



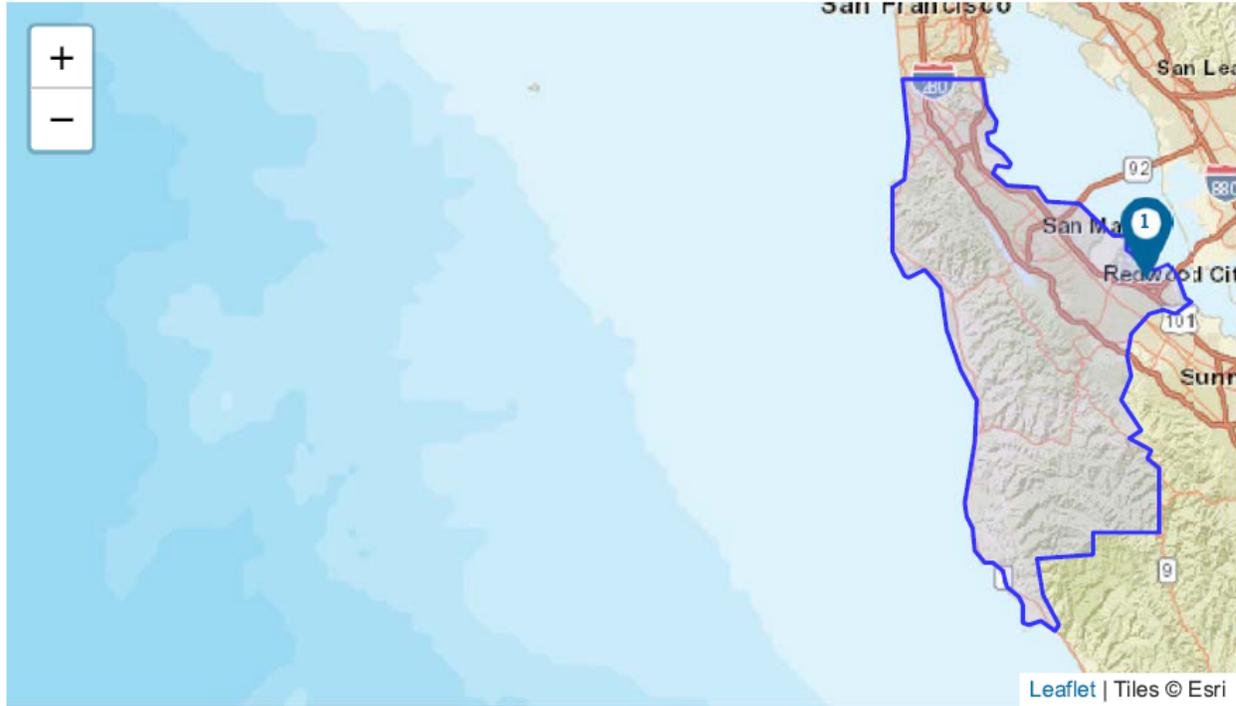
FEMA

# Benefit-Cost Calculator

V.6.0 (Build 20201203.2151)

## Benefit-Cost Analysis

**Project Name:** BRIC 2020, City of Menlo Park, Menlo Park SAFER Bay



Map Marker	Mitigation Title	Property Type	Hazard	Benefits (B)	Costs (C)	BCR (B/C)
1	Other @ 37.4893430; -122.1682050		DFA - Coastal A Flood	\$ 645,460,043	\$ 70,573,244	9.15
<b>TOTAL (SELECTED)</b>				<b>\$ 645,460,043</b>	<b>\$ 70,573,244</b>	<b>9.15</b>
<b>TOTAL</b>				<b>\$ 645,460,043</b>	<b>\$ 70,573,244</b>	<b>9.15</b>

Property Configuration

Property Title:	Other @ 37.4893430; -122.1682050
Property Location:	94025, San Mateo, California
Property Coordinates:	37.489343, -122.168205
Hazard Type:	Coastal A Flood
Mitigation Action Type:	Other
Property Type:	Utilities
Analysis Method Type:	Professional Expected Damages

Cost Estimation  
Other @ 37.4893430; -122.1682050

Project Useful Life (years):	50
Project Cost:	\$67,675,087
Number of Maintenance Years:	50 Use Default:Yes
Annual Maintenance Cost:	\$210,000

Damage Analysis Parameters - Damage Frequency Assessment  
Other @ 37.4893430; -122.1682050

Year of Analysis Conducted:	2020
Year Property was Built:	0
Analysis Duration:	10 Use Default:Yes

Utilities Properties  
Other @ 37.4893430; -122.1682050

Type of Service:	Electrical
Number of Customers Served:	296,183
Value of Unit of Service (\$/person/day):	\$148 Use Default:Yes

Comments

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**Type of Service:**

Ravenswood PG&E Regional Substation

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**Number of Customers Served:**

Total population served by the here are 110,530 dwelling units in the service area with a population of 296,183. (source PG&E) Employment serviced by the substation is 213,371 jobs

Professional Expected Damages Before Mitigation

Other @ 37.4893430; -122.1682050

Recurrence Interval (years)	ELECTRICAL	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
10	8	0	0	0	0	0	412,286,736
50	9	0	0	0	0	0	463,822,578
100	10	0	0	0	0	0	515,358,420
500	10	0	0	0	0	0	515,358,420

Comments

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**Damages Before Mitigation:**

Refer to methodology document included with grant application. Days of loss of service developed to include, flood inundation time, drainage time, and time to repair. Avoided rebuild and elevation costs include the cost to raise the substation above the 500yr flood and are assumed to be triggered should the 500-yr return period occur

Annualized Damages Before Mitigation

Other @ 37.4893430; -122.1682050

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
10	412,286,736	34,983,690
50	463,822,578	4,889,119
100	515,358,420	4,122,867
500	515,358,420	1,030,665
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	1,906,826,154	45,026,341

Professional Expected Damages After Mitigation

Other @ 37.4893430; -122.1682050

Recurrence Interval (years)	ELECTRICAL	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
500	10	0	0	0	0	0	515,358,420

Annualized Damages After Mitigation

Other @ 37.4893430; -122.1682050

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
500	515,358,420	1,030,665
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	515,358,420	1,030,665

Standard Benefits - Ecosystem Services	
Other @ 37.4893430; -122.1682050	
<b>Total Project Area (acres):</b>	36.8
<b>Percentage of Green Open Space:</b>	0.00%
<b>Percentage of Riparian:</b>	0.00%
<b>Percentage of Wetlands:</b>	87.00%
<b>Percentage of Forests:</b>	0.00%
<b>Percentage of Marine Estuary:</b>	13.00%
<b>Expected Annual Ecosystem Services Benefits:</b>	\$201,022.57

Benefits-Costs Summary	
Other @ 37.4893430; -122.1682050	
<b>Total Standard Mitigation Benefits:</b>	\$645,460,043
<b>Total Social Benefits:</b>	\$0
<b>Total Mitigation Project Benefits:</b>	\$645,460,043
<b>Total Mitigation Project Cost:</b>	\$70,573,244
<b>Benefit Cost Ratio - Standard:</b>	9.15
<b>Benefit Cost Ratio - Standard + Social:</b>	9.15