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Historic Bradford Beach Pavilion Threatened with Structural Damage

BY VIRGINIA SMALL MAY 20, 2021 8:21 A.M.

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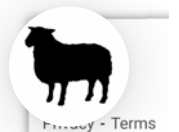




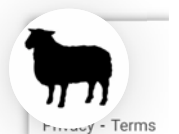
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A recent engineering report found several issues threatening the future of Milwaukee's historic Bradford Beach pavilion, including “long-term durability items that need to be addressed in the short-term to help ensure a longer-term future for this structure.”

The April 23 report said that water infiltration is wreaking havoc with the concrete slab that forms the top level of Bradford Beach's ship-like open-air beach house along Milwaukee's lakefront. That slab also serves as the ceiling of the pavilion's lower level.

Milwaukee County Parks officials refused to respond to questions about the issue, despite repeated requests for comment.

Pierce Engineers, Inc. of Milwaukee conducted an on-site visual assessment of the concrete on March 12, April 3 and April 8. This assessment followed the firm's structural capacity review in January 2020. Both reports were commissioned by The Dock Bradford, LLC, of Park Ridge,



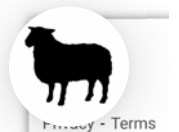
Illinois, as part of the company's effort to redevelop the public pavilion's upper deck as a bar and grill and private event space.

With Milwaukee County Parks' blessing, and without any public process or notice given to the board's parks committee chair, The Dock owners began **publicizing the rooftop restaurant** in June 2020. Banners draped on the pavilion and online advertising showed drawings with multiple shipping containers plopped onto the building's ship-like upper deck. A June 25 media release from The Dock said, "The Dock rooftop also stands as a rentable lakeside space for private events, perfect for bachelor/bachelorette parties, corporate events and other functions."

Installation of steel shipping containers was postponed when those involved in the project learned that permitting reviews were required by the City of Milwaukee. However, county parks officials County did allow The Dock to place furnishings on the roof and to serve seated patrons there last summer. The roof's slab was apparently coated around that time to cosmetically mask the concrete floor's flaws.

Milwaukee County Supervisor Sheldon Wasserman, whose district includes Bradford Beach, said he is "very concerned about the safety issues" and documented deterioration of the pavilion's roof. "This report raises many red flags," he added.

After a reporter sent Wasserman the engineering report on May 14, he said he contacted officials in Milwaukee County's engineering and parks departments. Wasserman also chairs the board's Parks, Energy & Environment Committee. He said on Tuesday, May 18 that he had not heard back from any county staff. He wants to hear from county engineers about what they think needs to be done



with the county-owned building. “And then we must do whatever it takes to fix this,” he said.

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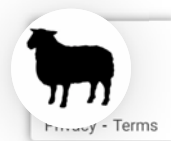
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Cosmetic Short-term Fix

Karl Stave, director of Architectural, Engineering & Environmental Services for Milwaukee County, did not respond since last Friday to multiple requests for information and comment about Pierce’s engineering report. Thus, it remains a mystery who commissioned and supervised the botched repair and whether the county will proceed with Pierce’s recommendations, listed below, for immediate interventions to solve the rooftop's concrete problems.

“An unknown topical coating was installed in 2020” on the concrete roof and is compromising the historic 1949



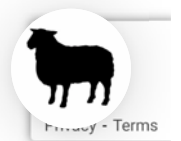
Moderne-style landmark. The report said, “The seal coating is doing more harm than good. The product applied is not an elastomeric product, meaning it does not have the ability to stretch and flex across the slab as it moves throughout the thermal cycles...Moisture concerns...are exacerbated by the topside coating which prevents moisture vapor drive from escaping. [Also,] this membrane is rigid with no ability to accommodate cracking or movement.”

The report described in detail several technical issues and included recent photos. “The coating is not suitable to bridge over the joints in the slab which are active in the life of this structure. The opening and closing caused the seal coating to crack, thus creating entry points into the slab for water. Water is getting into the concrete from the top side of the slab; through the infill topping, the structural slab curbs, and the joints between the two.”

Because of the inappropriate coating, the report said, “The water is both exiting the slab moving downwards through cracks, and upwards through cracking in the seal coat. Due to the tub effect of the structural slab (flat slab with curbs around the perimeter), it is likely that there is water collecting on the structural slab underneath the infill topping slab. Over time, this prolonged water exposure degrades both the topping slab and the structural slab.”

Visually Evident

Disintegration of the concrete floor is visually evident throughout the roughly 2,500-square-foot upper deck, especially along seams between sections of concrete. Two areas have been patched where chunks of concrete had erupted this spring. Other eruptions and lifting of the roof's coating continue to form, which the report called “trip/fall hazards.” Another concerning unreported



condition is the fact that four drain covers were also painted over with the unknown coating; each appears to be 50 to 75 percent blocked, thus contributing to puddling on the roof and infiltration.

The Pierce engineering report was submitted to the City of Milwaukee as part of an application to redevelop the rooftop. Current plans are to install one steel shipping container to serve as the fifth alcohol-vending location on Bradford Beach. The Dock, LLC, was granted a five-year contract in 2019 to serve as the sole purveyor of alcohol on metro Milwaukee's largest public beach. Three "temporary" tiki-hut bars were installed on the beach about 15 years ago. The Dock also sells alcohol on the pavilion's first floor along with concession food.

Milwaukee County Parks executive director Guy Smith has repeatedly said that the pavilion rooftop is "underutilized," a now-common euphemism to justify converting county-owned public places into commercial spaces and revenue streams.

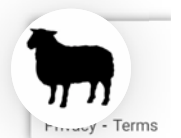
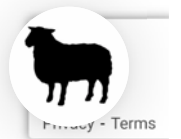


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The engineering report said that water damage has been occurring for many years, as indicated by the “efflorescence deposits at the underside of the construction joint and mineral build-up on top of the slab on grade below the elevated slab.” In some instances, water damage has caused reinforcement bars (“rebar”) within the concrete to corrode. Rusted rebar is visible on the ceiling above the first level, which is the underside of the rooftop concrete.

The process of expansion from moisture causes the concrete to delaminate, said the report. “The delaminated concrete has completely fallen free in some locations, while at other locations it is still hanging to the underside of the slab. At the construction joint, the consistent build-up of efflorescence indicates there could be significant reinforcement bar section loss.”

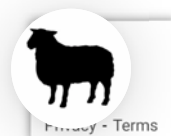


This study followed a preliminary report that was based solely on examining original drawings and load-bearing calculations. That report said that the structure, “based on a numerical analysis, is able to support the shipping container function on top of this existing structure.”

John Shank, a retired industrial engineer and long-active friend of several parks, said, "The recent report seems very complete, and from what I can guess, the deck would—technical—support a shipping container. However, the deck itself, and the connections to the staircases, need some serious maintenance and rebuilding, certainly before the imposition of the added loads of many people enjoying themselves—especially while dancing.” Shank added, “That’s my perspective wearing my engineer’s hat. With my citizen's hat, I think putting a container up there would be incredibly ugly and destroy a great architectural design. It’s a bad idea.”

Recommended Long-term Engineering Remedies

Pierce Engineers' eight recommendations are as follows:



1. *Hanging delaminated concrete should be removed from the underside of the slab immediately. This is a life safety concern of concrete falling on patrons gathering under the slab. This work should be completed before the summer seasonal use of the site as it is a safety and liability concern.*

2. *Open topside concrete surface delaminations should be repaired to eliminate trip / fall hazards.*

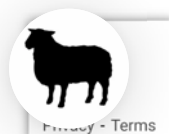
3. *Further investigation is required to assess the extent of water infiltration and resulting effect on both the structural slab and infill topping slab. This would include removing areas of the topping slab in various locations. It is possible this investigation could result in the recommendation to remove and replace entirely the infill topping slab, and as such, may require the container be temporarily removed to complete the work.*

4. *Further investigation is required to determine the magnitude of reinforcement bar section loss at the construction joint. As discussed earlier, the level of calcium build-up on the underside of the slab indicates bar loss could be significant. This would include opening up the construction joint to see the bar and assess remaining bar section.*

5. *Further investigation of the steel joints between the tops of the stairs and the concrete slab is required to assess the magnitude of steel section loss. As discussed earlier, the steel beams cast into the concrete at these joints*

show rust and section loss. Investigation may include ultra-sonic testing of the steel.

6. *Patch concrete at column top corner cracking. Repair will generally include removing all delaminated concrete*

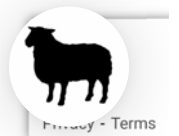


and exposing full circumference of bar, along with surface preparation to allow the patching mortar to wrap behind the bars to achieve a secure bond. After concrete has been removed, the exposed bars shall be further examined to determine extent of reinforcement corrosion/loss and to determine appropriate remediation details.

7. Patch concrete at reinforcement bars exposed at the underside of the slab. Repair will generally include removing all delaminated concrete and exposing full circumference of bar, along with surface preparation to allow the patching mortar to wrap behind the bars to achieve a secure bond. After concrete has been removed, the exposed bars shall be further examined to determine extent of reinforcement corrosion/loss and to determine appropriate remediation details.

8. If the topping slab is found to be in satisfactory shape in the investigation outlined in item #3, the seal coating should be removed so as to not accelerate any future damage by trapping water inside the slab as discussed earlier. This work should be completed upon the investigation and repair of the topping slab.

Edwin J. Schacherer, permit desk supervisor for the City of Milwaukee's Permit & Development Center, said that



the redevelopment application for Bradford Beach's pavilion is still under review. Tim Askin, senior historic preservation planner for the City of Milwaukee, said his office had not been informed about the engineering report.

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Virginia Small is an award-winning journalist and lifelong writer. She has served as a senior editor for a national magazine, a staff reporter and cultural reviewer for several newspapers, and a contributor to many national and regional publications. [Read more by Virginia Small](#)

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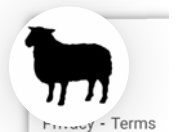
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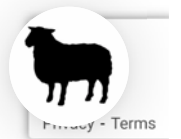


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