



January 4, 2021

Summit Homes
120 SE 30th St
Lee's Summit, MO 64082

**RE: Subgrade Inspection for Lot # 32 Hawthorne Ridge – 1500 SW Sugar Tree Dr
Lee's Summit, MO 64082 – Permit # PRRES20204749**

On December 31, 2020, a special inspection was performed by Residential Engineering Services, LLC (R.E.S.) at the above referenced property. The purpose of this inspection was to determine structural adequacy of the existing soil for construction of concrete foundation.

Findings:

- The soils observed at footing elevation were silty clay; light-medium brown with a reddish clay at the rear of the lot; high plasticity and moist.
- Probes and penetrometer readings indicated that the soils do not have sufficient bearing capacity for the loads applied by foundation per permit plans.

Recommendations:

- RES recommends that the footings on the east (right) half and southern (front) half of the lot be enlarged to 24"x8" with three (3) #4 rebar continuous (see attached specifications)
- Applicable basement and garage pier pads in area of concern shall be enlarged a minimum of 6" each way (i.e existing 30"x30" shall be enlarged to 36"x36", etc.) (see attached specifications)

We would like to thank you for the opportunity to consult you on your project. Please feel free to contact us if you have any questions regarding this report or need any further consultation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Bradley Huxol".

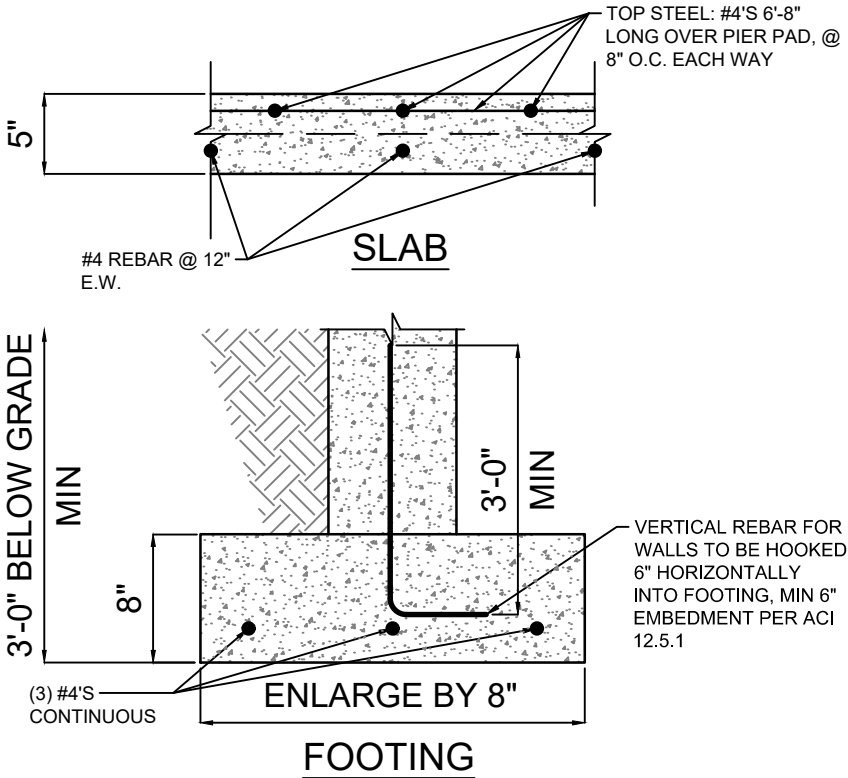
Bradley Huxol, PE



- NOTE:
- MAXIMUM 9'-0" WALL HEIGHT
 - USE REBAR AS SHOWN ON DRAWING OR XX LB/YD³ HELIX 5-25 DESIGNED IN ACCORDANCE WITH UNIFORM-ES ER-0279

ALTERNATIVE PIER PAD SCHEDULE				
PAD SIZE	ADJUSTED PAD SIZE	REINFORCEMENT	SLAB TOP STEEL	HELIX DOSAGE
30"x30"x12"	36"x36"x12"	(6) #4 BAR E.W.	(4) #4 BAR E.W.	12.5 LB/CUBIC YARD
36"x36"x12"	42"x42"x14"	(7) #4 BAR E.W.	(5) #4 BAR E.W.	12.5 LB/CUBIC YARD
42"x42"x14"	48"x48"x16"	(8) #4 BAR E.W.	(6) #4 BAR E.W.	12.5 LB/CUBIC YARD
48"x48"x16"	54"x54"x16"	(9) #4 BAR E.W.	(6) #4 BAR E.W.	12.5 LB/CUBIC YARD
54"x54"x16"	60"x60"x16"	(10) #4 BAR E.W.	(7) #4 BAR E.W.	12.5 LB/CUBIC YARD

NOTE: PIER PAD SCHEDULE HAS BEEN INCREASED WITH THE USE OF THIS SPREAD FOOTING DETAIL. TABLE IS BASED ON RES SPECIFICATION REFERENCES AND MAY NOT DIRECTLY TRANSLATE TO PLANS ENGINEERED BY OTHER FIRMS. REFER TO SITE SPECIFIC DESIGN FOR PIER PAD SIZES.



- ALTERNATIVE HELIX OPTION:**
- SLAB HELIX DOSAGE = 12.5 LB/YD³
 - FOOTING HELIX DOSAGE = 12.5 LB/YD³
 - PIER PAD HELIX DOSAGE = 12.5 LB/YD³
 - HORIZONTAL REBAR IS NOT REQUIRED IN FOOTINGS FOR HELIX
 - SLAB ONLY REQUIRES TOP STEEL REBAR OVER PIER PADS FOR HELIX
 - VERTICAL REBAR IN WALL IS STILL REQUIRED. HOOK REBAR 6" HORIZONTALLY INTO FOOTING @ 24" O.C.