

Table 4-9. Adaptation Planning: Bay Farm Island Lagoon System 1 Outlet Gate and Seawall

<p>Short-Term (<5 years)</p>	<p>1 1 1</p>	<ul style="list-style-type: none"> • Conduct a geotechnical study. Determine the structural condition of the existing shoreline to better understand long-term modifications that may be necessary. • Elevate existing seawall to provide immediate protection from storms and king tides. Implement recommendations from previous stormwater system assessments. A new 2' retaining wall built behind the existing seawall will make shoreline protections level with tide gate structure platform and adjacent shoreline. • Implement upgrades to HBI System 1 Pump Station identified in previous storm drain master planning efforts and lagoon studies. 	<p>BAY FARM ISLAND LAGOON SYSTEM 1 OUTLET GATE & SEAWALL</p> <p>At the north end of Bay Farm Island Harbor Bay Lagoon System 1 is a narrow, 100-foot long isthmus of land separating the lagoon from San Leandro Bay that can be considered a seawall. It is not a FEMA-certified seawall, and the underlying shoreline's structural competency is unknown. The seawall is not level with the adjacent shoreline, providing a conduit for floodwaters due to sea level rise and storm surge. Overtopping at this location has the potential to compromise the lagoon system, leading to flooding of neighborhoods throughout Bay Farm Island. The tide gate structure at this location is used to drain the lagoon system during low tide. A supplemental pump can also lower lagoon water levels if the tide gate is submerged.</p>
<p>Mid-Term (5–10 years)</p>	<p>2 3</p>	<ul style="list-style-type: none"> • Investigate options for submerged aquatic vegetation (SAV) at this location. Bay Area assessments for natural shoreline feasibility identified San Leandro Bay and the canal as potential locations for SAV. • Begin design of large-scale shoreline modifications along the Bay Farm Island north shore. After 2 to 3 feet of sea level rise, additional strategies may need to be considered and 10 years of lead time will be needed (for feasibility studies, funding, etc.). Thresholds can be developed to trigger exploration of additional strategies such as elevating the existing shoreline or expanding it outwards into the Bay, as well as converting it into a living or horizontal levee. 	
<p>Long-Term (>10 years)</p>	<p>ALL</p>	<ul style="list-style-type: none"> • Coordinate the approach to flooding across Bay Farm Island. Flooding on Bay Farm Island is connected to several locations of shoreline overtopping in both Alameda and Oakland. A coordinated approach to shoreline modifications is necessary to reduce the risk of flooding. 	



Table 4-10. Adaptation Planning: Veteran's Court Seawall

<p>Short-Term (<5 years)</p>	<p>1 2 3</p>	<ul style="list-style-type: none"> • Regrade and elevate road to convert Veteran's Court into a flood protection structure. Initial City conceptual designs call for elevating the roadway and retreating the cul-de-sac to Veteran's Memorial Park. A small 3' to 4' earthen berm would tie into existing ground near Island Drive, preventing water from flowing along the roadway and impacting other areas. • Repair/replace and elevate existing seawall. Implement recommendations from Bay Farm Island Technical Study, including raising existing shoreline structure to provide greater flood protection. • Enhance wave attenuation and erosion control features like submerged aquatic vegetation. This may provide some additional protection to the existing seawall. 	<p>VETERAN'S COURT SEAWALL</p> <p>A major source of potential flooding on Bay Farm Island is the Veteran's Court area. The shoreline along Veteran's Court is primarily a constructed seawall that is not engineered to meet FEMA requirements. Overtopping in this location may lead to inundation of adjacent neighborhoods at mid-century water levels—or inundation during very intense, current storm events—and will likely contribute to larger-scale flooding across Bay Farm Island at higher water levels. Addressing shoreline deficiencies at Veteran's Court is only part of a larger effort needed across Bay Farm Island, in both Alameda and Oakland.</p>
<p>Mid-Term (5–10 years)</p>	<p>ALL 4</p>	<ul style="list-style-type: none"> • Integrate activities at Veteran's Court seawall into broader Bay Farm Island flood control strategies. Flooding on Bay Farm Island originates from multiple locations, so any adaptations at an individual site should be part of a larger coherent approach for shoreline modifications across the island. • Investigate options to convert Veteran's Court area into a living levee. This would require either retreat away from Veteran's Court or encroachment into the canal, as well as a long-term management plan to maintain adequate levee elevation. 	
<p>Long-Term (>10 years)</p>	<p>5</p>	<ul style="list-style-type: none"> • Consider further removal of impervious surfaces. Short-term plans call for converting existing impervious surface into natural area to aid drainage. Long-term options could include converting Veteran's Court roadway into a shoreline park with pedestrian/bike access. Consider features like De-Pave Park as models for transitioning developed land to natural. 	

Table 4-13. Adaptation Planning: SR61/Doolittle Drive

<p>Short-Term (<5 years)</p>	<p>1 • Work with model airplane field to adapt/grade the field. Some of the earliest flood risk to SR61 is at the intersection with Harbor Bay Parkway. The water would flow over the field before affecting the road. This could be prevented by regrading the field to prevent overtopping from Doolittle Pond.</p> <p>2 • Support neighboring adaptation efforts. Past adaptation design efforts have proposed extending Arrowhead Marsh southward into the seaplane canal, as well as relocating Doolittle Drive westward (toward Earhart Drive) and raising it onto a horizontal levee. While such strategies represent a long-term effort taking place in Oakland, they could significantly reduce Bay Farm’s flood risk. The funding, multijurisdictional political will, and research to support this work need to start now.</p> <p>3</p> <p>4 • Study potential for mudflat augmentation or beach erosion to reduce overtopping of Doolittle Pond.</p>	<p>SR61/DOOLITTLE DRIVE</p> <p>SR61 is a state highway owned and maintained by Caltrans. The route runs from the intersection with SR112 near the Oakland Airport across Alameda and terminates at the intersection of Webster Street in Alameda, operating as an important corridor from the island of Alameda to Bay Farm Island, and to the airport and the City of Oakland. The route includes the Bay Farm Island Bridge (connecting Alameda Island and Bay Farm Island). Multiple AC Transit bus routes, including several serving transit-dependent communities, use SR61. The City of Alameda has designated SR61 south of Otis Drive as a primary evacuation route. While isolated segments of SR61 within the City of Alameda are at risk of flooding (near Veteran’s Court and the intersection of SR61 and Harbor Bay Parkway), major flood risk originates with overtopping of Doolittle Drive within the City of Oakland. There is a risk that water could overtop Doolittle Drive and then flood the airport, golf course, and finally nearby residential neighborhoods.</p>
<p>Mid-Term (5–10 years)</p>	<p>5 • Collaborate with Regional Water Quality Control Board on updates to the long-term flood protection plan contained within the Doolittle Landfill’s Waste Discharge Requirements (WDRs). WDRs are updates to ensure monitoring and management requirements remain appropriate to site conditions. A WDR update could provide an opportunity to discuss integration of site flood protection into broader shoreline adaptation efforts.</p>	
<p>Long-Term (>10 years)</p>	<p>6 • Explore opportunities to collaborate with the golf course on flood control.</p> <p>7 • Explore converting roadways on the east side of the Bay Farm community into levees.</p>	

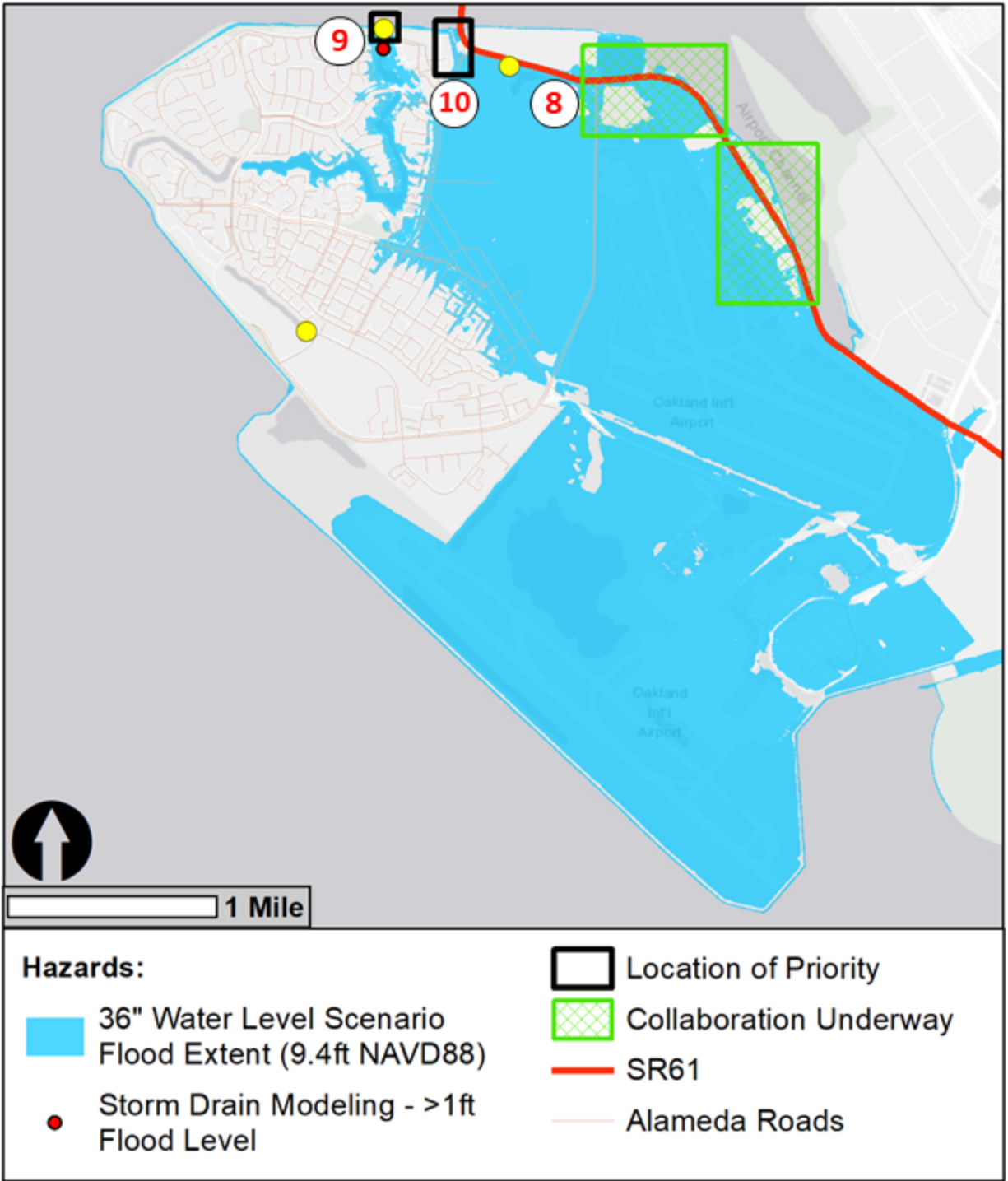


Figure 4-8. Map showing the areas of location-based priority flooding on Bay Farm Island.