

STRUCTURAL CALCULATIONS

Sephora Summit Fair

860 NW Blue Pwky
Unit: T
Lee's Summit, MO 64086

9/11/2025

PREPARED BY:



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Project # 24-43-013





M-Engineering

Project # 24-43-013

STRUCTURAL CALCULATIONS TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>SECTION</u>
Design Criteria	1
HVAC Support.....	2

ASCE Hazards Report

Address:

860 NW Blue Pkwy
Lees Summit, Missouri
64086

Standard:

ASCE/SEI 7-16

Risk Category: II**Soil Class:**

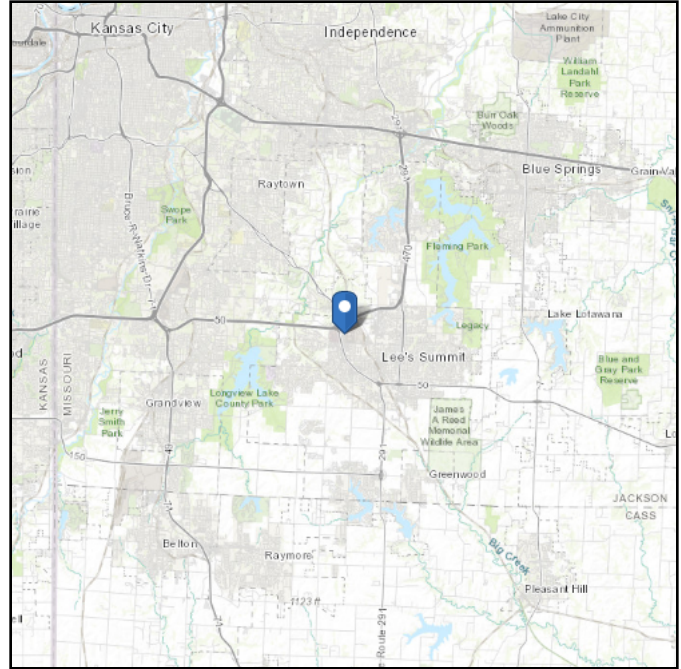
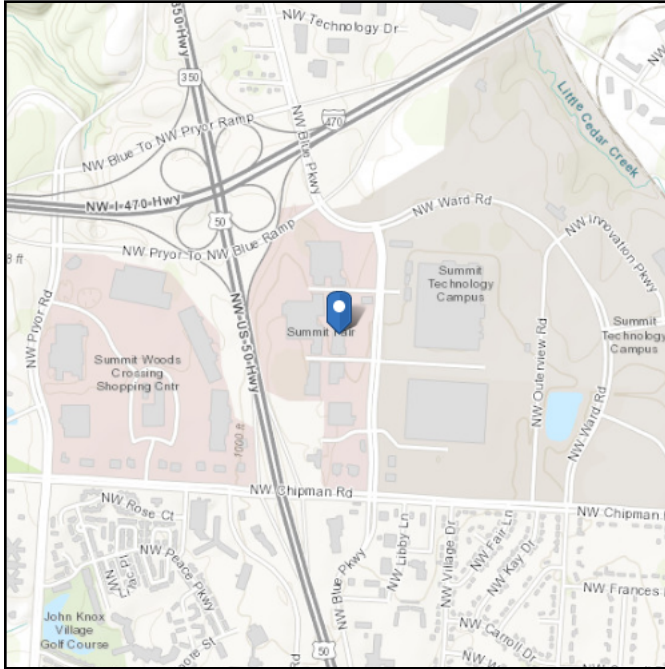
D - Default (see
Section 11.4.3)

Latitude:

38.930343

Longitude: -94.402107**Elevation:**

1006.739991533264 ft
(NAVD 88)



Wind

Results:

Wind Speed	109 Vmph
10-year MRI	76 Vmph
25-year MRI	83 Vmph
50-year MRI	88 Vmph
100-year MRI	94 Vmph

Data Source:

ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed:

Wed Sep 10 2025

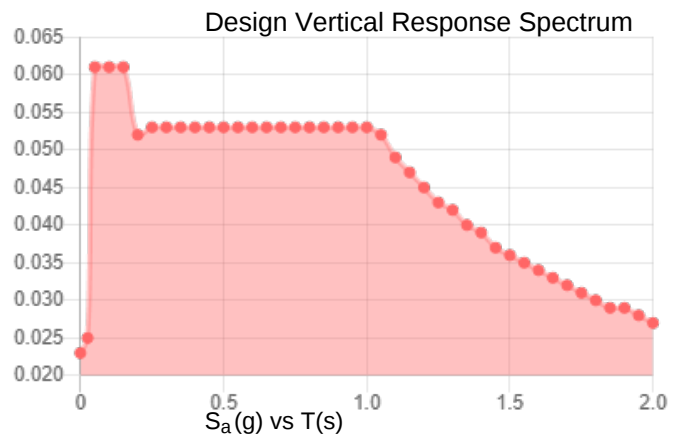
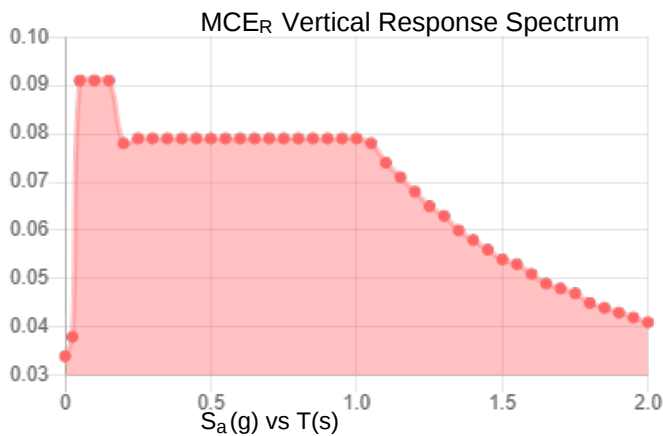
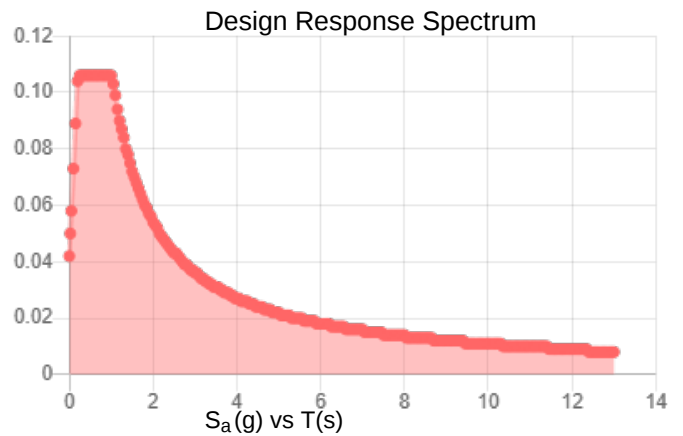
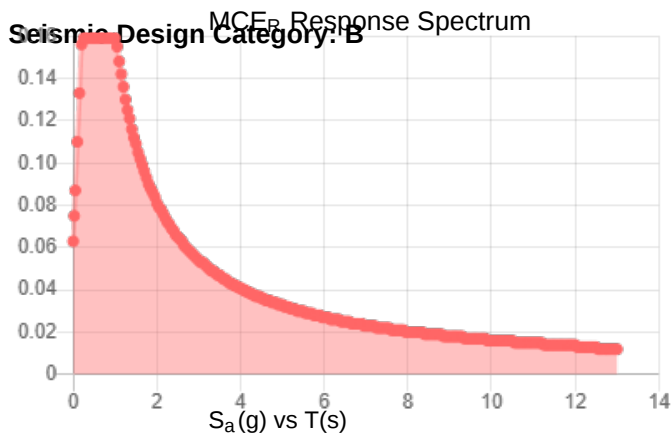
Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	0.099	S_{D1} :	0.109
S_1 :	0.068	T_L :	12
F_a :	1.6	PGA :	0.047
F_v :	2.4	PGA _M :	0.075
S_{MS} :	0.159	F_{PGA} :	1.6
S_{M1} :	0.163	I_e :	1
S_{DS} :	0.106	C_v :	0.7



Data Accessed: Wed Sep 10 2025

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Results:

Ground Snow Load, p_g : 20 lb/ft²
Mapped Elevation: 1006.7 ft
Data Source: ASCE/SEI 7-16, Table 7.2-8
Date Accessed: Wed Sep 10 2025

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

Snow load values are mapped to a 0.5 mile resolution. This resolution can create a mismatch between the mapped elevation and the site-specific elevation in topographically complex areas. Engineers should consult the local authority having jurisdiction in locations where the reported 'elevation' and 'mapped elevation' differ significantly from each other.

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End of STRUCTURAL CALCULATIONS



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