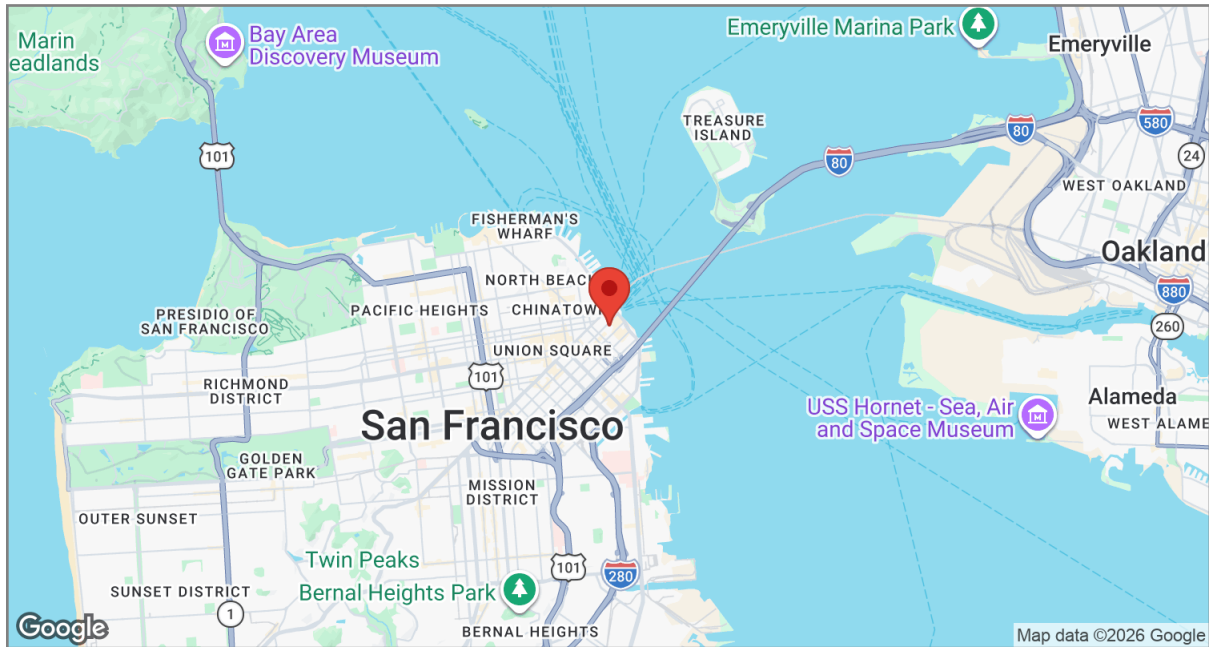


SEISMIC RISK ASSESSMENT REPORT

Created with the SP3-RiskModel *Advanced + Recovery*

Executive Summary Report



Report Generated for:

123 Main Street, San Francisco, CA

Latitude: 37.79166°

Longitude: -122.39442°

Report Generated by:

v14.7.1 of the SP3-RiskModel

May 22, 2026



**Seismic Performance
Prediction Platform**

RISK MODEL INPUTS

The following are the user inputs used to generate the SP3-RiskModel Report.

Primary		Building Design Info		
Project Name:	Website	Level of Detailing (Dir. 1, 2):	Special, Special	
Model Name:	123 Main Street	Drift Limit (Dir. 1, 2):	1%, 1%	
Building Type:	Steel: BRBF CoreBrace with Back-up Frame	Risk Category:	(Cat. III)	
Design Code Year:	2010	Seismic Importance Factor, I_e :	–	
Number of Stories:	8	Component Importance Factor, I_p :	–	
Address:	123 Main Street San Francisco, CA	Design Spectral Acceleration		
Latitude:	37.79166°	Mapped Short Period, S_s	–	
Longitude:	-122.39442°	Mapped 1 Second, S_1	–	
Occupancy:	Commercial Office	Design Short Period, S_{Ds}	–	
		Design 1 Second, S_{D1}	–	
Analysis Options		Structural Properties		
Include Collapse in Analysis:	Yes	Mode Shapes Specified?	No	
Consider Residual Drift:	Yes	<i>Directional Properties</i>	<i>Dir. 1</i>	<i>Dir. 2</i>
Simulation Options		Base Shear Strength (g):	–	–
Number of EQ Simulations:	2,500	Yield Drift (%):	–	–
Collapse Distribution Truncation?	Yes	Design Model Period (T_1) (s):	–	–
Truncation Level:	–	1 st Mode Period (T_1) (s):	–	–
Component Distribution Truncation?	No	2 nd Mode Period (T_2) (s):	–	–
Truncation Level:	–	3 rd Mode Period (T_3) (s):	–	–
Cost Multipliers		Component Information		
Region Cost Multiplier:	–	Selection Method	Automatic	
Date Cost Multiplier:	–			
Occupancy Cost Multiplier:	–			
Component Soft Cost Modifier:	–			
Building Layout Information		Building Stability		
Cost per Square Foot:	–	Collapse Definition Method:	FEMA P-154	
Scale component repair costs with building value?	Yes	Score Calc Method:	Rapid Visual Screening Checklist	
Total Square Feet:	–	FEMA P-154 Score:	–	
Aspect Ratio:	–	Beta (Dispersion):	–	
First Story Height (ft):	–			
Upper Story Heights (ft):	–			
Ground Motion and Soil Information				
Site Class:	–			
Site Hazard:	U.S. Geological Survey			
Edition:	–			

Recovery Time Options

Recovery Time Method	ATC-138 (Beta)
Building Replacement Time	–
Statistical Damage Correlation Model:	
Original FEMA P-58 Correlation Model (2012/2018)	

Factors Delaying Start of Repairs

Inspection	Yes
Financing	Yes
Permitting	Yes
Engineering Mobilization	Yes
Contractor Mobilization	Yes
Long Lead Time	No

Mitigation Factors

Inspector on Retainer	Yes
Engineer on Retainer	Yes
Contractor Relationship	Retainer
Funding Source	–
Cash on Hand	15.0%

Responses

Response	EDP	Method	Use as Default for Comps?	Derived From
Peak Story Drift Ratio	IDR	SP3 SRPE	Yes	–
Peak Floor Acceleration	PFA	SP3 SRPE	Yes	–
Residual Story Drift Ratio	RIDR	SP3 SRPE	Yes	Peak Story Drift Ratio
<i>Direction 1</i>				
Residual Drift Model:		–		
Record-to-Record Dispersion:		–		
<i>Direction 2</i>				
Residual Drift Model:		–		
Record-to-Record Dispersion:		–		

Structural Response Dispersion Options

Record-to-Record Dispersion Model:	FEMA P-58
Modeling dispersion:	–
Residual Drift Simulation Method:	–

Recovery Time Options Specific to ATC-138 (Beta)

HVAC			
Need Ventilation for Reoccupancy?	–	Need Ventilation for Function?	Yes
Need Heating for Reoccupancy?	–	Need Heating for Function?	Yes
Need Cooling for Reoccupancy?	–	Need Cooling for Function?	Yes
Need Exhaust for Reoccupancy?	–	Need Exhaust for Function?	Yes
Elevator			
Need Elevator for Function?	Yes	Max. Walkable Story	3
Use updated elevator components?	No		
Surge			
Include Surge Demand?	No		
Temporary Repair			
Allow Temporary Repairs?	Yes	Allow Temporary Shoring?	–
Fire			
Allow Fire Watch for Occupancy?	No		
Plumbing			
Is Potable Water Required for Occupancy?	–	Is Potable Water Required for Function?	–
Is Sanitary Piping Required for Occupancy?	–	Is Sanitary Piping Required for Function?	–
Electrical			
Is Electricity Required for Function?	–		
Egress			
Percentage of the Exits Required for Occupancy?	–	Minimum Number of Exits Required for Occupancy?	–
Door racking affects egress?	–		
Flooding			
Include flooding consequences?	Yes		
“Smart” Components			
Use “smart” piping components?	No		
Use “smart” equipment components?	No		

Component Checklist

Exterior	
• Percent of Building Surface Glazed	> 80.0%
• Does the building have glazing?	> Yes
• What type of glazing does the building have?	> Insulating Glass Unit (Untested)
• Does the building have cladding?	> Yes
• What kind of cladding does the building have?	> Precast Concrete Panels
Interior Finishes	
• Are there partition walls in the building?	> Yes
• What kind of partition walls does the building have?	> Metal Studs
• What finish do the partition walls have?	> Gypsum + Wallpaper
• How are the partitions constructed?	> Full Height: Slip Tracks with Returns

Continued on next page

Component Checklist (*Continued*)

- Does the building have raised access floors?
 - > *No*
- Does the building have suspended ceilings?
 - > *Yes*
 - Are the ceilings laterally supported?
 - > *Yes (SDC D/E/F or equivalent)*
 - What is the Ip factor used to design the ceilings?
 - > *1.5*
- Does the building contain pendant (non-recessed) lighting?
 - > *No*

Stairs and Elevators

- Does the building have stairs?
 - > *Yes*
- What type of stairs are in the building?
 - > *Prefabricated steel*
 - Do the stairs have seismic joints?
 - > *Yes*
- Are there elevators in the building?
 - > *Yes*
- What type of elevators are in the building?
 - > *Traction*
 - From which era are the building's elevators?
 - > *Post-2000 Seismic Zone 3*

Fire Suppression

- Does the building contain a fire sprinkler system?
 - > *Yes*
- Does the fire sprinkler system have braced horizontal mains?
 - > *Yes*
 - Are the horizontal mains OSHPD certified (or equivalent)?
 - > *Yes*
- Are the fire sprinkler drops OSHPD certified (or equivalent)?
 - > *Yes*
 - What type of ceiling do the fire drops enter into?
 - > *Soft Braced*

Piping

- Does the building contain potable water piping?
 - > *Yes*
 - Is the building's water piping OSHPD certified or equivalent?
 - > *Yes*
- Does the building contain sanitary piping?
 - > *Yes*
 - Is the building's sanitary piping OSHPD certified or equivalent?
 - > *Yes*
 - What type of couplings do the pipes have?
 - > *Flexible*

HVAC

- Does the building have an HVAC system?
 - > *Yes*
 - Is the HVAC cooling/heating equipment seismically anchored?
 - > *Yes*
 - How is the cooling/heating system configured?
 - > *Roof Top Units*

Continued on next page

Component Checklist (*Continued*)

- Are the RTUs used for medical purposes (or equivalent)?
 - > *No*
- Are the RTUs small or large?
 - > *Large*
- Does the building have a control panel?
 - > *Yes*
- Is there an HVAC exhaust system in the building?
 - > *Yes*
- Is the HVAC exhaust system seismically anchored?
 - > *Yes*
- Does the HVAC distribution system meet OSHPD standards (or similar)?
 - > *Yes*
- Is there any large diameter ducting (6 SqFt+) in the HVAC system?
 - > *Yes*

Electrical

- Does the building have a backup battery/generator system?
 - > *Yes*
 - Is the battery backup system equipment seismically anchored?
 - > *Yes*
 - Which best describes the building's electrical system?
 - > *Full Commercial-grade Electrical System*
 - Is the electrical equipment seismically anchored?
 - > *Yes*
 - What best describes the buildings motor control centers?
 - > *Anchored*
-

Building Modifiers Checklist

Vertical Irregularities

Soft Story

Soft or Weak Story Vertical Irregularity? —

Sloping Site

Full story grade change? (FEMA Type non-W1 buildings) —

Setback

Outboard vertical elements of the lateral system at an upper story? —

Inboard vertical elements of the lateral system at upper stories? —

In-plane offset of the lateral elements greater their length? —

Split Level

Split level at one of the floor levels or at the roof? —

Other

Other observable vertical irregularity? —

Plan Irregularities

Torsion Irregularity? —

Non-parallel system? —

Re-entrant corner projection 25% of plan dimension? —

Diaphragm opening over 50% of the total diaphragm width? —

Other observable plan irregularity? —

Redundancy

At least two bays of lateral elements? —

Pounding

Floors Unaligned? —

Different building heights? —

End of block? —

Steel Braced Frames (S1)

K bracing geometry is visible? —

Construction Quality

Structural Construction Quality —

Non-structural Construction Quality —

Structural Material Deterioration —

Notes

No notes were provided.

EXPECTED LOSS

The repair cost results of the SP3-RiskModel analysis are presented in the table below.

Expected loss in percent of total building value			
Shaking Intensity	Return Period	SEL (%)	SUL (%)
90% in 50 years	22 Years	0.0	0.1
50% in 30 years	43 Years	0.1	0.2
50% in 50 years	72 Years	0.3	0.6
50% in 75 years	108 Years	0.5	1.2
50% in 100 years	144 Years	0.8	1.7
20% in 50 years	224 Years	1.6	3.0
10% in 50 years	475 Years	4.4	6.6
DE	920 Years	21	40
5% in 50 years	975 Years	23	43
2% in 50 years	2475 Years	56	90
MCE _R	2880 Years	60	96

Recovery Time

The recovery time results of the SP3-RiskModel analysis are presented in the table below.

Median recovery time summary					
Intensity	ATC-138 Functional Recovery (Beta) [†]			FEMA P-58 [‡]	
	Re-Occupancy	Functional	Full	Full (Parallel)	Full (Series)
90% in 50 years	0 days	0 days	6 days	0.19 days	0.58 days
50% in 30 years	0 days	0 days	8 days	0.27 days	1.2 days
50% in 50 years	0 days	3 days	10 days	0.55 days	2.4 days
50% in 75 years	2 days	4 days	13 days	1.2 days	4.2 days
50% in 100 years	3 days	5 days	2.3 weeks	2.1 days	6.8 days
20% in 50 years	4 days	6 days	4.9 weeks	5 days	12 days
10% in 50 years	7 days	5.6 weeks	2.7 months	11 days	3.8 weeks
DE	2.3 months	3.4 months	4.1 months	3.1 weeks	7.7 weeks
5% in 50 years	2.6 months	3.6 months	4.3 months	3.2 weeks	1.9 months
2% in 50 years	38 months	38 months	38 months	38 months	38 months
MCE _R	38 months	38 months	38 months	38 months	38 months

[†] Does include factors delaying start of repairs

[‡] Does **not** include factors delaying start of repairs