

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM**

(Type all entries - complete applicable sections)

STATE: Minnesota	
COUNTY: St. Louis	
FOR NPS USE ONLY	
ENTRY NUMBER MAY 22 1973	DATE

1. NAME

COMMON:
Aerial Lift Bridge

AND/OR HISTORIC:

2. LOCATION

STREET AND NUMBER:
Lake Avenue

CITY OR TOWN:
Duluth

STATE:
Minnesota

CODE 23	COUNTY: St. Louis	CODE 137
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3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP	STATUS	ACCESSIBLE TO THE PUBLIC
District <input type="checkbox"/> Building <input type="checkbox"/>	Public <input checked="" type="checkbox"/>	Occupied <input checked="" type="checkbox"/>	Yes:
Site <input type="checkbox"/> Structure <input checked="" type="checkbox"/>	Private <input type="checkbox"/>	Unoccupied <input type="checkbox"/>	Restricted <input type="checkbox"/>
Object <input type="checkbox"/>	Both <input type="checkbox"/>	Preservation work in progress <input type="checkbox"/>	Unrestricted <input checked="" type="checkbox"/>
	Public Acquisition:		No: <input type="checkbox"/>
	In Process <input type="checkbox"/>		
	Being Considered <input type="checkbox"/>		

PRESENT USE (Check One or More as Appropriate)

Agricultural <input type="checkbox"/>	Government <input type="checkbox"/>	Park <input type="checkbox"/>	Transportation <input type="checkbox"/>	Comments <input type="checkbox"/>
Commercial <input type="checkbox"/>	Industrial <input type="checkbox"/>	Private Residence <input type="checkbox"/>	Other (Specify) <input checked="" type="checkbox"/>	
Educational <input type="checkbox"/>	Military <input type="checkbox"/>	Religious <input type="checkbox"/>	Automobile Bridge	
Entertainment <input type="checkbox"/>	Museum <input type="checkbox"/>	Scientific <input type="checkbox"/>		

4. OWNER OF PROPERTY

OWNERS NAME:
City of Duluth

STREET AND NUMBER:

CITY OR TOWN:
Duluth

STATE:
Minnesota

CODE
23

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.:
St. Louis County Courthouse

STREET AND NUMBER:

CITY OR TOWN:
Duluth

STATE:
Minnesota

CODE
23

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: *less than 1a.*

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY:
Historic Sites Survey

DATE OF SURVEY: **Continuous** Federal State County

DEPOSITORY FOR SURVEY RECORDS:
Minnesota Historical Society

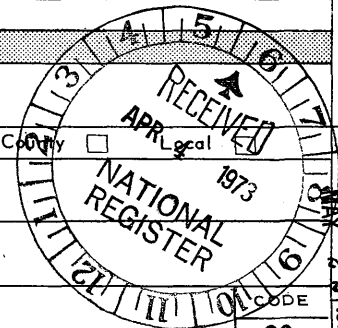
STREET AND NUMBER:
690 Cedar Street

CITY OR TOWN:
St. Paul

STATE:
Minnesota

CODE
23

SEE INSTRUCTIONS



STATE: **Minnesota**

COUNTY: **St. Louis**

ENTRY NUMBER: **MAY 22 1973**

DATE: **MAY 22 1973**

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7. DESCRIPTION

CONDITION	(Check One)					
	Excellent <input type="checkbox"/>	Good <input checked="" type="checkbox"/>	Fair <input type="checkbox"/>	Deteriorated <input type="checkbox"/>	Ruins <input type="checkbox"/>	Unexposed <input type="checkbox"/>
INTEGRITY	(Check One)			(Check One)		
	Altered <input checked="" type="checkbox"/>	Unaltered <input type="checkbox"/>	Moved <input type="checkbox"/>	Original Site <input checked="" type="checkbox"/>		

DESCRIBE THE PRESENT AND ORIGINAL (If known) PHYSICAL APPEARANCE

The Duluth Aerial Lift Bridge is located on Lake Avenue and spans the Duluth Ship Canal, reconnecting the main body of the City of Duluth with Minnesota Point. Minnesota Point is a natural land formation separating Lake Superior from St. Louis Bay, now the Duluth Harbor.

Present:

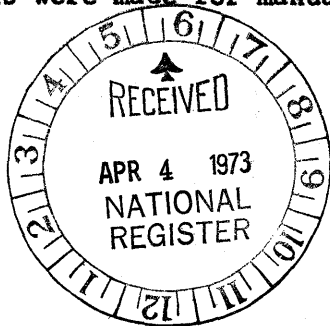
After the 1929 modification, the steel towers were lengthened at the top and the original truss was raised to a new height of 172 feet. An elevating, counterweighted roadway was added to replace the transversing platform. To carry the additional weight, a new steel structural support was incorporated within the confines of the old towers.

The roadway can be raised within sixty seconds to provide a 138 foot clearance at full raised height. It is powered by electric storage batteries, and a gasoline engine is used for emergency stand-by power. During the busy shipping season the bridge is operated approximately twenty-five times per day.

Past:

The original aerial bridge had vertical riveted steel trussed towers constructed on concrete piers on each side of the canal, with a bridging truss across the top. The structure stood 186 feet high at the apex of the truss and was thirty-four feet wide allowing 135 feet clearance overall. This clearance was demanded by the Lake Carriers Association and allowed for the passage of the highest masted ships of the day.

Suspended by an inverted steel tower from the underside of the truss, and transversing for the clear span distance of 393.75 feet was the gondola car. It was capable of carrying 125,000 pounds, measured 34 by 50 feet with space provided for one streetcar, two wagons, and 350 persons in two enclosed cabins. The car traveled at all times at a height of six feet above the top level of the concrete piers. A round trip in the car took about ten minutes and the car could make twelve complete round trips per hour during peak periods. The car was powered by electric batteries, but provisions were made for manual operation in case of an emergency.



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B. SIGNIFICANCE

PERIOD (Check One or More as Appropriate)

- Pre-Columbian 16th Century 18th Century 20th Century
 15th Century 17th Century 19th Century

SPECIFIC DATE(S) (If Applicable and Known) **1905 (original structure)/1929 (modified)**

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

- | | | | | | | |
|----------------|--------------|-------------------------------------|----------------|--------------------------|-----------------|--------------------------|
| Aboriginal | Education | <input type="checkbox"/> | Political | <input type="checkbox"/> | Urban Planning | <input type="checkbox"/> |
| Prehistoric | Engineering | <input checked="" type="checkbox"/> | Religion/Phi- | | Other (Specify) | <input type="checkbox"/> |
| Historic | Industry | <input type="checkbox"/> | losophy | <input type="checkbox"/> | _____ | |
| Agriculture | Invention | <input type="checkbox"/> | Science | <input type="checkbox"/> | _____ | |
| Art | Landscape | <input type="checkbox"/> | Sculpture | <input type="checkbox"/> | _____ | |
| Commerce | Architecture | <input type="checkbox"/> | Social/Human- | | _____ | |
| Communications | Literature | <input type="checkbox"/> | itarian | <input type="checkbox"/> | _____ | |
| Conservation | Military | <input type="checkbox"/> | Theater | <input type="checkbox"/> | _____ | |
| | Music | <input type="checkbox"/> | Transportation | <input type="checkbox"/> | _____ | |

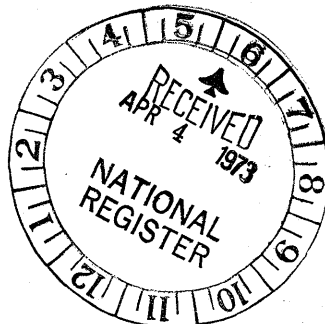
STATEMENT OF SIGNIFICANCE (Include Personages, Dates, Events, Etc.)

The Aerial Bridge was designed by Thomas F. McGibray in 1899 for the City of Duluth and was modeled after a similar bridge in Rouen, France, the only other example of this type of bridge in the world. After design approval, required by the United States War Department, construction began in 1901 on the concrete piers. The Modern Steel Structural Company of Waukesha, Wisconsin provided the steel framework and gondola car although construction on this phase did not begin until 1904. The total cost of construction when completed in 1905 was \$108,000.

In 1929, the bridge was modified for permanent automobile use according to a design submitted by C. P. A. Turner, nationally noted structural engineer of Chicago, Illinois. His design incorporated an elevating "lift" bridge to replace the transversing gondola car. This necessitated raising the height of the bridge and incorporating new structural support within the confines of the old towers to carry the counterweight roadway. Modification costs totaled \$400,000. The bridge has remained unchanged to the present.

The Aerial Lift Bridge stands as the western gateway to the Great Lakes - St. Lawrence Seaway System. It is the unofficial symbol for the City of Duluth, representing its position as the world's largest fresh water port. Each year more than 500,000 people visit the harbor to watch ships from all over the world enter and depart beneath the Aerial Lift Bridge.

The Aerial Lift Bridge in conjunction with the Duluth Ship Canal is presently listed on the Minnesota State Register of Historic Sites.



SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Files of St. Louis County Historical Society
 Van Brunt, Walter, A History of Duluth and St. Louis County
 Woodbridge, Dwight E., and Pardee, John S., History of Duluth and St. Louis County - Past and Present, Vol II.
 Young, Frank A., "The Duluth Ship Canal - One Hundred Years of History", The Duluthian, Aug.-Sept., 1971.

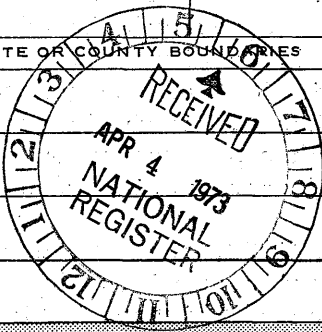
10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			O R	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN ONE ACRE		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees	Minutes	Seconds
NW	0 ' "	0 ' "		46 °	46 ' 44 "	92 ° 05 ' 32 "
NE	0 ' "	0 ' "				
SE	0 ' "	0 ' "				
SW	0 ' "	0 ' "				

UTM
 15/569260
 5180790
 CD

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE



SEE INSTRUCTIONS

11. FORM PREPARED BY

NAME AND TITLE: **Tom Lutz, Survey and Planning (Approved: Charles Nelson)**

ORGANIZATION: **Minnesota Historical Society** DATE: **March 7, 1973**

STREET AND NUMBER: **Building 25, Fort Snelling**

CITY OR TOWN: **St. Paul** STATE: **Minnesota** CODE: **23**

12. STATE LIAISON OFFICER CERTIFICATION

NATIONAL REGISTER VERIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National State Local

Name Russell W. Fridley

Title Director, Minnesota Historical Society

Date _____

I hereby certify that this property is included in the National Register.

Robert M. Utley
 Chief, Office of Archeology and Historic Preservation

Date 5/22/73

ATTEST:
Robert M. Utley
 Keeper of The National Register

Date 5/17/73