ATC-38 POSTEARTHQUAKE BUILDING PERFORMANCE ASSESSMENT FORM
SURVEYOR INSTRUCTIONS

This form should be filled out as completely as possible by the surveyor(s). Do not leave blank spaces; use "UNK" for "Unknown", "NA" for "Not Applicable", or "None" when appropriate. Talk with the owner to obtain as much information as possible. Assure him/her that detailed name and address information will not be released to the public. Photos should be taken of each exterior building elevation, and of any locations where significant damage is visible. For each strong motion site, obtain or sketch a map of the block or blocks surveyed to identify the locations of each building relative to the strong motion instrument. Distances from the buildings to the instrument should be determined wherever possible.

The ATC-38 Postearthquake Building Assessment Form includes 11 sections as listed below. Refer to the *Glossary of Terms and Codes* for classifications and codes that should be used on the form. The form is intended to be self-explanatory; however, some clarifying comments are included here for each of the 11 sections. In all cases, write down as much information as possible, and state any assumptions you need to make about the building and/or its performance. Too much or repeated information is always better than incomplete information.

1. **Building Site Information**. For Building ID#, use the following notation: station owner, last 3 digits of station number, initials of surveyor, and sequential number. (For example: CDMG386-ER-01.) Be sure to include the Building ID number on each page and indicate the number of pages. For Photo ID#s, make sure to note the number(s) on the film roll that were taken of the given building. When the film is developed, write the same numbers on the back of each photo so they will be matched to the proper building.

2. **Building Construction Data**. If possible, indicate design date and construction date by year, not decade.

3. **Model Building Type**. If the building has different model building types in different directions or on different floors, describe in the space provided.

4. **Performance Modifiers**. In this section, describe any other vertical or plan irregularities that are not listed on the form, including unusual pre-earthquake building conditions.

5. **Plan Sketch of Building**. Provide a sketch of the building footprint. Annotate the sketch as appropriate. Note on the sketch the assumed east-west and north-south directions if they are used in other sections of the form, and include a north arrow. Surveyors should carry a compass.

6. **Nonstructural Elements**. Refer to the *Glossary* for codes to be used for cladding and partition types.

7. **General Damage**. This section should be descriptive as well as quantitative. Indicate the General Damage Classification that corresponds to the worst damage to any specific element. (This should be the same General Damage Classification as that checked in Section 1.) Estimate the ATC-13 damage state as defined in the *Glossary* for each building area as shown (for residences, consider chimneys and veneer to be nonstructural and water heaters to be equipment). In the space provided for comments, include possible reasons for damage if appropriate. For buildings with General Damage Classification of "M" or "H", fill out the 2-page *Detailed Damage Description* as described below.

8. **Nonstructural Damage**. Indicate damage to partitions, lights, ceilings, and contents in terms of General Damage Classification as defined in the *Glossary*.

9. **Injuries or Fatalities**. Include comments where appropriate, such as unusual reasons for casualties.

10. **Functionality.** Indicate percentage of space that can be used for the building's original pre-earthquake function for the various time periods listed, as well as the amount of time needed to restore the building to its full pre-earthquake functionality. In the comments section, include any reasons for closure and note if the building can only be accessed for clean-up.

11. **Geotechnical Failures**. In this section, describe any other geotechnical failures or unusual features that are not listed on the form.

After the 11 main sections of the form, space is provided for additional comments pertaining to any section of the form. Attach additional sheets if necessary, making sure to label each sheet with the Building ID number. For buildings with General Damage Classification of "M" or "H", fill out the 2-page *Detailed Damage Description* as briefly described below.

Detailed Damage Description. This part of the form should be filled out as completely as possible for any buildings with General Damage Classification of "M" or "H". It includes sections for Vertical Elements, Horizontal Elements, Connections, Foundations, and Equipment and Systems. In each case the damage should be described in terms of the General Damage Classification defined in the *Glossary*. Make sure to use "NA" or "UNK" as appropriate. Use the notes section to include additional information about the building and the damage, such as differences by direction or floor level in damage or model building type. The notes section may also be used to indicate the location (i.e., ground floor or top story) of extensive damage to equipment and systems. Add extra pages if necessary, making sure to label each one with the Building ID number.

ATC-38 POSTEARTHQUAKE BUILDING PERFORMANCE ASSESSMENT FORM

Note: DO NOT LEAVE ANY BLANK SPACES!
Indicate Unknown (UNK), Not Applicable (NA), or None if necessary.

Building Site Information [1]

Inspector(s):	Date:	Bldg. ID#:	Page __ of __
Address:		Building Name:	
Type of Survey: □Interior Only □Exterior and Interior		Recording Station ID:	
Existing Posting Placard: □Red □Yellow □Green □None		Photo ID#s:	
Building Owner/Manager Contact – Name:		Phone:	
Civil/Structural Engineer for Repair – Name:		Phone:	
General Damage Classification (see Glossary): □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) [Note: For "M" or "H" classification, fill out Detailed Damage Description Section]			

Building Construction Data [2]

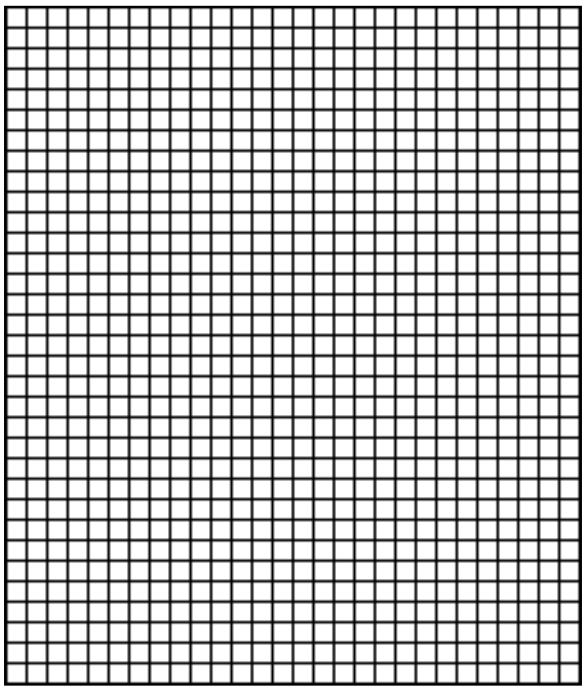
Construction Date:	Design Date:	Sloped Site: □Yes □No	
Number of Stories Above Ground:		Number of Basement Levels:	
Number of Living Units:	Foundation Type:		
Plan Width (ft):	Plan Length (ft):	Approximate Building Area (sq.ft.):	
Occupancy Type (see Glossary):		Occupied Prior to Earthquake: □Yes □No □UNK	

Model Building Type [3]

Predominant Model Building Type (see Glossary):	Seismic Retrofit: □Yes □No □UNK
Describe Building if More Than One Model Building Type Present:	
Describe Retrofit if Present:	

Performance Modifiers [4]	Bldg. ID#:	Page __ of __
Discontinuous Columns: □Y □N □UNK □NA	Facade Setbacks: □Y □N □UNK □NA	
Pounding Potential: □Y □N □UNK □NA	Seismic Expansion Joints: □Y □N □UNK □NA	
Open Front Plan: □Y □N □UNK □NA	Other Torsional Imbalance: □Y □N □UNK □NA	
Plan Irregularities: □Y □N □UNK □NA	Deterioration of Structure: □Y □N □UNK □NA	
Previous Earthquake Damage: □Yes □No □UNK □NA		
Describe Other Vertical Conditions:		
Describe Other Plan Vulnerabilities:		
Describe Other Pre-Earthquake Building Conditions:		

Plan Sketch of Building [5]



[Note: Include North arrow]

Nonstructural Elements [6]

Exterior Cladding/Glazing Code (see Glossary):
Partitions Code (see Glossary):
Ceilings Code (see Glossary):
Fire Protection: □Yes □No □UNK □NA
Elevators: □Yes □No □UNK □NA
Chimneys: □Yes □No □UNK □NA
Standard Plumbing, Electrical, Lighting, HVAC: □Yes □No □UNK □NA
Describe Major Fixed Equipment:
Describe Unusual Contents:

General Damage [7]

Bldg. ID#:	Page __ of __

General Damage Classification (repeated from Section [1] on page 1): □None (N) □Insignificant (I) □Moderate (M) □Heavy (H)	
[Note: See Glossary for ATC-13 Damage State Definitions]	
ATC-13 Damage State, Structural:	ATC-13 Damage State, Nonstructural:
ATC-13 Damage State, Equipment:	ATC-13 Damage State, Contents:
Percent of Floor Area Collapsed: ___% □UNK □NA	
Building off Foundation: □Y □N □UNK □NA	Story out of Plumb: □Y □N □UNK □NA
Damage to Structural Members: □Y □N □UNK □NA	Hazmat: □Y □N □UNK □NA
Parapet Damage: □Y □N □UNK □NA	Chimney Damage: □Y □N □UNK □NA
Exterior Non-building Damage: □Y □N □UNK □NA	Pounding Damage: □Y □N □UNK □NA
Comments about General Damage:	

Nonstructural Damage [8]

Cladding Separation or Damage: ___% of wall area □UNK □NA
Partitions Damage: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Windows Damage: ___% of windows □UNK □NA
Lights and Ceilings Damage: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Buildings Contents Damage: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Comments about Nonstructural Damage:

Injuries or Fatalities [9]

No. of Minor Injuries: ___ □UNK	No. of Major Injuries: ___ □UNK	No. of Fatalities: ___ □UNK
Comments about Injuries or Fatalities:		

Functionality [10]	Bldg. ID#:	Page __ of __
Percent Usable Space Immediately: ___% □UNK	Percent Usable Space in 1-3 Days: ___% □UNK	
Percent Usable Space within 1 Week: ___% □UNK	Percent Usable Space within 1 Mo.: ___% □UNK	
Percent Usable Space in 1-6 Months: ___% □UNK	Time Until Full Occupancy: _____ □UNK □NA	
Comments about Functionality:		

Geotechnical Failures [11]

Lateral Ground Movement: □Y □N □UNK □NA	Buckled Sidewalks: □Y □N □UNK □NA
Ground Settlement: □Y □N □UNK □NA	Liquefaction Indicators: □Y □N □UNK □NA
Separation Between Building and Ground: □Y □N □UNK □NA	
Comments about Geotechnical Features:	

Additional Comments

Additional Comments Pertaining to Any Section of Survey Form (use additional pages if necessary):

DETAILED DAMAGE DESCRIPTION

Bldg. ID#:	Page __ of __

Vertical Elements

Racking of Main Walls: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Racking of Cripple Walls: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Buckling, Crippling, Tearing of Steel Beams, Columns, or Braces: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Spalling or Cracking of Concrete Columns or Beams: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Column Crushing Due to Overturning or Discontinuous Lateral Resisting Elements: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Shear Cracking in Columns: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Cracked Shear Walls: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Percentage of Shear Walls with Cracks: ___ % □UNK □NA
Rocking of Shear Walls: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Damage to Shear Wall Boundary Elements: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Damage to Shear Wall Coupling Beams: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
/ % of Tiltup Wall Panels Leaning or Fallen Out: ___ / ___ % □UNK □NA
Infill Walls Damaged or Fallen Out: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA

Horizontal Elements

Roof Collapse: ___ % of Diaphragm □UNK □NA	Floor Collapse: ___ % of Diaphragm □UNK □NA
Loss of Vertical Roof Support: ___ % of Roof Area Affected □UNK □NA	
Tearing of Diaphragms at Other Points of High Stress: ___ % of Diaphragm □UNK □NA	
Damage at Re-entrant Corners: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA	
Damage to Collectors at Walls: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA	
Cross Grain Bending Damage at Roof-to-Wall Connections: ___ % of Connection Length □UNK □NA	

DETAILED DAMAGE DESCRIPTION (Continued)

Bldg. ID#:	Page __ of __

Connections

Girder-Column Connection Damage Including Panel Zones: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Column Splice Damage: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Damage to Brace Connections: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Damage to Column-to-Foundation Connections: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Damage to Connections of Precast Elements that are Part of the Lateral Force Resisting System: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA

Foundations

Foundations Cracked or Otherwise Damaged: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Slabs-on-Grade Cracked or Otherwise Damaged: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA

Equipment and Systems

Electrical Equipment Damage Including Backup Generators: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Damage to Boilers, Chillers, Tanks, etc.: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
HVAC Damage (Fans, Ducts): □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Damage to Water and Sprinkler Lines and Fire Pumps: □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA
Elevator Equipment Damage (Car and Counterweight Rails, Cars, Penthouse Equipment): □None (N) □Insignificant (I) □Moderate (M) □Heavy (H) □UNK □NA

Additional Comments (use additional pages if necessary:

ATC-38 GLOSSARY OF TERMS AND CODES

General Damage Classification:

Code	Description
N	None. No damage is visible, either structural or nonstructural.
I	Insignificant. Damage requires no more than cosmetic repair. No structural repairs are necessary. For nonstructural elements this would include spackling partition cracks, picking up spilled contents, putting back fallen ceiling tiles, and righting equipment.
M	Moderate. Repairable structural damage has occurred. The existing elements can be repaired in place, without substantial demolition or replacement or elements. For nonstructural elements this would include minor replacement of damaged partitions, ceilings, contents, or equipment.
H	Heavy. Damage is so extensive that repair of elements is either not feasible or requires major demolition or replacement. For nonstructural elements this would include major or complete replacement of damaged partitions, ceilings, contents, or equipment.

Occupancy Type:

Occupancy Type	Code
Apartment	A
Auto Repair	AR
Church	C
Dwelling	D
Data Center	DC
Garage	G

Gas Station	GS
Government	GV
Hospital	H
Hotel	HL
Manufacturing	M
Office	O
Restaurant	R

Retail	RS
School	S
Theater	T
Utility	U
Warehouse	W
Other	OTH
Unknown	UNK

Model Building Type:

Framing System	Reference Codes and Diaphragm Types
Steel Moment Frame	S1 - Stiff Diaphragms; S1A - Flexible Diaphragms
Steel Braced Frame	S2 - Stiff Diaphragms ; S2A - Flexible Diaphragms
Steel Light Frame	S3
Steel Frame w/ Concrete Shear Walls	S4 - Stiff Diaphragms; S4A - Flexible Diaphragms
Steel Frame w/ Infill Masonry Shear Walls	S5 - Stiff Diaphragms; S5A - Flexible Diaphragms
Concrete Moment Frame	C1 - Stiff Diaphragms; C1A - Flexible Diaphragms
Concrete Shear Wall Building	C2 - Stiff Diaphragms; C2A - Flexible Diaphragms
Concrete Frame w/ Infill Masonry Shear Walls	C3 - Stiff Diaphragms ; C3A - Flexible Diaphragms
Reinforced Masonry Bearing Wall	RM1 - Flexible Diaphragms; RM2 - Stiff Diaphragms
Unreinforced Masonry Bearing Wall	URM - Flexible Diaphragm; URMA - Stiff Diaphragm
Precast/Tiltup Concrete Shear Walls	PC1 - Flexible Diaphragms; PC1A - Stiff Diaphragms
Precast Concrete Frame w/ Conc. Shear Walls	PC2
Wood Light Frame	W1
Commercial or Long-Span Wood Frame	W2

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ATC-38 GLOSSARY OF TERMS AND CODES (continued)

Exterior Cladding/Glazing Codes:

Cladding/Glazing Type	Code
Stucco	S
Wood Product	W
Curtain Wall	C
Brick	B
Glass	G
Concrete	O
Metal	M
Exposed Structure	E
Window Wall	I
Pre-cast Panels	P
PC Fascia	F
Stone	N
Marble	R
URM	U
Masonry	Y
Ceramic Tiles	T

Partitions Codes:

Partition Type	Code
Gypsum Board	G
Plaster	P
Wood Lath	W
URM	U
Metal	M
Concrete	C
Brick	B
Marble	R
Masonry	Y

Ceilings Codes:

Ceiling Type	Code
Gypsum Board	G
Suspended Tile	S
Plaster	P
Exposed Slab	E
Metal	M
Wood	W
Glued Tiles	T
T-Bar	B
Acoustic	A

ATC-13 Damage State Definitions:

Damage State		Percent Damage (damaged value ÷ replacement value)
1	None	0%
2	Slight	0% - 1%
3	Light	1% - 10%
4	Moderate	10% - 30%
5	Heavy	30% - 60%
6	Major	60% - 100%
7	Destroyed	100%