

August 30, 2022



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599
FAX (719) 531-5238

Custom Castles, Inc.
1230 Scarsbrook Court
Monument, Colorado 80132

Attn: Matthew Dunston

Re: Embankment Recommendations
Walden Preserve 2, Filing No. 5
El Paso County, Colorado
Entech Job No. 221844

Dear Mr. Dunston:

Entech Engineering, Inc. observed the proposed detention pond sites for the above site. The project is to consist of the development of rural residential lots with the pond embankments designed for the proposed development. Three detention ponds are proposed for Filing 5. They are designated as WQ Pond C4, Detention Pond C8, and WQ Pond C12. A Soil, Geology report for this site was prepared by Front Range Geotechnical, dated August 29, 2004. Information from that report was reviewed in preparing this letter. The proposed pond embankments will be located along the east side of the development (Figure 1). This letter provides recommendations for embankment construction based on our site observations and the above referenced report.

SITE CONDITIONS:

The site is currently vacant. Adjacent properties consist of undeveloped land and rural residential development. Topography of the site is gradually sloping to the northeast. Vegetation consists of field grasses and weeds.

PROJECT DESCRIPTION:

The project is to consist the construction of three detention and water quality ponds. The ponds are designated as Detention Pond C8, WQ Pond C4, and WQ Pond C12.

RECOMMENDATIONS FOR EMBANKMENT CONSTRUCTION:

In general, the on-site soils are suitable for the proposed embankments. Groundwater should be expected to be encountered in cuts made in the areas with drainages. Dewatering of the drainages may be required during embankment construction. Saturated unstable soil conditions may be encountered during construction of the embankments. Excavation of saturated soils will be difficult with rubber-tired equipment. Stabilization using shot rock or geogrids may be necessary. The areas requiring stabilization should be determined during excavation observations of the embankments' subgrade.

Any areas to receive fill should have all topsoil, organic material or debris removed. Fill must be properly benched and compacted to minimize potentially unstable conditions in slope areas. Fill slopes should be 3:1 or flatter. The subgrade should be scarified and moisture conditioned to within 2% of optimum moisture content and compacted to a minimum of 95% of its maximum

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Modified Proctor Dry Density, ASTM D-1557 (or Standard Proctor ASTM D-698 for clay soils) prior to placing new fill.

New fill should be placed in thin lifts not to exceed 6 inches after compaction while maintaining at least 95% of its maximum Modified Proctor Dry Density, ASTM D-1557. These materials should be placed at a moisture content conducive to compaction, usually 0 to $\pm 2\%$ of Proctor optimum moisture content. The placement and compaction of fill should be observed and tested by Entech during construction. Entech should approve any import materials prior to placing or hauling them to the site.

CONCRETE:

Type II cement may be used for all concrete on this site. To further avoid concrete degradation during construction it is recommended that concrete not be placed on frozen or wet ground. Care should be taken to prevent the accumulation or ponding of water in the foundation excavations prior to the placement of concrete. If standing water is present in the foundation excavations, it should be removed by ditching to sumps and pumping the water away from the foundation area prior to concrete placement. If concrete is placed during periods of cold temperatures, the concrete must be kept from freezing. This may require covering the concrete with insulated blankets and adding heat to prohibit freezing.

CLOSURE

The subsurface investigation, geotechnical evaluation and recommendations presented in this report are intended for use by Custom Castles, Inc. with application to the planned pond embankments. Investigation of the subgrades at each pad location should be completed during site grading. This may include test pits, observations and test borings to further verify the subgrade conditions.

If there are any questions regarding the information provided herein or if Entech Engineering, Inc. can be of further assistance, please do not hesitate to contact us.

Respectfully Submitted,

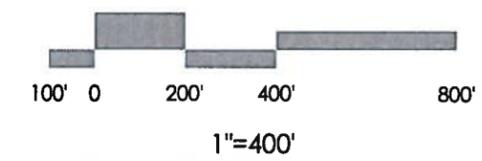
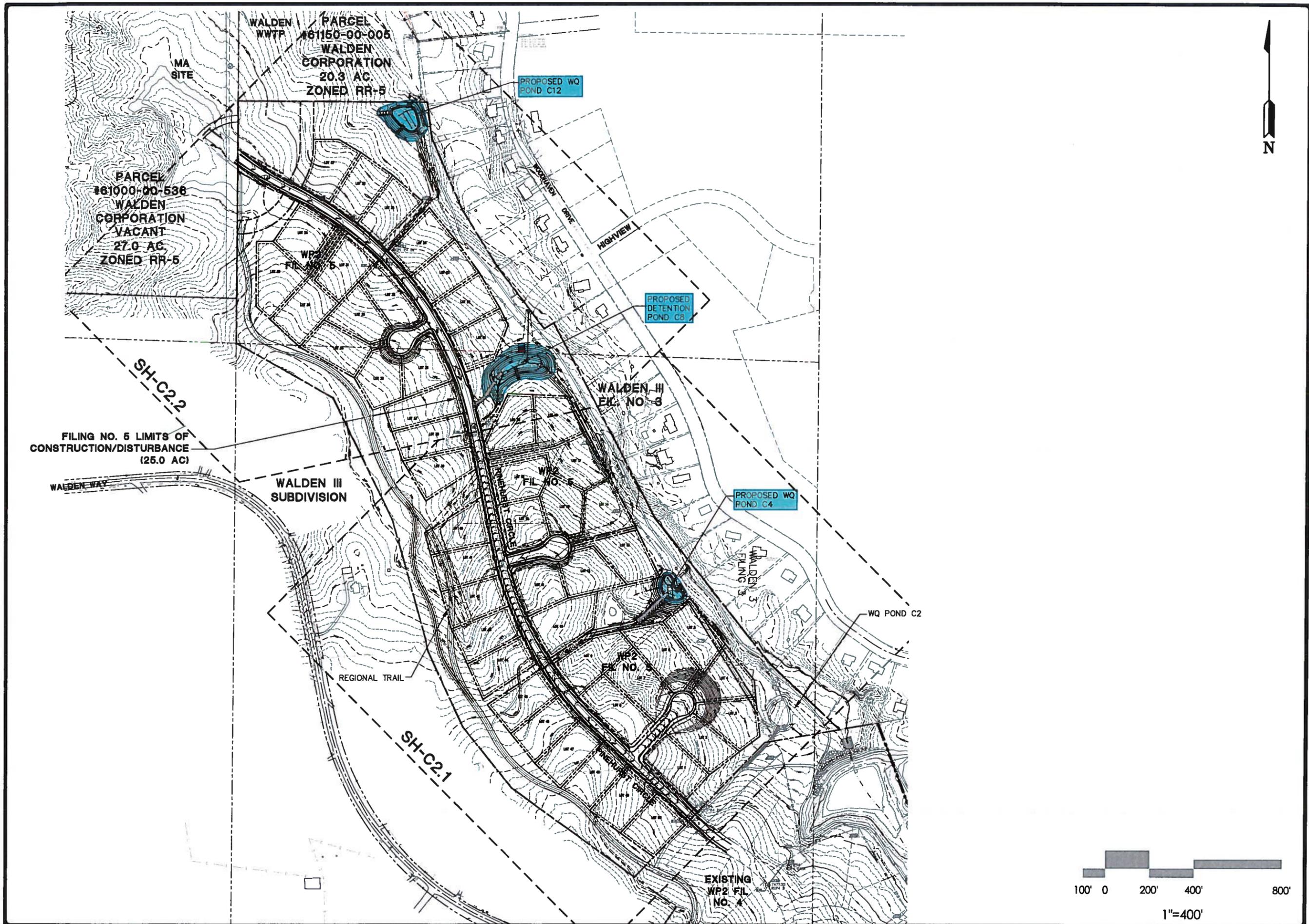
ENTECH ENGINEERING, INC.



Joseph C. Goode, Jr.,
President

JCG/am

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REVISION	BY

ENTTECH
ENGINEERING, INC.

505 ELKTON DRIVE, C719, 531-5599
CALDWELL SPRINGS, CA 95967

POND LOCATION PLAN
WALDEN PRESERVE 2, FILING #5
EL PASO COUNTY, CO.
FOR: CUSTOM CASTLES, INC.

DRAWN	JAC
CHECKED	DPS
DATE	8/30/22
SCALE	1"=400'
JOB NO.	221844
FRAME NO.	1