

June 20, 2019

Mr. Patrick Blankenship
Engle Martin & Associates
650 Poydras Street, Suite 1025
New Orleans, Louisiana 70130

RE: Allision Damage to Piety Street Wharf
June 6, 2019
USF Job Number 19.01.150

Dear Mr. Blankenship:

As you are aware, we performed an inspection at the Piety Street Wharf structure in New Orleans, Louisiana on June 11, 2019. This correspondence is offered as a summary of our findings in connection with that inspection.

In Attendance

Name	Company
Kathleen Turner	French Market Corporation
Nicholas Cozad	McGriff, Seibels & Williams of Louisiana, Inc.
Patrick Blankenship	Engle Martin & Associates
Bill Janowsky, P.E.	U.S. Forensic, LLC

Description of Facility

The Piety Street Wharf was positioned near the left descending bank of the Mississippi River near Mile Point 93.7 in New Orleans, Louisiana. The Piety Street Wharf Dock was a primarily wood-framed structure with a reinforced concrete deck that was approximately 500 feet long and approximately 170 feet wide. In 2011, the concrete deck was removed from the downriver and central regions of the structure and improvements were initiated at the upriver end of the wharf in connection with the "Reinventing the Crescent Downriver Park" project. Upon completion of the renovation project in approximately 2014, the upriver end of the Piety Street Wharf was converted into an outdoor stage area that was approximately 175 feet long and 155 feet wide. The upriver end of the renovated dock consisted of a concrete firewall with additional concrete truss wall elements. Available drawings indicated that the noted renovations to the Piety Street Wharf were designed by Kulkarni Consultants of Metairie, Louisiana.

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Description of Allision and Reported Conditions

It was reported that an unidentified vessel contacted the channelside corner of the upriver end of the Piety Street Wharf in the early afternoon hours on June 6, 2019 and caused damage to the wharf structure and firewall at the upriver end of the wharf.

Site Observations

During our visit to the Piety Street Wharf on June 11, 2019, we noted the following conditions:

- The concrete endwall at the channelside end of the firewall at the upriver end of the wharf was disconnected from the structure and displaced downwards into the river. The displaced endwall was oriented upright and the upper end of the wall extended approximately 10 feet above the river surface.
- The channelside ends of the concrete firewall and the adjacent concrete truss wall section at the upriver end of the wharf were unsupported due to the displaced endwall and were displaced somewhat downwards and downriver. Separations were present between the interior concrete brace walls that joined the concrete firewall and concrete truss wall sections.
- Cracks that extended from the deck level to the top surface of the firewall were present in the central portion of the concrete firewall.
- Cracks were present in the central portion of the concrete truss wall directly above the landside end of the open span of the wall.
- The channelside end of the deck overhang at the upriver end of the wharf was cracked and displaced downwards and several of the steel handrail panels were bent and displaced. Cracks were present in the concrete deck paving of the overhang that extended to within approximately 15 feet of the landside edge of the overhang area. The 2-pile steel support bent directly beneath the upriver channelside corner of the wharf overhang that extended from the deck level to the top surface of the firewall was displaced and bent.
- Some of the wood deck framing at the upriver channelside corner of the wharf was cracked and displaced.
- Approximately 15 feet of the channelside end of the decorative concrete wall on the deck level at the upriver end of the wharf was cracked and displaced.
- Approximately 25 feet of the upriver end of the angled concrete handrail along the channelside edge of the wharf was cracked and displaced.
- No discernible damage was noted to the lower portion of the firewall beneath the deck level at the upriver end of the wharf or to the upper portions of any of the wood support piles beneath the wharf on the downriver side of the firewall.

Discussion

The conditions that we observed during our inspection of the Piety Street Wharf on June 11, 2019 were consistent with recent damage caused by an impact from a floating vessel and were attributed to the reported allision of June 6, 2019. More specifically, the patterns of damage noted at the site indicated that the vessel that contacted the wharf traveled over the top of the outer corner of the dock which was generally consistent with a vessel in light draft condition with an angled hull such as an empty or lightly drafted rake-end barge.

Scope of Repairs

In order to repair the damage to the Piety Street Wharf caused by the reported allision of June 6, 2019, we recommend that the displaced concrete endwall, approximately 1,000 square feet, the damaged portion of the concrete firewall, approximately 70 linear feet, the damaged portion of the concrete truss wall, approximately 50 linear feet, the damaged 2-pile support bent beneath the upriver corner of the wharf, the damaged deck overhang and handrails at the upriver end of the wharf, approximately 250 square feet, the damaged wood deck framing at the upriver corner of the wharf, approximately 60 square feet, the damaged portion of the decorative concrete wall at the deck level, approximately 15 linear feet, and the damaged upriver portion of the angled concrete handrail along the edge of the upriver end of the wharf, approximately 25 linear feet, be removed and replaced with similar materials. All repairs shall be performed by qualified contractors with appropriate marine insurance coverage and in accordance with all applicable state and local building codes and standards.

Due to the current potentially unstable condition of the firewall and truss wall at the upriver end of the wharf caused by the displacement of the concrete endwall at the upriver corner of the structure, we recommend that a temporary support be installed beneath the unsupported channelside ends of the concrete firewall and truss wall to stabilize the walls and minimize additional movement or damage until appropriate repairs can be effected to the wharf.

The level of the Mississippi at the time of our inspection on June 11, 2019 was indicated to be (+)16.5 feet at the Carrollton Gauge which was close to the flood stage level of (+)17.0 feet. The water surface was close to the underside of the wharf and the elevated river level prevented visual inspection of most of the wharf components beneath the deck level. Accordingly, we also recommend that additional inspection of the support piles and lower framing components of the wharf be performed once the river stage level has fallen sufficiently to permit observation of those components. A subsequent dive inspection of the subsurface components of the wharf may also be warranted based upon the conditions visible during low river stage.

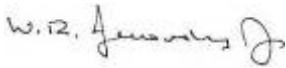
Representative photographs are included with this report. Photographs taken but not included in the report are available upon request.

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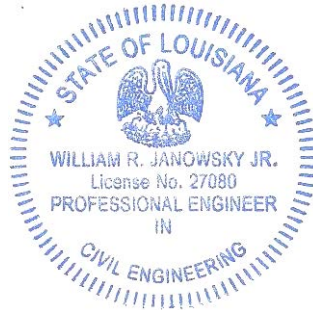
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Respectfully submitted,

U.S. FORENSIC, L.L.C.



William R. Janowsky, Jr., P.E.
Principal Engineer/Partner



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Attachments

Photographs

Photograph 1

Aerial view of the Piety Street Wharf reportedly taken in April of 2016.



Photograph 2

View of the upriver portion of the Piety Street Wharf taken from the river in September of 2016.



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Photograph 3

View of the Piety Street Wharf facing upriver.



Photograph 4

View of the upriver end of the Piety Street Wharf. Note the end wall missing from the channelside end of the firewall.



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Photograph 5

View of the upriver end of the Piety Street Wharf facing towards the river channel. Note that the end of the truss wall is displaced in the downriver direction.



Photograph 6

View of the displaced concrete end wall of the firewall at the upriver end of the Piety Street Wharf.



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Photograph 7

View of cracks in the upper portion of the concrete firewall at the upriver end of the Piety Street Wharf.



Photograph 8

View of cracks in the lower portion of the concrete truss wall at the upriver end of the Piety Street Wharf.



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Photograph 9

View of damage to the channelside end of the decorative concrete wall on the deck level at the upriver end of the Piety Street Wharf.



Photograph 10

View of cracked and displaced concrete deck paving and wood decking at the upriver channelside corner of the Piety Street Wharf.



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Photograph 11

View of the upriver end of the Piety Street Wharf facing downriver.



Photograph 12

View of cracks and displacement of the central portion of the concrete firewall at the upriver end of the Piety Street Wharf.



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Photograph 13

View of damage to the concrete deck overhang and steel handrail panels at the upriver end of the Piety Street Wharf.



Photograph 14

Close-up view of damage to the concrete deck overhang and steel handrail panels at the upriver end of the Piety Street Wharf.

