Campus Services Building 1

DATE: 10/29/2020
ASCE 41-17 Tier 1 Seismic Evaluation
Minimum Building Report Information

BUILDING DATA
Campus: UCLA
Building Name: Campus Services Building 1 (CSB1)
CAAN ID: 4233
Auxiliary Building ID: N/A
Address: 741 Charles E. Young Drive, South; Los Angeles, CA 90095
Site location coordinates: Latitude 34.06746005 Longitudinal -118.44726864

ASCE 41-17 Model Building Type:
  a. Longitudinal Direction: C2: Concrete Shear Wall
  b. Transverse Direction: C2: Concrete Shear Wall

Site-specific Ground Motion Study? No
Seismic Design Acceleration Parameters of Interest:
  a. For BSE-1E  0.743g and 0.516g
  b. For BSE-2E  1.543g and 0.945g

Estimated Fundamental Period (seconds)
  a. Longitudinal: 0.243s
b. Transverse: \(0.243s\)

Gross Square Footage: 56,966
Number of stories above grade: 2
Number of basement stories below grade: 1

Year Original Building was Constructed: Circa 1974
Original Building Design Code & Year: UBC 1973
Retrofit Building Design Code & Code (if applicable): N/A

SITE INFORMATION
Site Class: D (Inferred)  
Basis: Inferred
Geologic Hazards:
Fault Rupture: Unknown  
Basis: Unknown
Liquefaction: Unknown  
Basis: Unknown
Landslide: No  
Basis: Inferred

UCOP SEISMIC PERFORMANCE RATING (OR “RATING”): V

“BALLPARK” RETROFIT COST (if applicable)

- Minor (<$50/sf)
- Moderate (~$50-$200/sf)
- Major (>200/sf)

SUMMARY TIER 1 SEISMIC EVALUATION STRUCTURAL NON-COMPLIANCES/FINDINGS SIGNIFICANTLY AFFECTING RATING DETERMINATION
Significant Structural Deficiencies, Potentially Affecting Seismic Performance Level Designation:

- Lateral System Stress Check (wall shear, column shear or flexure, or brace axial as applicable)
- Lateral System Detailing (reinforcement ratio, confinement, aspect ratio, etc)
- Load Path
- Adjacent Buildings
- Weak Story
- Soft Story
- Geometry (vertical irregularities)
- Torsion
- Mass – Vertical Irregularity
- Cripple Walls
- Wood Sills (bolting)
- Diaphragm Continuity
Openings at Shear Walls (concrete or masonry)
Liquefaction
Slope Failure
Surface Fault Rupture
Masonry or Concrete Wall Anchorage at Diaphragm
URM wall height to thickness ratio
URM Parapets or Cornices
URM Chimney
Heavy Partitions Braced by Ceilings
Appendages

BRIEF DESCRIPTION OF ANTICIPATED FAILURE MECHANISM
Due to insufficient lateral system length and potentially increased seismic forces due to a torsion irregularity it is anticipated that the concrete shear walls will be overstressed in a seismic event and could lead to failure of the lateral system as a whole.

Per the Tier 1 evaluation there does not appear to be sufficient connection between shear walls and foundation elements and will likely require mitigation.

Lastly it was found that the seismic separation between CSB1 and the adjacent 1993 Cogen Building is less than the allowed limit per the Tier 1 evaluation. This could lead to the two buildings colliding in a seismic event providing unanticipated forces and damage.

COMMENTS AND RECOMMENDATIONS
It is recommended for a Tier 2 and Tier 3 evaluations to be done. Further evaluation will allow development of a retrofit scheme that will likely consist of strengthening concrete walls and addressing the connection of shear walls to the foundations.

POTENTIAL FALLING HAZARDS
- Heavy ceilings, features or ornamentation above large lecture halls, auditoriums, lobbies or other areas where large numbers of people congregate.
- Heavy masonry or stone veneer above exit ways.
- Unbraced masonry parapets, cornices or other ornamentation above exit ways.
- Unrestrained hazardous materials storage.
- Masonry chimneys.
- Unrestrained natural gas-fueled equipment such as water heaters, boilers, emergency generators, etc.
- None of the above.
Due to current COVID-19 protocols, we did not verify in field that as-built documentation match current conditions or perform any condition assessment of the existing structure to identify falling hazards as required by the UCOP SSP.

**Appendices**

A. ASCE 41-17 Tier 1 Checklists  
B. Quick Check Calculations