TITAN ENGINEERING CONSULTANTS, LLC

Jay V. Hamm PE F-16703
5114 Balcones Woods Drive, Suite 307
Austin, TX 78759
(512) 657-0950 fax (512) 338-4308

DATE: **September 22, 2018**

TO: **City of Austin**
Building Inspection Office

RE: Engineer's Completion Certification of Foundation Repairs
@ 1700 JJ Seabrook--Austin, Texas
Ref.A) Mendoza plan of repairs

The purpose of this report is to provide an independent limited, visual on-site inspection of 8 spread footing and 13 pressed piling locations at the subject property and to verify completion, description and location of piers proposed in Mendoza plan of repairs (Ref A)

On this date, I made following on-site observations of work.

The foundation structure of this house is a pier and beam type with concrete supports, timber beams and a perimeter concrete grade beam. Mendoza reported that the foundation required structural reinforcement beneath the floor area of the house. Mendoza proposed to install reinforced concrete spread footings beneath the floor area and install piling type piers along the perimeter of the house to reinforce, raise and stabilize the authorized areas.

The contractor installed 8 spread footings beneath 42 linear feet of new 4"X6" timber beams. Spread footings were each composed of a minimum twenty-four inch square by ten-inch thick reinforced concrete footing installed twenty-four inches below grade.

Reinforced concrete ten-inch diameter sono-tube piers were constructed and reinforced into concrete footings to support timber beams. Timber beams were anchored to the new piers using steel straps.

The contractor installed piers composed of segmental concrete pilings along and under 13 perimeter areas in locations shown on the attached Mendoza plan of repairs.

Each piling is composed of several six-inch diameter precast concrete cylinders, each approximately twelve inches in length, hydraulically pressed to a depth of refusal. According to Contractor records, completed pilings at this residence each yielded a refusal force of at least fifteen tons. Spacing between each completed piling ranged between six and eight feet apart.

A rectangular precast concrete block was placed on top of each completed piling. Dual six-inch diameter cylinders were placed on top of the concrete block. Steel shims were placed on top of each concrete cylinder and below the bottom of the perimeter grade beam of the house to transfer weight from the leveling jacks and refine the leveling process.

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Expansive clay soils are common in Central Texas. These soils can expand in volume (swell) when wet and can decrease in volume (shrink) when dry. This change in volume of supporting clay soils can cause a corresponding reaction to a house foundation. Spread footings such as those used in this application support and improve stability of the foundation by transferring weight to deeper and expectedly more stable soil strata where moisture contents do not expect to vary as much as more shallow soils. Maintaining a consistent moisture level in the soil should help result in maintaining stability in the foundation.

The floor area of the house was adjusted to a reasonable *level* position. The contractor complete backfilling and cleaned up the work area

RECOMMENDATIONS:

a. Foundation maintenance procedures such as those attached should be followed at all times.

No warranty is expressed or implied as to the performance of this foundation.

The only purpose of this report is to certify and describe the recent foundation repair work (installation of piers or pilings) as performed and developed by Mendoza Foundation Services and described in Ref. A). This report or engineer provided a noninvasive inspection and did not inspect or evaluate any other condition of the house. This report or engineer does not warrant or predict the future performance of the structure. The contractor normally provides warranties or guarantees for foundation repairs.

CERTIFICATION

As a licensed Engineer in the State of Texas, I certify by on-site visual inspection, that all work performed by Mendoza Foundation Services appears to have been completed in accordance with general engineering criteria

Respectfully,

Jay V. Hamm
Registered Professional Engineer
State of Texas
No. 46400
Titan Engineering Consulting F- **16703**

Attachments: Mendoza plan of repairs
M092218men

REF “A”

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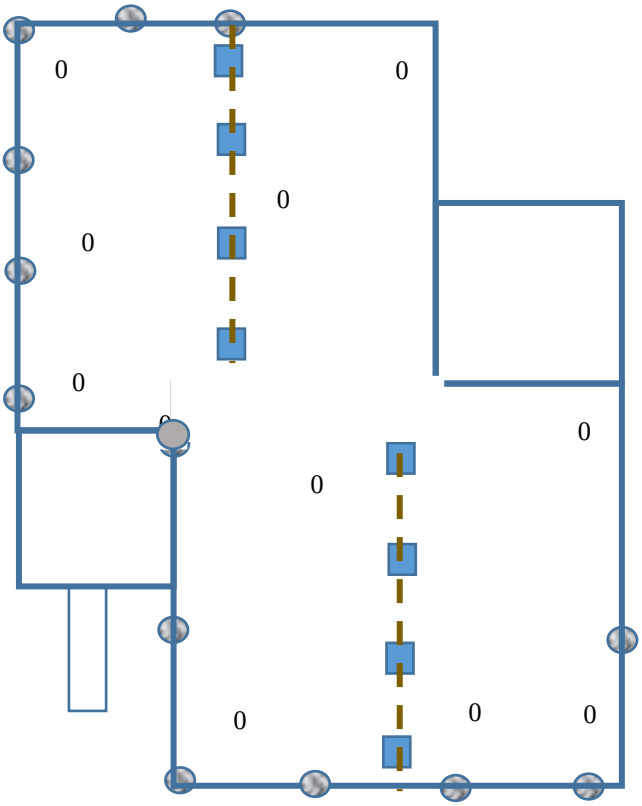

NEW 10” RC PIERS SUPPORTING EXISTING 4”X6” TIMBER BEAMS REINFORCED INTO 24” SQ RC SPREAD FOOTINGS

x/x-FINAL FLOOR ELEVATIONS (by Mendoza 09/22/18)

PRESSED PILING PIER

AS BUILT FOUNDATION REPAIRS
FOR
1700 JJ Seabrook
Austin, TX 78721