ARCHITECTS NORTHWEST
Architects Northwest, Inc.
18915 142nd Avenue NE
Suite 100
Woodinville, WA 98072
P: 425-485-4900
F: 425-487-6585
Toll Free: 1-888-ARCH-100
Email: ANW@ArchitectsNW.com

December 9, 2022

City of Mercer Island
Intake Comments

Permit #2211-123, Hately Residence
4114 83rd Ave SE

See below in response to review comments dated November 23, 2022.

Building Department Intake Comments:

1. The lateral calculations by Mulhern + Kulp were previously provided to the client, but may have been omitted from the submittal. The seismic design criteria is shown on sheet S-0.0, and was derived from the attached ASCE hazard report.
2. Key plans for the shear walls are provided on sheets 4 and 5 in the lateral calculation packet by Mulhern + Kulp. Key plans for the gravity framing are provided on the last pages of the gravity calculations.

Fire Department Intake Comments:

1. Fire sprinklers per NFPA 13R have been noted on sheet A1.

Planning Department Intake Comments:

1. The Lot size and slope has been added to the site plan on sheet A0.
2. The building pad area has been noted on sheet A0.
3. Existing and finished grades have been added to the building elevations on sheets A10 & A11.
4. Hardscape calculations have been added to sheet A0.

Please call or email if you have any questions.

Sincerely,

Sarah Weight
Architect

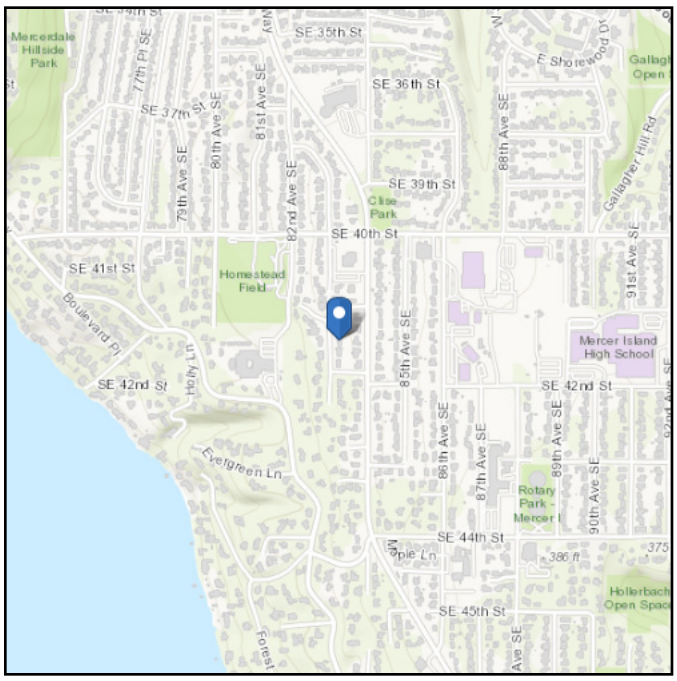
Architects Northwest, Inc.
Office: 425-485-4900
sarah@architectsnw.com

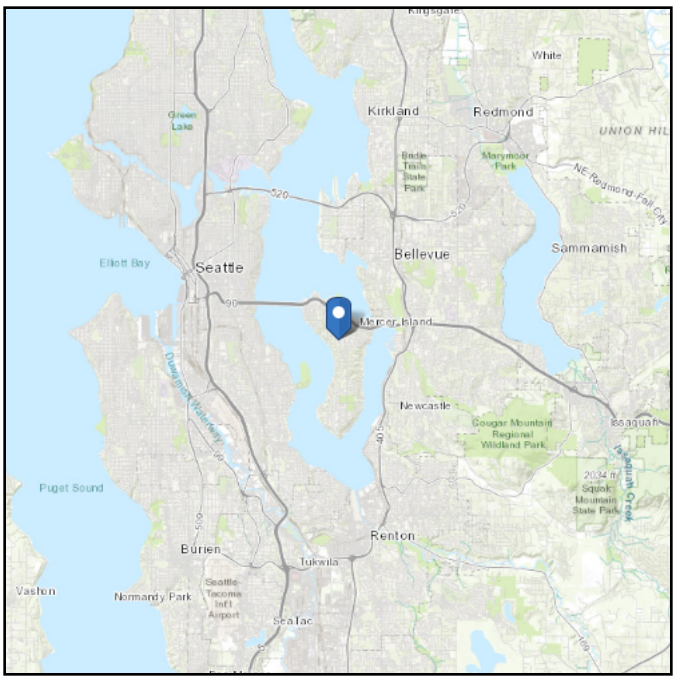
ASCE 7 Hazards Report

Address:
4114 83rd Ave SE
Mercer Island, Washington
98040

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: C - Very Dense Soil and Soft Rock

Elevation: 273.04 ft (NAVD 88)
Latitude: 47.572008
Longitude: -122.227951





Wind

Results:

Wind Speed	98 Vmph
10-year MRI	67 Vmph
25-year MRI	74 Vmph
50-year MRI	78 Vmph
100-year MRI	83 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: Mon Jul 04 2022

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.

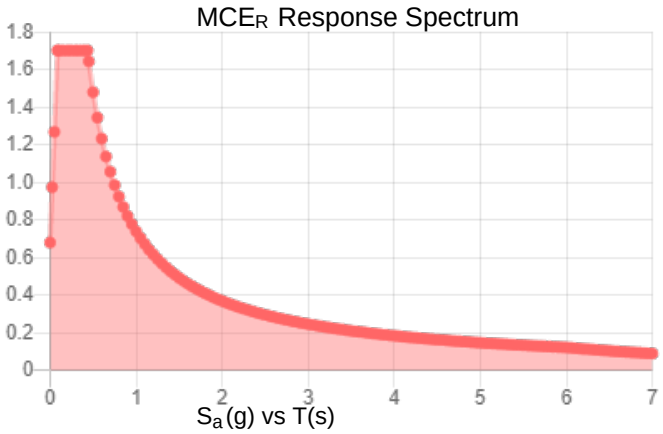
Seismic

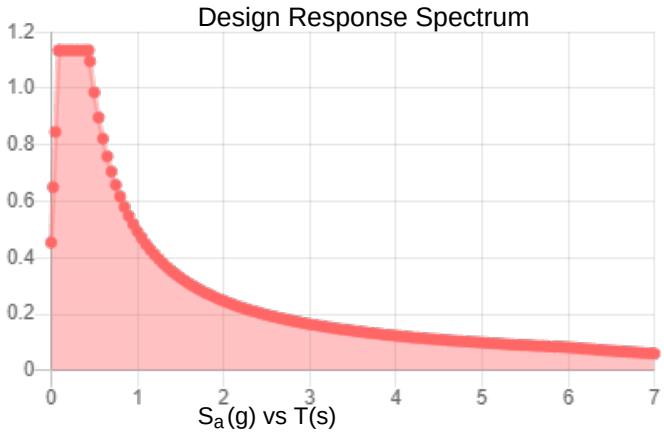
Site Soil Class: C - Very Dense Soil and Soft Rock

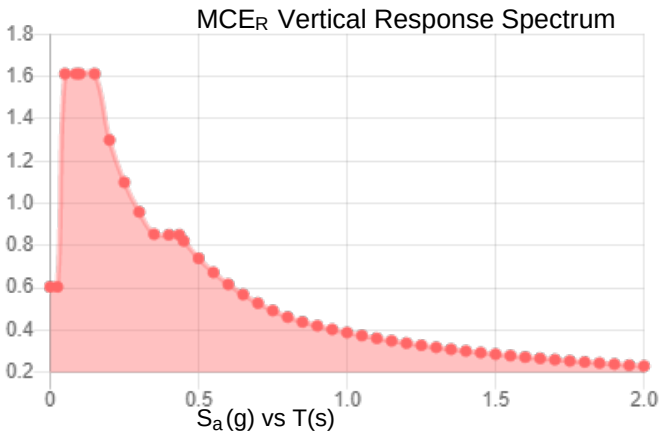
Results:

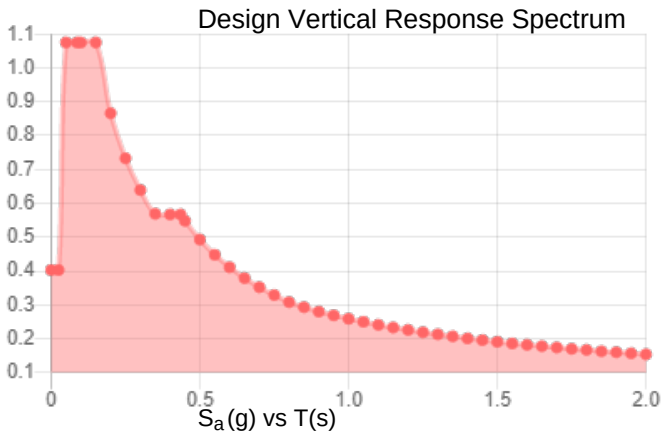
S_S :	1.419	S_{D1} :	0.493
S_1 :	0.493	T_L :	6
F_a :	1.2	PGA :	0.607
F_v :	1.5	PGA_M :	0.729
S_{MS} :	1.702	F_{PGA} :	1.2
S_{M1} :	0.74	I_e :	1
S_{DS} :	1.135	C_v :	1.184

Seismic Design Category D









Data Accessed: Mon Jul 04 2022

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.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.