Form No. 10-300 (Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED
DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC
Paddock Viaduct #300540
AND/OR COMMON
Main Street Bridge

2 LOCATION

STREET & NUMBER
_NOT FOR PUBLICATION
CITY, TOWN
Fort Worth _ VICINITY OF
CONGRESSIONAL DISTRICT
12
STATE
Texas
CODE
48
COUNTY
Tarrant
CODE
439

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
_DISTRICT	X PUBLIC	X OCCUPIED	_AGRICULTURE	_MUSEUM
_BUILDING(S)	_PRIVATE	_UNOCCUPIED	_COMMERCIAL	_PARK
X STRUCTURE	_BOTH	_WORK IN PROGRESS	_EDUCATIONAL	_PRIVATE RESIDENCE
_SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	_ENTERTAINMENT	_RELIGIOUS
_OBJECT	_IN PROCESS	X YES: RESTRICTED	_GOVERNMENT	_SCIENTIFIC
	_BEING CONSIDERED	_YES: UNRESTRICTED	_INDUSTRIAL	X TRANSPORTATION
		_NO	_MILITARY	_OTHER

4 OWNER OF PROPERTY

NAME
City of Fort Worth
STREET & NUMBER
City Hall
CITY, TOWN
Fort Worth _ VICINITY OF
STATE
Texas

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.
Tarrant County Courthouse
STREET & NUMBER
CITY, TOWN
Fort Worth
STATE
Texas

6 REPRESENTATION IN EXISTING SURVEYS

TITLE
Texas Historic Engineering Site Inventory
DATE
Fall, 1974
_FEDERAL X STATE _COUNTY _LOCAL
DEPOSITORY FOR SURVEY RECORDS
Texas Tech University
CITY, TOWN
Lubbock
STATE
Texas

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
X EXCELLENT	__DETERIORATED	__UNALTERED	X ORIGINAL SITE
__GOOD	__RUINS	X ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Fort Worth, in Tarrant County, Texas, is traversed by the Trinity River and some of its branches. As vehicular traffic over an old bridge across the river adjacent to the downtown business district increased in the early twentieth century, residents of the city experienced considerable delays in passing from the center of the city to its northern area. To remedy this situation it was proposed that the Paddock Viaduct cross the Trinity River so that the north bound traffic would connect with Commerce Street and the south bound traffic would connect with Houston Street.

The firm of Brenneke and Fay, Consulting Engineers, of St. Louis was selected by the Commissioners Court of Tarrant County to prepare plans and specifications for the Paddock Viaduct. The Commissioners planned for the future insisting that the bridge require only a minimum of maintenance, and last indefinitely. Therefore, reinforced concrete was selected as the best construction material.

The consulting engineers proposed a viaduct supported by reinforced concrete arches in order to eliminate the need for fakework in the river bed. The reinforced concrete arches are three hinged, ribbed arches having hemispherical, ball and socket, cast steel hinges. It was concluded that for structures over streams subject to variations in water level and with unstable banks, this type of structure would be the safest and most economical type. Upon completion, the Paddock Viaduct is 1752 - ft in length and 99 ft above the Trinity River bed. It consists of: one 225-ft arch span over the stream; two 175-ft arch spans; one 150-ft arch span; one 68-ft 9-inch girder span; two 62-ft, 6 in girder span; seven 50-ft girder spans; and two 25-ft girder spans. The remainder was made up of earth fills encloxed by retaining walls of the semi-gravity type. The roadway was 54-ft wide including two 8-ft walkways. It was wide enough to accomodate four wagons and two streetcars passing abreast.

The Paddock Viaduct consists of concrete slabs carried on longitudinal stringers which are connected to floor beams. The floor beams are, in turn, supported by four longitudinal girders of the girder spans, or by spandrel posts which rest on the four ribs of the arch spans. Sidewalks are supported by cantilever extensions of the floor beams.

Ornamentation was confined to the main lines of the structure, and to the use of paneling and mouldings. Railings were simple in design and easy to construct. Balconies were added to the top of the main piers to finish off the railing in pleasing style.

The contract for the construction of the Paddock Viaduct was awarded to the Hannan-Heckley Brothers Construction Company of St. Louis, for a bid price of $386,141.28. The city of Ft. Worth financed the construction by means of a bond issue.

With the exceptions of removal of street railway tracks in the 1940's and the addition of new curbs, railings, and lighting poles in 1965, the Paddock Viaduct remains essentially as it was upon completion in 1914.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
_PREHISTORIC	_ARCHEOLOGY-PREHISTORIC	_COMMUNITY PLANNING	_LANDSCAPE ARCHITECTURE	_RELIGION	
_1400-1499	_ARCHEOLOGY-HISTORIC	_CONSERVATION	_LAW	_SCIENCE	
_1500-1599	_AGRICULTURE	_ECONOMICS	_LITERATURE	_SCULPTURE	
_1600-1699	_ARCHITECTURE	_EDUCATION	_MILITARY	_SOCIAL/HUMANITARIAN	
_1700-1799	_ART	X ENGINEERING	_MUSIC	_THEATER	
_1800-1899	X COMMERCE	_EXPLORATION/SETTLEMENT	_PHILOSOPHY	X TRANSPORTATION	
_1900-	_COMMUNICATIONS	_INDUSTRY	_POLITICS/GOVERNMENT	_OTHER (SPECIFY)	
		_INVENTION			

SPECIFIC DATES 1912-14 BUILDER/ARCHITECT Brennke and Fay, Consulting Engrs.

STATEMENT OF SIGNIFICANCE

The Paddock Viaduct was the first large bridge erected in the United States in which the self-supporting reinforcement design was employed. In its design the steel reinforcement for the arches supported itself under its own strength while forms were temporarily placed around them and concrete poured within the forms around the steel arches. This design obviated the need for falsework in the stream bed of the Trinity River over which the bridge was built. Although self-supporting reinforcement concrete bridges had been erected in Europe since 1897, the Paddock Viaduct was the first such large structure in the United States.

Since its completion in 1914, the Paddock Viaduct has provided the downtown business district of Fort Worth, Texas, with dependable communication with the northern portions of the city. It remains in excellent condition and has had only superficial alterations on its roadway and sidewalk areas.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Bowen, S.C. "The Design and Construction of Four Reinforced Concrete Vaiducts at Fort Worth, Texas." Transactions of the the American Society of Civil Engineers, LXXVIII, No 1329 (1915), pp 1206-1262.

"Four Concrete Viaducts at Ft. Worth, Texas." Engineering News, LXVIII, No. 24 (December 12, 1912), p. 1097.

"Self Supporting Arch Reinforcement." Engineering Record, LXX, No. 16, Oct. 17, 1914, p. 419.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 3 acres

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	14	656000	3625710
B			
C			
D			

VERBAL BOUNDARY DESCRIPTION

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

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE
John E. Moore — DATE 5-19-75

ORGANIZATION
History of Engineering — TELEPHONE

STREET & NUMBER
C.E. Dept., Texas Tech Univ. — 742-1231

CITY OR TOWN
Lubbock — STATE Texas

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL X STATE ____ LOCAL ____

As the designated State Historic Preservation 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.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE Texas State Historic Preservation Officer DATE June 4, 1975

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST: DATE

KEEPER OF THE NATIONAL REGISTER

Form No. 10-301a
(Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES PROPERTY PHOTOGRAPH FORM

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES ENCLOSE WITH PHOTOGRAPH

1 NAME

HISTORIC
Paddock Viaduct

AND/OR COMMON
Main Street Bridge

2 LOCATION

CITY, TOWN: Fort Worth
VICINITY OF:
COUNTY: Tarrant
STATE: Texas

3 PHOTO REFERENCE

PHOTO CREDIT
History of Engineering Program, Texas Tech University

DATE OF PHOTO
June 1973

NEGATIVE FILED AT
History of Engineering Program, Texas Tech University

4 IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT, GIVE BUILDING NAME & STREET

PHOTO NO 1

Looking northwest along the side of the Paddock Viaduct showing the main arch over the Trinity River. View is from the high ground across the street from the Tarrant County Courthouse. Note the sidewalk balconies over the main piers of the bridge.

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AND/OR COMMON
Main Street Bridge

2 LOCATION

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Fort Worth

___VICINITY OF

COUNTY
Tarrant

STATE
Texas

3 PHOTO REFERENCE

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History of Engineering Program, Texas Tech University

DATE OF PHOTO
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PHOTO NO. 2

Looking south from north end of the Paddock Viaduct along roadway toward the central business district of Fort Worth. The large building at the end of the bridge is the Tarrant County Courthouse. Curbs, railing, and street lamps are recent additions to the bridge, replacing earlier such fixtures.

KENT
SLG

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Paddock Viaduct

AND/OR COMMON
Main Street Bridge

2 LOCATION

CITY, TOWN ____VICINITY OF COUNTY STATE
Fort Worth Tarrant Texas

3 PHOTO REFERENCE

PHOTO CREDIT
History of Engineering Program, Texas Tech University

DATE OF PHOTO
June 1973

NEGATIVE FILED AT
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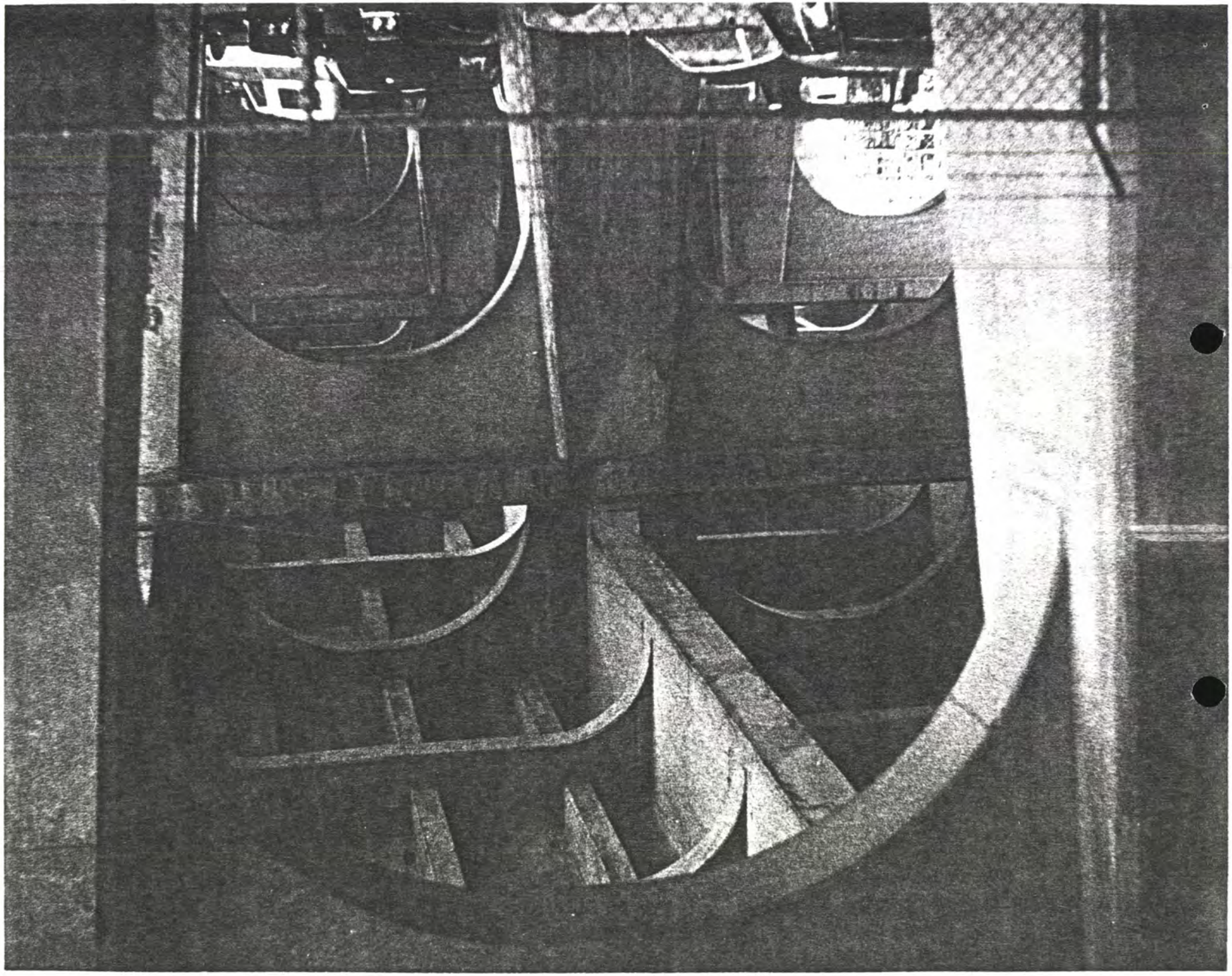
4 IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT, GIVE BUILDING NAME & STREET

PHOTO NO.
3

Looking south to concrete superstructure of Paddock Viaduct in an area of 50-foot girders north of the Trinity River.



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Main Street Viaduct

2 LOCATION

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Fort Worth Tarrant Texas

3 PHOTO REFERENCE

PHOTO CREDIT
History of Engineering Program

DATE OF PHOTO
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NEGATIVE FILED AT
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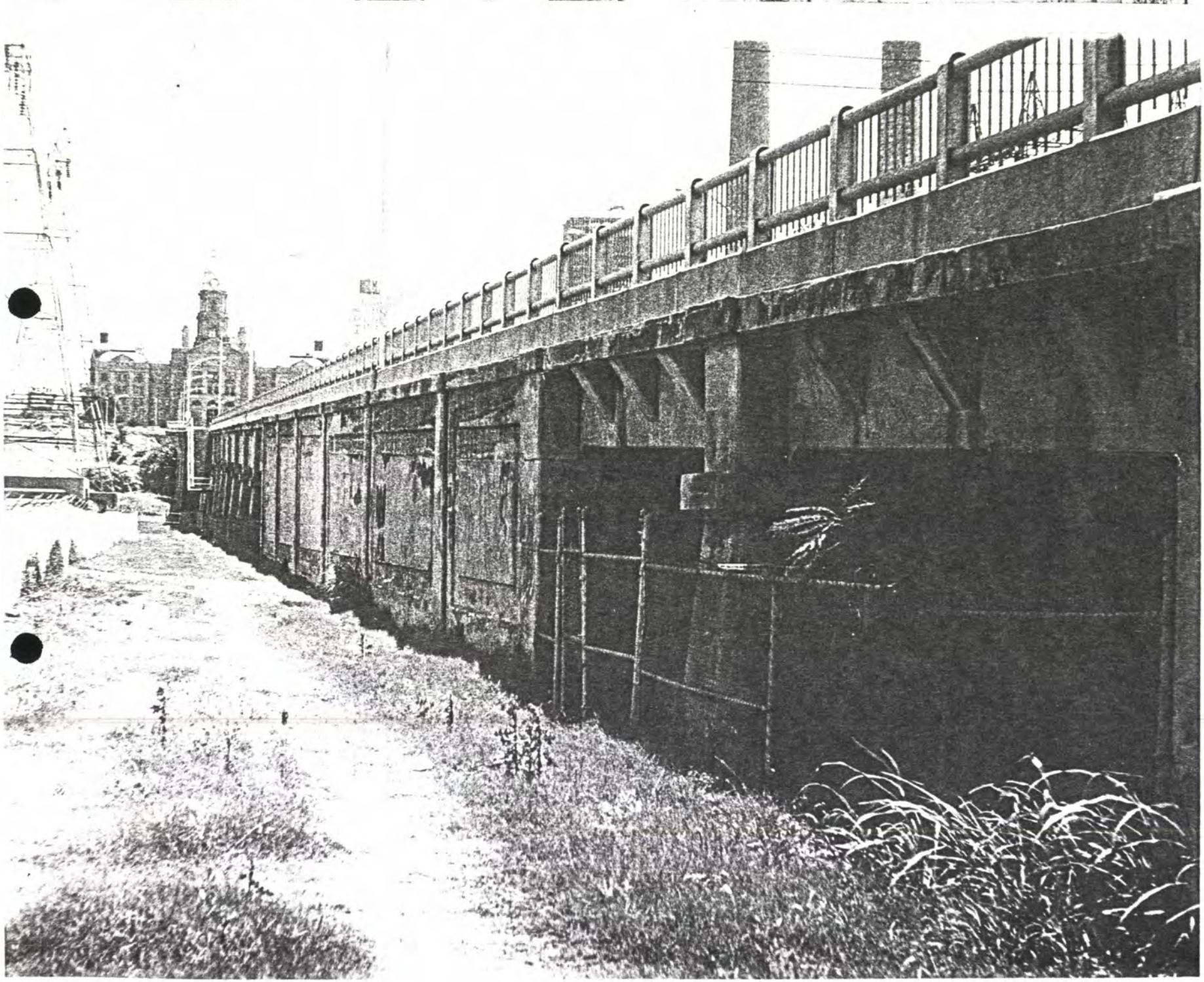
4 IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT, GIVE BUILDING NAME & STREET

PHOTO NO. 4

Looking south southwest along the side of the Paddock at ground level near the north end.



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Paddock Viaduct

AND/OR COMMON
Main Street Bridge

2 LOCATION

CITY, TOWN
Fort Worth

VICINITY OF

COUNTY
Tarrant

STATE
Texas

3 PHOTO REFERENCE

PHOTO CREDIT
S. C. Bowen, Transactions of the American Society of the American Society of Civil Engineers, LXXVIII (1915).
NEGATIVE FILED AT
History of Engineering Program, Texas Tech University

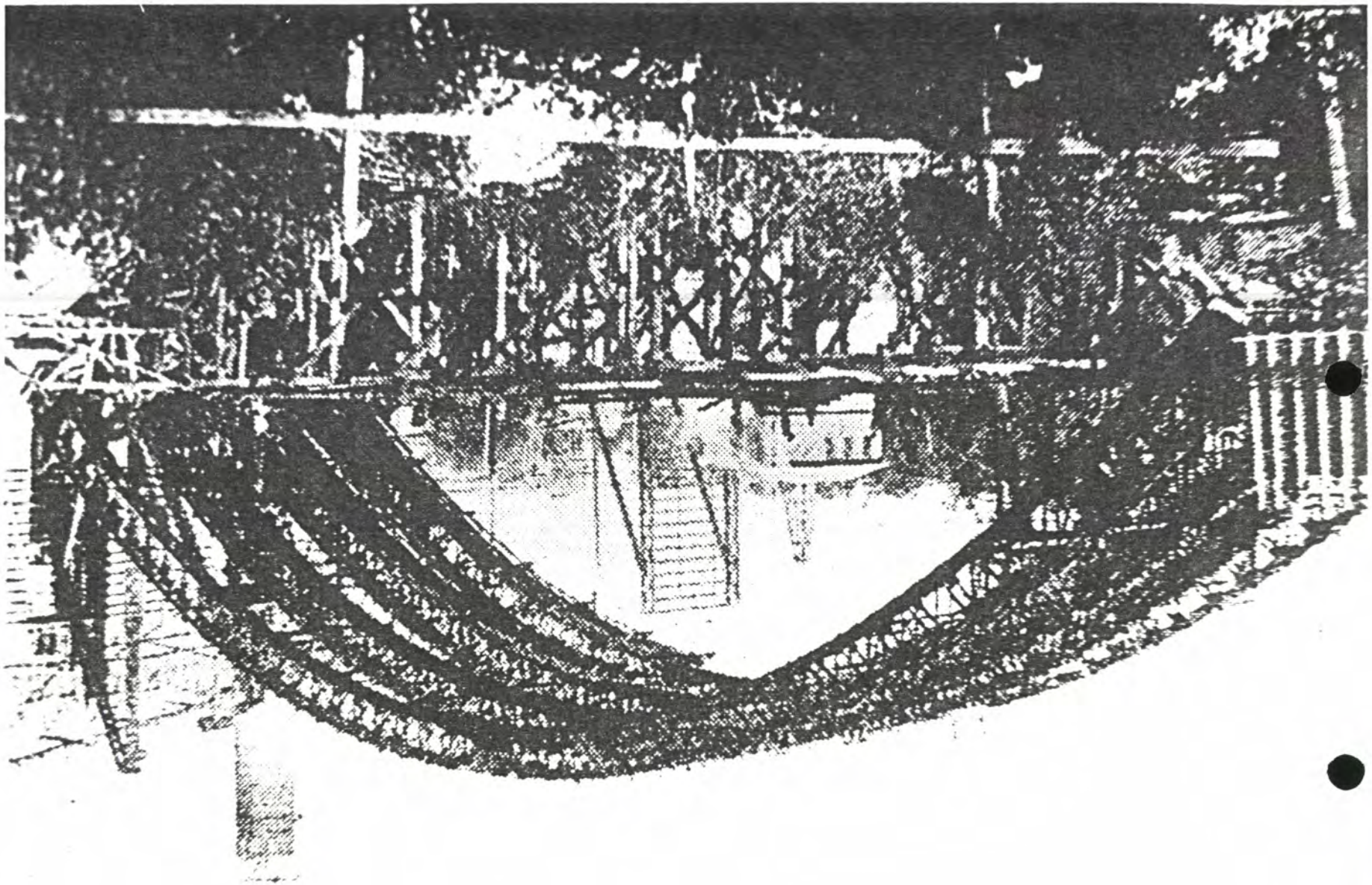
DATE OF PHOTO
circa 1913

4 IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT, GIVE BUILDING NAME & STREET

PHOTO NO. 5

Completed self-supporting steel reinforcement for a concrete arch span across the Trinity River during construction circa 1913. From Transactions of the American Society of Civil Engineers, LXXVIII (1915).



Form No. 10-301
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UNITED STATES DEPARTMENT OF THE INTERIOR
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NATIONAL REGISTER OF HISTORIC PLACES PROPERTY MAP FORM

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- ENCLOSE WITH MAP

1 NAME

HISTORIC Paddock Viaduct

AND/OR COMMON Main Street Bridge

2 LOCATION

CITY, TOWN Fort Worth ___VICINITY OF COUNTY Tarrant STATE Texas

3 MAP REFERENCE

SOURCE USGS

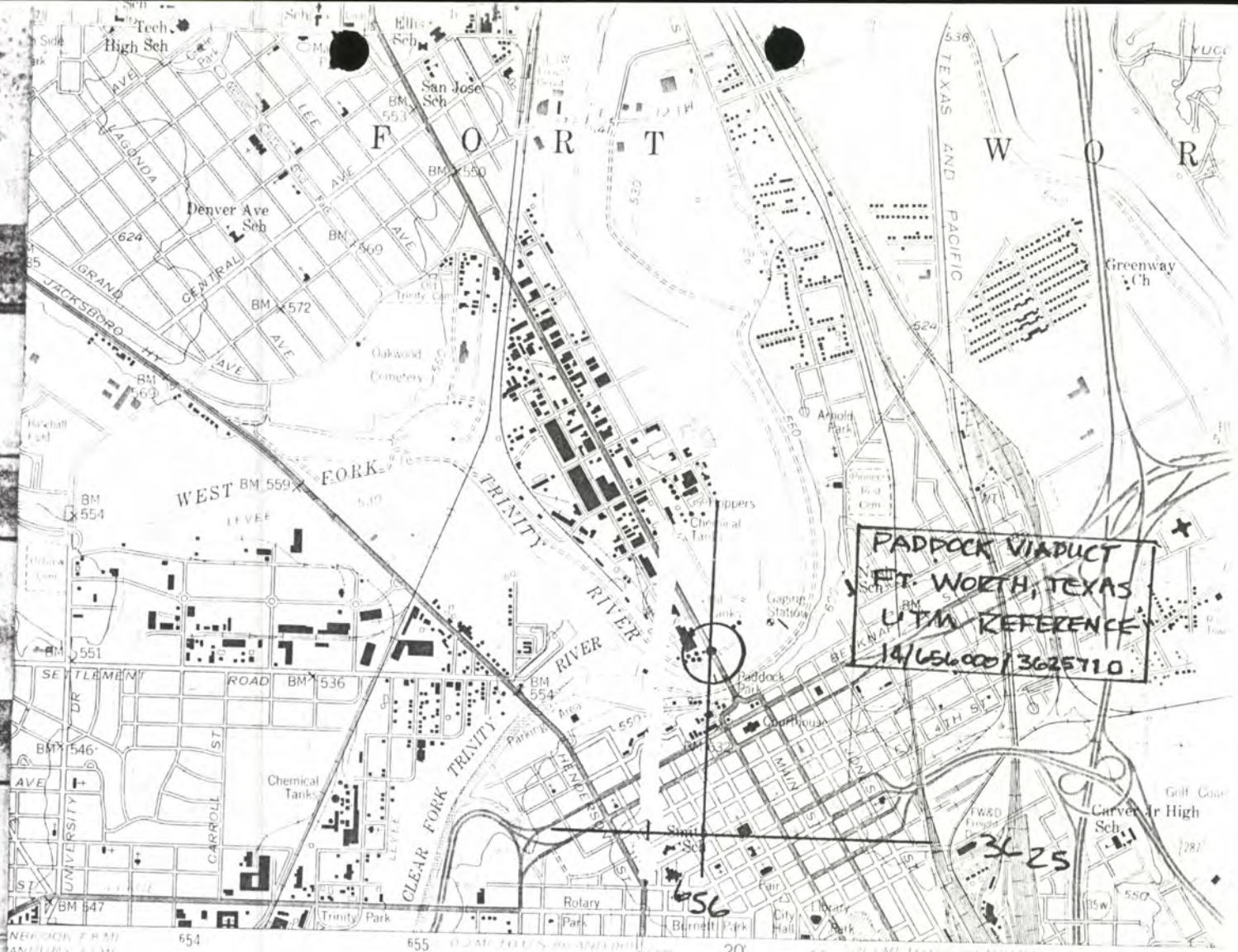
SCALE 1:24000 DATE 1955

4 REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

1. PROPERTY BOUNDARIES
2. NORTH ARROW
3. UTM REFERENCES

GPO 892-452 INT:2427-74



the Geological Survey

Kelsh plotter
Field check 1955

ncan datum
dinate system

cator grid ticks,

landmark buildings are shown
from aerial photographs
mation not field checked
rban areas

MN
GN
0°55'
16 MILS
8½°
151 MILS

UTM GRID AND 1972 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

SCALE

CONTOUR IN
DATUM

THIS MAP COMPLIES WITH NATI
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVI
A FOLDER DESCRIBING TOPOGRAPHIC MAP