

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES  
EVALUATION/RETURN SHEET

REQUESTED ACTION: ADDITIONAL DOCUMENTATION

PROPERTY Bridge No. 5388 (Bridge No. R0529)  
NAME:

MULTIPLE Iron and Steel Bridges in Minnesota MPS  
NAME:

STATE & COUNTY: MINNESOTA, Mower

DATE RECEIVED: 12/18/15 DATE OF PENDING LIST:  
DATE OF 16TH DAY: DATE OF 45TH DAY: 2/02/16  
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 98000718

NOMINATOR: STATE

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N  
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N  
REQUEST: N SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

ACCEPT  RETURN  REJECT \_\_\_\_\_ DATE

ABSTRACT/SUMMARY COMMENTS:

**Additional Documentation Approved**

RECOM./CRITERIA

REVIEWER

DISCIPLINE

TELEPHONE

DATE

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.

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Bridge No. 5388 (Bridge No. R0529)

Name of Property

Mower County, Minnesota

County and State

*Iron and Steel Bridges in Minnesota,  
1873-1945*

Name of multiple listing (if applicable)

**Name of Property**

Historic name Bridge No. 5388

Other names/site number Bridge No. R0529

*Iron and Steel Bridges in Minnesota, 1873-1945*

When Bridge 5388 was moved to its new location, spanning the Little Iowa River, it was renumbered by the Minnesota Department of Transportation to Bridge No. R0529. The previous bridge number, 5388, was subsequently retired.

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Name of multiple listing (if applicable)

Location

street & number 130<sup>th</sup> Street over the Little Iowa River

N/A
x

 not for publication  
city or town Le Roy Township Vicinity of Le Roy  
state Minnesota code MN county Mower code 099 zip code N/A

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Name of multiple listing (if applicable)

**5. Classification**

**Ownership of Property**

(Check as many boxes as apply)

- Private
- Public - Local
- Public - State
- Public - Federal

When originally listed to the National Register in 1998, the property was owned by the Minnesota Department of Transportation (MnDOT). The bridge was located on Trunk Highway 24 over the North Fork of the Crow River in Meeker County and found to be unsuitable to carry highway loads. As part of the mitigation for the replacement of this bridge, MnDOT sought a public agency to take ownership of the crossing and relocated Bridge No. 5388 (Bridge No. R0529). The bridge was moved to Lake Louise State Park in Mower County and rehabbed in the new location.

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Name of Property

Mower County, Minnesota

County and State

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1873-1945*

Name of multiple listing (if applicable)

### Purpose of Amendment

Bridge No. 5388 (Bridge No. R0529) was added to the National Register of Historic Places (NRHP) in 1998 for its design in the area of engineering under *Criterion C*, within the historic context of "Historic Iron and Steel Bridges in Minnesota, 1873-1945." The Multiple Property Documentation Form (MPDF) associated with this context states that properties may be eligible under *Criterion C* if "they embody distinctive characteristics of bridge engineering and construction or significant phases in the evolution of bridge engineering and construction." Representing the final evolution of the Minnesota Highway Department's standard plan for the Warren pony-truss type, Bridge No. 5388 (Bridge No. R0529) satisfies this criterion.

The purpose of this amendment to the registration form for the 1998 NRHP listing for Bridge No. 5388 (Bridge no. R0529) is to document 1) the move of the property to a new site in February 2012 and 2) its continued eligibility for the NRHP in its new location, pursuant to 36 CFR 60.14(b)(5).

### Reasons for the Move

In 2006, the Minnesota Department of Transportation (Mn/DOT) completed a Historic Bridge Management Plan (Plan) for Bridge No. 5388.<sup>1</sup> The Plan for Bridge No. 5388 was one of 24 such plans completed for selected state-owned bridges in a bridge preservation program developed by Mn/DOT in cooperation with the Minnesota State Historic Preservation Office (SHPO) and the Federal Highway Administration (FHWA). Each Plan evaluated its subject bridge from historical and engineering perspectives and determined an appropriate program for preservation, considering each bridge's significance and character-defining features, based on the National Register of Historic Places statements of significance.

While Bridge No. 5388 was found to have "excellent historical integrity," the Plan also reported that it had "marginal load capacity, narrow shoulders, and substandard railings" for its existing traffic duty. The bridge's deck system was found to be in poor condition and lateral earth pressure had caused rotation of the west concrete abutment. Because of these deficiencies, the Plan recommended "that the bridge be removed from the trunk highway system and relocated for less demanding use. The truss should be rehabilitated based on the *Secretary of the Interior's Standards for Rehabilitation* (Standards) [36 CFR Part 67] and *Guidelines for Bridge Maintenance and Rehabilitation Based on the Secretary of the Interior's Standards* (Guidelines), with the historic significance of the truss maintained at the new location." Although the four concrete corner posts anchoring the bridge's guard rails were found to be historically significant, the concrete abutments and bridge deck did not meet the significance threshold and were not required to be salvaged as part of the relocation process.

<sup>1</sup> Minnesota Department of Transportation, Historic Bridge Management Plan, Bridge Number 5388, prepared by Mead & Hunt, Inc., and HNTB Corp., June 2006. Copy available at Cultural Resource Unit, Minnesota Department of Transportation, St. Paul, Minnesota.

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Between 2008 and 2012, MnDOT collaborated with the Minnesota Department of Natural Resources (DNR) to relocate Bridge No. 5388 from Meeker County to a new site in Mower County, where it would replace a structurally deficient truss bridge and carry vehicle, pedestrian, bicycle, and equestrian traffic on 130<sup>th</sup> Street over the Little Iowa River within the DNR's Lake Louise State Park.

Procedures for the Move

On June 9, 2009, the truss superstructure was disassembled at its site in Meeker County, where it had carried two lanes of Trunk Highway 24 over the North Fork of the Crow River since its erection in 1935. The trusses were transported to a storage yard where they could be evaluated for structural soundness and reassembly at the new location in compliance with the Secretary's Standards (as required by the Plan). During inspection, the bridge's lower chord members were found to be too damaged by pack rust to be salvaged. In September 2011, the trusses were transported to a Minnesota metalworking facility for rehabilitation. Each truss was split in two by removing selected rivets along its lateral midline at the upper and lower chord gussets. All rusted lower chord members were replaced by refabricated steel in the same dimensions as the historical members. The trusses were then sandblasted, undercoated, and repainted.

During structural evaluation in 2009-2010, the individual members and components of Bridge No. 5388 were inspected to determine structural soundness for reassembly at the new location. Parts that were feasible to be preserved and reused were cleaned, refurbished, and transported to the Lake Louise State Park site for reassembly. Efforts were made to preserve and reuse as many original steel components as possible. Steel components judged too deteriorated to be reused were refabricated. Historic components replaced include the following:

1. Floor stringers, I-section, steel, 1935 (13)
2. Floor beams, I-section, steel, 1935 (6)
3. Bottom chords (four angle sections with battens), steel, 1935 (40)
4. Bearings, steel, 1935 (4)

Button-head rivets removed during re-assembly were replaced with high-strength button-head bolts. All the button-head bolts were installed with the goal of minimizing the visibility of the modern hex nut.

To comply with current codes and standards for continued in-service use, selected components were replaced by modern functionally equivalent components, including roller bearings being replaced by elastomeric bearings.

Additional protective railing height required by the DNR for equestrian and bicycle use was achieved by adding six horizontal rows of stainless steel cables above the historic door-spreader rails, one cable between the rails, and one cable between the lower rail and the concrete curb. The upper six cables extend and are anchored to a steel

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post that protrudes from each refabricated concrete corner post. The lower two cables are anchored to a steel flange attached to each concrete corner post. Although the upper six cable anchors were attached to the bridge's upper chords by drilling through the historic steel, the cables were determined to have minimal visual impact on the historic appearance of the truss.

The bridge was repainted in the color combination used in the 1935 erection in Meeker County. The upper chord was painted gray and all other members painted black.

On February 7, 2012 the rehabilitated and reassembled truss was installed onto new reinforced-concrete abutments at the Lake Louise State Park site over the Little Iowa River.

Effect on Property's Historic Integrity

Pursuant to the MOA, MnDOT and MnDNR identified a new site within Lake Louise State Park in Mower County that would not detract from the character-defining features of the property, the Warren pony-truss form.

All procedures related to the move of Bridge No. 5388 (Bridge No. R0529) were performed in accordance with the *Secretary of the Interior's Standards for Historic Buildings*.

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**Criteria Consideration B**

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How the Property Meets the Special Requirements for Criteria Consideration B

Bridge No. 5388 (Bridge No. R0529) retains integrity of design, materials, and workmanship and conveys its engineering significance under *Criterion C*, applying *Criteria Consideration B: Moved Properties*. Although the setting for the bridge has changed, its current setting is similar and since truss bridges were designed to be moved, relocation does not result in a loss of integrity under *Criteria Consideration B*.

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## Geographical Data

**Acreage of Property** 0.05

Use either the UTM system or latitude/longitude coordinates

### Latitude/Longitude Coordinates

Datum if other than WGS84: n/a

(enter coordinates to 6 decimal places)

- 1. Latitude: Longitude:
- 2. Latitude: Longitude:
- 3. Latitude: Longitude:
- 4. Latitude: Longitude:

Or

### UTM References

Datum (indicated on USGS map):

NAD 1927 or  NAD 1983

1. Zone: 15N Easting: 538889.85 Northing: 4820043.08

### Verbal Boundary Description

The property is a parallelogram that measures 100.0 feet long by 20.0 feet wide, whose corners encompass the edges of the bridge's wingwalls and with a perimeter that encompasses the entire bridge. See Additional Documentation, page 1.

### Boundary Justification

The boundary encompasses the total bridge superstructure, total substructure, and all other integral wingwalls and approach elements.

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1873-1945*

Name of multiple listing (if applicable)

Updated documentation prepared by:

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November 2015

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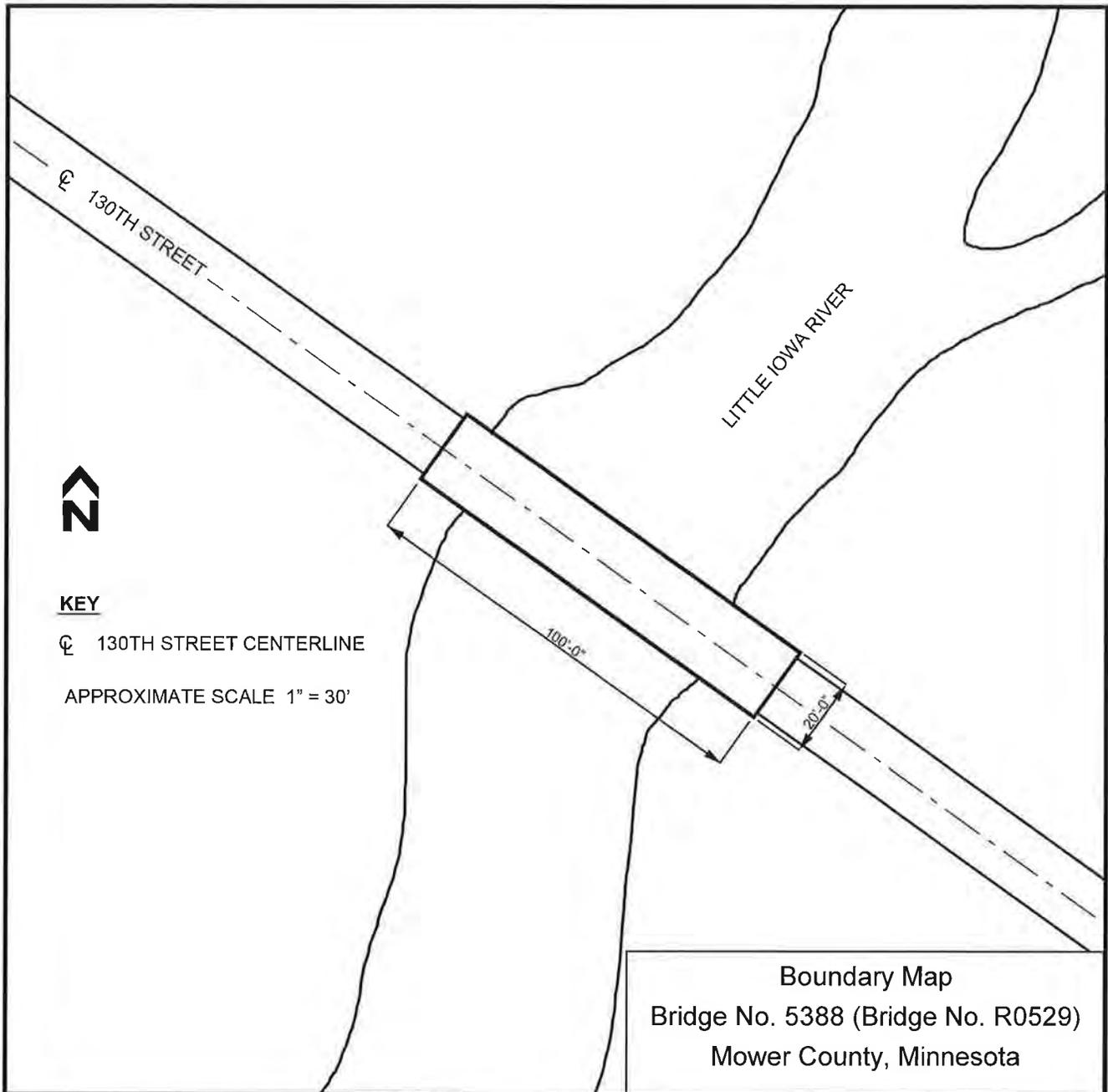
[www.arch3llc.com](http://www.arch3llc.com)

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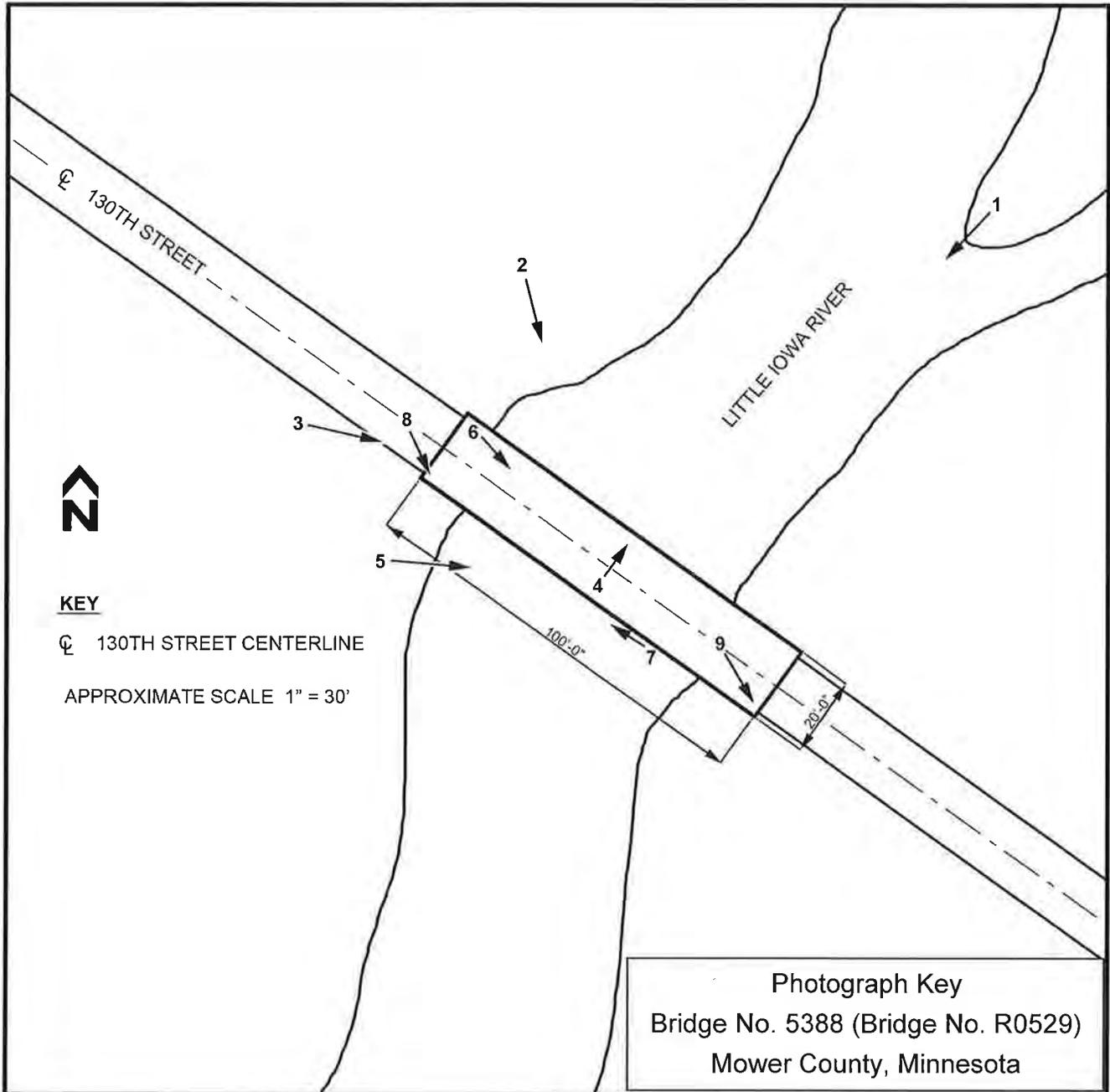


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Name of Property  
Mower County, Minnesota  
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*Iron and Steel Bridges in Minnesota*  
Name of multiple listing (if applicable)

Name of Property: Bridge No. R0529  
City or Vicinity: Le Roy Township  
County: Mower County  
State: MN  
Photographer: Daniel R. Pratt  
Date Photographed: December, 10, 2013  
Location of Original Digital Files: Minnesota Department of Transportation, Cultural Resources Unit  
Number of Photographs: 9

Photo #1: General view in new setting over Little Iowa River, looking south.



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Photo #2: General view north elevation, looking southeast.



Photo #3: Oblique view of north truss, looking east.



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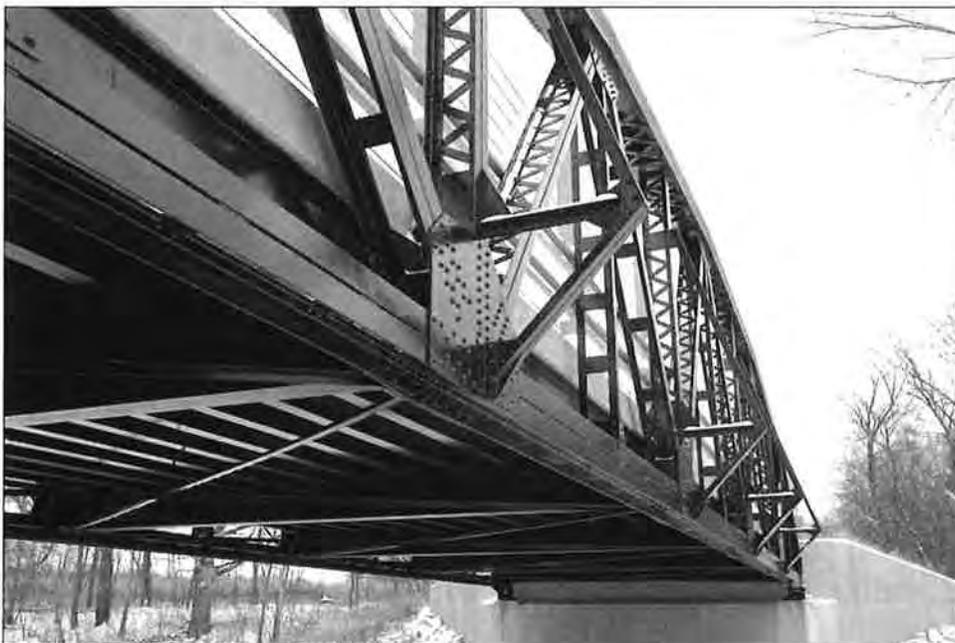
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Photo #4: Elevation view of north truss interior with wire railing system, looking northeast.



Photo #5: Oblique view of south truss, showing outrigger system, looking east.



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Photo #6: Oblique view of new deck system, looking east-southeast.



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Name of Property

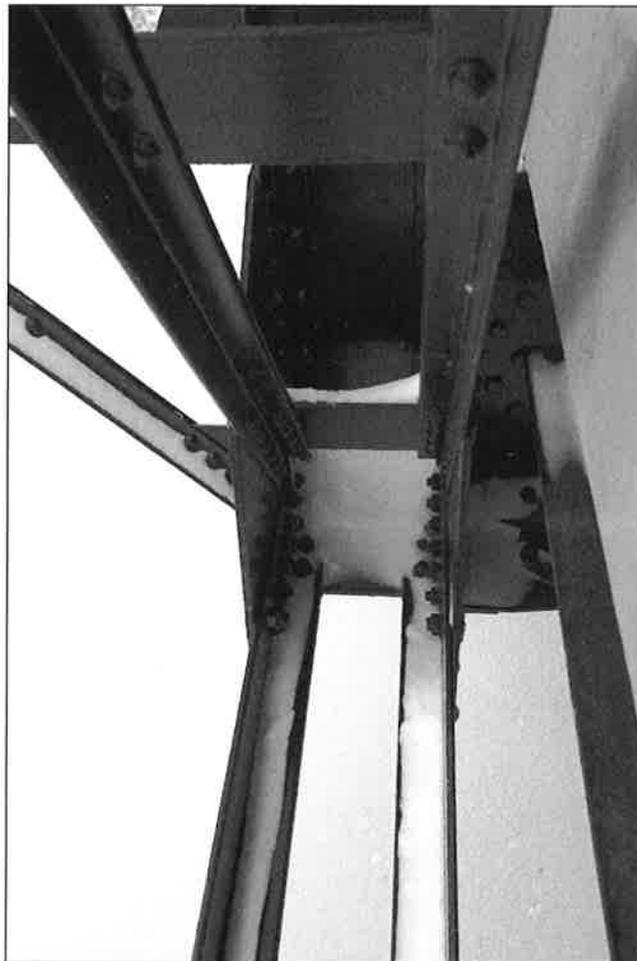
Mower County, Minnesota

County and State

*Iron and Steel Bridges in Minnesota*

Name of multiple listing (if applicable)

Photo #7: Typical refabricated lower chord joint on south truss with original gusset plate, looking down and west.



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Photo #8: Oblique view of upper chord and wire railing system on south truss, looking southeast.



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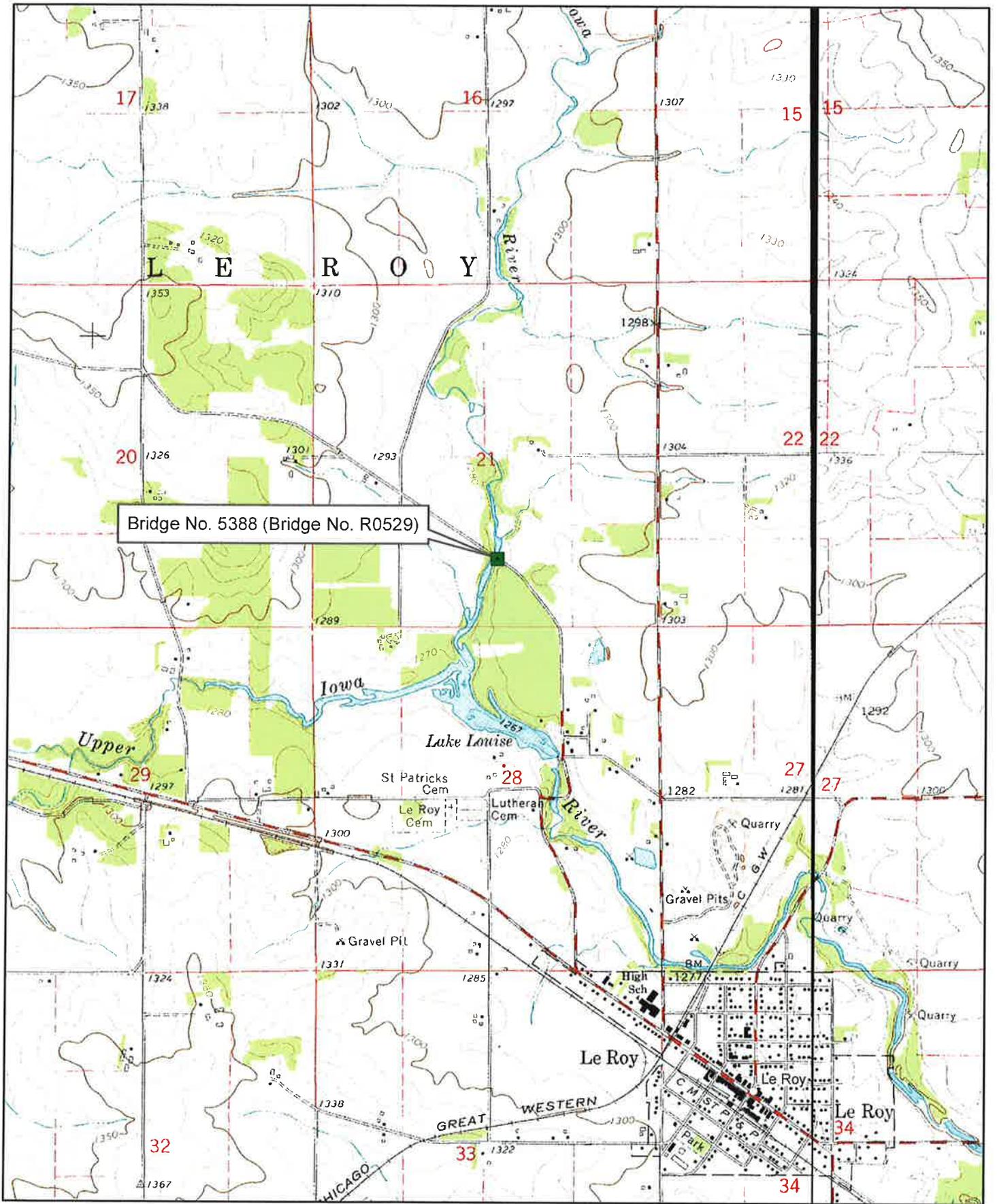
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Photo #9: Oblique view of southeast concrete post showing wire railing system, looking southeast.

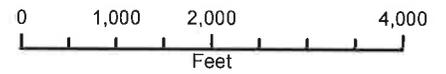




Bridge No. 5388 (Bridge No. R0529)



Bridge No. 5388 (Bridge No. R0529)  
 Mower County, Minnesota  
 UTM 1983 Zone 15: Easting: 538889.85 Northing: 4820043.08



















ALBERTUS  
MAGNUS  
1250-1280  
1250-1280

