

BRIC 2020, City of Menlo Park, Menlo Park SAFER Bay Project

Status: Submitted to
FEMA

Scope of work

The project Scope of Work (SOW) identifies the eligible activity, describes what will be accomplished and explains how the mitigation activity will be implemented. The mitigation activity must be described in sufficient detail to verify the cost estimate. All activities for which funding is requested must be identified in the SOW prior to the close of the application period. FEMA has different requirements for project, planning and management cost SOWs.

Subapplication title (include type of activity and location) **BRIC 2020, City of Menlo Park, Menlo Park SAFER Bay Project**

Activities

Primary activity type

Flood control

Primary sub-activity type

Levee

Secondary activity type (Optional)

Utility and infrastructure protection

Secondary sub-activity type

Electrical/power

Tertiary activity type (Optional)

Stabilization and restoration

Tertiary sub-activity type

Wetland restoration/creation

Geographic areas description

The project will construct linear flood control infrastructure generally parallel to CA State Route 84 between the coordinates (in decimal degrees): 37.489343, -122.168205 (west end) and 37.495706, -122.133100 (east end). Alternatively, the coordinates for the PG&E substation are:37.492958, -122.137976.

Community lifelines

Primary community lifeline

Energy

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Primary sub-community lifeline

Power grid

Secondary community lifeline (optional)

Safety and security

Secondary sub-community lifeline

Community safety

Tertiary community lifeline (optional)

Hazard sources

Primary hazard source

Flooding

Secondary hazard source (optional)

Infrastructure failure

Tertiary hazard source (optional)

Is this a phased project?

Yes

Are you doing construction in this project?

Yes

Population affected

100

Detail/description of stated percentage

Because we define the project impact area as the community that would benefit from resilient electricity service amid flooding events, one hundred percent of the population within our project impact area will directly benefit from the project. For more detail see "SOW Attachment 1 - Menlo Park SAFER Bay Population Impacted".

Provide a clear and detailed description of your proposed activity

The proposed Menlo Park SAFER Bay Project involves environmental documentation and permitting, public outreach, field investigation and design, and construction for nature-based solutions to tidal and sea-level rise flooding along a 3.7-mile alignment of the southeast San Francisco Bay shoreline near the City of Menlo Park. Flood control elements will be designed to provide a 100-year level of flood protection in addition to 3.5 feet of sea-level rise in accordance with the

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State of California Ocean Protection Council's 2020 guidance. A detailed scope of work, description of construction activities, and conceptual designs for the proposed project are attached to the Scope of Work section of the application (Attachments 2 - Menlo Park SAFER Bay Scope of Work; 3 - Menlo Park SAFER Bay Construction Activity Description; and 4 - Menlo Park SAFER Bay Site Plans and Sections). The project would be phased. Phase 1 would include procurement of environmental and engineering services, public outreach, environmental permitting, and design to the 90% level. Phase 2 would include final design, procurement for construction management and contracting services, and construction activities. The primary focus of the proposed project is flood protection of Pacific Gas and Electric Company's (PG&E) Ravenswood Substation, which is part of critical power supply infrastructure to eight cities and nearly 300,000 people. The substation is sited at the margin of San Francisco Bay, and is at risk of tidal flooding and sea-level rise (Attachment 5 – Media Article Stemming the Tide, 2014). When flooded, the substation must be de-energized until flood waters recede, and repair and maintenance activities must be completed before re-powering the substation. Hydrologic and infrastructure analysis has shown that flooding of the substation would result in an interruption of power supply for between 5 and 15 days to the project impact area and many community lifelines that are critical for human health and safety and to economic security (Attachment 6 - Menlo Park SAFER Bay Community Lifelines). The communities served by the Ravenswood Substation that would benefit from resiliency of electricity supply include vulnerable and low-income communities (Attachment 1 - Menlo Park SAFER Bay Population Impacted). The proposed project incorporates nature-based solutions and habitat enhancements (Attachment 7 - Menlo

Park SAFER Bay Nature Based Solutions; Attachment 11 - SFBay Plover Monitoring Report 2014). In total, the project will create approximately 31 acres of tidal marsh transition zone on the bayside slopes of flood control levees in Reaches 2 and 5. By extending the transition zones to elevations that account for 100-year storm events in addition to 3.5 feet of sea level rise, the proposed project will create long-term, resilient, high-quality habitat. The proposed project will also enhance approximately 5 acres of western snowy plover breeding habitat in Pond R3 next to Reach 3 by placing oyster shells or pea gravel to enhance the breeding habitat of endangered bird species. The 2020 Adapting to Rising Tides analysis identified residential block groups in East Palo Alto and Menlo Park's Belle Haven neighborhood as having among the highest social vulnerability to flooding in the region, as well as moderate to high contamination burdens (Attachment 8 – ART Bay Area Main Report, 2020). The proposed project is a significant part of the SAFER Bay Program alignment that, when completed, will provide the additional benefit of protecting those communities and others from tidal and sea level rise flooding, and removing them from the FEMA flood map (Attachment 9 – SAFER Bay Draft Public Feasibility Report, 2016). Reaches 7, 8 and 9 of the SAFER Program are already in design and funded for construction through an earlier FEMA Hazard Mitigation Grant. The proposed project will construct Reaches 2, 3, 4, and 5, leaving minimal additional work to be done to complete the SAFER Program Alignment. The necessary outreach and development of partnerships to complete the outstanding SAFER Reaches is underway and likely to bear fruit in the foreseeable future.

How will the mitigation activity be implemented?

Please see "SOW Attachment 13 – How the Mitigation Activity will be Implemented".

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Describe how the project is technically feasible and will be effective in reducing the risk by reducing or eliminating damage to property and/or loss of life in the project area. Please include engineering design parameters and references to the following: preliminary schematic or engineering drawings/design; applicable building codes; engineering practices and/or best practices; level of protection (e.g., life safety, 100-yr flood protection with freeboard, 100-yr wind design, etc.):

Who will manage and complete the mitigation activity?

Please see "SOW Attachment 10 – The Project is Technically Feasible".

The Menlo Park SAFER Bay Project partners are the City of Menlo Park as lead sub-applicant, San Francisquito Creek Joint Powers Authority (SFCJPA) for technical expertise, and Pacific Gas & Electric (PG&E) and Facebook as funding partners. The proposed mitigation activity will be administered by the City of Menlo Park, who will provide overall project management and oversight. Menlo Park will be ultimately responsible for project delivery, including grant-related administrative tasks. The City will be the point of contact for CalOES/FEMA, and will provide required grant reporting and updates to CalOES/FEMA. The City of Menlo Park currently plans to subcontract with the SFCJPA to implement the environmental, engineering and construction management scope for this project. The SFCJPA has the necessary technical knowledge and experience to implement the proposed project, as evidenced by the successful completion of the San Francisquito Creek Flood Protection Project, as well as the ongoing overall SAFER Bay Program. The SFCJPA will contract with necessary construction, environmental and engineering contractors to implement the scope of work, and provide contracting and accounting support to administer the contracts. The SFCJPA will lead public outreach scope for the project using local entities Acterra and Neustra Casa to engage disadvantaged communities, with additional labor and

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materials support provided by the City of Menlo Park, PG&E and Facebook.

Will the project address the hazards identified and what risks will remain from all hazards after project implementation (residual risk)?

Yes, the project will address the hazards identified: Flooding and Infrastructure failure. The proposed project will construct coastal flood protection levees and floodwalls that will meet freeboard requirements to protect against FEMA's 1% Annual Chance Event (ACE) for coastal flooding, plus 3.5 feet of sea level rise. The project will provide this level of flood protection to the PG&E Ravenswood Substation, thus addressing the hazard associated with substation flooding and failure of electricity supply infrastructure to almost 300,000 people. After the project is implemented, the residual risk will be from coastal flooding due to water levels that exceed the combined design elevations for the 1% ACE plus freeboard, and 3.5 feet of sea level rise.

When will the mitigation activity take place?

A detailed breakdown of the project schedule and supporting attachments are provided in the Schedule section of this application. Provided here is a general narrative summary. The Menlo Park SAFER Bay project was originally planned and scheduled as a single phase from grant award, through environmental permitting, design and construction. Initial review comments from CalOES included that the project should be phased. Provided here is a revised general narrative summary of the phased project schedule. A detailed breakdown of the revised project schedule and supporting attachments are provided to accompany this narrative. The sub-applicant will submit the BRIC application to CalOES no later than December 3, 2020. CalOES will submit the application to FEMA no later than January 29, 2021. It is the sub-applicant's understanding that FEMA will require several months for review and approval of projects under the pre-disaster program. The sub-applicant has assumed a Phase 1 project start date of October 1, 2021, although it is understood

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that this may be subject to change. Phase 1 of the project will begin on October 1, 2021. Public Outreach activities will be performed by the sub-applicant and project partners and will commence immediately in October 2021 with the development of the Public Outreach Plan, followed by public, stakeholder and advisory board outreach and meetings for the duration of Phase 1. Procurement for design and environmental services will also commence in October 2021. Once engineering and design services are procured in late November 2021, a Phase 1 kick-off meeting will be held and the project management, environmental, design and public outreach activities will commence immediately. The Project Description activity will commence in November 2021 and be completed in February 2022. Once the project description is complete in February 2022, the Notice of Preparation and Public Scoping Meeting will commence and be completed by May 2022 so that the Draft EIR, regulatory permitting and 30% design, and right-of-way negotiations can commence. In those early months prior to commencing 30% design, the engineering team will perform data collection, surveying, utility location, aerial mapping and geotechnical site investigation, and begin the coastal hydraulics analysis and drafting of the project Design Criteria Memorandum. By May 2022 regulatory permitting will be underway and expected to continue for 12 months until May 2023. During this time the Draft EIR (October 2022) and Final EIR (February 2023) will be completed, and Finding of Fact, Statement of Overriding Consideration and Notice of Determination will be made (March 2023). In the same timeframe the engineering and design will progress. From May 2022 to July 2023 the project will develop 30%, 60%, and 90% plans, specifications and cost estimates (PS&Es). As the design is refined, the periods for successive advancements will become shorter; 30% design will be complete within

six months, 60% in five months and 90% in four months. Concurrently with 90% design, the Design Documentation report will be drafted to a commensurate level of completion. It is understood that FEMA may commence NEPA review as early as 60% design completion in March 2023. When FEMA does commence NEPA review, the project team will provide necessary information and support. Completion of 90% Design in July 2023 marks the end of Phase 1 of the project. Eight months have been scheduled for FEMA's ongoing NEPA review of the project and approval for Phase 2 project funding. It is understood that this timeframe is subject to change based on FEMA's work approach. Phase 2 of the project will begin on February 2024 with immediate commencement of project management, public outreach and final design activities. Project management and public outreach activities will continue until the end of Phase 2 and the project. Final design will be complete within 3 months, in May 2024, at which point construction bidding will commence. Procurement for construction management services will commence shortly after the start of Phase 2 so that a construction manager is engaged in time to review prospective bids and provide input to contractor selection. Construction will commence in August 2024, one month after construction bidding is complete, and continue 22 months until June 2026. Engineering during construction and construction management activities will follow the same timeframe. The sequencing of construction has not yet been defined and will depend upon factors including mass-balancing between existing excavated levees and construction of new levees and transition-zones, and construction staging to minimize traffic impacts on the adjacent highway. The engineering consultant will be required to develop a construction sequencing plan and construction schedule.

Explain why this project is the best alternative. What alternatives were considered to address the risk and why was the proposed activity considered the best alternative?

Prospective construction bidders will also be required to provide detailed sequencing plans and construction schedules from which to develop the baseline, contracted construction schedule. Final Project Record Drawings, the Construction Documentation Report and Biological As-Built Report will be developed as construction progresses and completed shortly after construction is complete. The completion of these deliverables marks the end of phase 2 of the project in July 2026.

Several alternatives were considered during project development. These alternatives are described below, with reasoning for selection of the preferred alternative. **Alternative #1: No Project** The No Project Alternative was evaluated. However, the current berm surrounding the Ravenswood substation suffered damage from a high tide/high wind event in February 2020. USFWS made repairs to the levee and informed PG&E repairs are expected to last 3-5 years. Therefore, faced with the imminent coastal flooding hazard and extremely severe impacts of flooding of the PG&E Ravenswood Substation (SOW Attachment 6 - Menlo Park SAFER Bay Community Lifelines) it was decided that a mitigation project must be undertaken. **Alternative #2: Reduced Project Scope** In the early stages of project development, when PG&E was the sole funding sponsor, an alternative scope of work was proposed to provide flood control only to the PG&E Ravenswood Substation, corresponding to Reach 5 in the "SOW Attachment 4 - Menlo Park SAFER Bay Site Plans and Sections". This alternative was eliminated from further consideration when additional local match funding was secured from Facebook. **Alternative #3 Expanded Project Scope** With additional local match funding from Facebook, a project alternative to complete the entire SAFER Bay Program alignment was considered (excepting the portions already planned by East Palo Alto). Upon preparing construction cost estimates for this

alternative, it was recognized that completing all of reaches 1 through 5 was not financially feasible at this time. **Alternative #4: Optimized Project Scope and Adoption of SAFER Bay Program Alignments and Design Concepts (Preferred Alternative)** The preferred alternative (reaches 2 through part of 5) is designed to leverage local support and sponsorship and complete as much of the SAFER Bay Program as possible while still remaining financially feasible. It is recognized by the project partners that much of the flood control construction they are supporting in this proposed project will not immediately benefit their communities from flood hazards, but will be a great step toward achieving that. When the proposed Menlo Park SAFER Bay Project is built, all that will be remaining to take Menlo Park out of the FEMA coastal floodplain will be Reach 1, and portions of Reach 2 and 5. The remaining Reaches will require coordination with the City of Redwood City and California Department of Transportation (Caltrans). Efforts are underway to develop partnerships for those reaches of flood control, and success is likely in the foreseeable future. Caltrans has provided a letter of support for this proposed project, which is attached to the Evaluation section of the application. In evaluating alternatives for flood protection alignments and conceptual designs, the partners first looked to the 2016 SAFER Bay Feasibility Study published by the San Francisco Bay Area Water Resources Agency. The SAFER Bay Feasibility Study identified options for flood control in the Menlo Park area, performed an alternatives analysis, and identified optimal alignments and design concepts (SOW Attachment 9 - SAFER Bay Public Draft Feasibility Report 2016). Additional studies were also consulted, particularly the Dumbarton Bridge West Approach + Adjacent Communities Resilience Study Technical Report (SOW Attachment 14 – Dumbarton Bridge Resilience Study)

released in June 2020. Review of the available studies dealing with flooding and sea level rise within in the Bay Area have validated the SAFER Bay approach to mitigating flood risks. Therefore, the primary objectives used to guide the alternatives analysis in the SAFER Bay Feasibility Study are the same as the objectives for the proposed Menlo Park SAFER Bay project. Namely: - Project will reduce the risk of flooding within the cities of East Palo Alto and Menlo Park from San Francisco Bay coastal waters and support the communities' desire to be removed from the FEMA floodplain, and include consideration of three feet of future Sea Level Rise (SLR). - Project will enable adaptation to our changing climate by utilizing tidal marsh areas for flood protection in a way that sustains marsh habitat and facilitates marsh restoration associated with the South Bay Salt Ponds Restoration Project (SBSRP) and other restoration efforts. - Project will expand opportunities for recreation and community connectivity in collaboration with the Bay Trail Program and efforts to enhance local trails. - Project will create opportunities for partnership with agencies and organizations pursuing similar goals and objectives and with assets to be protected by the project. The preferred alignments and conceptual designs developed in the SAFER Bay Feasibility Study were thus adopted for the Menlo Park SAFER Bay Project. While the optimal alignments remain unchanged, noted changes for the Menlo Park SAFER Bay Project include the following: - The Menlo Park SAFER Bay Project designs will account for 3.5 feet of sea level rise, in accordance with the updated Ocean Protection Council guidance (2020), where the SAFER Bay study of 2016 had incorporated 3.0 feet of sea level rise. - The Menlo Park SAFER Bay Project will incorporate additional areas of transition zone levee for tidal marsh creation, beyond those proposed by the SAFER Bay Program, and will incorporate oyster shell placement

for enhancement of Western snowy plover breeding habitat.

Please identify the entity that will perform any long-term maintenance and provide a maintenance, schedule and cost information. The subapplicant or owner of the area to be mitigated is responsible for maintenance (including costs of long-term care) after the project is completed?

As project sub-applicant, the City of Menlo Park takes full responsibility for ensuring that the operation and maintenance needs of the project are met. The sub-applicant intends to engage with the project collaborative partners (SFCJPA, PG&E, and Facebook) to further discuss allocation of operation and maintenance responsibilities. An Operations and Maintenance (O&M) Plan will be implemented by the sub-applicant following completion of construction. The O&M Plan will be developed by the engineering consultant during design, and will be reviewed and finalized by the engineering consultant close to substantial completion of construction to take into account the final as-built conditions of the project. The O&M Plan will identify and describe the activities required for thorough inspection of levees, floodwalls, floodgates, access roads and recreational paths, and will specify activities for typical maintenance of those facilities, such as vegetation repair, control and repair of animal burrows, corrosion prevention exercising of gates. The O&M Plan will provide recommended schedules for inspection and maintenance activities. Please see "SOW Attachment 12 - Menlo Park SAFER Bay Operations and Maintenance" for more details of O&M schedule and cost.

Additional comments (optional)

The FEMA GO portal does not provide for attachment of supporting documents within the Schedule section. In support of the project schedule information, we wish to attach here the following: - Schedule Attachment 1 - Menlo Park SAFER Bay Schedule - Schedule Attachment 2 - Menlo Park SAFER Bay_Justification for Extended Project Duration - Schedule Attachment 3 - Menlo Park SAFER Bay_Site Plans and Sections - Schedule Attachment 4 - SAFER

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**Bay Public Draft Feasibility Report 2016 -
Schedule Attachment 5 - Menlo Park SAFER
Bay Schedule Table**

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
SOW Attachment 8 - ART Bay Area Main Report 2020.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Adapting to Rising Tides Bay Area: Regional Sea Level Rise Vulnerability and Adaptation Study	
Schedule Attachment 3 - Menlo Park SAFER Bay Site Plans and Sections.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay project plans and sections	
SOW Attachment 5 - Media Article Stemming the Tide 2014.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	News article	
SOW Attachment 14 - Dumbarton Bridge Resiliency Study 2020.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Dumbarton Bridge West Approach + Adjacent Communities Resilience Study	
SOW Attachment 13 - Menlo Park SAFER Bay How the Mitigation Activity Will be Implemented.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay implementation	

01/04/2021 emhinkley@menlopark.org **+ Show your score panel**

Filename	Date uploaded	Uploaded by	Label	Description	Action
SOW Attachment 2 - Menlo Park SAFER Bay Scope of Work_Rev1.pdf			Scope of Work Attachments	Menlo Park SAFER Bay scope of work	
SOW Attachment 4 - Menlo Park SAFER Bay Site Plans and Sections.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay site plans and sections	
SOW Attachment 9 - SAFER Bay Public Draft Feasibility Report 2016.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	SAFER Bay Public Draft Feasibility Report 2016	
Schedule Attachment 1 - Menlo Park SAFER Bay Schedule_Rev2.pdf	01/11/2021	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay project schedule	
SOW Attachment 7 - Menlo Park SAFER Bay Nature-Based Solutions.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay nature-based solutions	
SOW Attachment 10 - Menlo Park SAFER Bay The Project is Technically Feasible.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay feasibility	
Schedule Attachment 5 - Menlo Park SAFER Bay Schedule Table_Rev1.pdf	01/11/2021	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay schedule table	
Schedule Attachment 4 - SAFER Bay Public	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	SAFER Bay Public Draft	

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Filename	Date uploaded	Uploaded by	Label	Description	Action
Draft Feasibility Report 2016.pdf				Feasibility Report 2016	
SOW Attachment 3 - Menlo Park SAFER Bay Construction Activity Description.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay construction activity description	
SOW Attachment 1 - Menlo Park SAFER Bay Population Impacted.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay population impacted	
SOW Attachment 6 - Menlo Park SAFER Bay Community Lifelines.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay community lifelines	
SOW Attachment 11 - SFBay Plover Monitoring Report 2014.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	San Francisco Bay Western Snowy Plover monitoring report	
SOW Attachment 12 - Menlo Park SAFER Bay Operations and Maintenance.pdf	12/02/2020	emhinkley@menlopark.org	Scope of Work Attachments	Menlo Park SAFER Bay operations and maintenance	
Schedule Attachment 2 - Justification for Extended Project Duration_Rev2.pdf	01/11/2021	emhinkley@menlopark.org	Scope of Work Attachments	Justification for extended period of performance	

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