.8	14.8

The depth of the foundations will be determined during final design. If the footing elevations are within the scour zone, rock slope protection will be placed in the channel to protect the bridge foundation. It is important to note that these scour values were determined using theoretical equations assuming fully scourable material. This site is underlain with bedrock and abutment scour will only occur to the depth of the bedrock. A detailed description of recommend scour and rock slope protections are located in Appendix G.

Rejected Structure Alternatives

Several other bridge types and span configurations were considered for this site.

Widen the existing bridge

A widening alternative was considered, however was immediately eliminated due to the new alignment requirements.

Single Span Precast Prestressed Concrete Slab

Though comparable in cost to the preferred alternative, this single span option has precast deck units that require additional staging requirements and specialized construction techniques. Additionally, delivery of precast units may be difficult due to the tight confines of the site and local roads. Therefore this alternative is not recommended.

Parking

Each roadway geometric alternative had different impacts on the remaining available space at the Ivy House Lot. The existing lot has 72 spaces. The first iteration of alternatives and resulting parking layouts is shown in the table below. Alternative 1 was developed with sub-alternatives which varied the width of Clay Street to evaluate the effect of impacts of street width and providing on street parking to the number of spaces provided. This information was presented to the City Council in January 2009 and Alternative 2 was selected as the preferred alternative.

Impacts of Clay St. Width on Parking

Alternative	Overall Width	Lane Width	Shoulder Width	Sidewalk Width	Remaining Parking
1a (3-leg)	28'	12'	2' (gutter)	7'	36
1b	24'	10'	2' (gutter)	7'	36
1c	34'	12'	8' parking one side 2' gutter one side	7'	39
1d	32'	11'	5'	7'	36
1e	24'	10'	2'	4'	38
2** (4-leg)	28'	12'	2' (gutter)	7'	29
3 (No Project)	27' - Existing	Existing	Existing	Existing	72
4 (Signalize)	32'	11'	5'	7'	64

** Varying the width of Clay Street for Alternative 2 does not change the impact to parking. This is because the width of road needed for truck turns exceeds the standard base width of the road.

Since this information was presented, Alternative 2 was refined. The current preferred alternative provides 15 spaces in the Ivy House Lot A (west of the realigned Clay Street) and 23 spaces in the Ivy House Lot B (east of Clay). This results in a net loss of parking spaces of 34 which must be replaced off site.

Several alternative locations for constructing replacement parking were identified and are described as follows (see Appendix B):

- Stancil Lot - APN 002-13-208 and APN 002-13-205 – west of Locust Street just south of US 50 is a triangular area which is a combination of a lot owned by Caltrans (currently being deeded to the City) and an adjacent lot currently owned by Stancil (previously used as a car sales lot). The Stancil lot has a vacant warehouse building, otherwise the two lots have no improvements. Developing this space could provide approximately 40 parking spaces. This is the preferred alternative for replacement parking because it is only 700' (+/-) away from the Ivy House Lot, it is flat and relatively easy to develop (removal of structures would be required), it has access to the El Dorado Trail and most of the land is already owned by the City.
- Locust Lot - An area owned by the City north of US 50 on the east side of Locust Street. This is an undeveloped area. Developing this space could provide approximately 8 parking spaces.
- El Dorado Trail Lot - APN 002-15-201 (Caltrans) - An area on the west side of Clay Street, just south of US 50. This area would be developed for parking as well as for the extension of the El Dorado Trail. Developing this space could provide approximately 16 parking spaces.
- Thompson Lot - APN 004-01-118 (Burrows) – This is an undeveloped lot at the northeast corner of Cedar Ravine Road and Thompson Way. Developing this space could provide approximately 14 parking spaces.

- Main Street Lot - APN 004-01-137 (Howe/Wilbur Trust) – just east of the auto parts store along Main Street, this lot would require cutting into the hillside and likely a retaining wall. Developing this space could provide approximately 18 parking spaces.

Cost

The estimated construction cost of the preferred alternative is \$2,980,000. A detailed cost estimate is located in Appendix D.

7 OTHER CONSIDERATIONS

Right-of-Way

The bridge replacement and roundabout can be constructed without acquiring new permanent right of way. Temporary construction easements may be required on some parcels where construction of sidewalks abuts private parcels.

With the recently completed US 50 Operations project, Caltrans is relinquishing some of their right of way (along the old railroad right of way) to the City (Appendix B). This relinquished area would cover most of the replacement parking that is being considered west of Clay Street, as well as a significant portion of the El Dorado Trail extension. A Caltrans Encroachment Permit and a Maintenance Agreement with Caltrans would be needed for the western end of the trail extension.

Depending on the selected location for replacement parking, one or two parcels may need to be acquired. More design is required to determine if the area west of Clay Street is a viable location for replacement parking. Additional right of way may be required from Caltrans.

Environmental Clearance

Environmental clearance is being developed as an Initial Study/Mitigated Negative Declaration (IS/MND) for CEQA and a Categorical Exclusion (CE) will be prepared to satisfy NEPA requirements. The regulatory agencies having jurisdiction over the wetland and water quality issues for this project are California Department of Fish and Game (CDFG), Regional Water Quality Control Board, US Army Corps of Engineers, and US Fish and Wildlife Service. Appropriate permits will be acquired from these agencies during final design.

Biological Resources

To support the environmental documentation, a Draft Natural Environment Study (NES) and Jurisdictional Delineation Report has been prepared for this project. Preliminary findings indicate that the project will have no effect on federal-listed species or critical habitat. Pre-construction surveys will be conducted for birds of prey and birds listed under the Migratory Bird Treaty Act. If an active nest for any of the species listed is found, a buffer will be established around the nest as an avoidance measure. To reduce the potential for adverse

impacts to fish, in-water work will be restricted to the period between April 15 and October 15 unless otherwise permitted by the CDFG.

Approximately 27 trees will need to be removed due to construction impacts, these will be mitigated at ratios to be determined through regulatory permits.

Wetlands and Flood Plains

Hangtown Creek is a blue-line, perennial creek subject to jurisdiction under Section 404 of the Clean Water Act. No wetlands occur in the project study area (PSA) limits. A total of 0.4 acres of potential jurisdictional waters occur within the PSA. A Wetlands and Jurisdictional Delineation Report is being prepared by Sycamore as a required technical study in preparation for the project.

Cultural Resources

No cultural resources eligible for listing in the National Register have been identified in the Area of Potential Effects (APE). No Native American groups have identified sacred lands in the APE. Reports in compliance with Section 106 National Historic Preservation Act are being prepared by Sycamore as required technical studies in support of the CEQA and NEPA clearances.

Because the project traverses through a parking lot that previously housed the Ivy House complex (dating back to 1864), additional subsurface testing was required to verify that the site was not eligible for the National Register. The Archeological Survey Report and subsequent Extended Phase I Report have concluded that there are no eligible resources within the APE.

Hazardous Waste

Taber Consultants is preparing an Initial Site Assessment for hazardous waste. The Ivy House Lot is the site of a former gas station. In addition, a heating oil tank was found at the northeast corner of the parking lot. The tank was removed in 1994, Taber recommends testing the soil in the area for contamination, as well as a geophysical survey to determine if the former gas station tanks are still underground.

Permits

Permits and agreements required for this project are expected to include the following and to be obtained by Sycamore:

- California State Water Resources Control Board – 401 Water Quality Certification
- California Department of Fish and Game – 1601 Streambed Alteration Agreement
- Army Corps of Engineers – Nationwide Permit No. 404
- State Water Resources Control Board – NPDES Notice of Intent

Appendix A

**Location Map
Project Limits Map**

Appendix B

Alternative Layouts Alternative Parking Replacement Bridge Advanced Planning Studies

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