

**CITY OF CARPINTERIA
ARCHITECTURAL REVIEW BOARD
Meeting of February 12, 2015**

Agenda Item #D-1

**COMMUNITY DEVELOPMENT DEPARTMENT
PROJECT REVIEW**

Project: 14-1719-CUP/CDP **Planner:** Nick Bobroff
Address: 5500 block of Carpinteria Avenue at Carpinteria Creek
APN: N/A
Zoning: Commercial Planned Development (CPD)/Planned Residential
Development (PRD-15)
Applicant: City of Carpinteria Public Works Department

Project Review: Conceptual
 Preliminary
 Final

PROJECT DESCRIPTION

This is a conceptual review of the Carpinteria Avenue Bridge Replacement project. The proposed project entails replacing the existing five-span Carpinteria Avenue Bridge over Carpinteria Creek with a new concrete I-beam three-span vehicle and pedestrian bridge. The existing bridge has been determined to be structurally deficient and has inadequate hydraulic capacity underneath the bridge for flood flows. The proposed replacement bridge would address and correct these inadequacies.

The proposed three-span bridge would be constructed in approximately the same location and alignment as the existing bridge. As the abutments for the new bridge would be placed at the top of the bank on each side of the creek, the overall bridge length would be extended slightly from its existing 192-foot length to approximately 200 feet. The overall width of the new bridge would increase by approximately 15 feet from its current 54-foot width (comprised of two 12-foot wide traffic lanes, a 12-foot wide center lane, three-foot six-inch wide shoulders/bike lanes, four-foot six-inch wide sidewalks and one-foot wide bridge railings) to 68 feet wide (comprised of two 12-foot wide traffic lanes, a 14-foot wide center lane, five-foot wide shoulders/bike lanes, eight-foot wide sidewalks and two-foot wide bridge railings). The majority of the added width to the bridge structure is made up of the larger sized bike lanes and sidewalks.

In order to meet current hydraulic capacity requirements for flood flows under the bridge, the soffit elevation of the proposed bridge will be raised. For the proposed three-span bridge, the bridge superstructure would be approximately 2.67 feet deep. The structure depth, coupled with the need to have two feet of freeboard over the maximum design flood (i.e., 100-year storm event), would raise the proposed bridge deck approximately two feet above the existing bridge deck elevation. In order to transition the roadway approaches at both ends of the bridge to the elevated bridge deck, approximately 230- 270 linear feet of roadway/frontage work will be

required on each side of the bridge to conform to the new roadway elevation profile. Alterations to existing driveways and street intersections (including Arbol Verde Street) within these affected areas will also be necessary.

The proposed bridge will be designed to accommodate conduits for the future relocation of existing overhead utility lines along Carpinteria Avenue. Existing underground utilities will be protected in place.

The proposed project would also modify the existing Carpinteria Creek bike path to meet the new raised bridge deck elevation. A continuation of the bike path downstream of the Carpinteria Avenue Bridge and tying into the south side of the bridge will be designed, and if funding is available, constructed as part of the project.

Site preparation and bridge construction is anticipated to require the removal of existing vegetation from the riparian corridor and surrounding vicinities within the project area including approximately 95 trees. Where possible, existing trees/vegetation will be protected in place. For areas disturbed during construction, a revegetation plan will be developed, including appropriate replacements (often at a 3:1 or higher replacement ratio) for removed or damaged trees. A conceptual planting plan and plant list for the project area is included in the Exhibit B packet.

A more detailed project description is attached as Exhibit A. Conceptual plans for the bridge including possible railing details, concrete finishes, light fixtures and a planting plan are included as Exhibit B. 35% Engineered drawings for the proposed bridge are attached as Exhibit C. An accounting of trees proposed to be removed is included as Exhibit D.

PROJECT BACKGROUND

Project Setting

The project site is located on the 5500 block of Carpinteria Avenue at Carpinteria Creek. The existing concrete five-span bridge over Carpinteria Creek was constructed in 1937. The bridge is approximately 192 feet long and 54 feet wide. After the 1969 floods, the end spans on each side of the bridge were filled in and blocked with concrete walls effectively resulting in a three-span waterway opening. Multiple utilities pass through the bridge site including overhead utility wires both immediately up and downstream of the bridge, and underground water, sewer and gas lines.

The existing deck is severely deteriorated and there currently is inadequate hydraulic capacity under the bridge for flood flows. These conditions make the existing bridge substandard and have caused it to be classified as structurally deficient, making it eligible to be replaced. The replacement project would be primarily funded by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through Caltrans District 5 Local Assistance. The City is responsible for providing the local match to the federal funds.

The project site is surrounded by a mix of residential and commercial development. To the northwest of the bridge is a commercial office complex (5464 Carpinteria Avenue); to the northeast is a motel (5550 Carpinteria Avenue); to the southeast are several residential properties near the entrance to the Concha Loma neighborhood; and to the southwest is a private garage and residential apartment complex (5437 and 5467 Carpinteria Avenue). The Carpinteria Creek bike path begins at the Carpinteria Avenue Bridge and continues upstream, terminating at Via Real, north of U.S. Highway 101. The creek corridor itself is considered to be Environmentally Sensitive Habitat and is known to contain several sensitive, threatened and/or endangered species including the Tidewater Goby and Southern Steelhead.

The project area is split-zoned Commercial Planned Development (CPD) and Planned Residential Development (PRD-15). The project area land use designations include Open Space/Recreation (OSR), Medium Density Residential (MDR), General Commercial (GC) and Visitor-serving Commercial (VC). The project area is also subject to several Overlay Districts including Environmentally Sensitive Habitat (ESH), Flood Hazard (FH) and Coastal Appeals (CA).

Project History

Planning and design work for the Carpinteria Avenue Bridge replacement began in earnest in the spring/summer of 2013. As part of the initial work effort, several different bridge span design alternatives (one-span, two-span or three-span) and several different bridge deck width options (update existing bridge width, match existing roadway approach width, no median, or open/landscaped median) were identified and conceptually developed. Over the course of 2014, as these design alternatives were further developed and their respective potential benefits and impacts identified, the bridge replacement project was presented to the community and City decision-makers at a series of public workshops and introductory hearings. The project was introduced to the Planning Commission at the September 2014 hearing and to the City Council at their May 27, 2014 hearing. A follow-up, in-progress presentation was made to the City Council again on November 10, 2014 to show how the project would improve vision sight lines at the Arbol Verde Street/Carpinteria Avenue intersection.

Based on the feedback received from the community and City decision-makers, the project design team selected the three-span bridge alternative and the updated bridge width deck option as the proposed project. This design was found to best meet the stated project objectives out of the considered design alternatives and options. The project objectives and more detailed descriptions of the bridge span alternatives and deck options are provided in the Exhibit A, Detailed Project Description. Exhibits showing the bridge span alternatives and layouts of the deck options are included in the Exhibit B packet.

Currently the project design team is completing 35% engineered drawings for the proposed bridge, finalizing various technical studies for submittal to Caltrans and drafting the project's Environmental Impact Report. It is anticipated that the draft EIR will be circulated for public comment later this spring. The project expects to be back in front of the ARB with 65% drawings for preliminary review in summer 2015.

PROJECT ANALYSIS

Carpinteria Municipal Code

Pursuant to CMC §14.62, buildings, structures and uses of a public works nature require the approval of a Conditional Use Permit. In addition to the CUP review, the project will also be reviewed for consistency with the City's Bob Hansen Creeks Preservation Program as part of the Coastal Development Permit review.

Once the ARB has granted a recommendation for preliminary approval and the Proposed Final EIR is ready for acceptance, the project will be considered by the Planning Commission. Because the project is located within the Coastal Appeals Overlay, the project will also be subject to appeal to the California Coastal Commission.

Design Review

The proposed project entails replacing the existing structurally deficient bridge with a new concrete I-beam three-span bridge approximately 15 feet wider than the existing five-span bridge. While many of the particulars of the bridge type and construction methods are limited to what will be allowed/funded through the FHWA program, certain elements of the bridge design can be customized. These elements include bridge railing designs, concrete treatments (i.e., stains, textures, patterns, etc.) for bridge rails, exposed abutments and similar features, bridge and bikepath lighting and landscaping (outside the habitat restoration areas).

Examples of different possible treatments for these elements are included in the Exhibit B packet. A conceptual planting plan and plant list for the revegetation areas is also included. The project design team hopes to obtain a consensus from the Board on these design elements so they can be incorporated into the 65% drawings which will come back to the Board at a later time for formal preliminary review. **The Board's comments on the proposed bridge design and preferred treatments for the various decorative elements would be appreciated.**

General Plan/Coastal Plan Neighborhood Policies

The City's Community Design Element of the General Plan contains both general over-arching policies and specific sub-area policies. The project site is in Design Subarea 2 (Downtown/Old Town District) and is located immediately adjacent to the entrance to Design Subarea 5 (Concha Loma Neighborhood).

Community Design Element

Objective CD-8: *To encourage and facilitate pedestrian and bicycle pathways.*

Policy CD-8a: *All streets should be designed with safe and pleasant pedestrian ways at their edge. Pedestrian ways should be spatially separated from vehicular traffic by elements such as trees, other plantings, streetlights and/or parked cars.*

Policy CD-8b: *To provide convenient pedestrian routes, the existing network of automobile lanes, trails and pedestrian ways in the Downtown district and adjacent neighborhoods should be preserved, reinforced and extended into other neighborhoods. This pedestrian network should be in addition to, not in lieu of, pedestrian ways on the streets.*

The proposed replacement bridge would be approximately 15 feet wider than the existing bridge. Much of the added width would accommodate wider shoulders/bike lanes (increased from three feet six inches to five feet wide) and sidewalks (increased from four feet six inches to eight feet wide) on each side the bridge. These bridge improvements would allow for safer pedestrian and bicyclist usage of the bridge. The project also includes improvements to the existing Carpinteria Creek bicycle path, including an extension of the bike path downstream of the Carpinteria Avenue Bridge to connect to the south side of Carpinteria Avenue. This bike path extension would allow for safer bicyclist access to the eastbound traffic lanes on Carpinteria Avenue. Sidewalk approaches on each side of the bridge would also be updated to better tie into the new bridge, including improvements to the crosswalk on Arbol Verde Street at the Carpinteria Avenue intersection.

Objective CD-9: *To ensure that streets enhance the established City framework and design.*

Policy CD-9b: *Neighborhood streets should be planted with street trees in parkway strips between the sidewalk and curb. It may be appropriate to plant street trees in easements behind sidewalks. The scale, type and spacing of rows of trees will be selected to provide strong spatial definition of the street and to frame axial views.*

The proposed bridge design (three-span, updated bridge width) was selected in part because it had the fewest impacts to the existing character and function of the 5400 and 5500 blocks of Carpinteria Avenue, while still allowing for improvements to creek flows, structural/geometric safety and pedestrian/bicyclist facilities. Where possible, new street trees located in the City rights-of-way, behind the public sidewalks are proposed for the project area. The Board and design team may wish to consider options for relocating street trees to parkways or tree wells located closer to the curbs to provide more of a physical separation between automobiles and pedestrians.

Objective CD-11: *Existing public spaces should be maintained and new public spaces should be incorporated into neighborhoods and districts as an important aspect of their design.*

Policy CD-11c: *All public spaces and facilities should reflect quality design.*

The proposed project would replace the structurally deficient bridge with a new bridge that meets current design and safety standards. The new three-span bridge would also improve the hydraulic capacity for creek flows under the bridge, by both removing a row of columns from the

low flow channel as well as raising the bridge soffit above the project design flood level (i.e., 100-year storm event). The new bridge would be approximately 15 feet wider than the existing bridge, mostly to accommodate wider sidewalks and bike lanes on each side of the bridge. The Carpinteria Creek bike path and Arbol Verde Street crosswalk would also be improved as part of this project.

Opportunities for the City to customize the appearance and character of the bridge include selecting a bridge rail design, concrete treatments, lighting fixtures and parkway landscaping. Careful consideration of these design elements would allow the bridge to reflect the City's character and provide for a high quality streetscape environment. Bridge rail options include variations of concrete window railings, metal (ST 40) open railings, or concrete (type 80SW) base rails with an open metal cap rail. Possible concrete treatments include stone patterning, wood grain patterning and various stamped, scored and/or stained treatments. Exhibits demonstrating some of the possible railing designs and concrete treatments are included in Exhibit B. The Board's input on these features is desired.

Objective CD-12: *Development should fit quietly into the area's natural and introduced landscape, deferring to open spaces, existing natural features and native and sensitive habitats.*

Policy CD-12a: *Landscape plantings shall be respectful of the natural character of the City and enhance existing native plant communities and environmentally sensitive habitat areas.*

Implementation Policy 1: *Use of native, locally adapted species shall be encouraged and shall be required within and adjacent to ESHA.*

Approximately 95 mostly native trees would be removed from around the bridge and creek corridor to accommodate the proposed bridge replacement project. A conceptual revegetation plan showing a preliminary planting plan and plant list has been provided with the plans. The planting list for the riparian restoration areas is comprised of native plants appropriate to a riparian setting. The proposed plant list for the parkway plantings along Carpinteria Avenue also includes a mostly CA native plant palette, although the Board and design team may wish to consider a CA native alternative for the Goldenrain (*Koelreuteria paniculata*) street tree.

Objective CD-13: *Ensure that lighting of new development is sensitive to the character and natural resources of the City and minimizes photopollution to the maximum extent feasible.*

Policy CD-13a: *Lighting for development projects adjacent to an ESHA shall be designed to further minimize potential impacts to habitat.*

Policy CD-13b: *Lighting shall be low intensity and located and designed so as to minimize direct view of light sources and diffusers and to minimize halo and spillover effects.*

Implementation Policy 4: *Lighting along roads and in developed areas within or adjacent to ESHA shall not exceed 0.01 foot-candles five feet inside of any City-identified ESHA area.*

Implementation Policy 5: *Spotlights or floodlights in or adjacent to ESHA shall not be permitted.*

Implementation Policy 9: *Energy efficient street lighting shall be used, with consideration of safety, visual impacts and impacts to wildlife and sensitive habitat.*

The proposed project includes updated light fixtures for the Carpinteria Avenue roadway and the Carpinteria Creek bike path. Proposed fixtures for Carpinteria Avenue would match those used in the downtown core. Fixtures proposed for the bike path have been selected to be night-sky friendly and provide the minimum light necessary to safely illuminate the bike path while minimizing spillover into the creek corridor. Additional specifications concerning the proposed fixtures will be available for review at the ARB meeting.

Subarea 2 Objectives and Policies

Objective CDS2-1: *Preserve and strengthen the visual and physical connections between the downtown, beach, the salt march, mountains and the other neighborhoods and districts in the City.*

Policy CDS2-b: *To enhance the pedestrian character of the downtown's streets, plazas, paseos, parks and lanes.*

The proposed bridge replacement project would raise the bridge deck height the minimum amount necessary to accommodate the maximum design flood for Carpinteria Creek, resulting in the new bridge deck being approximately two feet higher than the existing deck. While this increase in bridge deck elevation would have a slight effect on visual sightlines up and down Carpinteria Avenue, other elements of the project would improve the function and safety of the Carpinteria Avenue Bridge significantly (.e.g., wider sidewalks and bike lanes, better sight lines from the Arbol Verde Street intersection, better roadway design and geometrics, etc.). Additionally, the Carpinteria Creek bike path would be extended downstream of the bridge and tie into the south side of the street. The extension could tie into any future extension of a bike or pedestrian path continuing downstream along Carpinteria Creek to the Eighth Street Bridge and/or Carpinteria State Beach.

SUMMARY OF ISSUES

- General bridge design;
- Bridge railing options;
- Concrete treatment options;
- Bridge and bike path lighting options; and
- Project area landscaping

RECOMMENDATION

The Board should provide conceptual comments on the proposed bridge design and customizable elements.

ATTACHMENTS

Exhibit A- Detailed Project Description

Exhibit B- Bridge project conceptual plans and details

Exhibit C- 35% Engineered Plans

Exhibit D- Tree removal plans

EXHIBIT A
DETAILED PROJECT DESCRIPTION

Carpinteria Avenue Bridge Replacement Project Description

Introduction

The City of Carpinteria is proposing to replace the existing Carpinteria Avenue Bridge over Carpinteria Creek (Br. No. 51C-0172) with a new bridge at the same location. The bridge site is located on the 5400 block of Carpinteria Avenue in the City of Carpinteria, between Arbol Verde Street and Casitas Pass Road.

Carpinteria Avenue is a vital major arterial through the City of Carpinteria. Additionally, Carpinteria Avenue is the only city street crossing Carpinteria Creek that is located between the Pacific Ocean and Hwy 101. To maintain traffic and pedestrian access across the creek, the proposed bridge replacement will be constructed in stages. The proposed project will improve hydraulic capacity under the bridge, improve vehicular, pedestrian, and bicyclist safety, and will also accommodate a bicycle/pedestrian path that will pass under the bridge on the west side of the creek.

The general setting is urban with predominantly commercial and some residential uses. In addition to the bridge the proposed construction includes roadways, curbs, gutters, and sidewalks. Construction also includes relocation of the existing underground utilities from the existing bridge onto or through the replacement bridge. Overhead utilities will be cleared from the project site for construction.

The project is funded primarily by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through Caltrans District 5 Local Assistance. The City of Carpinteria will provide the local match to the federal funds. The replacement bridge will meet current applicable City, American Association of State Highway and Transportation Officials (AASHTO), and Caltrans design standards. The bridge will be replaced at the same location to match the existing roadway alignment of Carpinteria Avenue.

Project Purpose and Need

The existing bridge deck is severely deteriorated and there currently is inadequate hydraulic capacity under the bridge for flood flows. These conditions make the existing bridge substandard and have caused it to be classified as structurally deficient, making it eligible to be replaced.

The purpose of the project is to remove the structurally deficient bridge and replace it with a bridge designed to meet current structural, geometric, and hydraulic standards. The replacement bridge will also conform to local, state, and federal environmental and planning policies using HBP funds.

The project objectives are defined as:

- Improve public safety associated with the primary roadway crossing of Carpinteria Creek
- Improve flood water conveyance in Carpinteria Creek
- Avoid adverse changes in traffic circulation

- Minimize right-of-way take
- Avoid in-stream structures that may adversely affect steelhead migration
- Offset the majority of project costs through Federal transportation funding
- Minimize the Federal funding match required by the City
- Facilitate or incorporate a bike path connection to the south side of Carpinteria Avenue
- Improve pedestrian and bicycle facilities at the creek crossing
- Provide for future utility under-grounding

Project Description

Existing Bridge

Constructed in 1937, the existing bridge is a 192-ft long 5 span continuous reinforced concrete haunched tee beam with cantilevered end spans. The existing bridge is approximately 54-ft wide. It has two 12-ft-wide traffic lanes, a 12-ft-wide center lane, 3.5-ft-wide shoulder/bike lanes on each side, and 4.5-ft-wide sidewalks with 1-ft-wide railings on each side. The existing bridge has “open window” type concrete railings.

The existing bridge is founded on reinforced concrete pile extensions with unknown pile lengths and unknown abutment foundation types. In 1969 the end spans on each side were backfilled and blocked off with concrete walls resulting in a three span waterway opening. There are several utilities at the bridge, including a sewer siphon that was previously bored under the creek channel at the bridge site.

Replacement Bridge

This section describes the proposed project and the alternatives that have been developed to meet the project purpose and need. Four alternatives are studied and include three Build Alternatives and a No-Build Alternative. The build alternatives are required to meet most of the project objectives, while avoiding and/or minimizing environmental impacts where feasible. In addition to the three Build Alternatives, four bridge width design options are considered, each of them being compatible with any of the three Build Alternatives.

The Build Alternatives being considered consist of one, two, and three span bridge alternatives, while the design width options consist of an updated bridge width (same elements as the existing bridge but with updated design width requirements for shoulder/bike lanes and sidewalks), a widened bridge width, a no median bridge width, and an open/planted median bridge width. No additional lanes are proposed in the project; the existing two lane bridge will be replaced with another two lane bridge.

The proposed project is the three span bridge alternative with the updated bridge width.

Build Alternatives

For all build alternatives, the abutments of the replacement bridge will be placed at the top of the creek banks, resulting in an overall bridge length of 200 ft compared to 192 ft for the existing bridge. All build alternatives considered have two 12-ft-wide traffic lanes, a minimum of 5-ft-wide shoulders/bike lanes on each side, and 8-ft-wide raised sidewalks with barrier railings on each side. For the proposed project, roadway work will extend approximately 230-ft to 270-ft from each end of the bridge to conform to the existing roadway. Some minor surface re-striping work will extend further in order to tie the existing roadway configuration into the new project.

The replacement bridge soffit elevation will be raised relative to the existing bridge to provide clearance over the expected high water elevation. All build alternatives improve hydraulics under the bridge and reduce the amount of debris collected at the bridge during storm events compared to the existing bridge.

The replacement bridge will be designed to accommodate a bicycle path under the western end of the bridge, in conformance with the City of Carpinteria General Plan goals and policies. The bike trail will be approximately 10-ft wide, and a small retaining wall will be required under the bridge between the bikeway and the creek to support the bike path and protect the bridge abutment.

Alternatives Considered

Alternative 1: Clear Span Bridge

For the clear span alternative, the bridge superstructure will be approximately 9-ft deep, which will raise the bridge deck approximately 8-ft over the existing deck elevation. This alternative will utilize pile foundations at the abutments and there will be no intermediate supports in the creek. This alternative requires approximately 390-ft to 410-ft of roadway work on each side of the bridge for the roadway approaches as well as modifications for the existing cross streets and driveways to conform to the new roadway profile. In order to accommodate the raised profile this alternative requires Arbol Verde St to be closed permanently. Additionally this alternative requires the most earthwork and has the most significant roadway and traffic impacts of the alternatives considered.

Alternative 2: Two Span Bridge

For the two span alternative, the bridge superstructure will be approximately 5-ft deep, which will raise the bridge deck approximately 4-ft over the existing deck elevation. This alternative will utilize pile foundations at the abutments and at the intermediate pier supports. This alternative requires approximately 320-ft to 340-ft of roadway work on each side of the bridge for the roadway approaches as well as modifications for the existing cross streets and driveways to conform to the new roadway profile. This alternative requires the middle support to be located in the main low flow channel of the creek.

Alternative 3: Three Span Bridge (Proposed Project Alternative)

For the three span alternative, the bridge superstructure will be approximately 2.67-ft deep which will raise the bridge deck approximately 2-ft over the existing deck elevation. This alternative will utilize pile foundations at the abutments and at the two intermediate piers. This alternative requires

approximately 230-ft to 270-ft of roadway work on each side of the bridge for the roadway approaches as well as modifications for the existing cross streets and driveways to conform to the new roadway profile. This alternative keeps both sets of supports outside the main low flow channel of the creek, has the least amount of roadway and traffic impacts, and requires the least amount earthwork of the alternatives considered.

Width Options Considered

Bridge Width Option 1: Updated Bridge Width (Proposed Project Width Option)

The updated bridge width utilizes the same traffic configuration as the existing bridge, however has updated sidewalk and shoulder/bike lane widths. The updated bridge width option has a 48-ft clear roadway deck width, with an 8-ft sidewalk, 5-ft shoulder/bike lane, 12-ft lane, 14-ft center lane, 12-ft lane, 5-ft shoulder/bike lane, 8-ft sidewalk deck section. The clear roadway width of this option is approximately 5-ft wider than the existing bridge clear roadway width, with the shoulder/bike lanes being approximately 1.5-ft wider than existing and the sidewalks being approximately 3.5-ft wider than existing.

Bridge Width Option 2: Widened Bridge Width

The widened bridge width provides a much wider bridge by matching the bridge width to the adjacent approach roadway width. The widened bridge roadway clear width is approximately 14-ft wider than the existing bridge clear width, and carries a 14-ft wide shoulder across the bridge which can be used for parking. This width option has a 57-ft roadway clear width, with an 8-ft sidewalk, 14-ft shoulder/bike lane, 12-ft lane, 14-ft center lane, 12-ft lane, 5-ft shoulder/bike lane, 8-ft sidewalk deck section. This option also makes the shoulders approximately 1.5-ft wider than existing and the sidewalks approximately 3.5-ft wider than existing.

Bridge Width Option 3: No Median Bridge Width

The no median bridge width is the narrowest of the width options considered. The no median bridge roadway clear width is approximately 3.5-ft narrower than the existing bridge roadway clear width by eliminating the center lane on the bridge. This width option has a 40-ft roadway clear width, with an 8-ft sidewalk, 8-ft shoulder/bike lane, 12-ft lane, 12-ft lane, 8-ft shoulder/bike lane, 8-ft sidewalk deck section. This option makes the shoulder/bike lanes approximately 4.5-ft wider than existing and the sidewalks approximately 3.5-ft wider than existing. This option requires 8-ft shoulder/bike lanes instead of the 5-ft shoulder/bike lanes used in Width Options 1 and 2 as a result of bridge construction staging. This option removes the center lane on the bridge and the left hand turn pocket for Arbol Verde St and a business complex south of the bridge.

Bridge Width Option 4: Open/Planted Median Bridge Width

The open/planter median bridge width is the widest overall of the width options considered. The open/planted median option has two bridge sections each with a roadway clear width of 22-ft and has a 16.5-ft wide section between the two bridge sections. This area could either be open to the creek below or closed and landscaped. Each of the two bridge sections has an 8-ft sidewalk, 8-ft shoulder/bike lane, 12-ft lane, 2-ft shoulder deck section with the 16.5-ft wide section between them. This option makes the shoulder/bike lanes approximately 4.5-ft wider than existing and the sidewalks approximately 3.5-ft

wider than existing. This option requires 8-ft shoulder/bike lanes instead of the 5-ft shoulder/bike lanes used in Width Options 1 and 2 as a result of bridge construction staging. This option removes all left turn traffic movements from Arbol Verde St restricting the Arbol Verde traffic movements to right turns in and out.

No-Build Alternative

Environmental review must consider the effects of not implementing the project through a discussion of the No-Build Alternative. The No-Build Alternative provides a baseline for comparing the impacts of all alternatives. Under the No-Build Alternative, Carpinteria Avenue would remain in its existing state. The existing structural deficiencies and hydraulic inadequacies would remain, resulting in an unsafe condition for traffic and pedestrian bridge users. This alternative does not meet the purpose and need of the project or the defined project objectives.

Utility Relocation

Both existing underground and overhead utilities are present at the Carpinteria Avenue Bridge project site. Underground utilities include communication, water, gas, and electrical lines. A sewer line is also present at the site and was bored under the creek in 2012 under the existing bridge piles. It will be protected in place during construction of the new bridge. The other underground utilities are in conflict with the bridge demolition and construction, and need to be cleared from the work site by the utility owners prior to construction. The new bridge will accommodate as many underground utilities as practical within the bridge for those utility companies that request accommodation. The overhead electrical lines on the northeastern side of the bridge will need to be cleared from the site prior to construction as they conflict with construction activities. The overhead electrical lines can be accommodated within the existing City right-of-way northeast of the bridge if the utility company requests accommodation within the right-of-way. The overhead telecommunication lines on the southwestern side of the bridge also conflict with construction activities and will be cleared from the site prior to construction. The communication lines potentially can be accommodated within the new bridge or accommodated overhead within the City right-of-way if the utility companies request accommodation.

Right-of-Way

No permanent right-of-way acquisitions are anticipated for this project. Temporary right-of-way impacts to adjacent parcels may include temporary construction easements for parcels:

- APN 001-070-063
- APN 001-070-065
- APN 001-070-066
- APN 001-070-055
- APN 001-070-039
- APN 001-070-008
- APN 001-070-031
- APN 001-070-029
- APN 003-280-007
- APN 003-280-006
- APN 003-280-008
- APN 003-280-017
- APN 003-280-005
- APN 003-291-002
- APN 003-292-017

APN 001-070-065 could also be used as a potential temporary construction staging area. Either a temporary construction easement or a right to enter and construct will be secured at each driveway location for work outside the City right-of-way, depending on the extent of construction work.

Detour Route/Construction Staging

During the proposed construction, Carpinteria Avenue will remain open to traffic. Bridge construction will be conducted in stages to maintain access.

The first stage of construction will be to shift all traffic to the southwestern side of the existing bridge while the northeastern portion is demolished and removed. Immediately following the demolition work, the northeastern portion of the replacement bridge will be constructed. During this stage two traffic lanes, one in each direction, and the existing sidewalk on the southwestern side of the existing bridge will remain in service.

The second stage of construction will be to switch traffic to the newly constructed portion of the northeastern bridge and demolish and remove the remaining portion of the existing bridge on the southwestern side. Following the demolition work, the southwestern portion of the new bridge will be constructed. During this stage two traffic lanes, one in each direction, and one sidewalk will provide service to traffic.

The final stage of construction for the proposed project will be to make a closure pour tying the northeastern and southwestern portions together. During this stage traffic will be shifted to its final configuration with one lane, a shoulder, and a sidewalk on each side of the bridge. The center lane will also be striped at this time.

Demolition and Construction Staging

Demolition of the existing bridge will be performed in accordance with Caltrans Specifications modified to meet environmental permit requirements. Prior to construction the contractor is required to prepare and submit for approval a bridge demolition plan, including creek diversions/bypass details, that is in conformance with the environmental permits. All concrete and other debris resulting from the demolition of the existing bridge will be removed from the proposed project site and properly disposed of by the contractor.

Construction Activities

Construction will consist of the following activities in this general order:

Clearing and grubbing

Remove portions of trees, bushes, and landscaping in conflict with new construction. The areas around the corners of the new bridge would be cleared of vegetation and fencing to gain access for constructing the new bridge. The work will be within the approved project limits of disturbance.

Water Diversion

Water diversion methods are anticipated and may include the use of water bladders, sandbags, sheet piling, pipes, coffer dams, or other structural methods approved by the Engineer, City of Carpinteria,

California Department of Fish and Wildlife, US Fish and Wildlife Service, and the National Marine Fisheries Service. All water divergence work will be contained within the approved project area of disturbance. The operational timeline for the stream diversion will be defined in the project permits from the resource agencies.

Bridge Demolition

The existing bridge will be demolished and properly disposed of offsite. Heavy equipment will be required to demolish and remove the existing concrete structure. The creek below will be protected from contamination and all debris generated by the demolition will be removed from the site. The existing bored sewer line beneath the creek will be protected in place.

New Bridge Foundations

The replacement bridge foundations will be supported by cast-in-drilled-hole (CIDH) concrete piles. Excavation for the abutments and piers will be approximately 8-ft to 10-ft deep. The CIDH pile construction may require the use of high density drilling slurry and/or temporary casings. If drilling slurry is used, the contractor will be required to have a contingency plan in place before drilling operations begin, in the event there is a blow out during drilling and drilling fluid is spilled into the creek. While drilling operations are underway the creek will be dewatered near the drilling operations with a creek diversion in place. Prior to construction a drilling plan will be prepared and submitted by the contractor for approval in conformance with applicable permits and environmental measures and conditions. Any drilling slurry from the CIDH pile construction will be contained and properly disposed of offsite.

New Bridge Construction

The new bridge will require falsework to be erected on temporary steel and timber supports inside the creek limits. Forms will be constructed on the falsework, and then concrete and reinforcement will be placed for the new bridge. Falsework will then be removed from the channel and concrete surfaces will be finished. Any creek diversion elements will be removed after all the concrete has been sufficiently cured and finished and the falsework has been removed.

The bridge sidewalks, barriers, and roadway approaches will then be completed. Backfill behind abutments and roadway base materials will be placed and the roadway will be prepared for final surfacing.

Contractor site access and lay down areas are identified in the project Area of Potential Effects map. Table 1 provides a description of the type of equipment likely to be used during the construction of the proposed project.

Table 1. Construction Equipment

Equipment	Construction Purpose
air compressor	bridge removal + finishing work
backhoe	soil manipulation + drainage work + bridge removal
bobcat	fill distribution
bulldozer / loader	earthwork construction + clearing and grubbing + bridge removal

compaction equipment	soil manipulation
concrete truck and pump	concrete placement
crane	placement of falsework + rebar cages + pile installation
debris bin	debris storage and containment
drill rig	pile installation
dump truck	fill material delivery + bridge removal
excavator	soil manipulation
flatbed truck	material handling and delivery
front-end loader	dirt or gravel manipulation
grader	ground leveling
haul truck	earthwork construction + clearing and grubbing
hoe ram	bridge removal
holding tanks	slurry storage for pile installation
hydraulic hammer	demolition/concrete removal
jackhammer	demolition/concrete removal
mixing tanks	slurry mixing for pile installation
paving equipment	approach roadway paving
recirculating pumps	slurry pumping for pile installation
roller / compactor	earthwork construction
truck with seed sprayer	landscaping
water truck	earthwork construction + dust control

Construction Schedule and Timing

Construction of the proposed project is anticipated to take 2 construction seasons to complete. The approximately 24 month construction period is scheduled to begin in Spring 2017.

EXHIBIT B
BRIDGE CONCEPTUAL PLANS & DETAILS

CARPINTERIA AVENUE

BRIDGE REPLACEMENT

AT CARPINTERIA CREEK



Design Introduction

Project Location



CARPINTERIA AVENUE
BRIDGE
REPLACEMENT
AT CARPINTERIA CREEK

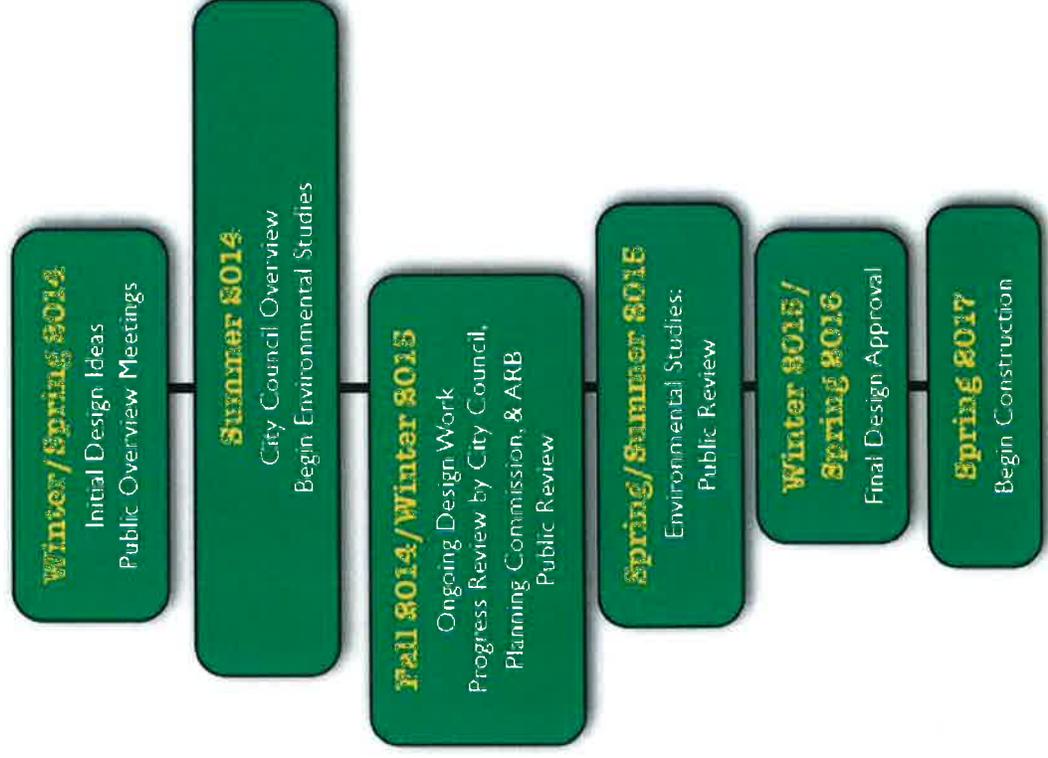
Objectives

1. Improve public safety (structurally safer bridge)
2. Improve water flow capacity (reduce flooding risk)
3. Avoid adverse traffic flow changes (Arbol Verde, driveways)
4. Minimize right-of-way acquisition
5. Avoid in-stream structures that affect steelhead
6. Offset costs through federal funding (minimize City match)
7. Widen sidewalks
8. Enhance bike access
9. Provide for future utility under-grounding

Background

- Existing bridge built in 1937
- Deemed structurally deficient by Caltrans; bridge replacement required
- Insufficient water flow capacity under the bridge

Timeframe & Cost

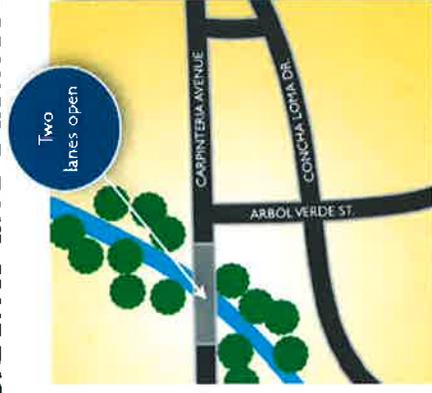


Timeframe & Cost

- Construction Schedule: 2017 - 2018
- Current Estimated Construction Cost = \$10.96 million
- Funding
 - Federal Highway Bridge Program (88.53%)
 - Local funds (11.47%)

Construction

- Bridge constructed one side at a time
- Goal = one lane open in each direction on Carpinteria Avenue during the day; some nighttime closures
- Access for residents and businesses will be maintained



Design Guidance

Federal and State

- American Association of State Highway and Transportation Officials (AASHTO)
- California Department of Transportation (Caltrans)

Local

- Carpinteria General Plan
- Carpinteria Local Coastal Land Use Plan
- Carpinteria Creeks Preservation Plan
- Carpinteria Storm Water Management Plan

Designs Researched

- Steel bridge
 - \$\$\$\$
 - High maintenance
- Suspension or cable bridge
 - Tall towers (likely 60'+)
 - \$\$\$\$
 - Carpinteria Ave. closed for build
- Concrete bridge
 - Lower cost and maintenance
 - Built with Carpinteria Ave. open



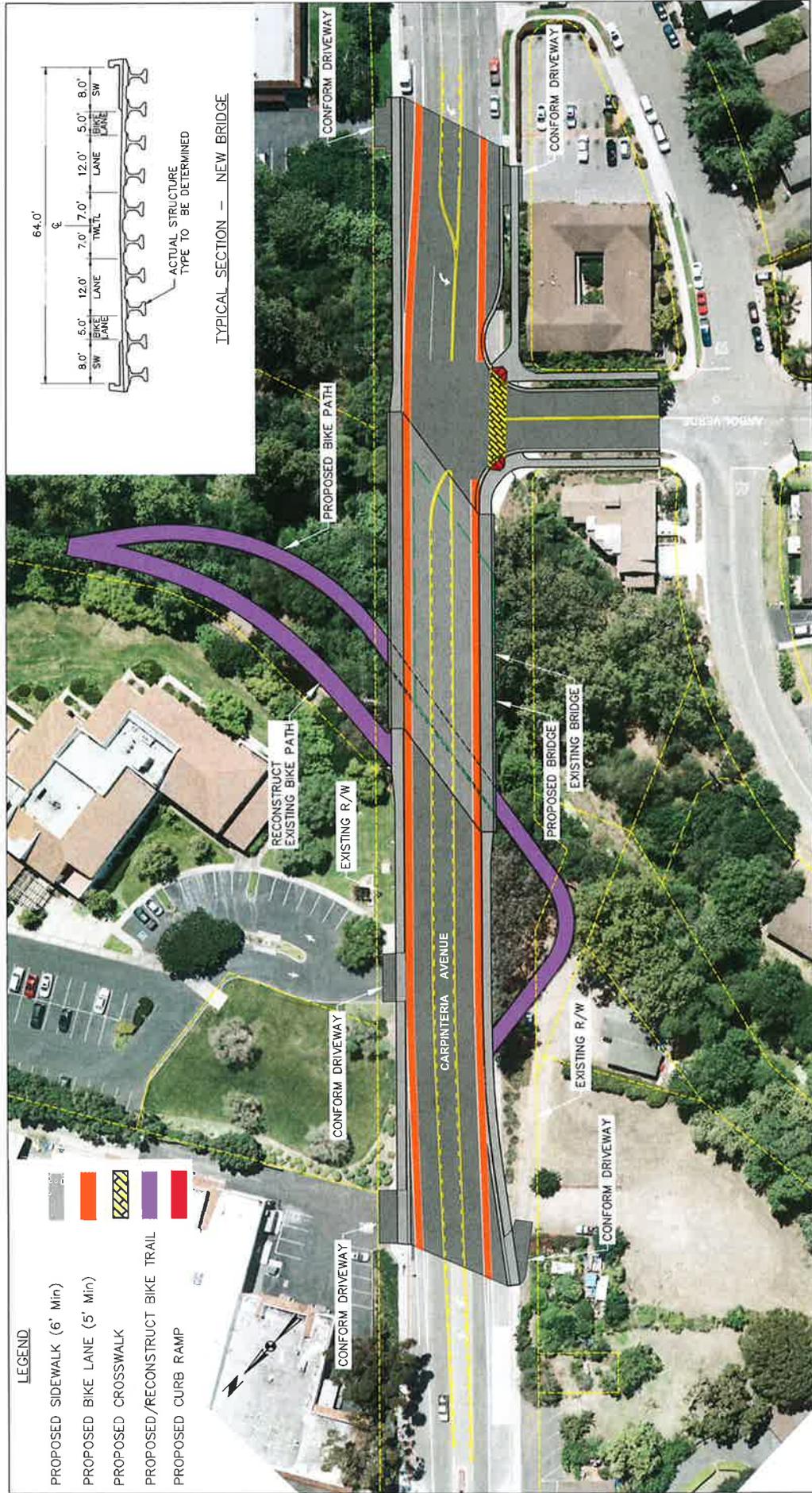
Concrete Bridge Choices

4 roadway options

- Updated bridge
- Widened bridge (same as existing road)
- No median
- Open or planted median

3 support alternatives

- 1 span (no supports in creek)
- 2 span (1 row of supports in creek)
- 3 span (2 rows of supports in creek)

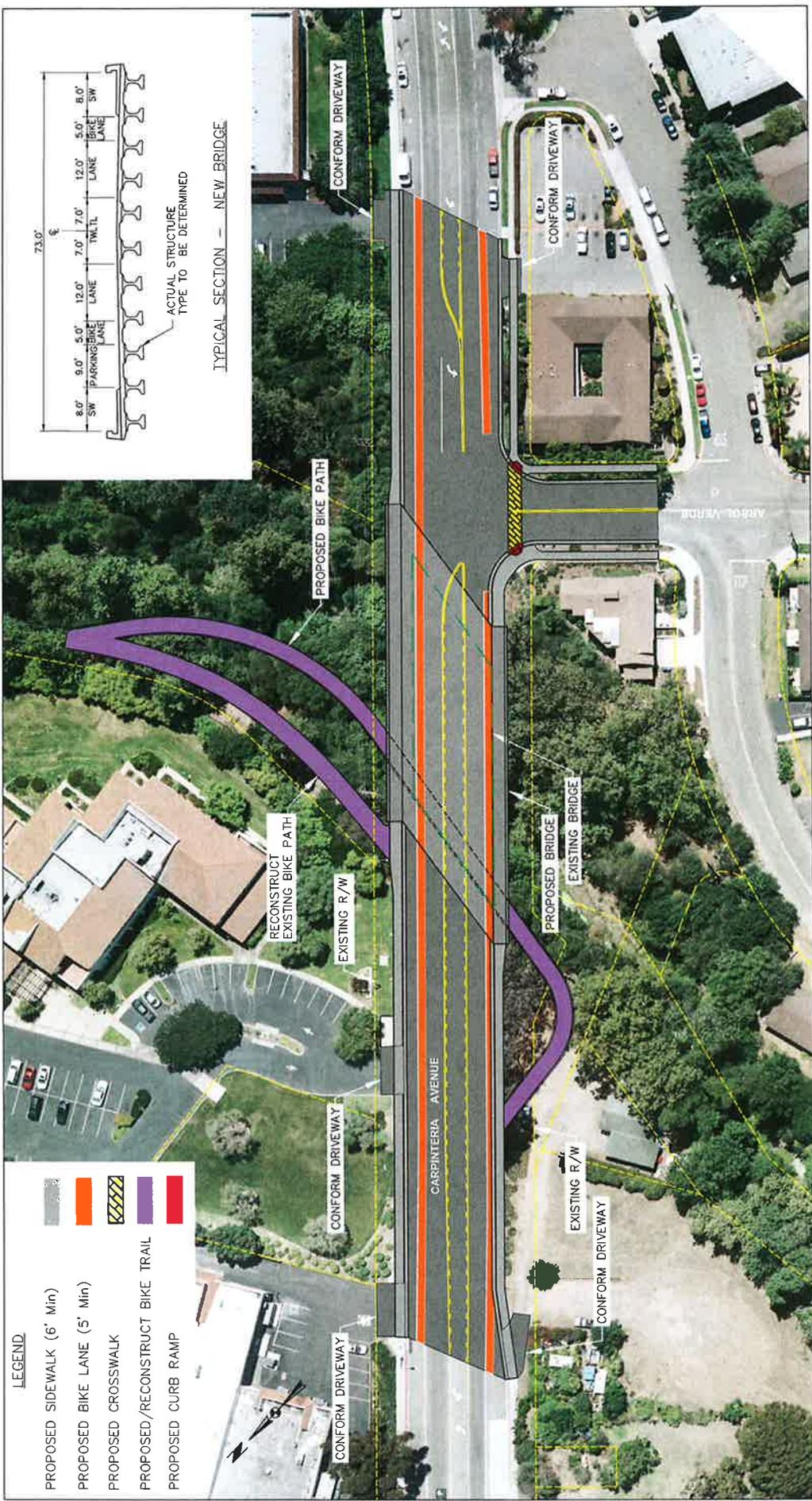


SCALE: 1"=30'

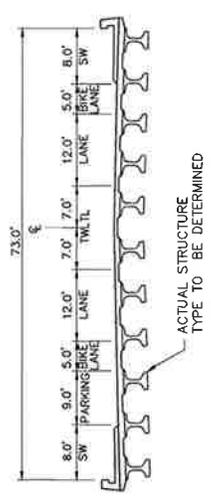
UPDATED BRIDGE WIDTH



Carpinteria Avenue Bridge Replacement Project



- LEGEND**
- PROPOSED SIDEWALK (6' Min)
 - PROPOSED BIKE LANE (5' Min)
 - PROPOSED CROSSWALK
 - PROPOSED/RECONSTRUCT BIKE TRAIL
 - PROPOSED CURB RAMP



TYPICAL SECTION - NEW BRIDGE

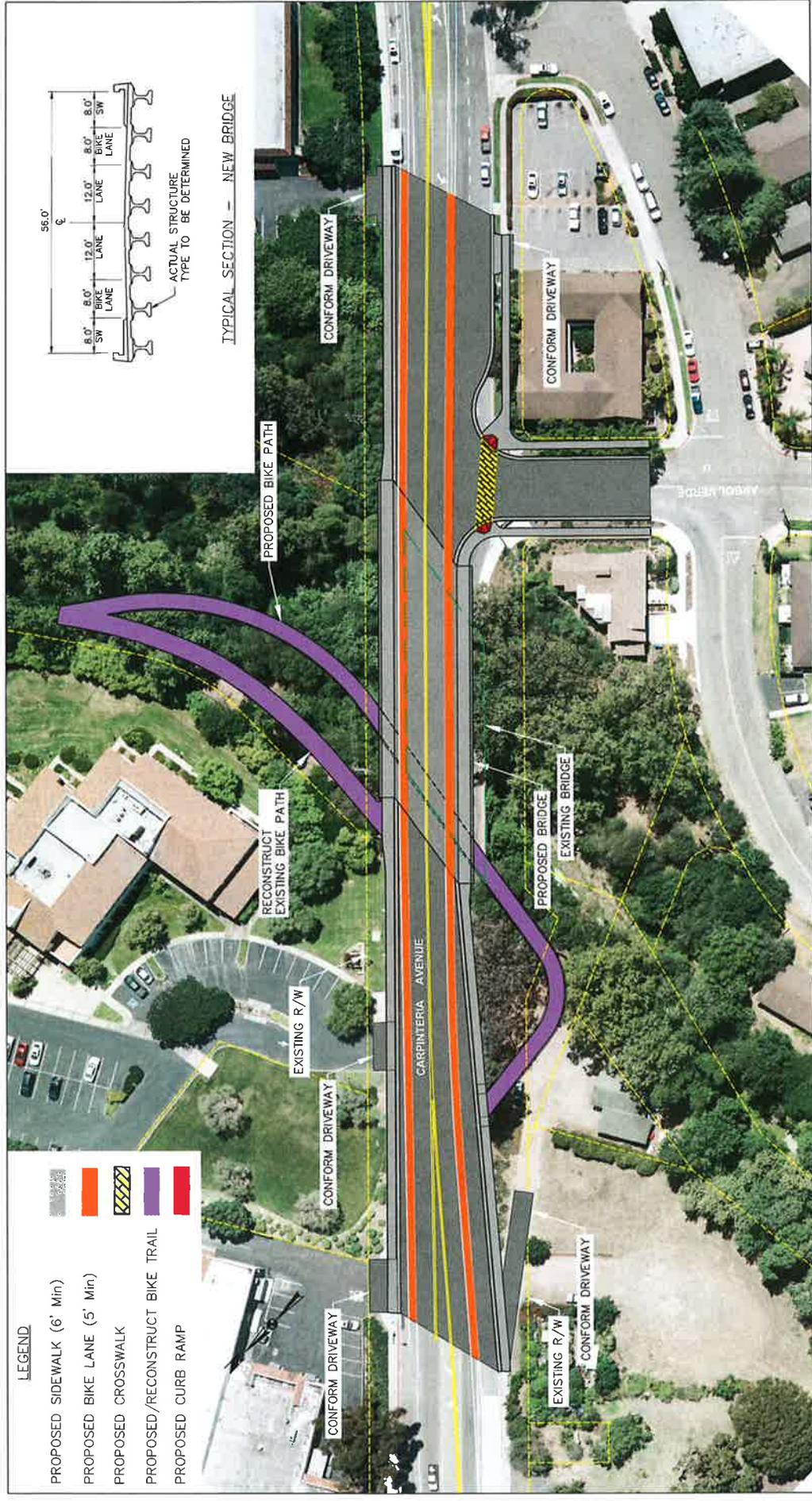


Carpinteria Avenue Bridge Replacement Project



WIDENED BRIDGE WIDTH

SCALE: 1" = 30'



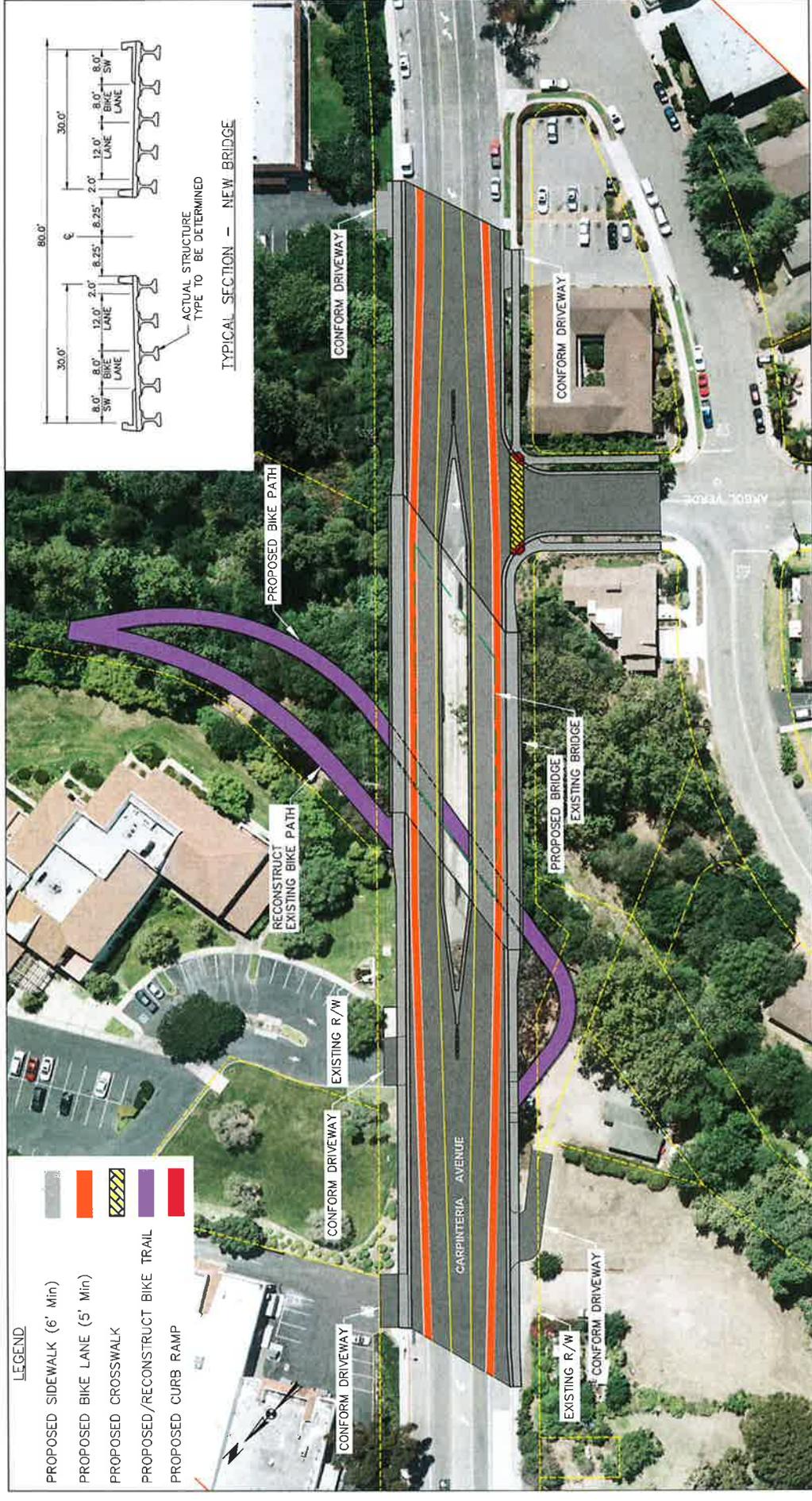
- LEGEND**
- PROPOSED SIDEWALK (6' Min)
 - PROPOSED BIKE LANE (5' Min)
 - PROPOSED CROSSWALK
 - PROPOSED/RECONSTRUCT BIKE TRAIL
 - PROPOSED CURB RAMP

SCALE: 1" = 30'

NO MEDIAN BRIDGE WIDTH



Carpinteria Avenue Bridge Replacement Project



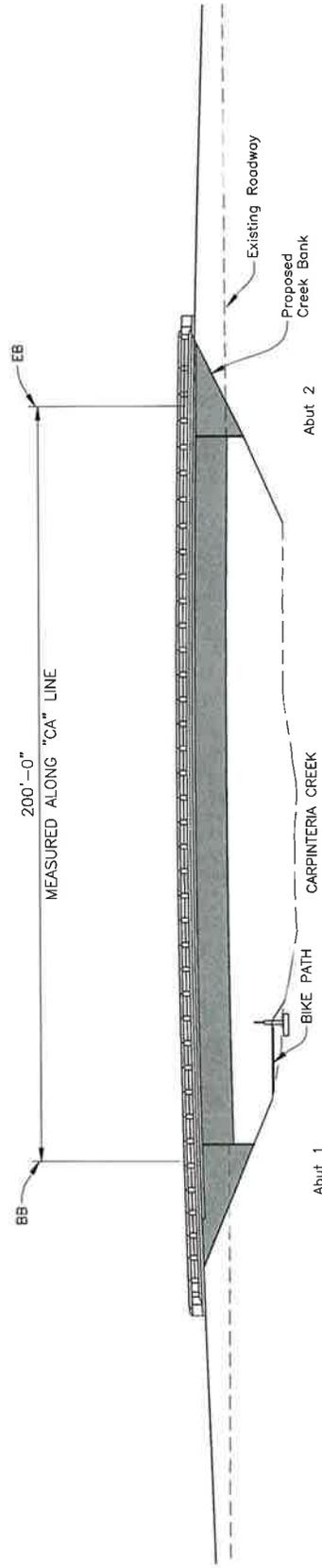
- LEGEND**
- PROPOSED SIDEWALK (6' Min)
 - PROPOSED BIKE LANE (5' Min)
 - PROPOSED CROSSWALK
 - PROPOSED/RECONSTRUCT BIKE TRAIL
 - PROPOSED CURB RAMP

SCALE: 1" = 30'

OPEN/PLANTED MEDIAN BRIDGE WIDTH



Carpinteria Avenue Bridge Replacement Project



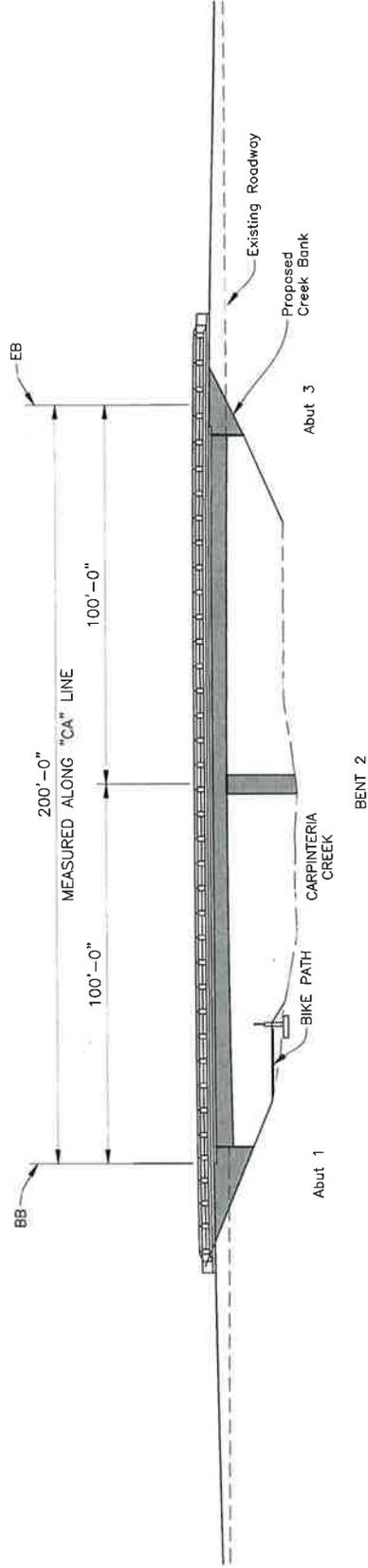
ELEVATION



Carpinteria Avenue Bridge Replacement Project



SINGLE SPAN ALTERNATIVE



ELEVATION

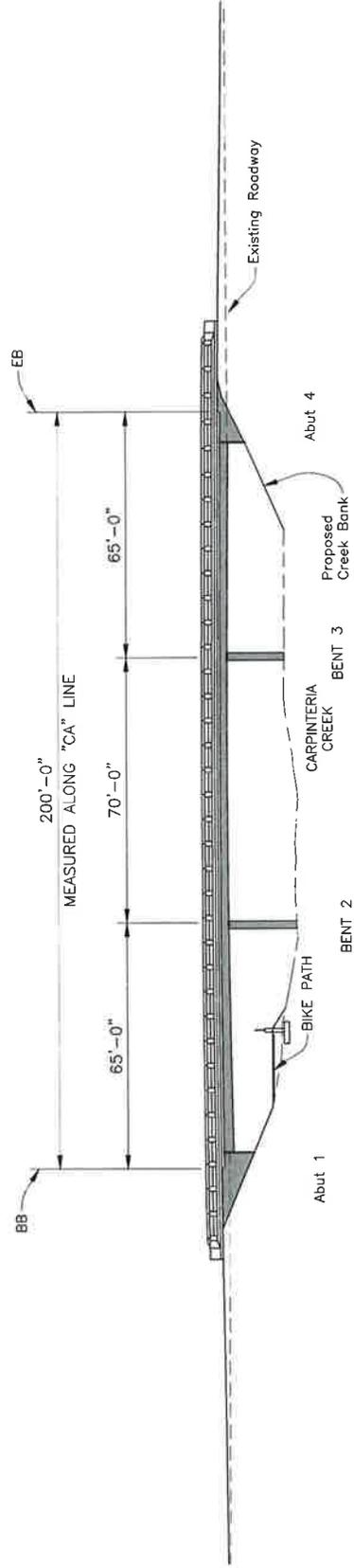


Carpinteria Avenue Bridge Replacement Project



DATE: FEBRUARY 2015

TWO SPAN ALTERNATIVE



ELEVATION



Carpenteria Avenue Bridge Replacement Project



THREE SPAN ALTERNATIVE



Carpenter Avenue Bridge Replacement Project



STREET VIEW - EXISTING



Carpinteria Avenue Bridge Replacement Project



STREET VIEW - SINGLE SPAN



Capitola Avenue Bridge Replacement Project



STREET VIEW - TWO SPAN

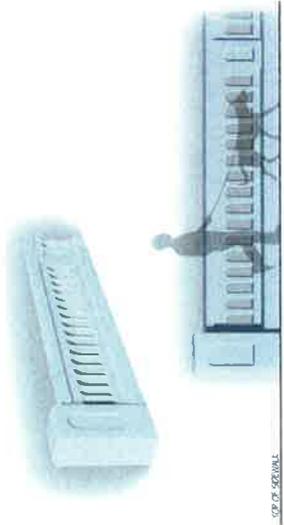


Carpinteria Avenue Bridge Replacement Project



STREET VIEW - THREE SPAN

CONCRETE WINDOW TYPE



ARCHED WINDOWS



RECTANGULAR WINDOWS



FRONT VIEW



BACK VIEW



Carpinteria Avenue Bridge Replacement Project



BRIDGE RAILING OPTION NO. 1

CONCRETE TYPE 80 SW



BACK VIEW



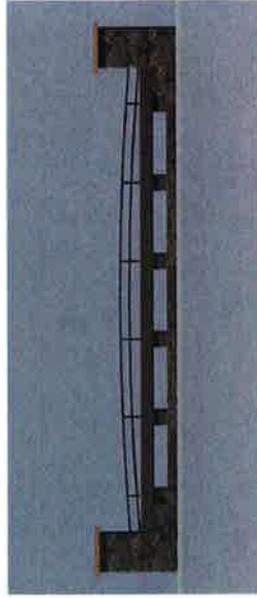
WOOD FINISH



FRONT VIEW



ROCK AND WOOD FINISH



ARCHED RAILING



Carpinteria Avenue Bridge Replacement Project



BRIDGE RAILING OPTION NO. 2

METAL ST - 40



BACK VIEW



SECTION VIEW



FRONT VIEW



Carpinteria Avenue Bridge Replacement Project



DATE: FEBRUARY 2015

BRIDGE RAILING OPTION NO. 3

ROCK



DRY STACK 1



DRY STACK 2



DRY STACK 3

WOOD



WOOD 1



WOOD 2



WOOD 3

STAINING/ STAMPING/ FORMLINERS



OVERLAY WITH PATTERN



COLORED WITH STAMPING



SCORING/ FORMLINER



EXHIBIT C
35% ENGINEERED DRAWINGS

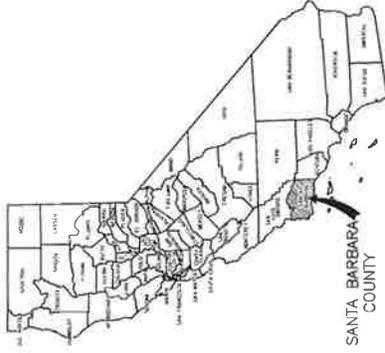
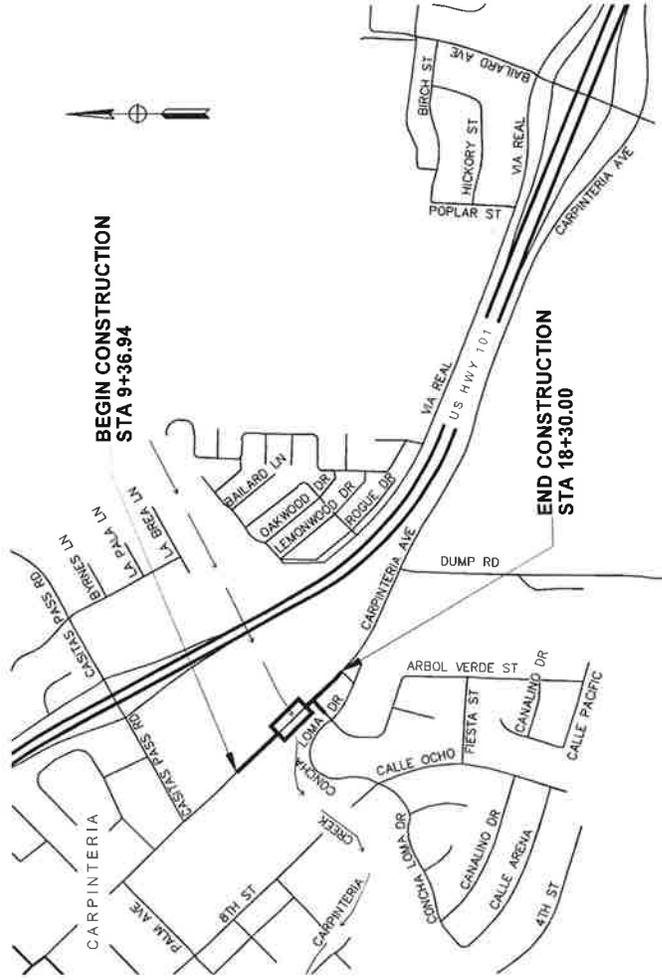
**CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS**

**PROJECT PLANS FOR
CARPINTERIA AVENUE BRIDGE
AT CARPINTERIA CREEK**

BRIDGE NO 51C-0172
FEDERAL PROJECT NO. BRLS-5397(010)
TO BE SUPPLEMENTED BY COUNTY OF SANTA BARBARA STANDARD PLANS DATED SEPTEMBER 2011
AND THE STATE STANDARD PLANS AND SPECIFICATIONS DATED 2010

INDEX OF PLANS

SHEET NO.	DRAWING	DESCRIPTION
1	T-1	TITLE SHEET
2-3	X-1 TO X-2	TYPICAL CROSS SECTIONS
4-5	L-1 TO L-2	LAYOUT
6-8	P-1 TO P-3	PROFILE
9-10	PD-1 TO PD-2	PAVEMENT DELINEATION
11	GP	GENERAL PLAN
12	SC	STAGE CONSTRUCTION



35% PLANS - NOT FOR CONSTRUCTION

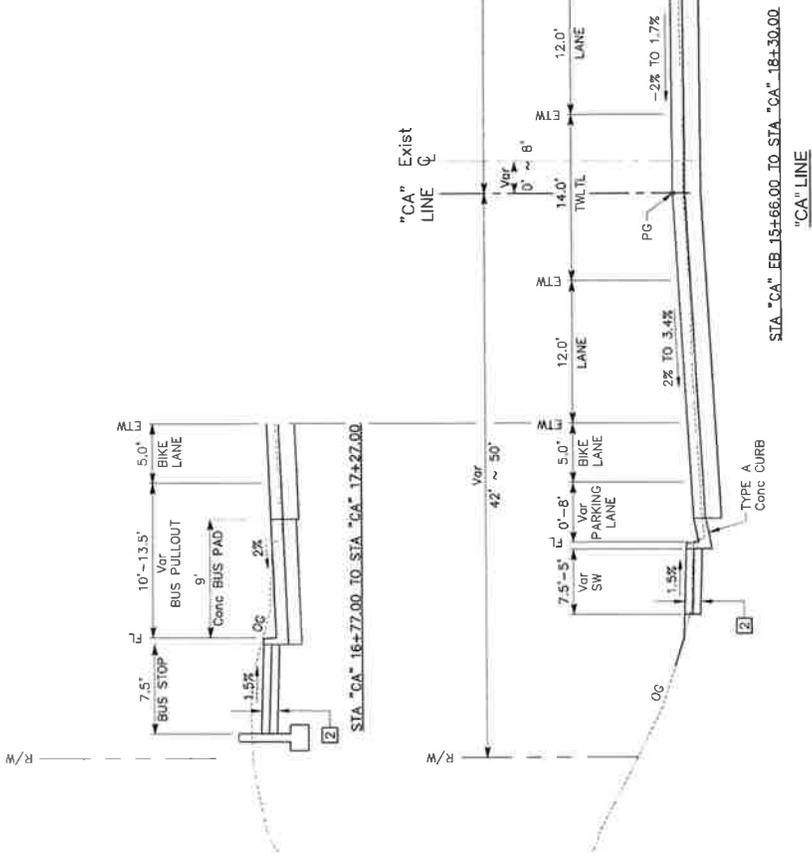
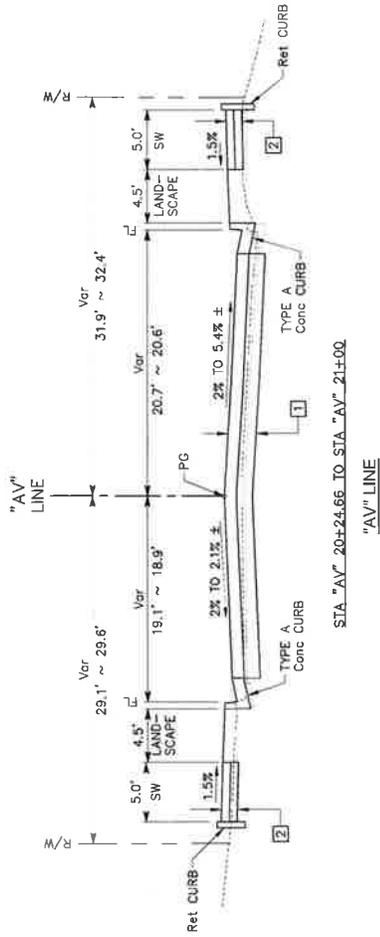
CITY OF CARPINTERIA DEPARTMENT OF PUBLIC WORKS	
CARPINTERIA AVENUE BRIDGE PROJECT	
TITLE SHEET	
SCALE	DATE
NO SCALE	
PROJECT NUMBER	PROJECT NO.
BRLS-5397(010)	
DESIGNED BY	DATE
CHARLES W. EBLING P.E.	
PUBLIC WORKS DIRECTOR/CITY ENGINEER	
PROJECT NUMBER	SHEET
BRLS-5397(010)	T-1
PROJECT NUMBER	OF SHEETS
BRLS-5397(010)	X



NO.	REVISION	BY	CHKD.	DATE

NOTES

1. FOR INFORMATION NOT SHOWN, SEE SHEET X-1



36% PLANS - NOT FOR CONSTRUCTION

CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS

CARPINTERIA AVENUE BRIDGE PROJECT

TYPICAL CROSS SECTIONS

REVIEWED BY: _____ DATE: _____
 SCALE: _____
 NO. SCALE: _____
 PROJECT NUMBER: _____
 SHEET NUMBER: _____ OF _____ SHEETS

CHARLES W. BEBELING P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
 1000 W. 2ND ST.
 CARPINTERIA, CA 91008

CONSULTANT INFORMATION

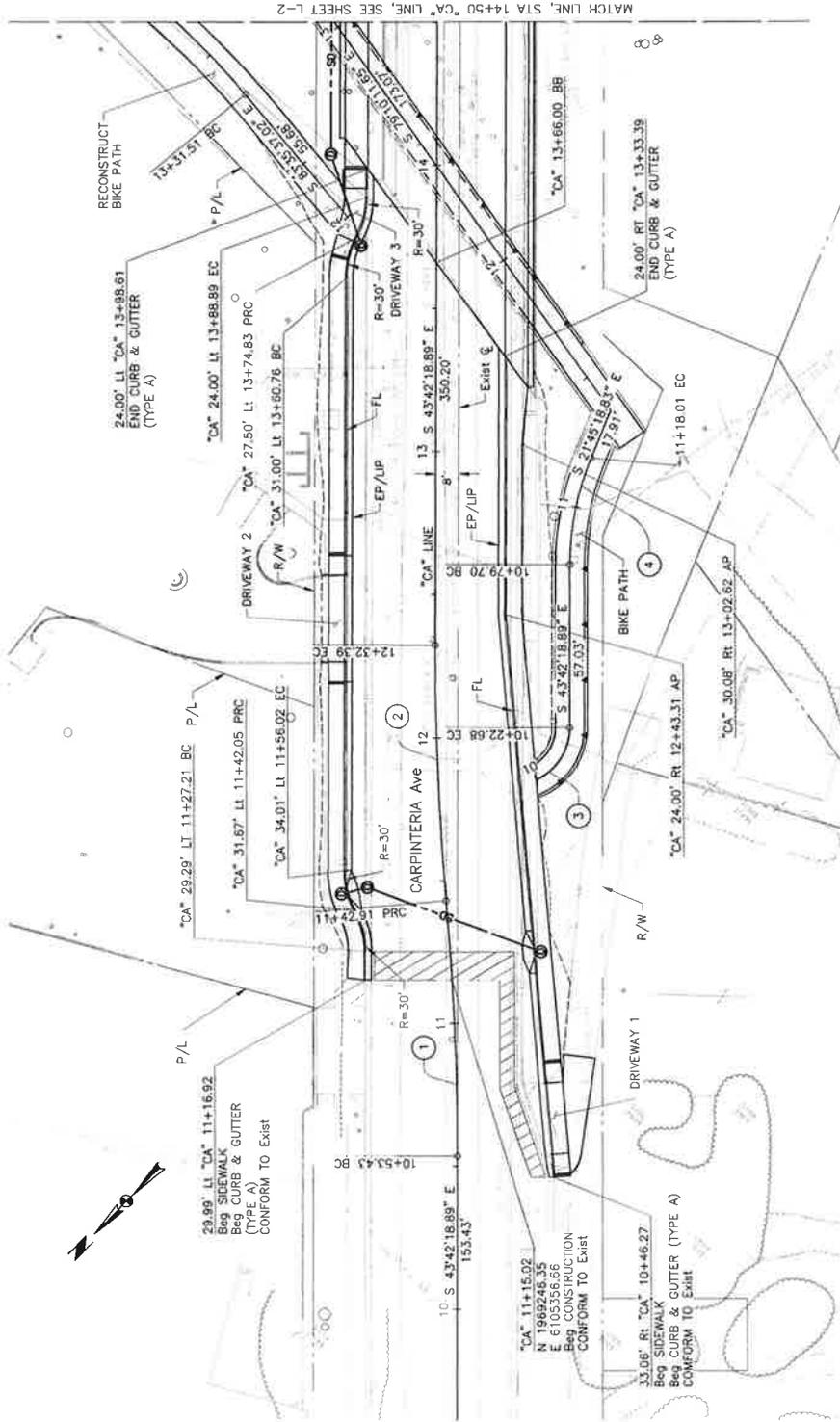
dh drake haglan
AND ASSOCIATES
INCORPORATED
Riverside, California, CA 92507

NO.	REVISION	BY	CHKD.	DATE

STA "CA" EB 15+66.00 TO STA "CA" 18+30.00

STA "AV" 20+24.66 TO STA "AV" 21+00

CURVE DATA				
No.	R	Δ	T	L
1	1000'	5°07'37"	44.77'	89.48'
2	1000'	5°07'37"	44.77'	89.48'
3	20'	64°57'36"	12.73'	22.68'
4	100'	21°56'58"	19.39'	38.31'



MATCH LINE, STA 14+50 "CA" LINE, SEE SHEET L-2

NOTES

1. UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY LOCATION OF UTILITIES PRIOR TO CONSTRUCTION AND MUST NOTIFY THE ENGINEER OF ANY CONFLICTS.
2. ALL STATION/OFFSET CALLOUTS ARE TO THE FLOWLINE OF GUTTER UNLESS OTHERWISE NOTED.
3. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.

LEGEND

- CUT
- FILL
- EXISTING PROPERTY LINE
- PAVEMENT CONFORM
- STORM DRAIN & MANHOLE

CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS

CARPINTERIA AVENUE BRIDGE PROJECT

LAYOUT

SCALE: 1"=20'

PROJECT NUMBER: DPL-20-07-00

DATE: 07/15/2020

DESIGNED BY: CHARLES W. BERLING, P.E.

CHECKED BY: MICHAEL J. BERLING, P.E.

PROJECT ENGINEER: MICHAEL J. BERLING, P.E.

DATE: 07/15/2020

Sheet 4 of X

Sheets L-1

CONSULTANT FOR THE OPERATION

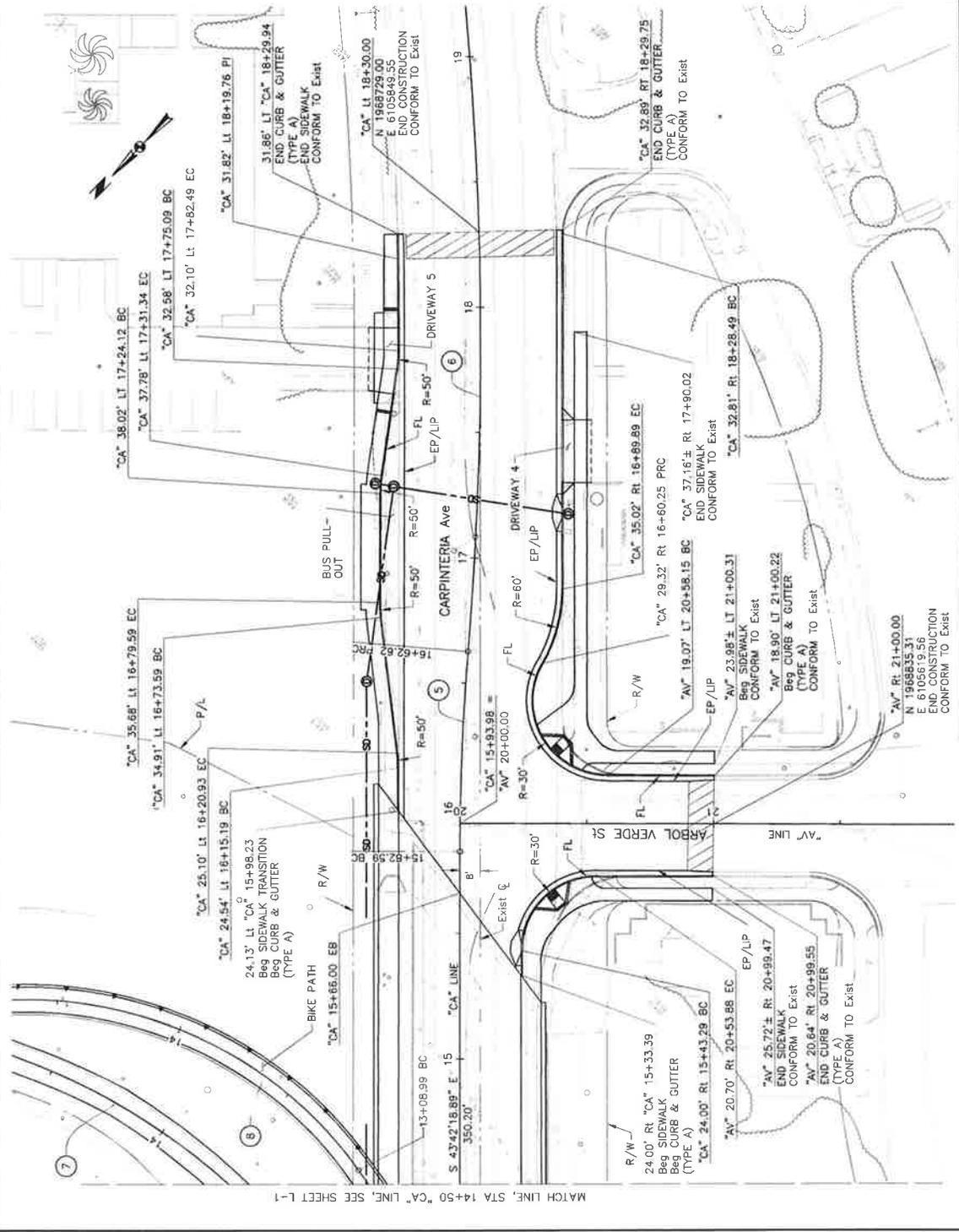
dh drake hagan
AND ASSOCIATES
INCORPORATED
10000 S. CARPINTERIA AVENUE
CARPINTERIA, CA 94706

NO.	REVISION	BY	CHKD.	DATE

CURVE DATA				
No.	R	Δ	T	L
5	1000'	4°35'08"	40.04'	80.03'
6	1500'	2°15'23"	289.91'	572.75'
7	250'	40°10'48"	91.44'	175.32'
8	160'	64°04'55"	100.14'	178.95'

NOTES

- FOR INFORMATION NOT SHOWN, SEE SHEET L-1



MATCH LINE, STA 14+50 "CA" LINE, SEE SHEET L-1

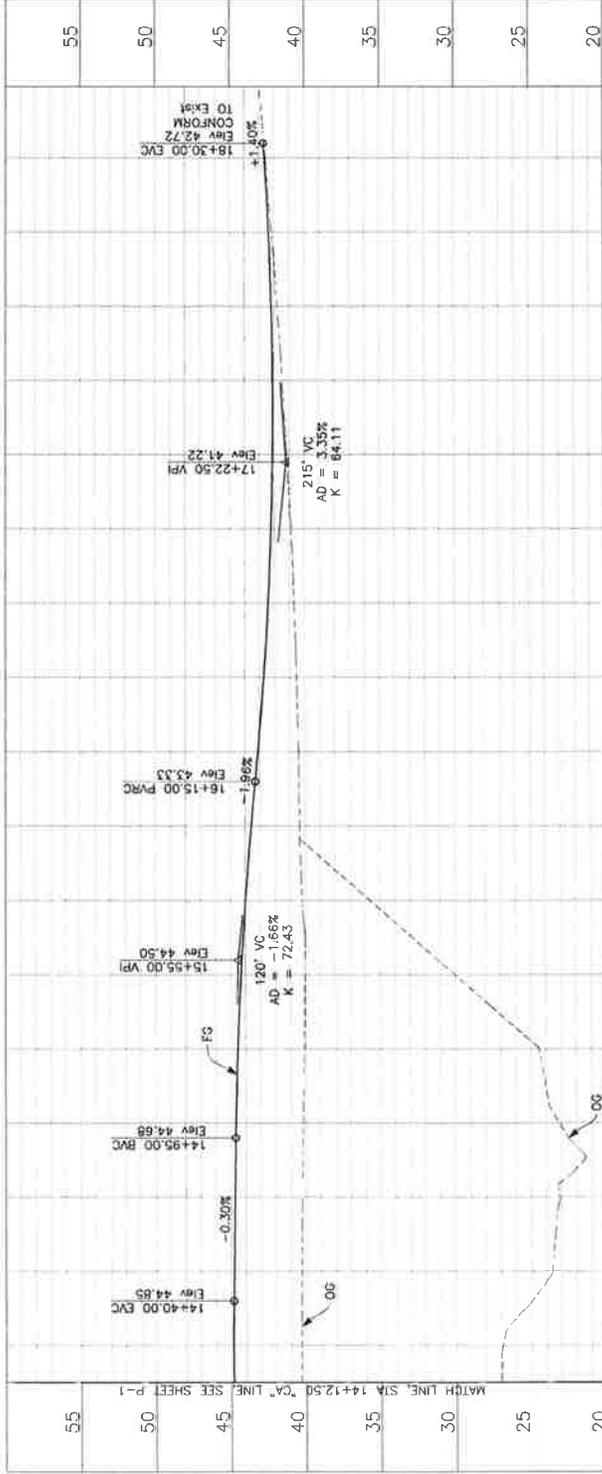
CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS

**CARPINTERIA AVENUE BRIDGE PROJECT
LAYOUT**

SCALE	1"=20'
PROJECT NUMBER	17-000000
DATE	08/15/2017
DESIGNED BY	CHARLES W. EBERLING, P.E.
CHECKED BY	CHARLES W. EBERLING, P.E.
PROJECT LOCATION	CARPINTERIA, CA
SHEET NUMBER	L-2
SHEET	of X
Sheets	



NO.	REVISION	BY	CHKD.	DATE



15+00 16+00 17+00 18+00
CARPINTERIA AVE

CITY OF CARPINTERIA
 DEPARTMENT OF PUBLIC WORKS

CARPINTERIA AVENUE BRIDGE PROJECT

PROFILE

REVISIONS

SCALE: 1" = 20' HORIZ
 1" = 5' VERT

PROJECT NUMBER: 18-02-00-000

DATE: _____

REVIEWED BY: _____

CHARLES W. EBERLING P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER

PROJECT ENGINEER: _____

DATE: _____

Sheet _____ of _____ X _____ Sheets

CONSULTANT INFORMATION

dh drake hagian

11000 W. PARK ROAD, SUITE 100
 RANCHO CONCORD, CA 92670

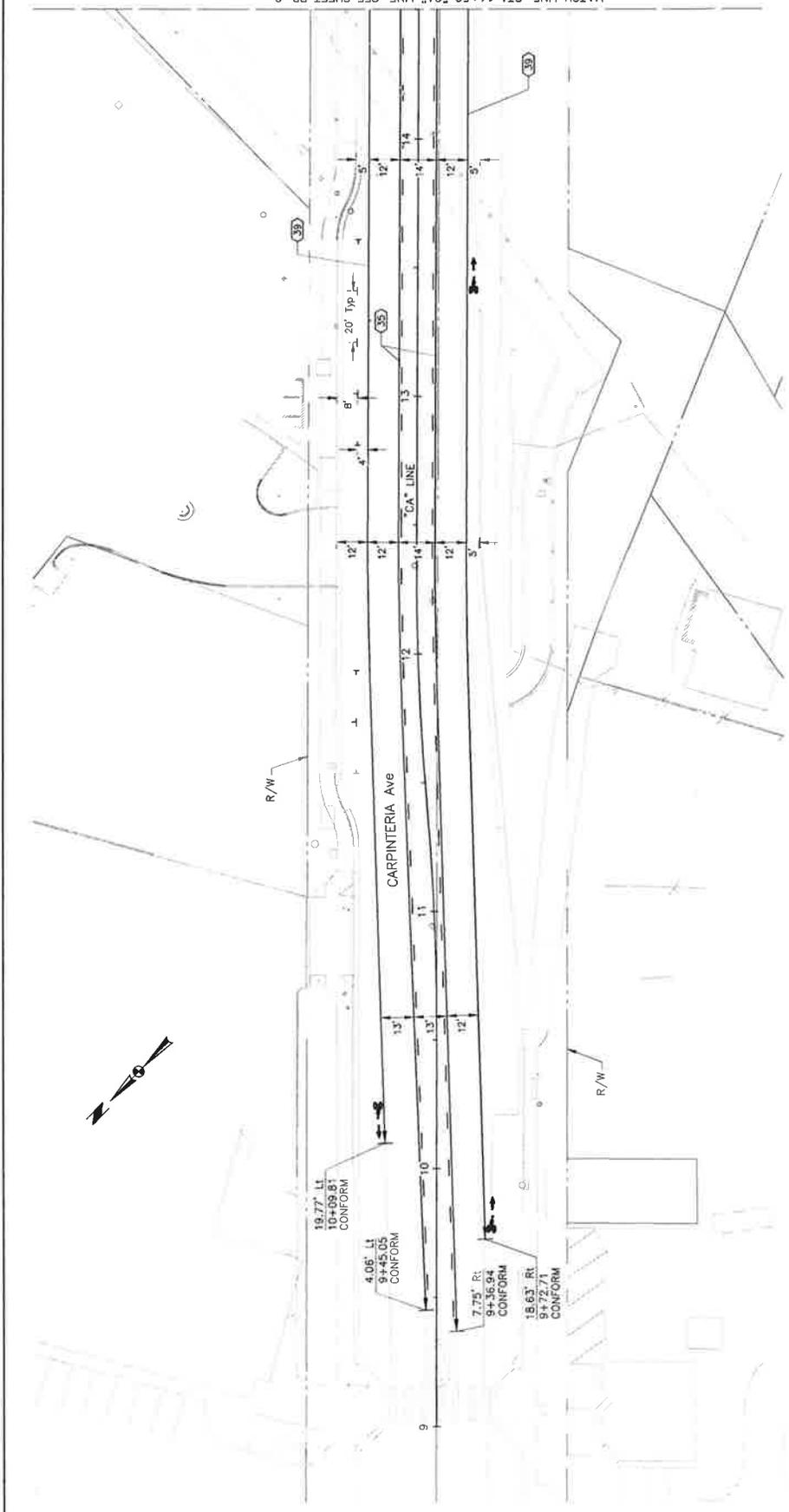
PROJECT ENGINEER: _____

DATE: _____

NO.	REVISION	BY	CHKD.	DATE

MATCH LINE STA 14+12.50 "CA" LINE SEE SHEET P-1

55	50	45	40	35	30	25	20
----	----	----	----	----	----	----	----



MATCH LINE, STA 14+50 "CA" LINE, SEE SHEET PD-2

LEGEND

- TYPE IV ARROW
- BIKE LANE SYMBOL WITH PERSON
- BIKE LANE ARROW
- TRAFFIC STRIPE DETAIL NUMBER
- BEGIN/END OF TRAFFIC STRIPE DETAIL
- CHANGE OF TRAFFIC STRIPE DETAIL
- STOP PAVEMENT MARKING
- 12" WIDE THERMOPLASTIC STRIPE (WHITE)

CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS

CARPINTERIA AVENUE BRIDGE PROJECT

PAVEMENT DELINEATION

SCALE: 1"=20'

PROJECT NUMBER: []

DESIGNED BY: []

CHECKED BY: []

DATE: []

REVISIONS:

NO.	REVISION	BY	CHKD.	DATE

CONTRACT INFORMATION

CONSULTANT INFORMATION

dh drake haglan
AND ASSOCIATES
INCORPORATED
1000 S. CARPINTERIA AVENUE
CARPINTERIA, CA 93013

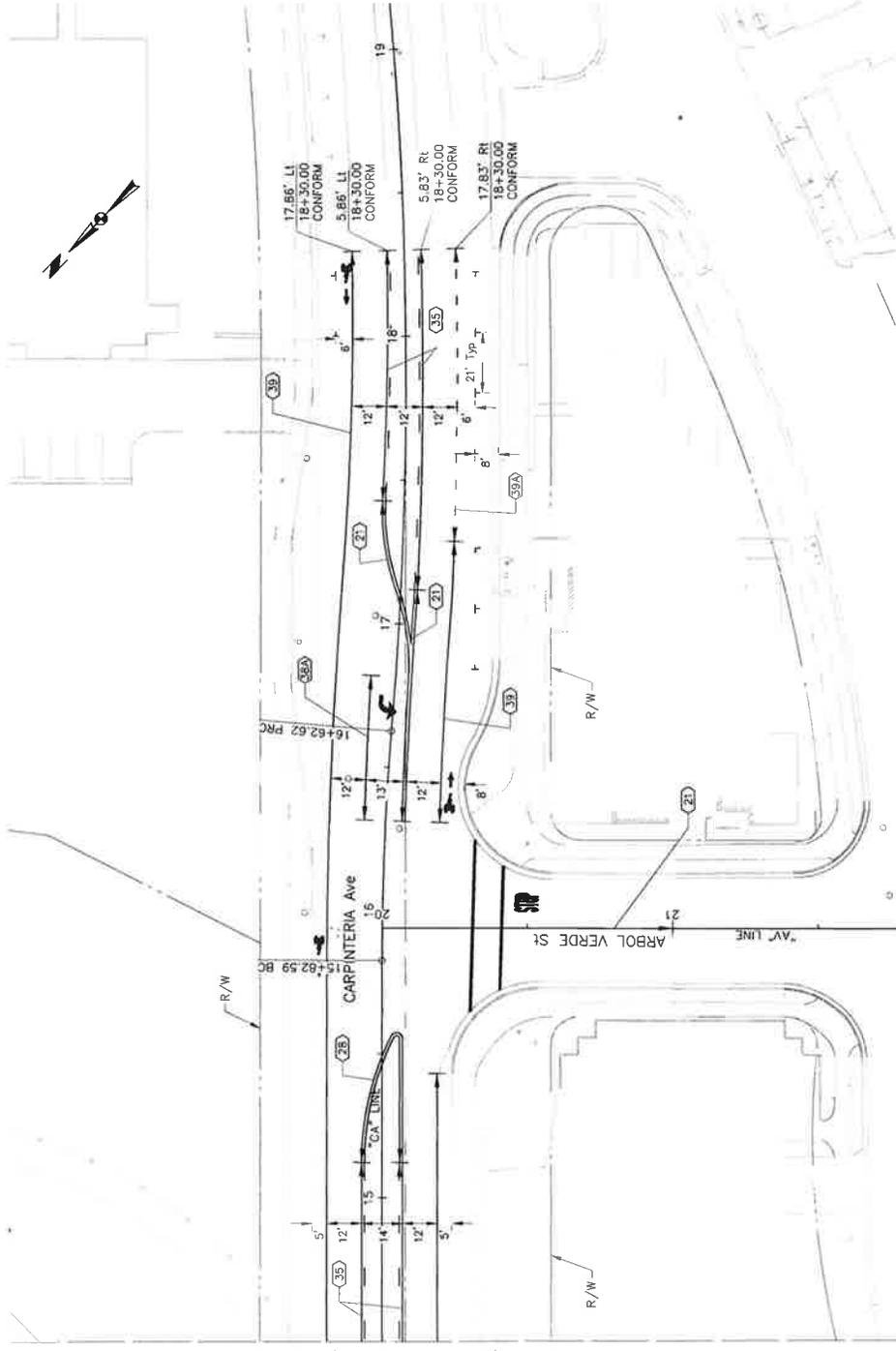
REVIEWED BY: []

CHARLES W. BEGLING P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
LIC. NO. 50753

Sheet 9 of X Sheets

PD-1

36X PLANS - NOT FOR CONSTRUCTION



MATCH LINE, STA 14+50 "CA" LINE, SEE SHEET PD-1

CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS

CARPINTERIA AVENUE BRIDGE PROJECT

PAVEMENT DELINEATION

SCALE: 1" = 20'

PROJECT NUMBER: 16-02-000-000

DATE: 10/2016

DESIGNED BY: CHARLES W. EBELING P.E.

CHECKED BY: CHARLES W. EBELING P.E.

PROJECT ENGINEER: CHARLES W. EBELING P.E.

DATE: 10/2016

PROJECT LOCATION: CARPINTERIA AVENUE BRIDGE

SHEET NUMBER: 10

SHEETS: 10

OF: 10

DATE: 10/2016

CONSULTANT INFORMATION

dh drake haglan

PLANNING & ENGINEERING

1000 JEFFERSON AVENUE, SUITE 1000

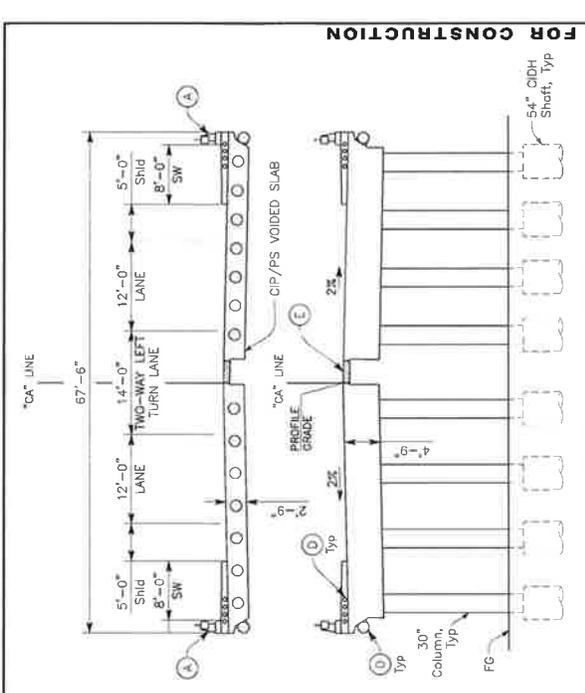
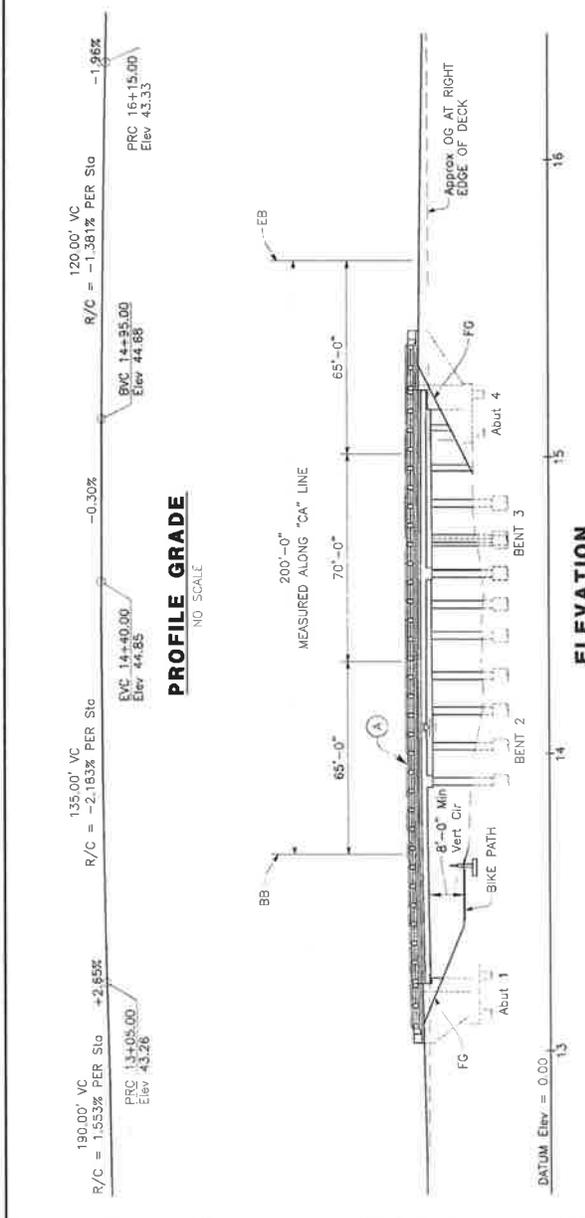
ROSELAND, CALIFORNIA 95068

PHONE: (916) 486-1000

FAX: (916) 486-1001

WWW.DHDRAKEHAGLAN.COM

NO.	REVISION	BY	CHKD.	DATE

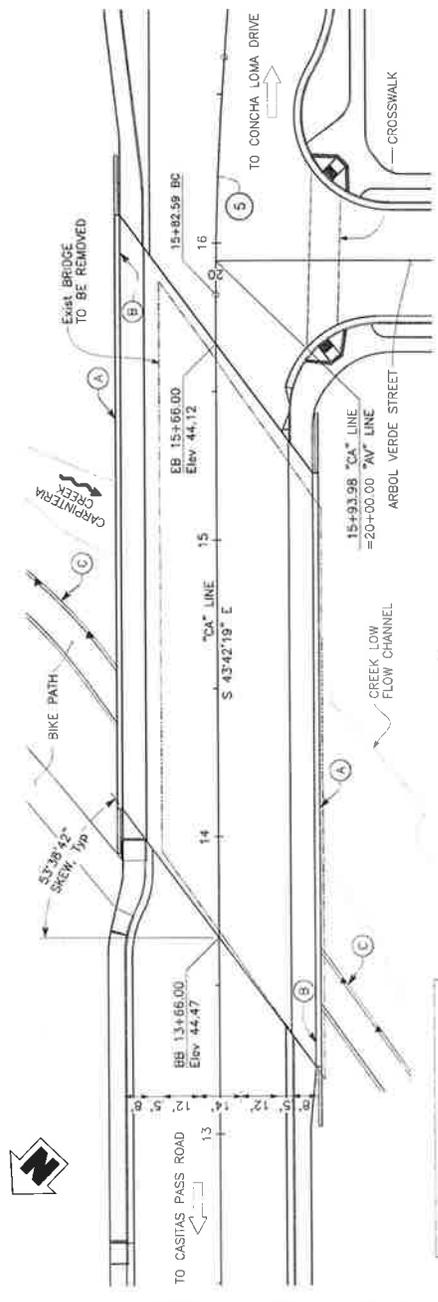


TYPICAL SECTION
1/8" = 1'-0"

- LEGEND:**
- Indicates Direction of Water Flow
 - Indicates Direction of Traffic
 - Indicates Existing Bridge
 - 100 Yr Water Surface Elevation (40.00)

NOTES:

- (A) Aesthetic Concrete Barrier
- (B) Point Bridge Number, Year Completed, and "Carpinteria Creek Bridge"
- (C) Retaining Wall
- (D) Relocated/Future Utilities (TBD)
- (E) Closure Pour



CURVE DATA

No.	R	Δ	T	L
(5)	1000.00'	4°35'08"	40.04'	50.03'

REVISION

NO.	REVISION	BY	CHKD	DATE



CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS

CARPINTERIA AVENUE BRIDGE PROJECT

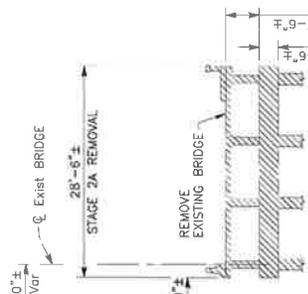
GENERAL PLAN

SCALE: AS SHOWN
DATE: _____
REVISION: _____
DRAWING NUMBER: _____
PROJECT NUMBER: _____
PROJECT ENGINEER: _____
PROJECT MANAGER: _____
DATE: _____

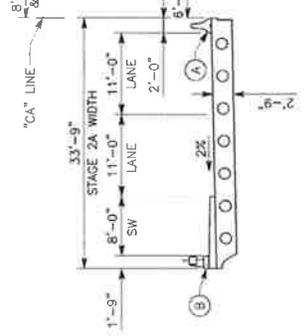
Sheet X of X Sheets

35% PLANS - NOT FOR CONSTRUCTION

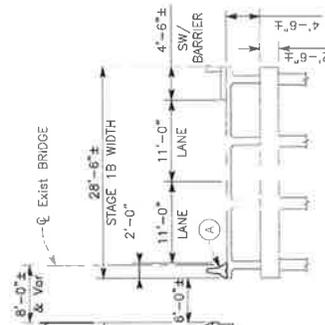
DATE PLOTTED: 11/14/2013 11:52:09 AM



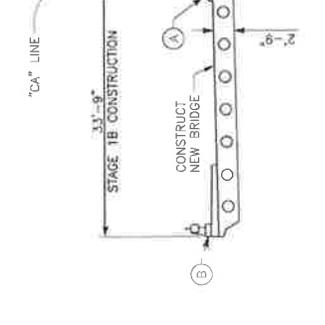
STAGE 1A
1/8" = 1'-0"



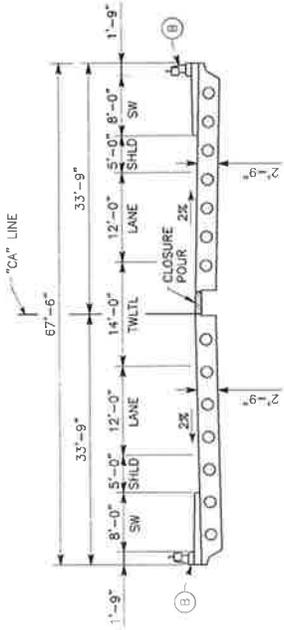
STAGE 2A
1/8" = 1'-0"



STAGE 1B
1/8" = 1'-0"



STAGE 2B
1/8" = 1'-0"



FINAL STAGE - ULTIMATE
1/8" = 1'-0"

- NOTES:**
- (A) Temporary K-Rail
 - (B) Aesthetic Concrete Barrier

CITY OF CARPINTERIA
DEPARTMENT OF PUBLIC WORKS

CARPINTERIA AVENUE BRIDGE PROJECT

STAGE CONSTRUCTION

SCALE	AS SHOWN	REVIEWED BY	DATE	RECORD DRAWING NUMBER
PROJECT NUMBER	16115-S-CM-001	CHARLES W. EBELING, P.E.		
TITLE	STAGE CONSTRUCTION	PROJECT MANAGER		
DATE	11/14/2015	DESIGNER		
PROJECT	16115-S-CM-001	CHECKER		
DATE	11/14/2015	APPROVER		
PROJECT	16115-S-CM-001	DATE		

Sheet of X Sheets

CONSULTANT INFORMATION:

dh drake hughan
INCORPORATED
1100 N. GARDNER ST.
SUITE 200
CARPINTERIA, CA 93008

NO.	REVISION	BY	CHKD	DATE

EXHIBIT D
TREE REMOVAL PLAN

Detailed Explanation from items on page 7:

Trees, shrubs, and vegetation to be removed: Riparian vegetation occurs within the project construction footprint and would be temporarily removed during bridge replacement. A small amount of this vegetation removal would be permanent due to the proposed bike path and rock slope protection.

Proposed new landscaping: Mitigation would include replacement of riparian vegetation and native trees within temporary impact areas. In addition, unaffected riparian forest along Carpinteria Creek would be restored/enhanced by the removal of invasive species. A mitigation and monitoring plan would be prepared and approved by the California Department of Fish & Wildlife prior to the initiation of construction.

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

Tree Number	Common Name	Scientific Name	Diameter ("") at Breast Height	Status
1	Western sycamore	<i>Platanus racemosa</i>	24	To be removed
2	Arroyo willow	<i>Salix lasiolepis</i>	8	To be removed
3	Arroyo willow	<i>Salix lasiolepis</i>	10	To be removed
4	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
5	Black cottonwood	<i>Populus trichocarpa</i>	18	To be removed
6	Western sycamore	<i>Platanus racemosa</i>	25,22,9	To be removed
7	Western sycamore	<i>Platanus racemosa</i>	18,24	To be removed
8	Western sycamore	<i>Platanus racemosa</i>	22	To be removed
9	Western sycamore	<i>Platanus racemosa</i>	36,40	Protect in place
10	Western sycamore	<i>Platanus racemosa</i>	21,22,12	To be removed
11	Western sycamore	<i>Platanus racemosa</i>	12,6	To be removed
12	Western sycamore	<i>Platanus racemosa</i>	12	To be removed
13	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
14	Arroyo willow	<i>Salix lasiolepis</i>	12	To be removed
15	Arroyo willow	<i>Salix lasiolepis</i>	12	To be removed
16	Arroyo willow	<i>Salix lasiolepis</i>	11,4	To be removed
17	Arroyo willow	<i>Salix lasiolepis</i>	8	To be removed
18	Western sycamore	<i>Platanus racemosa</i>	6	To be removed
19	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
20	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
21	White alder	<i>Alnus rhombifolia</i>	5,3	To be removed
22	Arroyo willow	<i>Salix lasiolepis</i>	4,4,3	To be removed
23	Arroyo willow	<i>Salix lasiolepis</i>	10,7,7,4	To be removed
24	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
25	Arroyo willow	<i>Salix lasiolepis</i>	~10	To be removed
26	Arroyo willow	<i>Salix lasiolepis</i>	~9	To be removed
27	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	28	To be removed

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

Tree Number	Common Name	Scientific Name	Diameter ("") at Breast Height	Status
28	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	~26	To be removed
29	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	~24	To be removed
30	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	~25	To be removed
31	Coast live oak	<i>Quercus agrifolia</i>	13	To be removed
32	Western sycamore	<i>Platanus racemosa</i>	13,7,4	To be removed
33	Western sycamore	<i>Platanus racemosa</i>	13	To be removed
34	Western sycamore	<i>Platanus racemosa</i>	16	To be removed
35	Western sycamore	<i>Platanus racemosa</i>	14	Protect in place
36	Coast live oak	<i>Quercus agrifolia</i>	7	Protect in place
37	Arroyo willow	<i>Salix lasiolepis</i>	6	To be removed
38	Coast live oak	<i>Quercus agrifolia</i>	5	To be removed
39	Western sycamore	<i>Platanus racemosa</i>	16	To be removed
40	Arroyo willow	<i>Salix lasiolepis</i>	8,9	To be removed
41	Coast live oak	<i>Quercus agrifolia</i>	4	To be removed
42	Arroyo willow	<i>Salix lasiolepis</i>	11	To be removed
43	Arroyo willow	<i>Salix lasiolepis</i>	6	To be removed
44	Western sycamore	<i>Platanus racemosa</i>	17	To be removed
45	Arroyo willow	<i>Salix lasiolepis</i>	7,6	To be removed
46	Western sycamore	<i>Platanus racemosa</i>	19	To be removed
47	Arroyo willow	<i>Salix lasiolepis</i>	7	To be removed
48	Arroyo willow	<i>Salix lasiolepis</i>	9,4	To be removed
49	Arroyo willow	<i>Salix lasiolepis</i>	8,3,3	To be removed
50	Western sycamore	<i>Platanus racemosa</i>	14	To be removed
51	Arroyo willow	<i>Salix lasiolepis</i>	4	To be removed
52	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
53	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

Tree Number	Common Name	Scientific Name	Diameter ("") at Breast Height	Status
54	Western sycamore	<i>Platanus racemosa</i>	5	To be removed
55	Coast live oak	<i>Quercus agrifolia</i>	6	To be removed
56	Arroyo willow	<i>Salix lasiolepis</i>	27	To be removed
57	Arroyo willow	<i>Salix lasiolepis</i>	14	To be removed
58	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
59	Western sycamore	<i>Platanus racemosa</i>	19	To be removed
60	Arroyo willow	<i>Salix lasiolepis</i>	4,4	To be removed
61	Arroyo willow	<i>Salix lasiolepis</i>	4,4	To be removed
62	Coast live oak	<i>Quercus agrifolia</i>	15	To be removed
63	Arroyo willow	<i>Salix lasiolepis</i>	16,9	To be removed
64	Arroyo willow	<i>Salix lasiolepis</i>	13	To be removed
65	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
66	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
67	Western sycamore	<i>Platanus racemosa</i>	4	To be removed
68	Western sycamore	<i>Platanus racemosa</i>	5	To be removed
69	Western sycamore	<i>Platanus racemosa</i>	5,6	To be removed
70	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
71	Western sycamore	<i>Platanus racemosa</i>	7	To be removed
72	White alder	<i>Alnus rhombifolia</i>	4	To be removed
73	White alder	<i>Alnus rhombifolia</i>	13	To be removed
74	Western sycamore	<i>Platanus racemosa</i>	7	To be removed
75	Velvet ash	<i>Fraxinus velutina</i>	5,5	To be removed
76	White alder	<i>Alnus rhombifolia</i>	10	To be removed
77	Western sycamore	<i>Platanus racemosa</i>	15	To be removed
78	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
79	Western sycamore	<i>Platanus racemosa</i>	8	To be removed

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

Tree Number	Common Name	Scientific Name	Diameter ("") at Breast Height	Status
80	White alder	<i>Alnus rhombifolia</i>	5	To be removed
81	Red willow	<i>Salix laevigata</i>	21	To be removed
82	Arroyo willow	<i>Salix lasiolepis</i>	6,7	To be removed
83	Western sycamore	<i>Platanus racemosa</i>	25	To be removed
84	Arroyo willow	<i>Salix lasiolepis</i>	14,8	To be removed
85	Black cottonwood	<i>Populus trichocarpa</i>	14	To be removed
86	Arroyo willow	<i>Salix lasiolepis</i>	4,3	To be removed
87	Arroyo willow	<i>Salix lasiolepis</i>	6	To be removed
88	Arroyo willow	<i>Salix lasiolepis</i>	7	To be removed
89	Arroyo willow	<i>Salix lasiolepis</i>	5,4	To be removed
90	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
91	Red willow	<i>Salix laevigata</i>	4	To be removed
92	Arroyo willow	<i>Salix lasiolepis</i>	12	To be removed
93	Arroyo willow	<i>Salix lasiolepis</i>	4,3,3	To be removed
94	Arroyo willow	<i>Salix lasiolepis</i>	11	To be removed
95	Arroyo willow	<i>Salix lasiolepis</i>	5,6	To be removed
96	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
97	Arroyo willow	<i>Salix lasiolepis</i>	7,8,9	To be removed
98	Arroyo willow	<i>Salix lasiolepis</i>	~9	To be removed

