November 1, 2023

ENTECH
ENGINEERING, INC.
505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599

Casas Limited Partnership #4
IQ Investors, LLC
P.O. Box 2076
Colorado Springs, Colorado 80901

Attn: Steve Jacobs

Re: Response to PCD Engineering Review Comments
Soil, Geology, & Geologic Hazard Study
Eagle Rising Subdivision Filing No. 1
Parcel Nos. 52290-00-034 & 52290-00-035
El Paso County, Colorado
Entech Job No. 221458

Ref: Entech Engineering, Inc., Revised date January 25, 2023, Soil, Geology, & Geologic Hazard Study, Eagle Rising Subdivision, Parcel Nos. 52290-00-034 & 52290-00-035, El Paso County, Colorado. Entech Job No. 221458

Colorado Geological Survey, October 4, 2023. Eagle Rising Subdivision Filing No. 1, *El Paso County, Colorado;* EPC File No. SF2225.

Dear Mr. Jacobs:

This letter is written in response to the Colorado Geological Survey review comments.

**CGS REVIEW COMMENTS AND ENTECH ENGINEERING, INC. RESPONSES**

**CGS Comment**: *"Groundwater was encountered at depths of 7 to 14.5 feet in the test holes during drilling. Per El Paso's Engineering Criteria Manual (Appendix C, Section D.6), the seasonal variations and recommendations concerning groundwater level fluctuation should be discussed in the Geologic Hazards Report. Monitoring/observation of groundwater fluctuations have not been conducted, and Entech's drilling programs subsequent groundwater measurements were last obtained in 2014 (SSI for North Dam). CGS recommends the county require a groundwater monitoring/observation program to obtain current maximum anticipated groundwater levels and maintained year-round. This monitoring/observation program should be conducted to determine if basements are feasible and/or if an underdrain system is required due to shallow groundwater. To be effective, however, this monitoring should include measurements/observations through fall, winter, and spring and not merely during site-specific building investigations. Mitigation measures for groundwater conditions should be determined prior to approval of the final plan (ideally, at the time of preliminary plan/PUD), not prior to construction."*

**Entech Response**: Groundwater was encountered in PH-1 (Lot 5) and PH-4 (Lot 3) at depths of 7 and 14.5 feet respectively. The profile holes were drilled in November of 2011. The shallower water was encountered in a test boring near a drainage. Additional investigation should be conducted on the site to determine basement feasibility once building sites have been determined.

**CGS Comment**: *"CGS agrees with Entech on pages 8-9, "In areas where high subsurface moisture conditions are anticipated, a subsurface perimeter drain will be necessary to help prevent the instruction of water into areas located below grade" and "…underslab drains or interceptor drains may be necessary." Individual foundation perimeter drains are needed around any below-grade (basement) space if determined to be feasible and may discharge to a positive*

*outfall or connection to an underdrain system if constructed. Individual foundation perimeter drains are intended to handle small amounts of intermittent water and should not be used to mitigate a persistent shallow groundwater condition. Mitigation measures recommended by Entech should be included in the final plat."*

**Entech Response**: Entech agrees with the CGS comment, however the drain recommendations can be identified by reference to the Soils, Geology and Geologic Hazard report on the plat.

We trust this has provided you with the information you required. In summary, based on the analysis of this site, the proposed development meets stability requirements. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Logan L. Langford, P.G.
Senior Geologist

Reviewed by:

COLORADO REGISTERED JOSEPH COLLIN GOODE JR. 23725 PROFESSIONAL ENGINEER

Joseph C Goode Jr. Digitally signed by Joseph C Goode Jr. Date: 2023.11.01 13:51:18 -06'00'

Joseph C. Goode, Jr., P.E.
President

LLL

F:\AA Projects\2022\221458-Casas Limited Partnership-Eagle Rising Subdivision-Soils Geo-310\response letter\221458 Eagle Rising CGS Response.docx