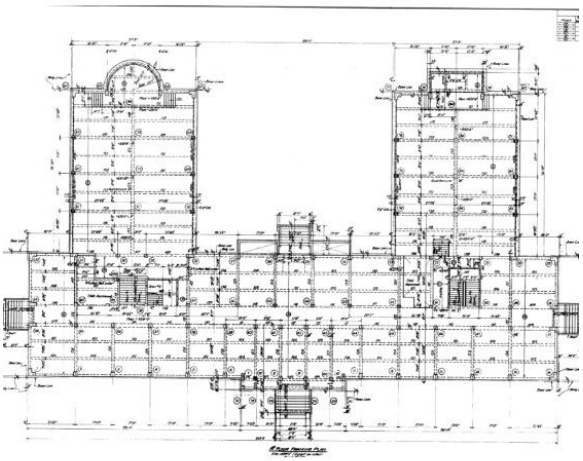
UNIVERSITY OF CALIFORNIA

BUILDING REPORT REQUIREMENTS
ASCE 41-17 TIER 1 SEISMIC EVALUATIONS

BUILDING REPORT

1) UC Campus: Los Angeles
2) Building Name: Moore Hall
3) Building CAAN ID: 4250
4) Auxiliary Building ID:
5) Date of Evaluation: 12/9/2020
6) Evaluation by: Englekirk, AB
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: 34.0704197
    (b) Longitude Decimal Coordinates: -118.4426416
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: 4
    (b) Below grade: 0
13) Original Building Design Code & Year: UBC-1927
14) Retrofit Building Design Code & Year (if applicable): UBC-1988
15) Cost Range to Retrofit (if applicable): (Low, Medium, High or Very High): Medium

Comments: Moore Hall was originally constructed in 1928 and underwent a retrofit in 1992 for the addition of new lateral concrete shear walls to improve its seismic performance. Added shear walls were dowelled into existing floor and foundations and comply with adequate load path for seismic forces transfer. Hollow clay tile partitions, particularly along the exit corridors, have been identified as falling hazards; ornamental cast stone finishes around entrances were pinned back into the concrete structure

when main retrofit was performed and are not considered as serious falling hazards. Added 12" concrete shear walls in the 1992 retrofit provide a much better performance against seismic forces; however, level of forces under Collapse Prevention (BSE-2E) are still too high for compliant behavior of specific walls. A Tier 2 is suggested to provide precise shear wall and story level location of required FRP strengthening to achieve a Performance level Rating IV.

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) None

Seismic design acceleration parameters of interest:	
For BSE-1N	1.632 and 0.823
For BSE-1E	0.895 and 0.515

19) Estimated Fundamental Period (seconds)
- (a) Longitudinal: 0.386
- (b) Transverse: 0.386

20) Falling Hazards Assessment Summary: Existing hollow clay tile partitions in the building are a potential falling hazard in the event of an earthquake. If partition replacement is considered impractical, FRP can be used to help hold together the partitions.

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, wall shear stress deficiency noted
- (b) Load Path: No deficiency noted
- (c) Adjacent Buildings: No 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
Shear failure of lightly confined concrete gravity columns due to deformation compatibility. Shear cracking and flexural compression failure of relatively thin, lightly reinforced and inadequately confined concrete shear walls.

23) Seismic Retrofit Concept Sketches/Description (only required for buildings rated V or worse)
Increase confinement of concrete columns via FRP overlay, added shear walls 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