



## BEICKER MARTINEZ ENGINEERING

Structural Engineers

August 8, 2013

Mr. Joe Jarosek, Director of Public Works  
**City of Uvalde**  
PO Box 799  
Uvalde, Texas 78802

Re: **Stein Building Investigation**  
Main Street  
Uvalde, Texas

BME Project #12413-1

Dear Mr. Jarosek:

The City of Uvalde has secured our services for a structural engineering investigation of the above-mentioned project in order to provide a general assessment of the structural condition of the building as it currently stands. This report will identify the structural condition and, in general, the areas that require repair in order for us to classify the building as structurally stable. Specific repairs or repair details are not part of this scope. The structure is not currently in use and is for sale.

I visited the site on July 23<sup>rd</sup>, 2013 and visually reviewed the exterior and interior of the structure. My visit was limited to a visual assessment of the structure only. No destructive testing or observation was performed. Areas and components not visible during our observation were not reviewed. As we understand, the building was constructed approximately in the 1890's. The building structure, as it currently stands, is a two-story brick masonry and wood structure located on a relatively level site. The footprint of the building is approximately 25' x 60' at the exterior face of the walls. A single story structure abuts the Stein Building on it's east end. The existing construction of the Stein Building as observed in the field is as follows:

#### Roof:

The roof is covered with a raised seam metal roof panel. The metal roof system is supported on 1x plank boards that are supported on 2x site built roof truss framing. The top chord of the roof truss appears to be a 2x6 nominal size while the bottom chord appears to be a 2x8 nominal size. The roof-framing members support 1x6-ceiling planks. The roof profile is a gable with a hip condition at the rear/east end.

#### Walls:

The exterior masonry walls are load bearing brick masonry walls approximately 13-inches thick. The masonry wall construction appears to be a three-wyeth thick brick wall system. All four exterior walls contain door and/or window openings. The lintels for the openings are stone at some locations and brick at other locations. The interior face of the walls has a plaster finish. The masonry walls extend above the roof truss bearing elevation thereby forming a parapet condition at the perimeter. Two of the parapet walls extend a few feet higher and contain a decorative metal coping/cornice. The walls are also secured in place with steel tie rods at the floor and roof at each side of the building. There are 3-tie rods at the floor and at the roof in the short direction and 3-tie rods at the roof only in the long direction.

#### First Floor:

The floor is constructed with 1x4 floor wood decking supported on 2x10 wood floor joists at 16-inches on center. The finish floor is approximately 14-inches above the sidewalk grade elevation. The floor joists extend from exterior wall to exterior wall and appear to sit in pockets in the brick masonry wall. We could not visually determine if the floor joists have an interior beam support. We suggest confirming the existence of an interior support beam will need to be confirmed before occupancy.

#### Second Floor:

The floor is constructed with 1x4 floor wood decking supported on 2x14 wood floor joists with the finish floor approximately 13-feet above the first floor. The 1x6 ceiling planks are attached to the bottom of the floor joists. The floor joists extend from exterior wall to exterior wall and appear to sit in pockets in the brick masonry wall.

Overall, the masonry shell of the structure is in good shape, however, the wood framing throughout the structure is deteriorating. The masonry, though in good shape now, relies on the wood framing for long-term stability. Some of the wood elements are rotting or deteriorating and should be replaced to maintain the structural stability of the building. The building, as it currently stands, appears to be structurally stable but repairs/remediation are needed to minimize the rate at which the structural members deteriorate. If the building is left "as is" and the wood members continue to rot and deteriorate, the structure will become structurally unstable.

In order to stabilize the structure and to reduce the rate of deterioration, I recommend that the following items be addressed to re-establish the long-term stability of the structure. These recommendations are not to a level for occupancy but merely to a level for maintaining structural stability of the building.

#### Roof:

The hatch covering on the roof at the south wall is open, which currently allows water to enter into the roof structure and fall directly onto the second floor. The roof trusses adjacent to the hatch opening have rotted in some locations where they bear into the masonry. Replace/repair roof trusses in this area as needed and install, seal and secure hatch cover. All roof framing shall be reviewed and repaired as needed.

#### Walls:

The masonry walls appear to be in good shape. I recommend that all holes in the masonry be filled with an epoxy type filler to minimize water from entering the holes and possibly causing further damage. The plaster on the interior of the walls is cracking and showing signs of water damage. I recommend that any remnants of steel components that remain in the masonry be removed or cleaned of rust and sealed/protected in order to minimize further deterioration. Exterior openings such as windows and doors should be closed and sealed to assist in protecting the building envelope.

#### First Floor:

The floor joists that bear on the south wall have come into contact with the grade below thereby causing the joists to rot. A similar condition is appearing along the north wall (main street side). I recommend that all of the floor decking and floor joists be removed and the grade below be reworked to establish the code-required clearance under the floor joists and to allow for proper drainage and ventilation. In addition, a significant amount of the floor joists will either need to be repaired or replaced. Replacing the floor joists will also require most of the wood flooring/decking to be replaced. Additional investigation is needed to confirm that a beam/bearing support line is present under the first floor to support the floor joists at their mid-span and to determine the structural condition of that beam line. In order for the first floor to support an office loading condition, a bearing line along the center of the building needs to be confirmed to exist. If no support line is present, a new bearing condition will need to be constructed for occupancy.

#### Second Floor:

The floor joists bearing into the south wall have deteriorated due to water/rot damage. These joists are located below the roof hatch and door-opening location from above and in my opinion water from these openings above is causing this damage. The damage to the joists is causing the joists to begin to lose bearing support at the masonry. The 1x4 floor decking has rotted at this location as well. Based upon the existing condition the second floor is not safe for loading (no one allowed to walk on second floor) until the floor joists and decking are repaired.

#### Weather proofing items:

A weatherproofing program should be put into place. Maintaining the building shell integrity against the elements will significantly prolong the life of this historic structure. I recommend consulting with an architect to provide guidance and recommendations for waterproofing the structure and developing a long-term maintenance plan for protecting the building shell against the elements.

In general, the structure is in good shape. Even though the brick masonry walls are in good shape today, they rely on the integrity of the wood-framing members for support. If the wood framing is left un-repaired, the wood members will become more and more deteriorated as time passes. Where the steel tie rods keep the walls from falling outward, the wood framing members keep the walls from falling inward. Therefore, the repair of the wood members is essential to the long-term stability of the structure.

In a repaired condition and some additional construction conditions confirmed in the field, in my opinion, the building would be able to support a live load of 50-psf. This live load condition corresponds to an office loading condition as noted in the International Building Code. This evaluation of the loading is predicated on the framing members being in good structural condition. Both the first floor and the second floor-framing members as they exist will require some level of repair, remediation or replacement in order to support the above-mentioned live loads.

In my opinion, the cause for the current state of deterioration is the lack of building maintenance and also the lack maintaining the building envelope for weather tightness. With building openings and the broken glass storefronts, birds are freely entering the building and causing further destruction and deterioration including unsanitary conditions.

In summary, given the age of the structure and despite the damaged wood framing, the overall structural assessment at the time of this investigation is judged in our opinion to be good. The building in its current state is stable. Our assessment of the building condition for occupancy is judged to be poor at this time. In my opinion, the building is not safe to occupy as it currently exists. The building will require repair/remediation in the short term to maintain the stability of the structure. If the recommended repairs are not implemented over the short term, the wood framing will continue to deteriorate and the structure will become less stable.

If you have any questions, please call.

Respectfully,

**BEICKER MARTINEZ ENGINEERING**

  
Roger Martinez, PE, SECB  
Texas Professional Engineer License Number 90220



- Enclosure 1) Typical Building photos
- Enclosure 2) Existing framing plans
- Enclosure 3) Existing building cross section

Beicker Martinez Engineering investigated only the portion of the building described. Other buildings that are part of this complex were never considered as part of our investigation. Our investigation did not include discovery, testing, monitoring, cleanup or neutralization of pollutants, hazardous substances or asbestos. Our investigation also did not include reviewing mechanical, electrical or plumbing conditions. Our opinions and recommendations expressed are based on the condition of the structure, as we were able to visually see it during our investigation at the site. Means, methods, procedures, techniques, sequencing, completing construction and safety on the job site should remain the responsibility of the Contractor hired to carry out the repair work. No warranty of this structure for future use, operability or suitability is expressed or implied.



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Structural Engineers

Enclosure 1 - Photos



**Photo #1:**

General photo of the front entry of the structure.

- Note taller parapet at the front wall.
- Note the boarded windows.
- Note the grade elevation to the right/south side of the building.



**Photo #2:**

General photo of the structure along Main Street/Hwy 90.

- Note taller parapet at the wall along Main Street/Hwy 90.
- Note the boarded windows.
- Note the adjacent single story building on the east side.



**Photo #3:**

General photo of the south side of the structure.

- Note the unprotected opening at the second floor.
- The landing at the second floor is non functional.



Photo # 4:

General photo of the roof looking west

- Notice the wall parapet (part of wall above the roof) is taller along the west and north sides of the structure.
- Metal roof covering in decent shape.
- Notice metal coping/cornice at top of taller parapet walls.



Photo #5:

Photo of center of roof area at hatch location

- Hatch opening – unprotected.
- Debris and dirt at the flow line of the roof system.



Photo #6:

General roof photo looking east.

- Notice the roof hip condition at the east end of the roof.
- Notice the vent with no cover



Photo #7:

General photo of the first floor area.

- Rotted floor
- Rotted ceiling/floor framing above.
- Water damage on walls.
- Cracks on plaster walls.



Photo #8:

General photo of south wall at the first floor.

- Notice the amount of dirt and bird feces.
- Rotted floor members.



Photo #9:

General photo of south wall at first floor.

- Notice rotted floor joists.
- Notice joist bearing directly on dirt below.
- Notice water stains on walls.
- Notice floor deck boards rotted.



Photo #10:  
General photo of floor at the northeast corner of the structure.

- Notice rooted floor joists.
- Notice rotted floor decking.
- Notice daylight at base of wall.



Photo #11:  
General photo of bathroom area.

- That is bird feces all over the place.
- Notice floor near the base of the toilet rotted.
- Notice water stains on walls.



Photo #12:  
General photo of the interior side of the east wall looking up at the ceiling of the second floor.

- Notice the stains and damage to the ceiling planks.
- Notice planks not properly secured to the floor framing above.



Photo #13:  
General photo of the interior area of the second floor viewing the northwest corner.

- Notice the water stains on the walls.
- Notice the cracked plaster on walls.
- Notice some water damage to the ceiling.



Photo #14:  
Photo of first floor ceiling at the south wall.

- Notice daylight – daylight is the opening for the door at the second floor
- Notice the cracked wall plaster.



Photo #15:  
Photo of first floor ceiling at the south wall.

- Notice peeling paint
- Notice water stains.
- Notice water damage to ceiling planks.





Photo #16:  
General photo of the north wall (Hwy 90) and the east wall (w/door).

- Photo is showing similar deterioration along the north wall but to a lesser degree.
- Notice cracked plaster on the wall beyond.



Photo #17:  
General photo of the second floor ceiling

- Ceiling planks are missing, broken or loose.
- Notice the 2x ceiling framing spanning from wall to wall.
- Notice the 1x roof decking.
- Notice the lack of maintenance.
- Birds are nesting above ceiling.



Photo 18:  
General photo of first floor north wall

- Deterioration of the ceiling along the north wall.
- Notice the water stains on the wall.



Photo #19:  
Photo of interior corner of first floor viewing to the southeast.

- Notice the water stains on the walls.
- Notice the cracked plaster.
- Notice the water on the ceiling.



Photo #20:  
Photo is looking to the east at the interior partition wall.

- Notice the cracked plaster.

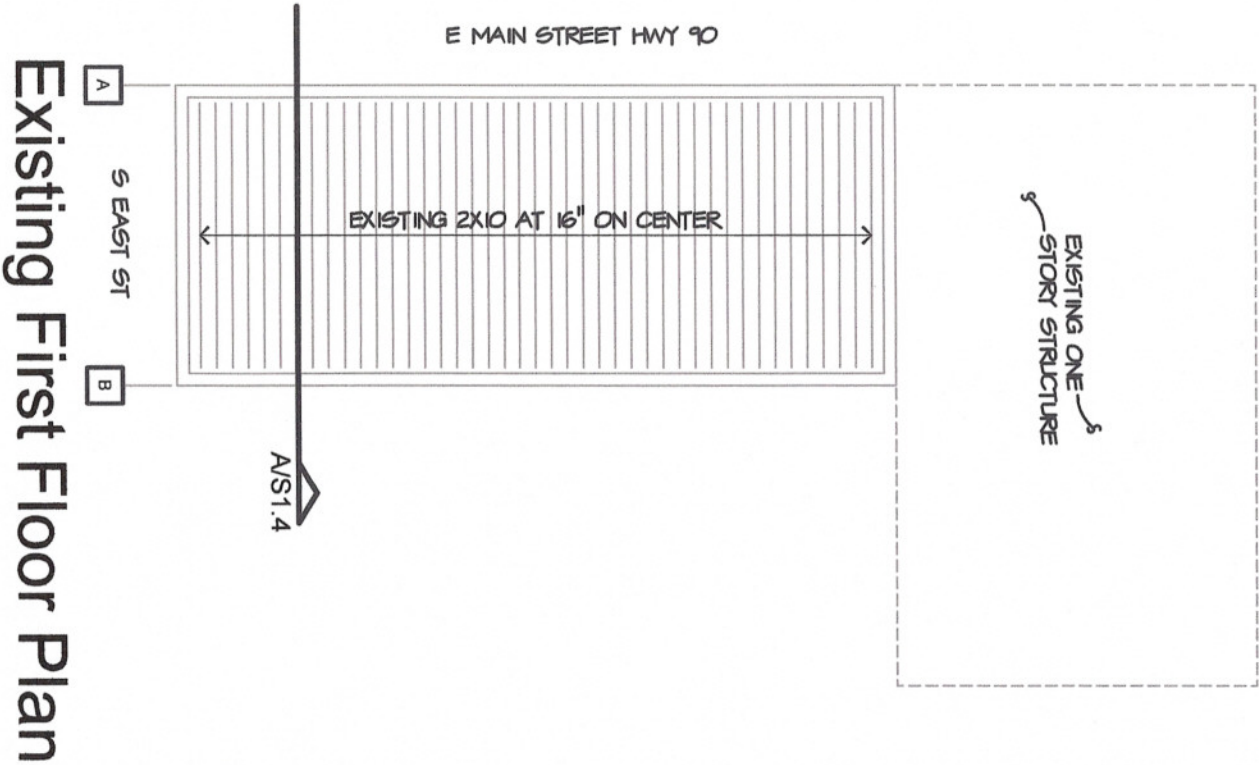


Photo #21:  
Photo is looking at the east wall (w/door).

- Notice the extent of water damage on the south wall.
- Similar damage is occurring on the north wall (see photo 16 and 22).

THE STRUCTURAL DOCUMENTS REPRESENT THE FINISHED STRUCTURE. TOTAL PROJECT DEFINITION (AND THEREFORE DEFINITION OF ALL REQUIREMENTS) WILL BE PROVIDED BY COMBINING ALL DOCUMENTS WITH THE STRUCTURAL DOCUMENTS. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS WHICH WILL AFFECT THE FABRICATION OF COMPONENTS FOR NEW CONSTRUCTION PRIOR TO THE START OF CONSTRUCTION. UNLESS OTHERWISE INDICATED, THE DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT THE SAFETY OF THE PUBLIC ALONG WITH THE SAFETY OF THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO BRACING AND SHORING OF DEAD LOADS, CONSTRUCTION LOADS AND WIND LOADS. THE CONTRACTOR WILL BE REQUIRED TO CORRECT AT HIS OWN EXPENSE ANY SUBSIDENCE, STRUCTURAL DAMAGE OR OTHER OBJECTIONAL CONDITIONS CAUSED BY HIS OPERATIONS.

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# Existing First Floor Plan

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**ENCLOSURE 2a**  
STRUCTURAL ENGINEERS



**City of Uvalde**  
PO Box 799  
Uvalde, Texas

**PROJECT**  
**Stein Building Investigation**  
US Hwy 90 & S. East Street  
Uvalde, Texas

PROJECT NO.	DATE
12413-1	Aug 08, 2013

SCALE	SHEET
NTS	<b>S1.1</b>

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 Uvalde, Texas

**PROJECT**  
**Stein Building Investigation**  
 US Hwy 90 & S. East Street  
 Uvalde, Texas

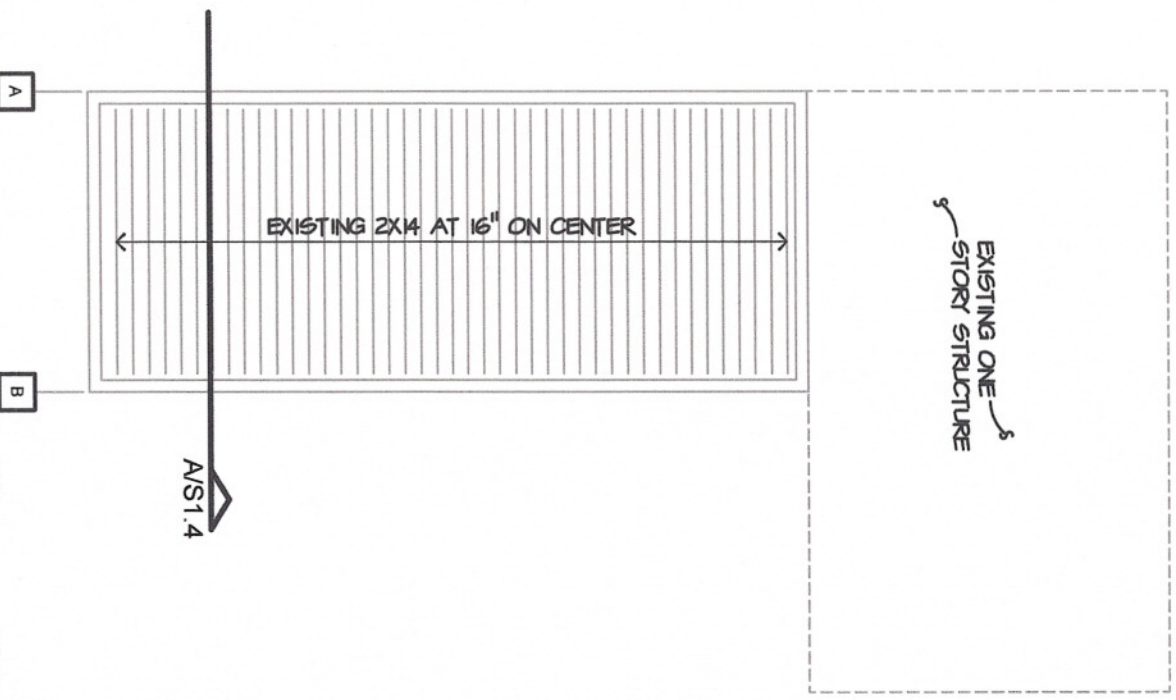
<b>PROJECT NO.</b>	<b>DATE</b>
12413-1	Aug 08, 2013
<b>SCALE</b>	<b>SHEET</b>
NTS	<b>S1.2</b>

**BEICKER MARTINEZ ENGINEERING**

**STRUCTURAL ENGINEERS**

**ENCLOSURE 2b**

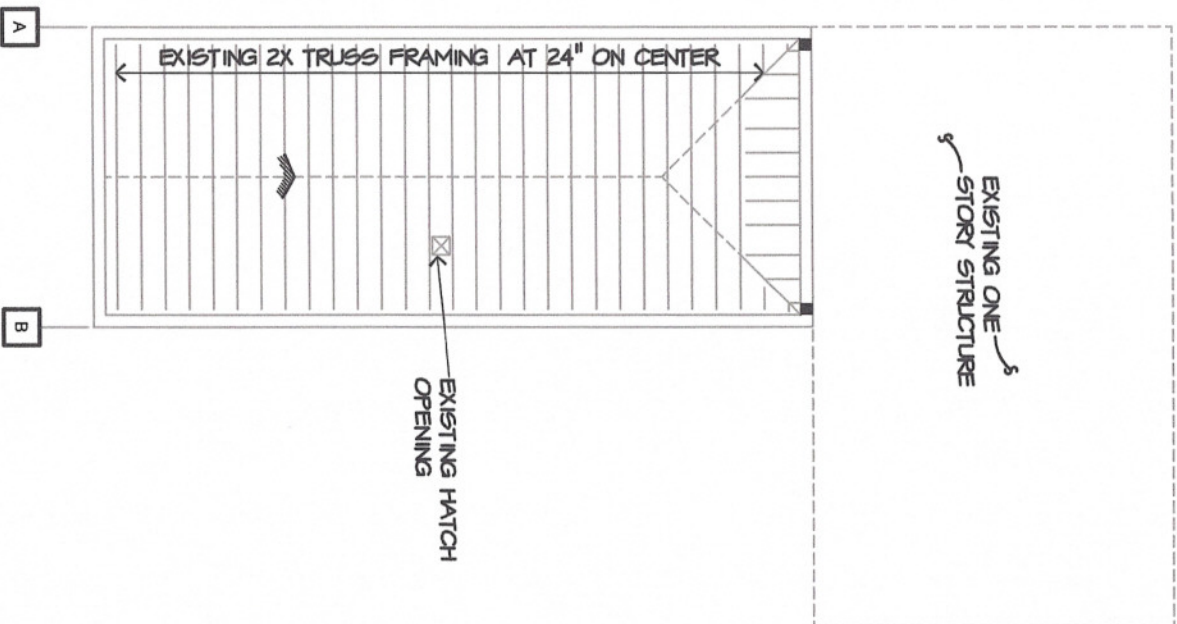
# Existing Second Floor Plan



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# Existing Roof Plan



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**Stein Building Investigation**  
US Hwy 90 & S. East Street  
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**BEICKER MARTINEZ ENGINEERING**

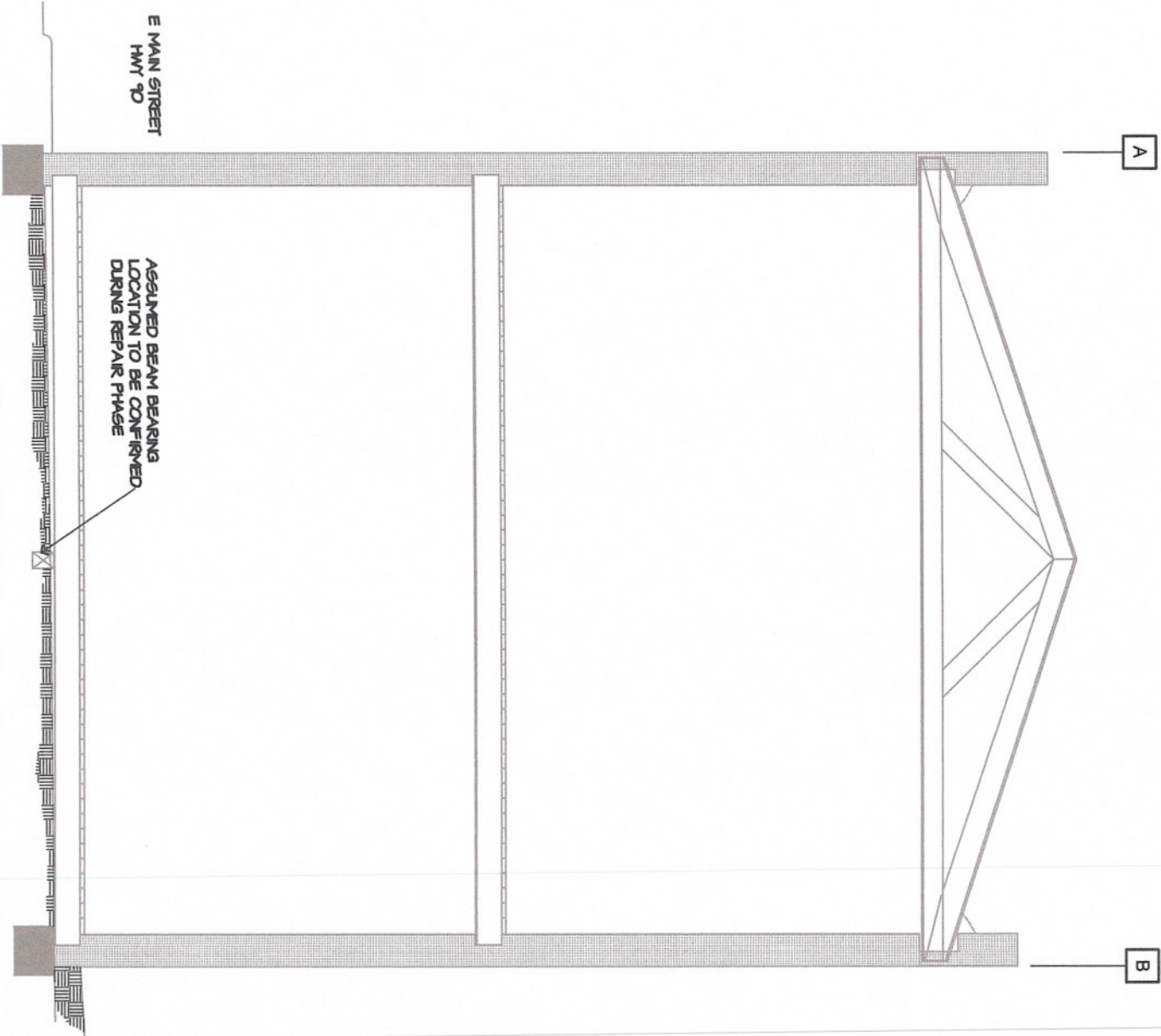
**STRUCTURAL ENGINEERS**

**ENCLOSURE 2c**

PROJECT NO.	DATE
12413-1	Aug 08, 2013
SCALE	SHEET
NTS	<b>S1.3</b>

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A- Typical Building Section

**BEICKER MARTINEZ ENGINEERING**



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**PROJECT**  
**Stein Building Investigation**  
US Hwy 90 & S. East Street  
Uvalde, Texas

**ENCLOSURE 3**

STRUCTURAL ENGINEERS

PROJECT NO.	DATE
12413-1	Aug 08, 2013
SCALE	SHEET
NTS	<b>S1.1</b>