

MARIN COUNTY PARKS

Preservation • Recreation

November 13, 2024

**MARIN COUNTY
PARKS**
PRESERVATION • RECREATION



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Hi Lee,

Veronica Pearson left the County of Marin on November 05, 2024. My name is Michelle Julene, and I am the Regulatory Open Space Planner with Marin County Parks and Open Space District. I have been involved with the McInnis Marsh project for the past few years and will be providing on-going support on regulatory issues and resolution of the Bay Trail realignment.

Thank you for reviewing the McInnis Trail Resilience Memo prepared by ESA dated August 28, 2024 and providing your questions and comments on September 27, 2024. Just before receiving your email, Marin County Parks (MCP) and the Marin County Department of Public Works (DPW) met with the San Francisco Bay Restoration Regulatory Integration Team (BRRIT) on the proposed Gallinas Creek Geomorphic Dredge and McInnis Marsh Restoration project on September 25, 2024. On October 31, 2024, the BRRIT recently provided their comments and questions from that meeting, including some from San Francisco Bay Conservation and Development (BCDC) and from the California Department of Fish and Wildlife (CDFW) that pertain to the proposed Bay Trail alignment at McInnis Marsh.

This correspondence includes responses to the questions included in your email dated September 27, 2024, responses to questions from BCDC included in the BRRIT comment letter, and comments from CDFW included in the BRRIT letter regarding the proposed Bay Trail alignment at McInnis Marsh for your review prior to the upcoming meeting scheduled on November 14, 2024. Your questions are in bold font, with the responses following.

- 1) Although we appreciate the discussion comparing the two Bay Trail realignment options in the memo, we had discussed the possibility of looking at an alignment that would run along the eastern edge of the existing golf course. As part of that, we discussed the possibility of looking at a raised boardwalk along that eastern edge of the golf course. Although we appreciate that boardwalks can increase capital costs, this segment would be much shorter than the “hold the line” option evaluated in the memo. Was there any analysis of this option as part of the evaluation process? Our mail goal is to maintain a water of Bay’s edge experience for Bay Trail users at McInnis as retreat becomes a reality.**

MCP is proposing the Scenario 1 alignment as described in the McInnis Trail Resilience Memo prepared by ESA dated August 28, 2024. This alignment would be located southeast of the driving range, along existing topography that primarily ranges from approximately 14 – 18 feet NAVD, with a total length of approximately 3,300 feet. Scenario 1 would provide several key benefits including:

- greatly increased resilience to the inundation scenarios analyzed.
- significant increase in accommodation for trail users of limited mobility, particularly by increasing the trail width to 8 feet plus one-foot-wide shoulders on both sides of the trail for a total width of 10 feet. Under existing conditions, portions of the trail are as narrow as 5 feet with little or no shoulder.
- converted space from the golf course and other developed land uses with minimal disturbance of existing high-quality habitat including existing wetlands and habitats for special status species.
- an average 200-foot buffer between the Bay Trail and tidal marsh and channel habitats where feasible to minimize disturbance to Ridgway’s rail nesting habitat, consistent with recommendations from ecological experts.
- a clear visual connection to San Francisco Bay to the greatest extent feasible. Scenario 1 is closer to the Bay shoreline and bayward of the golf course driving range, allowing for more unobstructed views.
- compatibility with the future restoration of tidal habitats in the McInnis Marsh main basin, which would expand the extent of Bay habitats in the vicinity and would bring Bay habitats much closer to the new trail.

The proposed Scenario 1 is supported by several agencies, as indicated in the October 31, 2024 BRRIT Letter:

CDFW/USFWS: “We appreciate that both trail alignment options into the golf course intend to maximize buffer distance between the trail and Gallinas Creek habitat. Gallinas Creek could likely support state and federally listed species (e.g., California Ridgway’s rail, California black rail, and salt-marsh harvest mouse) that are susceptible to disturbance from dogs. Therefore, we suggest that if you select Scenario 1, you tuck the trail as close as possible to the southern boundary of the driving range to maximize the buffer, particularly at the southwest corner.”

USACE/NMFS: “We do not have concerns about the proposed realignment scenarios.”

BCDC: “Of the two upland alignments presented [referencing the McInnis Trail Resilience Memo], BCDC would be more supportive of Scenario 1, as it runs closer to the water yet would still be quite resilient to future sea level rise.”

An alignment that would run along the eastern edge of the existing golf course with potential raised boardwalks along the eastern edge of the golf course has several drawbacks, one of which being that the existing trail connection along the North Fork of Gallinas Creek at the southwest end of McInnis Park is also at low elevations. Most of this trail segment is below 9 feet NAVD (MHHW + 3 feet) and several sections are near or below elevation 8 feet NAVD (MHHW + 2 feet). These areas will become inaccessible due to frequent tidal inundation with 1-2 feet of sea level rise, which is likely to occur within the next 30-50 years (OPC’s 2024 State of California Sea-level Rise Guidance projects 1 foot of sea-level rise by 2050 under the Intermediate-High scenario, and 2 feet of sea-level rise by 2060 under the High scenario). If the trail were to be maintained along the existing alignment at this point, it would require construction of in over 3,000 linear feet of additional causeway, indicated by a red dashed line in Figure 1. This alignment would result in significantly increased environmental impacts compared to the proposed Scenario 1 alignment and would be prohibitively more expensive. Given these factors, it is unlikely that MCP would be able to secure restoration funding when there are other options for relocation of the Bay Trail

that could provide greater benefits to wildlife, would eliminate flood risks to the Bay Trail, would have few environmental impacts on sensitive species and habitat, and would cost far less to construct.

Increased Environmental Impacts to Sensitive Habitats and Species: One of the primary goals for MCP's work at McInnis Marsh is habitat preservation for wildlife. The existing trail along the eastern edge of the golf course is over 2,600 feet from the edge of water, which provides a rich tidal wetland environment for the federally and state endangered Ridgway's rail. The 2023 California Ridgway's Rail Summary Report prepared by Point Blue Conservation Science finds that there is a noticeable thick band of Ridgway's rail detections in the middle of that outward band of tidal marsh, approximately 800 feet from the edge of the bay trail, as shown on Figure 2. This supports the current findings from Point Blue and other ecologists that rails are typically reclusive birds and have a preference for habitats that are a considerable distance from humans. For these reasons, MCP determined that realigning the Bay Trail above rail habitat would not be in the best interest of the species, and the more appropriate choice would be to provide a buffer from their habitat. Proposed Trail Scenario 1 would provide trail sections with a water's edge experience that would vary in buffer distance, from as close as 80-feet from edge of water to no greater than 500 feet from edge of water, assuming a conservative inundation scenario of 8.1 feet NAVD, 2 feet above present MHHW. With additional sea level rise, the trail distance from the edge of water decreases to between 30 feet to 300 feet from edge of water. In conversations with Point Blue and other wildlife experts, MCP has determined this is an appropriate buffer distance to realign the Bay Trail at McInnis Marsh and be most protective of sensitive habitat and species.

Cost: Current construction estimates for an 8-foot-wide trail on a causeway are approximately \$500 per square foot, meaning that this type of trail would cost approximately \$12,000,000 and would increase to approximately \$31,000,000 for a 21-foot-wide trail. In comparison, the proposed Scenario 1 construction costs are estimated between \$15 to \$50 per square foot resulting in a rough order of magnitude cost between \$0.5 and \$1.7 million for a 3,300-foot-long, 10-foot-wide trail primarily utilizing existing topography with some segments on a graded earthen embankment to create accessible slopes and allow for stormwater drainage.

Additional Considerations: In considering Bay Trail realignment scenarios, MCP based potential future alignments on a realistic scenario of where investments would be sensible in relation to the future connectivity of the trail to neighboring lands. A causeway is a considerable investment and warrants use of a conservative planning scenario to achieve an appropriate (75+ years) design life. This extended design life under conservative SLR scenarios requires planning to accommodate up to 4.9 to 6.6 feet of SLR (per OPC 2024, Intermediate-High and High scenarios). With this amount of sea-level rise, it is unrealistic to assume the trail could continue north of McInnis Park along its existing alignment, on the existing embankments on LGVSD lands around the wastewater ponds, and on old farm berms farther north. A more sensible trail alignment for these high amounts of sea-level rise would be along the SMART tracks, which would allow for coordinated SLR adaptation between the trail and railroad infrastructure, allowing for cost sharing for easement acquisition and trail/railroad embankment construction, and enabling greater opportunities for future tidal habitat restoration and preservation. Please refer to Figure 1.

2. Although the memo makes clear that sea level rise will make retreat of the Bay Trail alignment necessary in the future, it would be helpful to understand how this would occur, when it would occur, and what circumstances would initiate the plan of action for the retreat. Since sea level rise and its impacts will occur in increments over time, we would prefer a gradual retreat of the Bay Trail alignment as sea level impacts present themselves over time.

MCP understands that MTC has previously expressed a preference for a gradual retreat of the Bay Trail alignment at McInnis Marsh. At this point in time, MCP is not proposing to implement a gradual retreat approach for the

Bay Trail. Such an approach is impractical for several reasons, most notably being the recurring significant environmental impacts to sensitive habitats and species that would occur with several Bay Trail construction projects. On-going costs associated with planning, regulatory compliance through the California Environmental Quality Act and permitting, construction, and post-construction monitoring is another key deterrent of a gradual retreat approach.

At the September 20, 2023 BRRIT meeting, MCP requested that BCDC permit a Bay Trail realignment that would provide for restoration of the south end of McInnis Marsh by breaching a berm where the existing Bay Trail is located. In response to the presentation, BCDC submitted written comments through the BRRIT, which were received on October 19, 2023. These comments prompted the preparation of the McInnis Marsh Trail Resilience Memo dated August 28, 2024, which also presented Scenario 1 and Scenario 2 as potential alignments for the Bay Trail realignment in response to the field meeting with MCP, MTC, and BCDC staff on February 15, 2024.

BCDC Comments Included in the October 19, 2023 BRRIT Letter

“When you are ready, please share information about how the project is expected to impact existing public access, any proposed public access enhancements that would be included with the project, and how the public access would be resilient to future sea level rise. We recommend setting up a separate meeting to discuss public access. Please reach out to us to schedule this meeting when you are ready. Please see additional related comments below:

Bay Trail. In our latest meeting, a comment was made about potentially moving the Bay Trail alignment to a more landward location, and letting the outermost levee slowly erode. The latest slide presentation shows a breach that would occur through the Bay Trail at the southeastern portion of the site. Please provide further detail on how the proposed project would impact the Bay Trail and be sure to coordinate closely with BCDC and Bay Trail staff on any proposed changes. Also note that re-aligning the Bay Trail would require action by the Bay Trail Board of Directors. On a related note, has the County done any analysis as to when the outermost levee may erode or breach if no further actions were taken?”

As the McInnis Marsh Trail Resilience Memo describes, the existing Bay Trail at McInnis Marsh is located on non-engineered earthen berms using local soils and was constructed without formal engineering/design input. The berms were constructed sometime between 1914 and 1942 and were utilized for agricultural purposes. They were not designed for accessibility or to provide critical flood protection or SLR resilience. Under existing conditions, the trail is highly vulnerable to flooding and overtops during 10-year coastal flood events, defined by FEMA as 8.5 ft NAVD. The trail is likely to be heavily impacted by flooding, erosion, and subsidence in the future, with wind wave erosion increasing the potential slope failure leading to a breach. Maintaining the trail is difficult due to challenges with the narrow trail width which impacts vehicular access to the trail.

Once breached, the resulting tidal flows into the main basin would likely fully degrade the trail berm in the vicinity of the breach, making the trail impassible. As discussed in the McInnis Marsh Trail Resilience Memo, MCP cannot predict when the berm will be breached as this event is influenced by several natural occurring factors that MCP does not control.

3. What is the purpose of moving the Bay Trail “entrance” or the Bay Trail connection on the west side of McInnis? I don’t believe we went through the proposed new “entrance” location during our site visit, so I’m not familiar with what value or impacts the proposed move would create.

The existing Bay Trail entrance is at the existing parking area and kayak dock. MCP’s proposed Scenario 1 would relocate the Bay Trail entrance to the north because the existing Bay Trail entrance is at low elevation and will be

vulnerable to inundation with SLR. Please reference Figure 3, which illustrates the existing Bay Trail alignment relative to the two realignment scenarios discussed at the September 25, 2024 BRRIT meeting.

4. We are in agreement with Marin County that the design of any Bay Trail alignment must address the safety of trail users in general and in relationship to the golf course.

MCP appreciates this comment. Safe recreational access in balance with resource protection are key components of MCP's mission.

5. The proposed Bay Trail realignments for both Scenarios 1 and 2 appear to be an 8-foot-wide trail within a 10-foot-wide corridor. Since we are looking at realigning and essentially rebuilding the Bay Trail alignment as part of any sea level retreat scenarios, any proposed Bay Trail alignments must meet the Bay Trail standards for width as much as possible. An 8-foot-wide trail is much too narrow.

MCP understands that MTC would like a wider Bay Trail alignment of at least 18 feet. MCP's Scenarios 1 and 2 propose a trail width of 8 feet plus one-foot shoulders on both sides for several reasons, most notably being resource protection, projected trail use, and cost. A wider trail would result in greater significant environmental impacts to the existing sensitive habitats and species that MCP is charged with protecting and would result in less habitat restoration area for sensitive species.

Another factor in MCP's proposed 8-foot trail width relates to the potential trail usage that may occur in the future as access to the north end of the Bay Trail on lands of Las Gallinas Valley Sanitary District (LGVSD) become inaccessible. MCP is working with the LGVSD and Sonoma-Marín Area Rail Transit (SMART) on a vision document to support development of a SLR adaptation plan that would include addressing the Bay Trail on lands held and managed by the three entities. Given the SLR projections, the existing Bay Trail alignment does not appear to be viable north of MCP land, and it will need to be relocated. MCP's proposed Scenario 1 Bay Trail alignment would likely be a spur trail from a main access trail, such as the proposed SMART trail. As a spur trail, MCP maintains that an 8-foot width would be sufficient. Given that the existing Bay Trail is less than 5 feet wide in some locations, the proposed Scenario 1 would result in a great improvement from existing conditions.

With the amount of funding needed for large infrastructure improvements, it is unlikely LGVSD, SMART and MCP will be able to fund, or receive outside funding, for a causeway to support a wider Bay Trail alignment. Since MCP has identified a feasible land option for the Bay Trail realignment that could provide greater benefits to wildlife, would eliminate flood risks to the Bay Trail, would have few environmental impacts on sensitive species and habitat, and would cost far less to construct than a causeway to support a wider trail, it is unlikely that restoration funding could be secured for a causeway that would support a wider trail.

6. Although we understand the need to balance habitat/wildlife with public access, a 200-foot buffer is a significant distance and a significant impact on trail placement. To help in understanding the potential impacts in the area, is there a map that shows the historical locations of Ridgeway Rail nests?

Please reference the response to Question 1 and Figure 2 which shows the locations of Ridgeway's rails call locations. Rails are secretive birds, and it is not easy to locate their nests. Therefore, their locations are determined by call and response, and not by field surveys to locate nests. California black rail and Virginia rail are also located at the marsh. As mentioned previously and in the McInnis Marsh Trail Resiliency Memo, MCP has consulted with Point Blue to determine an appropriate trail location and buffer distance from rail habitat to protect this sensitive species. In addition to these bird species, the federally and state endangered salt marsh harvest mouse is also present throughout the marsh.

MCP requests that the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) participate in discussions with MTC and BCDC regarding the Bay Trail realignment, and that

MTC and BCDC consult with the BRRIT representatives regarding an appropriate buffer width. Ridgway's rails are a federal and state endangered species, and approval of the USFWS and CDFW is required in the future for any work that may occur and affect this, and other, endangered species.

As previously mentioned, BCDC provided comments in the October 31, 2024 BRRIT Letter. They are included here for your information, along with MCP's preliminary responses.

BRRIT Comment Letter dated October 31, 2024

San Francisco Bay Conservation and Development Commission (BCDC)

- 1. Thank you for the information you have provided in the memo and your presentation regarding the future of the Bay Trail at the site. It is encouraging that the project team is making progress on this issue. Please see a few related comments below.**

MCP appreciates BCDC's attention to the McInnis Marsh Trail Resiliency Memo.

- 2. Environmental justice and community outreach. As described in previous comment letters from the BRRIT, this project is subject to BCDC's Environmental Justice and Social Equity policies. In order to secure a BCDC permit for this project, you will be required to conduct equitable, culturally-relevant community outreach and engagement throughout the design process, and to address the community concerns in the design as feasible and relevant. At this point in the design, it is critical that this community engagement begin as soon as possible and should include seeking feedback on the design of the project and future Bay Trail alignments. As soon as you are able, please share plans for intended community engagement, so we can review and provide detailed feedback as early as possible in the design. We are happy to discuss this further at our upcoming call.**

MCP is likewise committed to conducting an equitable, culturally relevant community outreach and engagement program consistent with BCDC's Environmental justice and Social Equity policies. MCP will share plans for the outreach and engagement program with BCDC for feedback and discussion.

- 3. Potential Bay Trail Alignments.**

Of the two upland alignments presented, BCDC would be more supportive of Scenario 1, as it runs closer to the water yet would still be quite resilient to future sea level rise.

Both scenarios also show a more northern starting point for the Bay Trail, rather than following the current alignment located farther south, along the access road to the parking lot. Is the intent that these areas would be abandoned in the future? If these areas would have future flood protection, then it may be preferable to have the Bay Trail run closer to the shoreline (i.e. closer to the existing alignment) in that area.

MCP appreciates support from BCDC regarding the proposed Scenario 1. The existing Bay Trail entrance is at the existing parking area and kayak dock. MCP's proposed Scenario 1 would relocate the Bay Trail entrance to the north because the existing Bay Trail entrance would be abandoned. Please reference Figure 3, which illustrates the existing Bay Trail alignment relative to the two realignment scenarios discussed at the September 25, 2024 BRRIT meeting.

4. Future commitments and planning for Bay Trail relocation.

- a) **We will need to agree on a special condition for the permit regarding the County’s commitments to the future relocation of the Bay Trail. As soon as you are able, please provide more detailed information about how the retreat of the Bay Trail would occur over time. For example, when would the County plan to build the new Bay Trail alignment? Would it be based on a set timeline, or observed sea level rise, or other factors? If based on future sea level rise, what sea level rise monitoring and/or triggers would be used to determine when the adaptation actions/trail relocation would occur?**
- b) **Please provide the estimated length of time that the outer berm trails would be open and usable to the public. It is fine if this is an educated guess at this point.**
- c) **In addition, please describe how the County would guarantee funding for the future relocation of the Bay Trail. The permit may include a condition that funding be set aside for this purpose, so we should discuss this further on our upcoming call.**

MCP understands that a BCDC permit for the proposed project would include a special condition regarding the County’s commitments to the Bay Trail realignment and will provide the requested information when it is available. Currently, MCP is seeking support and agreement from the agencies regarding the proposed Scenario 1 Bay Trail realignment before spending time and money on these details.

5. Bay Trail connectivity at Sanitary District. We note that there is not an existing access point/trail entrance at the north end of the proposed alignments. Please confirm there is an agreement that the Sanitary District will facilitate access through their corporation yard, or whether such an agreement would need to be developed.

MCP’s recognizes that future access to the north end of the Bay Trail on lands of Las Gallinas Valley Sanitary District (LGVSD) may become inaccessible due to SLR. MCP is working with the LGVSD and Sonoma-Marin Area Rail Transit (SMART) on a vision document to support development of a SLR adaptation plan that would include addressing the Bay Trail on lands held and managed by the three entities. Given the SLR projections, the existing Bay Trail alignment does not appear to be viable north of MCP land, and it will need to be relocated. MCP will work with the LGVSD on any necessary agreements associated with trail access on LGVSD lands.

6. Minor interim trail improvements on outer berms. Please address whether any interim minor trail improvements on the outer berms would be feasible, such as improved surfacing. We would not expect any major grading, paving, etc., but your permit will likely include a requirement to maintain the trails in a safe and usable state as long as they are open to the public.

MCP understands that maintenance of the existing berm trails may be a BCDC permit requirement and looks forward to discussing this with BCDC as planning of the proposed project progresses.

In conclusion, the purpose of the proposed McInnis Marsh tidal restoration is to improve the marsh’s resiliency to SLR by enhancing wetland plant and wildlife habitat and protecting and improving public recreational access to the shoreline. MCP’s proposed Scenario 1 for realignment of the existing Bay Trail at McInnis Marsh would achieve these goals in an environmentally protective, cost-efficient manner and would meet the goals of the Bay Trail Guidelines. MCP looks forward to on-going communication with MTC and BCDC.

MCP would also like to discuss with MTC and BCDC how the original Bay Trail Plan of 1989 relates to the current and future Bay Trail alignment at McInnis Marsh. The 1989 Bay Trail Plan shows potential trails that could become

part of the Bay Trail network, in which both “spine” and “spur” trails are proposed. The potential for relocating the Bay Trail at McInnis Marsh, presents an opportunity for MCP to understand how an agricultural berm was designated a main spine for the Bay Trail segment. MCP does not have any history of permits indicating that these berms were required to be dedicated as part of a BCDC permit approval and therefore, MCP can only assume that this requirement occurred when the Bay Trail Plan was originally adopted. As mentioned previously, MCP is actively working with LGVSD and SMART on a vision for adapting these lands to SLR, but this planning effort will take time to complete. MCP is concerned that McInnis Marsh restoration efforts could be delayed for completion of this process, which would result in severe ecological and public access ramifications at McInnis Marsh.

Sincerely,

A handwritten signature in cursive script that reads "Michelle Julene".

Michelle Julene
Senior Regulatory Open Space Planner
Marin County Parks and Open Space District

Figure 1

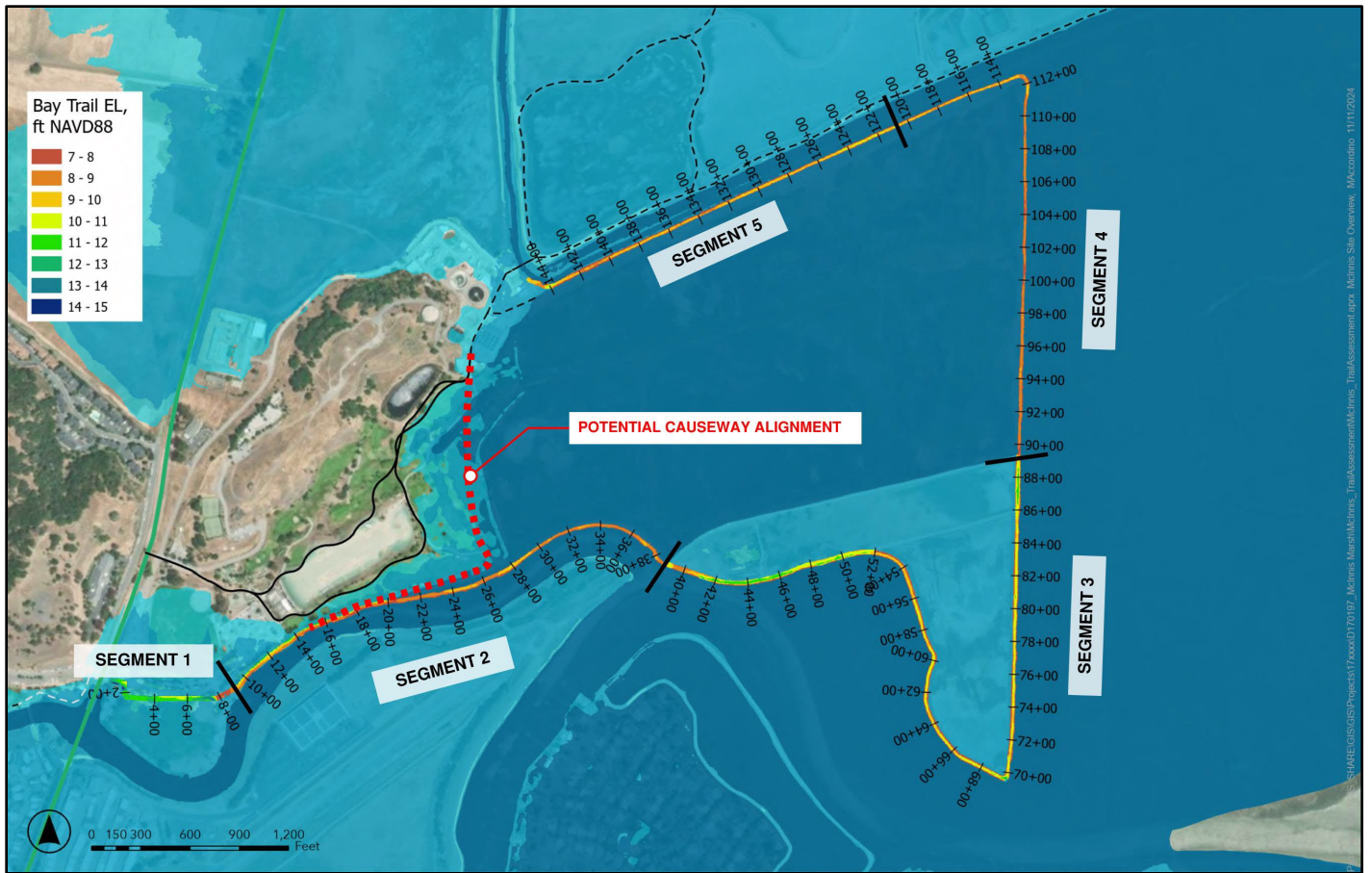


Figure 2

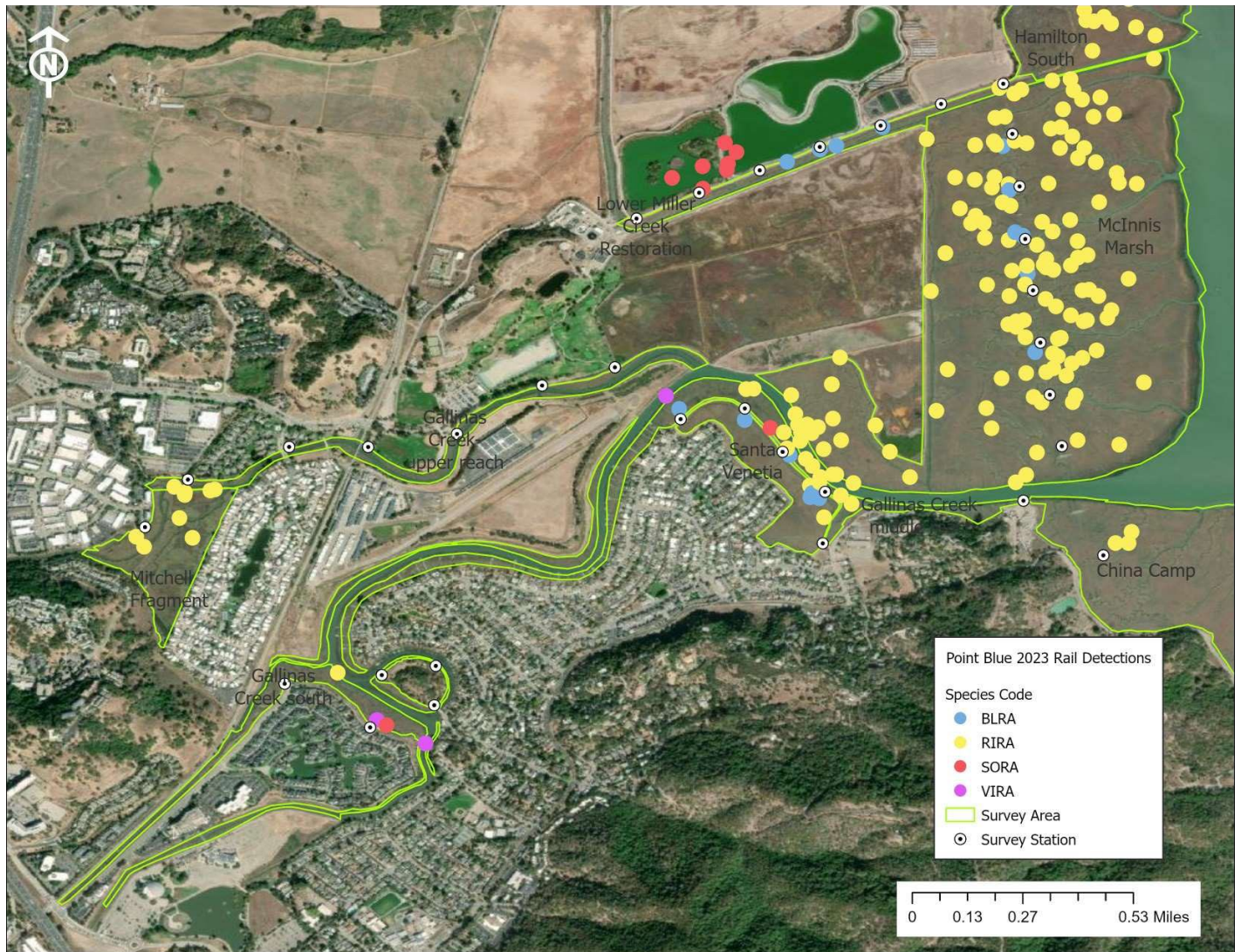


Figure 3

