

PSE CONSULTING ENGINEERS INC.

STRUCTURAL ENGINEERING CALCULATIONS

PROJECT: Aluminum and glass infill guard rail design

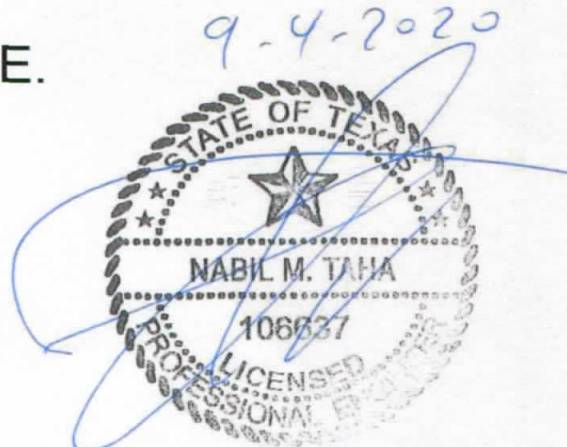
PROJECT LOCATION: California and Texas

PSE PROJECT NUMBER: EGlass 217-1

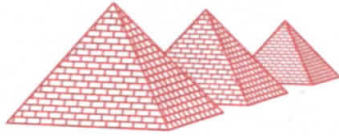
DATE: September 4, 2020

BY: Adel Elfayoumy, Ph.D., P.E.

BY: Nabil Taha, Ph.D., P.E.



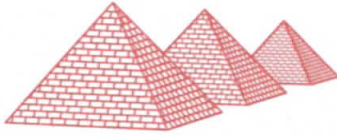
EXPIRES 06-30-21



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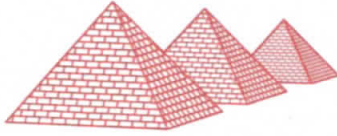
References:

1- Literature:

- a. 2019 California Building Code, based on 2018 International Building Code (IBC)
- b. 2019 California Residential Code, based on 2018 International Residential Code (IBC)
- c. 2015 International Building Code with local amendments
- d. 2015 International Residential Code with local amendments
- e. AISC Design Guide 27: Structural Stainless Steel.
- f. National Design Specifications for Wood Construction, 2015 Edition
- g. Building Code Requirements for Structural Concrete (ACI318-14)

2- Software:

- a. RISA 3D Version 15.0.2
RISA Technologies,
26212 Dimension Dr. Suite 200



Design Criteria:

- 1- Location: California and Texas
- 2- Live Load on Handrail & guards:
- a. Uniform Distributed load 50 p/f
 - b. Single Concentrated load 200 lbs
 - c. 50 psf on infill
- 3- Wind:
- | | |
|------------------|---------------------|
| Basic wind speed | 110 mph (3 s. gust) |
| Exposure | C |

**Other criteria assumed as stated in design calculations.