

# SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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**TO:** All Design Review Board Members  
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**SUBJECT: Bon Air Road Bridge Replacement Project, City of Larkspur, Marin County  
(First Pre-Application Review )  
(For Board consideration on December 10, 2012)**

## Project Summary

**Project Proponent:** City of Larkspur

**Existing Bridge:** The Bon Air Road Bridge (“bridge”) at Corte Madera Creek (“creek”), a certain waterway in the Commission’s jurisdiction, is structurally deficient and warrants replacement, as determined by the State of California’s Department of Transportation (Caltrans).<sup>1</sup> In 1958, the bridge was constructed on property leased from the State of California. In 1965, the structure was modified and, in 1994, seismically retrofitted and widened to accommodate a Class I bicycle/pedestrian lane at the north side pursuant to BCDC Permit No. M1994.015.00. The two-lane bridge is linked to Magnolia Avenue in the City of Larkspur and to Sir Francis Drake Boulevard in the City of Greenbrae, both of which serve as major connections to nearby U.S. Highway 101. (Exhibits 1 and 4) The bridge accommodates approximately 11,800 average daily trips (ADT), a volume expected to increase to 12,600 ADT by 2036.

The existing structure is a 10-span steel girder bridge measuring 420 feet long and 44 feet wide (18,480 square feet) with a five-foot-wide sidewalk on the south side and an eight-foot-wide, Class I bicycle/pedestrian lane on the north side. The bridge has nine bents with eight to nine piles per bent. (Exhibit 9) Exhibit 5 presents a view of the bridge from the southeast. Exhibit 6 presents a northeastern view upon entering the bridge at Bon Air Road. Exhibit 7 provides a view from Creekside Park located northwest of the bridge.

**Proposed Bridge and Bicycle and Sidewalk Facilities.** The proposed replacement bridge measures 388 feet long and 62.5 feet wide (24,250 square feet). The bridge would generally follow the existing structure’s alignment with the exception of the north side, which would extend about 13 feet beyond the existing northern edge. (Exhibit 8) According to the project proponent, the proposed alignment would improve the operational safety of the bridge. As currently occurs, the proposed bridge, including the bicycle lanes and sidewalks, would be maintained by the City of Larkspur.

A five-span precast concrete girder bridge is proposed. (Exhibit 10) Two columns (8 to 10-foot in diameter) per bent, for a total of eight columns, would be installed resulting in a reduction of more than half the number of existing spans and columns. The bridge would accommodate the following in each direction: one 12-foot-wide traffic lane with a 5-foot-wide shoulder; one 6-foot-wide bicycle lane, and one 6-foot, 9-inch wide sidewalk. (Exhibit 11) The proposed bicycle lanes and sidewalks are wider than those available on the existing bridge. The bridge would link to a Class I bicycle lane along Sir Francis Drake Boulevard, and to Class I and II bicycle paths along Magnolia Avenue. (Exhibit 2) The bridge design complies with Americans with Disabilities Act (“ADA”) standards.

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<sup>1</sup> The Commission does not have 100-foot shoreline band jurisdiction along certain waterway—the Commission’s jurisdiction at the project location.



The proposed bridge would meet aesthetic recommendations developed through the City of Larkspur community meetings and, hence, is designed to reflect the following: (1) the use of a trapezoidal girder system; (2) the attraction of attention to the natural landscape; (3) the maintenance of views of surrounding hills; (4) the incorporation of a seamless connection of the bridge to the multi-use path; (5) the incorporation of aesthetic treatments at the sides of the bridge; and (6) the incorporation of light standards which are short and project downward. The design also reflects the need for the structure to be seismically sound and resilient against the saline nature of the creek. As illustrated in Exhibits 12, 13, and 14, the proposed design includes “acorn” light poles supported on pedestals, steel guardrails with wetland flora detail, and concrete piers with cast reveals.

Traffic on the bridge would be continually maintained during construction. During Stage 1 of construction, traffic at the existing bridge would be maintained while a section of the new bridge is built. During Stage 2, traffic would be relocated to the completed new bridge section while demolition of the remaining bridge occurs along with construction of the remaining new structure. If needed, a temporary detour would be provided. (Exhibit 3)

**Relevant Commission Law and Policies.** The McAteer-Petris Act (“Act”) states that a bridge is a water-oriented use and, thus, an allowable type of Bay fill. The Act further provides—and the *San Francisco Bay Plan* (Bay Plan) reiterates—that maximum feasible public access consistent with the project be provided.

The Bay Plan policies on **transportation** state, in part:

“...bridges over the Bay or certain waterways should include pedestrian and bicycle paths that will either be a part of the Bay Trail or connect the Bay Trail with other regional and community trails. Transportation projects should be designed to maintain and enhance visual and physical access to the Bay and along the Bay shoreline.”

Additional Bay Plan policies on **public access** state, in part:

“[Required] public access improvements...should be consistent with the project and the physical environment...and provide for the public's safety and convenience. The improvements 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.”

“Access...should...connect to the nearest public thoroughfare....”

“...The roadway and right-of-way design should maintain and enhance visual access for the traveler...and provide for safe, separated, and improved physical access to and along the shore.” [The Commission’s Public Access Design Guidelines also advise, in part, that railings “especially on bridges” be designed to maximize views.]

“Public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding.”

“...Any public access provided as a condition of development should either be required to remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project should be provided nearby.”

The Bay Plan policies on **appearance, design, and scenic views** state, in part:

“...New or remodeled bridges across the Bay should be designed to permit maximum viewing of the Bay and its surroundings by both motorist and pedestrians. Guard rails and bridge supports should be designed with views in mind.”

“Towers, bridges, or other structures near or over the Bay should be designed as landmarks that suggest the location of the waterfront when it is not visible, especially in flat areas...”

**Design Review Board Issues.** The above-cited provisions of the Commission’s McAteer-Petris Act and the Bay Plan state, among other things, that maximum feasible public access consistent with the project be provided and that the design take into account Bay views, connections with nearby roads and trails, and future sea level rise. Therefore, the Board should consider the following issues in reviewing the proposed Bon Air Road Bridge replacement project:

1. **Compatibility of Bike Lane and Sidewalk Design With Project and Environment (Issue relates to Bay Plan Transportation and Public Access policies noted above).** As proposed, the bridge would include a 6-foot-wide bicycle lane and a 6-foot, 9-inch wide sidewalk in each direction on the north and south sides of the structure adjacent to and above Corte Madera Creek.

*The Board should consider whether these bicycle and pedestrian facilities would be compatible with the project and the surrounding environment.*

2. **Accessibility and Signage (Issue relates to Bay Plan Public Access policies above).** The proposed project design complies with ADA standards. At this time, the design does not include details indicating whether access signage would be included.

*The Board should consider whether a signage program should be developed and implemented.*

3. **Bridge Connections (Issue relates to Bay Plan Public Access policies above).** The proposed bridge would maintain existing links to a Class 1 bicycle lane along Sir Francis Drake Boulevard, and to Class I and II bicycle paths along Magnolia Avenue.

*The Board should consider whether these connections to the nearest public thoroughfares, namely at Magnolia Avenue and Sir Francis Drake Boulevard, would be adequate.*

4. **Visual Access (Issue relates to Bay Plan Public Access and Appearance, Design, and Scenic View policies above).** The proposed design is largely the result of a community process and includes “acorn” lighting, steel guardrails with wetland flora detail, and concrete piers with cast reveals. In addition, as proposed, two columns (8 to 10-foot diameter) per bent, for a total of eight columns, would be installed resulting in a reduction of more than half the number of existing spans and columns. The proposal also includes Class I bike and pedestrian facilities, which are separated from vehicle traffic on the bridge.

*The Board should consider whether, as proposed, the bridge design would maintain and enhance visual access for all travelers along the span and whether the proposed design, including widths of bike lanes and sidewalks, ensure safe and separated access.*

5. **Landmarks (Issue relates to Bay Plan Appearance, Design, and Scenic View policies noted above).** The proposed design does not include a notable landmark.

*The Board should consider whether the proposed bridge should include a “landmark” quality which suggests the location of the Bay particularly from areas where the water is not visible.*

6. **Future Sea Level Rise (Issue relates to Bay Plan Public Access policies noted above).** The project proponent is currently preparing information about the potential impacts of future sea level rise on the proposed bridge, including on the bicycle lanes and sidewalks. The Commission’s Engineering Criteria Review Board (ECRB) will review this information and the proposed project on December 5, 2012.

*The Board should consider whether it would like to conduct a subsequent review of the proposed project in part to review the information prepared for the ECRB and to assess if the siting, design, management and maintenance of the bridge and access facilities would prevent significant adverse impacts from future sea level rise and shoreline flooding.*