

DENIS HANYS ENGINEERING SERVICE, LLC.  
10107 INWOOD DRIVE  
HOUSTON, TX 77042-2439

(713) 783-6110

INVOICE FOR ENGINEERING SERVICES

11/16/2020	MR. & MRS MICHAEL GROSS  FOUNDATION INSPECTION: 4415 SARONG ST. HOUSTON, TEXAS	\$ 425.00
AMOUNT DUE		\$ 425.00

**DENIS HANYS ENGINEERING SERVICE, LL C**  
10107 Inwood Drive  
Houston, Texas 77042-2439  
(713) 783-6110

November 16, 2020

Mr. & Mrs. Michael Gross

*Address Requested*

Dear Mr. & Mrs. Gross,

Enclosed is the report of the visual inspection that was conducted on the structural foundation of the residence located at 4415 Sarong Street, Houston, Texas, by Mr. Denis G. Hanys, PE. This inspection was conducted for you on the date of November 16, 2020.

The information you need should be contained in the attached report. Should you have any questions, however, please give us a call. It was a pleasure to have done business with you, and we hope we may be of additional service to you some time in the future.



Denis Hanys, PE  
President

**FOUNDATION INSPECTION REPORT**  
**REPORT NO. 20-53**

**1.0 INTRODUCTION**

The purpose of this report is to describe the results of a level B inspection that was conducted on the foundation of the residential building described below. This inspection was conducted at the request of the Client to provide an opinion regarding the performance of this foundation as a primary load-bearing structural member of this building.

In the conduct of this work, Denis Hanys Engineering Service, LLC. has acted as an engineering consultant to provide information to the Client for use as the Client may see fit. As such, Denis Hanys Engineering Service, LLC. involvement in any activities related to this residence shall terminate when the final report is submitted unless otherwise requested in writing by the Client. As a consultant to the Client, it is the sole function of Denis Hanys Engineering Service, LLC. to provide information to the Client regarding the condition of the foundation and not to make any binding judgments on any condition reported nor to determine the need for repair. Such judgments are, of course, left to the Client.

This inspection consisted of a visual examination of the accessible portions of the foundation and the remainder of the structure. In such an examination, it is recognized that a diagnosis of foundation performance can possibly be compromised by the inability to gain access to large portions of the foundation for visual examination, the lack of definition of design and construction parameters that often govern the foundation performance, and inherent limitations to the state of the art of engineering analysis of foundation performance. Denis Hanys Engineering Service, LLC. has conscientiously utilized all visual data available to every extent reasonable and has attempted to acquire available information such that a reasonably accurate diagnosis could be made. Where specifically requested by the Client, Denis Hanys Engineering Service, LLC. has provided recommendations for remedial action, should such be warranted. Such recommendations are provided for information, and Denis Hanys Engineering Service, LLC. assumes no responsibility in the event such repair work should be done. Finally, this report was written to satisfy the specific objectives of the Client. Neither the author of this report nor Denis Hanys Engineering Service, LLC. assume any responsibility whatsoever for the use of this report by any third party person. Client(s) agree in using this report that DHES is not required to give testimony or attendance in Court or at any other hearing with reference to matters discussed herein, unless prior arrangements are made.

**2.0 PROJECT DESCRIPTION**

The residence inspected was located at 4415 Sarong Street, Houston, Texas. The Client for this inspection was Mr. & Mrs. Michael Gross. The residence was not occupied.

The residence inspected was a two level, single family wood frame dwelling with brick veneer and concrete board siding. The structure had a hip roof with a composition shingle covering. A patio and swimming pool were located in the back yard. The garage was attached. The structure had what appeared to be a reinforced concrete grade-beam-stiffened slab-on-ground foundation. According to the clients' agent, the foundation slab that supports the garage area and above has been underpinned. The residence outline is depicted on the resident outline sketch.

### **3.0 INSPECTION RESULTS**

#### **3.1 OBSERVATIONS**

Inspection of the foundation of this residence failed to reveal the existence of a severely deflected condition or evidence indicating that major foundation instabilities were present. Counters, sills, etc. were observed to be in a reasonably level condition. Deviations from level were observed at isolated locations in the floor. These deviations were measured using an electronic level manometer and the results have been superimposed upon the resident outline sketch. Compensation was made in the floor coverings so that the measurements shown should reflect the true height of the floors. From this sketch, it can be seen that the interior floors tend to be higher in relative elevation in the center portion and lowest at the northeast corner. Although, slope is present in the interior floors, the doors and windows generally fit properly in their frames and doors opened and closed freely. Minor cracks were and repaired cracks were observed on walls, old separations were observed at the exterior corners, that do not appear to have worsened in magnitude, and very minor cracks were on the interior; however, it is our opinion that the magnitude of these cracks was not sufficient to be indicative that a severe foundation problem was present. The concrete in the visible portion of the foundation was observed to be free of significant honeycomb pockets, or exposed reinforcement steel, although, cracks were observed on the surface of the perimeter grade beams and on the surface of the garage slab, and on the surface of the tile floor coverings. It is important to understand, however, that cracking is a normal property of concrete, and is not necessarily indicative of a foundation functional failure.

The relative heights of the second level floors were also measured, and this is shown on the second attached sketch. These measurements were taken to complement the measurements taken on the first level, and can be used to monitor the future performance of the second story floor support structure, if needed.

#### **3.2 ANALYSIS**

In its report titled "Soil Survey of Harris County", the U. S. Soil Conservation Service has classified the soil in this general area to be a member of the Lake Charles family of soils. The report shows soils in this classification to have high shrink/swell potentials on the surface because of the high percentage of expansive clays present. This type of soil is known to be one of the most expansive clay soils so classified in Harris County.

The presence of sloping floors combined with the absence of a significant amount of foundation-induced damage leads one to believe that the conditions which were the cause of the sloping floors did not occur in the recent past. This condition also tends to lead one to believe that the foundation has possibly reached some reasonable point of stability. On this basis, no remedial measures are recommended at this time except for the Owner to maintain the moisture content of the soil in as uniform a condition throughout the year as reasonably possible. During periods of drought soil maintenance procedure (balance moisture content around the perimeter) be continued or implemented immediately, because the slab could undergo a drastic change in a short period of time when the soil is allowed to become too dry. Where trees are present, the broadleaf trees should be pruned to limit their water demands. It must be understood that any conclusions regarding foundation performance are based upon a very limited amount of evidence. The acceptability of the limitations used in deriving these conclusions and the acceptability of the sloping condition in the floors is totally left to the Client.

#### **4.0 CONCLUSIONS**

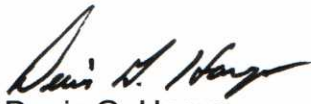
Based upon the observations made during this inspection, and an analysis of the data obtained, it is our opinion, the foundation is currently performing its intended function, even with the slope that was measured on the interior floors. It is also our opinion, the conditions that produced the slope did not occur in the recent past, and because of an absence of significant damage to the upper structure, the condition that produced the minor distortions has only been nominal.

The foregoing discussion is based upon an analysis of information which was obtained through a visual inspection of the foundation and its associated structure combined with such engineering information that was otherwise available. Although this process yields reliable results the majority of the time, it must be recognized that occasionally latent conditions may exist which are not always amenable to detection during a visual inspection of this type. Thus, any inspection of this type is essentially an opinion upon which the Client may place a reasonable degree of reliance; but, under no conditions can such an opinion be considered absolute nor can such opinion be used without any assumption of risk. Also, this inspection was conducted to provide specific information to the Client. The author of this report, therefore, assumes no responsibility whatsoever for the use of this information by another.

#### **5.0 CERTIFICATION**

I hereby certify that I did conduct the assessment of the foundation performance of the residence located at 4415 Sarong Street, Houston, Texas, on the date of November 16, 2020. I further certify that I am a Licensed Professional Engineer in the State of Texas,

whose registration number is 49157. I further certify that the findings and conclusions contained in this report have been, to the best of my knowledge, correctly and completely stated without bias and are based upon my observations and my experience. No responsibility is assumed for events that occur subsequent to the submission of this report and no warranty, either expressed or implied, is hereby made.



Denis G. Hanys  
Licensed Professional Engineer  
FIRM # 3665



11/16/2020

**DENIS HANYS ENGINEERING SERVICE, LLC**

10107 INWOOD DR.  
HOUSTON, TEXAS 77042-2439

(713) 783-6110

**FOUNDATION INSPECTION CHECKLIST**

CLIENT: MR. & MRS. MICHAEL GROSS

ADDRESS: 4415 SARONG ST.  
531 V L4 20-53

**STRUCTURAL CONFIGURATION**

RESIDENCE OCCUPIED: Y  N  
NO. OF STORIES: TWO WITNESSED BY: CLIENT: Y N CLIENT'S AGENT Y N OWNER'S AGENT: Y N  
TYPE ROOF: HIP FIREPLACE LOCATION: N/A PATIO LOCATION: BACK YARD  
GARAGE: ATTACHED DETACHED CARPORT NONE SIDING IF DETACHED: \_\_\_\_\_ POOL LOCATION: BACK YARD  
FOUNDATION: REINFORCED SLAB ON GROUND - GABE SLAB UNREINFORCED

**OBSERVATIONS:**

EXTERIOR CRACKS:  VERT HL ON NO. WALL BELOW DR WINDOW, VERT HL ON NW WALL @ CORNERS OF NO. OFFICE, REPAIRS BRICK & DIAG HL EAST WALL 10' SO. OF NE COR, DIAG HL  $\rightarrow$  1/4" ON TOP OF AD. WALL NEAR CENTER OF NW OFFICE, VERT/DIAG HL  $\rightarrow$  1/2" REPAIRS BRICKWORK ON WEST WALL NEAR CORNER, E-W HL ON N.W. G.B. 18' NE. OF SW COR, F-W 1/16" ON WEST G.B. 2' NO. OF SW COR, REPAIRS BRICKWORK & DIAG HL ON SO. WALL 10' WEST OF SE CORNER INTO G.B., DIAG HL ON EAST WALL 3' & 38' SO. OF SW COR, DIAG HL ON EAST WALL 30' SO. OF NW COR INTO G.B.

CASING SEPARATION:  N 1/4" (+) ALONG WEST SIDE OF DR WINDOW

FASCIA SEPARATION:  N ALL CORNERS OLD  
AVERAGE HEIGHT OF VISIBLE SLAB SHOWING: 0-8" HONEYCOMB POCKETS: Y   
REINFORCING STEEL VISIBLE: Y N FOUNDATION CRACKS  N NO. W. EAST  
FOUNDATION SOIL ADEQUATELY COVERED:  N CRACKS IN GARAGE FLOOR:  N  
CRACKS IN SIDEWALK/PATIO/DRIVEWAY  N TREE ROOTS NEXT TO STRUCTURE: Y   
INTERIOR WALL CRACKS  N VERT VERT 1/2 IN HALL BATH SE COR, VERT CR ON NE BEDROOM N.W. WALL 2' WEST OF NE COR,

FLOORS LEVEL: Y N  
DOORS FIT: Y N  
COUNTER TOPS LEVEL: Y N

**PIER & BEAM ONLY**

PAIS AND BLOCKS TILTED: Y N DETERIORATED WOOD VISIBLE: Y N  
EXCESSIVE MOISTURE IN CRAWL SPACE: Y N UNSUPPORTED PILLS: Y N  
EXCESSIVE SHIM STOCK: Y N ADEQUATE VENTILATION: Y N  
SOIL CONTACTING WOOD: Y N

**RECOMMENDATIONS:**

SLOPE IN FLOORS, ALTHOUGH CONDITION THAT CAUSED SLOPE DOES NOT APPEAR TO HAVE OCCURRED IN RECENT PAST

**FEE**

A FEE OF \$ 425.00 FOR PROFESSIONAL ENGINEERING SERVICE  
 WAS PAID AT THE INSPECTION CHECK # \_\_\_\_\_  
 WAS NOT PAID

**CERTIFICATION**

I HEREBY CERTIFY THAT I DID PERFORM THE INSPECTION DESCRIBED ABOVE ON THE DATE OF 11/16/2010 AND HAVE REPORTED MY FINDINGS BASED UPON MY OBSERVATIONS AND EXPERIENCE; SUCH INSPECTIONS BEING LIMITED TO VISUAL OBSERVATIONS AND AN EVALUATION OF SYMPTONS. NO WARRANTY OR RESPONSIBILITY FOR CONDITIONS NOT DETECTABLE BY VISUAL INSPECTION OR FOR EVENTS OCCURING SUBSEQUENT TO THIS INSPECTION IS HEREBY EXPRESSED OR IMPLIED.

DENIS G. HANYS  
NAME

[Signature]  
SIGNATURE

49157 TEXAS  
P. E. #

# SKETCHES

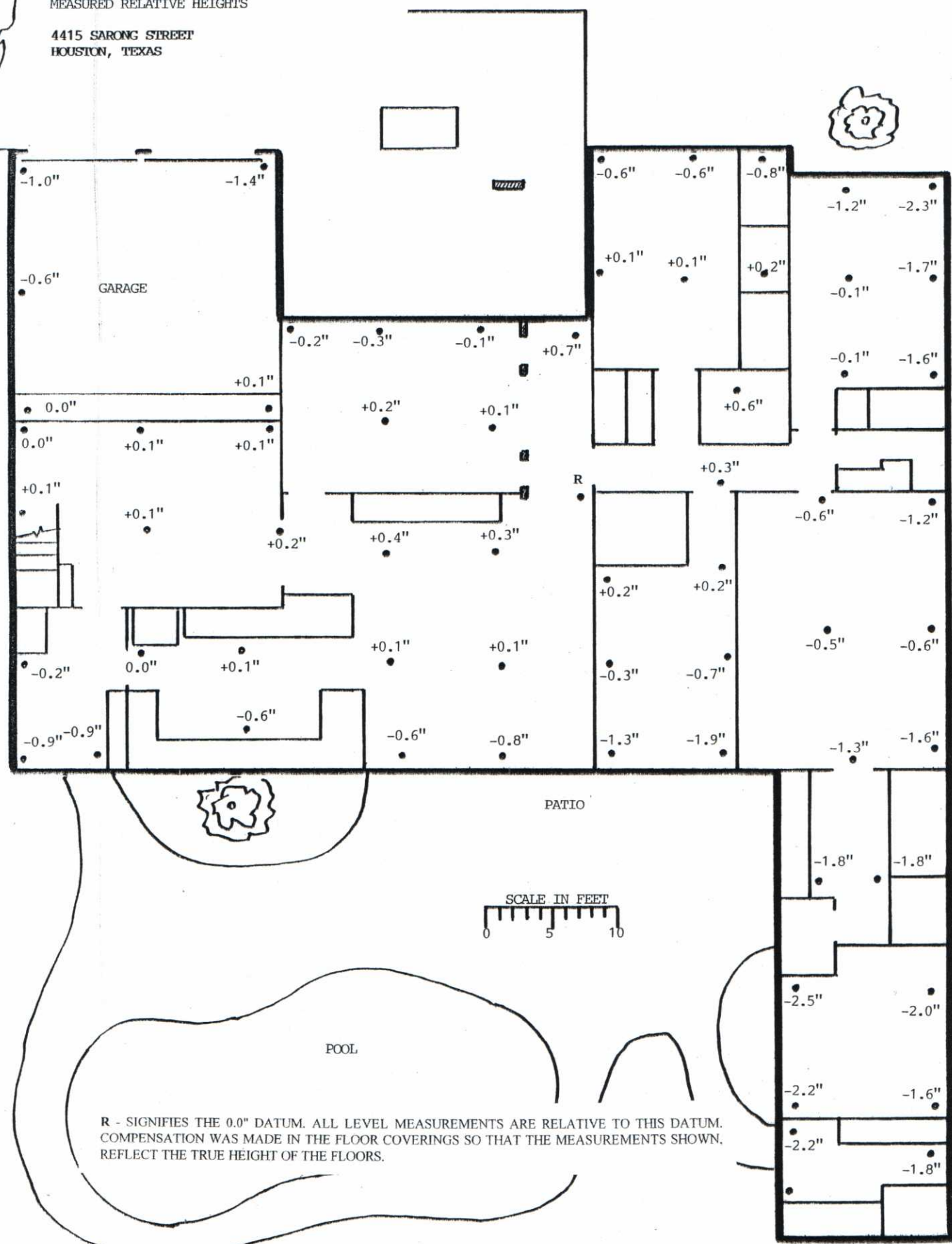




THIS SKETCH WAS PREPARED FOR THE PURPOSE OF DISPLAYING MEASURED FLOOR HEIGHTS AND IS NOT REPRESENTED TO BE A TRUE COPY

RESIDENCE OUTLINE SHOWING MEASURED RELATIVE HEIGHTS

4415 SARONG STREET HOUSTON, TEXAS



R - SIGNIFIES THE 0.0" DATUM. ALL LEVEL MEASUREMENTS ARE RELATIVE TO THIS DATUM. COMPENSATION WAS MADE IN THE FLOOR COVERINGS SO THAT THE MEASUREMENTS SHOWN, REFLECT THE TRUE HEIGHT OF THE FLOORS.

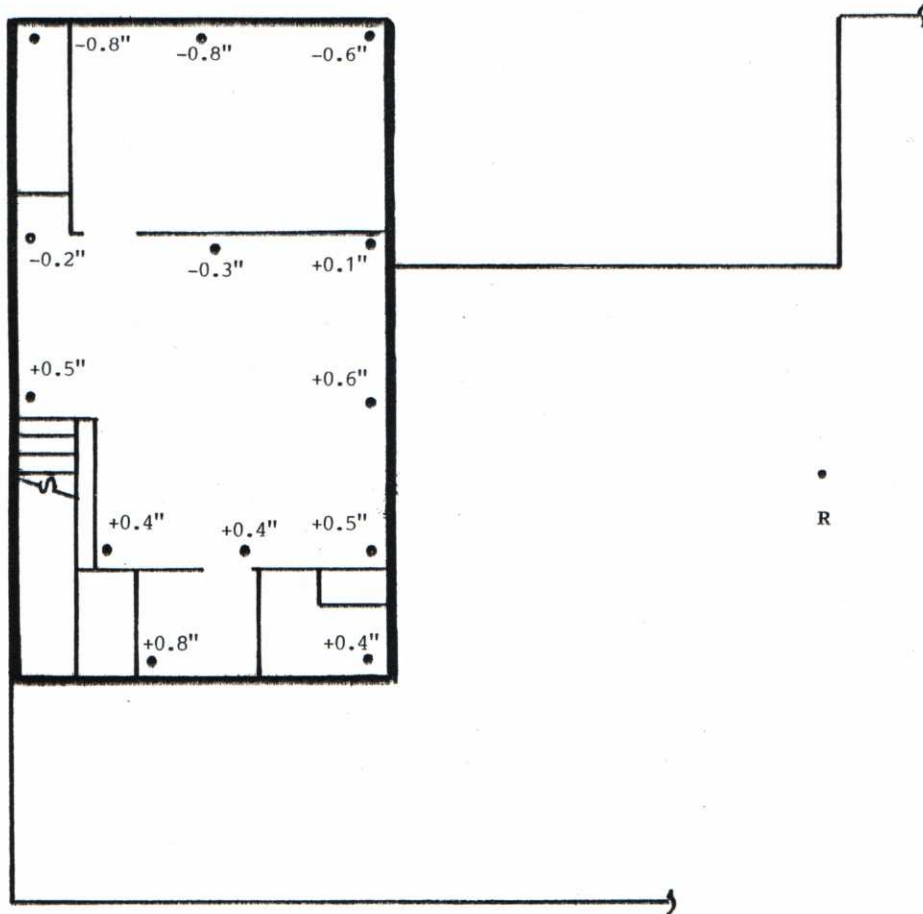


THIS SKETCH WAS PREPARED FOR THE PURPOSE OF DISPLAYING MEASURED FLOOR HEIGHTS AND IS NOT REPRESENTED TO BE A TRUE COPY

RESIDENCE OUTLINE SHOWING  
MEASURED RELATIVE HEIGHTS

4415 SARONG STREET  
HOUSTON, TEXAS

SECOND FLOOR



R - SIGNIFIES THE 0.0" DATUM. ALL LEVEL MEASUREMENTS ARE RELATIVE TO THIS DATUM. COMPENSATION WAS MADE IN THE FLOOR COVERINGS SO THAT THE MEASUREMENTS SHOWN, REFLECT THE TRUE HEIGHT OF THE FLOORS.

