

 <p style="text-align: center;"><b>Council Communication</b> Office of the City Manager</p>	<b>Date:</b>	September 14, 2015
	<b>Agenda Item No.</b>	7
	<b>Roll Call No.</b>	<u>15-1480</u>
	<b>Communication No.</b>	<u>15-492</u>
	<b>Submitted by:</b>	<b>Pamela S. Cooksey, P.E., City Engineer</b>

**AGENDA HEADING:**

Approving and authorizing the execution of Iowa Department of Transportation (IDOT) Grant Agreement for the SW 5th Street (Jackson Avenue) Bridge Rehabilitation.

**SYNOPSIS:**

Recommend approval of IDOT Grant Agreement No. 2015-RT-009 for State Recreational Trail funding for the SW 5th Street (Jackson Avenue) Bridge Rehabilitation.

**FISCAL IMPACT:**

Amount: \$2,300,000

Funding Source: Various funding sources as follows:

- \$500,000 IDOT State Recreational Trail Funds
- \$1,050,000 Private funds
- \$750,000 2015-16 Capital Improvement Program (CIP), Page Park Improvements-8, S.W. 5th Street/Jackson Trail Bridge, PK177, G.O. Bonds

**ADDITIONAL INFORMATION:**

According to the Historic American Engineering Record (established by the National Park Service, the American Society of Civil Engineers, and the Library of Congress), the SW 5th Street (Jackson Avenue) bridge is one of Iowa’s few remaining pinned Pratt through trusses with three (3) or more spans. Constructed in 1898, it represents early urban wagon bridge construction. The bridge features a timber deck and timber sidewalk cantilevered on the downstream side and is supported by stone abutments and concrete-filled steel cylinder piers. It was placed on the National Register of Historic Places in 1998. The steel truss bridge remained in service for many years, transitioning through a series of load restrictions and structural repairs. In 1993, the bridge was closed to vehicular traffic. Over the following years, repairs were made and the bridge was opened for pedestrian use only in 1998. Additional repairs were completed in 2004 to enhance the multi-use trail bridge to better integrate with the highly used Meredith Trail and other downtown trail connections.

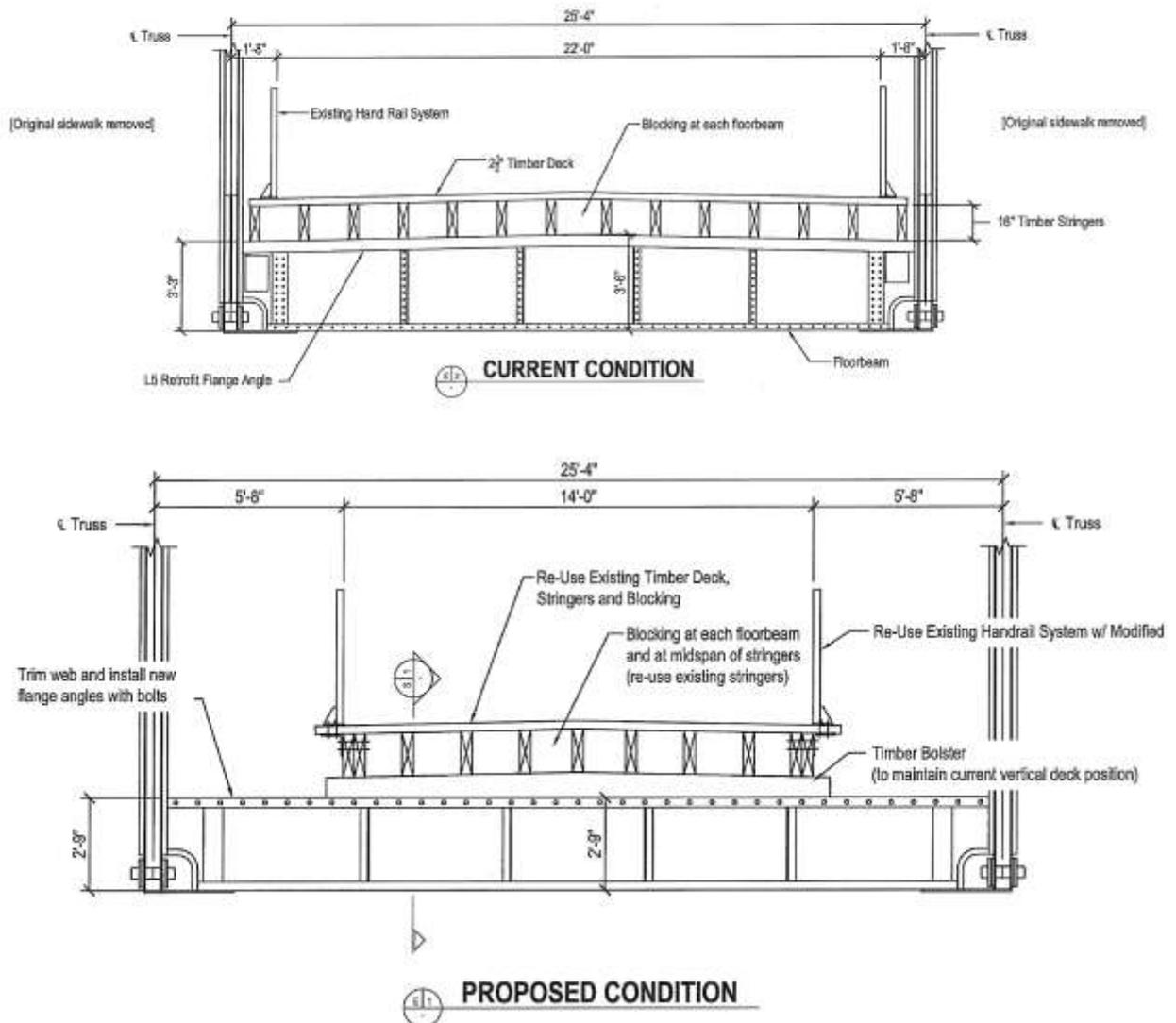
The City’s biannual bridge inspection has shown continuing structural deterioration, and since this is a fracture critical structure and the original design loading is close to the pedestrian design loading, a full evaluation of the structure was required. On June 25, 2013, by Roll Call No. 12-0962, City Council

approved an agreement with Shuck-Britson, Inc. to perform an in depth inspection of the structure including Non-Destructive Examination (NDE) of the critical pins and eyebars, prepare a report of findings, evaluate the load rating of the structure's current condition, recommend repairs, and provide an estimate of probable cost for the repairs. Shuck-Britson completed the Structural Evaluation Report on March 5, 2013, which identified advanced deterioration and corrosion of structural elements, as well as other concerns including inability to fully inspect all areas and uncertainty of previous repairs. Due to these issues, a reliable load capacity could not be calculated. Significant steel corrosion of the various truss members, eyebars, and floorbeams was documented, with areas of 100% section loss and locations of considerable pack rust. These conditions undermine the structural integrity of the bridge and create the potential for catastrophic and sudden failure of the structure. In the interest of safety, the City closed the bridge in March 2013.



Meredith Corporation worked with Genesis Structures, Inc. to develop an alternative proposal for repair of the bridge. Genesis Structures' proposal is to restore a 14-foot wide path consisting of a 10-foot wide trail and two (2), 2-foot wide shoulders, which is the minimum standard for multi-use trails. The proposal includes 5-foot wide overlook areas at each of the bridge piers, totaling four (4) overlook areas. Limiting the trail width also limits both the dead and live load, and therefore reduces the necessary repair work. The estimated total project cost is \$2.3 million for the reduced scope.

On August 25, 2014, by Roll Call No. 14-1302, City Council approved the alternative proposal for a non-historic restoration with a narrower trail width and authorized the City Manager to execute agreements for the design provided by Meredith Corporation.



The estimated lifespan of the bridge under the Genesis Structures proposal is shorter than under the Shuck-Britson proposal because fewer bridge elements will be repaired or replaced. However, it is not possible to predict what the anticipated lifespan will be. The IDOT Grant Agreement requires the City to maintain the project for intended public use for 20 years. Failure to comply may be considered a default of the agreement. IDOT may require the City to pay back the grant dollars if the City is not able to keep the facility maintained and open to the public.

**PREVIOUS COUNCIL ACTION(S):**

Date: August 25, 2014

Roll Call Number: [14-1302](#)

Action: [Modified](#) design for repair of Meredith Multi-use Recreational Trail-Southwest 5th (Jackson) Street Bridge and authorizing City Manager to negotiate and execute any necessary Engineering Design Funding Agreement. ([Council Communication No. 14-411](#)) Moved by Hensley to adopt. Motion Carried 7-0.

Date: December 23, 2013

Roll Call Number: [13-2017](#)

Action: [Recommendation](#) regarding budgeting for repairs of the Meredith Multi-Use Recreational Trail SW 1st Street Bridge and the Meredith Multi-Use Recreational Trail SW 5th (Jackson) Street Bridge. ([Council Communication No. 13-618](#)) Moved by Hensley to receive, file, and refer to the Park and Recreation Department to proceed as recommended by staff and the Park and Recreation Board. Motion Carried 7-0.

Date: June 25, 2012

Roll Call Number: [12-0962](#)

Action: [Approving](#) Professional Services Agreement with Shuck-Britson, Inc. for the Jackson Street Trail Bridges Phase 1 Bridge Rehabilitation Evaluation, not to exceed \$49,376. ([Council Communication No. 12-339](#)) Moved by Hensley to adopt. Motion Carried 7-0.

Date: February 23, 2004

Roll Call Number: [04-0395](#)

Action: Authorizing Park and Recreation Director or his designee to sign and submit applications for grants or other giving programs for planning, development, maintenance, and operation of facilities, structures, and programs undertaken by Des Moines Park and Recreation Department. ([Council Communication No. 04-080](#)) Moved by Coleman to approve. City Manager will provide the Council with a periodic list of the grant applications that have been sent. Motion Carried 7-0.

## **BOARD/COMMISSION ACTION(S):**

Board: Park and Recreation Board

Date: December 16, 2013

Resolution Number: N/A

Action: Approve staff's recommendation to:

- 1) Budget CIP funding of \$1,080,000 for repairs to the Meredith Trail Southwest 1st Street Bridge within the next two (2) years; and Council Communication No. 14-411, Page 5 of 5.
- 2) Historically restore the Meredith Trail Southwest 5th (Jackson) Street Bridge to established safety standards for pedestrian bridges contingent upon
  - (a) \$750,000 being budgeted in the FY2017 CIP budget;
  - (b) Engineers indicating structural feasibility for restoration following an in-depth, second engineering analysis that would build upon the report done by Shuck-Britson;

- (c) Engineers developing a cost estimate(s) for restoration of the bridge;
- (d) Staff and stakeholders determining financial feasibility of the bridge's restoration;
- (e) Stakeholders developing a fundraising plan utilizing private, non-profit, and other state or federal special appropriation funds for the balance of funds needed; and
- (f) Fundraising being completed within 18 months after completion of the more detailed cost estimate in "c" above; if fundraising efforts are not successful or if the cost estimate is beyond an amount stakeholders feel is reasonable to obtain, the City will utilize the \$750,000 for demolition of the bridge.

Board: Park and Recreation Board

Date: November 26, 2013

Resolution Number: N/A

Action: Receive and file staff's recommendation to 1) budget CIP funding of \$1,080,000 for repairs to the Southwest 1st Street Bridge within the next two (2) years and 2) begin discussions with granting and regulatory agencies that are pertinent to removal of the Southwest 5th (aka Jackson) Street Bridge, budget CIP funding of \$750,000 for removal of the bridge in approximately three years, and accept outside fundraising efforts to complete the funds necessary to instead restore, repair or replace the bridge.

**ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:**

Normal actions for award of the construction contract for the work.

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