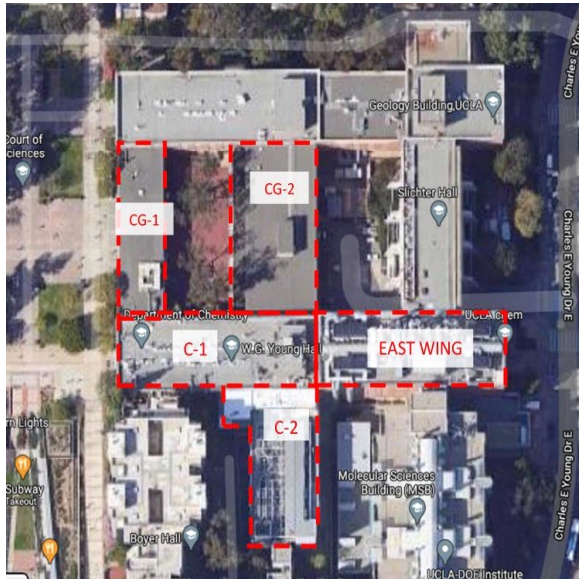




BUILDING REPORT REQUIREMENTS
ASCE 41-17 TIER 1 SEISMIC EVALUATIONS

BUILDING REPORT

- 1) UC Campus: Los Angeles
2) Building Name: Young Hall, Building CG-1
3) Building CAAN ID: 4228B
4) Auxiliary Building ID:
5) Date of Evaluation: 12/4/2020
6) Evaluation by: Englekirk, TAS / NAT
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: 34.0688448
(b) Longitude Decimal Coordinates: -118.441199
11) ASCE 41-17 Model Building Type and Description
(a) Longitudinal Direction: C2 and C2a: Reinforced concrete shear walls
(b) Transverse Direction: C2 and C2a: Reinforced concrete shear walls
12) Number of Stories
(a) Above grade: 2
(b) Below grade: 1
13) Original Building Design Code & Year: UBC-1949
14) Retrofit Building Design Code & Year (if applicable):
15) Cost Range to Retrofit (if applicable): (Low, Medium, High or Very High): Medium



Comments: Young Hall consists of five separate buildings (see the plan view showing buildings CG-1, CG-1, C-1, C-2, and the East Wing). Separate reports have been prepared for each building.

Building CG-1 consist of two 47'x~47' building cores that are combined with a common Roof. The lateral force resisting system of each core consists of 10" or 12" thick perimeter reinforced concrete shear walls in each orthogonal direction. Refer to the calculations for the typical Floor plan and Roof plan views.



Structural deficiencies per the Tier 1 evaluation include torsion issues that may result in overstressed shear walls and diaphragms as well as insufficient confinement of secondary components for deflection compatibility.

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	1.633 and 0.828
For BSE-1E	0.897 and 0.517

19) Estimated Fundamental Period (seconds)

- (a) Longitudinal: **0.30**
- (b) Transverse: **0.30**

20) Falling Hazards Assessment Summary: **There is a potential for spalling of the brick veneer.**

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, torsion deficiency noted.
- (b) Load Path: **No deficiency noted**
- (c) Adjacent Buildings: **Yes, deficiency noted. The 5" gap provided between Building C-1 to the south as well as the the Geology Building G-1 to the north is less than the required separation of 6.56" per the Tier 1 checklist.**
- (d) Weak Story: **No deficiency noted**
- (e) Soft Story: **No deficiency noted**
- (f) Geometry (vertical irregularities): **No deficiency noted**
- (g) Torsion: **Yes, 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: **No deficiency noted**
- (u) Appendages: **No deficiency noted**

22) Brief Description of Anticipated Failure Mechanism

Shear cracking and flexural compression failure of shear walls, especially due to the torsion issue that is present along the transverse East-West direction of the building; diaphragm failure may also occur when accounting for load redistribution resulting from torsion. Shear failure of lightly confined concrete gravity columns due to deformation compatibility drift.

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

Addition of shear walls along the transverse East-West direction to minimize the effects of torsion. Increase confinement of concrete columns via FRP overlay, added shear wall strength using thickened cross-section or FRP overlay, or energy dissipation to reduce drift.

Building Report Appendices

A) ASCE 41-17 Tier 1 Checklists (Structural only)

B) Quick Check Calculations