SHIAWASSEE STREET BRIDGE
Shiwassee Street spanning the Grand River
Lansing
Ingham County
Michigan

HAER No. MI-82

HAER
MICH
33-LAN,
4-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, P.A. 19106

HAER
MICH
33-LAN,
4-

# HISTORIC AMERICAN ENGINEERING RECORD
# SHIAWASSEE STREET BRIDGE

HAER No. MI-82

Location: Shiawassee Street spanning the Grand River
Lansing, Ingham County, Michigan

Quad: Lansing, Michigan, 7.5 minute

UTM Coordinates: 16.700600.4734332

Date of Construction: 1923

Engineer: Otto E. Eckert and Wesley Bintz, City of Lansing, Structural Engineers

Present Owner: City of Lansing, Michigan

Present Use: Vehicular and Pedestrian Bridge

Significance: On April 1, 1986, the Michigan State Historic Preservation Officer (SHPO) determined that the Shiawassee Street Bridge was eligible to be listed on the National Register of Historic Places. The bridge was determined as such due to the distinctive characteristics of its historical setting along with being a fine representative of concrete arch design.

The primary unique qualities of this bridge are associated with the integration of three basic design types within one structure, which originally blended in with the surrounding architecture and land use. The industrial area in which this bridge was constructed included the constraints of existing railroad tracks, industrial and commercial buildings, existing road grades at both ends as well as the Grand River. These constraints functioned to define a bridge which consists of concrete arch over the river, a through girder structure over the railroad tracks and T-beam design connecting the other two types.

Project Information: As a result of an environmental assessment, bridge inspection report and concrete core samples used for analysis of chloride content, it was recommended that the Shiawassee Street Bridge be replaced. The structural integrity was determined to be compromised beyond the feasibility to rehabilitate the bridge. To mitigate the adverse effect, the State Historic Preservation Office stipulated documentation and replication of design elements on the new bridge. This documentation was undertaken to fulfill stipulations of the memorandum of Agreement.

Blair R. Webster
Snell Environmental Group, Inc.
1120 May Street
Lansing, Michigan 48906

## Historical Information

The Shiawassee Street Bridge over the Grand River was constructed in 1923 by Koss Construction Company of Des Moines, Iowa. It was designed by the City of Lansing engineering department with Wesley Bintz as structural engineer and Otto E. Eckert as City Engineer. Design of the bridge was begun in 1921 and completed in 1922, with the contract let in late 1922. The previous bridge, at the same location, was a two span steel through truss type at-grade with the river banks. With the continued industrial development along the Grand River in this vicinity, including railroad tracks on both sides, the 1923 Shiawassee Street Bridge was designed to separate the road grade from access roads to businesses and the railroad grade. It was also important to increase clearance over the river and minimize potential flood impacts to the bridge.

The original context of the 1923 Shiawassee Street bridge setting was industrial manufacturing on both sides of the river along with a lumber yard, train yard and train station. This land use continued until the late 1960's, when many of the businesses moved and abandoned the bridge vicinity for economic reasons. By 1975 all of the original industry was gone from around this bridge, and land use had become vacant open space owned by the City of Lansing. The railroad tracks on the west side only served the Lansing Board of Water and Light, coal-fired power plant, while those on the east side had been completely removed. The City of Lansing Riverfront Park and River Trail were then developed on the west and east side of the Grand River, respectively. The River Trail has now replaced the railroad grade on the east side, traversing under the bridge at the steel through girder section. Therefore, this land use context of the bridge setting has evolved from primarily industrial in 1923 to passive recreational in 1994, with the major shift occurring in the mid 1970's.

With the exception of a stairway, which was removed for safety reasons between 1970 and 1975, the Shiawassee Street Bridge remains essentially as it was originally constructed. However, there was minor surface deterioration repaired in 1975. Nevertheless, many of the original design elements will be reproduced in the new bridge, including concrete arch facades, balustrade railing and lighting. Furthermore, there are no known special events or history associated with this bridge except that the City's annual Riverfest celebration in the adjacent Riverfront Park revolves around the Shiawassee Street Bridge. This celebration takes place on Labor Day weekend and has gone on for 17 years.

## Descriptive Information

The Shiawassee Street Bridge over the Grand River is located in the City of Lansing, Ingham County, Michigan. It is also located in Section 16 of Lansing Township (T4N-R2W). The bridge is owned and maintained by the City of Lansing. It is in the downtown district of the City. As such, it connects commercial and public facilities on both sides of the Grand River.

The bridge is accessible from the east by South Cedar Street which is a one-way south, and from the west by Grand Avenue which is a one-way north. The bridge approach at Cedar Street from the west end is five lanes

wide with parking on the north side, a bus stop on the south side, with two lanes of westbound and one lane of eastbound traffic. The approach at Grand Avenue from the east end is four lanes wide with two eastbound lanes, one westbound lane and a bus stop on the north side. Both of these approaches taper down to the actual bridge which is two lanes wide.

The Shiawassee Street Bridge is 536 feet long and 53.8 feet wide. The structure is primarily an earth-filled concrete arch consisting of three arches over the river and seven spans over land, with a maximum span of 92 feet. The bridge consists of two additional design types over land which includes concrete T-beams and a steel through girder span over the former railroad grade on the east side of the river. The clear roadway width is 36 feet and there are 7-foot sidewalks on both sides. There is concrete balustrade type railing on both sides of the bridge with three areas of temporary steel railing patched in where the balustrade is missing. There is also steel railing along the section which used to span over a railroad grade as well as at the east end. The original structure contained a stairway which went from the deck to ground in the southeast quadrant. These stairs were removed and not replaced between 1980 and 1985 due to their unsafe condition.

Unusual characteristics of this bridge are its age, design and aesthetics. More specifically, the most unique aspect beyond the earth-filled concrete arch design is the original site conditions for which this bridge was constructed. It was constructed to not only span the Grand River, but also a railroad grade. The latter resulted in a steel through girder span to allow for clearance over three sets of railroad tracks. These tracks were removed between 1970 and 1975 when the Riverfront Park was developed. As a result, the area underneath this span is used for cover and recreational activities during special events and daily passive use.

## Sources of Information/Bibliography

A. **Engineering Drawings**: The original drawings were produced in 1922 by the City of Lansing and are now on file with the Michigan State Bureau of History. These drawings are representative of the current Shiawassee Street Bridge, with the exception of a stairway and commercial structures that were attached to the bridge immediately east of the through truss section, but which have been removed. The bridge was built as originally planned with only those alterations as noted above.

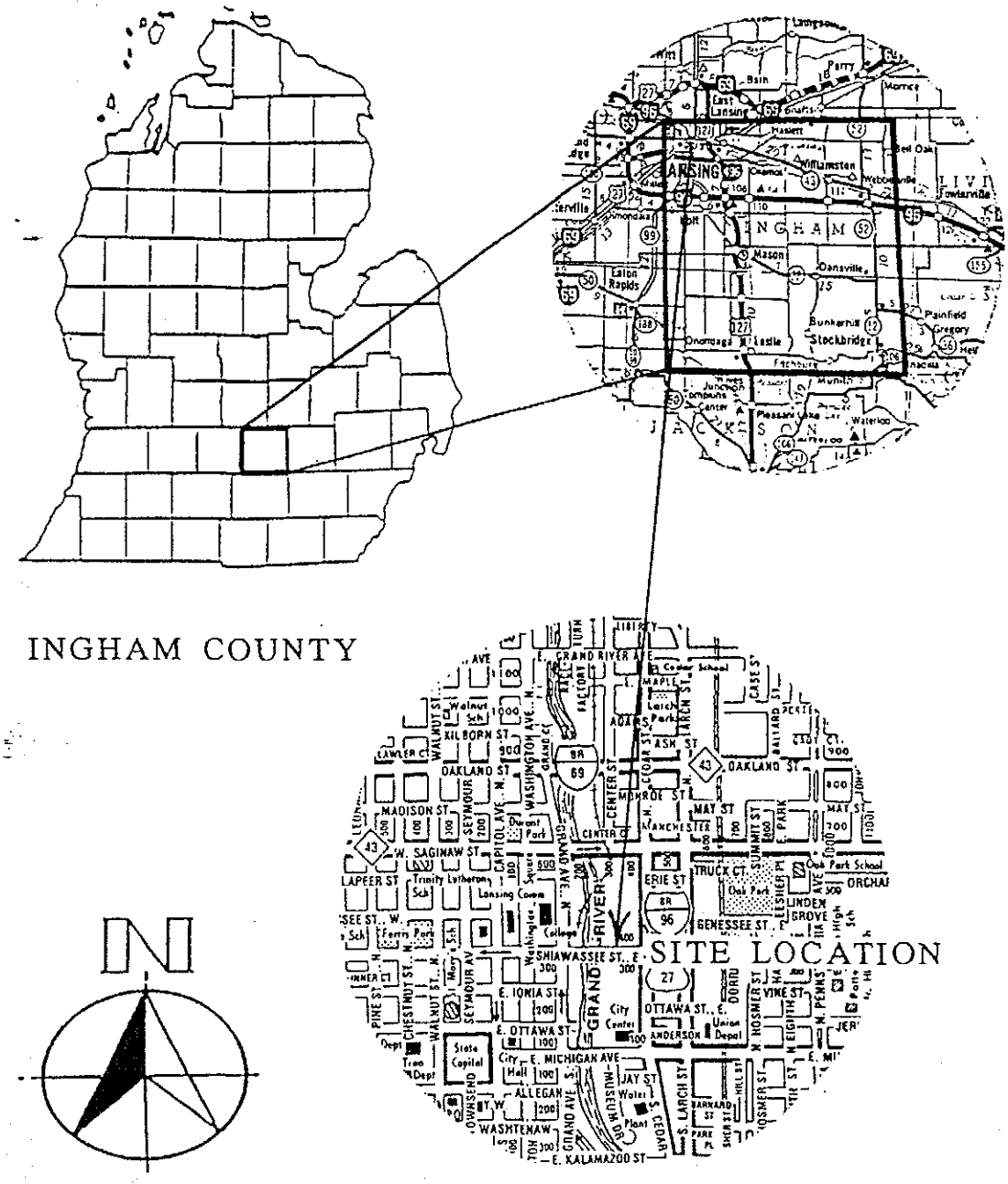
B. **Historic Views**: The aerial photographs showing historic indication of changes occurring over time are on file with the City of Lansing. The 1964 and 1979 aerial photographs were taken by Abrams Aerial Survey of Lansing, Michigan. These were the only views of the bridge found after searching local historical sources such as the City of Lansing photograph archive and the Lansing Historic Society files.

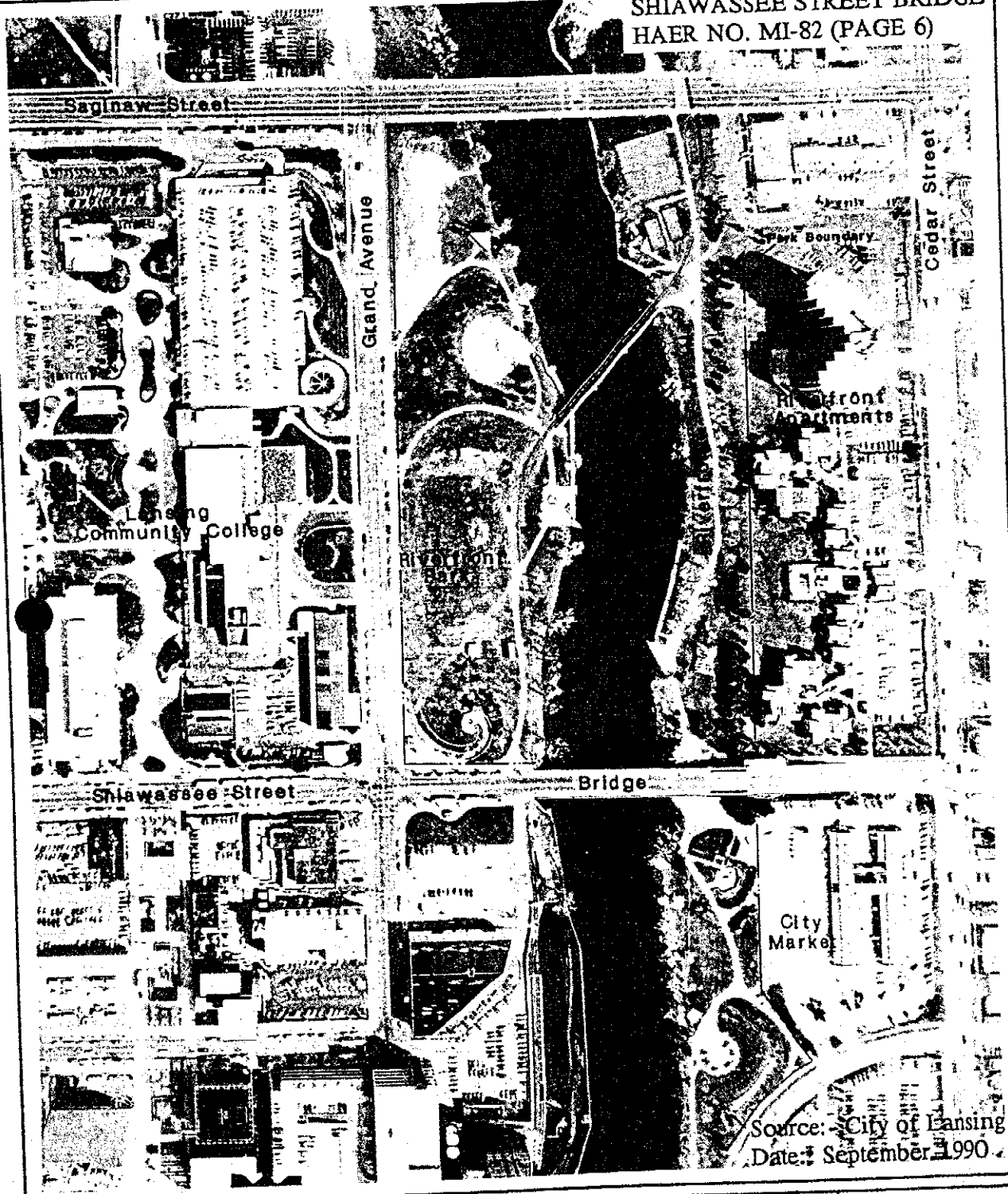
C. **Interviews**: There were no interviews conducted.

D. **Bibliography**: Other than the material already included and documented, there is no other primary/unpublished or secondary/published sources.

E. **Likely Sources Not Yet Investigated**: All known and/or potential sources have been investigated, other than sources of information held in private collections, but not currently available.

F. **Supplemental Material**: Currently, there are no known sources of supplemental material.

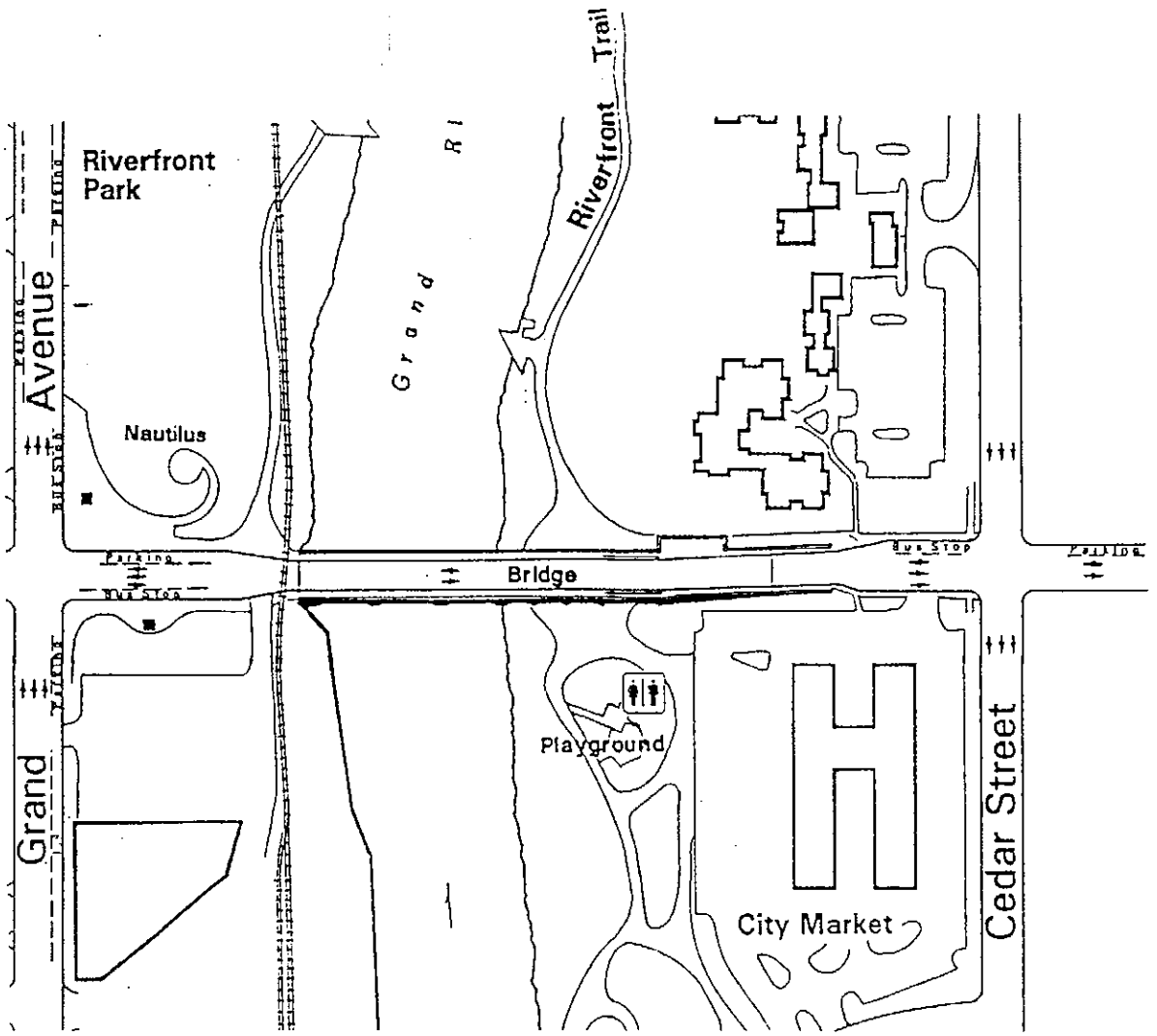

INGHAM COUNTY
SITE LOCATION
N
LANSING
East Lansing
Mason
Eaton Rapids
Williamston
Stockbridge
Leslie
Dansville
Bunkerhill
Painfield
Gregory
Munith
Pleasant Lake
Waterloo
Webberville
Fowlerville
Perry
Morrice
Bath
Dewitt
Holt
Okemos
Haslett
Delhi
Dimondale
Grand River Ave.
Shiawassee St.
Michigan Ave.
Washington Ave.
Capitol Ave.
Cedar St.
Larch St.
Oakland St.
Madison St.
W. Saginaw St.
Lapeer St.
Kalamazoo St.
Washtenaw
Allegan
Ionia St.
Ottawa St.
Erie St.
Genessee St.
May St.
Maple St.
Ash St.
Kilborn St.
Walnut St.
Seymour Av.
Chestnut St.
Pine St.
Townsend
Grand Ave.
Museum Dr.
Jay St.
Barnard St.
Hosmer St.
Eighth St.
Vine St.
Summit St.
Truck Ct.
Linden Grove
Orchard
Capitol
City Hall
City Center
Union Depot
Water Plant
Oak Park School
Lansing Comm College
Washington Square
Durant Park
Trinity Lutheran Sch
Ferris Park
Larch Park
Cedar School
Case St.
Factory St.
Adams St.
Center St.
Monroe St.
Manchester
Anderson
Donald
Pennsylvania
Park Pl.
Hill St.
Shea St.
Pleasant Pl.
Leslie St.
Pine St.
Inner Ct.
Mary St.
Seymour Av.
Dept
Tree Dept
Sch
Park
Square
College
Hall
Plant
Water
Union
Depot
Oak Park
Square
Comm
Trinity
Lutheran
Ferris
Larch
Cedar
Case
Factory
Adams
Monroe




Source: City of Lansing
Date: September 1990

| GRAPHIC DOCUMENTATION | AERIAL PHOTOGRAPH OF PROJECT VICINITY | SCALE: 1"=400' |
|---|---|---|
| SHIAWASSEE STREET BRIDGE LANSING, MICHIGAN | | FIGURE NA |

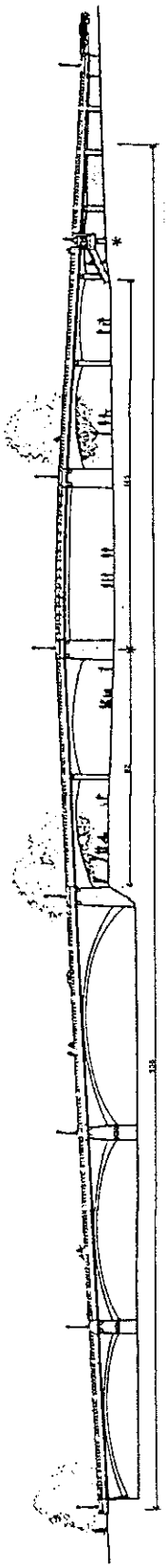
SHIAWASSEE STREET BRIDGE
HAER NO. MI-82 (PAGE 7)



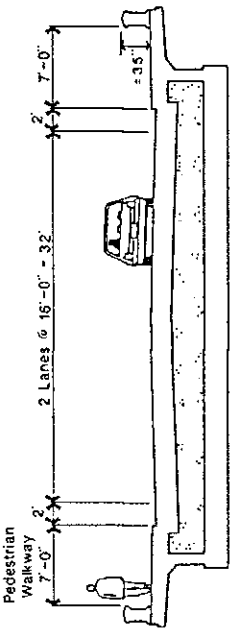

1993 PLAN VIEW
Based on 1990 Aerial Photographs

| GRAPHIC DOCUMENTATION | BRIDGE APPROACH AND SPAN LANEAGE | SCALE: NONE |
|---|---|---|
| SHIAWASSEE STREET BRIDGE LANSING, MICHIGAN | | FIGURE: NA |

SHIAWASSEE STREET BRIDGE
HAER NO. MI-82 (PAGE 8)



EXISTING PROFILE LOOKING NORTH




EXISTING CROSS SECTION

* STAIRWAY IS NO LONGER IN EXISTENCE

Source: Snell Environmental Group, Inc.
Date: June 1993

| GRAPHIC DOCUMENTATION | PROFILE AND CROSS SECTION OF EXISTING BRIDGE | SCALE: AS SHOWN |
|---|---|---|
| SHIAWASSEE STREET BRIDGE LANSING, MICHIGAN | | FIGURE: NA |

ADDENDUM TO:
SHIAWASSEE STREET BRIDGE
Spanning Grand River
Lansing
Ingham County
Michigan

HAER MI-82
*HAER MICH,33-LAN,4-*

FIELD RECORDS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001