

Concrete Coalition Phase II: Concrete Building Performance Record

Instructions: This form is for use in collecting data for phase two of the Concrete Coalition project: Developing a Global Database of Concrete Buildings Damaged in Earthquakes. For more information about how to use this form, see the sample form or view the demo at: <http://concretecoalition.org>.

Record ID:

Building Name:

Prepared By:

Section 1: Basic Building Information



Aerial view of the Barrington Medical Building. (Comartin, 1999)

Country:		
State/Province:		
City:		
Latitude:		
Longitude:		
Street Address:		
Occupancy:		
Height:		Ft, m
Number of Stories:		
Number of Stories below ground:		
Size:		gsf, sqm
Year Built:		
Original Code:		
Modification:		
Year Modified:		
Code of Modification:		

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

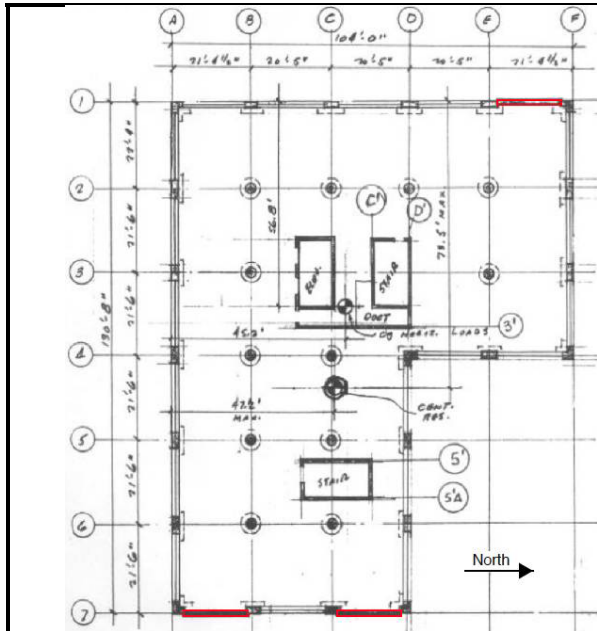
Prepared By:

Section 1: Basic Building Information-(Continued)

Lateral Load System:	
Other Lateral Load System:	
Vertical Load System:	
Other Vertical Load System:	
Foundation:	
Building Description:	

Supplemental Basic Information:

Paste in building plans, engineering drawings or sketches



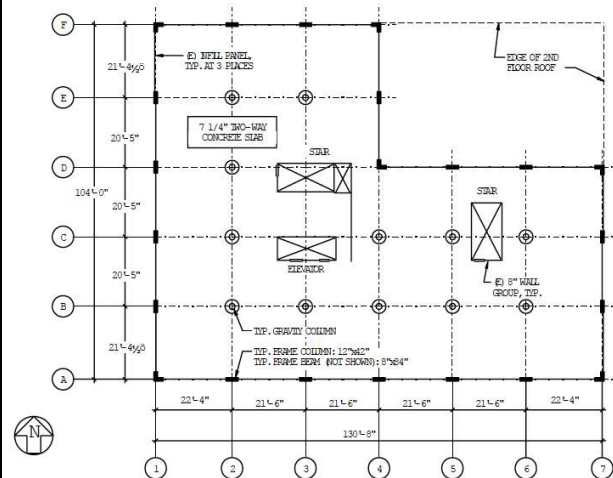
Typical plan view of floors 3 through 6. Red box indicates location of shear wall. (Comartin, 1999)



Aerial view of the Northeast corner of the building. (Comartin, 1999)



Aerial view of the Southwest corner of the building. (Comartin, 1999)



Schematic of typical plan view. (ATC, 1996)

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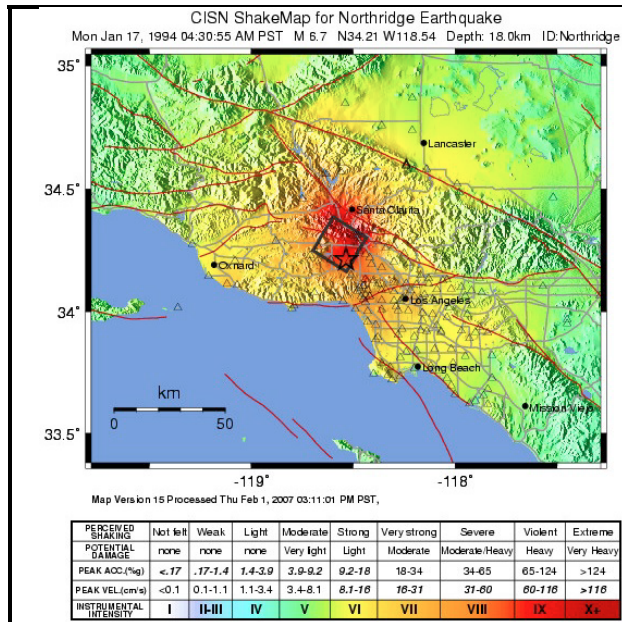
Prepared By:

Section 2: Earthquake Information

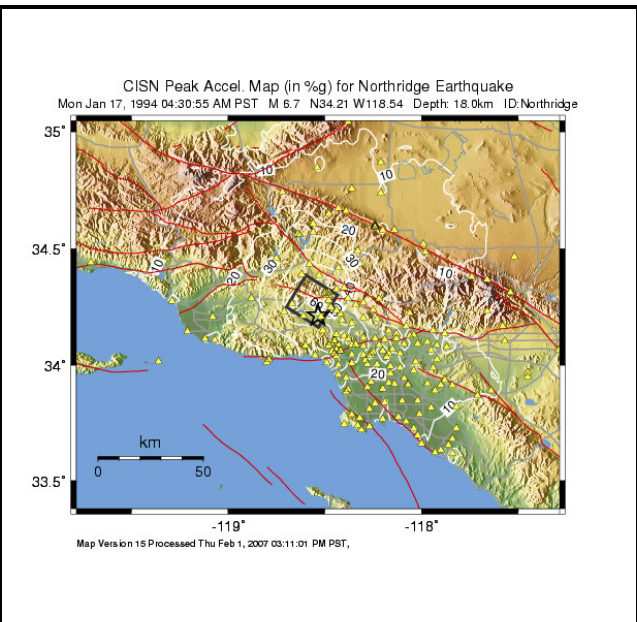
Earthquake Date:			
Moment Magnitude:			
Epicentral Distance (km):			
Local Intensity:		Intensity Scale:	
Site Description:			
PGA (max horizontal):			
PGA (vertical):			
SaT:			
Ground Motion Recording Stations:			
Distance to Station (km):			
Station Latitude:			
Station Longitude:			
Ground Motion Summary:			

Additional Ground Motion Information:

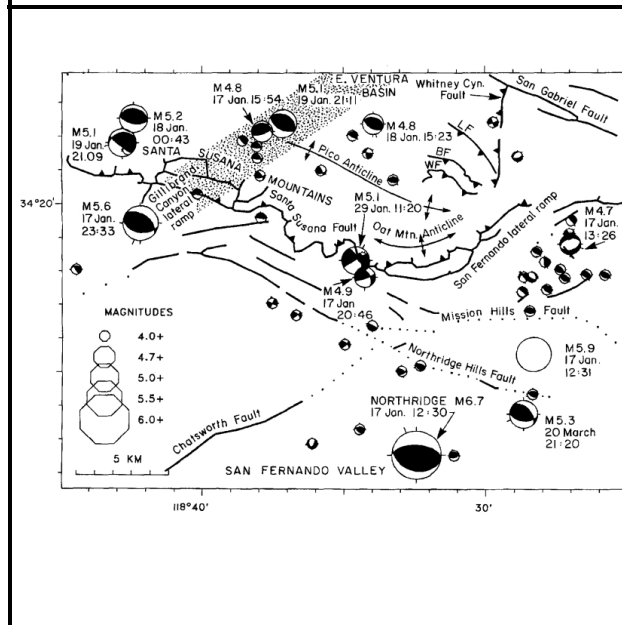
Paste in earthquake maps, spectra, or figures involving the ground motion at the building site



Shaking intensity of Northridge earthquake. (USGS, 2009)



Peak ground acceleration for Northridge earthquake (in %g). (USGS, 2009)



Single-event, first-motion, lower-hemisphere focal mechanisms of events of Magnitude 4.0 or greater. Compressional first motions are shown by pluses and dilatational first motions are shown by open circles. (Hauksson, 1995)

Insert image here

Type image caption here:

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 3: Damage Information

Performance Summary:	
Damage State Description:	
Summary of Causes of Damage:	

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Construction Quality

	Notes	Contribution to Observed Damage				
		<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Materials						
Concrete						
Reinforcing steel						
Execution						
Conveyance/ placement of concrete						
Rebar						
Field variance with design documents						
Other Factors						
Please Specify:						

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Configuration

	Notes	Contribution to Observed Damage				
		<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Plan Irregularities						
Torsion						
Perimeter boundary						
Diaphragm						
Out-of-plane offsets in lateral resisting system						
Non-orthogonal systems						

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Configuration-(Continued)

	Notes	Contribution to Observed Damage				
		<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Vertical Irregularities						
Soft Story						
Weak story						
Mass distribution						
Geometric variability of lateral resisting system						
In-plane discontinuity of lateral resisting system						
Setbacks						
Change in stiffness						
Other Factors						
Please Specify:						

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Lateral Load Resisting System-General

	Notes	Contribution to Observed Damage				
		<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Strength						
Overall lack of strength						
Stiffness						
Extreme Flexibility						
Load Path						
Collectors/Struts						
Anchorage of nonstructural elements						
Out-of-plane capacity of walls						
Diaphragm chords						
Diaphragm openings						
Other Factors						
Please Specify:						

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Lateral Load Resisting System-Frames

	Notes	Contribution to Observed Damage				
		<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Columns						
Shear strength						
Flexural strength						
Axial load ratio ($P/A_c/f_c'$)						
“Vertical” load columns drift capacity						
Interference of frame action by infill						
Beams						
Strength relative to columns						
Shear controlled behavior						
Continuity of longitudinal reinforcing						
Loss of vertical capacity						

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Lateral Load Resisting System-Frames-Continued

	Notes	Contribution to Observed Damage				
		<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Beams –(continued)						
Interference of frame action by infill						
Joints						
Interior						
Exterior						
Corner						
Other Factors						
Please Specify:						

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Lateral Load Resisting System-Shear Walls

Notes	Contribution to Observed Damage				
	<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Shear					
Diagonal tension/compression					
Sliding shear					
Flexure/shear					
Flexure					
Compression zone buckling capacity					
Boundary reinforcing fracture/buckling					
Discontinuity of wall					
Boundary Reinforcing at openings					
Other Factors					
Please Specify:					

Concrete Coalition Phase II: Concrete Building Performance Record

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Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Lateral Load Resisting System-Infills

	Notes	Contribution to Observed Damage				
		<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Unreinforced						
Interference with frame action						
Out-of-plane						
Attachment to framing						
Other Factors						
Please Specify:						

Concrete Coalition Phase II: Concrete Building Performance Record

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Building Name:

Prepared By:

Section 4: Observed Design and Construction Characteristics-Lateral Load Resisting System-Other

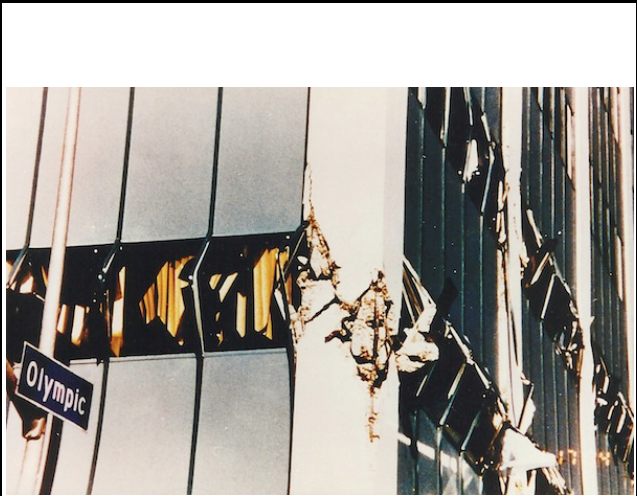
Notes	Contribution to Observed Damage				
	<u>Unlikely</u>	<u>Possible</u>	<u>Likely</u>	<u>Unknown</u>	<u>N/A</u>
Foundations					
Liquefaction					
Pile/pier tension capacity					
Spread footing capacity					
Other:					
Please Specify:					
Miscellaneous					
Pounding					
Surface Rupture					
Other:					
Please Specify:					

Illustrations of damage:

Paste in drawings, sketches or photos of building damage



Damage to south and west faces of the building. (Comartin, 1999)



Close-up of damage to southwest column and buckling of adjacent mullions. (Comartin, 1999)



Shear cracking of columns on south face of building. (Comartin, 1999)



Shear cracking of columns and buckling of mullions on south face of building. (Comartin, 1999)

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:


Prepared By:

Section 4: Repair and Retrofit Information

Type of retrofit or repair:	
Other:	
Performance Level:	
Hazard Level:	
Code:	
Other:	
Lateral Analysis:	
Other:	
Design Strategy:	
Retrofit Summary:	

Illustrations of Repair or Retrofit:

Paste in drawings, sketches or photos of building repair or retrofit

	<p>Insert image here</p>
<p>The Barrington Medical Building during demolition. (Comartin, 1999)</p>	<p>Type image caption here:</p>
<p>Insert image here</p>	<p>Insert image here</p>
<p>Type image caption here:</p>	<p>Type image caption here:</p>

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Building Name:

Prepared By:

Additional Notes:	
Section 1	
Section 2	
Section 3	
Section 4	

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Building Name:

Prepared By:

Appendix 1: Supplemental Basic Information

File Location	
File Caption	
File Location	
File Caption	
File Location	
File Caption	
File Location	
File Caption	
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File Caption	

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Building Name:

Prepared By:

Appendix 2: Additional Ground Motion Location

File Location	
File Caption	
File Location	
File Caption	
File Location	
File Caption	
File Location	
File Caption	
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File Caption	

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Building Name:

Prepared By:

Appendix 3: Illustrations of Damage

File Location	
File Caption	
File Location	
File Caption	
File Location	
File Caption	
File Location	
File Caption	
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File Caption	

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Appendix 4: Illustrations of Repair/Retrofit

File Location	
File Caption	
File Location	
File Caption	
File Location	
File Caption	
File Location	
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File Caption	

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Appendix 5: References

Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	

Concrete Coalition Phase II: Concrete Building Performance Record

Record ID:

Building Name:

Prepared By:

Appendix 5: References-(Continued)

Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	
Citation	
Link to Purchase	
File Location	