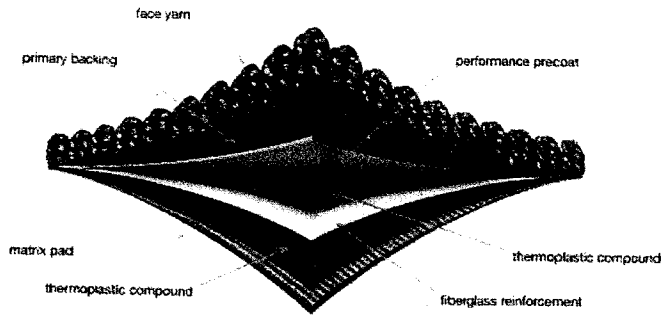


**Eco Logix®**



<b>backing system</b>	ecologix®
<b>features and benefits</b>	Performance precoat, fiberglass reinforced thermoplastic layer laminated with a fiber matrix secondary containing 88% post consumer material
<b>backing process</b>	<p>6-step process</p> <ol style="list-style-type: none"> <li>1. High performance precoat for maximum tuft bind and moisture resistance.</li> <li>2. Thermoplastic laminate for superior delamination strength.</li> <li>3. Fiberglass reinforcement for unmatched stability.</li> <li>4. Thermoplastic laminate.</li> <li>5. Attached post consumer recycled fiber matrix pad for comfort under foot.</li> <li>6. Die-cut into carpet tile.</li> </ol>
<b>primary</b>	Synthetic
<b>stabilizer</b>	Fiberglass Mat
<b>weight</b>	85 oz/sy
<b>secondary thickness</b>	.150 inch
<b>dimensions</b>	24" x 24" (standard); optional sizes available
<b>pad density</b>	8.5 – 9.5 lbs. per cubic foot
<b>installation</b>	<p>Full Spread Shaw Sureset N5000 Pressure Sensitive releasable adhesive</p> <p>Apply with a 3/8 foam paint roller</p> <p>Eco®Logix ES: Shaw's environmental self-adhesive system (custom option)</p>
<b>warranty</b>	Lifetime Commercial
<b>shawcontractgroup.com</b>	To download details on installation, specifications, and warranties on-line
<b>shaw inform</b>	call 1.877.502.7429 for personal assistance

## APPENDIX C SUMMARY DATA SHEET

### BUILDING DATA

Building Name: UNITED STATES DISTRICT COURT Date: 05/25/2015  
 Building Address: 3470 12th STREET, RIVERSIDE, CA 92501  
 Latitude: 33.9762047 Longitude: -117.3752267 By: \_\_\_\_\_  
 Year Built: 2000 Year(s) Remodeled: \_\_\_\_\_ Original Design Code: 1994 UBC  
 Area (sf): 62,487 Length (ft): 268' Width (ft): 97'  
 No. of Stories: 3+BASEMENT Story Height: 14' Total Height: 70'  
 USE ☐ Industrial ☐ Office ☐ Warehouse ☐ Hospital ☐ Residential ☐ Educational ☒ Other: COURTHOUSE

### CONSTRUCTION DATA

Gravity Load Structural System: REINFORCED CONCRETE MASONRY  
 Exterior Transverse Walls: REINFORCED CONCRETE MASONRY Openings? GLASS  
 Exterior Longitudinal Walls: REINFORCED CONCRETE MASONRY Openings? GLASS  
 Roof Materials/Framing: CONCRETE TILE/STEEL FRAMING  
 Intermediate Floors/Framing: STEEL PAN AND CONCRETE/STEEL FRAMING  
 Ground Floor: CONCRETE SLAB ON GRADE  
 Columns: STEEL Foundation: CONCRETE SLAB ON GRADE  
 General Condition of Structure: EXCELLENT  
 Levels Below Grade? ONE  
 Special Features and Comments: NONE

### LATERAL-FORCE-RESISTING SYSTEM

	Longitudinal	Transverse
System:	<u>ORDINARY STEEL CONCENTRICALLY BRACED FRAME</u>	<u>ORDINARY STEEL CONCENTRICALLY BRACED FRAME</u>
Vertical Elements:	<u>STEEL</u>	<u>STEEL</u>
Diaphragms:	<u>CONCRETE IN STEEL PAN</u>	<u>CONCRETE IN STEEL PAN</u>
Connections:	<u>BOLTED/WELDED</u>	<u>BOLTED/WELDED</u>

### EVALUATION DATA

BSE-IN Spectral Response Accelerations:  $S_{DI} =$  1.00  $S_{D1} =$  0.619  
 Soil Factors: Class = D  $F_o =$  1.00  $F_v =$  1.50  
 BSE-IE Spectral Response Accelerations:  $S_{AS} =$  N/A  $S_{X1} =$  N/A  
 Level of Seismicity: 12 Performance Level: N  
 Building Period:  $T =$  0.269 SECS  
 Spectral Acceleration:  $S_p =$  N/A  
 Modification Factor:  $C_m C_1 C_2 =$  1.1 Building Weight:  $W =$  NOT DOCUMENTED  
 Pseudo Lateral Force:  $V =$  \_\_\_\_\_  
 $C_m C_1 C_2 S_p W =$  NOT DOCUMENTED

### BUILDING CLASSIFICATION:

#### REQUIRED TIER 1 CHECKLISTS

	Yes	No
Basic Configuration Checklist	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Building Type <u>S2</u> Structural Checklist	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nonstructural Component Checklist	<input checked="" type="checkbox"/>	<input type="checkbox"/>

FURTHER EVALUATION REQUIREMENT: N/A

Project: 3470 12TH STREET DISTRICT COURTHOUSE

Location: 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 5/25/2015

## TIER 1 CHECKLISTS

### 16.1 BASIC CHECKLIST

#### Very Low Seismicity

##### Structural Components

☒ C ☐ NC ☐ N/A ☐ U LOAD PATH: The structure shall contain a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)

☐ C ☐ NC ☒ N/A ☐ U WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections shall have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.5.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)

Project: 3470 12TH STREET US DISTRICT COURTHOUSE

Location: 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 05/25/2015

### 16.1.2LS LIFE SAFETY BASIC CONFIGURATION CHECKLIST

#### Low Seismicity

##### Building System

###### General

- ☒ C ☒ NC N/A U LOAD PATH: The structure shall contain a complete, well defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)
- ☒ C ☒ NC N/A U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 4% of the height of the shorter building. This statement shall not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)
- C ☒ NC ☒ N/A U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

###### Building Configuration

- C ☒ NC ☒ N/A U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A.2.2.2. Tier 2: Sec. 5.4.2.1)
- C ☒ NC ☒ N/A U SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)
- C ☒ NC ☒ N/A U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)
- ☒ C ☒ NC N/A U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)
- ☒ C ☒ NC N/A U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)
- ☒ C ☒ NC N/A U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

**Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.**

##### Geologic Site Hazards

- C ☒ NC ☒ N/A U LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)
- C ☒ NC ☒ N/A U SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)
- C ☒ NC ☒ N/A U SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)

**High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.**

##### Foundation Configuration

- C ☒ NC ☒ N/A U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than  $0.6S_w$ . (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)
- C ☒ NC ☒ N/A U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

Project: 3470 12TH STREET BANKRUPTCY COURTHOUSE

Location: 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 5/25/2015

## 16.1.2IO IMMEDIATE OCCUPANCY BASIC CONFIGURATION CHECKLIST

### Very Low Seismicity

#### Building System

##### General

- ☒ C ☒ NC ☐ N/A ☐ U LOAD PATH: The structure shall contain a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)
- ☒ C ☒ NC ☐ N/A ☐ U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 4% of the height of the shorter building. This statement need not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)
- ☐ C ☒ NC ☒ N/A ☐ U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

##### Building Configuration

- ☐ C ☒ NC ☒ N/A ☐ U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction shall not be less than 80% of the strength in the adjacent story above. (Commentary: Sec. A.2.2.2. Tier 2: Sec. 5.4.2.1)
- ☐ C ☒ NC ☒ N/A ☐ U SOFT STORY: The stiffness of the seismic-force-resisting system in any story shall not be less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)
- ☐ C ☒ NC ☒ N/A ☐ U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)
- ☒ C ☒ NC ☐ N/A ☐ U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)
- ☒ C ☒ NC ☐ N/A ☐ U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)
- ☒ C ☒ NC ☐ N/A ☐ U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

Low Seismicity: Complete the Following Items in Addition to the Items for Very Low Seismicity.

#### Geologic Site Hazards

- ☐ C ☒ NC ☒ N/A ☐ U LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)
- ☐ C ☒ NC ☒ N/A ☐ U SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)
- ☐ C ☒ NC ☒ N/A ☐ U SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)

Moderate and High Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

#### Foundation Configuration

- ☐ C ☒ NC ☒ N/A ☐ U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than  $0.6S_a$ . (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)
- ☐ C ☒ NC ☒ N/A ☐ U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

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Project Title: US DISTRICT COURT EVALUATION  
Engineer: N. PEREIRA  
Project Descr: SEISMIC EVALUATION  
Project ID:

Printed: 1 JUN 2015, 11:09AM

## ASCE Seismic Base Shear

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ENERCALC, INC. 1983-2015, Build:6.15.1.19, Ver:6.15.1.19

Lic. #: KW-06008839

Licensee: Neville Pereira, P.E.

### SEISMIC ANALYSIS

#### Risk Category Calculations per ASCE 7-10

Risk Category of Building or Other Structure: "II": All Buildings and other structures except those listed as Category I, III, and IV ASCE 7-10, Page 2, Table 1.5-1

Seismic Importance Factor = 1 ASCE 7-10, Page 5, Table 1.5-2

Gridded Ss & S1 values ASCE-7-10 Standard ASCE 7-10 11.4.1

Max. Ground Motions, 5% Damping:

$S_S$	=	1.5 g, 0.2 sec response	Latitude =	33.991 deg North
$S_1$	=	0.6185 g, 1.0 sec response	Longitude =	117.371 deg West
			Location:	Riverside, CA 92501

#### Site Class, Site Coeff. and Design Category

Site Classification "D": Shear Wave Velocity 600 to 1,200 ft/sec = D ASCE 7-10 Table 20.3-1

Site Coefficients  $F_a$  &  $F_v$  ASCE 7-10 Table 11.4-1 & 11.4-2  
(using straight-line interpolation from table values)

$F_a$	=	1.00
$F_v$	=	1.50

Maximum Considered Earthquake Acceleration

$S_{MS} = F_a * S_s$	=	1.500	<span style="float: right;">ASCE 7-10 Eq. 11.4-1</span>
$S_{M1} = F_v * S_1$	=	0.928	<span style="float: right;">ASCE 7-10 Eq. 11.4-2</span>

Design Spectral Acceleration

$S_{DS} = S_{MS}^{2/3}$	=	1.000	<span style="float: right;">ASCE 7-10 Eq. 11.4-3</span>
$S_{D1} = S_{M1}^{2/3}$	=	0.619	<span style="float: right;">ASCE 7-10 Eq. 11.4-4</span>

Seismic Design Category = D ASCE 7-10 Table 11.6-1 & -2

Resisting System ASCE 7-10 Table 12.2-1

Basic Seismic Force Resisting System ... Dual Systems with & Intermediate Moment Frames Capable of Resisting at Least 25% of prescribed Seismic Forces  
Ordinary reinforced masonry shear walls

Response Modification Coefficient "R"	=	3.00	Building height Limits:	
System Overstrength Factor "Wo"	=	3.00	Category "A & B" Limit:	No Limit
Deflection Amplification Factor "Cd"	=	2.50	Category "C" Limit:	Limit = 160
			Category "D" Limit:	Not Permitted
			Category "E" Limit:	Not Permitted
			Category "F" Limit:	Not Permitted

NOTE! See ASCE 7-10 for all applicable footnotes.

Redundancy Factor ASCE 7-10 Section 12.3.4

Seismic Design Category of D, E, or F therefore Redundancy Factor "p" = 1.3

Lateral Force Procedure ASCE 7-10 Section 12.8.2

#### Equivalent Lateral Force Procedure

The "Equivalent Lateral Force Procedure" is being used according to the provisions of ASCE 7-10 12.8

Determine Building Period Use ASCE 12.8-7

Structure Type for Building Period Calculation: All Other Structural Systems

"Ct" value	=	0.020	"hn": Height from base to highest level =	46.0 ft
"x" value	=	0.75		
"Ta" Approximate fundamental period using Eq. 12.8-7:			$T_a = C_t * (h_n * x)$	0.353 sec
"TL": Long-period transition period per ASCE 7-10 Maps 22-12 -> 22-16				8.000 sec

Building Period "Ta" Calculated from Approximate Method selected = 0.353 sec

"Cs" Response Coefficient ASCE 7-10 Section 12.8.1.1

$S_{DS}$ Short Period Design Spectral Response	=	1.000	From Eq. 12.8-2, Preliminary Cs	=	0.333
"R": Response Modification Factor	=	3.00	From Eq. 12.8-3 & 12.8-4, Cs need not exceed	=	0.584
"I": Seismic Importance Factor	=	1	From Eq. 12.8-5 & 12.8-6, Cs not be less than	=	0.103

User has selected ASCE 12.8.1.3: Regular structure, Cs: Seismic Response Coefficient = 0.3333  
Less than 5 Stories and with  $T \leq 0.5$  sec, SO  $S_s \leq 1.5$  for Cs calculation

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Project Title: US DISTRICT COURT EVALUATION  
Engineer: N. PEREIRA  
Project Descr: SEISMIC EVALUATION  
Project ID:

Printed: 1 JUN 2015, 11:09AM

## ASCE Seismic Base Shear

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ENERCALC, INC. 1983-2015, Build:6.15.1.19, Ver:6.15.1.19

Lic. #: KW-06008839

Licensee : Neville Pereira, P.E.

### Seismic Base Shear

ASCE 7-10 Section 12.8.1

Cs = 0.3333 from 12.8.1.1

W (see Sum Wi below) = 0.00 k

Seismic Base Shear V = Cs \* W = 0.00 k

### Vertical Distribution of Seismic Forces

ASCE 7-10 Section 12.8.3

"k": hx exponent based on Ta = 1.00

Table of building Weights by Floor Level...

Level #	Wi : Weight	Hi : Height	(Wi * Hi) ^k	Cvx	Fx=Cvx * V	Sum Story Shear	Sum Story Moment
Sum Wi =	0.00 k	Sum Wi * Hi =	0.00 k-ft		Total Base Shear =	0.00 k	
						Base Moment =	0.0 k-ft

### Diaphragm Forces : Seismic Design Category "B" to "F"

ASCE 7-10 12.10.1.1

Level #	Wi	Fi	Sum Fi	Sum Wi	Fpx
Wpx .....	Weight at level of diaphragm and other structure elements attached to it.				
Fi .....	Design Lateral Force applied at the level.				
Sum Fi .....	Sum of "Lat. Force" of current level plus all levels above				
MIN Req'd Force @ Level .....	$0.20 * S_{DS} * I * W_{px}$				
MAX Req'd Force @ Level .....	$0.40 * S_{DS} * I * W_{px}$				
Fpx : Design Force @ Level .....	$W_{px} * \text{SUM}(x > n) Fi / \text{SUM}(x > n) wi$ , x = Current level, n = Top Level				

Project: 3420 & 3470 12TH STREET COURTHOUSES

Location: 3420 & 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 5/25/2015

## 16.17 NONSTRUCTURAL CHECKLIST

### Life Safety Systems

- |                                     |   |                                     |    |     |   |   |
|-------------------------------------|---|-------------------------------------|----|-----|---|---|
| <input checked="" type="checkbox"/> | C | <input checked="" type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. FIRE SUPPRESSION PIPING: Fire suppression piping is anchored and braced in accordance with NFPA-13. (Commentary: Sec. A.7.13.1. Tier 2: Sec. 13.7.4)  |
| <input checked="" type="checkbox"/> | C | <input checked="" type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. FLEXIBLE COUPLINGS: Fire suppression piping has flexible couplings in accordance with NFPA-13. (Commentary: Sec. A.7.13.2. Tier 2: Sec. 13.7.4)   |
| <input checked="" type="checkbox"/> | C | <input checked="" type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. EMERGENCY POWER: Equipment used to power or control life safety systems is anchored or braced. (Commentary: Sec. A.7.12.1. Tier 2: Sec. 13.7.7)   |
| <input type="checkbox"/>            | C | <input type="checkbox"/>            | NC | N/A | U | LS-LMH; PR-LMH. STAIR AND SMOKE DUCTS: Stair pressurization and smoke control ducts are braced and have flexible connections at seismic joints. (Commentary: Sec. A.7.14.1. Tier 2: Sec. 13.7.6)                  |
| <input type="checkbox"/>            | C | <input type="checkbox"/>            | NC | N/A | U | LS-LMH; PR-LMH. SPRINKLER CEILING CLEARANCE: Penetrations through panelized ceilings for fire suppression devices provide clearances in accordance with NFPA-13. (Commentary: Sec. A.7.13.3. Tier 2: Sec. 13.7.4) |
| <input checked="" type="checkbox"/> | C | <input checked="" type="checkbox"/> | NC | N/A | U | LS-not required; PR-LMH. EMERGENCY LIGHTING: Emergency and egress lighting equipment is anchored or braced. (Commentary: Sec. A.7.3.1. Tier 2: Sec. 13.7.9)   |

### Hazardous Materials

- |                          |   |                          |    |     |   |   |
|--------------------------|---|--------------------------|----|-----|---|---|
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. HAZARDOUS MATERIAL EQUIPMENT: Equipment mounted on vibration isolators and containing hazardous material is equipped with restraints or snubbers. (Commentary: Sec. A.7.12.2. Tier 2: 13.7.1)   |
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. HAZARDOUS MATERIAL STORAGE: Breakable containers that hold hazardous material, including gas cylinders, are restrained by latched doors, shelf lips, wires, or other methods. (Commentary: Sec. A.7.15.1. Tier 2: Sec. 13.8.4)  |
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. HAZARDOUS MATERIAL DISTRIBUTION: Piping or ductwork conveying hazardous materials is braced or otherwise protected from damage that would allow hazardous material release. (Commentary: Sec. A.7.13.4. Tier 2: Sec. 13.7.3 and 13.7.5)   |
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. SHUT-OFF VALVES: Piping containing hazardous material, including natural gas, has shut-off valves or other devices to limit spills or leaks. (Commentary: Sec. A.7.13.3. Tier 2: Sec. 13.7.3 and 13.7.5)  |
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. FLEXIBLE COUPLINGS: Hazardous material ductwork and piping, including natural gas piping, has flexible couplings. (Commentary: Sec. A.7.15.4, Tier 2: Sec. 13.7.3 and 13.7.5)   |
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. PIPING OR DUCTS CROSSING SEISMIC JOINTS: Piping or ductwork carrying hazardous material that either crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.13.6. Tier 2: Sec. 13.7.3, 13.7.5, and 13.7.6) |

### Partitions

- |                          |   |                          |    |     |   |  |
|--------------------------|---|--------------------------|----|-----|---|--|
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. UNREINFORCED MASONRY: Unreinforced masonry or hollow-clay tile partitions are braced at a spacing of at most 10 ft in Low or Moderate Seismicity, or at most 6 ft in High Seismicity. (Commentary: Sec. A.7.1.1. Tier 2: Sec. 13.6.2)          |
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. HEAVY PARTITIONS SUPPORTED BY CEILINGS: The tops of masonry or hollow-clay tile partitions are not laterally supported by an integrated ceiling system. (Commentary: Sec. A.7.2.1. Tier 2: Sec. 13.6.2)  |
| <input type="checkbox"/> | C | <input type="checkbox"/> | NC | N/A | U | LS-LMH; PR-LMH. DRIFT: Rigid cementitious partitions are detailed to accommodate the following drift ratios: in steel moment frame, concrete moment frame, and wood frame buildings, 0.02; in other buildings, 0.005. (Commentary A.7.1.2 Tier 2: Sec. 13.6.2) |



- C** **NC** **N/A** **U** LS-not required; PR-MH. LIGHT PARTITIONS SUPPORTED BY CEILINGS: The tops of gypsum board partitions are not laterally supported by an integrated ceiling system. (Commentary: Sec. A.7.2.1. Tier 2: Sec. 13.6.2)
- C** **NC** **N/A** **U** LS-not required; PR-MH. STRUCTURAL SEPARATIONS: Partitions that cross structural separations have seismic or control joints. (Commentary: Sec. A.7.1.3. Tier 2: Sec. 13.6.2)
- C** **NC** **N/A** **U** LS-not required; PR-MH. TOPS: The tops of ceiling-high framed or panelized partitions have lateral bracing to the structure at a spacing equal to or less than 6 ft. (Commentary: Sec. A.7.1.4. Tier 2: Sec. 13.6.2)

### Ceilings

- C** **NC** **N/A** **U** LS-MH; PR-LMH. SUSPENDED LATH AND PLASTER: Suspended lath and plaster ceilings have attachments that resist seismic forces for every 12 ft<sup>2</sup> of area. (Commentary: Sec. A.7.2.3. Tier 2: Sec. 13.6.4)
- C** **NC** **N/A** **U** LS-MH; PR-LMH. SUSPENDED GYPSUM BOARD: Suspended gypsum board ceilings have attachments that resist seismic forces for every 12 ft<sup>2</sup> of area. (Commentary: Sec. A.7.2.3. Tier 2: Sec. 13.6.4)
- C** **NC** **N/A** **U** LS-not required; PR-MH. INTEGRATED CEILINGS: Integrated suspended ceilings with continuous areas greater than 144 ft<sup>2</sup>, and ceilings of smaller areas that are not surrounded by restraining partitions, are laterally restrained at a spacing no greater than 12 ft with members attached to the structure above. Each restraint location has a minimum of four diagonal wires and compression struts, or diagonal members capable of resisting compression. (Commentary: Sec. A.7.2.2. Tier 2: Sec. 13.6.4)
- C** **NC** **N/A** **U** LS-not required; PR-MH. EDGE CLEARANCE: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft<sup>2</sup> have clearances from the enclosing wall or partition of at least the following: in Moderate Seismicity, 1/2 in.; in High Seismicity, 3/4 in. (Commentary: Sec. A.7.2.4. Tier 2: Sec. 13.6.4)
- C** **NC** **N/A** **U** LS-not required; PR-MH. CONTINUITY ACROSS STRUCTURE JOINTS: The ceiling system does not cross any seismic joint and is not attached to multiple independent structures. (Commentary: Sec. A.7.2.5. Tier 2: Sec. 13.6.4)
- C** **NC** **N/A** **U** LS-not required; PR-H. EDGE SUPPORT: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft<sup>2</sup> are supported by closure angles or channels not less than 2 in. wide. (Commentary: Sec. A.7.2.6. Tier 2: Sec. 13.6.4)
- C** **NC** **N/A** **U** LS-not required; PR-H. SEISMIC JOINTS: Acoustical tile or lay-in panel ceilings have seismic separation joints such that each continuous portion of the ceiling is no more than 2500 ft<sup>2</sup> and has a ratio of long-to-short dimension no more than 4-to-1. (Commentary: Sec. A.7.2.7. Tier 2: Sec. 13.6.4)

### Light Fixtures

- C** **NC** **N/A** **U** LS-MH; PR-MH. INDEPENDENT SUPPORT: Light fixtures that weigh more per square foot than the ceiling they penetrate are supported independent of the grid ceiling suspension system by a minimum of two wires at diagonally opposite corners of each fixture. (Commentary: Sec. A.7.3.2. Tier 2: Sec. 13.6.4 and 13.7.9)
- C** **NC** **N/A** **U** LS-not required; PR-H. PENDANT SUPPORTS: Light fixtures on pendant supports are attached at a spacing equal to or less than 6 ft and, if rigidly supported, are free to move with the structure to which they are attached without damaging adjoining components. (Commentary: A.7.3.3. Tier 2: Sec. 13.7.9)
- C** **NC** **N/A** **U** LS-not required; PR-H. LENS COVERS: Lens covers on light fixtures are attached with safety devices. (Commentary: Sec. A.7.3.4. Tier 2: Sec. 13.7.9)

### Cladding and Glazing

- C** **NC** **N/A** **U** LS-MH; PR-MH. CLADDING ANCHORS: Cladding components weighing more than 10 lb/ft<sup>2</sup> are mechanically anchored to the structure at a spacing equal to or less than the following: for Life Safety in Moderate Seismicity, 6 ft; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 ft. (Commentary: Sec. A.7.4.1. Tier 2: Sec. 13.6.1)
- C** **NC** **N/A** **U** LS-MH; PR-MH. CLADDING ISOLATION: For steel or concrete moment frame buildings, panel connections are detailed to accommodate a story drift ratio of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02. (Commentary: Sec. A.7.4.3. Tier 2: Section 13.6.1)

- ☐ C ☐ NC N/A U LS-MH; PR-MH. MULTI-STORY PANELS: For multi-story panels attached at more than one floor level, panel connections are detailed to accommodate a story drift ratio of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02. (Commentary: Sec. A.7.4.4. Tier 2: Sec. 13.6.1)
- ☐ C ☐ NC N/A U LS-MH; PR-MH. PANEL CONNECTIONS: Cladding panels are anchored out-of-plane with a minimum number of connections for each wall panel, as follows: for Life Safety in Moderate Seismicity, 2 connections; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 connections. (Commentary: Sec. A.7.4.5. Tier 2: Sec. 13.6.1.4)
- ☐ C ☐ NC N/A U LS-MH; PR-MH. BEARING CONNECTIONS: Where bearing connections are used, there is a minimum of two bearing connections for each cladding panel. (Commentary: Sec. A.7.4.6. Tier 2: Sec. 13.6.1.4)
- ☐ C ☐ NC N/A U LS-MH; PR-MH. INSERTS: Where concrete cladding components use inserts, the inserts have positive anchorage or are anchored to reinforcing steel. (Commentary: Sec. A.7.4.7. Tier 2: Sec. 13.6.1.4)
- C ☐ NC ☐ N/A U LS-MH; PR-MH. OVERHEAD GLAZING: Glazing panes of any size in curtain walls and individual interior or exterior panes over 16 ft<sup>2</sup> in area are laminated annealed or laminated heat-strengthened glass and are detailed to remain in the frame when cracked. (Commentary: Sec. A.7.4.8. Tier 2: Sec. 13.6.1.5)

#### Masonry Veneer

- C ☐ NC ☐ N/A U LS-LMH; PR-LMH. TIES: Masonry veneer is connected to the backup with corrosion-resistant ties. There is a minimum of one tie for every 2-2/3 ft<sup>2</sup>, and the ties have spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 36 in.; for Life Safety in High Seismicity and for Position Retention in any seismicity, 24 in. (Commentary: Sec. A.7.5.1. Tier 2: Sec. 13.6.1.2)
- C ☐ NC ☐ N/A U LS-LMH; PR-LMH. SHELF ANGLES: Masonry veneer is supported by shelf angles or other elements at each floor above the ground floor. (Commentary: Sec. A.7.5.2. Tier 2: Sec. 13.6.1.2)
- C ☐ NC ☐ N/A U LS-LMH; PR-LMH. WEAKENED PLANES: Masonry veneer is anchored to the backup adjacent to weakened planes, such as at the locations of flashing. (Commentary: Sec. A.7.5.3. Tier 2: Sec. 13.6.1.2)
- C ☐ NC ☐ N/A U LS-LMH; PR-LMH. UNREINFORCED MASONRY BACKUP: There is no unreinforced masonry backup. (Commentary: Sec. A.7.7.2. Tier 2: Section 13.6.1.1 and 13.6.1.2)
- C ☐ NC ☐ N/A U LS-MH; PR-MH. STUD TRACKS: For veneer with metal stud backup, stud tracks are fastened to the structure at a spacing equal to or less than 24 in. on center. (Commentary: Sec. A.7.6.1. Tier 2: Section 13.6.1.1 and 13.6.1.2)
- C ☐ NC ☐ N/A U LS-MH; PR-MH. ANCHORAGE: For veneer with concrete block or masonry backup, the backup is positively anchored to the structure at a horizontal spacing equal to or less than 4 ft along the floors and roof. (Commentary: Sec. A.7.7.1. Tier 2: Section 13.6.1.1 and 13.6.1.2)
- C ☐ NC ☐ N/A U LS-not required; PR-MH. WEEP HOLES: In veneer anchored to stud walls, the veneer has functioning weep holes and base flashing. (Commentary: Sec. A.7.5.6. Tier 2: Section 13.6.1.2)
- C ☐ NC ☐ N/A U LS-not required; PR-MH. OPENINGS: For veneer with metal stud backup, steel studs frame window and door openings. (Commentary: Sec. A.7.6.2. Tier 2: Sec. 13.6.1.1 and 13.6.1.2)

#### Parapets, Cornices, Ornamentation, and Appendages

- ☐ C ☐ NC N/A U LS-LMH; PR-LMH. URM PARAPETS OR CORNICES: Laterally unsupported unreinforced masonry parapets or cornices have height-to-thickness ratios no greater than the following: for Life Safety in Low or Moderate Seismicity, 2.5; for Life Safety in High Seismicity and for Position Retention in any seismicity, 1.5. (Commentary: Sec. A.7.8.1. Tier 2: Sec. 13.6.5)
- ☐ C ☐ NC N/A U LS-LMH; PR-LMH. CANOPIES: Canopies at building exits are anchored to the structure at a spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 10 ft; for Life Safety in High Seismicity and for Position Retention in any seismicity, 6 ft. (Commentary: Sec. A.7.8.2. Tier 2: Sec. 13.6.6)
- C ☐ NC ☐ N/A U LS-MH; PR-LMH. CONCRETE PARAPETS: Concrete parapets with height-to-thickness ratios greater than 2.5 have vertical reinforcement. (Commentary: Sec. A.7.8.3. Tier 2: Sec. 13.6.5)
- C ☐ NC ☐ N/A U LS-MH; PR-LMH. APPENDAGES: Cornices, parapets, signs, and other ornamentation or appendages that extend above the highest point of anchorage to the structure or cantilever from components are reinforced and anchored to the structural system at a spacing equal to or less than 6 ft. This checklist item does not apply to parapets or cornices covered by other checklist items. (Commentary: Sec. A.7.8.4. Tier 2: Sec. 13.6.6)

### Masonry Chimneys

- C NC ☐ N/A ☐ U LS-LMH; PR-LMH. URM CHIMNEYS: Unreinforced masonry chimneys extend above the roof surface no more than the following: for Life Safety in Low or Moderate Seismicity, 3 times the least dimension of the chimney; for Life Safety in High Seismicity and for Position Retention in any seismicity, 2 times the least dimension of the chimney. (Commentary: Sec. A.7.9.1. Tier 2: 13.6.7)
- C NC ☐ N/A ☐ U LS-LMH; PR-LMH. ANCHORAGE: Masonry chimneys are anchored at each floor level, at the topmost ceiling level, and at the roof. (Commentary: Sec. A.7.9.2. Tier 2: 13.6.7)

### Stairs

- C NC ☐ N/A ☐ U LS-LMH; PR-LMH. STAIR ENCLOSURES: Hollow-clay tile or unreinforced masonry walls around stair enclosures are restrained out-of-plane and have height-to-thickness ratios not greater than the following: for Life Safety in Low or Moderate Seismicity, 15-to-1; for Life Safety in High Seismicity and for Position Retention in any seismicity, 12-to-1. (Commentary: Sec. A.7.10.1. Tier 2: Sec. 13.6.2 and 13.6.8)
- C NC ☐ N/A ☐ U LS-LMH; PR-LMH. STAIR DETAILS: In moment frame structures, the connection between the stairs and the structure does not rely on shallow anchors in concrete. Alternatively, the stair details are capable of accommodating the drift calculated using the Quick Check procedure of Section 4.5.3.1 without including any lateral stiffness contribution from the stairs. (Commentary: Sec. A.7.10.2. Tier 2: 13.6.8)

### Contents and Furnishings

- C NC ☐ N/A ☐ U LS-MH; PR-MH. INDUSTRIAL STORAGE RACKS: Industrial storage racks or pallet racks more than 12 ft high meet the requirements of ANSI/MH 16.1 as modified by ASCE 7 Chapter 15. (Commentary: Sec. A.7.11.1. Tier 2: Sec. 13.8.1)
- ☐ C NC ☐ N/A ☐ U LS-H; PR-MH. TALL NARROW CONTENTS: Contents more than 6 ft high with a height-to-depth or height-to-width ratio greater than 3-to-1 are anchored to the structure or to each other. (Commentary: Sec. A.7.11.2. Tier 2: Sec. 13.8.2)
- ☐ C NC ☐ N/A ☐ U LS-H; PR-H. FALL-PRONE CONTENTS: Equipment, stored items, or other contents weighing more than 20 lb whose center of mass is more than 4 ft above the adjacent floor level are braced or otherwise restrained. (Commentary: Sec. A.7.11.3. Tier 2: Sec. 13.8.2)
- C NC ☐ N/A ☐ U LS-not required; PR-MH. ACCESS FLOORS: Access floors more than 9 in. high are braced. (Commentary: Sec. A.7.11.4. Tier 2: Sec. 13.8.3)
- C NC ☐ N/A ☐ U LS-not required; PR-MH. EQUIPMENT ON ACCESS FLOORS: Equipment and other contents supported by access floor systems are anchored or braced to the structure independent of the access floor. (Commentary: Sec. A.7.11.5. Tier 2: Sec. 13.7.7 and 13.8.3)
- ☐ C NC ☐ N/A ☐ U LS-not required; PR-H. SUSPENDED CONTENTS: Items suspended without lateral bracing are free to swing from or move with the structure from which they are suspended without damaging themselves or adjoining components. (Commentary: A.7.11.6. Tier 2: Sec. 13.8.2)

### Mechanical and Electrical Equipment

- ☐ C NC ☐ N/A ☐ U LS-H; PR-H. FALL-PRONE EQUIPMENT: Equipment weighing more than 20 lb whose center of mass is more than 4 ft above the adjacent floor level, and which is not in-line equipment, is braced. (Commentary: A.7.12.4. Tier 2: 13.7.1 and 13.7.7)
- ☐ C NC ☐ N/A ☐ U LS-H; PR-H. IN-LINE EQUIPMENT: Equipment installed in-line with a duct or piping system, with an operating weight more than 75 lb, is supported and laterally braced independent of the duct or piping system. (Commentary: Sec. A.7.12.5. Tier 2: Sec. 13.7.1)
- C NC ☐ N/A ☐ U LS-H; PR-MH. TALL NARROW EQUIPMENT: Equipment more than 6 ft high with a height-to-depth or height-to-width ratio greater than 3-to-1 is anchored to the floor slab or adjacent structural walls. (Commentary: Sec. A.7.12.6. Tier 2: Sec. 13.7.1 and 13.7.7)
- C NC ☐ N/A ☐ U LS-not required; PR-MH. MECHANICAL DOORS: Mechanically operated doors are detailed to operate at a story drift ratio of 0.01. (Commentary: Sec. A.7.12.7. Tier 2: Sec. 13.6.9)

- C NC N/A U LS-not required; PR-H. SUSPENDED EQUIPMENT: Equipment suspended without lateral bracing is free to swing from or move with the structure from which it is suspended without damaging itself or adjoining components. (Commentary: Sec. A.7.12.8. Tier 2: Sec. 13.7.1 and 13.7.7)
- C NC N/A U LS-not required; PR-H. VIBRATION ISOLATORS: Equipment mounted on vibration isolators is equipped with horizontal restraints or snubbers and with vertical restraints to resist overturning. (Commentary: Sec. A.7.12.9. Tier 2: Sec. 13.7.1)
- C NC N/A U LS-not required; PR-H. HEAVY EQUIPMENT: Floor-supported or platform-supported equipment weighing more than 400 lb is anchored to the structure. (Commentary: Sec. A.7.12.10. Tier 2: 13.7.1 and 13.7.7)
- C NC N/A U LS-not required; PR-H. ELECTRICAL EQUIPMENT: Electrical equipment is laterally braced to the structure. (Commentary: Sec. A.7.12.11. Tier 2: 13.7.7)
- C NC N/A U LS-not required; PR-H. CONDUIT COUPLINGS: Conduit greater than 2.5 in. trade size that is attached to panels, cabinets, or other equipment and is subject to relative seismic displacement has flexible couplings or connections. (Commentary: Sec. A.7.12.12. Tier 2: 13.7.8)

#### Piping

- C NC N/A U LS-not required; PR-H. FLEXIBLE COUPLINGS: Fluid and gas piping has flexible couplings. (Commentary: Sec. A.7.13.2. Tier 2: Sec. 13.7.3 and 13.7.5)
- C NC N/A U LS-not required; PR-H. FLUID AND GAS PIPING: Fluid and gas piping is anchored and braced to the structure to limit spills or leaks. (Commentary: Sec. A.7.13.4. Tier 2: Sec. 13.7.3 and 13.7.5)
- C NC N/A U LS-not required; PR-H. C-CLAMPS: One-sided C-clamps that support piping larger than 2.5 in. in diameter are restrained. (Commentary: Sec. A.7.13.5. Tier 2: Sec. 13.7.3 and 13.7.5)
- C NC N/A U LS-not required; PR-H. PIPING CROSSING SEISMIC JOINTS: Piping that crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.13.6. Tier 2: Sec. 13.7.3 and Sec. 13.7.5)

#### Ducts

- C NC N/A U LS-not required; PR-H. DUCT BRACING: Rectangular ductwork larger than 6 ft<sup>2</sup> in cross-sectional area and round ducts larger than 28 in. in diameter are braced. The maximum spacing of transverse bracing does not exceed 30 ft. The maximum spacing of longitudinal bracing does not exceed 60 ft. (Commentary: Sec. A.7.14.2. Tier 2: Sec. 13.7.6)
- C NC N/A U LS-not required; PR-H. DUCT SUPPORT: Ducts are not supported by piping or electrical conduit. (Commentary: Sec. A.7.14.3. Tier 2: Sec. 13.7.6)
- C NC N/A U LS-not required; PR-H. DUCTS CROSSING SEISMIC JOINTS: Ducts that cross seismic joints or isolation planes or are connected to independent structures have couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.14.5. Tier 2: Sec. 13.7.6)

#### Elevators

- C NC N/A U LS-H; PR-H. RETAINER GUARDS: Sheaves and drums have cable retainer guards. (Commentary: Sec. A.7.16.1. Tier 2: 13.8.6)
- C NC N/A U LS-H; PR-H. RETAINER PLATE: A retainer plate is present at the top and bottom of both car and counterweight. (Commentary: Sec. A.7.16.2. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. ELEVATOR EQUIPMENT: Equipment, piping, and other components that are part of the elevator system are anchored. (Commentary: Sec. A.7.16.3. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. SEISMIC SWITCH: Elevators capable of operating at speeds of 150 ft/min or faster are equipped with seismic switches that meet the requirements of ASME A17.1 or have trigger levels set to 20% of the acceleration of gravity at the base of the structure and 50% of the acceleration of gravity in other locations. (Commentary: Sec. A.7.16.4. Tier 2: 13.8.6)

- C NC N/A U LS-not required; PR-H. SHAFT WALLS: Elevator shaft walls are anchored and reinforced to prevent toppling into the shaft during strong shaking. (Commentary: Sec. A.7.16.5. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. COUNTERWEIGHT RAILS: All counterweight rails and divider beams are sized in accordance with ASME A17.1. (Commentary: Sec. A.7.16.6. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. BRACKETS: The brackets that tie the car rails and the counterweight rail to the structure are sized in accordance with ASME A17.1. (Commentary: Sec. A.7.16.7. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. SPREADER BRACKET: Spreader brackets are not used to resist seismic forces. (Commentary: Sec. A.7.16.8. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. GO-SLOW ELEVATORS: The building has a go-slow elevator system. (Commentary: Sec. A.7.16.9. Tier 2: 13.8.6)

## SEISMIC FORM B

CERTIFICATE OF SEISMIC COMPLIANCE  
EXISTING BUILDINGDate: 5/29/2015

This affirms that NEVILLE PEREIRA, P.E. served as engineer in charge of the seismic evaluation of the building located at 3470 12TH STREET, RIVERSIDE CA 92501

The building has the following characteristics:

ASCE Building Type: <b>RM2</b>	No. of Stories: <b>4</b>	Approx. Area: <b>62,487</b>
Building Design Code: <b>1994 UBC</b>	Year of Design Code: <b>1997</b>	Year of Construction: <b>2000</b>

I have evaluated this building at the Life Safety Performance Level as set forth in the ICSSC RP 8, Standards of Seismic Safety for Existing Federally Owned and Leased Buildings, using ASCE/SEI 31 methodology:

☒ Tier 1 Evaluation☐ Tier 2 Evaluation☐ Tier 3 Evaluation☐ Other (please explain below)

Documentation of this evaluation must be attached to this Certificate

On the basis of the building characteristics and to the extent permitted by this level of evaluation it is my opinion that subject Building (check one) ☒ does / ☐ does not meet the Life Safety Performance Level of ICSSC RP 8.

Affix Stamp and Sign Here

Engineer's Name: **NEVILLE PEREIRA, P.E.**  
Firm: **TRANSTECH ENGINEERS**  
Address: **13367 BENSON AVE, CHINO CA 91710**  
Telephone: **(909) 595-8599**  
License No.: **C55991**  
License State: **CALIFORNIA**  
Expiration Date: **12/31/2016**



Comments:

Attach ASCE/SEI 31 Checklist(s) Structural, Nonstructural, and Geologic Site Hazards and Foundation:

## APPENDIX C SUMMARY DATA SHEET

### BUILDING DATA

Building Name: UNITED STATES DISTRICT COURT Date: 05/25/2015  
 Building Address: 3470 12th STREET, RIVERSIDE, CA 92501  
 Latitude: 33.9762047 Longitude: -117.3752267 By: \_\_\_\_\_  
 Year Built: 2000 Year(s) Remodeled: \_\_\_\_\_ Original Design Code: 1994 UBC  
 Area (sf): 62,487 Length (ft): 268' Width (ft): 97'  
 No. of Stories: 3+BASEMENT Story Height: 14' Total Height: 70'  
 USE ☐ Industrial ☐ Office ☐ Warehouse ☐ Hospital ☐ Residential ☐ Educational ☒ Other: COURTHOUSE

### CONSTRUCTION DATA

Gravity Load Structural System: REINFORCED CONCRETE MASONRY  
 Exterior Transverse Walls: REINFORCED CONCRETE MASONRY Openings? GLASS  
 Exterior Longitudinal Walls: REINFORCED CONCRETE MASONRY Openings? GLASS  
 Roof Materials/Framing: CONCRETE TILE/STEEL FRAMING  
 Intermediate Floors/Framing: STEEL PAN AND CONCRETE/STEEL FRAMING  
 Ground Floor: CONCRETE SLAB ON GRADE  
 Columns: STEEL Foundation: CONCRETE SLAB ON GRADE  
 General Condition of Structure: EXCELLENT  
 Levels Below Grade? ONE  
 Special Features and Comments: NONE

### LATERAL-FORCE-RESISTING SYSTEM

	Longitudinal	Transverse
System:	<u>ORDINARY STEEL CONCENTRICALLY BRACED FRAME</u>	<u>ORDINARY STEEL CONCENTRICALLY BRACED FRAME</u>
Vertical Elements:	<u>STEEL</u>	<u>STEEL</u>
Diaphragms:	<u>CONCRETE IN STEEL PAN</u>	<u>CONCRETE IN STEEL PAN</u>
Connections:	<u>BOLTED/WELDED</u>	<u>BOLTED/WELDED</u>

### EVALUATION DATA

BSE-1N Spectral Response Accelerations:  $S_{D1} = 1.00$   $S_{D1} = 0.619$   
 Soil Factors: Class = D  $F_a = 1.00$   $F_v = 1.50$   
 BSE-1E Spectral Response Accelerations:  $S_{S1} = N/A$   $S_{S1} = N/A$   
 Level of Seismicity: 12 Performance Level: N  
 Building Period:  $T = 0.269$  SECS  
 Spectral Acceleration:  $S_u = N/A$   
 Modification Factor:  $C_m C_1 C_2 = 1.1$  Building Weight:  $W = NOT DOCUMENTED$   
 Pseudo Lateral Force:  $V =$   
 $C_m C_1 C_2 S_u W = NOT DOCUMENTED$

### BUILDING CLASSIFICATION:

#### REQUIRED TIER 1 CHECKLISTS

	Yes	No
Basic Configuration Checklist	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Building Type <u>S2</u> Structural Checklist	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nonstructural Component Checklist	<input checked="" type="checkbox"/>	<input type="checkbox"/>

FURTHER EVALUATION REQUIREMENT: N/A

Project: 3470 12TH STREET DISTRICT COURTHOUSE

Location: 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 5/25/2015

## TIER 1 CHECKLISTS

### 16.1 BASIC CHECKLIST

#### Very Low Seismicity

##### Structural Components

- ☒ C ☐ NC ☐ N/A ☐ U LOAD PATH: The structure shall contain a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)
- ☐ C ☐ NC ☒ N/A ☐ U WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections shall have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.5.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)



Project: 3470 12TH STREET US DISTRICT COURTHOUSE

Location: 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 05/25/2015

### 16.1.2LS LIFE SAFETY BASIC CONFIGURATION CHECKLIST

#### Low Seismicity

##### Building System

###### General

- ☒ C ☒ NC ☐ N/A ☐ U LOAD PATH: The structure shall contain a complete, well defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)
- ☒ C ☒ NC ☐ N/A ☐ U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 4% of the height of the shorter building. This statement shall not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)
- ☐ C ☒ NC ☒ N/A ☐ U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

###### Building Configuration

- ☐ C ☒ NC ☒ N/A ☐ U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A.2.2.2. Tier 2: Sec. 5.4.2.1)
- ☐ C ☒ NC ☒ N/A ☐ U SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)
- ☐ C ☒ NC ☒ N/A ☐ U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)
- ☒ C ☒ NC ☐ N/A ☐ U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)
- ☒ C ☒ NC ☐ N/A ☐ U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)
- ☒ C ☒ NC ☐ N/A ☐ U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

**Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.**

##### Geologic Site Hazards

- ☐ C ☒ NC ☒ N/A ☐ U LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)
- ☐ C ☒ NC ☒ N/A ☐ U SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)
- ☐ C ☒ NC ☒ N/A ☐ U SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)

**High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.**

##### Foundation Configuration

- ☐ C ☒ NC ☒ N/A ☐ U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than  $0.6S_w$ . (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)
- ☐ C ☒ NC ☒ N/A ☐ U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

Project: 3470 12TH STREET BANKRUPTCY COURTHOUSE

Location: 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 5/25/2015

## 16.1.2IO IMMEDIATE OCCUPANCY BASIC CONFIGURATION CHECKLIST

### Very Low Seismicity

#### Building System

##### General

- ☒ ☒ ☐ N/A U LOAD PATH: The structure shall contain a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)
- ☒ ☒ ☐ N/A U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 4% of the height of the shorter building. This statement need not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)
- ☐ ☒ ☒ N/A U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

##### Building Configuration

- ☐ ☒ ☒ N/A U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction shall not be less than 80% of the strength in the adjacent story above. (Commentary: Sec. A.2.2.2. Tier 2: Sec. 5.4.2.1)
- ☐ ☒ ☒ N/A U SOFT STORY: The stiffness of the seismic-force-resisting system in any story shall not be less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)
- ☐ ☒ ☒ N/A U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)
- ☒ ☒ ☐ N/A U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)
- ☒ ☒ ☐ N/A U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)
- ☒ ☒ ☐ N/A U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

Low Seismicity: Complete the Following Items in Addition to the Items for Very Low Seismicity.

#### Geologic Site Hazards

- ☐ ☒ ☒ N/A U LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)
- ☐ ☒ ☒ N/A U SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)
- ☐ ☒ ☒ N/A U SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)

Moderate and High Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

#### Foundation Configuration

- ☐ ☒ ☒ N/A U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than  $0.6S_a$ . (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)
- ☐ ☒ ☒ N/A U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)



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Project Descr: \_\_\_\_\_  
Project ID: \_\_\_\_\_

Printed: 1 JUN 2015 11:09AM

## ASCE Seismic Base Shear

File = c:\Users\Neville\DROPBOX\1\JOB\RECORD\2015\15283R-1\LEMONA-1\347012-1.EC6  
ENERCALC, INC. 1983-2015, Build 6.15.1.19, Ver: 6.15.1.19

Lic. #: KW-06008839

Licensee: Neville Pereira, P.E.

Cs = 0.3333 from 12.8.1.1

W (see Sum Wi below) = \_\_\_\_\_ k

Seismic Base Shear V = Cs \* W = \_\_\_\_\_ k

\*k\*: hx exponent based on Ta = \_\_\_\_\_

Table of building Weights by Floor Level...

Level #	Wi: Weight	Hi: Height	(Wi * Hi) ^k	Cvx	Fx=Cvx * V	Sum Story Shear	Sum Story Moment
Sum Wi =	_____ k	Sum Wi * Hi =	_____ k-ft		Total Base Shear =	_____ k	
						Base Moment =	_____ k-ft

Table of Design Forces by Floor Level...

Level #	Wi	Fi	Sum Fi	Sum Wi	Fpx
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Wpx ..... Weight at level of diaphragm and other structure elements attached to it.

Fi ..... Design Lateral Force applied at the level.

Sum Fi ..... Sum of "Lat. Force" of current level plus all levels above

MIN Req'd Force @ Level .....  $0.20 * S_{DS} * I * W_{px}$

MAX Req'd Force @ Level .....  $0.40 * S_{DS} * I * W_{px}$

Fpx: Design Force @ Level .....  $W_{px} * \text{SUM}(x \rightarrow n) Fi / \text{SUM}(x \rightarrow n) wi$ , x = Current level, n = Top Level

Project: 3420 & 3470 12TH STREET COURTHOUSES

Location: 3420 & 3470 12TH STREET, RIVERSIDE, CA 92501

Completed by: NEVILLE PEREIRA, P.E.

Date: 5/25/2015

## 16.17 NONSTRUCTURAL CHECKLIST

### Life Safety Systems

- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. FIRE SUPPRESSION PIPING: Fire suppression piping is anchored and braced in accordance with NFPA-13. (Commentary: Sec. A.7.13.1. Tier 2: Sec. 13.7.4)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. FLEXIBLE COUPLINGS: Fire suppression piping has flexible couplings in accordance with NFPA-13. (Commentary: Sec. A.7.13.2. Tier 2: Sec. 13.7.4)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. EMERGENCY POWER: Equipment used to power or control life safety systems is anchored or braced. (Commentary: Sec. A.7.12.1. Tier 2: Sec. 13.7.7)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. STAIR AND SMOKE DUCTS: Stair pressurization and smoke control ducts are braced and have flexible connections at seismic joints. (Commentary: Sec. A.7.14.1. Tier 2: Sec. 13.7.6)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. SPRINKLER CEILING CLEARANCE: Penetrations through panelized ceilings for fire suppression devices provide clearances in accordance with NFPA-13. (Commentary: Sec. A.7.13.3. Tier 2: Sec. 13.7.4)
- ☐ C ☐ NC ☐ N/A ☐ U LS-not required; PR-LMH. EMERGENCY LIGHTING: Emergency and egress lighting equipment is anchored or braced. (Commentary: Sec. A.7.3.1. Tier 2: Sec. 13.7.9)

### Hazardous Materials

- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. HAZARDOUS MATERIAL EQUIPMENT: Equipment mounted on vibration isolators and containing hazardous material is equipped with restraints or snubbers. (Commentary: Sec. A.7.12.2. Tier 2: 13.7.1)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. HAZARDOUS MATERIAL STORAGE: Breakable containers that hold hazardous material, including gas cylinders, are restrained by latched doors, shelf lips, wires, or other methods. (Commentary: Sec. A.7.15.1. Tier 2: Sec. 13.8.4)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. HAZARDOUS MATERIAL DISTRIBUTION: Piping or ductwork conveying hazardous materials is braced or otherwise protected from damage that would allow hazardous material release. (Commentary: Sec. A.7.13.4. Tier 2: Sec. 13.7.3 and 13.7.5)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. SHUT-OFF VALVES: Piping containing hazardous material, including natural gas, has shut-off valves or other devices to limit spills or leaks. (Commentary: Sec. A.7.13.3. Tier 2: Sec. 13.7.3 and 13.7.5)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. FLEXIBLE COUPLINGS: Hazardous material ductwork and piping, including natural gas piping, has flexible couplings. (Commentary: Sec. A.7.15.4, Tier 2: Sec. 13.7.3 and 13.7.5)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. PIPING OR DUCTS CROSSING SEISMIC JOINTS: Piping or ductwork carrying hazardous material that either crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.13.6. Tier 2: Sec. 13.7.3, 13.7.5, and 13.7.6)

### Partitions

- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. UNREINFORCED MASONRY: Unreinforced masonry or hollow-clay tile partitions are braced at a spacing of at most 10 ft in Low or Moderate Seismicity, or at most 6 ft in High Seismicity. (Commentary: Sec. A.7.1.1. Tier 2: Sec. 13.6.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. HEAVY PARTITIONS SUPPORTED BY CEILINGS: The tops of masonry or hollow-clay tile partitions are not laterally supported by an integrated ceiling system. (Commentary: Sec. A.7.2.1. Tier 2: Sec. 13.6.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. DRIFT: Rigid cementitious partitions are detailed to accommodate the following drift ratios: in steel moment frame, concrete moment frame, and wood frame buildings, 0.02; in other buildings, 0.005. (Commentary A.7.1.2 Tier 2: Sec. 13.6.2)

**C** **NC** **N/A** **U** LS-not required; PR-MH. LIGHT PARTITIONS SUPPORTED BY CEILINGS: The tops of gypsum board partitions are not laterally supported by an integrated ceiling system. (Commentary: Sec. A.7.2.1. Tier 2: Sec. 13.6.2)

**C** **NC** **N/A** **U** LS-not required; PR-MH. STRUCTURAL SEPARATIONS: Partitions that cross structural separations have seismic or control joints. (Commentary: Sec. A.7.1.3. Tier 2. Sec. 13.6.2)

**C** **NC** **N/A** **U** LS-not required; PR-MH. TOPS: The tops of ceiling-high framed or panelized partitions have lateral bracing to the structure at a spacing equal to or less than 6 ft. (Commentary: Sec. A.7.1.4. Tier 2. Sec. 13.6.2)

#### Ceilings

**C** **NC** **N/A** **U** LS-MH; PR-LMH. SUSPENDED LATH AND PLASTER: Suspended lath and plaster ceilings have attachments that resist seismic forces for every 12 ft<sup>2</sup> of area. (Commentary: Sec. A.7.2.3. Tier 2: Sec. 13.6.4)

**C** **NC** **N/A** **U** LS-MH; PR-LMH. SUSPENDED GYPSUM BOARD: Suspended gypsum board ceilings have attachments that resist seismic forces for every 12 ft<sup>2</sup> of area. (Commentary: Sec. A.7.2.3. Tier 2: Sec. 13.6.4)

**C** **NC** **N/A** **U** LS-not required; PR-MH. INTEGRATED CEILINGS: Integrated suspended ceilings with continuous areas greater than 144 ft<sup>2</sup>, and ceilings of smaller areas that are not surrounded by restraining partitions, are laterally restrained at a spacing no greater than 12 ft with members attached to the structure above. Each restraint location has a minimum of four diagonal wires and compression struts, or diagonal members capable of resisting compression. (Commentary: Sec. A.7.2.2. Tier 2: Sec. 13.6.4)

**C** **NC** **N/A** **U** LS-not required; PR-MH. EDGE CLEARANCE: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft<sup>2</sup> have clearances from the enclosing wall or partition of at least the following: in Moderate Seismicity, 1/2 in.; in High Seismicity, 3/4 in. (Commentary: Sec. A.7.2.4. Tier 2: Sec. 13.6.4)

**C** **NC** **N/A** **U** LS-not required; PR-MH. CONTINUITY ACROSS STRUCTURE JOINTS: The ceiling system does not cross any seismic joint and is not attached to multiple independent structures. (Commentary: Sec. A.7.2.5. Tier 2: Sec. 13.6.4)

**C** **NC** **N/A** **U** LS-not required; PR-H. EDGE SUPPORT: The free edges of integrated suspended ceilings with continuous areas greater than 144 ft<sup>2</sup> are supported by closure angles or channels not less than 2 in. wide. (Commentary: Sec. A.7.2.6. Tier 2: Sec. 13.6.4)

**C** **NC** **N/A** **U** LS-not required; PR-H. SEISMIC JOINTS: Acoustical tile or lay-in panel ceilings have seismic separation joints such that each continuous portion of the ceiling is no more than 2500 ft<sup>2</sup> and has a ratio of long-to-short dimension no more than 4-to-1. (Commentary: Sec. A.7.2.7. Tier 2: 13.6.4)

#### Light Fixtures

**C** **NC** **N/A** **U** LS-MH; PR-MH. INDEPENDENT SUPPORT: Light fixtures that weigh more per square foot than the ceiling they penetrate are supported independent of the grid ceiling suspension system by a minimum of two wires at diagonally opposite corners of each fixture. (Commentary: Sec. A.7.3.2. Tier 2: Sec. 13.6.4 and 13.7.9)

**C** **NC** **N/A** **U** LS-not required; PR-H. PENDANT SUPPORTS: Light fixtures on pendant supports are attached at a spacing equal to or less than 6 ft and, if rigidly supported, are free to move with the structure to which they are attached without damaging adjoining components. (Commentary: A.7.3.3. Tier 2: Sec. 13.7.9)

**C** **NC** **N/A** **U** LS-not required; PR-H. LENS COVERS: Lens covers on light fixtures are attached with safety devices. (Commentary: Sec. A.7.3.4. Tier 2: Sec. 13.7.9)

#### Cladding and Glazing

**C** **NC** **N/A** **U** LS-MH; PR-MH. CLADDING ANCHORS: Cladding components weighing more than 10 lb/ft<sup>2</sup> are mechanically anchored to the structure at a spacing equal to or less than the following: for Life Safety in Moderate Seismicity, 6 ft; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 ft. (Commentary: Sec. A.7.4.1. Tier 2: Sec. 13.6.1)

**C** **NC** **N/A** **U** LS-MH; PR-MH. CLADDING ISOLATION: For steel or concrete moment frame buildings, panel connections are detailed to accommodate a story drift ratio of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02. (Commentary: Sec. A.7.4.3. Tier 2: Section 13.6.1)

- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. MULTI-STORY PANELS: For multi-story panels attached at more than one floor level, panel connections are detailed to accommodate a story drift ratio of at least the following: for Life Safety in Moderate Seismicity, 0.01; for Life Safety in High Seismicity and for Position Retention in any seismicity, 0.02. (Commentary: Sec. A.7.4.4. Tier 2: Sec. 13.6.1)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. PANEL CONNECTIONS: Cladding panels are anchored out-of-plane with a minimum number of connections for each wall panel, as follows: for Life Safety in Moderate Seismicity, 2 connections; for Life Safety in High Seismicity and for Position Retention in any seismicity, 4 connections. (Commentary: Sec. A.7.4.5. Tier 2: Sec. 13.6.1.4)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. BEARING CONNECTIONS: Where bearing connections are used, there is a minimum of two bearing connections for each cladding panel. (Commentary: Sec. A.7.4.6. Tier 2: Sec. 13.6.1.4)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. INSERTS: Where concrete cladding components use inserts, the inserts have positive anchorage or are anchored to reinforcing steel. (Commentary: Sec. A.7.4.7. Tier 2: Sec. 13.6.1.4)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. OVERHEAD GLAZING: Glazing panes of any size in curtain walls and individual interior or exterior panes over 16 ft<sup>2</sup> in area are laminated annealed or laminated heat-strengthened glass and are detailed to remain in the frame when cracked. (Commentary: Sec. A.7.4.8. Tier 2: Sec. 13.6.1.5)

#### Masonry Veneer

- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. TIES: Masonry veneer is connected to the backup with corrosion-resistant ties. There is a minimum of one tie for every 2-2/3 ft<sup>2</sup>, and the ties have spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 36 in.; for Life Safety in High Seismicity and for Position Retention in any seismicity, 24 in. (Commentary: Sec. A.7.5.1. Tier 2: Sec. 13.6.1.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. SHELF ANGLES: Masonry veneer is supported by shelf angles or other elements at each floor above the ground floor. (Commentary: Sec. A.7.5.2. Tier 2: Sec. 13.6.1.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. WEAKENED PLANES: Masonry veneer is anchored to the backup adjacent to weakened planes, such as at the locations of flashing. (Commentary: Sec. A.7.5.3. Tier 2: Sec. 13.6.1.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. UNREINFORCED MASONRY BACKUP: There is no unreinforced masonry backup. (Commentary: Sec. A.7.7.2. Tier 2: Section 13.6.1.1 and 13.6.1.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. STUD TRACKS: For veneer with metal stud backup, stud tracks are fastened to the structure at a spacing equal to or less than 24 in. on center. (Commentary: Sec. A.7.6.1. Tier 2: Section 13.6.1.1 and 13.6.1.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-MH. ANCHORAGE: For veneer with concrete block or masonry backup, the backup is positively anchored to the structure at a horizontal spacing equal to or less than 4 ft along the floors and roof. (Commentary: Sec. A.7.7.1. Tier 2: Section 13.6.1.1 and 13.6.1.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-not required; PR-MH. WEEP HOLES: In veneer anchored to stud walls, the veneer has functioning weep holes and base flashing. (Commentary: Sec. A.7.5.6. Tier 2: Section 13.6.1.2)
- ☐ C ☐ NC ☐ N/A ☐ U LS-not required; PR-MH. OPENINGS: For veneer with metal stud backup, steel studs frame window and door openings. (Commentary: Sec. A.7.6.2. Tier 2: Sec. 13.6.1.1 and 13.6.1.2)

#### Parapets, Cornices, Ornamentation, and Appendages

- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. URM PARAPETS OR CORNICES: Laterally unsupported unreinforced masonry parapets or cornices have height-to-thickness ratios no greater than the following: for Life Safety in Low or Moderate Seismicity, 2.5; for Life Safety in High Seismicity and for Position Retention in any seismicity, 1.5. (Commentary: Sec. A.7.8.1. Tier 2: Sec. 13.6.5)
- ☐ C ☐ NC ☐ N/A ☐ U LS-LMH; PR-LMH. CANOPIES: Canopies at building exits are anchored to the structure at a spacing no greater than the following: for Life Safety in Low or Moderate Seismicity, 10 ft; for Life Safety in High Seismicity and for Position Retention in any seismicity, 6 ft. (Commentary: Sec. A.7.8.2. Tier 2: Sec. 13.6.6)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-LMH. CONCRETE PARAPETS: Concrete parapets with height-to-thickness ratios greater than 2.5 have vertical reinforcement. (Commentary: Sec. A.7.8.3. Tier 2: Sec. 13.6.5)
- ☐ C ☐ NC ☐ N/A ☐ U LS-MH; PR-LMH. APPENDAGES: Cornices, parapets, signs, and other ornamentation or appendages that extend above the highest point of anchorage to the structure or cantilever from components are reinforced and anchored to the structural system at a spacing equal to or less than 6 ft. This checklist item does not apply to parapets or cornices covered by other checklist items. (Commentary: Sec. A.7.8.4. Tier 2: Sec. 13.6.6)

## Masonry Chimneys

- C NC ☐ N/A U LS-LMH; PR-LMH. URM CHIMNEYS: Unreinforced masonry chimneys extend above the roof surface no more than the following: for Life Safety in Low or Moderate Seismicity, 3 times the least dimension of the chimney; for Life Safety in High Seismicity and for Position Retention in any seismicity, 2 times the least dimension of the chimney. (Commentary: Sec. A.7.9.1. Tier 2: 13.6.7)
- C NC ☐ N/A U LS-LMH; PR-LMH. ANCHORAGE: Masonry chimneys are anchored at each floor level, at the topmost ceiling level, and at the roof. (Commentary: Sec. A.7.9.2. Tier 2: 13.6.7)

## Stairs

- C NC ☐ N/A U LS-LMH; PR-LMH. STAIR ENCLOSURES: Hollow-clay tile or unreinforced masonry walls around stair enclosures are restrained out-of-plane and have height-to-thickness ratios not greater than the following: for Life Safety in Low or Moderate Seismicity, 15-to-1; for Life Safety in High Seismicity and for Position Retention in any seismicity, 12-to-1. (Commentary: Sec. A.7.10.1. Tier 2: Sec. 13.6.2 and 13.6.8)
- C NC ☐ N/A U LS-LMH; PR-LMH. STAIR DETAILS: In moment frame structures, the connection between the stairs and the structure does not rely on shallow anchors in concrete. Alternatively, the stair details are capable of accommodating the drift calculated using the Quick Check procedure of Section 4.5.3.1 without including any lateral stiffness contribution from the stairs. (Commentary: Sec. A.7.10.2. Tier 2: 13.6.8)

## Contents and Furnishings

- C NC ☐ N/A U LS-MH; PR-MH. INDUSTRIAL STORAGE RACKS: Industrial storage racks or pallet racks more than 12 ft high meet the requirements of ANSI/MH 16.1 as modified by ASCE 7 Chapter 15. (Commentary: Sec. A.7.11.1. Tier 2: Sec. 13.8.1)
- ☐ C NC ☐ N/A U LS-H; PR-MH. TALL NARROW CONTENTS: Contents more than 6 ft high with a height-to-depth or height-to-width ratio greater than 3-to-1 are anchored to the structure or to each other. (Commentary: Sec. A.7.11.2. Tier 2: Sec. 13.8.2)
- ☐ C NC ☐ N/A U LS-H; PR-H. FALL-PRONE CONTENTS: Equipment, stored items, or other contents weighing more than 20 lb whose center of mass is more than 4 ft above the adjacent floor level are braced or otherwise restrained. (Commentary: Sec. A.7.11.3. Tier 2: Sec. 13.8.2)
- C NC ☐ N/A U LS-not required; PR-MH. ACCESS FLOORS: Access floors more than 9 in. high are braced. (Commentary: Sec. A.7.11.4. Tier 2: Sec. 13.8.3)
- C NC ☐ N/A U LS-not required; PR-MH. EQUIPMENT ON ACCESS FLOORS: Equipment and other contents supported by access floor systems are anchored or braced to the structure independent of the access floor. (Commentary: Sec. A.7.11.5. Tier 2: Sec. 13.7.7 and 13.8.3)
- ☐ C NC ☐ N/A U LS-not required; PR-H. SUSPENDED CONTENTS: Items suspended without lateral bracing are free to swing from or move with the structure from which they are suspended without damaging themselves or adjoining components. (Commentary: A.7.11.6. Tier 2: Sec. 13.8.2)

## Mechanical and Electrical Equipment

- ☐ C NC ☐ N/A U LS-H; PR-H. FALL-PRONE EQUIPMENT: Equipment weighing more than 20 lb whose center of mass is more than 4 ft above the adjacent floor level, and which is not in-line equipment, is braced. (Commentary: A.7.12.4. Tier 2: 13.7.1 and 13.7.7)
- ☐ C NC ☐ N/A U LS-H; PR-H. IN-LINE EQUIPMENT: Equipment installed in-line with a duct or piping system, with an operating weight more than 75 lb, is supported and laterally braced independent of the duct or piping system. (Commentary: Sec. A.7.12.5. Tier 2: Sec. 13.7.1)
- C NC ☐ N/A U LS-H; PR-MH. TALL NARROW EQUIPMENT: Equipment more than 6 ft high with a height-to-depth or height-to-width ratio greater than 3-to-1 is anchored to the floor slab or adjacent structural walls. (Commentary: Sec. A.7.12.6. Tier 2: Sec. 13.7.1 and 13.7.7)
- C NC ☐ N/A U LS-not required; PR-MH. MECHANICAL DOORS: Mechanically operated doors are detailed to operate at a story drift ratio of 0.01. (Commentary: Sec. A.7.12.7. Tier 2: Sec. 13.6.9)



C NC N/A U LS-not required; PR-H. SUSPENDED EQUIPMENT: Equipment suspended without lateral bracing is free to swing from or move with the structure from which it is suspended without damaging itself or adjoining components. (Commentary: Sec. A.7.12.8. Tier 2: Sec. 13.7.1 and 13.7.7)

C NC N/A U LS-not required; PR-H. VIBRATION ISOLATORS: Equipment mounted on vibration isolators is equipped with horizontal restraints or snubbers and with vertical restraints to resist overturning. (Commentary: Sec. A.7.12.9. Tier 2: Sec. 13.7.1)

C NC N/A U LS-not required; PR-H. HEAVY EQUIPMENT: Floor-supported or platform-supported equipment weighing more than 400 lb is anchored to the structure. (Commentary: Sec. A.7.12.10. Tier 2: 13.7.1 and 13.7.7)

C NC N/A U LS-not required; PR-H. ELECTRICAL EQUIPMENT: Electrical equipment is laterally braced to the structure. (Commentary: Sec. A.7.12.11. Tier 2: 13.7.7)

C NC N/A U LS-not required; PR-H. CONDUIT COUPLINGS: Conduit greater than 2.5 in. trade size that is attached to panels, cabinets, or other equipment and is subject to relative seismic displacement has flexible couplings or connections. (Commentary: Sec. A.7.12.12. Tier 2: 13.7.8)

### Piping

C NC N/A U LS-not required; PR-H. FLEXIBLE COUPLINGS: Fluid and gas piping has flexible couplings. (Commentary: Sec. A.7.13.2. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A U LS-not required; PR-H. FLUID AND GAS PIPING: Fluid and gas piping is anchored and braced to the structure to limit spills or leaks. (Commentary: Sec. A.7.13.4. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A U LS-not required; PR-H. C-CLAMPS: One-sided C-clamps that support piping larger than 2.5 in. in diameter are restrained. (Commentary: Sec. A.7.13.5. Tier 2: Sec. 13.7.3 and 13.7.5)

C NC N/A U LS-not required; PR-H. PIPING CROSSING SEISMIC JOINTS: Piping that crosses seismic joints or isolation planes or is connected to independent structures has couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.13.6. Tier 2: Sec. 13.7.3 and Sec. 13.7.5)

### Ducts

C NC N/A U LS-not required; PR-H. DUCT BRACING: Rectangular ductwork larger than 6 ft<sup>2</sup> in cross-sectional area and round ducts larger than 28 in. in diameter are braced. The maximum spacing of transverse bracing does not exceed 30 ft. The maximum spacing of longitudinal bracing does not exceed 60 ft. (Commentary: Sec. A.7.14.2. Tier 2: Sec. 13.7.6)

C NC N/A U LS-not required; PR-H. DUCT SUPPORT: Ducts are not supported by piping or electrical conduit. (Commentary: Sec. A.7.14.3. Tier 2: Sec. 13.7.6)

C NC N/A U LS-not required; PR-H. DUCTS CROSSING SEISMIC JOINTS: Ducts that cross seismic joints or isolation planes or are connected to independent structures have couplings or other details to accommodate the relative seismic displacements. (Commentary: Sec. A.7.14.5. Tier 2: Sec. 13.7.6)

### Elevators

C NC N/A U LS-H; PR-H. RETAINER GUARDS: Sheaves and drums have cable retainer guards. (Commentary: Sec. A.7.16.1. Tier 2: 13.8.6)

C NC N/A U LS-H; PR-H. RETAINER PLATE: A retainer plate is present at the top and bottom of both car and counterweight. (Commentary: Sec. A.7.16.2. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. ELEVATOR EQUIPMENT: Equipment, piping, and other components that are part of the elevator system are anchored. (Commentary: Sec. A.7.16.3. Tier 2: 13.8.6)

C NC N/A U LS-not required; PR-H. SEISMIC SWITCH: Elevators capable of operating at speeds of 150 ft/min or faster are equipped with seismic switches that meet the requirements of ASME A17.1 or have trigger levels set to 20% of the acceleration of gravity at the base of the structure and 50% of the acceleration of gravity in other locations. (Commentary: Sec. A.7.16.4. Tier 2: 13.8.6)

- C NC N/A U LS-not required; PR-H. SHAFT WALLS: Elevator shaft walls are anchored and reinforced to prevent toppling into the shaft during strong shaking. (Commentary: Sec. A.7.16.5. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. COUNTERWEIGHT RAILS: All counterweight rails and divider beams are sized in accordance with ASME A17.1. (Commentary: Sec. A.7.16.6. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. BRACKETS: The brackets that tie the car rails and the counterweight rail to the structure are sized in accordance with ASME A17.1. (Commentary: Sec. A.7.16.7. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. SPREADER BRACKET: Spreader brackets are not used to resist seismic forces. (Commentary: Sec. A.7.16.8. Tier 2: 13.8.6)
- C NC N/A U LS-not required; PR-H. GO-SLOW ELEVATORS: The building has a go-slow elevator system. (Commentary: Sec. A.7.16.9. Tier 2: 13.8.6)