## 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: $\cdots$ Yes | No |
| :--- | :--- | :--- | :--- |
| Number of Stories Above Ground: |  | Number of Basement Levels: |  |
| Number of Living Units: | Foundation Type: |  |  |
| Plan Width (ft): | Plan Length (ft): |  |  |
| Occupancy Type (see Glossary): | Approximate Building Area (sq.ft.): |  |  |

## 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: |  |

Figure j-1 Revised ATC-38 Postearthquake Building Performance Assessment Form (page 1).

| Performance Modifiers [4] | Bldg. ID\#: |  |  | Page __ of _._ |
| :---: | :---: | :---: | :---: | :---: |
| Discontinuous Columns: $\mathrm{Y}: \mathrm{N}$ 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: | $Y \mathrm{~N}$ | 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: |  |  |  |  |



Figure 5-2 Revised ATC-38 Postearthquake Building Performance Assessment Form (page 2).

## EARTHQUAKE DAMAGE

 ANALYSIS CORPORATION

## Nonstructural Damage [8]



Injuries or Fatalities [9]

| No of Minor injuries: __ UNK | No. of Major Injuries: __ UNK | No of Fatalities: | UNK |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Comments about Injuries or Fatalities: |  |  |  |

Figure 5-3 Revised ATC-38 Postearthquake Building Performance Assessment Form (page 3).

| 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: $\quad-\mathrm{Y}$ - N -UNK -NA |  |
| :---: | :---: |
| Ground Settlement: EY -N JUNK --NA | Liquefaction Indicators: - $\mathrm{Y}^{-} \mathrm{N}$-UNK -NA |
| Separation Between Building and Ground: $\quad \mathrm{Y}$ - N こUNK - NA |  |
| Comments about Geotechnical Features: |  |

## Additional Comments

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

Figure 5-4 Revised ATC-38 Postearthquake Building Performance Assessment Form (page 4).

## DETAILED DAMAGE DESCRIPTION

| Bldg. ID\#: | Page __ of __ |
| :--- | :--- |

## Vertical Elements



## 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 |  |  |

Figure 5-5 Revised ATC-38 Postearthquake Building Performance Assessment Form (page 5).

DETAILED DAMAGE DESCRIPTION (Continued)

| Bldg. ID\#: | Page _ of _ |
| :--- | :--- |

## Connections



## Foundations



Equipment and Systems


Additional Comments (use additional pages if necessary:

Figure 5-6 Revised ATC-38 Postearthquake Building Performance Assessment Form (page 6).

# 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. below.

Figure 5-7 Revised ATC-38 Surveyor Instructions and Clossary of Terms and Codes.
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 preearthquake 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 fallures 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.

Figure 5-7 Revised ATC-38 Surveyor Instructions and Glossary of Terms and Codes (continued).

## 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 <br> nonstructural elements this would include spackling partition cracks, picking up spilled contents, putting <br> back fallen ceiling tiles, and righting equipment. |
| M | Moderate. Repairable structural damage has occurred. The existing elements can be repaired in place, <br> without substantial demolition or replacement or elements. For nonstructural elements this would <br> 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 <br> demolition or replacement. For nonstructural elements this would include major or complete <br> 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 |

Figure 5-7 Revised ATC-38 Surveyor Instructions and Glossary of Terms and Codes (continued).

## 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 $\div$ 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 | $100 \%$ |

Figure 5-7 Revised ATC-38 Surveyor Instructions and Clossary of Terms and Codes (continued).

