San Francisco Bay Conservation and Development Commission
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September 2, 2016

Application Summary
(For Commission consideration on September 15, 2016)

Application Number: BCDC Permit Application No. 1997.001.04 (Material Amendment)
Date Filed: July 12, 2016
90th Day: October 10, 2016
Staff: Jhon Arbelaez-Novak (415/352-3649; jhon.arbelaez@bcdc.ca.gov)

Summary

Applicant: California Department of Transportation (Caltrans)

Location: The Richmond-San Rafael Bridge is a four-mile-long, pier-supported, double-deck section of Interstate 580 (I-580) linking the City of Richmond and the City of San Rafael, in Contra Costa County and Marin County (Figure 1).

Figure 1 - Project Location
Richmond San Rafael Bridge Access Improvement Project
Marin and Contra Costa Counties, California

Caltrans Right-of-Way

0 0.5 1 2 Miles

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Proposed Project: Along the entire length of the Richmond-San Rafael Bridge, Caltrans proposes a four-year pilot project, involving:

1. Use of a vehicle maintenance and break-down shoulder on the eastbound, lower bridge deck as a vehicle travel lane during peak commute periods; and
2. Convert a shoulder on the westbound, upper deck into a bi-directional bicycle, pedestrian, and wheelchair lane, which is separated from adjacent vehicle traffic by a moveable solid barrier and is bounded by a safety railing along the bridge edge.

During or after the close of the four-year pilot period, Caltrans would either make the proposed changes permanent, modify the project to address operational of safety issues, or convert the bridge to its pre-project condition. As a part of the project, various off-bridge improvements linking to or serving the proposed bridge pathway would be installed as permanent features, outside of the Commission's jurisdiction.

Issues Raised: The Commission staff believes that the application raises three primary issues on the proposed project's consistency with the Commission's McAteer-Petris Act and San Francisco Bay Plan (Bay Plan), specifically, whether the project is designed in a manner that is consistent with the Commission's laws and policies on Bay fill, maximizes public access, including public views of the Bay, and whether the public access connection located at the bridge approach in Marin County is designed and would be managed to avoid impacts from flooding.

Background

The Richmond-San Rafael Bridge opened in September 1956, providing a direct link for motorists between Marin County and Contra Costa County. The approximately four-mile-long bridge is constructed on piers with upper and lower decks, each with two 12-foot-wide vehicle travel lanes and a 12-foot-wide shoulder reserved for emergencies and maintenance vehicles. Since opening, bridge access for non-motorized vehicles has been prohibited.

The original bridge was not designed to accommodate public access. In the 1970's and 1980's, the Commission approved minor repairs and maintenance on the bridge, including dredging and the placement of rock material to support the piers. In 1997, BCDC Permit No. 1997.001.00 was issued to allow seismic retrofit of the Richmond-San Rafael Bridge. During its consideration of the permit, the Commission concluded that pedestrian and bicycle access on the bridge would maximize public access at the project site. However, Caltrans stated that public access on the bridge would not be feasible due to various issues, including safety concerns.

Although the BCDC permit does not require a public path on the bridge, the permit findings recommended that Caltrans, in consultation with the Metropolitan Transportation Commission (MTC) and Commission staff, undertake a study by December 31, 1998 to determine the feasibility of providing pedestrian, bicycle, and wheelchair access across the bridge. By December 31, 1999, Caltrans was to submit an implementation program to ensure public access on the bridge by December 31, 2003, including processes for obtaining funding and authorizations. Caltrans concluded that a new-cantilevered bicycle/pedestrian facility would be preferable to a buffer-separated, on deck- facility using the existing bridge shoulder.

In 2002, the Commission requested that Caltrans, MTC, and the Bay Area Toll Authority (BATA) prepare additional studies to assess public access on the bridge. In 2007, the study identified the preferred access alternative as a bi-directional path on the westbound deck of the bridge separated from traffic by a moveable barrier. However, in 2008, Caltrans expressed safety concerns with the alternative, which included that freeway facilities without shoulders provide less recovery space for errant vehicles, and the high costs of support and maintenance of the path. The Commission requested Caltrans provide traffic and safety data, and a cost-benefit analysis for public access on the bridge. In 2009, the Commission further requested that Caltrans study the feasibility of a pilot program that provides public access on the bridge.

On March 24, 2016, Caltrans submitted an application for a material amendment to BCDC Permit No. 1997.001.04 to conduct a four-year pilot program that provides public access across the Richmond-San Rafael Bridge.

Project Description

Project Details: The applicant, Caltrans, proposes to conduct the following activities over a four-year period only within the Commission's jurisdiction:

In the Bay

1. Use and maintain a 3.8-mile-long, 12-foot-wide shoulder on the eastbound lower deck as a vehicular travel lane during peak commute hours only;
2. Install, use and maintain up to 60 signs to inform motorists of third travel lane availability, and up to 34 closed-circuit TV cameras (CCTV) on the upper and lower bridge decks to monitor all traffic;
3. Use and maintain a 3.8-mile-long, 10-foot-wide portion of a vehicular shoulder on the westbound upper deck as a Class I, bi-directional, wheelchair accessible bicycle and pedestrian path;
4. Install, use, and maintain a 42-inch-tall, 18-inch wide, 3.8-mile-long moveable barrier separating the Class I path from adjacent vehicle lane;
5. Improve, use, and maintain an approximately 3.8-mile portion of the outer bridge railing to measure approximately 54 inches above the bridge deck and consisting of 2.5-inch diameter vertical members and horizontal cables; and
6. Install, use and maintain informational signage for public pathway users.

Within the 100-foot Shoreline Band

1. Convert, use and maintain a 0.65-mile-long portion of the I-580 eastbound southern shoulder as a 12-foot-wide vehicular travel lane;
2. Convert, use and maintain a 0.19-mile-long portion of the I-580 westbound, northern shoulder as a ten-foot-wide Class I, bi-directional, wheelchair-accessible, bicycle and pedestrian path; and
3. Install, use and maintain a 0.16-mile-long portion of 42-inch-tall, 18-inch-wide, moveable barrier separating the Class I path from adjacent vehicle lane.

Schedule and Cost: Construction of the proposed pilot project is scheduled from October 2016 through June 2018. Estimated total project cost is approximately $47,670,000.

Public Access: The proposed project would result in a temporary (four-year) public access improvement within the Commission's jurisdiction. This ten-foot-wide Class I bi-directional, wheelchair accessible bicycle and pedestrian path on the Richmond-San Rafael Bridge would connect to off-bridge improvements, some of which would be located outside the Commission's jurisdiction. Several of these off-bridge improvements would remain in place beyond the four-year pilot period, as identified below (see attached Exhibits 1 and 2):

1. Within the Commission's jurisdiction, from Stenmark Drive (west of the Toll Plaza Maintenance Buildings), a temporary Class I, 10-foot-wide bi-directional, wheelchair accessible bicycle and pedestrian path would be developed (partly within an easement at property owned by Chevron) and lead to the westbound upper deck of the bridge, where a solid moveable barrier would be installed to separate vehicles from pathway users;
2. Outside of the Commission's jurisdiction, the Main Street (Marin County) off-ramp would be permanently realigned linking the proposed bridge pathway to East Francisco Boulevard from Main Street and Grange Avenue;
3. Outside of the Commission's jurisdiction, Main Street (Marin County) would be permanently widened at the area located between the RSR eastbound and westbound ramps to accommodate two 4-foot-wide Class II striped bike lanes and one 5-foot-wide sidewalk;
4. Outside of the Commission's jurisdiction, at East Standard Avenue in the City of Richmond (Contra Costa County), a permanent solid barrier would be installed to separate bicycle, and pedestrian traffic from vehicles and to link existing bicycle paths on Tewksbury Avenue and Marine Street located in Point Richmond;
5. Outside of the Commission's jurisdiction, along the north side of westbound I-580, from the Marine Street interchange (Contra Costa County) to Stenmark Drive and the Toll Plaza, a permanent Class I, bi-directional bicycle and pedestrian path would be installed separated from vehicle traffic by a solid barrier;
6. Outside of the Commission's jurisdiction, the I-580 off-ramp to Stenmark Drive (Contra Costa County) would be permanently widened to accommodate a 10-foot-wide bi-directional bicycle and pedestrian path separated from vehicle traffic by a concrete barrier, and a crosswalk would be installed at Stenmark Drive to connect to a trail to Point Molate; and
7. Outside of the Commission's jurisdiction, at the Scofield Avenue undercrossing in Richmond (Contra Costa County), safety railings would be permanently replaced with a screen to block adjacent fuel pipelines.

The proposed temporary bridge access improvements would occur within a 202,463 square foot (4.65 acres) area of the Commission's jurisdiction. All permanent improvements are located outside of the Commission's jurisdiction. Caltrans would maintain all public access improvements that are located within its Right of Way. The access improvements on East Francisco Boulevard would be maintained by the City of San Rafael (Exhibit 3). The project would place minor amounts of fill on the bridge, an existing pile supported structure in the Bay, and would result in no net increase in fill.

Pilot Project Conclusion: At the end of the four-year pilot period, the bridge pathway and eastbound vehicular lane would be returned to their pre-project use and condition as a shoulder for maintenance vehicles or emergencies, or become permanent. All other improvements (as noted above) would remain in place. Following the conclusion of the pilot program, Caltrans would report to the Commission on the results, and request an amendment to the permit to maintain or remove the improvements included as part of the pilot program.

Commission Staff Analysis

A. **Issues Raised:** The Commission staff believes that the application raises three primary issues on the proposed project's consistency with the Commission's McAteer-Petris Act and Bay Plan, including whether: (1) the project is designed in a manner that is consistent with the Commission's laws and policies on Bay fill; (2) maximizes public access, including public views of the Bay; and (3) the public access connection located at the bridge approach in Marin County is designed and would be managed to avoid impacts from flooding.

1. **Bay Fill.** The Commission may allow further filling of the Bay when it meets the requirements identified in Section 66605 of the McAteer-Petris Act, which provide, in part, that:

> (a) fill "should be limited to water-oriented uses" or "minor fill for improving public access to the Bay;" (b) fill in the Bay should be approved only when "no alternative upland location" is available; (c) fill should be "the minimum amount necessary to achieve the purpose of the fill"; (d) "the nature, location, and extent of any fill should be such that it will minimize harmful effects to the Bay area, such as, the reduction or impairment of the volume, surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources, or other conditions impacting the environment…"; (e) "fill [should] be constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters"; and (f) "fill should be authorized when the applicant has such valid title to the properties in question that he or she may fill them in the manner and for the uses to be approved."

The project includes converting an existing shoulder of the lower, eastbound deck of the Richmond—San Rafael Bridge into a vehicular travel lane, and a shoulder of the upper, westbound deck of the bridge into a wheelchair-accessible, bicycle and pedestrian path. All of the improvements needed to implement the shoulder conversions, including the moveable barrier, cable railing, signage, CCTV cameras, and electronic signage, is considered Bay fill, albeit on an existing pile-supported structure that was built over Bay in 1956, before BCDC was created. No Bay fill is proposed beyond the footprint of the existing structure.

As described above, the McAteer-Petris Act allows further filling of the Bay when a series of legal tests can be met. Bridges are expressly described in the legislation as a water-oriented use. Additionally, a minor amount of Bay fill for improving public access may be approved by the Commission. The term "minor", however, is not defined and the Commission makes that determination on a case-by-case basis. The applicants are proposing a 10-foot wide path for a length of 3.8 miles and the area of "Bay fill" for public access is approximately 200,000 square feet (4.6 acres). However, the Commission's decision regarding "minor fill", in this case for public access on top of a bridge that pre-dates the Commission, may be viewed differently for pre-existing structures than "new" filling of open Bay water. The proposed fill would be within the existing roadway area with no additional coverage of the Bay. Therefore, the proposed improvements would not have a detrimental effect on the Bay or its natural resources. The project would improve the public's ability to access the Bay and shoreline, and represents the minimum amount of fill necessary because of the constrained width of the existing bridge structure. The additional vehicular lane, and the public access path, would be placed on a structure designed to withstand a significant seismic event.

The Commission should determine whether the project meets the laws and policies of fill requirements of the McAteer-Petris Act.

2. **Public Access**

   a. **Commission Law and Policies.** Section 66602 of the McAteer-Petris Act states, in part, that public access to the shoreline and waters of the Bay is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided.

      The Bay Plan Transportation Policy No. 4 states, in part, "transportation projects on the Bay shoreline and bridges over the Bay…should include pedestrian and bicycle paths that will either be part of the Bay Trail or connect the Bay Trail with other regional and community trails."

      The Bay Plan policies on public access further state, in part, "…maximum feasible public access to and along the waterfront…should be provided in and through every new development in the Bay or on the shoreline…." Policy No. 7 states, in part, "public access improvements…should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for persons with disabilities to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs." Policy No. 8 states, in part, "a small amount of fill may be allowed if the fill is necessary and is the minimum absolutely required to develop the project in accordance with the Commission's public access requirements." Policy No. 9 states, in part, "access to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available."

Policy No. 12 states, "the Public Access Design Guidelines should be used as a guide to siting and designing public access consistent with a proposed project. The Design Review Board should advise the Commission regarding the adequacy of the public access proposed."

Bay Plan Appearance, Design, and Scenic Views Policy No. 6 states, in part, "guard rails and bridge supports should be designed with views in mind."

The Public Access Design Guidelines advise applicants, in part, to "make public access usable by…maximizing user comfort by designing for the weather and day and night use…and…provide basic public amenities, such as trails, benches…trash containers…lighting…that are designed for different ages, interests, and physical abilities."

b. **Existing Public Access.** Constructed in 1956, the Richmond-San Rafael Bridge serves motorized vehicles only, and prohibits direct access for pedestrians and bicycles. Nevertheless, the bridge is identified as a planned connection of the San Francisco Bay Trail and, through previous Commission permitting actions, has been recognized for its potentially important public access link between Contra Costa County and Marin County. Previously, Caltrans found that public access on the bridge was not feasible. Since 1997, however, Caltrans, MTC, and BATA have been studying the possibility of providing public access on the bridge. In 2015, financing was secured for a pilot program on the Richmond-San Rafael Bridge. In 2016, Caltrans submitted an application for a material amendment to Permit No. 1997.001.04 for the current proposal.

c. **Proposed Public Access.** Caltrans proposes a variety of public access improvements:

(1) Inside of the Commission's jurisdiction, from Stenmark Drive (west of the Toll Plaza Maintenance Buildings), a temporary Class I, 10-foot-wide bi-directional, wheelchair accessible bicycle and pedestrian path would be created (partly within an easement at property owned by Chevron) and lead to the westbound upper deck of the bridge, where a solid moveable barrier would be installed to separate vehicles from pathway users;

(2) Outside of the Commission's jurisdiction, the Main Street off-ramp in Marin County would be permanently realigned linking the proposed bridge pathway to East Francisco Boulevard from Main Street and Grange Avenue;

(3) Outside of the Commission's jurisdiction, Main Street would be permanently widened at the area located between the eastbound and westbound ramps to accommodate two 4-foot-wide Class II striped bike lanes and one 5-foot-wide sidewalk;

(4) Outside of the Commission's jurisdiction, at East Standard Avenue in the City of Richmond, a permanent solid barrier would be installed to separate bicycle, and pedestrian traffic from vehicles and to link existing bicycle paths on Tewksbury Avenue and Marine Street located in Point Richmond;

(5) Outside of the Commission's jurisdiction, along the north side of westbound I-580, from the Marine Street interchange to Stenmark Drive and the Toll Plaza, a permanent Class I, bi-directional bicycle and pedestrian path would be installed separated from vehicle traffic by a solid barrier;

(6) Outside of the Commission's jurisdiction, the I-580 off-ramp to Stenmark Drive would be permanently widened to accommodate a 10-foot-wide bi-directional bicycle and pedestrian path separated from vehicle traffic by a concrete barrier, and a crosswalk would be installed at Stenmark Drive to connect to a trail to Point Molate; and

(7) Outside of the Commission's jurisdiction, at the Scofield Avenue undercrossing in Richmond, safety railings would be permanently replaced with a screen to block adjacent fuel pipelines.

The project involves the conversion of the existing shoulders on the Richmond-San Rafael Bridge to a vehicular travel lane on the lower bridge deck, and a Class I bi-directional path on the upper deck. Public access improvements outside the Commission's jurisdiction in Contra Costa and Marin Counties would be permanently guaranteed in Caltrans Right of Way and through easements. Public access improvements on the bridge would be part of a four-year pilot program. After four years, the bi-directional bicycle and pedestrian path on the Richmond-San Rafael Bridge may be made permanent or may return to functioning as a shoulder for vehicles.

The proposed project provides public access on an existing bridge where no access was present. The public path has been widened as much as feasible, taking into account the width of the existing bridge deck and the need for vehicular safety. The path is designed to encourage movement to the Bay and the shoreline, provides barrier free access to persons with disabilities, and provides appropriate signage to guide users to nearby parking, including distances to destinations and landmarks. All project components outside the Commission's jurisdiction would be maintained by Caltrans, except the improvements on East Francisco Boulevard, which would be maintained by the City of San Rafael. The temporary bridge path would remain for a period of 4 years, and maintained by Caltrans.

The proposed bridge path would connect to existing and improved paths in Contra Costa and Marin Counties, Bay Trail segments in San Rafael, and proposed Bay Trail extensions to Point Molate. Public transportation is available in Richmond and San Rafael, connecting the paths to larger public transportation systems, including the Larkspur ferry terminal. Public parking is available at existing vista points near the bridge approach to Marin County, the Bay Business Park, and at Point Molate State Beach in Contra Costa County.

Chevron buffer striping and rumble strips along the eastbound I-580 shoulder between Sir Francis Drake Boulevard and the Main Street off-ramp would be installed to provide additional safety for bicyclists riding along the shoulder. Bicycle/pedestrian counters would be installed on both sides of the Bridge to collect

usage data. The Richmond-San Rafael Bridge is designated as Scenic Drive by the Bay Plan. In order to maximize and protect views of the Bay for path users, the project would install an outside cable railing consisting of 2.5-inch diameter vertical members and horizontal cables.

On January 11, 2016, the Commission's Design Review Board (DRB) reviewed the proposed project, and advised the applicant on a variety of issues, including amenities, connections, parking, and views. Based on the advice of the DRB and Commission staff, Caltrans made several changes to the project, resulting in the proposal presented in this summary.

In consideration of applicable provisions of the law and policies and the temporary nature of the path under a four-year pilot program, the Commission should determine whether the project is well designed and provides maximum feasible public access, consistent with the project.

3. **Sea Level Rise and Flooding.**

   a. **Commission Policies.** The Commission's Bay Public Access Policy No. 5 states: "public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding." Policy No. 6 states, in part, "any public access provided … should either be required to remain viable in the event of future sea level rise, or equivalent access consistent with the project should be provided nearby."

   Since the proposed project involves a minimal amount of fill over the Bay, the Commission's Bay Plan Climate Change policies do not apply and, thus, a formal risk assessment was not prepared. However, Caltrans provided a Location Hydraulic Study Report, which included the Federal Emergency Management Agency Flood Insurance Rate Maps for the project vicinity, and the maps depict areas along East Francisco Boulevard and at the Richmond-San Rafael Bridge approaches in Marin County, which are subject to flooding and storm surge. The proposed public access path on the bridge itself, and connections to East Francisco Boulevard would be subject to flooding. Improvements along East Francisco Boulevard are permanent, and located outside of the Commission's jurisdiction.

   Due to the temporary nature of the proposed bridge path, which would remain in place for a four-year period only, no adaptation measures are proposed to protect the path from flooding. Caltrans is currently studying long-term solutions to protect the bridge approaches from sea level rise and flooding and, in the event that the temporary public access improvements become permanent, such long-term measures would be considered and, if appropriate, implemented. During the four-year pilot project, if flooding affects the area, the status of the public pathway would be announced through a public website and the path closed to ensure the safety of users.

In consideration of applicable provisions of the law and policies, the temporary nature of the path under a four-year pilot program, and current studies to make the Richmond—San Rafael Bridge resilient to sea level rise and flooding, the Commission should determine whether the access is designed and would be managed to avoid impacts from flooding.

B. **Review Boards**

1. **Design Review Board.** On January 11, 2016, the Commission's DRB reviewed the proposed project, which resulted in the following input and advice:

   a. Consider the proposed bridge pathway and its connections from a regional perspective, and to map present and future pedestrian and bicycle routes within this region of the Bay to learn how the project will best fit within this network;

   b. Make clear and safe connections to the bridge pathway on both sides of the bridge in order to "position the project for success," and work with the surrounding jurisdictions to create safe connections;

   c. The DRB provided positive feedback on the cable railing, and recommended decreasing the size of the vertical posts as much as possible;

   d. Provide amenities for pathway users, including seating, signage, shelter, water and parking;

   e. Explore the possibility of including some lower lighting closer to the pathway to supplement the tall pole lights that exist now;

   f. The top portion of moveable barrier should be transparent, in order to maintain views for drivers, bicyclists and pedestrians in addition to increasing the sense of personal safety for pathway users; and

   g. Add mile markers for safety and orientation purposes on the bridge, and add color or patterns on the pavement of the landside connections leading to the bridge.

   Following the recommendations from the DRB, the applicant made revisions to the design of the proposed project, including signage, seating, connections, parking, and the railing. Because of the temporary nature of the pilot program, other amenities, such as lighting, would not be installed at present, but revisited if the project remains permanent.

2. **Engineering Criteria Review Board.** The Commission's Engineering Criteria Review Board did not review the proposed project, which involves a minor amount of fill in the Bay.

C. **Environmental Review.** Pursuant to the California Environmental Quality Act (CEQA), Section CCR 15061[b][3], and the National Environmental Policy Act, Section 23 USC 327, the California Department of Transportation issued an exemption from environmental review on May 27, 2016.

D. **Relevant Portions of the McAteer-Petris Act**

1. Section 66602
2. Section 66605
3. Section 66632

E. **Relevant Portions of the San Francisco Bay Plan**

1. *San Francisco Bay Plan* Policies on Transportation
2. *San Francisco Bay Plan* Policies on Public Access
3. *San Francisco Bay Plan* Policies on Appearance, Design, and Scenic Views

Exhibits

1. **Richmond-San Rafael Bridge Access Improvement Project**
2. **Richmond-San Rafael Bridge Access Improvement Project**
3. **Public Access and Open Space Exhibit**