



April 8, 2020

Project No.: 301911-001

Report No.: 20-4-23

RJR Engineering
Attention: Robert W. Anderson
2340 Palma Drive
Ventura, CA 93003

Project: Conejo Valley Church of Christ
2525 East Hillcrest Drive
Thousand Oaks, California

Subject: Addendum to Geotechnical Engineering Report

Reference: Earth Systems Pacific, Geotechnical Engineering Report, For Conejo Valley Church of Christ, 2525 East Hillcrest Drive, Thousand Oaks, California, Project No. 301911-001, Report No. 18-8-32, dated August 20, 2018.

Earth Systems Pacific (Earth Systems) prepared a Geotechnical Engineering Report (referenced) for construction at the existing "Conejo Valley Church of Christ" facility at 2525 East Hillcrest Drive in Thousand Oaks, California.

One of the project design team, Geogrid Retaining Wall Systems, Inc. (Geogrid), has requested Earth Systems to provide soil parameters for their geogrid-reinforced retaining wall design.

It should be noted that the peak ground acceleration that was included in the referenced report was based on the 2016 California Building Code and ASCE 7-10. However, the dominating codes at the time of this writing is 2019 California Building Code and ASCE 7-16. Therefore, an updated U.S. Seismic Design Map is used and attached to this addendum.

The following table summarizes the soil parameters requested by Geogrid.

Description	Reinforced	Retained	Foundation
Internal Friction Angle	*	40°	30°
Cohesion	50 psf	270 psf	50 psf
Gamma Moist Unit Weight	100 pcf	95 pcf	100 pcf
Design Peak Ground Acceleration: 0.6 g (as presented in the updated U.S. Seismic Design Map, which is attached to this addendum)			

* To be determined by Geogrid based on the type of geogrid product used.

The geotechnical recommendations included in the referenced report should be reviewed and incorporated into the design of the proposed retaining wall.

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Respectfully submitted,

EARTH SYSTEMS PACIFIC



4-8-2020

Meng Wei Lu
Civil Engineer



Reviewed and Approved



Todd J. Tranby
Engineering Geologist



Attached: Updated U.S. Seismic Design Map

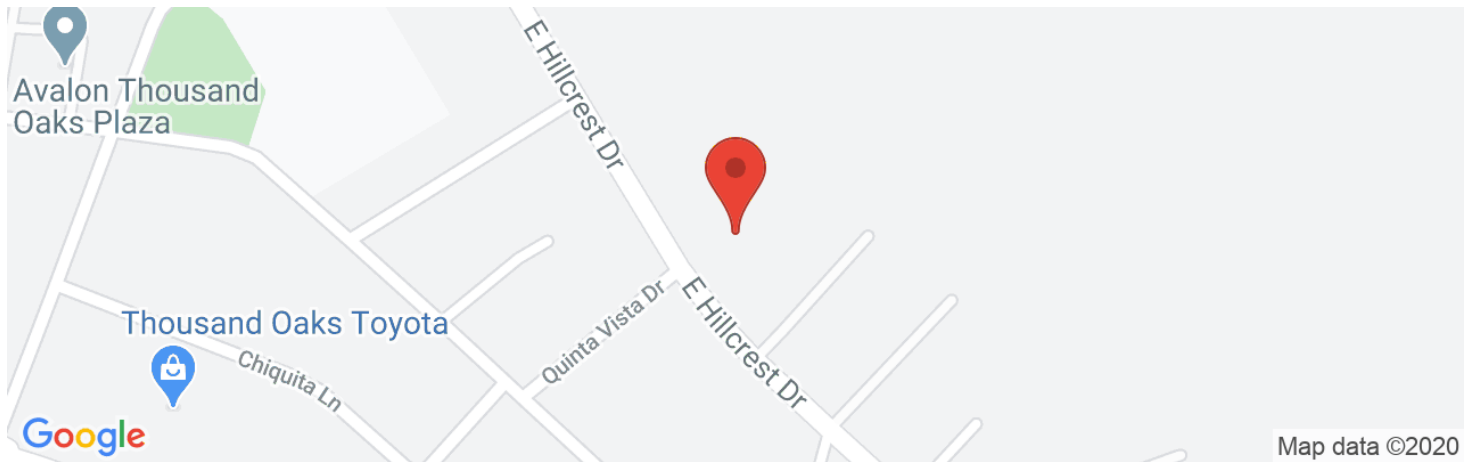
Copies: 4 - Client (3 mail, 1 email)

1 - Project File



Conejo Valley Church of Christ

Latitude, Longitude: 34.1762, -118.8378



Date	3/24/2020, 5:06:34 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	1.462	MCE_R ground motion. (for 0.2 second period)
S_1	0.521	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.755	Site-modified spectral acceleration value
S_{M1}	0.771	Site-modified spectral acceleration value
S_{DS}	1.17	Numeric seismic design value at 0.2 second SA
S_{D1}	0.514	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	1.479	Site amplification factor at 1.0 second
PGA	0.5	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.6	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
$SsRT$	1.462	Probabilistic risk-targeted ground motion. (0.2 second)
$SsUH$	1.587	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
$S1RT$	0.521	Probabilistic risk-targeted ground motion. (1.0 second)
$S1UH$	0.571	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
$S1D$	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.921	Mapped value of the risk coefficient at short periods
C_{R1}	0.914	Mapped value of the risk coefficient at a period of 1 s

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