

**Mountain View Engineering, Inc.**

345 No Main St, Suite A  
Brigham City, UT 84302

11/2/2022  
3:42 PM

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**Custom Amount x 1** **\$260.00**

Invoice #22872 Matt Lalumia

**Total** **\$260.00**

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Receipt 3DCb  
Authorization 054209

Visa 5506

**MOUNTAIN VIEW ENGINEERING, INC.**

345 NORTH MAIN STREET SUITE A  
BRIGHAM CITY, UTAH 84302

# INVOICE

DATE

INVOICE #

11/2/2022

22872

**(435) 734-9700**

BILL TO:

Matt Lalumia  
1032 North 450 West  
Brigham City, Utah 84302

P.O. NUMBER	TERMS	PROJECT
	Due on receipt	22-1267

QUANTITY	DESCRIPTION	RATE	AMOUNT
	Engineering For: Structural Observation Of Existing Home 1032 North 450 West Brigham City, Utah	250.00	250.00
	Credit Card Fee @ 4%	10.00	10.00
		<b>TOTAL</b>	<b>\$260.00</b>



# MOUNTAIN VIEW ENGINEERING, INC.

Structural Engineering • Consulting • Design

345 North Main Street, Suite A • Brigham City, Utah 84302 • Phone (435) 734-9700 • Fax (435) 734-9519 • mveengr.net

November 2, 2022

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Matt Lalumia  
1032 North 450 West  
Brigham City, Utah

RE: Structural Observation of Existing Home  
1032 North 450 West  
Brigham City, Utah

To Whom It May Concern:

Our firm performed a structural observation of portions of the home at the referenced address on October 28, 2021. We were retained to observe and comment on the home which appears to be settling.

Our walk through was only visual in nature with measurements taken using a tape measure and 4' carpenter level. We did not have access to any type of laser measuring/leveling equipment. However, the homeowner indicated that he had previously retained others with the necessary equipment to obtain some fairly accurate measurements. Those measurements indicated approximately 5" of overall elevation difference. The Southeast corner of the home being the high point and the Northwest corner the low point. However, almost 4" of that settlement occurred within the last 20' of the Northwest area of the home. This is a significant amount over a relatively small area. Measurements we made in a downstairs bedroom window sill with a level showed at least 1" of slope over a 4' run. This amount of a slope is in agreement with the measurements taken by others.

Based on our visual observation and the measurements we made, please note the following:

- 1 The Northwest portion of the home is showing obvious sign of settlement. This can be seen in sloped floors, cracks in the foundation wall, cracks in the brick veneer, cracks in the interior gypsum board walls, out of square door frames, and out of square window frames. Signs of settlement are also visible in other portions of the home, but most prominent in the Northwest portion.
- 2 The cause of the settlement is unknown at this point. Most likely it is the result of some poor supporting soils in conjunction with groundwater and/or surface water issues. The Northwest corner of the home is located very close to an existing creek bed that had water in it at the time of our observation.
- 3 At this time, it would be very difficult to determine if all the settlement has occurred and/or if any future settlement may yet occur. We would not be able to make that determination with any degree of accuracy. Even an in-depth geotechnical investigation might not be able to make that determination, especially if the settlement is the result of changes in the groundwater. These changes could still occur in the future, leading to additional settlement.
- 4 In our opinion, the home foundation should be underpinned with helical piers (or a similar system) in order to be certain that no future settling will take place.

MVE #22-1267



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RE: Structural Observation of Existing Home  
1032 North 450 West  
Brigham City, Utah

- 5 When visiting with the homeowner, the subject of re-leveling the floors with some type of leveling compound (Gypcrete or similar) was discussed. We would not recommend this option for a number of reasons.
- A) Re-leveling the floors would only be a "band-aid" type of solution. It would create a level floor, but would not actually solve the underlying problem.
  - B) Unless it can be determined that no future settlement will occur, re-leveling the floor would be a waste of time and money. If the foundation were to continue to settle, the floors would then be out of level again.
  - C) The extra weight of the leveling compound could cause additional settling. Also, an in-depth structural review of the existing framing would need to take place in order to verify the framing can support the additional weight of the leveling compound. Most gypsum compounds have a maximum thickness of 3" which would add significant weight and still not provide enough thickness to level the floor.
  - D) This solution would not fix doors and windows that are no longer square and not working correctly. There could also be a life safety concern with this settling. If the door and windows are not working properly, the building occupants may not be able to exit quickly in the event of a fire or some other emergency.

In summary, this foundation has settled beyond what can be considered tolerable. We recommend some type of underpinning to support the foundation against any future settling. This underpinning most likely can also raise the foundation back to original position. Note, some consideration may be given to underpinning only those portions of the foundation that have settled the most and leaving other portions as is. The homeowner in coordination with others involved will have to weigh the costs and risks associated with this option.

Our observation was limited to a check of the items noted and does not include a complete structural inspection or certification of the entire structure or any other component. Please contact me if you have any questions.

Respectfully,



Brad Wallace, S.E.  
Mountain View Engineering, Inc.