

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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June 14, 2013

TO: Commissioners and Alternates

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SUBJECT: **Staff Recommendation on BCDC Permit Application No. 2011.004.00;**
Central Marin Ferry Connection Multi-Use Pathway
(For Commission consideration on June 20, 2013)

Recommendation Summary

The staff recommends that the Commission approve BCDC Permit Application No. 2011.004.00, an application submitted by the County of Marin and the Sonoma Marin Area Rail Transit (SMART) to construct portions of a multi-use, non-motorized pathway over East Sir Francis Drake Boulevard, in the City of Larkspur, Marin County. The project will consist of: (1) an at-grade pathway and ramp from the existing Cal Park Tunnel Pathway to East Sir Francis Drake Boulevard; (2) an approximately 15.5-foot-wide Warren Truss Pedestrian bridge over East Sir Francis Drake Boulevard; and (3) an approximately 273-foot-long, U-shaped, elevated access ramp connecting the bridge to the public access pathway along East Sir Francis Drake Boulevard. Because there is very little upland along the south side of this stretch of Sir Francis Drake Boulevard, the ramp will be constructed largely on fill in a tidal marsh. The project will provide 2,200 feet (0.42 miles) of new pathway connecting inland trails to Bay trails and a total of 27,013 square feet of new public access of which 6,690 square feet will be located in the Commission's jurisdiction. To offset project impacts to tidal marsh, areas temporarily disturbed during construction activities would be revegetated and monitored, and 1.42 acres of degraded tidal marsh habitat would be restored and enhanced at Creekside Marsh, located 1.4 miles upstream of the project site, along Corte Madera Creek, in the City of Kentfield, Marin County.



Making San Francisco Bay Better

Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

I. Authorization

- A. Subject to the conditions stated below, the permittees, the County of Marin and the Sonoma Marin Area Rail Transit (SMART), are granted permission to construct the Central Marin Ferry Connection Multi-Use Pathway, over East Sir Francis Drake Boulevard and in and adjacent to Corte Madera Creek, in the City of Larkspur, Marin County. Authorized work includes the following:

In the Bay (a tidal marsh):

1. Construct, use and maintain, an 800-square-foot section of a 4,516-square-foot cantilevered pedestrian bridge across Sir Francis Drake Boulevard, a 3,040-square-foot ramp leading to the bridge supported by eight (8) columns displacing 130 cubic yards of the Bay and covering 195 square feet of Bay surface area, and a 1,100-square-foot overlook integrated into the ramp (a total of 4,940 square feet of pile-supported and cantilevered fill); and
2. Construct, use and remove at project completion, an approximately 6,800-square-foot, pile-supported construction staging area (e.g., trestle, platform, etc.).

Within the 100-foot Shoreline Band:

1. Construct, use and maintain, an approximately 1,750-square-foot section of a 4,516-square-foot pedestrian bridge.
- B. This authority is generally pursuant to and limited by the application filed on April 25, 2013, including all accompanying and subsequent correspondence and exhibits, but subject to the modifications required by conditions hereto.
- C. Work authorized herein must commence prior December 31, 2014, or this permit will lapse and become null and void. All work must also be diligently pursued to completion and must be completed within 24 months of commencement or by December 31, 2016, unless an extension of time is granted by amendment of the permit.
- D. The project will result in the placement of a total of 4,940 square feet of permanent, cantilevered/pile-supported fill and 195 square feet of solid fill in a tidal marsh to construct a multi-use, non-motorist pathway that will extend the Cal Park Hill Tunnel Pathway to the existing multi-use pathway located south of East Sir Francis Drake Boulevard. This trail will also connect the future SMART Larkspur light rail station with the existing Larkspur Ferry Terminal. To mitigate for the loss of tidal marsh due to construction of the project, 1.42 acres of degraded tidal marsh habitat will be enhanced and restored at Creekside Park, in the City of Kentfield, Marin County.

II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

A. Specific Plans and Plan Review

1. **Plan Review and Approval.** No work whatsoever shall commence pursuant to this authorization until final precise, site, engineering, grading and marsh restoration plans and any other relevant criteria, specifications, and plan information for that portion of the work have been submitted to, reviewed, and approved in writing by or on behalf of the Commission. The following specific drawings and information shall be submitted.

Site, Engineering, Grading and Marsh Restoration. Site, engineering, grading and marsh restoration plans shall include and clearly label the Bay shoreline (Mean High Water or the inland edge of marsh vegetation up to the five-foot contour line above Mean Sea Level), the line 100 feet inland of the Bay shoreline, the typical and range of water levels at the site, property lines, grading, details showing the location, types, dimensions, and materials to be used for all structures, plantings, signs, and any other proposed improvements.

Engineering plans shall include a complete set of contract drawings and specifications and design criteria. The design criteria shall be appropriate to the nature of the project, the use of any structures, soil and foundation conditions at the site, and potential earthquake-induced forces. Final plans shall be signed by the professionals of record and be accompanied by evidence that the design complies with all applicable codes; and evidence that a thorough and independent review of the design details, calculations, and construction drawings has been made.

Plans submitted shall be accompanied by a letter requesting plan approval, identifying the type of plans submitted, the portion of the project involved, and indicating whether the plans are final or preliminary. Approval or disapproval shall be based upon:

- a. completeness and accuracy of the plans in showing the features required above, particularly the Bay shoreline (Mean High Water or the inland edge of marsh vegetation up to five feet above Mean Sea Level), property lines, and the line 100-foot inland of the Bay shoreline, and any other criteria required by this authorization;
- b. consistency of the plans with the terms and conditions of this authorization;
- c. assuring that the authorized fill does not exceed the amount authorized herein and consist of appropriate materials as determined by or on behalf of the Commission; and
- d. assuring that appropriate provisions have been incorporated for safety in case of seismic event.

Plan review shall be completed by or on behalf of the Commission within 45 days after receipt of the plans to be reviewed.

2. **Conformity With Final Approved Plans.** All work, improvements, and uses shall conform to the final approved plans. Prior to any use of the facilities authorized herein, the appropriate design professional(s) of record shall certify in writing that, through personal knowledge, the work covered by the authorization has been performed in accordance with the approved design criteria and in substantial conformance with the approved plans. No noticeable changes shall be made thereafter to any final plans or to the signage, levee or landscaping work without first obtaining written approval of the change(s) by or on behalf of the Commission.
3. **Schedule.** The plans shall include a schedule indicating when filling (pedestrian bridge, ramp structure and overlook), excavation, grading and other activities will occur.
4. **Discrepancies Between Approved Plans and Special Conditions.** In case of any discrepancy between final approved plans and Special Conditions of this authorization, the Special Conditions shall prevail. The permittees are responsible for assuring that all plans accurately and fully reflect the Special Conditions of this authorization.

B. Public Access

1. **Area.** The approximately 6,690-square-foot (0.15-acre) area, along approximately 106-linear feet of shoreline as generally shown on Exhibit "A" shall be made available exclusively to the public for unrestricted public access for walking, bicycling, sitting, viewing, fishing, picnicking, and related purposes. If the permittees wish to use the public access area for other than public access purposes, it must obtain prior written approval by or on behalf of the Commission.

The overall proposal for public access for this project includes:

New public access in the Bay (a tidal marsh): 4,940 square feet

New public access within the shoreline band: 1,750 square feet

New public access outside of the Commission's jurisdiction: 20,323 square feet

2. **Improvements Within the Total Public Access Area.** The permittees shall provide the following improvements, as generally shown on attached Exhibit A:
 - a. A 15.5-foot-wide multi-use bridge spanning East Sir Francis Drake Boulevard and a 12-foot-wide elevated ramp connecting the bridge with existing sidewalks and an existing wooden boardwalk along East Sir Francis Drake Boulevard;
 - b. A 1,100-square-foot observation platform on the southern ramp providing views of the marsh, Corte Madera Creek and the Bay; and
 - c. No fewer than 2 public access and, when appropriate, Bay Trail signs, one to be placed where the sidewalk along East Sir Francis Drake Boulevard and the ramp structure intersect and the other placed at a location approved through Plan Review Special Condition II-A.

Such improvements shall be consistent with the plans approved pursuant to Special Condition II-A of this authorization.

3. **Maintenance.** The areas and improvements within the total 6,690-square-foot area shall be permanently maintained by and at the expense of the permittees or their assignees. Such maintenance shall include, but is not limited to, repairs to all path surfaces; replacement of any plant materials that die or become unkempt; repairs or replacement as needed of any public access amenities such as signs, benches, trash containers and lights; periodic cleanup of litter and other materials deposited within the access areas; removal of any encroachments into the access areas; and assuring that the public access signs remain in place and visible. Within 30 days after notification by staff, the permittees shall correct any maintenance deficiency noted in a staff inspection of the site.
4. **Modifications of Authorized Improvements in Response to Flooding and Sea Level Rise.** If the pathway authorized herein is flooded and is deemed unusable and is no longer safe as a result of sea level rise, the permittees shall either reconstruct the pathway such that it is no longer subject to flooding or remove the pathway to a location outside of the Commission's jurisdiction.
5. **Assignment.** The permittees shall transfer maintenance responsibility to a public agency or another party acceptable to the Commission at such time as the property transfers to a new party in interest but only provided that the transferee agrees in writing, acceptable to counsel for the Commission, to be bound by all terms and conditions of this permit.

- C. **Restoration of the Construction Area.** To offset the temporary impacts to 6,800 square feet of tidal marsh from constructing and using the temporary construction staging platform, the permittees shall do the following, in accord with the plan entitled, "Central Marin Ferry Connection Multi-Use Pathway Project-Mitigation and Monitoring Reporting Plan", dated April 2013:
1. Salvage and retain all removed tidal marsh plant material;
 2. In preparation for planting activities, cultivate the soil within all disturbed areas of the construction staging area using a small wheeled tiller following construction activities;
 3. Replant the construction staging area using tidal marsh plant species appropriate to that elevation within the tidal marsh (e.g., pickleweed, fleshy jaumea, salt grass, alkalie heath, etc.) and use as many salvaged tidal marsh plants as feasible;
 4. Replant the construction area at a density of two plants per five square feet; and
 5. Submit five annual monitoring reports, the first report to be submitted one month following planting activities and the four remaining reports to be submitted by October 31st of any given year thereafter documenting the status of the restored construction site. The report shall include photos of the site, a record of the observations from a minimum of two vegetation monitoring transects, a general description and qualitative assesment of species richness and cover, qualitative assesments of other site features such as plant vitality, erosion, sediment deposition, accumulation of debris, plant die-off, invasive species colonization, and a description of any efforts made or recommendations for addressing any problems developing at the site. The site shall be deemed restored if 95% tidal marsh vegetative cover is achieved by monitoring Year 5.
- D. **Off-Site Mitigation.** To offset the permanent loss of 5,135 square feet of tidal marsh habitat that will occur as a result of the project, the permittees shall do the following, in general accord with the plan entitled, "Central Marin Ferry Connection Multi-Use Pathway Project-Mitigation and Monitoring Reporting Plan", dated April 2013.
1. **Approval of Restoration Activities at Creekside Park.** Within 150 days of Commission authorization for the multi-use pathway authorized herein (approximately November 20, 2103), the permittees shall apply for and receive Commission authorization for restoration activities at a 1.42-acre area within Creekside Park, an unincorporated area of Marin County, adjacent to Corte Madera Creek, immediately northwest of the Bon Air Bridge. In the event that the permittees are unable to receive Commission approval for the restoration activities at Creekside Park, the permittees shall identify a different mitigation site, develop a restoration plan for the new site, and apply for Commission authorization of the new mitigation proposal by September 1, 2014. The alternative plan should propose the restoration of approximately 1.42 acres of mid to high marsh and transitional habitat, the habitat impacted at the project site.
 2. **Off-site Restoration.** Prior to the commencement of construction or by December 31, 2013, the permittees shall submit a tidal marsh restoration and monitoring plan that is in general accord with the plan entitled, "Central Marin Ferry Connection Multi-Use Pathway Project-Mitigation and Monitoring Reporting Plan", dated April 2013, prepared and approved on behalf of the Commission pursuant to Special Condition II-A above, for the 1.42-acre restoration site located at Creekside Marsh, in an unincorporated area of Marin County, northwest of the Bon Air Bridge across Corte Madera Creek, and as identified in the plan referenced above. The plan shall restore

an approximately 5,000-square-foot area of mineral soils at Creekside Marsh that are tidal but do not support wetland vegetation. The lack of vegetation in this area is thought to be the results of soils that are mineral (non-hydric) and compacted. Restoration will include removing soils where necessary and loosening remaining soils.

- a. **Site Conditions and Modifications.** A topographic map of the site in one-foot contours and a topographic map showing the proposed restoration activities. All elevations shall be relative to National Geodetic Vertical Datum (NGVD) or North American Vertical Datum (NAVD). The map shall include typical cross-sections showing proposed elevation of marsh plain, any channels, and any high spots. The plan shall show: (1) figures for the ratios of typical horizontal to vertical slopes for existing and proposed marsh surface, channels, and sloughs; (2) proposed plant species along the cross-sections according to their expected zone of growth; (3) the elevation of adjacent surrounding properties; and (4) the estimated tidal range and clearly indicating the location of Mean Higher High Water, Mean High Water, Mean Lower Low Water, Mean Sea Level at the site, the maximum predicted tide, and the 100-year tide. To promote natural sedimentation and colonization of the site, constructed elevations shall generally be six to twelve inches below target elevations;
- b. **Soil and Water Information.** The program shall include a report identifying the type of soils found at the site and the soil type of any fill to be imported to the site. Information shall be provided on the quantitative soil measurements of salinity, pH, organic content, and bulk density. All imported soils must be within 10% of the range of values found at the reference marsh for soil qualities such as grain size, organic content, salinity, and pH. Information shall also be provided on the water, including water analysis of salinity, pH, biochemical oxygen demand (BOD), dissolved oxygen (DO), and, if appropriate, heavy metals;
- c. **Schedule.** The program shall include a schedule indicating when excavation, fill, and grading will occur, the time to be allowed for settlement, and the time when planting will occur. The program shall include an estimate of the extent of expected sedimentation over a five-year period;
- d. **Identification of a Suitable Reference Site.** The permittees shall identify a nearby reference site that shall be evaluated as part of the monitoring program and shall provide a reference for evaluating the progress of the restoration site; and
- e. **Monitoring.** Every year, starting October 31 of the year following project completion, for a five-year period, or until those portions of the restoration site subject to tidal action are approximately 95% vegetated as compared with a nearby reference marsh, whichever occurs first, the permittees shall report to the Commission on the effects of the project in restoring tidal marsh habitat at the restoration site. The report shall include measuring sedimentation rates, percentage of the site revegetated, plant survival, approximate percentage representation of different plant species, and a qualitative assessment of plant growth rates for the tidal restoration area, including adjacent transitional and upland habitats. Undesirable exotic plant species such as pepperweed (*Lepidium latifolium*), *Spartina alterniflora*, *Spartina densiflora*, broom, or star thistle shall be reasonably controlled (coverage of less than 5 percent of their expected zone of growth) during the five-year monitoring period. Should adverse conditions be identified during the five-year monitoring period, the permittees shall take corrective action as specified by or on behalf of the Commission.

- E. **Special-Status Species Protection.** In accord with the Biological Opinion of the U.S. Fish and Wildlife Service dated December 30, 2011, the following measures shall be implemented to reduce impacts to special-status species:
1. Prior to the commencement of construction, a barrier fence shall be established within the tidal marsh that shall delineate a boundary between where construction activities are allowed and prohibited;
 2. Prior to commencement of construction, a biologist shall conduct an educational program for all construction personnel that shall, at a minimum include the following: a description of the California clapper rail and the salt marsh harvest mouse and their habitats; the occurrence of the species in the project area and the species' protections under the Federal Endangered Species Act; and measures being implemented on the work site to conserve these species and their habitats;
 3. A designated biologist shall be on-call during all construction activities that occur near the tidal marsh. The biologist shall perform preconstruction surveys for special-status species and shall present findings of these surveys to the lead agency for necessary consultation and compliance with USFWS requirements;
 4. Construction activities within or adjacent to the tidal marsh shall occur between September 1 and January 31 to avoid the February 1 through August 31 California clapper rail breeding season. If construction must occur within the February 1 through August 31 breeding season window, protocol-level clapper rail surveys must be conducted prior to and within the same year as any proposed construction activities occurring within the breeding season. Results of the surveys shall be submitted to the USFWS for review and approval;
 5. To prevent salt marsh harvest mice from entering the site during construction, a temporary exclusion fence shall be placed around the work area prior to the commencement of construction;
 6. A biologist with previous salt marsh harvest mouse experience shall be on-site during vegetation removal activities, the installation of the exclusion fencing and all construction activities; and
 7. Construction activities in the tidal marsh shall be scheduled to avoid extreme high tide events ensuring that protective cover at the site is available for clapper rail and salt marsh harvest mice during such events.
- F. **Marsh and Upland Plant Protection.** Except as specifically authorized herein, the work authorized by this permit shall be performed in a manner that will prevent any significant adverse impact on any tidal marsh, other sensitive wetland resources, and existing upland and transitional habitat that is to be preserved or enhanced as part of the restoration project. If any unforeseen adverse impacts occur to any such areas as a result of the activities authorized herein, the permittees shall restore the area to its previous condition, including returning the disturbed area to its original elevation and soil composition and, if the area does not revegetate to its former condition within one year, the permittees shall seed or plant all disturbed areas with appropriate marsh vegetation after receiving approval of a restoration plan by or on behalf of the Commission pursuant to Special Condition II-A. Such restoration plan(s) must be implemented within one year of the initial disturbance. The permittees shall employ mitigation measures to minimize impacts to wetland areas, such as: (1) minimizing all traffic in

marsh/mudflat areas; (2) restoring ruts tracks or other depressions or mounds caused by construction activities that would interfere with tidal circulation; and (3) carefully removing, storing, and replacing wetland vegetation that has been removed or “peeled back” from construction areas as soon as possible following construction.

- G. **Water Quality Protection.** The permittees shall ensure that project construction and operations are in compliance with the RWQCB Water Quality Certification issued for the project on April 25, 2013.
- H. **Creosote Treated Wood.** No pilings or other wood structures that have been pressure treated with creosote shall be used in any area that either is or will be subject to tidal action or any certain waterway, in any salt pond, or in any managed wetland within the Commission's jurisdiction as part of the project authorized herein.
- I. **Hold Harmless Agreement.** The permittees agree to indemnify, defend, and hold harmless the Commission, its agencies, departments, officers, agents, and employees from any and all claims, demands, losses, or judgments accruing to or in favor of any person, firm, corporation, or entity who or whose property may be injured or damaged by work performed in accordance with the terms and conditions of this permit.
- J. **Certification of Contractor Review.** Prior to commencing any grading, demolition, or construction, the general contractor or contractors in charge of that portion of the work shall submit written certification that s/he has reviewed and understands the requirements of the permit and the final BCDC-approved plans, particularly as they pertain to any public access or open space required herein, or environmentally sensitive areas.

III. Findings and Declarations

This authorization is given on the basis of the Commission's findings and declarations that the work authorized herein is consistent with the McAteer-Petris Act, the *San Francisco Bay Plan*, the California Environmental Quality Act, and the Commission's amended coastal zone management program for San Francisco Bay for the following reasons:

- A. **Fill.** The Commission may allow fill only when it meets the requirements identified in Section 66605 of the McAteer-Petris Act, which states, in part, that: (a) fill “should be limited to water-oriented uses” or “minor fill for improving shoreline appearance and public access”; (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...”; and (e) “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.”
 - 1. **Public Access.** The project will provide a multi-use pathway for pedestrians, bicyclists, and other non-motorized access, linking the Cal Park Tunnel with the existing Bay Trail and sidewalks along East Sir Francis Drake Boulevard. This multi-use pathway was identified as a critical component of the Greenbrae Corridor improvements by avoiding at-grade crossings by pedestrians and cyclists on a heavily traveled thoroughfare, and connecting a future commuter rail station (SMART) with the existing Larkspur Ferry Terminal.

2. **Alternative Upland Location.** Due to the locations of existing access (the Cal park Tunnel and access along Sir Francis Drake Boulevard), and the fact that the access along San Francis Drake Boulevard is immediately adjacent to a tidal marsh, it is not feasible to connect existing access without placing fill in the marsh. In addition, siting the pathway over East Sir Francis Drake and over the marsh reduces potential at-grade crossings on a heavily traveled thoroughfare, preventing additional congestion to an already significantly congested roadway and exposing pedestrians and bicyclists to potentially unsafe roadway conditions.
3. **Minimum Amount Necessary.** The project will result in the placement of 4,940 square feet of permanent, cantilevered fill for portions of the pedestrian bridge, access ramp and overlook, and 195 square feet of solid fill for pilings. In addition, 6,800 square feet of temporary fill for a pile-supported construction trestle or platform will be in place for approximately 1.5 years and will be used to facilitate construction of the project. In an effort to reduce the amount of fill that will be placed with the project, the permittees revised the original design of the project, resulting in a reduction of 7,150 square feet of temporary fill placed for construction access and a reduction of 195 square feet of permanent fill. The amount of fill placed with the project is the minimum amount necessary to construct a multi-use pathway that will accommodate a variety of non-motorized uses safely and effectively while providing adequate connections to existing public access pathways.
4. **Effects on Bay Resources** As discussed more fully in the “**Natural Resources Policies**” section below, best management practices have been incorporated into the project to minimize the impacts of the proposed new fill in the Bay. On December 30, 2011, the U.S. Fish and Wildlife Service (USFWS) issued its Biological Opinion on the effects of the project on the endangered salt marsh harvest mouse and the endangered California clapper rail. The USFWS concluded that the project was not likely to “jeopardize the continued existence of these species” with the successful implementation of conservation measures and best management practices, the relatively small acreage and marginal quality of the habitat affected by the project and the benefits related to the enhancement of 1.42 acres of suitable tidal marsh/upland refugia habitat that would be provided with the off-site mitigation at Creekside Park. Additionally, on April 25, 2013, the Regional Water Quality Control Board (RWQCB) issued a water quality certification for the project.
5. **Valid Title.** The project site is currently owned by the Sonoma-Marin Area Transit District (SMART) and was transferred to SMART through a Quitclaim Deed executed on March 17, 2006, by the Golden Gate Bridge Highway and Transportation District, the County of Marin and the Marin County Transit District. The County of Marin will be responsible for constructing and maintaining the project.
6. **Safety of Fills / Climate Change / Sea Level Rise.** Policy 4 of the Bay Plan policies on Safety of Fills states, in part, that “adequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project,” that “new projects on fill or near the shoreline should either be set back from the edge of the shore so that the project will not be subject to dynamic wave energy, be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity.”

Policy 2 of the Bay Plan policies on Climate Change states in part, “when planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise”, that “a range of sea level rise projections for mid-century and end of century based on the best scientific data available should be used in the risk assessment” and that “the risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices.” Policy 3 requires all projects “other than repairs of existing facilities, small projects that do not increase risks to public safety, interim projects and infill projects within existing urbanized areas” to be “designed to be resilient to a mid-century sea level rise projection”.

The project structure has a design life of approximately 75 years or until 2090. The project includes a 15.5-foot-wide path on a bridge over Sir Francis Drake Boulevard and an approximately 400-foot-long pathway supported on the marsh adjacent to Corte Madera Creek connecting the new pathway with the existing sidewalk on Sir Francis Drake Boulevard.

The following table includes the tidal datum elevations for the site, including the 100-year extreme high water levels for the project vicinity (also known as FEMA’s Base Flood Elevation (BFE)) or “100-year flood elevation”), based on data from the Federal Emergency Management Agency (FEMA) Flood Insurance Study for Corte Madera Creek and work completed by the U.S. Army Corps of Engineers (1984). The 100-year flood elevation is defined by FEMA as the “flood elevation having a 1% chance of being exceeded in a given year.”

Tidal Height	Elevation Based on NAVD 88 (feet) datum
Mean High Water (MHW)	5.3
Mean Higher High Water (MHHW)	5.9
100-Year Flood Elevation*	9.2
*Adjusted for 0.1 feet for sea level rise between Corps 1984 Report and 2000.	

Current estimates of the future rate of sea level rise vary widely, from the historic trend measured over the last century of about 8 inches per century, to as much as 55 inches per century put forth by Stefan Rahmstorf based on his empirical studies of sea level rise and global temperature rise. The following table includes sea level rise projections (in feet) for the coast of California provided in the October 2010 *State of California Sea-Level Rise Interim Guidance Document*, and the 2012 National Research Council (NRC) report titled *Sea-Level Rise for the Coasts of California, Oregon and Washington: Past, Present and Future*.

Year	CA Interim Strategy (2010)		National Research Council NRC (2012)
	Average	Range	
2030	0.6	0.4 – 0.7	0.1 – 1.0
2050	1.2	0.9 – 1.4	0.4 – 2.0
2070	2.0	1.4 – 2.7	N/A
2100	4.0	2.6 – 5.8	1.4 – 5.5

A range of modeled conditions were reviewed and an average was selected to calculate projected sea level rise. For 2030, the average modeled rise is seven inches (0.6 feet); for 2050, the average modeled rise is 14 inches (1.2 feet). For 2100, using the “high” emissions scenario developed by the Intergovernmental Panel on Climate Change (IPCC), the average modeled sea level rise is 55 inches (4.6 feet).

Using these projected sea level rise numbers, the 100-year flood elevation at the project site is calculated to be:

Year	Projected BFE Elevation NAVD 88 (feet)
2030	9.8
2050	10.5
2090*	13.2
2100	13.8
*Based on 75-year design life of the structure	

A good portion of the site and low-lying portions of Sir Francis Drake Boulevard are projected to be flooded by 2030. By 2050, much of the project area is projected to be inaccessible during significant flooding events and by 2090 (the end of the projected life of the project) and 2100, the entire area including the Larkspur Ferry Terminal, Sir Francis Drake Boulevard, and inland areas are projected to be inundated under several feet of water during major flood events. As a result, independent of the project structure itself, sea level rise will need to be addressed for the entire project site and adjacent areas, including the Larkspur Ferry Terminal.

Based on the projections provided above, much of the CMFC structure within BCDC’s jurisdiction has been constructed above an elevation subject to flooding due to sea level rise. However, the southern ramp structure that slopes down to connect with the existing grade at Sir Francis Drake will be flooded increasingly over the years. By 2030, approximately 7.5 feet of the ramp structure is project to be flooded; by 2050, approximately 16.2 feet will be flooded; by 2090, 53.7 feet will be flooded; and by 2100, approximately 65 feet of the ramp will be flooded.

To address future coastal flooding related to sea level rise in San Francisco Bay, recent development projects have used a combination of raising development grades, setting the development footprint back from the shoreline; and improving shoreline protection systems, among other approaches.

The entire ramp structure cannot be elevated above the projected inundation levels since the ramp must connect to existing access points and grades such as the path south of East Sir Francis Drake Boulevard that are already subject to inundation under existing conditions. Moving between the ramp and the existing path requires an ADA-compliant sloped ramp for a connection, a portion of which will be required to be within the area subject to inundation. Therefore, in the long-term, planners and decision-makers will need to consider how best to protect the entire project area from sea level rise. The plan could include reconstruction of infrastructure and private development at elevations above the projected sea level, removal of development from the zone of inundation, construction of levees, or some combination thereof.

In the event the decision is to reconstruct existing facilities at higher elevations, the connections to the CMFC ramp structure could be easily modified to accommodate such reconstruction. For instance, if East Sir Francis Drake Boulevard is elevated, the connecting ramp to the path could be modified as needed to provide a connection to and from the path. Approximately 65 feet of the proposed ramp structure (area predicted to be flooded by 2100) could be replaced with an elevated pathway at elevation 13.8 feet to provide continued access by 2100. The new pathway structure could be supported on three columns, similar to the proposed ramp, within the current alignment of the project. The rest of the ramp structure, bridge, and the bridge foundation would not require modification.

In addition, the project has been designed to address future sea level rise by: (1) using materials for the ramp structure that are able to withstand elevated flood levels; and (2) increasing the depth of rebar cover as compared to a regular structure designed in a dry environment, to account for prolonged exposure to a wet marine environment.

Although it is clear that a portion of the ramp structure (approximately 16.2 feet) will likely be flooded by 2050 based on sea level rise projections, Policy 3 of the Bay Plan policies on Climate Change, exempt certain projects from being designed to be resilient to a mid-century sea level rise projection, including “small projects that do not increase risks to public safety, interim projects and infill projects within existing urbanized areas.” The CMFC project is a relatively small project and will pose no risk to the public since the public would not use the path during events when the entire area, including the ferry terminal, is inundated with water. The project’s sole purpose is to provide public access and the public will likely be moving in and out of the area on a regular basis. In addition, the project will be constructed within an existing urbanized area – adjacent to the Larkspur Ferry Terminal, near the U.S. 101 Freeway, Sir Francis Drake Boulevard Interchange and adjacent to retail, housing and office complexes. As stated above, the adjacent areas are also vulnerable to flooding from sea level rise and a comprehensive long-term strategy will be needed to address the area as a whole.

For all these reasons, the Commission finds that the project is consistent with its law and policies regarding Bay fill, safety of fills, climate change and sea level rise.

- B. **Public Access.** Section 66602 of the McAteer-Petris Act states that "...maximum feasible public access, consistent with a proposed project, should be provided." Policy 1 and Policy 6 of the Bay Plan policies on Public Access state that "a proposed fill project should increase public access to the Bay to the maximum extent feasible" and that the 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 the physically handicapped to the maximum extent feasible, should include an ongoing maintenance program, and should be identified with appropriate signs." Policy 8 states "access to and along the waterfront should be provided by walkways, trails, or other appropriate means to connect the nearest public thoroughfare where convenient parking or public transportation may be available". In addition, Policy 5 states, "public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and flooding...."

The purpose of the project is to provide a pedestrian and non-motorized, multi-use pathway to promote non-motorized commute alternatives and enhance recreational travel within the City of Larkspur, Marin County. It's sole purpose is to enhance public access. The 11,977 feet of pathway will range in width from 12 feet to 22.75 feet and will extend existing trails, provide an important connection between trails, and provide a safe means for pedestrians and bicyclists to cross a busy roadway. When the Larkspur station for SMART is constructed, the pathway will provide a connection between the new station and the Larkspur Ferry Terminal. The pathway will provide elevated views of Corte Madera Creek, adjoining marshlands, and the Bay. The pedestrian bridge will be enclosed with a fine wire mesh to provide required safety and transparency for bridge users as well as travelers on Sir Francis Drake and Highway 101. Lighting along the pathway will be directed downward to minimize glare and interpretive and directional signs will be placed along its length. The new pathway bridge is designed to provide universal access.

To ensure that the project complies with the Commission's policies on public access, in particular Policy No. 5 related to sea level rise and climate change, Special Condition II-B-4 has been included in this authorization. This condition requires the permittees to respond to potential future flooding as a result of sea level rise and climate change by either reconstructing the pathway such that it is no longer subject to flooding, or removing the portion of the pathway vulnerable to flooding to a location outside of the Commission's jurisdiction.

For all these reasons, the Commission finds that the public access improvements, as conditioned, are consistent with its policies on Public Access.

- C. **Natural Resources Policies.** Policy 1 of the Bay Plan policies on Water Surface Area and Volume state, in part: "The surface area of the Bay and the total volume of water should be kept as large as possible in order to maximize active oxygen interchange, vigorous circulation, and effective tidal action." Policy 2 of the Bay Plan policies on Fish, Other Aquatic Organisms, and Wildlife state, in part: "specific habitats that are needed to conserve, increase, or prevent the extinction of any native species, species threatened or endangered...should be protected...." Policy 4 states that the Commission should "...consult with the California Department of Fish and Wildlife [CDFW] and the U.S. Fish and Wildlife Service or [NMFS] whenever a proposed project may adversely affect an endangered or threatened...species" and "...give appropriate consideration to the recommendations of the [state and federal resource agencies] in order to avoid possible adverse effects of a proposed project on fish, other aquatic organisms and wildlife habitat." Policy 1 of the Bay Plan policies on Water Quality states, "bay water pollution should be prevented to the greatest extent feasible..." and policy 2 states that, "...the

policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Board, should be the basis for carrying out the Commission's water quality responsibilities." Policy 2 of the Bay Plan Policies on Tidal Marsh and Tidal flats states, "any proposed filling...should be thoroughly evaluated to determine the effect of the project on tidal marshes and tidal flats, and designed to minimize, and if feasible, avoid any harmful effects..."

Corte Madera Creek is designated as "critical habitat" for the green sturgeon, the central California coast steelhead, the central California coast coho salmon, and the Sacramento River winter-run Chinook salmon. In addition, the project site provides potential habitat for the endangered salt marsh harvest mouse and the endangered California clapper rail.

On March 2, 2011, the proponents initiated consultation with the USFWS regarding potential project impacts to the clapper rail and salt marsh harvest mouse. On December 30, 2011, the USFWS issued its Biological Opinion for the project. The BO requires the implementation of several measures to ensure that the project does not adversely affect endangered species including implementation of a Stormwater Pollution and Prevention Plan (SWPP) and erosion control best management practices (BMPs) to minimize wind and water-related erosion. In addition, dust control measures will be implemented and bio-filtration strips and swales will be installed to receive stormwater discharge prior to entering the Bay. All areas of the marsh disturbed during construction will be revegetated with appropriate tidal marsh plant species. All construction activities will occur between September 1 and January 31, to avoid the clapper rail breeding season. If construction must occur within the breeding season, clapper rail surveys must be conducted by a USFWS approved biologist. To protect the salt marsh harvest mouse, temporary exclusion fencing will be placed around a defined work area prior to the commencement of construction. A biologist will be on-site during vegetation removal activities, installation of the exclusion fencing and all construction activities. Construction activities will be avoided during high tides to ensure that adequate cover vegetation is available in the project site for clapper rail and the mouse during high tide events. The BO concluded that the project "is not likely to jeopardize the continued existence of these species given the "successful implementation" of the measures described above. The Opinion goes on to state that USFWS's determination is based on, "...the relatively small acreage of marginal quality habitat that will be disturbed during construction..."; and "the enhancement of about 1.42 acres of suitable tidal/marsh upland refugia habitat for these species within the same recovery unit..."

On March 2, 2011, the proponents initiated consultation with NOAA Fisheries regarding potential project impacts on Essential Fish Habitat (EFH) (Corte Madera Creek) for the green sturgeon, the central California coast steelhead, the central California coast coho salmon, and the Sacramento River winter-run Chinook salmon. On October 7, 2011, NOAA Fisheries issued its opinion on the project stating that the project contains, "...adequate measures to avoid, minimize, mitigate or otherwise offset the adverse effects to EFH..."

On April 25, 2013, the RWQCB issued a water quality certification for the project.

Special Conditions II-E and G have been required herein to ensure that the construction mitigation measures described above are employed.

The project will result in a total of 4,940 square feet of permanent, cantilevered and pile-supported fill and 195 square feet of solid fill in a tidal marsh. To build the project, 6,800 square feet of temporary, pile-supported fill will be placed for approximately 1.5 years. The fill will shadow the marsh creating sub-optimal growing conditions for tidal marsh plant species. In addition, the support structures for the ramp and overlook will occupy 195 square feet of the marsh.

To off-set the permanent loss of 5,135 square feet of tidal marsh habitat at the project site, Special Condition II-D has been included in this authorization. This special condition requires the restoration of a 1.42-acre (61,855 square feet) site containing degraded tidal marsh habitat at Creekside Marsh, located approximately 1.4 miles upstream of the project site and north of the main channel of Corte Madera Creek in the City of Kentfield. The habitat at the restoration site has been required to be restored and enhanced, in accord with an approved marsh restoration and monitoring plan, consistent with Special Condition II-D.

For all these reasons, the Commission finds that the project, as conditioned, is consistent with the Bay Plan policies regarding fish, other aquatic organisms, and wildlife, tidal marshes and tidal flats, and water quality.

- D. **Design Review Board.** On October 8, 2012, the Commission's Design Review Board (DRB) reviewed the project. The DRB supported the project and commented on project details. The DRB stated that it preferred that the pedestrian bridge be painted white as this would off-set the "landmark quality" of the structure. The Board recommended that a handrail be installed along the bridge and that intermittent seating be incorporated along the bridge. The Board preferred that the mesh be placed on the interior side of the bridge and that the overlook be "squared off" to reduce the likelihood that bicyclists would use this area when making the ramp's U-turn in order to reduce the "race track" feeling of this turn in the pathway and to better balance the use of the bridge for both pedestrians and bicyclists.
- E. **Environmental Review.** The Transportation Authority of Marin (TAM) has local discretionary approval over the project. On September 23, 2010, TAM approved the Initial Study/Mitigated Negative Declaration for the project.
- F. **Conclusion.** For all the above reasons, the Commission finds, declares, and certifies that, subject to the Special Conditions stated herein, the project authorized herein is consistent with the *San Francisco Bay Plan*, the McAteer-Petris Act, the Commission's Regulations, the California Environmental Quality Act, and the Commission's Amended Management Program for the San Francisco Bay segment of the California coastal zone.

IV. Standard Conditions

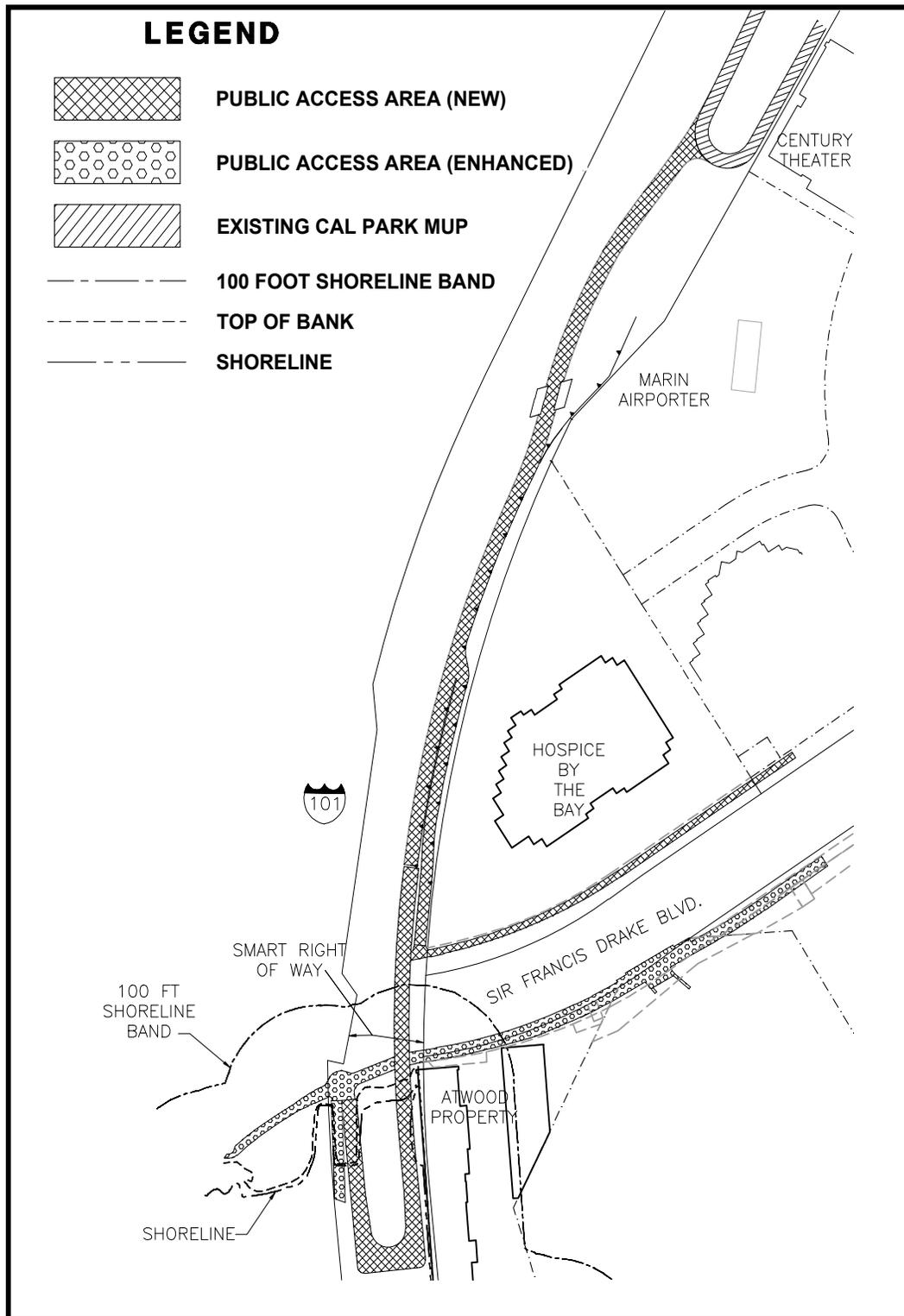
- A. **Permit Execution.** This permit shall not take effect unless the permittees execute the original of this permit and return it to the Commission within ten days after the date of the issuance of the permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.
- B. **Notice of Completion.** The attached Notice of Completion and Declaration of Compliance form shall be returned to the Commission within 30 days following completion of the work.
- C. **Permit Assignment.** The rights, duties, and obligations contained in this permit are assignable. When the permittees transfer any interest in any property either on which the activity is authorized to occur or which is necessary to achieve full compliance of one or more conditions to this permit, the permittees/transferors and the transferees shall

execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignees execute and the Executive Director receives an acknowledgment that the assignees have read and understand the permit and agree to be bound by the terms and conditions of the permit, and the assignees are accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the permit.

- D. **Permit Runs With the Land.** Unless otherwise provided in this permit, the terms and conditions of this permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.
- E. **Other Government Approvals.** All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This permit does not relieve the permittees of any obligations imposed by State or Federal law, either statutory or otherwise.
- F. **Built Project must be Consistent with Application.** Work must be performed in the precise manner and at the precise locations indicated in your application, as such may have been modified by the terms of the permit and any plans approved in writing by or on behalf of the Commission.
- G. **Life of Authorization.** Unless otherwise provided in this permit, all the terms and conditions of this permit shall remain effective for so long as the permit remains in effect or for so long as any use or construction authorized by this permit exists, whichever is longer.
- H. **Commission Jurisdiction.** Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this permit. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this permit, subject to tidal action shall become subject to the Commission's "bay" jurisdiction.
- I. **Changes to the Commission's Jurisdiction as a Result of Natural Processes.** This permit reflects the location of the shoreline of San Francisco Bay when the permit was issued. Over time, erosion, avulsion, accretion, subsidence, relative sea level change, and other factors may change the location of the shoreline, which may, in turn, change the extent of the Commission's regulatory jurisdiction. Therefore, the issuance of this permit does not guarantee that the Commission's jurisdiction will not change in the future.
- J. **Violation of Permit May Lead to Permit Revocation.** Except as otherwise noted, violation of any of the terms of this permit shall be grounds for revocation. The Commission may revoke any permit for such violation after a public hearing held on reasonable notice to the permittees or their assignees if the permit has been effectively assigned. If the permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this permit shall be removed by the permittees or their assignees if the permit has been assigned.

- K. **Should Permit Conditions Be Found to be Illegal or Unenforceable.** Unless the Commission directs otherwise, this permit shall become null and void if any term, standard condition, or special condition of this permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this permit becomes null and void, any fill or structures placed in reliance on this permit shall be subject to removal by the permittees or their assignees if the permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.
- L. **Permission to Conduct Site Visit.** The permittees shall grant permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being and has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice.
- M. **Abandonment.** If, at any time, the Commission determines that the improvements in the Bay authorized herein have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by the permittees, their assignees or successors in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission may direct.
- N. **Best Management Practices**
1. **Debris Removal.** All construction debris shall be removed to an authorized location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the permittees, their assigns, or successors in interest, or the owner of the improvements, shall remove such material, at their expense, within ten days after they have been notified by the Executive Director of such placement.
 2. **Construction Operations.** All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittees shall immediately retrieve and remove such material at their expense.
- O. **In-Kind Repairs and Maintenance.** Any in-kind repair and maintenance work authorized herein shall not result in an enlargement of the authorized structural footprint and shall only involve construction materials approved for use in San Francisco Bay. Work shall occur during periods designated to avoid impacts to fish and wildlife. The permittees shall contact Commission staff to confirm current restricted periods for construction.

CENTRAL MARIN FERRY CONNECTION



Multi-Use Pathway Project