

Menlo Park SAFER Bay Project Operations and Maintenance

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.

In general, it is expected that the O&M Plan will include the following scheduled activities:

1. Bi Annual Detailed Inspection
 - a. Post-flood season/ rainy season. Detailed, multi-day inspection during which all aspects of the flood control infrastructure are inspected and assessed. Any defects or changes from previous condition are noted, photographed and quantified (measured). Detailed notes and information are compiled. A repair plan and schedule is developed and implemented.
 - b. Pre-flood season/ rainy season. Detailed, multi-day inspection during which all aspects of the flood control infrastructure are inspected and assessed. All repair work undertaken since the last bi-annual inspection is inspected. Additional defects or repair needs are noted, photographed and quantified. Detailed notes and information are compiled. Any outstanding repairs are planned and implemented before flood season/ rainy season.
2. Weekly Inspections
 - a. Less comprehensive, more site-specific. Typically can be undertaken during other maintenance and operational tasks. Field notes are created that detail observations and required actions.

3. Maintenance Activities

- a. Activities that are scheduled and performed on a regular basis. Examples include, animal control and burrow repair; floodgate exercising and maintenance, trash and debris removal. The regularity of these activities varies depending upon the size and environmental setting of the facility. The O&M Plan will provide guidance that may be adjusted based on subsequent operating experience.
- b. Activities that are scheduled and performed on an as-needed basis. Examples in vegetative repair, access road maintenance, floodwall maintenance. These activities will be scheduled and conducted based upon findings of inspections.

Table 1 provides an estimated average annual budget for operations and maintenance costs. O&M costs may vary from year to year, especially since some significant maintenance activities occur less frequently than yearly.

Table 1: Average Annual Budget for Operations and Maintenance for the Menlo Park SAFER Bay Project.

O&M Task	Cost Classification	Costs				
		Quantity	Units	Unit Cost	Sub Total	Activity Total
Levee Inspection (3.1 Miles)	Labor Costs	200	hrs/year	\$70	\$14,000	\$34,000
	Equipment/ Materials	1	LS/year	\$20,000	\$20,000	
Maintenance of Grass and Sod Cover (3.3 Miles)	Labor Costs	200	hrs/year	\$70	\$14,000	\$34,000
	Equipment/ Materials	1	LS/year	\$20,000	\$20,000	
Animal Control Program (3.3 Miles)	Labor Costs	180	hrs/year	\$70	\$12,600	\$32,600
	Equipment/ Materials	1	LS/year	\$20,000	\$20,000	
Bike Path and Access Road Maintenance	Labor Costs	60	hrs/year	\$70	\$4,200	\$22,200
	Equipment/ Materials	1	LS/year	\$18,000	\$18,000	
Levee Embankment Repair	Labor Costs	100	hrs/year	\$70	\$7,000	\$22,000
	Equipment/ Materials	1	LS/year	\$15,000	\$15,000	
Floodwall Maintenance & Repair	Labor Costs	10	hrs/year	\$70	\$700	\$5,700
	Equipment/ Materials	1	LS/year	\$5,000	\$5,000	
Floodgate Maintenance & Repair	Labor Costs	10	hrs/year	\$70	\$700	\$2,700
	Equipment/ Materials	1	LS/year	\$2,000	\$2,000	
Trash & Debris Removal	Labor Costs	380	hrs/year	\$70	\$26,600	\$56,600
	Equipment/ Materials	1	LS/year	\$30,000	\$30,000	
Total Estimated Annual O&M Cost						\$210,000