



**PIERCE ENGINEERS, INC.**  
CONSULTING STRUCTURAL ENGINEERS  
222 W. WASHINGTON AVE. SUITE 650 MADISON, WI 53703  
PHONE: 608.256.7304 | FAX: 608.256.7306

August 27, 2021

Mr. Matt Tucker  
**City of Madison Building Inspection**  
215 MLKJ Blvd. #017  
Madison, WI 53703

Re: Notice of Structural Condition  
131 West Wilson St.  
Madison, Wisconsin

Mr. Tucker:

As you may know, **PIERCE ENGINEERS, INC. (PE)**, along with GMA Engineers (acquired by **PE** in 2017), have continued to monitor the structural condition of the parking levels of 131 West Wilson St in Madison intermittently since December of 2016. The attachments accompanying this document include previous correspondence regarding the building as summarized below:

8/3/17 – GMA 131 West Wilson letter addressing parking slab conditions.

4/6/18 – **PE** 20180406.Soltis letter addressing continued degradation of parking slabs and degree of seriousness of observed conditions.

7/13/21 -**PE** 20210713.EMI email expressing potential risk and injury to patrons, along with recommendations to vacate the parking structure and shore all slabs immediately

An overall timeline of **PE** involvement with relevant dates is also attached to this letter.

In response to the attached email on July 13, 2021, **PE** was retained to provide a shoring layout for the garage on July 20, 2021. Over the course of the next two weeks, **PE** and EMI coordinated with shoring contractors about potential systems and layouts. On August 10, 2021, a conference call between **PE** and EMI further relayed urgency in the barricading of the parking garage. It was observed that the parking deck was largely barricaded per **PE**'s recommendations during a subsequent walkthrough by **PE** and EMI on August 18, 2021. It continues to be **PE**'s recommendation that *all* parking areas on supported slabs be barricaded prior to the full implementation of temporary shoring.

**PE** is currently working to submit a preliminary temporary shoring layout by August 27, 2021, with the intent that it is implemented immediately thereafter during the week of August 30, 2021. After full installation of the temporary shoring in accordance with **PE**'s plans and per the supplier's requirements, it is the opinion of **PE** that the structure will no longer be at risk of progressive collapse.

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It is recommended, however, that further testing and review of the existing conditions be promptly completed by a component structural engineer to determine the long-term solution. It is likely that large areas of full slab replacement may be required to restore the integrity of the structure, but this will need to be confirmed by the retained structural engineer.

Please review the above paragraphs, and contact **PE's** office if further clarification is needed or if additional questions develop. **PE** is concerned about the condition of the parking slab systems in the 131 building, and simply wishes to express the urgency of needed repairs and strategies to protect the safety and welfare of patrons to the building. We would encourage further dialogue to better explain the serious nature of existing conditions and potential next steps for the parking levels.

Sincerely,

**PIERCE ENGINEERS, INC.**



Seth W. Pfeil, PE  
Principal

cc: Richard Pierce, Pierce Engineers; Ron Bernhagen, Pierce Engineers; Jonathan Hoeltke, Pierce Engineers

Attachments:

1. GMA 131 West Wilson letter
2. **PE** 20180406 – Soltis letter
3. **PE** 20210713.EMI email
4. 131 W Wilson GMA/**PE** Historic Timeline

August 3, 2017

Mr. Sid Soltis  
EMI (Executive Management Incorporated)  
2701 International Ln., PO Box 8685  
Madison, WI 53708

RE: 131 W. Wilson Parking Ramp Investigation Phase

Dear Mr. Soltis

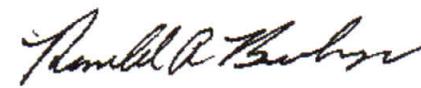
The purpose of this letter is to reconnect with you regarding the current "investigation phase" of this project. As we had completed the revised investigation scope portion of the work in December of 2016, CMR was ready to continue with a limited investigative demolition and repair project. (I have attached a copy of our current contract.) The main goals of this work is (1) to use this project as a continuation of our initial study to see if there are repair methods which are most cost effective and (2) to begin repairs on areas of severe deterioration such as column cap repairs, underside slab and rebar repairs and severe topside delamination. These areas are expensive to repair so finding the best methodologies are important. Simultaneously, they fix areas which are continuing to deteriorate.

The continuing deterioration is a concern. It is for that reason repairs need to be ongoing. Specific underside concerns are those areas hidden by metal decking, areas of delaminated concrete which have the potential of falling and large areas of exposed rebar which do not have fire protection without concrete cover. All of these conditions are potential safety concerns. So, continuing repair of these conditions is important, even as other decisions and financing methods are being resolved.

There is still time this construction season to make progress on the repairs. We look forward to continuing discussions that can keep your project on track.

Regards,

  
J. Gunnar Malm, P.E.

  
Ronald Bernhagen, CSI

An Agreement for the Provision of Limited Professional Services  
Prepared by the Council of American Structural Engineers

Structural Engineer (SE): GUNNAR MALM & ASSOCIATES, INC.  
6402 ODANA ROAD  
MADISON, WI 53719

Client: Executive Management, Inc.  
2701 International Lane, P.O. Box 8683  
Madison, WI. 53708

Project No. 216054 Date: Oct. 5, 2016 (Rev. 12/13/16)  
Project Name: 131 W. Wilson St., 2016 Investigative Repair Phase

Location: 131 West Wilson, Madison, 53703

Scope of Services: Structural Engineering Services for concrete restoration  
Design, Construction Documents and Construction Administration  
Lump Sum Fee: \$29,500.

Fee Arrangement: Hourly, See defined special conditions below.

Principals \$ 150 /Hr. Technicians \$ 80 /Hr.  
Engineers \$ 120 /Hr. Clerical \$ 60 /Hr.

Retainer Amount: None

Special Conditions: Off hours construction administration (6pm. - 7:00 am, M-F or any weekend) will be billed hourly at double the hourly rates above. Total fee above includes estimated "off hours" times.

Offered by (SE):

Accepted by (Client):



10/11/16

(signature) (date)

J. Gunnar Malm, President  
(printed name/title)



10-22-2016

(signature) (date)

SID SOLTIS - FACILITIES MANAGER  
(printed name/title)

I hereby certify that all statements herein are made on behalf of Client noted above and that I have full authority to make such statements and submit this agreement in (its) (their) (my) behalf; and that the said statements are true and correct.

The terms and conditions on attached sheet are part of this agreement.

## Investigation Phase Outline

6402 Odana Road  
Madison, WI 53719

December 14, 2016

Mr. Sid Soltis  
EMI (Executive Management Incorporated)  
2701 International Ln., PO Box 8685  
Madison, WI 53708

RE: 131 W. Wilson Parking Ramp Investigation Phase

Mr. Sid Soltis

Prior to commencing with the investigative phase, in conjunction with GMA's and CMR's work proposals, this outline of Goals, Priorities and Methods will help clarify this project.

This investigative phase can be divided into two categories, underside & topside slab repairs:

- A) Underside slab delaminations & areas of exposed reinforcing steel where concrete delaminations were previously removed are will be repaired via conventional method(s) that are easily defined. Additional underside investigation areas focus on the leaking slab areas with rust stains where delaminations are minimal or not currently present along with delaminated column drop panels. This investigation will determine the condition of the underlying reinforcing steel and the methods of repair required.
- B) Topside slab requires extensive investigation due to the lack of previous repairs' documentation, to expose existing hidden conditions of the additional topping installed. Specifically:
  - a. Removal of existing membrane in order to determine un-bonded topping from un-bonded membrane.
  - b. Exposing the existing slab top reinforcing to determine if corrosion of these bars are an issue to be addressed
  - c. Exposing previously repairs of structural slab top reinforcing that was performed during topping project. Was there section loss of the original reinforcing and was supplemental reinforcing placed to re-establish slab capacity.
  - d. Determining if carbon fiber supplemental reinforcing is required
  - e. Developing repair methods & use of materials for efficient bonding of the topping to the structural slab via pressure injection. A variety of repair means, methods & materials will be used and tested to confirm efficiency and performance.

**Priorities:** Through investigative selective structural demolition determine the following:

1. Confirm the condition of existing original structural systems. Specifically defining the section loss of reinforcing steel due to corrosion. Develop means, methods & materials for effective repairs.
2. Confirm the extents of hidden deterioration of original slab below the un-bonded topping.
3. Develop repair methods for re-bonding of topping slab.
4. Incorporate the developed repair methodology for integration into future Construction Documents.



J. Gunnar Malm P.E.,  
Principal



Ronald A Bernhagen  
Concrete & Masonry Restoration Specialist

Via Email



April 6, 2018

Mr. Sid Soltis,  
**Executive Management, Inc.**  
2701 International Lane, Suite 100  
Madison, WI 53704

Re: Notice of Structural Condition  
131 West Wilson St.  
Madison, Wisconsin

Dear Mr. Soltis:

As you know, **PIERCE ENGINEERS, INC. (PE)**, acquired Gunnar Malm and Associates (GMA) in September 2017. In doing so, **PE** assumed responsibilities for all active projects and ongoing clients of GMA and is actively engaged in continuing to serve those clients. It is within this sense of ongoing relationship and obligation to EMI, **PE** offers the following.

Over the years, GMA's personnel have been involved assisting Executive Management, Inc.'s (EMI's) staff with review, assessment and oversight of investigations and limited repair work associated with the below grade parking levels at the 131 W Wilson property managed by EMI. Briefly, the 131 property was constructed in 1971, roughly 47 years ago. In roughly 1990, repairs to parking levels were initiated in likely response to noticeable leaking and surface deterioration. Up to 2" of the existing 12" thick parking slab surfaces was removed, repairs to underlying concrete repaired and a new minimum 4" bonded overlay of concrete was placed over most, if not all, of the parking levels. The bonded overlay added 2"+ to the overall thickness of the structural slab, adding 25 psf to 35 psf of DL to the structure, but theoretically increased the slab strength by increasing overall thickness to 14". A proprietary traffic bearing membrane system, Kelmar, was then placed over the overlay at some later date to minimize slab leaking and water infiltration into the repaired slab system.

In 2016, GMA completed a conditional assessment of parking levels and discovered extensive areas where the overlay slab was debonded from substrate concrete. In this condition, the original slab, reduced to 10" thick in 1990, was supporting the additional 25-35 psf DL with reduced slab strength originally provided in 1971. Additionally, GMA documented extensive leaking along expansion joints, failed membranes installed under plaza slabs, and extensive bottom surface delaminations in such condition that spalling concrete could fall on cars and/or patrons using the ramp. In August 2016, GMA presented suggested repair strategies, quantities and prepared estimates of probable repair costs to restore minimum structural integrity to parking levels necessary to support occupancy loads, namely vehicle parking, and presented this information to EMI.

Since August 2016 GMA's staff continued dialogue with EMI regarding the need to initiate repairs immediately to minimize the risk of additional damage and/or injury to patrons parking in the facility. To **PE's** knowledge, no repairs

Mr. Sid Soltis  
April 6, 2018  
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have been initiated, and EMI's staff has informed GMA's (now **PE**'s) staff that no funding for repairs have been set aside, and no plans to initiate repairs have been considered.

In **PE**'s opinion, the significant reduction of original slab strength and recently imposed additional 25-35 psf DL resulting from debonded 1990 overlay concrete greatly reduces the overall slab system's capacity to supported intended occupancy loads. Further, if allowed to continue to deteriorate, additional loss of structural integrity will accelerate and greatly increase the risk of localized failure of slab systems, potentially resulting in large areas of either bottom slab or overall complete slab system failure. **PE** strongly recommends that repairs to slab systems be initiated immediately and consideration to taking areas most at risk out of service be undertaken before injury and/or damage to patrons and vehicles is experienced.

Please review the above paragraphs, Mr. Soltis, and contact **PE**'s office if further clarification is needed or if additional questions develop. **PE** is concerned about the condition of slab systems in the 131 building, and simply wishes to express the urgency of needed repairs and strategies to protect the safety and welfare of patrons to the building. We would encourage further dialogue to better explain the serious nature of existing conditions on parking levels.

Sincerely,

**PIERCE ENGINEERS, INC.**



Richard C. Pierce, **PE**, SE  
Principal

Cc: R Bernhagen – GMA/**PE**

## Seth Pfeil

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**From:** Seth Pfeil  
**Sent:** Tuesday, July 13, 2021 3:55 PM  
**To:** Grant Roeming  
**Cc:** Richard C. Pierce; Ron Bernhagen; Jonathan Hoeltke  
**Subject:** 131 W Wilson Site Visit

GRANT, the following is a brief summary and follow up to PE's site visit yesterday, 7/12. The following points and recommendations are also in addition to those presented in PE's 4/26/18 letter addressing concerns of the structural condition of the ramp. These include:

### Observations:

- Steel corrosion ongoing witnessed by multiple locations where corrosion byproducts expressed on underside of slab
- Ongoing corrosion and degradation of slab surface likely, but not visible with topping slab
- Topping slab likely to have continued to de-bond, thus acting as simply extra weight expected to be carried by a now reduced slab thickness with compromised structural integrity
- There are locations where significant slab deflections near midspan and at ends of cantilevers were noted
- Multiple (5+) drop panels around columns have cracks radiating from columns that likely indicate significant overstressing and susceptible to punching shear failure
- Top surface around columns likely severely cracked with deteriorated rebar, adding to risk of catastrophic punching shear failure. Once punching shear failure occurs, load is immediately transferred to adjacent columns, which will likely fail, transferring to other columns, and so on.
- Expansion joints severely compromised and at risk of losing support strength of the supported side of the joint. If this gives way, slab will likely drop and shear failure around columns will develop
- If slabs fail at one or more columns, or an expansion joint fails, it's probable that column stability will be lost and columns will fail, resulting in a progressive collapse
- Punching shear failures around columns are instantaneous failures that occur without warning. In this case, cracking through drop panels noted on 7/12 suggest early warning of exactly this type of failure.

### Recommendations:

1. Immediately vacate all parking areas and barricade entrances to prevent vehicles from attempting to enter. This includes plaza/entryway areas with vehicular accessibility, barricades to be placed on the approach apron between the sidewalk and Wilson Street. Pedestrian access should not be allowed. Cars running across expansion joints and/or near columns will increase the risk of punching shear failures and/or loss of support along expansion joints
2. Immediately shore all slab areas from the lowest level to the underside of plaza decks or top parking levels. Particular attention should be provided for shoring at areas near columns and along expansion joints. Shoring loads to be determined and verified by qualified structural engineer.
3. Selectively demo areas to determine repair strategies and evaluate cost of repairs to restore structural integrity of all slab systems versus demo and reconstruction.

**NOTE:** In PE's opinion, there is little, if any, reserve slab capacity remaining. Consequently, there is **SIGNIFICANT RISK OF PARITAL/PROGRESSIVE COLLAPSE** resulting in **SIGNIFICANT RISK AND DANGER TO OCCUPANTS**. Please understand the severity of this situation and take appropriate steps to secure the safety and well-being of occupants.

**Seth Pfeil, PE, Principal &  
Richard C Pierce, PE, SE, Founder / Board Chair**

## 131 W WILSON GMA HISTORIC TIMELINE

Important documents are located in [L:\Projects\2021\21347 \(131 W Wilson St - Shoring Design\)\Historical Projects](L:\Projects\2021\21347 (131 W Wilson St - Shoring Design)\Historical Projects)

### **Gunnar Malm & Associates (GMA) Project 216009**

- 2/10/2016 Proposal sent to Executive Management Incorporated (EMI) (the Owner) for condition assessment.  
*Summary: EMI contacted GMA for Condition Assessment Engineering Services, Engineering proposal sent to EMI*
- 8/17/2016 Condition Assessment Report Delivered to EMI  
*Summary: GMA Engineers provided condition assessment report including visual observations, selected soundings for delaminations, partial depth and full depth coring sampling, estimate of probable restoration costs, annotated photos, parking structure maintenance program. Findings of condition assessment included large areas of unbonded topping, concern for deterioration of topside slab reinforcing over columns initiated the request for proposed destructive investigation to confirm conditions (GMA 216054).*

### **Gunnar Malm & Associates (GMA) Project 216054**

- 10/11/2016 Investigation Proposal sent to EMI
- 12/13/2016 Revised Investigation Proposal R1 sent to EMI  
*Scope was reduced per EMI from original proposal*
- 12/22/2016 EMI executed R1 proposal for investigation
- 9/13/2016 GMA Engineers provide detailed Investigative scope & budget to EMI
- 9/16 to 8/17 EMI never issued to GMA Engineers & CMR (contractor) the notice to proceed
- 8/3/2017 Gunnar Malm (GMA Engineers) sent letter to EMI for urgency of investigative demolition phase

### **Pierce Engineers (PE)**

- 4/6/2018 Richard Pierce of PE issued letter to EMI reiterating the condition of the parking structure
- 7/12/21 PE site visit with Grant from EMI
- 7/13/21 PE email to EMI Requesting Ramp Closure
- 7/14/21 PE Proposal sent to Executive Management Incorporated (EMI) (the Owner) for shoring design
- 7/20/21 EMI executed shoring design proposal
- 7/29/21 PE issued preliminary shoring layout for order of magnitude to EMI & Statz for procurement
- 8/10/21 Teams meeting with PE & EMI staff, PE relayed urgency of ramp closure and shoring
- 8/18/21 PE / EMI / Statz / Stone Mountain – preliminary shoring walkthrough