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812 W. Wabash Avenue, Eureka, CA 95501-2138

Reference: 020010.100

December 8, 2021

Paul Ziegler
Eureka City Schools District
2100 J Street
Eureka, CA 95501

Subject: Supplemental Geotechnical Recommendations, Proposed Improvements to Eureka High School's Cooper Gulch Athletic Facilities, Albee Stadium and Grounds North of Del Norte Street, Eureka, California

Dear Paul Ziegler:

As requested by the project Architect and Structural Engineer, SHN is providing supplemental geotechnical recommendations for small pole structures and smaller height retaining walls for the subject project. SHN previously prepared the report "Geologic Hazard and Geotechnical Investigation and Report, Proposed Improvements to Eureka High School's Cooper Gulch Athletic Facilities, Albee Stadium and Grounds North of Del Norte Street, Eureka, California" and presented the results in our report dated December 7, 2021. In that report, we indicated that the planned stadium lighting, backstops, and scoreboards should be supported on drilled, reinforced, cast-in-place, concrete friction pier foundations. We recommended that the piers should be at least 18 inches in diameter and bottomed at least 10 feet below the depth where a minimum of 10 feet of lateral confinement is obtained. However, we now understand that smaller pole structures such as flagpoles, supports for the discus cage, batting cage support poles, and foul poles for the softball and baseball field are included in the design. These smaller poles can be piers at least 12 inches in diameter and bottomed at least 8 feet in depth. As indicated in our report, these drilled piers may be designed using an allowable friction capacity in axial compression of 600 pounds per square foot (psf) per foot of depth for dead plus long-term live loads. This value may be increased by one-third when evaluating total loads including wind and seismic forces. Eighty percent of these values may be used in determining uplift resistance. The upper 3 feet should be neglected in determining axial capacities.

There are several smaller height retaining walls on the project that are less than 6 feet in height. Section 1803A.5.12 of the 2019 California Building Code (CBC) indicates that the geotechnical investigation for structures assigned to Seismic Design Category D, E, or F shall include the determination of dynamic seismic earth pressures on retaining walls supporting more than 6 feet of backfill height due to design earthquake ground motions. Based on Section 1803A.5.12 of the 2019 CBC, we believe that smaller height retaining walls supporting less than 6 feet of backfill do not require including the determination of the dynamic seismic lateral earth pressures for design.



Paul Ziegler

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Eureka, CA**

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We trust this provides the information you require at this time. If you have any questions or additional information is required, please call us at 707-459-4518. Thank you for the opportunity to be of service to you on this project.

Sincerely,

SHN

The image shows a handwritten signature in blue ink, which appears to be "JH Dailey". To the right of the signature is a circular blue ink stamp. The stamp contains the text "REGISTERED PROFESSIONAL ENGINEER" around the top inner edge, "JOHN H. DAILEY" in the center, "GE 256" below the name, "EXP. 03/31/22" below the number, "GEOTECHNICAL" below the expiration date, and "STATE OF CALIFORNIA" around the bottom inner edge. There are small stars on either side of the "STATE OF CALIFORNIA" text.

12/8/2021

John H. Dailey, PE, GE
Senior Geotechnical Engineer

JHD:ame

