



**BUILDING REPORT REQUIREMENTS
ASCE 41-17 TIER 1 SEISMIC EVALUATIONS**

BUILDING REPORT

- 1) UC Campus: **Los Angeles**
- 2) Building Name: **Boyer Hall**
- 3) Building CAAN ID: **4403**
- 4) Auxiliary Building ID:
- 5) Date of Evaluation: **9/3/2020**
- 6) Evaluation by: **Englekirk, TAS / TN**
- 7) Seismic Performance Rating and Basis of Rating: **V, ASCE 41-17 Tier 1**



8) Plan Image or Aerial Photo



9) Exterior Elevation Photo

- 10) Site Location
 - (a) Latitude Decimal Coordinates: **34.0681876**
 - (b) Longitude Decimal Coordinates: **-118.4417607**
- 11) ASCE 41-17 Model Building Type and Description
 - (a) Longitudinal Direction: **S1 and S1a: Steel moment-resisting frame**
 - (b) Transverse Direction: **C2 and C2a: Reinforced concrete shear walls**
- 12) Number of Stories
 - (a) Above grade: **7**
 - (b) Below grade: **1**
- 13) Original Building Design Code & Year: **UBC-1970**
- 14) Retrofit Building Design Code & Year (if applicable):
- 15) Cost Range to Retrofit (if applicable): (Low, Medium, High or Very High): **High**



Comments: **Pre-Northridge connections. All steel framing is encased with concrete and reinforced with wire mesh. Some of the steel moment frame joints were inspected post-Northridge and no damage was observed. The steel moment frame connections do not satisfy the "Moment Resisting Connection" check. Strengthening of the existing connections may be required. Some columns do not satisfy compactness criteria for moderately ductile members. The framing members satisfy the panel zone and strong**



column/weak beam checks. Although the building is non-compliant with respect to the adjacent building check, all floors align and there is 12" joint the full height of the building. Shearwalls satisfy the Tier 1 check for shear stresses at the Life Safety level. The concrete walls have fully welded moment connections into the weak axis of the steel columns. cursory review of the support framing for the exterior precast panels indicate the panels becoming a potential falling hazard due to potential failures in the supporting steel framing.

BACKGROUND INFORMATION

Site Information

16) Site Class (A – F) and Basis of Assessment

- (a) Site Class: **D**
- (b) Site Class Basis: **Unknown (Default)**
- (c) Site Class Company: **None**
- (d) Site Class Report Date: **None**
- (e) Site Class Ref Page No.: **None**

17) Geologic Hazards

- (a) Fault Rupture (Yes, No or Unknown) and Basis of Assessment: **No, CGS Maps**
- (b) Liquefaction (Yes, No or Unknown) and Basis of Assessment: **No, CGS Maps**
- (c) Landslide (Yes, No or Unknown) and Basis of Assessment: **No, CGS Maps**

18) Site-specific Ground Motion Study? (Yes or No) **No**

Seismic design acceleration parameters of interest:	
For BSE-1N	1.632 and 0.828
For BSE-1E	0.897 and 0.517

19) Estimated Fundamental Period (seconds)

- (a) Longitudinal: **1.44**
- (b) Transverse: **0.65**

20) Falling Hazards Assessment Summary: **Exterior precast panels**

21) Structural Non-Compliances/Findings Significantly Affecting Rating Determination Summary
Significant Structural Deficiencies, Potentially Affecting *Seismic Performance Rating* Designation:

- (a) Lateral System Stress Check (wall shear, column shear or flexure, or brace axial as applicable):
Yes, other deficiency noted
- (b) Load Path: **No deficiency noted**
- (c) Adjacent Buildings: **Yes, deficiency noted**
- (d) Weak Story: **No deficiency noted**
- (e) Soft Story: **No deficiency noted**
- (f) Geometry (vertical irregularities): **No deficiency noted**
- (g) Torsion: **No deficiency noted**
- (h) Mass – Vertical Irregularity: **No deficiency noted**



- (i) Cripple Walls: [Not Applicable](#)
- (j) Wood Sills (bolting): [Not Applicable](#)
- (k) Diaphragm Continuity: [No deficiency noted](#)
- (l) Openings at Shear Walls (concrete or masonry): [No deficiency noted](#)
- (m) Liquefaction: [No](#)
- (n) Slope Failure: [No](#)
- (o) Surface Fault Rupture: [No](#)
- (p) Masonry or Concrete Wall Anchorage at Flexible Diaphragm: [Not Applicable](#)
- (q) URM wall height to thickness ratio: [Not Applicable](#)
- (r) URM Parapets or Cornices: [Not Applicable](#)
- (s) URM Chimney: [Not Applicable](#)
- (t) Heavy Partitions Braced by Ceilings: [Not Applicable](#)
- (u) Appendages: [No deficiency noted](#)

22) Brief Description of Anticipated Failure Mechanism

[Moment frame joint failure or premature buckling of moment frame members.](#)

23) Seismic Retrofit Concept Sketches/Description (only required for buildings rated V or worse)

[Retrofit existing steel moment frame connections to force beam yielding beyond the connection \(i.e. adding steel haunches\) or add damping to reduce building and connection deformation.](#)

Building Report Appendices

- A) ASCE 41-17 Tier 1 Checklists ([Structural](#) only)
- B) Quick Check Calculations