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November 20, 2008

Mr. & Mrs. Ron Hemphill
240 Canterbury Dr.
Austin, TX 78737-4550

Ref: Structural Inspection
240 Canterbury Dr.
Project No. 1954

Dear Mr. & Mrs. Hemphill:

On October 10, 2008, on behalf of Amstar Engineering, Inc., I visited the site to conduct a structural inspection of specific areas of the house located at 240 Canterbury Drive, Austin, Texas. Several areas of the house were exhibiting wall cracking, nail popping and out of level floor systems. A contractor was present to remove materials.

This report concerns structural issues pertaining to specific conditions mentioned in this report only. Most structural areas, other than the attic and the areas that were removed for inspection, were concealed from view. Various documents were provided, including reports and diagrams provided to you by MLAW, Nelson Engineering, Texas Residential Construction Commission (TRCC) and Capital Pacific Homes.

Some plans and specifications were available at the site. The purpose of the investigation was not to uncover every potential structural abnormality, given the time limitations associated with this one inspection. No destructive testing was performed other than removal of gypboard at two first floor ceiling locations and a third location at an upstairs bedroom ceiling, and pulling back carpet at the second floor hallway/bedroom area. Refer to Definitions attached hereto. Photos and a photo log are attached. A location map is also attached (refer to Exhibit 1).

The house is a two story wood frame structure on combination concrete slab on grade and concrete slab on fill. The exterior wall cladding includes stone veneer and cementitious siding. The site has a moderate slope at the rear of the property, indicating the possible presence of builder installed fill beneath the rear portion of the foundation. Quality and compaction of the fill is presently unknown. Age of the house is approximately three years. The house was constructed by Capital Pacific Homes and you indicated that you had moved into the house in June, 2005.

Because of some apparent issues with your builder, you had requested that, in addition to this report, that this office provide an actual scope of work containing repair plans and specifications so that a new contractor could provide bids to make the actual repair. Considering the general agreement

among all the inspectors that there is structural damage related to the original construction of the home, I have decided to forego that task until you have had an opportunity to review this report and try to work out the issues in a manner that the builder conducts repairs in accordance with consensus recommendations by all the engineers involved.

1.0 Design, Construction and Inspections

On October 19, 2004, MLAW completed the residential foundation design and Christopher S. Copeland, PE 89572 incorporated his PE seal onto the plans as of that date. See Exhibit 2. The foundation is a post-tension slab on grade or slab on fill foundation. According to note 1-1 on sheet S2 (Exhibits 3 and 4 are split sheets and are furnished as they were furnished to me); construction inspections during the foundation stage were to be conducted by MLAW personnel.

According to foundation sheet S2, the soils have a PI of 32 and allowable bearing capacity of 2000 psf per MLAW lab investigation conducted August, 2004. The soils report has not yet been provided. Thickness of fill material is unknown; however, sheet S2 notes that the fill is approved by MLAW and "the fill material is acceptable to support a slab-on-ground foundation. Construct exterior grade beams 6 inches into approved fill. 'Approved fill' is fill that has been approved by MLAW, based on proper exploration, testing, or inspection by an agency acceptable to MLAW."

Note 6-5 states "Hard Points – If the depth of underslab clean fill at any beam intersection exceeds 48 inches, place hard points through the fill. Use of 12 inch diameter pre-formed or drilled concrete piers or 18 by 18 inch square footings is acceptable. And all beams to have tendons or steel. (If hardpoint depth exceeds 6'-0" from top of slab reinforce w/ (4)-#4 vert. & #3 ties @ 24" O.C.) If total underslab fill exceeds 12 feet, contact Engineer." Section 2 on sheet S2 indicates the interior grade beams were to be constructed 8 inches wide by 24 inches deep. On Sheet S1, "hard point" locations are shown as circles drawn at interior beam locations.

According to additional documents, on November 3, 2004 the floor and roof wood trusses were designed by Alpine Engineered Products, Inc. and then fabricated by Buffalo Framing, Inc. The wood truss diagrams bear the PE seal of Fred Kampmann, PE 83675 with dates varying from November 3, 2004 thru June 19, 2007. The truss layout/erection drawings do not bear the seal of a professional engineer.

A frame inspection was conducted on December 20, 2004, with some framing items found by the inspector to be not in compliance.

2.0 Owner Interview

Per my interview with you (the Owners), you moved into the house in June, 2005. In 2006, the builder repaired cracks that were occurring at the first floor ceiling in the general vicinity of the stairs. (See Exhibit 5). The builder also nailed down some floor decking.

In January, 2007, an ice storm struck central Texas, adding to the roof the weight of an unknown thickness of ice.¹ Slivers of limestone veneer reportedly cracked at the north exterior side portion (rear) of the home and fell to the ground.

¹ I conducted inspections of various other structures exhibiting structural distress resulting from ice loads about that time.

From January to March, 2007, cracks began to become visible in the upstairs hall bath and game room (Exhibit 6). In March, 2007, cracking was seen as having occurred in the guest room walls and door frames, and a door would not close. More cracks were observed in more second floor rooms.

In April and May, 2007, cracking began to manifest itself in the ceiling in the vicinity of the first floor living room beam (Exhibit 5 and 7).

3.0 Summary of May 2, 2007 MLAW report

Evidently on behalf of Capital Pacific, MLAW visited the site in April, 2007. A May 2, 2007 report concluded that “any distress noted within the home is not an indication of a structural defect in the foundation” and also concluded that the maximum deflection ratio derived from contours met the voluntary industry standards outlined by an ASCE publication.

The slab surface contour map prepared by MLAW and dated April 25, 2007 (Exhibit 8) indicates a differential reading of approximately $\frac{1}{2}$ inch from the right side of the house to the left. The notation of 7.75 “ near the breakfast room door, and the same notation near the stair side of the area I have noted as “kitchen wall”, indicates zero difference in elevation. Although the contours do not reflect the elevation of the portion of the kitchen wall located farthest away from the stairs in Exhibit 8, Exhibit 9 does show a differential from the back door to that location of 14.4 inches minus 14.0 inches = 0.4 inches. Exhibit 10 shows a differential from the back door to the kitchen wall location closest to the back door of 7.8 minus 7.5 inches = 0.3 inches which is certainly within an acceptable margin of measurable tolerance.

4.0 Summary of May 25, 2007 MLAW report

MLAW issued another report dated May 25, 2007. That report concluded that (1) “the home was constructed with existing deflection” and the calculations compiled by the engineer indicate that (most or) all of the deflection was the result of imposition of dead load weight of materials during construction; therefore (2) cosmetic treatment of sheetrock and doors would “be the most prudent action at this time.” In addition, (3) remove the bearing post under the T5G girder truss and apply the “tall scabs” according to a drawing supplied by Buffalo Framing and Truss, thereby removing the “point load to the floor system next to the staircase below.”

The report also indicates that the wood floor truss system may be overloaded. The report notes “visible joints in the lower level ceiling sheetrock and a ‘bump’ in the sheetrock at the dining room (Exhibit 5). Both of these items are considered cosmetic.”

The report also noted:

- Ceiling separations in upstairs rooms, primarily at the game room.
- Minor nail popouts located throughout house.
- Minor drywall cracks in stairwell and above doorway in guest bedrooms.
- Doors in several upstairs rooms are sticking and are difficult to shut.
- Minor drywall cracking in downstairs walls and ceilings.
- Sheetrock joints visible in the lower level ceiling.

- Protrusion in lower level ceiling sheetrock at the dining/ entry area.

5.0 Summary of August 15, 2007 Nelson Engineering report

On behalf of you the Owners, Nelson Engineering visited the site and in their August 15, 2007 report, Nelson noted various deficiencies including the following:

1. Cracks, separations, nail pop-outs and door gapping, with the majority of this distress having appeared within the past year according to the Owners.
2. Ceiling protrusion and rippling of the ceiling, and bowing of the closet wall beneath the stairwell more pronounced than when the owners moved into the house.
3. An approximate $\frac{3}{4}$ inch first floor slope and a maximum differential of one inch at the second floor, with a "slight low spot near the entry door to the bathroom."

Nelson Engineering concluded: (1) no evidence of foundation movement; (2) rippling of the family room ceiling resulting from uneven gypsum ceiling surface; (3) possible wracking of the superstructure causing nail pops; (4) material defects and wall stud warpage; (5) improper wood truss design and noting MLAW's comment concerning potential overload, Nelson disputes that the floor is overloaded. Nelson also states "it certainly is not possible that all of the distress in the house was caused by (a $\frac{1}{4}$ ") deflection due to the variation in framing direction and distance from the center of the upper floor.

Nelson recommends engineered foundation stabilization if there is evidence of ongoing soil movement resulting in foundation movement, but does not conclude that movement is taking place from this potential source. Nelson agrees with MLAW's conclusions in part and disagrees in other parts.

6.0 Summary of February 3, 2008 TRCC report

A TRCC inspector visited the site and issued a report dated February 3, 2008. The TRCC inspector defers to MLAW's representatives as stating the belief that "the source of essentially all defects in the home was either: 1) the improper support of the roof to floor joists not intended to take such loads, or (2) the deflection of floor joists improperly sized by Capital Pacific's framing supplier."

The TRCC inspector suspects that the "conditions seen in the house are more typical of 'wracking', a condition brought about by insufficient wind-bracing...." however, the inspector notes that interior drywall and insulation should be removed before any such conclusions can be reached.

The TRCC inspector notes that "To a very significant degree, we believe that many of the complaints of the homeowner are the result of an over-reaction to a few real problems and are not related to any structural defect at all..... The exaggerated nature of the owner's complaints aside, there remain many drywall defects and improperly functioning doors that imply a structural framing deficiency, and the deficiencies already identified by MLAW should be corrected." I have added emphasis to this particular comment made by the TRCC inspector because the owners' real and legitimate concerns should not be expressed in such a matter.

7.0 Amstar Engineering, Inc. Observations

I conducted the October 10, 2008 structural inspection on behalf of Amstar Engineering, Inc. Following are my observations:

1. I briefly inspected the exterior of the house and then concentrated the majority of time on inspecting the interior of the house. I noted the conditions reported by the other engineers, including ceiling separations at the walls, nail popouts, drywall cracks, doors jamming and difficult to close, visible sheetrock joints and the protrusion in the lower level ceiling sheetrock at the dining/entry area.
2. I reviewed the plans and compared them with the areas exhibiting distress. I noted that the significant problems were occurring within the area consisting of the one and two story portions of the house (Exhibit 7), including the living room, dining room, kitchen, breakfast room and entry; and upstairs bedrooms, bathroom and game room. Areas not exhibiting the extensive problems included the one story portion of the house, including the master bedroom and master bathroom, front office area, garage and storage.
3. I inspected the attic area above the two story portion and noted that the roof trusses over the living room and game room above, generally run north-south (front to back of the house). See Exhibits 11 and 12. See Exhibits 13 and 14 as examples of roof trusses and which depict trusses T11 and T12 (Refer to Exhibit 11 for location). The trusses are relatively complicated configured trusses with one panel point (point A2) located part way up the top chord of the truss and connecting the ceiling joist to the rafter, instead of connecting the ceiling joist at the juncture point of the truss with the wall at point A (see Exhibit 13). This type of design is dependent on the architectural styling of the house, and fabrication is highly dependent on lumber quality and a certain element of fabrication precision since the trusses might tend to have larger deflections when dead and live loads are induced on the roof than a truss with the bottom chord panel point located directly on top of the wall.
4. Furthermore, the roof trusses are designed to bear on only two end supports (end walls). However, as constructed, the trusses bear on at least two interior walls in addition to the end walls (see Exhibit 12). Those walls become load bearing walls with time, as wood materials shrink and creep. Those walls bear directly on, or in alignment with, the second level floor trusses. See Exhibits 15 and 16. The floor trusses supporting the second floor rooms, as well as carrying the first floor gypboard ceiling, run east to west (left to right), perpendicular to the direction of the roof trusses.
5. Roof loads can be easily transmitted directly through the interior walls onto the second floor trusses whenever additional dead loads are applied (during construction) or additional live loads are applied (such as during an ice storm), and my calculations indicate that those loads can add considerably to overstress conditions within the second floor wood truss system. It is well established that such conditions result in additional deflections that can cause multiple cracks to occur and doors to bind. Preliminary calculations indicate that the trusses located beneath those particular load bearing walls are overstressed and will require repair. MLAW had opined in its May 25, 2007 report that the "deflection in the floor system caused sheetrock cracking in the walls and at multiple ceiling to wall interfaces."

6. First and second floor level measurements, conducted by the other inspectors, indicated a general slope pattern downward toward the “kitchen wall” described above, located on the first floor between the kitchen and the living room (Exhibits 7, 8, 9 and 10). Plans indicated that a concealed glue lam beam exists in the second floor framing system, bearing on an unknown column configuration at that particular “kitchen wall” location.
7. The engineers and TRCC inspector who had previously inspected the conditions of distress, had apparently not been authorized to proceed with destructive removal of materials, which would tend to limit their findings. With permission, I then ordered a portion of first floor ceiling gypsum board material to be removed (shown as inspection port IP1 on Exhibit 15) so that I could inspect the condition of the beam and I could also inspect the condition of the truss hanger supports attached to the beam.
8. I noted that the glue lam wood beam measured approximately 3 inches wide by 15 ¾ inches tall. The floor trusses were 16 inch tall floor trusses that had been installed in Simpson THA 413 steel beam hangers. (See photographs and photo log). According to the Simpson literature (page attached as Exhibit 17), the THA 413 connectors are intended to be installed so that the hangers lap over the top of the supporting beam. The THA 413 hangers have a vertical leg height of 13-5/16” which is too short for connecting 16 inch tall floor trusses to a 16 inch tall wood beam. Instead of the proper size hangers being furnished, the hangers were installed face nailed to the beam, and Simpson rates the hangers in this configuration as capable of carrying 1940 pounds each. Four hangers were found along the beam that exceeded this capability, with one connector required to carry an estimated 3500 pounds. Most likely the second floor plywood deck is helping hold the floor system together at this location. Nevertheless, this is not a safe condition and it must be repaired.
9. In addition, calculations indicate that the beam itself is overstressed when subjected to code loads plus time-related creep related to the second story walls helping to support the roof trusses as discussed further above. The beam itself will require replacement or reinforcement. The hangers can be corrected at the same time.
10. I then ordered an observation hole to be cut in the first floor ceiling adjacent to the staircase (Exhibit 15, inspection port IP2). I also asked that a piece of plywood flooring above this location be removed (the plywood had been previously cut by others). I noted that a single row of vertical wood bridging had been installed along the bottom chord of the truss members located above the living room (See photo log and photographs). At most trusses, the bridging was required by the truss designer to be 2x6 strongback bridging installed to support the top chord of the truss member. See Exhibits 18-22. Engineering literature recommends “L” shaped stiffbacks be utilized, not single vertical members. Floor trusses must be bridged to thrust loads into adjoining trusses in order to comprise a complete structural floor system. The size and location of the bridging found, helps explain the irregular living room ceiling surfaces reported by others and which I also observed. The gypsum ceilings at the first floor will need to be removed so that proper bridging can be installed.
11. I observed that a truss designated on the plans as an F8G truss (Exhibit 16 and 22) was exhibiting distress, in that concentrated load points from above did not align with a panel point on the truss (Exhibit 15, inspection port IP2). During construction, wood blocks had been wedged between the chords and a diagonal member in an effort to prevent crushing of the top chord of

the F8G truss. At least one block exhibited splitting. It appeared either the builder had misaligned the truss during construction or the truss fabricator had mismeasured the bearing point location. The entire load transformation process in the F8G truss was haphazard and the truss must be reinforced.

12. Inspectors had noted a sheetrock "ceiling bump" at the entry area and had opined in their reports that the protrusion was inconsequential. I unable to accurately determine the condition at the "ceiling bump" and time constraints prevented me from continuing. Other hangers in the framing system exhibit improper sizing and construction as noted above, and the "ceiling bump" condition should be further investigated whenever the ceilings are entirely removed.
13. In their report dated May 25, 2007, MLAW noted that the floor system (in the vicinity of truss F8G) is overloaded and has made recommendations for repairs associated with roof girder truss T5G. Refer to Exhibits 23, 24 and 25). MLAW notes in their report that "In the current configuration, the T5G uses the wall of bedroom 4 as a bearing point which transfers significant load into the 2-2x12 below which is supported by a floor truss." That particular floor truss referenced by MLAW is truss F8G and is the one that I observed and noted that at least one supporting wood block had split. MLAW has provided "a repair drawing for girder truss T5G (Exhibit 25) to change the bearing location to a stacked wall thus alleviating the load to the floor system." MLAW has not provided its calculations for me to review so subject to the full support system being designed and constructed in accordance with proper engineering standards to transfer the loads from the roof to and into the foundation, Amstar Engineering approves this particular approach to the problem.
14. I wish to address the issue of the general slope of the foundation toward the "kitchen wall" (Exhibits 7 thru 10). The foundation plan (exhibit 2) shows a distance of slightly over 12 feet between the outside edge of the foundation and the center of the interior grade beam. Field measurements indicate that the portion of the "kitchen wall" supporting the glue lam beam overhead, is located over 13 feet from the outer edge of the foundation, indicating that the wall may not align directly over the grade beam unless a change in location was made before the concrete was poured. MLAW called for "hard points" to be constructed at certain locations; however, if the builder did not construct those hard points either as shown on the plans or directed by MLAW personnel, then the potential exists that the applied soil pressure exceeds the allowable soil pressure and potentially the slab could be sinking at this location. MLAW should have more information on the condition in their files since they evidently conducted the pre-pour inspections. My calculations indicate that the concentrated bearing load at this particular location could be in the order of 12,000 pounds, albeit that most of that load would be considered "short term loading". MLAW's measurements from the back door to the kitchen wall varied from 0.3 to 0.4 inches and those measurements were made in April, 1987. My measurements of the same areas in October, 2008, indicated 0.375 inches of differential, indicating no differential foundation movement in 1-1/2 years time. This area merits monitoring in the future and repairs made in the future if necessary; however, no foundation repairs are required at the present time.

8.0 Conclusions

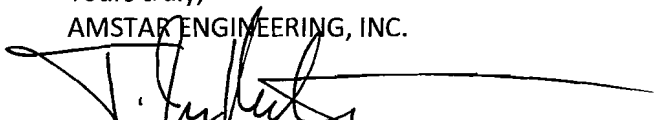
Following are the conclusions:

1. Structural repairs to this home are required. From TRCC Performance Standard 304.100(b)(2)(B): "If a structural component of a home cracks, bows, is distorted or deteriorates such that it results in actual observable physical damage to a component of the home, the builder shall take such action as is necessary to repair, reinforce or replace such structural component to restore the structural integrity of the home or the performance of the affected structural system."
2. I agree with the TRCC inspector's comment, quoting MLAW, that the source of defects in the home includes 1) the improper support of the roof to floor joists not intended to take such loads and (2) the deflection of floor joists improperly sized by Capital Pacific's framing supplier."
3. The builder must make repairs including the following:
 - a. Replace or reinforce the main living room glue lam beam, and provide sound support to the foundation.
 - b. Repair or replace the hangers as required to properly connect floor trusses to the main living room beam.
 - c. Install engineered plywood reinforcer plates to all floor trusses exhibiting overload. Specifically, install reinforcers to the trusses located beneath load bearing walls. Inspect all trusses for damage and reinforce as necessary.
 - d. Install "L" bridging through floor trusses at proper locations as indicated by engineering literature.
 - e. Replace or reinforce the F8G floor truss located along the stair. Make corrections to the existing beam hanger located at the entry area.
 - f. Make repairs associated with roof girder truss T5G as stipulated by MLAW. Properly carry loads from truss to the foundation, and make foundation additions (including footings if deemed necessary by MLAW) for proper load transmission.
 - g. Make all cosmetic corrections after the structural work is completed.
4. In regard to a comment by the TRCC inspector, I observed none of the parameters that would indicate that the house is exhibiting "wrecking".

Please contact this office if you have further questions and if you wish for us to proceed with repair plans and specifications.



Yours truly,
AMSTAR ENGINEERING, INC.



by T. June Melton, PE

APPENDIX - DEFINITIONS

In this report, the terms "structure" and "structural" refer ONLY TO BASIC LOAD-CARRYING ELEMENTS which may include the foundation, certain concrete slabs, the load bearing wall elements, the floor and roof framing, and/or decking as specifically discussed. The terms DO NOT REFER TO, and the report excludes, any consideration of the condition or attachment of components such as windows, screens, doors, cabinets, attic stairways and finish trim to the structure. The report also excludes, unless specifically discussed, investigations of mechanical, electrical, plumbing, general utility and septic, cosmetic treatment including painting and caulking, flooring and wallcoverings; roofing and flashings; fencing and gates; insect infestation; moisture damage; storage structures; free standing garden elements, pools, spas and ponds; vandalism; fire hazards; environmental hazards; localized subterranean features and flood plane determinations.

The term "defect" refers to the probability of MOVEMENT in the structure. To evaluate a "defect", this report may mention various trades, or materials including wall veneer such as siding, masonry or drywall; or finishes such as plaster and ceramic tile, or roofing and flashings; and this report may further recommend corrections to such materials, but mention of these trades or materials is INCIDENTAL and is not to be construed as an examination of these specific materials; instead, their mention is in the context of evaluating the underlying structure. Moisture causes movement or DETERIORATION, but only general reference to moisture intrusion may be made in the report since moisture intrusion is often not obvious at the time of inspection, and no attempt is made to document all possible causes of deterioration. As a general rule, all points of moisture intrusion should be sealed or otherwise made watertight.

The term "visual structural inspection" refers to our performance of a reasonable but LIMITED visual observation based on our experience in observation of similar projects, and based on our opinion, discloses any observed signs of structural deficiencies at the time of inspection to the extent that such deficiencies were noted by us and are visible to us without destructive testing of the structure to discover hidden or latent defects in the structure. Since most of the structure is concealed and as-built structural plans are rarely available, WE DO NOT ASSUME RESPONSIBILITY FOR UNSEEN EXISTING STRUCTURAL DEFICIENCIES UNKNOWN TO US.

In conducting a visual structural inspection, we check for signs of excessive cracking and movement in wall veneer, gypsum board, and the foundation; we look for obviously excessive violations of structural building codes; we evaluate surface drainage characteristics and their effect on the foundation; and we utilize general soil maps available in our office for evaluating soil conditions; but we do not endeavor to comment on every small construction element which may be a LOCALIZED DEFICIENCY and which does not, in our opinion, have a significant detrimental effect on the OVERALL structure.

A visual structural inspection implies that NO ENGINEERING OR SCIENTIFIC TESTS ARE PERFORMED, including rolling back or removing materials, unless otherwise stated. It does not include geotechnical testing and evaluation; determination if elements of the structure comply with governmental code, rule or regulation or specific industry code or standard; nor an exhaustive analysis of the load carrying capability of individual structural members. Such activities are available from a wide variety of specialized engineering services commonly available if you require them.

A visual structural inspection is limited in scope and reflects a "snapshot" view of conditions observed by us at a SINGLE POINT IN TIME. With the passage of time, CHANGING CONDITIONS AFFECT STRUCTURES AND OUR ABILITY TO RECOGNIZE DEFECTS, for example, inconsistent maintenance and certain repairs conceal defects temporarily; drought, excessive rainfalls, and changing ground or surface water conditions affect subterranean features which in turn, may cause foundation movement or otherwise affect the structure. POSSIBLE CONCEALED DEFICIENCIES MAY EXIST AND WITH SOIL DESICCATION OR DETERIORATION OF THE STRUCTURAL SYSTEM, MOVEMENTS IN THE STRUCTURE ARE POSSIBLE.

The term "report" refers to our written opinions based on our visual structural inspection. Our opinions reflected by the report are limited to only those items specifically addressed in the report and observed by us at the time of inspection, and subsequent, more extensive investigations may result in observations and opinions which may affect or change the findings. BECAUSE OF ITS LIMITATIONS, A REPORT BASED ON A VISUAL STRUCTURAL INSPECTION IS A REPUTABLE DOCUMENT, PROVIDING YOU ONLY WITH "KNOWLEDGE" OF OUR OPINION OF THE STRUCTURAL CONDITION WHICH EXISTED AT THE TIME OF OUR INSPECTION, AND IS NOT TO BE RELIED ON BY ANYONE AS ANY BASIS FOR A SUBSEQUENT BUSINESS DECISION. It is not intended to provide you with the knowledge of an intermittent or ongoing structural condition at a future point in time. It does not "run with the land" to be passed from purchaser to purchaser, and it may be withdrawn or amended by us, with or without notice, at any time that we believe that conditions at the property may have changed. We retain ownership of all information utilized in compiling this report, including the report itself. IN OUR OPINION, YOU SHOULD NOT PRESENT THIS REPORT TO OTHERS AFTER PASSAGE OF A REASONABLE PERIOD OF TIME OR AFTER REPAIRS HAVE BEEN MADE UNLESS YOU ELECT TO DO SO.

The term "repair" is used in the general sense in that any action proposed in this report to limit a defective condition is not to be construed as a complete engineering design which would otherwise normally include complete plans, specifications and ongoing site inspections. PREPARATION OF COMPLETE ENGINEERING DOCUMENTS ARE BEYOND THE SCOPE OF THIS REPORT AND ADDITIONAL ENGINEERING ADVICE MAY BE REQUIRED. DO NOT RELY ON THIS REPORT AS A GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT ALL STRUCTURAL DEFICIENCIES HAVE BEEN ADDRESSED EVEN THOUGH YOU CORRECT THE DEFICIENCIES AND OTHER MATTERS AS DISCUSSED IN THIS REPORT. No assurance of validity of our recommendations or adequacy of repair based on our recommendations can be made unless we are requested by you to provide a full inspection service while the repair is being made.

The term "cost" is used in this report as an approximate engineering estimate and is NOT TO BE RELIED ON AS ACCURATE. Obtain bids from contractors. Generic terms for construction materials, such as "pressed board", "drywall", "plywood" and the like are used as GENERAL terms to describe similar products and are not intended to fully describe the actual materials encountered during the inspection. Descriptive terms such as "minor" or "moderate" are SUBJECTIVE and are based strictly on our opinion of the nature of the item observed.

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