LOAD RATINGS FOR STANDARD BRIDGES

Final Report
For
HR-239 - PHASE III

NOVEMBER 1998

Project Development Division

Iowa Department of Transportation

ENGINEERING STUDY
IOWA HIGHWAY RESEARCH BOARD
PROJECT HR - 239
PHASE III

FINAL REPORT

LOAD RATINGS FOR STANDARD BRIDGES

IOWA DEPARTMENT OF TRANSPORTATION
AMES, IOWA 50010

NOVEMBER 1998

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ACKNOWLEDGEMENT

Project HR-239 was sponsored by the Iowa Highway Research Board and the Iowa Department of Transportation. The Iowa Highway Research Board approved expenditures from the Secondary Road Research Fund to conduct the engineering study.

INTRODUCTION

Load Rating:	Evaluation of the capacity of a bridge to carry vehicle loads
Standard Bridge:	Bridge built according to standards issued by the Iowa Department of Transportation
Inventory Rating:	Load level which can safely utilize the bridge for an indefinite period of time
Operating Rating:	Absolute maximum permissible load level for the bridge

A load rating states the load in tons which a vehicle can impose on a bridge. Changes in guidelines, standards, and customary uses of bridges require analyses of bridges to be updated and re-evaluated.

In this report, twenty-five secondary bridge standards for three types of bridges are rated for the AASHTO HS20-44 vehicle configuration and five typical Iowa legal vehicles. The twenty-five rated standards are:

Precast Beam	Reinforced Concrete Slab	Steel Beam
H14-1	J6	V12
H15-75	J7	V14
H16-70	J8	V15-75
H17-73	J15	V16-70
H24-84	J16	V30C-79
H24S-85	J24-84	
H24-87	J24-87	
H24S-87	J30C-79	
H30M-79	J30C-87	
H30-87		
H30S-87		

The ratings apply only to those bridges which:

(1) are built according to the applicable bridge standard plans,
(2) have no structural deterioration or damage, and
(3) have no added wearing surface in excess of one-half inch integral wearing surface.

The Iowa vehicle loads applied to the structures are diagramed on page 6. The Inventory and Operating Ratings are based on the standard AASHTO HS20-44 loading. The legal load ratings are based on the five typical Iowa legal vehicles using allowable Operating Rating stresses. The term "Legal" indicates the Iowa vehicle does not induce stresses exceeding allowable Operating Rating stresses.

The twenty-five standard bridges were rated for two new Iowa Rating Vehicles, the Type 3S3B and Type 4S3, using the maximum operating stress.

The standard bridges had previously been rated for the existing three Iowa Rating Vehicles, Type 4, Type 3S3A, and Type 3-3, in 1982 or 1991. The results of those ratings have been included in this report. The Type 3S3A Iowa Rating Vehicle in this report was designated a Type 3S3 vehicle in the 1982 and 1991 reports.

Standard bridges that have single span designs of 100' or less were not rated and were designated "Legal (a)", as directed by the Iowa Department of Transportation. Additionally, currently posted bridges will not have their signing modified to reflect the two new Iowa Legal Truck Types and were not rated. The designation "NL" is displayed in the tables to reflect this as directed by the Iowa Department of Transportation.

Allowable stresses for specified materials are shown on page 4 and page 5. Load ratings listed in this report are in compliance with the 1994 AASHTO Manual for Condition Evaluation of Bridges, including current interim revisions. Load distribution complies with AASHTO guidelines. All bridges were rated for two lanes of traffic.

Summary sheets contain any additional qualifications for interpreting the load ratings.

In Appendix A is included the results of the original October 1982 report "Load Rating for Standard Bridges". The bridge rating for the J6, V12, and V14 standard bridges have been updated and are included in the new 1998 report.

The name of the Type 3S3 Legal truck in the 1982 report changed to Type 3S3A in the 1998 report.

The proper use and application of these bridge ratings requires due consideration and evaluation by a qualified engineer of all relevant factors affecting these ratings. Anyone using any part of these bridge ratings assumes sole responsibility for their proper application.

References:

Manual for Condition Evaluation of Bridges
including current Revisions from Interim Specifications prepared by the AASHTO Subcommittee on Bridges and Structures publ. American Association of State Highway and Transportation Officials, Washington, D.C., 1994.

Standard Specifications for Highway Bridges, 16th ed.
as amended by current Interim Specifications prepared by Highway Subcommittee on Bridges and Structures publ. American Association of State Highway and Transportation Officials, Washington, D.C., 1996.

Table of Allowable Stresses
for
Rating of Iowa Secondary Bridge Standards

Prestressed Precast Concrete Beam Bridges

Bridge Standard	Year of Issue	Prestress Strand f_s' psi	Precast Beam f_c' psi	Slab concrete f_c' psi
H14-1	1960	250,000	5,000	3,000
H15-75	1975	270,000	5,000	3,000
H16-70	1969	270,000	5,000	3,000
H17-73	1973	270,000	5,000	3,000
H24-84	1984	270,000	5,000	3,500
H24S-85	1985	270,000	5,000	3,500
H24-87	1987	270,000	5,000	3,500
H24S-87	1987	270,000	5,000	3,500
H30M-79	1979	270,000	5,000	3,500
H30-87	1987	270,000	5,000	3,500
H30S-87	1987	270,000	5,000	3,500

Table of Allowable Stress
for
Rating of Iowa Secondary Bridge Standards (cont.)

Reinforced Concrete Slab Bridges

				Allowable Stress for Rating Type, psi			
				Inventory		Operating	
Bridge Standard	Year of Issue	f_y (psi)	f_c' (psi)	Reinf. Steel	Concrete*	Reinf. Steel	Concrete*
J6	1957	40,000	3,000	20,000	1,200	28,000	1,900
J7	1960	40,000	3,000	20,000	1,200	28,000	1,900
J8	1960	40,000	3,000	20,000	1,200	28,000	1,900
J15	1975	40,000	3,000	20,000	1,200	28,000	1,900
J16	1970	40,000	3,000	20,000	1,200	28,000	1,900
J24-84	1984	60,000	3,500	24,000	1,400	36,000	1,900
J24-87	1987	60,000	3,500	24,000	1,400	36,000	1,900
J30C-79	1979	40,000	3,500	20,000	1,400	28,000	1,900
J30C-87	1987	60,000	3,500	24,000	1,400	36,000	1,900

Steel Beam Bridges

			Allowable Stress for Rating Type, psi	
Bridge Standard	Year of Issue	f_y (psi)	Inventory	Operating
V12-57	1957	33,000	18,150	24,750
V12-64	1964	36,000	20,000	27,000
V14-64	1964	36,000	20,000	27,000
V15-75	1975	36,000	20,000	27,000
V16-70	1970	36,000	20,000	27,000
V30C-79	1979	36,000	20,000	27,000

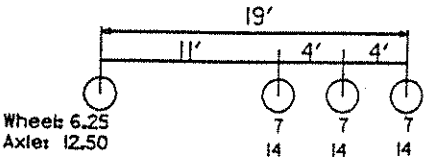
* Compression due to flexure in the slab concrete.

IOWA RATING VEHICLES

Typical Iowa Legal Truck Types
Wheel and Axle Loads Shown Are In Kips

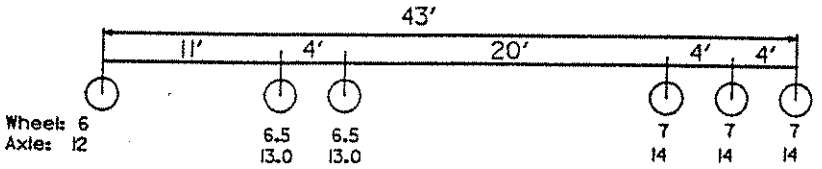
Straight Truck (Type 4)

Total Wt. = 54.5 Kips
(27.25 Tons)



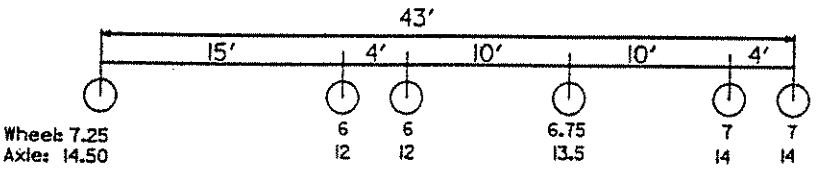
Truck+Semi-trailer (Type 3S3A)

Total Wt. = 80 Kips
(40 Tons)



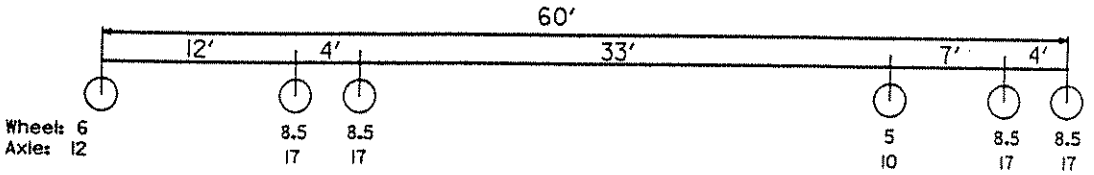
Truck+Trailer (Type 3-3)

Total Wt. = 80 Kips
(40 Tons)



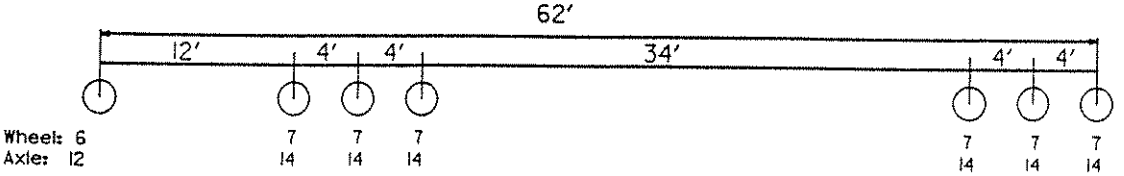
Truck+Semi-trailer (Type 3S3B)

Total Wt. = 90 Kips
(45 Tons)



Truck+Semi-trailer (Type 4S3)

Total Wt. = 96 Kips
(48 Tons)



12" High Curb and Steel Handrail, 6.25" Thick Deck Slab

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 23.3	HS 32.0	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 20.2	HS 31.3	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 15.7	HS 33.7	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 15.4	HS 34.9	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 15.1	HS 38.1	Legal	Legal	Legal	Legal (a)	Legal (a)
92'-6"	HS 23.3	HS 32.0	Legal	Legal	Legal	Legal (a)	Legal (a)
105'-0"	HS 20.2	HS 31.3	Legal	Legal	Legal	Legal (a)	Legal (a)
130'-0"	HS 20.2	HS 31.3	Legal	Legal	Legal	Legal (a)	Legal (a)
142'-6"	HS 15.7	HS 31.3	Legal	Legal	Legal	Legal (a)	Legal (a)
167'-6"	HS 15.7	HS 33.7	Legal	Legal	Legal	Legal (a)	Legal (a)
180'-0"	HS 15.4	HS 33.7	Legal	Legal	Legal	Legal (a)	Legal (a)
205'-0"	HS 15.4	HS 34.9	Legal	Legal	Legal	Legal (a)	Legal (a)
217'-6"	HS 15.1	HS 34.9	Legal	Legal	Legal	Legal (a)	Legal (a)
242'-6"	HS 15.1	HS 38.1	Legal	Legal	Legal	Legal (a)	Legal (a)

(a) Analysis unnecessary since simple span length under 100'.

12" High Curb and Aluminum Handrail, 6.25" Thick Deck Slab

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 23.4	HS 32.0	Legal	Legal	Legal	Legal (a)	Legal (a)
42"-6"	HS 20.3	HS 31.4	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 15.7	HS 33.8	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 15.5	HS 35.0	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 15.2	HS 38.2	Legal	Legal	Legal	Legal (a)	Legal (a)
92'-6"	HS 23.4	HS 32.0	Legal	Legal	Legal	Legal (a)	Legal (a)
105'-0"	HS 20.3	HS 31.4	Legal	Legal	Legal	Legal (a)	Legal (a)
130'-0"	HS 20.3	HS 31.4	Legal	Legal	Legal	Legal (a)	Legal (a)
142'-6"	HS 15.7	HS 31.4	Legal	Legal	Legal	Legal (a)	Legal (a)
167'-6"	HS 15.7	HS 33.8	Legal	Legal	Legal	Legal (a)	Legal (a)
180'-0"	HS 15.5	HS 33.8	Legal	Legal	Legal	Legal (a)	Legal (a)
205'-0"	HS 15.5	HS 35.0	Legal	Legal	Legal	Legal (a)	Legal (a)
217'-6"	HS 15.2	HS 35.0	Legal	Legal	Legal	Legal (a)	Legal (a)
242'-6"	HS 15.2	HS 38.2	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 28 feet.

(a) Analysis unnecessary since simple span length under 100'.

18" High Curb and Aluminum Handrail, 6.75" Thick Deck Slab

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 23.5	HS 32.3	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 19.7	HS 31.5	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 15.0	HS 33.8	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 14.6	HS 34.8	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 14.2	HS 37.9	Legal	Legal	Legal	Legal (a)	Legal (a)
92'-6"	HS 23.5	HS 32.3	Legal	Legal	Legal	Legal (a)	Legal (a)
105'-0"	HS 19.7	HS 31.5	Legal	Legal	Legal	Legal (a)	Legal (a)
130'-0"	HS 19.7	HS 31.5	Legal	Legal	Legal	Legal (a)	Legal (a)
142'-6"	HS 15.0	HS 31.5	Legal	Legal	Legal	Legal (a)	Legal (a)
167'-6"	HS 15.0	HS 33.8	Legal	Legal	Legal	Legal (a)	Legal (a)
180'-0"	HS 14.6	HS 33.8	Legal	Legal	Legal	Legal (a)	Legal (a)
205'-0"	HS 14.6	HS 34.8	Legal	Legal	Legal	Legal (a)	Legal (a)
217'-6"	HS 14.2	HS 34.8	Legal	Legal	Legal	Legal (a)	Legal (a)
242'-6"	HS 14.2	HS 37.9	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 28 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H15-75 ISSUED DECEMBER 1975

12" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 36.9	HS 50.1	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 26.1	HS 43.9	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 20.1	HS 42.4	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 20.5	HS 45.9	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 18.9	HS 47.3	Legal	Legal	Legal	Legal (a)	Legal (a)

H15-75 REVISED JULY 9, 1979

18" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 36.8	HS 50.0	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 25.9	HS 43.7	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 19.9	HS 42.2	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 20.3	HS 45.6	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 18.7	HS 47.1	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

12" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
93'-0"	HS 37.0	HS 50.1	Legal	Legal	Legal	Legal (a)	Legal (a)
101'-4"	HS 28.2	HS 41.5	Legal	Legal	Legal	Legal (a)	Legal (a)
113'-10"	HS 26.1	HS 43.2	Legal	Legal	Legal	Legal (a)	Legal (a)
126'-4"	HS 23.0	HS 41.5	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 22.6	HS 43.9	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 20.1	HS 42.3	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 21.5	HS 39.4	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 22.2	HS 40.9	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 20.5	HS 42.8	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 20.9	HS 44.2	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 19.9	HS 45.3	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 18.9	HS 44.9	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 18.9	HS 47.3	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

12" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 24.2	HS 47.6	Legal	Legal	Legal	Legal (a)	Legal (a)
87'-6"	HS 21.7	HS 37.0	Legal	Legal	Legal	Legal (a)	Legal (a)
100-0"	HS 20.2	HS 37.1	Legal	Legal	Legal	Legal (a)	Legal (a)
112'-6"	HS 18.2	HS 36.4	Legal	Legal	Legal	Legal (a)	Legal (a)
125'-0"	HS 16.4	HS 28.4	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H24-84 ISSUED AUGUST 1984

32" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 23.3	HS 41.2	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 22.7	HS 41.4	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 17.6	HS 37.5	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 21.6	HS 38.9	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 22.4	HS 40.3	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 17.9	HS 40.8	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 18.3	HS 39.9	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 19.8	HS 44.5	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 16.4	HS 39.9	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 16.4	HS 42.3	Legal	Legal	Legal	Legal (a)	Legal (a)

H24-84 ISSUED AUGUST 1984

29" High Open Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 23.9	HS 41.8	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 23.3	HS 42.0	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 18.2	HS 38.2	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 22.3	HS 39.6	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 23.1	HS 41.0	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 18.7	HS 41.7	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 19.1	HS 40.8	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 20.6	HS 45.3	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 17.2	HS 40.8	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 17.2	HS 43.2	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 24 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H24S-85 STANDARD ISSUED AUGUST 1985

32" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 37.3	HS 50.1	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 25.5	HS 41.4	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 17.6	HS 37.5	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 17.9	HS 40.8	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 16.4	HS 42.3	Legal	Legal	Legal	Legal (a)	Legal (a)

H24S-85 ISSUED AUGUST 1985

29" High Open Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 37.6	HS 50.6	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 26.0	HS 42.0	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 18.2	HS 38.2	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 18.7	HS 41.6	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 17.2	HS 43.2	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 24 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H24-87 ISSUED JANUARY 1987

32" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 23.3	HS 41.2	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 22.7	HS 43.0	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 21.9	HS 41.8	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 23.8	HS 38.9	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 23.4	HS 46.4	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 22.8	HS 47.0	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 23.5	HS 43.5	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 24.1	HS 49.5	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 21.8	HS 48.7	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 21.8	HS 51.3	Legal	Legal	Legal	Legal (a)	Legal (a)

H24-87 ISSUED JANUARY 1987

29" High Open Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 23.6	HS 41.5	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 23.0	HS 43.3	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 22.2	HS 42.1	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 24.1	HS 39.3	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 23.7	HS 46.7	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 23.1	HS 47.3	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 23.9	HS 43.9	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 24.5	HS 49.9	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 22.2	HS 49.1	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 22.2	HS 51.8	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 24 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H24S-87 ISSUED JANUARY 1987

32" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 37.3	HS 50.1	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 26.5	HS 43.4	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 21.9	HS 44.1	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 22.8	HS 49.0	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 21.8	HS 51.3	Legal	Legal	Legal	Legal (a)	Legal (a)

H24S-87 ISSUED JANUARY 1987

29" High Open Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 37.4	HS 50.3	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 26.8	HS 43.7	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 22.2	HS 44.4	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 23.1	HS 49.4	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 22.3	HS 51.8	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 24 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H30M-79 STANDARD ISSUED JUNE 1979
and REVISED NOVEMBER 29, 1982

32" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 22.3	HS 40.7	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 21.8	HS 43.0	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 16.7	HS 37.2	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 20.6	HS 38.5	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 21.3	HS 39.8	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 17.1	HS 40.5	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 17.2	HS 39.5	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 18.8	HS 44.1	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 15.4	HS 39.5	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 15.4	HS 42.0	Legal	Legal	Legal	Legal (a)	Legal (a)

H30M-79 STANDARD ISSUED JUNE 1979
and REVISED NOVEMBER 29, 1984

32" High Jersey Barrier Rail, New Strand Pattern for A42 Beam (11/29/84)

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
138'-10"	HS 21.8	HS 41.0	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H30M-79 STANDARD REVISED MAY 10, 1982

34" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 22.2	HS 40.7	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 21.8	HS 42.9	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 16.7	HS 37.1	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 20.5	HS 38.4	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 21.3	HS 39.8	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 17.0	HS 40.5	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 17.1	HS 39.4	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 18.7	HS 44.0	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 15.3	HS 39.4	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 15.3	HS 41.8	Legal	Legal	Legal	Legal (a)	Legal (a)

H30M-79 REVISED MAY 10, 1982

34" High Jersey Barrier Rail, New Strand Pattern for A42 Beam (11/29/84)

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
138'-10"	HS 21.8	HS 40.9	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H30-87 ISSUED JUNE 1987

32" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 23.7	HS 41.6	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 23.2	HS 43.4	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 22.3	HS 42.2	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 24.2	HS 39.4	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 23.9	HS 46.9	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 23.3	HS 47.5	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 24.1	HS 44.0	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 24.7	HS 50.0	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 22.4	HS 49.2	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 22.4	HS 52.0	Legal	Legal	Legal	Legal (a)	Legal (a)

H30-87 ISSUED JUNE 1987

29" High Open Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
126'-4"	HS 23.9	HS 41.8	Legal	Legal	Legal	Legal (a)	Legal (a)
138'-10"	HS 23.4	HS 43.7	Legal	Legal	Legal	Legal (a)	Legal (a)
151'-4"	HS 22.6	HS 42.5	Legal	Legal	Legal	Legal (a)	Legal (a)
163'-10"	HS 24.5	HS 39.6	Legal	Legal	Legal	Legal (a)	Legal (a)
176'-4"	HS 24.1	HS 47.2	Legal	Legal	Legal	Legal (a)	Legal (a)
188'-10"	HS 23.6	HS 47.8	Legal	Legal	Legal	Legal (a)	Legal (a)
201'-4"	HS 24.4	HS 44.3	Legal	Legal	Legal	Legal (a)	Legal (a)
213'-10"	HS 25.0	HS 50.3	Legal	Legal	Legal	Legal (a)	Legal (a)
226'-4"	HS 22.7	HS 49.6	Legal	Legal	Legal	Legal (a)	Legal (a)
243'-0"	HS 22.7	HS 52.3	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

H30S-87 ISSUED JUNE 1987

32" High Jersey Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 37.5	HS 50.4	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 26.9	HS 43.8	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 22.3	HS 44.6	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 23.3	HS 49.6	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 22.4	HS 52.0	Legal	Legal	Legal	Legal (a)	Legal (a)

H30S-87 ISSUED JUNE 1987

29" High Open Barrier Rail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
30'-0"	HS 37.6	HS 50.6	Legal	Legal	Legal	Legal (a)	Legal (a)
42'-6"	HS 27.0	HS 44.1	Legal	Legal	Legal	Legal (a)	Legal (a)
55'-0"	HS 22.6	HS 44.9	Legal	Legal	Legal	Legal (a)	Legal (a)
67'-6"	HS 23.6	HS 49.9	Legal	Legal	Legal	Legal (a)	Legal (a)
80'-0"	HS 22.8	HS 52.4	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

			Legal Loads in Tons				
Bridge Length	Inventory	Operating	Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 13.7	HS 20.9	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 10.3	HS 19.6	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 6.4	HS 19.5	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal Roadway Width is 24 feet.

J7 STANDARD ISSUED 1960

12" High Curb and Steel Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
18'-0"	HS 17.5	HS 27.7	Legal	Legal	Legal	Legal (a)	Legal (a)
24'-0"	HS 19.2	HS 32.3	Legal	Legal	Legal	Legal (a)	Legal (a)
30'-0"	HS 18.9	HS 33.8	Legal	Legal	Legal	Legal (a)	Legal (a)

J7 STANDARD REVISED 1967

12" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
18'-0"	HS 17.5	HS 27.7	Legal	Legal	Legal	Legal (a)	Legal (a)
24'-0"	HS 19.2	HS 32.3	Legal	Legal	Legal	Legal (a)	Legal (a)
30'-0"	HS 18.9	HS 33.9	Legal	Legal	Legal	Legal (a)	Legal (a)

J7 STANDARD REVISED 1979

18" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
18'-0"	HS 17.4	HS 27.6	Legal	Legal	Legal	Legal (a)	Legal (a)
24'-0"	HS 19.1	HS 32.2	Legal	Legal	Legal	Legal (a)	Legal (a)
30'-0"	HS 18.7	HS 33.7	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 28 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

J8 STANDARD ISSUED 1960

12" High Curb and Steel Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 16.3	HS 28.3	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 18.6	HS 30.6	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 18.6	HS 32.0	Legal	Legal	Legal	Legal	Legal

J8 STANDARD REVISED 1967

12" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 16.3	HS 28.3	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 18.7	HS 30.7	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 18.6	HS 32.0	Legal	Legal	Legal	Legal	Legal

J8 STANDARD REVISED 1979

18" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 16.2	HS 28.2	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 18.5	HS 30.5	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 18.5	HS 31.9	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 28 feet.

J15 STANDARD ISSUED 1975

12" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
18'-0"	HS 20.9	HS 32.6	Legal	Legal	Legal	Legal (a)	Legal (a)
24'-0"	HS 22.1	HS 36.4	Legal	Legal	Legal	Legal (a)	Legal (a)
30'-0"	HS 20.2	HS 36.7	Legal	Legal	Legal	Legal (a)	Legal (a)

J15 STANDARD REVISED 1979

18" High Curb and Aluminum Handrail

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
18'-0"	HS 20.8	HS 32.5	Legal	Legal	Legal	Legal (a)	Legal (a)
24'-0"	HS 21.9	HS 36.2	Legal	Legal	Legal	Legal (a)	Legal (a)
30'-0"	HS 20.0	HS 36.5	Legal	Legal	Legal	Legal (a)	Legal (a)

Note: 1. Ratings were calculated using 1/2" intergral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and length under 100'.

12" High Curb and Aluminum Handrail

Built with Flat Bottom Option:

			Legal Loads in Tons				
Bridge Length	Inventory	Operating	Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 23.9	HS 36.4	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 21.2	HS 33.2	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 21.2	HS 33.9	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 20.0	HS 33.1	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 20.3	HS 34.8	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

			Legal Loads in Tons				
Bridge Length	Inventory	Operating	Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 20.2	HS 32.1	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 18.6	HS 29.7	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 18.4	HS 30.5	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 17.5	HS 30.0	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 18.5	HS 31.9	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

2'-8" High Barrier Rail

Built with Flat Bottom Option:

			Legal Loads in Tons				
Bridge Length	Inventory	Operating	Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 22.6	HS 42.6	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 23.8	HS 40.9	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 22.9	HS 40.3	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 20.7	HS 37.9	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 20.2	HS 38.7	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

			Legal Loads in Tons				
Bridge Length	Inventory	Operating	Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 19.3	HS 35.9	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 20.9	HS 36.3	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 20.4	HS 36.2	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 18.5	HS 34.2	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 18.2	HS 35.3	Legal	Legal	Legal	Legal	Legal

2'-5" High Open Rail

Built with Flat Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 23.3	HS 43.0	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 24.2	HS 41.3	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 23.2	HS 40.6	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 21.1	HS 38.4	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 20.7	HS 39.1	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 20.0	HS 36.5	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 21.3	HS 36.7	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 20.8	HS 36.6	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 18.9	HS 34.7	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 18.7	HS 35.8	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 24 feet.

2'-8" High Barrier Rail

Built with Flat Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 25.6	HS 42.7	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 24.8	HS 42.2	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 25.5	HS 44.3	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 26.2	HS 45.3	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 26.4	HS 46.9	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 22.1	HS 37.8	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 21.9	HS 37.6	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 22.7	HS 38.7	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 23.4	HS 38.2	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 23.1	HS 40.1	Legal	Legal	Legal	Legal	Legal

2'-5" High Open Rail

Built with Flat Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 25.8	HS 42.9	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 25.0	HS 42.4	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 25.6	HS 44.5	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 26.3	HS 45.5	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 26.6	HS 47.1	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 22.4	HS 38.0	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 22.1	HS 37.8	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 22.8	HS 38.9	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 23.6	HS 38.5	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 23.7	HS 40.4	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 24 feet.

2'-8" High Barrier Rail

Built with Flat Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 22.6	HS 37.5	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 22.9	HS 36.7	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 21.4	HS 34.3	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 20.1	HS 33.2	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 20.4	HS 34.6	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 19.1	HS 32.5	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 19.5	HS 32.3	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 18.9	HS 30.4	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 17.8	HS 29.6	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 18.2	HS 31.1	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

2"-8" High Barrier Rail

Built with Flat Bottom Option:

			Legal Loads in Tons				
Bridge Length	Inventory	Operating	Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 25.8	HS 42.9	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 25.1	HS 42.5	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 25.7	HS 44.5	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 26.3	HS 45.5	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 26.6	HS 47.1	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

			Legal Loads in Tons				
Bridge Length	Inventory	Operating	Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 22.5	HS 38.0	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 22.2	HS 37.9	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 22.9	HS 38.9	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 23.7	HS 38.4	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 23.8	HS 40.4	Legal	Legal	Legal	Legal	Legal

2'-5" High Open Rail

Built with Flat Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 25.9	HS 43.0	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 25.1	HS 42.6	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 25.8	HS 44.7	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 26.5	HS 45.6	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 26.8	HS 47.2	Legal	Legal	Legal	Legal	Legal

Built with Sloped Bottom Option:

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
75'-0"	HS 22.7	HS 38.1	Legal	Legal	Legal	Legal	Legal
87'-6"	HS 22.3	HS 38.0	Legal	Legal	Legal	Legal	Legal
100'-0"	HS 23.1	HS 39.1	Legal	Legal	Legal	Legal	Legal
112'-6"	HS 23.8	HS 38.6	Legal	Legal	Legal	Legal	Legal
125'-0"	HS 24.3	HS 40.6	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal roadway width is 30 feet.

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
125'	HS 10.7	HS 16.7	26.0*	Legal	Legal	NL	NL
150'	HS 10.7	HS 16.8	26.6*	Legal	Legal	NL	NL
175'	HS 11.4	HS 17.5	Legal	Legal	Legal	Legal	45.0*
200'	HS 9.6	HS 15.6	25.5*	36.9*	35.2*	NL	NL
250'	HS 10.0	HS 16.7	Legal	37.4*	36.1*	NL	NL
300'	HS 9.3	HS 16.6	Legal	36.2*	35.2*	NL	NL

Note: 1. Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal Roadway Width is 24 feet.

NL Not legal based on existing posting, no analysis performed.
* Legal with one lane of traffic centered on bridge.

V12 Standard Issued 1964

3 Span Bridge

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
125'-0"	HS 12.8*	HS 19.2*	Legal	Legal	Legal	Legal	Legal
150'-0"	HS 13.4*	HS 20.1*	Legal	Legal	Legal	Legal	Legal
175'-0"	HS 12.4	HS 19.4	Legal	Legal	Legal	Legal	Legal
200'-0"	HS 12.9	HS 19.9	Legal	Legal	Legal	Legal	Legal
225'-0"	HS 12.8	HS 20.1	Legal	Legal	Legal	Legal	Legal
250'-0"	HS 13.0*	HS 21.3*	Legal	Legal	Legal	Legal	Legal

4 Span Bridge

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
174'-0"	HS 12.9*	HS 19.3*	Legal	Legal	Legal	Legal	Legal
208'-6"	HS 13.1*	HS 19.8*	Legal	Legal	Legal	Legal	Legal
243'-0"	HS 12.4	HS 19.1*	Legal	Legal	Legal	Legal	Legal
278'-0"	HS 12.7*	HS 19.7*	Legal	Legal	Legal	Legal	Legal
313'-0"	HS 12.7*	HS 20.0*	Legal	Legal	Legal	Legal	Legal
347'-6"	HS 13.0*	HS 21.3*	Legal	Legal	Legal	Legal	Legal

*These values have changed from those in the 1982 Report Shown in Appendix A.

Note: 1. Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal Roadway Width is 24 feet.

V12 Standard Issued 1964

5 Span Bridge

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
223'-0"	HS 12.9	HS 19.2	Legal	Legal	Legal	Legal	Legal
267'-0"	HS 13.1*	HS 19.8*	Legal	Legal	Legal	Legal	Legal
311'-0"	HS 12.4	HS 19.0	Legal	Legal	Legal	Legal	Legal
356'-0"	HS 12.7*	HS 19.7*	Legal	Legal	Legal	Legal	Legal
401'-0"	HS 12.7*	HS 19.9*	Legal	Legal	Legal	Legal	Legal
445'-0"	HS 13.0*	HS 21.2*	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal Roadway Width is 24 feet.

*These values have changed from those in the 1982 Report in Appendix A.

V14 Standard Issued 1964

3 Span Bridge

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
125'-0"	HS 16.4	HS 23.8	Legal	Legal	Legal	Legal	Legal
150'-0"	HS 16.1	HS 23.9	Legal	Legal	Legal	Legal	Legal
175'-0"	HS 15.3*	HS 22.5*	Legal	Legal	Legal	Legal	Legal
200'-0"	HS16.6	HS 24.0	Legal	Legal	Legal	Legal	Legal
225'-0"	HS 16.7	HS 24.1	Legal	Legal	Legal	Legal	Legal
250'-0"	HS 16.7	HS 24.1	Legal	Legal	Legal	Legal	Legal

4 Span Bridge

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
174'-0"	HS 16.2	HS 23.8	Legal	Legal	Legal	Legal	Legal
208'-6"	HS 16.2	HS 23.9	Legal	Legal	Legal	Legal	Legal
243'-0"	HS 15.4*	HS 22.7*	Legal	Legal	Legal	Legal	Legal
278'-0"	HS 16.6	HS 24.0	Legal	Legal	Legal	Legal	Legal
313'-0"	HS 16.7	HS 24.1	Legal	Legal	Legal	Legal	Legal
347'-6"	HS 16.7	HS 24.1	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal Roadway Width is 28 feet.

*These values have changed from those in the 1982 Report in Appendix A.

5 Span Bridge

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
223'-0"	HS 16.1	HS 23.8	Legal	Legal	Legal	Legal	Legal
267'-0"	HS 16.2	HS 23.9	Legal	Legal	Legal	Legal	Legal
311'-0"	HS 15.4*	HS 22.7*	Legal	Legal	Legal	Legal	Legal
356'-0"	HS 16.6	HS 24.0	Legal	Legal	Legal	Legal	Legal
401'-0"	HS 16.7	HS 24.1	Legal	Legal	Legal	Legal	Legal
445'-0"	HS 16.7	HS 24.1	Legal	Legal	Legal	Legal	Legal

Note: 1. Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.
2. Nominal Roadway Width is 28 feet.

*These values have changed from those in the 1982 Report in Appendix A.

V15-75 STANDARD ISSUED 1975

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
23"-9"	HS 25.4	HS 39.0	Legal	Legal	Legal	Legal(a)	Legal(a)
30"-0"	HS 23.6	HS 36.7	Legal	Legal	Legal	Legal(a)	Legal(a)
42"6"	HS 18.4	HS 30.2	Legal	Legal	Legal	Legal(a)	Legal(a)
55"-0"	HS 14.4	HS 25.2	Legal	Legal	Legal	Legal(a)	Legal(a)
67"-0"	HS 14.3	HS 26.3	Legal	Legal	Legal	Legal(a)	Legal(a)
80"-0"	HS 15.4	HS 29.1	Legal	Legal	Legal	Legal(a)	Legal(a)

V16-70 STANDARD ISSUED 1970

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
125'-0"	HS 33.4	HS 48.0	Legal	Legal	Legal	Legal	Legal
150'-0"	HS 24.6	HS 36.1	Legal	Legal	Legal	Legal	Legal
175'-0"	HS 23.6	HS 35.0	Legal	Legal	Legal	Legal	Legal
200"-0"	HS 18.7	HS 29.0	Legal	Legal	Legal	Legal	Legal
225"-0"	HS 17.6	HS 27.2	Legal	Legal	Legal	Legal	Legal
250"-0"	HS 18.6	HS 29.3	Legal	Legal	Legal	Legal	Legal

V30C-79 STANDARD ISSUED 1979

Bridge Length	Inventory	Operating	Legal Loads in Tons				
			Type 4	Type 3S3A	Type 3-3	Type 3S3B	Type 4S3
125"-0"	HS 32.1	HS 46.2	Legal	Legal	Legal	Legal	Legal
150'-0"	HS 23.5	HS 34.7	Legal	Legal	Legal	Legal	Legal
175'-0"	HS 23.0	HS 34.2	Legal	Legal	Legal	Legal	Legal
200'-0"	HS 18.0	HS 28.0	Legal	Legal	Legal	Legal	Legal
225'-0"	HS 16.9	HS 26.3	Legal	Legal	Legal	Legal	Legal
250'-0"	HS 17.7	HS 28.3	Legal	Legal	Legal	Legal	Legal

Notes: 1. Ratings were calculated using 1/2" integral wearing surface deducted from the slab asshown on the standard plans.
2. Nominal roadway width is 30 feet.

(a) Analysis unnecessary since simple span and span length under 100'.

APPENDIX A

Load Ratings for Standard Bridges

Iowa Highway Research Board
Project HR-239

Highway Division
October 1982

ENGINEERING STUDY
IOWA HIGHWAY RESEARCH BOARD
PROJECT HR-239

LOAD RATINGS FOR STANDARD BRIDGES

HIGHWAY DIVISION
IOWA DEPARTMENT OF TRANSPORTATION
AMES, IOWA 50010

OCTOBER 1982

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ACKNOWLEDGMENT

Project HR-239 was sponsored by the Iowa Highway Research Board and the Highway Division of the Iowa Department of Transportation. The Iowa Highway Research Board approved the expenditure of $80,000 from the Secondary Road Research Fund to conduct the engineering study.

Load Ratings for Standard Bridges - Rating Summaries

The load ratings for these Standard bridges were calculated in compliance with the 1978 AASHTO Manual for Maintenance Inspection of Bridges, using the appropriate allowable stresses for the materials specified by the Standard plans. (see page 45) Distribution of loads is in compliance with the Manual unless otherwise noted. Except for truss spans, all bridges with roadway widths of 18 ft. or less were rated for one lane of traffic. All 18 ft. roadway truss bridges were rated for both one and two lanes of traffic. All bridges with roadway widths exceeding 18 ft. were rated for two lanes of traffic. If the posting rating for two lane bridges was less than legal, then the bridges were rated for traffic restricted to one lane, or to one lane centered in the roadway, as noted on the summary sheet.

The ratings are applicable to bridges built in accordance with the standard plans and which exhibit no significant deterioration or damage to the structural members, and which have no added wearing surface material in excess of that noted on the summary sheets and used in the calculations.

The inventory and operating ratings were based upon the standard AASHTO HS20-44 loading. The legal load ratings were based upon the three typical Iowa legal vehicles shown on page 46. The legal load ratings were based upon the maximum allowable Operating Rating stresses specified in the Manual.

Refer to notations on the summary sheets for additional qualifications on the load ratings for specific standard bridge series. Load ratings for standard bridges with wood floors must be based upon existing conditions of attachment of the wood flooring to the top flanges of longitudinal steel stringers. The ratings must be reevaluated if the existing lateral support conditions are not in accordance with conditions used for the rating and noted on the summary sheets.

Details of most of the standard bridges are included in the three books of "Iowa State Highway Commission, Bridge Standards," issued in June, 1972.

The proper use and application of these bridge ratings requires the due consideration and evaluation, by a qualified Engineer, of all relevant factors affecting these ratings. Anyone utilizing these bridge ratings, or any portion thereof, assumes sole responsibility for the proper use and application of these bridge ratings.

Table of Allowable Stresses for Rating of Iowa County Bridge Standards					
Material	Year of Standard Issue	Fy or F'c (psi)	(4) Allowable Stress (psi)		
			Type of Rating		
			Inventory	Operating	Posting
Structural Steel	Before - 1905	26,000	(1) 14,300	(1) 19,500	(1) 19,500
	1905 - 1936	30,000	16,500	22,500	22,500
	1937 - 1962	33,000	18,150	24,750	24,750
	1963 - Present	36,000	20,000	27,000	27,000
(5) Reinforcing Steel	Before - 1905	26,000	(2) 14,300	(2) 19,500	(2) 19,500
	1905 - 1944	33,000	18,150	24,750	24,750
	1945 - Present	40,000	20,000	28,000	28,000
(6) Concrete	Before - 1960	3,000	(3) 1,200	(3) 1,650	(3) 1,650
	1960 - Present	3,500	1,400	1,925	1,925

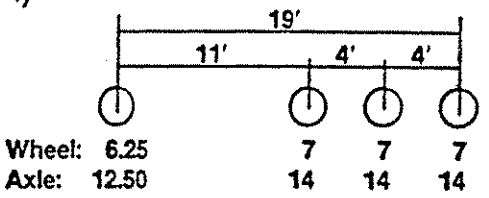
(1) Axial tension, net section. Tension in extreme fiber of section subject to bending.
(2) Axial tension.
(3) Compression due to bending.
(4) Refer to applicable AASHTO Specifications for allowable stresses not shown.
(5) Pre-stressing strand for H-10, H-11, H-12, and H-13 standards: f's=250,000 psi.
(6) Concrete for prestressed beams for H-10, H-11, H-12 and H-13 standards: f'c=5000 psi. The allowable compressive stress in the prestressed beam concrete at the interface of the beam flange and the concrete deck shall be 2,250 psi, for Inventory Rating.

Typical Iowa Legal Truck Types

Wheel and Axle Loads Shown Are In Kips

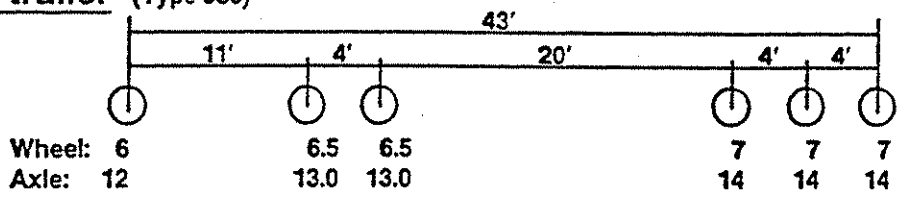
Straight Truck (Type 4)

Total Wt. = 54.5 Kips
(27.25 Tons)



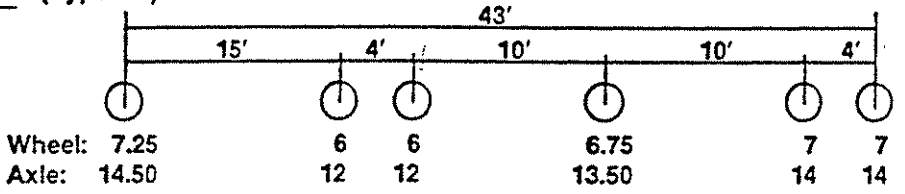
Truck + Semi-trailer (Type 3S3)

Total Wt. = 80 Kips
(40 Tons)



Truck + Trailer (Type 3-3)

Total Wt. = 80 Kips
(40 Tons)



H1 STANDARD ISSUED 1916

Note: Ratings are calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.

16' Nominal Roadway Width

Clear Span	Inventory	Operating	Legal Loads in Tons			
			Type 4	Type 3S3	Type 3-3	Clear Span
24'	HS 17.0	HS 27.7	Legal	Legal	Legal	24'
26'	HS 14.8	HS 24.8	Legal	Legal	Legal	26'
28'	HS 15.3	HS 25.8	Legal	Legal	Legal	28'
30'	HS 14.4	HS 25.0	Legal	Legal	Legal	30'
32'	HS 14.7	HS 25.6	Legal	Legal	Legal	32'
34'	HS 16.1	HS 27.8	Legal	Legal	Legal	34'
36'	HS 15.0	HS 26.6	Legal	Legal	Legal	36'
38'	HS 14.2	HS 25.8	Legal	Legal	Legal	38'
40'	HS 15.0	HS 27.2	Legal	Legal	Legal	40'

H1 STANDARD ISSUED 1916

Note: Ratings are calculated using a 1/2" integral wearing surface deducted from the slab.

18' Nominal Roadway Width

Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
24'	HS 15.0	HS 24.6	Legal	Legal	Legal	24'
26'	HS 13.0	HS 22.1	Legal	Legal	Legal	26'
28'	HS 13.4	HS 22.9	Legal	Legal	Legal	28'
30'	HS 12.7	HS 22.2	Legal	Legal	Legal	30'
32'	HS 12.9	HS 22.7	Legal	Legal	Legal	32'
34'	HS 14.1	HS 24.7	Legal	Legal	Legal	34'
36'	HS 13.1	HS 23.6	Legal	Legal	Legal	36'
38'	HS 12.4	HS 22.8	Legal	Legal	Legal	38'
40'	HS 13.1	HS 24.1	Legal	Legal	Legal	40'

H1 STANDARD ISSUED 1916

Note: Ratings are calculated using a 1/2" integral wearing surface deducted from the slab.

20' Nominal Roadway Width

Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
24'	HS 12.6	HS 21.6	Legal	Legal	Legal	24'
26'	HS 10.6	HS 19.2	Legal	Legal	Legal	26'
28'	HS 11.0	HS 20.0	Legal	Legal	Legal	28'
30'	HS 10.3	HS 19.2	Legal	Legal	Legal	30'
32'	HS 10.5	HS 19.7	Legal	Legal	Legal	32'
34'	HS 11.6	HS 21.4	Legal	Legal	Legal	34'
36'	HS 10.5	HS 20.3	Legal	Legal	Legal	36'
38'	HS 9.8	HS 19.4	Legal	Legal	Legal	38'
40'	HS 10.3	HS 20.5	Legal	Legal	Legal	40'

H1 STANDARD ISSUED 1952

Note: Ratings are calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam section.

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
42'-6"	HS 3.7	HS 17.6	Legal	Legal	Legal	42'-6"
55'-0"	HS 0.6	HS 17.6	Legal	Legal	Legal	55'-0"
67'-6"	HS 0.0	HS 17.6	Legal	Legal	Legal	67'-6"

H1A STANDARD ISSUED 1928

Note: Ratings are calculated using a 1" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam section.

24' Nominal Roadway Width

Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
24'	HS 27.5	HS 41.7	Legal	Legal	Legal	24'
28'	HS 24.9	HS 38.6	Legal	Legal	Legal	28'
32'	HS 22.5	HS 35.7	Legal	Legal	Legal	32'
36'	HS 20.8	HS 33.8	Legal	Legal	Legal	36'
40'	HS 21.1	HS 34.7	Legal	Legal	Legal	40'
44'	HS 20.8	HS 34.9	Legal	Legal	Legal	44'

H2 STANDARD ISSUED 1952

Note: Ratings are calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam section.

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
150'-0"	HS 7.0	HS 17.0	26.4*	Legal	Legal	150'-0"
175'-0"	HS 5.7	HS 17.9	Legal	Legal	Legal	175'-0"
200'-0"	HS 5.3	HS 19.5	Legal	Legal	Legal	200'-0"
250'-0"	HS 0.9	HS 20.4	Legal	Legal	Legal	250'-0"

* Legal with one lane of traffic.

H10 STANDARD ISSUED 1954

Note: Ratings apply to 20' and 24' roadway widths.

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
30'-0"	HS 24.6	HS 35.2	Legal	Legal	Legal	30'-0"
42'-6"	HS 15.4	HS 30.3	Legal	Legal	Legal	42'-6"

H11 STANDARD ISSUED 1958

Note: Ratings apply to 20' and 24' roadway widths.

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
30'-0"	HS 19.8	HS 26.6	Legal	Legal	Legal	30'-0"
42'-6"	HS 14.9	HS 23.1	Legal	Legal	Legal	42'-6"
55'-0" (a)	HS 10.5	HS 23.2	Legal	Legal	Legal	55'-0" (a)
55'-0" (b)	HS 14.6	HS 24.2	Legal	Legal	Legal	55'-0" (b)
67'-6"	HS 11.1	HS 25.1	Legal	Legal	Legal	67'-6"

H12 STANDARD ISSUED 1960

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
30'-0"	HS 25.5	HS 34.3	Legal	Legal	Legal	30'-0"
42'-6"	HS 21.6	HS 32.5	Legal	Legal	Legal	42'-6"
55'-0" (a)	HS 16.6	HS 33.0	Legal	Legal	Legal	55'-0" (a)
55'-0" (b)	HS 20.7	HS 32.9	Legal	Legal	Legal	55'-0" (b)
67'-6" (a)	HS 16.3	HS 33.6	Legal	Legal	Legal	67'-6" (a)
67'-6" (b)	HS 19.0	HS 33.3	Legal	Legal	Legal	67'-6" (b)
80'-0"	HS 15.9	HS 35.8	Legal	Legal	Legal	80'-0"

H13 STANDARD ISSUED 1960

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
30'-0"	HS 20.9	HS 27.4	Legal	Legal	Legal	30'-0"
42'-6"	HS 16.2	HS 25.8	Legal	Legal	Legal	42'-6"
55'-0" (a)	HS 11.5	HS 26.0	Legal	Legal	Legal	55'-0" (a)
55'-0" (b)	HS 15.0	HS 25.7	Legal	Legal	Legal	55'-0" (b)
67'-6" (a)	HS 11.0	HS 26.1	Legal	Legal	Legal	67'-6" (a)
67'-6" (b)	HS 13.3	HS 25.7	Legal	Legal	Legal	67'-6" (b)
80'-0"	HS 10.3	HS 27.5	Legal	Legal	Legal	80'-0"

I STANDARD ISSUED 1919

Note: Ratings are calculated with 3" of earth fill (30 psf).

18' Nominal Roadway Width

			Legal Loads in Tons			
Standard	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
I-1	HS 13.4	HS 21.2	Legal	Legal	Legal	24'
I-3	HS 12.9	HS 20.3	Legal	Legal	Legal	26'
I-5	HS 12.8	HS 19.5	Legal	Legal	Legal	28'
I-7	HS 12.9	HS 20.2	Legal	Legal	Legal	30'
I-9	HS 12.5	HS 20.5	Legal	Legal	Legal	32'
I-11	HS 13.1	HS 20.1	Legal	Legal	Legal	34'
I-13	HS 12.6	HS 20.2	Legal	Legal	Legal	36'
I-15	HS 12.5	HS 20.2	Legal	Legal	Legal	38'
I-17	HS 12.7	HS 19.4	Legal	Legal	Legal	40'
I-19	HS 12.2	HS 20.2	Legal	Legal	Legal	42'

20' Nominal Roadway Width

			Legal Loads in Tons			
Standard	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
I-2	HS 8.4	HS 13.9	21.0*	30.8*	Legal	24'
I-4	HS 8.1	HS 12.9	21.6*	31.7*	Legal	26'
I-6	HS 8.1	HS 13.0	21.0*	30.8*	Legal	28'
I-8	HS 8.1	HS 13.2	20.6*	30.3*	Legal	30'
I-10	HS 7.8	HS 13.0	19.7*	29.0*	39.0*	32'
I-12	HS 8.0	HS 13.5	19.8*	29.1*	39.4*	34'
I-14	HS 7.8	HS 12.8	20.3*	29.9*	39.5*	36'
I-16	HS 7.8	HS 12.9	20.0*	29.4*	39.2*	38'
I-18	HS 7.9	HS 13.0	19.7*	28.9*	38.8*	40'
I-20	HS 7.8	HS 13.1	19.5*	28.6*	38.8*	42'

* Legal with one lane of traffic.

J1 STANDARD ISSUED 1915

Note: Ratings are calculated with 3" of earth fill (30 psf).

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
14'	HS 14.2	HS 21.9	Legal	Legal	Legal	14'
16'	HS 16.2	HS 25.5	Legal	Legal	Legal	16'
18'	HS 17.1	HS 27.4	Legal	Legal	Legal	18'
20'	HS 18.8	HS 30.8	Legal	Legal	Legal	20'
22'	HS 22.0	HS 36.3	Legal	Legal	Legal	22'
24'	HS 21.5	HS 36.5	Legal	Legal	Legal	24'

J1A STANDARD ISSUED 1927

Note: Ratings were calculated using 1" integral wearing surface deducted from the slab as shown on the standard plans.

24' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 21.5	HS 32.9	Legal	Legal	Legal	16'
20'	HS 22.6	HS 36.1	Legal	Legal	Legal	20'
24'	HS 23.9	HS 39.9	Legal	Legal	Legal	24'

J1B STANDARD ISSUED 1927

Note: Ratings were calculated using 1" integral wearing surface deducted from the slab as shown on the standard plans.

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 17.1	HS 26.7	Legal	Legal	Legal	16'
20'	HS 18.2	HS 29.9	Legal	Legal	Legal	20'
24'	HS 18.7	HS 32.3	Legal	Legal	Legal	24'

J2 STANDARD ISSUED 1950

Note: Ratings are calculated with 3" of earth fill (30 psf).

24' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
18'	HS 13.4	HS 22.1	Legal	Legal	Legal	18'

J3 STANDARD ISSUED 1952

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
23'-9"	HS 10.3	HS 18.1	24.3	35.7	Legal	23'-9"
30'-0"	HS 9.4	HS 18.4	26.8	Legal	Legal	30'-0"

J3A STANDARD ISSUED 1960

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
24'-0"	HS 10.6	HS 19.2	25.7	37.7	Legal	24'-0"
30'-0"	HS 10.1	HS 20.1	Legal	Legal	Legal	30'-0"

J4 STANDARD ISSUED 1952

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
75'	HS 12.0	HS 19.2	Legal	Legal	Legal	75'
100'	HS 8.7	HS 17.0	25.4	Legal	Legal	100'
125'	HS 6.1	HS 18.4	Legal	Legal	Legal	125'

J4A STANDARD ISSUED 1960

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
75'	HS 12.2	HS 19.5	Legal	Legal	Legal	75'
100'	HS 9.8	HS 17.2	25.7	Legal	Legal	100'
125'	HS 9.6	HS 18.6	Legal	Legal	Legal	125'

J5 STANDARD ISSUED 1957

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.

24' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
24'-0"	HS 11.1	HS 19.2	25.7	37.7	Legal	24'-0"
30'-0"	HS 10.5	HS 20.0	Legal	Legal	Legal	30'-0"

J6 STANDARD ISSUED 1957

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans.

24' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
75'	HS 13.7	HS 20.9	Legal	Legal	Legal	75'
100'	HS 10.3	HS 19.6	Legal	Legal	Legal	100'
125'	HS 6.4	HS 19.5	Legal	Legal	Legal	125'

J10 STANDARD ISSUED 1954

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans.

20'-9" Nominal Roadway Width

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
18'	HS 10.9	HS 16.5	24.3*	35.7*	Legal	18'
24'	HS 12.2	HS 18.8	25.2*	37.0*	Legal	24'
30'	HS 8.2	HS 13.4	19.5*	29.2*	34.9*	30'

* Legal with one lane of traffic

24' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Span
18'	HS 12.4	HS 18.8	Legal	Legal	Legal	18'
24'	HS 13.6	HS 21.0	Legal	Legal	Legal	24'
30'	HS 9.1	HS 14.9	21.7*	32.5*	38.7*	30'

* Legal with one lane of traffic.

Rating Summary

Bridge Standard: S Series

Date Issued: June 1925 (S1 thru S6 - These plans not available.)
March 1930 (S8 - Plans available.)

Dates Revised: 1928 and 1931 (Plans available.)

St'd No.	Span Length	Roadway Width	Rating (2) (HS)		Legal Capacity, Tons (1)				
					Truck Types				
	ft.	ft.	Inv.	Oper.	4	3S3	3-3		
S1	100	20	15.7	24.1	L	L	L		
S2	110	20	15.0	22.4	L	L	L		
S3	120	20	15.7	23.4	L	L	L		
S4	130	20	15.4	22.9	L	L	L		
S5	140	20	15.7	23.3	L	L	L		
S6	150	20	16.3	24.4	L	L	L		
S8	160	20	15.6	23.2	L	L	L		

(1) L = Legal
(2) Does not include any allowance for a "future wearing surface" as noted in the standard plan. The minimum calculated rating for 1928 or 1931 revisions is shown.

Rating Summary

Bridge Standard: T Series (T1 thru T14)

Date Issued: 1915 - 1917

St'd No.	Span Length	Roadway Width	Rating (1) (HS)		Legal Capacity, Tons (1)						
					Truck Types				One Lane (2) Truck Type		
	ft.	ft.	Inv.	Oper.	4	3S3	3-3		4	3S3	3-3
T1	90	16	9.9	16.0	24	35	L				
T2	90	18	5.7	9.2	14	20	27		24	36	L
T3	100	16	11.3	18.2	L	L	L				
T4	100	18	6.8	10.6	16	24	32		L	L	L
T5	110	16	9.5	15.5	23	33	36				
T6	110	18	5.5	8.9	13	19	26		23	34	L
T7	120	16	11.1	17.5	26	39	L				
T8	120	18	6.4	10.0	15	22	30		L	L	L
T9	130	16	11.1	18.7	L	L	L				
T10	130	18	8.2	12.7	18	27	37		L	L	L
T11	140	16	10.6	16.8	25	37	L				
T12	140	18	6.1	9.7	14	21	29		26	38	L
T13	150	16	11.0	18.1	L	38	38				
T14	150	18	8.1	12.5	18	27	30		L	L	L

(1) Includes allowance of 30 psf for the 3 in. earth fill as detailed on the standard plans. (L = LEGAL) Live Loads were assumed to be supported by the interior stringers only.

(2) Legal load capacity if traffic is restricted to one lane. (16 ft. roadway bridges are considered one lane bridges.)

Rating Summary

Bridge Standard: U Series (U1 thru U9)

Date of Issue: 1928 (Including 1929 and 1931 revisions.)

St'd No.	Span Length	Floor Type	Rating (1) (HS)		Legal Capacity, Tons (1)								
					Truck Types				One Lane (2) Truck Type				
	ft.		Inv.	Oper.	4	3S3	3-3		4	3S3	3-3		
U1	50	Concrete	10.7	17.9	L	L	L						
		Wood	10.5	14.6	L	L	L						
U2	60	Concrete	7.4	13.4	23	33	34		L	L	L		
		Wood	10.5	14.6	L	L	L						
U3	70	Concrete	11.2	17.9	L	39	L		L	L	L		
		Wood	10.5	14.6	L	L	L						
U4	80	Concrete	9.2	17.1	L	37	38		L	L	L		
		Wood	10.5	14.6	L	L	L						
U5	90	Concrete	10.0	18.9	L	L	L						
		Wood	10.5	14.6	L	L	L						
U6	108	Concrete	8.4	14.1	21	32	38		L	L	L		
		Wood	13.7	19.4	L	L	L						
U7	126	Concrete	8.4	14.1	21	32	38		L	L	L		
		Wood	13.7	19.4	L	L	L						
U8	144	Concrete	8.4	14.1	21	32	38		L	L	L		
		Wood	13.7	19.4	L	L	L						
U9	162	Concrete	8.4	14.1	21	32	38		L	L	L		
		Wood	13.7	19.4	L	L	L						

(1) Does not include an allowance for added wearing surface. L=Legal.
(2) Legal load capacity if traffic is restricted to one lane.

Rating Summary

Bridge Standard: U Series (U1 thru U9)

Date of Issue: 1928 (1937 revision)

St'd No.	Span Length	Floor Type	Rating (1) (HS)		Legal Capacity, Tons (1)								
					Truck Types				One Lane (2) Truck Type				
	ft.		Inv.	Oper.	4	3S3	3-3		4	3S3	3-3		
U1	50	Concrete	12.8	18.8	L	L	L						
		Wood	11.8	16.4	L	L	L						
U2	60	Concrete	9.0	15.6	26	39	39		L	L	L		
		Wood	11.8	16.4	L	L	L						
U3	70	Concrete	13.3	18.8	L	L	L						
		Wood	11.8	16.4	L	L	L						
U4	80	Concrete	11.4	18.8	L	L	L						
		Wood	11.8	16.4	L	L	L						
U5	90	Concrete	12.5	18.8	L	L	L						
		Wood	11.8	16.4	L	L	L						
U6	108	Concrete	10.0	16.3	24	37	L		L	L	L		
		Wood	15.2	21.5	L	L	L						
U7	126	Concrete	10.0	16.3	24	37	L		L	L	L		
		Wood	15.2	21.5	L	L	L						
U8	144	Concrete	11.4	17.4	L	L	L						
		Wood	15.1	21.1	L	L	L						
U9	162	Concrete	11.4	17.4	L	L	L						
		Wood	15.1	21.1	L	L	L						

(1) Does not include an allowance for added wearing surface. L=Legal.
(2) Legal load capacity if traffic is restricted to one lane.

V1 STANDARD ISSUED 1915

Note: Ratings are calculated with no earth fill and adequate lateral support for the stringers.

16' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 5.5	HS 8.3	12.5*	18.3*	24.3*	16'
18'	HS 6.3	HS 9.5	13.7*	20.1*	27.1*	18'
20'	HS 5.2	HS 8.1	11.2	16.5	21.8*	20'
22'	HS 8.5	HS 12.7	17.1*	25.2*	32.2*	22'
24'	HS 7.0	HS 10.7	14.7*	21.6*	27.0*	24'
26'	HS 5.6	HS 8.9	12.7	18.7	22.8*	26'
28'	HS 11.8	HS 17.4	25.3*	37.7*	Legal	28'
30'	HS 10.1	HS 15.2	22.2*	33.7*	39.9*	30'
32'	HS 8.7	HS 13.3	19.6*	30.2*	35.4*	32'

* Legal with one lane of traffic centered on bridge.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 5.6	HS 8.5	12.7*	18.7*	24.8*	16'
18'	HS 6.4	HS 9.7	14.0*	20.5*	27.7*	18'
20'	HS 5.3	HS 8.3	11.5	16.9	22.4*	20'
22'	HS 8.7	HS 13.0	17.5*	25.8*	32.9*	22'
24'	HS 7.2	HS 11.0	15.1*	22.2*	27.6*	24'
26'	HS 5.8	HS 9.1	13.0*	19.2*	23.4*	26'
28'	HS 12.1	HS 17.9	26.0*	38.6*	Legal	28'
30'	HS 10.4	HS 15.6	22.8*	34.6*	Legal	30'
32'	HS 9.0	HS 13.7	20.1*	31.0*	36.3*	32'

* Legal with one lane of traffic centered on bridge.

V1 Standard Issued 1915

Note: Ratings are calculated with no earth fill and adequate lateral support for the stringers.

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 5.7	HS 8.6	12.9*	19.0*	25.2*	16'
18'	HS 6.6	HS 9.9	14.2*	20.9*	28.2*	18'
20'	HS 5.4	HS 8.4	11.7*	17.2*	22.7*	20'
22'	HS 8.8	HS 13.2	17.8*	26.2*	33.4*	22'
24'	HS 7.3	HS 11.1	15.3*	22.5*	28.1*	24'
26'	HS 5.9	HS 9.3	13.3*	19.5*	23.8*	26'
28'	HS 12.3	HS 18.1	26.4*	39.2*	Legal	28'
30'	HS 10.6	HS 15.8	23.1*	35.1*	Legal	30'
32'	HS 9.1	HS 13.9	20.4*	31.5*	36.9*	32'

* Legal with one lane of traffic centered on bridge.

Note: Ratings are calculated with no addition for future wearing surface and adequate lateral support for the stringers.

20' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 13.9	HS 20.4	Legal	Legal	Legal	16'
20'	HS 14.0	HS 21.3	Legal	Legal	Legal	20'
24'	HS 13.5	HS 21.1	Legal	Legal	Legal	24'
28'	HS 12.5	HS 20.3	Legal	Legal	Legal	28'
32'	HS 11.9	HS 19.8	Legal	Legal	Legal	32'
36'	HS 11.3	HS 19.0	Legal	Legal	Legal	36'
40'	HS 10.7	HS 18.5	Legal	Legal	Legal	40'

Note: Ratings are calculated with no addition for future wearing surface and adequate lateral support for the stringers.

20' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 13.9	HS 20.4	Legal	Legal	Legal	16'
20'	HS 14.1	HS 21.3	Legal	Legal	Legal	20'
24'	HS 13.5	HS 21.1	Legal	Legal	Legal	24'
28'	HS 12.5	HS 20.3	Legal	Legal	Legal	28'
32'	HS 12.2	HS 20.1	Legal	Legal	Legal	32'
36'	HS 11.5	HS 19.2	Legal	Legal	Legal	36'
40'	HS 10.6	HS 18.4	Legal	Legal	Legal	40'

Note: Ratings are calculated with no addition for future wearing surface and adequate lateral support for the stringers.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 13.3	HS 19.5	Legal	Legal	Legal	16'
20'	HS 13.6	HS 20.4	Legal	Legal	Legal	20'
24'	HS 13.5	HS 20.4	Legal	Legal	Legal	24'
28'	HS 12.8	HS 19.6	Legal	Legal	Legal	28'
32'	HS 12.1	HS 19.2	Legal	Legal	Legal	32'
36'	HS 11.4	HS 18.8	Legal	Legal	Legal	36'
40'	HS 10.8	HS 18.6	Legal	Legal	Legal	40'

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 11.3	HS 17.6	26.3*	38.7*	Legal	16'
20'	HS 11.5	HS 18.2	25.2*	37.0*	Legal	20'
24'	HS 10.9	HS 17.8	24.6*	36.2*	Legal	24'
28'	HS 10.1	HS 16.9	24.5*	36.5*	Legal	28'
32'	HS 9.6	HS 16.4	24.1*	37.3*	Legal	32'
36'	HS 8.9	HS 15.9	24.0*	38.1*	Legal	36'
40'	HS 8.4	HS 15.3	23.7*	38.5*	39.8*	40'

* Legal with one lane of traffic.

Note: Ratings are calculated with no addition for future wearing surface and adequate lateral support for the stringers.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 13.3	HS 19.5	Legal	Legal	Legal	16'
20'	HS 13.6	HS 20.4	Legal	Legal	Legal	20'
24'	HS 13.5	HS 20.4	Legal	Legal	Legal	24'
28'	HS 12.8	HS 19.6	Legal	Legal	Legal	28'
32'	HS 12.1	HS 19.2	Legal	Legal	Legal	32'
36'	HS 11.6	HS 19.0	Legal	Legal	Legal	36'
40'	HS 10.8	HS 18.6	Legal	Legal	Legal	40'

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 11.3	HS 17.6	26.3*	38.7*	Legal	16'
20'	HS 11.5	HS 18.2	25.2*	37.0*	Legal	20'
24'	HS 11.1	HS 18.0	24.9*	36.6*	Legal	24'
28'	HS 10.1	HS 16.9	24.5*	36.5*	Legal	28'
32'	HS 9.6	HS 16.4	24.1*	37.3*	Legal	32'
36'	HS 9.2	HS 16.1	24.3*	38.7*	Legal	36'
40'	HS 8.4	HS 15.3	23.7*	38.5*	39.8*	40'

* Legal with one lane of traffic.

V1B Standard Issued 1934

Note: Ratings are calculated with no addition for future wearing surface and adequate lateral support for the stringers.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 13.1	HS 19.3	Legal	Legal	Legal	16'
20'	HS 13.6	HS 20.2	Legal	Legal	Legal	20'
24'	HS 13.3	HS 20.1	Legal	Legal	Legal	24'
28'	HS 12.6	HS 19.3	Legal	Legal	Legal	28'
32'	HS 12.1	HS 18.9	Legal	Legal	Legal	32'
36'	HS 11.4	HS 18.5	Legal	Legal	Legal	36'
40'	HS 10.7	HS 18.2	Legal	Legal	Legal	40'

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 11.3	HS 17.5	26.2*	38.4*	Legal	16'
20'	HS 11.4	HS 18.1	25.0*	36.7*	Legal	20'
24'	HS 11.1	HS 17.9	24.7*	36.3*	Legal	24'
28'	HS 10.1	HS 16.7	24.3*	36.2*	Legal	28'
32'	HS 9.6	HS 16.3	23.9*	36.9*	Legal	32'
36'	HS 9.2	HS 15.9	24.0*	38.2*	Legal	36'
40'	HS 8.4	HS 15.1	23.4*	38.0*	39.3*	40'

* Legal with one lane of traffic.

V1C Standard Issued 1928

Note: Ratings are calculated with adequate lateral support for the stringers, a 4 x 12 plank floor, and a 3/4" bituminous mat.

16' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 8.6	HS 12.3	18.8	27.7	36.5	16'
20'	HS 8.5	HS 12.3	17.2	25.2	33.6	20'
24'	HS 8.2	HS 12.0	16.3	24.0	30.1	24'
28'	HS 7.6	HS 11.3	16.4	24.2	29.2	28'
32'	HS 7.1	HS 10.7	15.7	24.2	28.4	32'
36'	HS 6.7	HS 10.2	15.3	24.2	27.6	36'
40'	HS 6.4	HS 9.9	15.3	24.7	25.9	40'

V1C Standard Revised 1931

Note: Ratings are calculated with adequate lateral support for the stringers, a 4 x 12 plank floor, and a 3/4" bituminous mat.

16' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 8.6	HS 12.3	18.8	27.7	36.5	16'
20'	HS 8.5	HS 12.3	17.2	25.2	33.6	20'
24'	HS 8.2	HS 12.0	16.3	24.0	30.0	24'
28'	HS 7.6	HS 11.3	16.4	24.2	29.2	28'
32'	HS 7.2	HS 10.8	15.8	24.3	28.5	32'
36'	HS 6.7	HS 10.2	15.3	24.2	27.6	36'
40'	HS 6.4	HS 9.9	15.3	24.7	25.9	40'

Note: Ratings are calculated with adequate lateral support for the stringers, a 4 x 12 plank floor, and a 3/4" bituminous mat.

16' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 8.6	HS 12.3	18.8	27.7	36.5	16'
20'	HS 8.5	HS 12.3	17.2	25.2	33.6	20'
24'	HS 8.2	HS 12.0	16.3	24.0	30.0	24'
28'	HS 7.6	HS 11.3	16.4	24.2	29.2	28'
32'	HS 7.2	HS 10.8	15.8	24.3	28.5	32'
36'	HS 6.7	HS 10.2	15.3	24.2	27.6	36'
40'	HS 6.4	HS 9.9	15.3	24.7	25.9	40'

V2 Standard Issued 1915

Note: Ratings are calculated with adequate lateral support for the stringers.

16' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 9.5	HS 13.2	20.0	29.4	38.8	16'
18'	HS 10.9	HS 15.2	22.0	32.3	Legal	18'
20'	HS 9.7	HS 13.6	18.9	27.8	36.8	20'
22'	HS 13.2	HS 18.4	24.9	36.6	Legal	22'
24'	HS 11.5	HS 16.2	22.1	32.5	Legal	24'
26'	HS 9.8	HS 13.9	19.8	29.1	35.6	26'
28'	HS 14.7	HS 20.6	Legal	Legal	Legal	28'
30'	HS 13.0	HS 18.3	26.7	Legal	Legal	30'
32'	HS 11.6	HS 16.4	24.1	37.1	Legal	32'

V2B Standard Issued 1928

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 13.3	HS 19.5	Legal	Legal	Legal	16'
20'	HS 13.7	HS 20.4	Legal	Legal	Legal	20'
24'	HS 13.5	HS 20.5	Legal	Legal	Legal	24'
28'	HS 12.8	HS 19.7	Legal	Legal	Legal	28'
32'	HS 12.1	HS 19.3	Legal	Legal	Legal	32'
36'	HS 11.4	HS 18.8	Legal	Legal	Legal	36'
40'	HS 10.8	HS 18.6	Legal	Legal	Legal	40'

V2B Standard Issued 1931

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 13.3	HS 19.5	Legal	Legal	Legal	16'
20'	HS 13.7	HS 20.4	Legal	Legal	Legal	20'
24'	HS 13.5	HS 20.5	Legal	Legal	Legal	24'
28'	HS 12.8	HS 19.7	Legal	Legal	Legal	28'
32'	HS 12.1	HS 19.3	Legal	Legal	Legal	32'
36'	HS 11.4	HS 18.8	Legal	Legal	Legal	36'
40'	HS 10.8	HS 18.6	Legal	Legal	Legal	40'

V2B Standard Revised 1934

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 13.2	HS 19.3	Legal	Legal	Legal	16'
20'	HS 13.6	HS 20.2	Legal	Legal	Legal	20'
24'	HS 13.4	HS 20.2	Legal	Legal	Legal	24'
28'	HS 12.7	HS 19.3	Legal	Legal	Legal	28'
32'	HS 12.2	HS 19.0	Legal	Legal	Legal	32'
36'	HS 11.4	HS 18.5	Legal	Legal	Legal	36'
40'	HS 10.8	HS 18.2	Legal	Legal	Legal	40'

V3 Standard Issued 1915

Note: Ratings are calculated with no earth fill and adequate lateral support for the stringers.

16' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 6.2	HS 11.0	16.5	24.3	32.2*	16'
18'	HS 7.1	HS 12.6	18.1	26.6	36.0*	18'
20'	HS 4.8	HS 9.8	13.6	20.0	26.4	20'
22'	HS 7.9	HS 14.6	19.7*	28.9*	36.9*	22'
24'	HS 5.2	HS 11.2	15.4	22.6	28.2*	24'
26'	HS 3.0	HS 8.2	11.7	17.2	21.0	26'
28'	HS 7.7	HS 15.3	22.2*	33.0*	39.7*	28'
30'	HS 5.3	HS 12.1	17.7*	26.8*	31.7*	30'
32'	HS 3.2	HS 9.4	13.8	21.2	24.9*	32'

* Legal with one lane of traffic centered on bridge.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 6.6	HS 11.4	17.2	25.3	33.6*	16'
18'	HS 7.5	HS 13.1	18.9	27.7	37.4*	18'
20'	HS 5.2	HS 10.3	14.3	21.0	27.7*	20'
22'	HS 8.3	HS 15.2	20.5*	30.1*	38.5*	22'
24'	HS 5.7	HS 11.7	16.2	23.7	29.6*	24'
26'	HS 3.4	HS 8.7	12.4	18.2	22.3	26'
28'	HS 8.2	HS 16.0	23.2*	34.5*	Legal	28'
30'	HS 5.7	HS 12.7	18.5*	28.1*	33.3*	30'
32'	HS 3.6	HS 9.9	14.5	22.5*	26.3*	32'

* Legal with one lane of traffic centered on bridge.

V3 Standard Issued 1915

Note: Ratings are calculated with no earth fill and adequate lateral support for the stringers.

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 6.9	HS 11.8	17.8	26.2	34.7*	16'
18'	HS 7.8	HS 13.6	19.5*	28.6*	38.7*	18'
20'	HS 5.5	HS 10.7	14.9	21.8	28.8*	20'
22'	HS 8.7	HS 15.7	21.2*	31.2*	39.8*	22'
24'	HS 6.0	HS 12.2	16.8	24.7	30.7*	24'
26'	HS 3.7	HS 9.1	13.0	19.1	23.3	26'
28'	HS 8.6	HS 16.5	23.9*	35.6*	Legal	28'
30'	HS 6.1	HS 13.2	19.2*	29.2*	34.6*	30'
32'	HS 3.9	HS 10.4	15.2*	23.5*	27.5*	32'

* Legal with one lane of traffic centered on bridge.

V3A Standard Issued 1928

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

24' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 15.4	HS 23.5	Legal	Legal	Legal	16'
20'	HS 15.4	HS 24.2	Legal	Legal	Legal	20'
24'	HS 14.8	HS 23.8	Legal	Legal	Legal	24'
28'	HS 13.7	HS 22.6	Legal	Legal	Legal	28'
32'	HS 13.0	HS 21.9	Legal	Legal	Legal	32'
36'	HS 12.2	HS 21.0	Legal	Legal	Legal	36'
40'	HS 11.6	HS 20.5	Legal	Legal	Legal	40'

V3A Standard Revised 1931

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

24' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 15.4	HS 23.5	Legal	Legal	Legal	16'
20'	HS 15.4	HS 24.2	Legal	Legal	Legal	20'
24'	HS 14.8	HS 23.8	Legal	Legal	Legal	24'
28'	HS 14.0	HS 23.0	Legal	Legal	Legal	28'
32'	HS 13.2	HS 22.1	Legal	Legal	Legal	32'
36'	HS 12.1	HS 20.9	Legal	Legal	Legal	36'
40'	HS 11.6	HS 20.5	Legal	Legal	Legal	40'

V3A Standard Issued 1934

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

24' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 15.3	HS 23.2	Legal	Legal	Legal	16'
20'	HS 15.2	HS 23.7	Legal	Legal	Legal	20'
24'	HS 14.6	HS 23.4	Legal	Legal	Legal	24'
28'	HS 13.4	HS 22.0	Legal	Legal	Legal	28'
32'	HS 12.7	HS 21.3	Legal	Legal	Legal	32'
36'	HS 12.0	HS 20.6	Legal	Legal	Legal	36'
40'	HS 11.6	HS 20.3	Legal	Legal	Legal	40'

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 10.8	HS 17.0	25.5*	37.4*	Legal	16'
20'	HS 10.4	HS 17.1	23.7*	34.8*	Legal	20'
24'	HS 9.7	HS 16.6	23.0*	33.7*	Legal	24'
28'	HS 8.6	HS 15.4	22.4	33.4*	Legal	28'
32'	HS 7.7	HS 14.6	21.4	33.1*	38.7*	32'
36'	HS 7.0	HS 13.9	21.0	33.3*	37.3*	36'
40'	HS 6.4	HS 13.3	20.6	33.5*	34.6*	40'

*Legal with one lane of traffic centered on bridge.

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 10.0	HS 16.2	24.3*	35.7*	Legal	16'
20'	HS 9.7	HS 16.5	22.8*	33.4*	Legal	20'
24'	HS 8.9	HS 15.9	21.9*	32.2*	Legal	24'
28'	HS 7.9	HS 14.7	21.4*	31.9*	38.3*	28'
32'	HS 7.3	HS 14.2	20.8	32.2*	37.6*	32'
36'	HS 6.6	HS 13.5	20.4	32.5*	36.4*	36'
40'	HS 5.9	HS 12.8	19.9	32.2*	33.3*	40'

* Legal with one lane of traffic centered on bridge.

V3B Standard Issued 1931

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 10.8	HS 17.0	25.5*	37.4*	Legal	16'
20'	HS 10.7	HS 17.4	24.1*	35.4*	Legal	20'
24'	HS 9.8	HS 16.7	23.1*	33.9*	Legal	24'
28'	HS 8.7	HS 15.5	22.6 *	33.7*	Legal	28'
32'	HS 8.1	HS 15.0	22.0	34.1*	39.8*	32'
36'	HS 7.2	HS 14.0	21.2	33.7*	37.7*	36'
40'	HS 6.6	HS 13.5	21.0	34.0*	35.2*	40'

* Legal with one lane of traffic centered on bridge.

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 10.0	HS 16.2	24.3*	35.7*	Legal	16'
20'	HS 9.7	HS 16.5	22.8*	33.4*	Legal	20'
24'	HS 9.0	HS 16.0	22.0*	32.4*	Legal	24'
28'	HS 8.1	HS 14.9	21.6*	32.3*	38.7*	28'
32'	HS 7.4	HS 14.3	21.0	32.4*	37.9*	32'
36'	HS 6.8	HS 13.7	20.7	32.9*	36.8*	36'
40'	HS 6.0	HS 12.9	20.0	32.5*	33.6*	40'

* Legal with one lane of traffic centered on bridge.

V3B Standard Issued 1934

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 11.9	HS 18.1	Legal	39.9*	Legal	16'
20'	HS 12.0	HS 18.7	25.9*	38.0*	Legal	20'
24'	HS 11.4	HS 18.3	25.1*	36.9*	Legal	24'
28'	HS 10.3	HS 17.3	25.1*	37.3*	Legal	28'
32'	HS 9.6	HS 17.0	24.9	38.5*	Legal	32'
36'	HS 8.5	HS 16.2	24.5	38.8*	Legal	36'
40'	HS 7.7	HS 15.8	24.5	39.7*	Legal	40'

* Legal with one lane of traffic centered on bridge.

20' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 10.5	HS 16.8	25.2*	37.1*	Legal	16'
20'	HS 10.2	HS 17.0	23.5*	34.6*	Legal	20'
24'	HS 9.5	HS 16.5	22.7*	33.3*	Legal	24'
28'	HS 8.5	HS 15.4	22.3*	33.2*	39.8*	28'
32'	HS 7.8	HS 14.6	21.5*	33.2*	38.8*	32'
36'	HS 7.2	HS 14.0	21.2	33.7*	37.9*	36'
40'	HS 6.4	HS 13.3	20.5	33.2*	34.5*	40'

* Legal with one lane of traffic centered on bridge.

V4 Standard Issued 1915

Note: Ratings are calculated with no earth fill and adequate lateral support for the stringers.

16' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 5.2	HS 7.8	11.8	17.4	23.0*	16'
18'	HS 5.9	HS 9.0	12.9*	19.0*	25.7*	18'
20'	HS 4.9	HS 7.7	10.6	15.6	20.6*	20'
22'	HS 8.0	HS 12.1	16.3*	23.9*	30.5*	22'
24'	HS 6.5	HS 10.1	13.9*	20.5*	25.5*	24'
26'	HS 5.3	HS 8.4	12.0	17.6	21.5*	26'
28'	HS 11.1	HS 16.6	24.1*	35.8*	Legal	28'
30'	HS 9.5	HS 14.4	21.1*	32.0*	37.8*	30'
32'	HS 8.2	HS 12.6	18.5*	28.6*	33.5*	32'

* Legal with one lane of traffic centered on bridge.

18' Nominal Roadway Width

			Legal Loads in Tons			
Clear Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Clear Span
16'	HS 5.3	HS 8.1	12.1*	17.8*	23.6*	16'
18'	HS 6.1	HS 9.2	13.3*	19.5*	26.4*	18'
20'	HS 5.0	HS 7.9	10.9	16.1	21.2*	20'
22'	HS 8.2	HS 12.4	16.7*	24.5*	31.3*	22'
24'	HS 6.8	HS 10.4	14.3*	21.1*	26.2*	24'
26'	HS 5.5	HS 8.7	12.4	18.2	22.2*	26'
28'	HS 11.5	HS 17.0	24.7*	36.7*	Legal	28'
30'	HS 9.8	HS 14.8	21.6*	32.8*	38.9*	30'
32'	HS 8.5	HS 13.0	19.1*	29.5*	34.5*	32'

* Legal with one lane of traffic centered on bridge.

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

Wood Deck

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 10.8	HS 15.3	22.9	33.6	Legal	16'
20'	HS 11.7	HS 16.6	23.0	33.7	Legal	20'
24'	HS 11.7	HS 16.8	23.1	34.0	Legal	24'
28'	HS 11.4	HS 16.5	23.9	35.6	Legal	28'
32'	HS 11.3	HS 16.4	24.1	37.2	Legal	32'
36'	HS 11.1	HS 16.2	24.5	38.9	Legal	36'
40'	HS 11.1	HS 16.2	25.2	Legal	Legal	40'

Concrete Deck

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 12.1	HS 18.2	Legal	Legal	Legal	16'
20'	HS 12.6	HS 19.4	26.8*	39.4*	Legal	20'
24'	HS 12.2	HS 19.1	26.4*	38.8*	Legal	24'
28'	HS 11.6	HS 18.5	26.9*	Legal	Legal	28'
32'	HS 11.3	HS 18.2	26.8*	Legal	Legal	32'
36'	HS 10.8	HS 17.8	26.9*	Legal	Legal	36'
40'	HS 10.6	HS 17.7	Legal	Legal	Legal	40'

* Legal with one lane of traffic centered on bridge.

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

Wood Deck

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 10.9	HS 15.4	23.1	33.9	Legal	16'
20'	HS 11.8	HS 16.7	23.1	34.0	Legal	20'
24'	HS 11.7	HS 16.8	23.1	34.0	Legal	24'
28'	HS 11.6	HS 16.7	24.2	36.1	Legal	28'
32'	HS 11.3	HS 16.4	24.1	37.2	Legal	32'
36'	HS 11.1	HS 16.2	24.5	38.9	Legal	36'
40'	HS 11.1	HS 16.2	25.2	Legal	Legal	40'

Concrete Deck

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 12.2	HS 18.4	Legal	Legal	Legal	16'
20'	HS 12.8	HS 19.6	27.1*	39.8*	Legal	20'
24'	HS 12.2	HS 19.1	26.4*	38.8*	Legal	24'
28'	HS 11.9	HS 18.8	Legal	Legal	Legal	28'
32'	HS 11.3	HS 18.2	26.8*	Legal	Legal	32'
36'	HS 10.8	HS 17.8	26.9*	Legal	Legal	36'
40'	HS 10.6	HS 17.7	Legal	Legal	Legal	40'

* Legal with one lane of traffic centered on bridge.

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

Wood Deck

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 10.8	HS 15.3	22.9	33.7	Legal	16'
20'	HS 11.7	HS 16.6	23.0	33.8	Legal	20'
24'	HS 11.7	HS 16.8	23.1	34.0	Legal	24'
28'	HS 11.6	HS 16.7	24.2	36.1	Legal	28'
32'	HS 11.3	HS 16.4	24.1	37.2	Legal	32'
36'	HS 11.1	HS 16.2	24.5	38.9	Legal	36'
40'	HS 11.1	HS 16.2	25.2	Legal	Legal	40'

Concrete Deck

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 12.1	HS 18.3	Legal	Legal	Legal	16'
20'	HS 12.7	HS 19.4	26.9*	39.5*	Legal	20'
24'	HS 12.2	HS 19.1	26.4*	38.8*	Legal	24'
28'	HS 11.9	HS 18.8	Legal	Legal	Legal	28'
32'	HS 11.3	HS 18.2	26.8*	Legal	Legal	32'
36'	HS 10.8	HS 17.8	26.9*	Legal	Legal	36'
40'	HS 10.6	HS 17.7	Legal	Legal	Legal	40'

* Legal with one lane of traffic centered on bridge.

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 13.0	HS 19.3	Legal	Legal	Legal	16'
20'	HS 13.3	HS 20.0	Legal	Legal	Legal	20'
24'	HS 13.0	HS 20.0	Legal	Legal	Legal	24'
28'	HS 12.4	HS 19.4	Legal	Legal	Legal	28'
32'	HS 11.8	HS 18.7	Legal	Legal	Legal	32'
36'	HS 11.3	HS 18.2	Legal	Legal	Legal	36'
40'	HS 11.1	HS 18.2	Legal	Legal	Legal	40'

20' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 11.7	HS 18.0	27.1*	39.8*	Legal	16'
20'	HS 11.7	HS 18.4	25.5*	37.5*	Legal	20'
24'	HS 11.2	HS 18.2	25.1*	36.8*	Legal	24'
28'	HS 10.3	HS 17.1	24.9*	37.0*	Legal	28'
32'	HS 9.8	HS 16.8	24.6*	38.0*	Legal	32'
36'	HS 9.1	HS 16.1	24.3**	38.5*	Legal	36'
40'	HS 8.9	HS 16.0	24.7*	Legal	Legal	40'

* Legal with one lane of traffic.

** Legal with one lane of traffic centered on bridge.

Note: Ratings are calculated with adequate lateral support for the stringers and no addition for future wearing surface.

18' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 14.7	HS 21.7	Legal	Legal	Legal	16'
20'	HS 15.1	HS 22.5	Legal	Legal	Legal	20'
24'	HS 14.9	HS 22.6	Legal	Legal	Legal	24'
28'	HS 14.0	HS 21.5	Legal	Legal	Legal	28'
32'	HS 13.7	HS 21.3	Legal	Legal	Legal	32'
36'	HS 13.2	HS 20.8	Legal	Legal	Legal	36'
40'	HS 13.1	HS 20.8	Legal	Legal	Legal	40'

20' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
16'	HS 13.4	HS 20.3	Legal	Legal	Legal	16'
20'	HS 13.5	HS 20.9	Legal	Legal	Legal	20'
24'	HS 13.1	HS 20.8	Legal	Legal	Legal	24'
28'	HS 12.2	HS 19.7	Legal	Legal	Legal	28'
32'	HS 11.8	HS 19.5	Legal	Legal	Legal	32'
36'	HS 11.0	HS 18.7	Legal	Legal	Legal	36'
40'	HS 10.9	HS 18.6	Legal	Legal	Legal	40'

V6 Standard Issued 1939

Note: Ratings are calculated with no addition for future wearing surface.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
120'	HS 10.2	HS 15.3	23.5*	Legal	Legal	120'
150'	HS 10.1	HS 15.5	24.5*	Legal	38.9*	150'
180'	HS 10.7	HS 16.5	26.6*	Legal	38.9*	180'
210'	HS 10.7	HS 16.9	Legal	39.5*	38.2*	210'
240'	HS 11.7	HS 18.5	Legal	Legal	Legal	240'

* Legal with one lane of traffic centered on bridge.

V6 Standard Issued 1946

Note: Ratings are calculated with no addition for future wearing surface.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
120'	HS 11.0	HS 16.4	25.2*	Legal	Legal	120'
150'	HS 10.5	HS 16.1	25.4*	Legal	Legal	150'
180'	HS 11.2	HS 17.3	Legal	Legal	Legal	180'
210'	HS 10.7	HS 16.9	Legal	39.5*	38.1*	210'
240'	HS 12.5	HS 19.7	Legal	Legal	Legal	240'

* Legal with one lane of traffic centered on bridge.

V7 Standard Issued 1939

Note: Ratings are calculated with no addition for future wearing surface.

22' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
120'	HS 9.3	HS 14.1	21.7*	38.1*	39.5*	120'
150'	HS 9.3	HS 14.4	22.7*	36.9*	36.1*	150'
180'	HS 9.7	HS 15.2	24.6*	37.1*	36.0*	180'
210'	HS 9.8	HS 15.7	25.7*	36.6*	35.3*	210'
240'	HS 10.6	HS 17.0	Legal	38.7*	37.5*	240'

* Legal with one lane of traffic centered on bridge.

V7 Standard Issued 1946

Note: Ratings are calculated with no addition for future wearing surface.

22' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
120'	HS 10.0	HS 15.1	23.2*	Legal	Legal	120'
150'	HS 9.6	HS 14.8	23.4*	38.1*	37.2*	150'
180'	HS 10.3	HS 16.0	25.8*	38.9*	37.7*	180'
210'	HS 9.8	HS 15.6	25.6*	36.4*	35.2*	210'
240'	HS 11.4	HS 18.1	Legal	Legal	39.8*	240'

* Legal with one lane of traffic centered on bridge.

V8 Standard Issued 1941

Note: Ratings are calculated with no addition for future wearing surface.

22' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
24'	HS 8.3	HS 13.4	18.5*	27.1*	33.7*	24'
28'	HS 7.6	HS 12.7	18.4*	27.5*	32.9*	28'
32'	HS 7.4	HS 12.5	18.4*	28.4*	33.2*	32'
36'	HS 7.2	HS 12.3	18.6*	29.6*	33.1*	36'
40'	HS 6.6	HS 11.6	18.0*	29.2*	30.2*	40'

* Legal with one lane of traffic centered on bridge.

V8 Standard Revised 1947

Note: Ratings are calculated with no addition for future wearing surface.

22' Nominal Roadway Width

			Legal Loads in Tons			
Nominal Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Nominal Span
24'	HS 8.1	HS 13.2	18.2*	26.8*	33.2*	24'
28'	HS 7.4	HS 12.5	18.1*	27.0*	32.4*	28'
32'	HS 7.3	HS 12.3	18.1*	28.0*	32.8*	32'
36'	HS 6.9	HS 12.1	18.3*	29.1*	32.5*	36'
40'	HS 6.3	HS 11.4	17.6*	28.6*	29.6*	40'

* Legal with one lane of traffic centered on bridge.

V9 Standard 1950

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

20' Nominal Roadway Width

			Legal Loads in Tons			
Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Span
23'-9	HS 11.2	HS 16.4	Legal	Legal	Legal	23'-9
30'-0	HS 9.1	HS 16.1	25.1*	Legal	Legal	30'-0
42'-6	HS 9.2	HS 16.6	Legal	Legal	Legal	42'-6
55'-0	HS 9.1	HS 16.7	Legal	Legal	Legal	55'-0
67'-6	HS 9.5	HS 16.8	Legal	Legal	Legal	67'-6
80'-0	HS 10.3	HS 16.8	Legal	Legal	Legal	80'-0

* Legal with one lane traffic.

V9 Standard Issued 1964

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

20' Nominal Roadway Width

			Legal Loads in Tons			
Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Span
23'-9	HS 13.8	HS 22.5	Legal	Legal	Legal	23'-9
30'-0	HS 11.8	HS 20.0	Legal	Legal	Legal	30'-0
42'-6	HS 10.7	HS 18.9	Legal	Legal	Legal	42'-6
55'-0	HS 9.4	HS 17.9	Legal	Legal	Legal	55'-0
67'-6	HS 10.5	HS 20.1	Legal	Legal	Legal	67'-6
80'-0	HS 10.3	HS 20.9	Legal	Legal	Legal	80'-0

V9A Standard Issued 1957

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

20' Nominal Roadway Width

			Legal Loads in Tons			
Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Span
23'-9	HS 11.7	HS 17.8	Legal	Legal	Legal	23'-9
30'-0	HS 9.0	HS 16.0	24.8*	39.7*	Legal	30'-0
42'-6	HS 9.0	HS 17.7	Legal	Legal	Legal	42'-6
55'-0	HS 9.0	HS 17.7	Legal	Legal	Legal	55'-0
67'-6	HS 9.3	HS 18.2	Legal	Legal	Legal	67'-6
80'-0	HS 10.3	HS 18.2	Legal	Legal	Legal	80'-0

* Legal with one lane of traffic.

V10 Standard Issued 1951

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plan. The curb was used as part of the exterior beam composite section.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
125'	HS 9.5	HS 15.5	23.8*	Legal	Legal	125'
150'	HS 9.6	HS 15.8	25.0*	Legal	39.3*	150'
175'	HS 10.3	HS 16.9	Legal	Legal	39.9*	175'
200'	HS 10.0	HS 16.8	Legal	39.9*	38.2*	200'
250'	HS 10.6	HS 18.0	Legal	Legal	39.5*	250'
300'	HS 12.4	HS 18.2	Legal	Legal	Legal	300'

* Legal with one lane of traffic.

V10 Standard Issued 1964

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

20' Nominal Roadway Width

3 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
125'	HS 11.1	HS 17.1	26.4*	Legal	Legal	125'
150'	HS 10.3	HS 16.1	25.2*	Legal	Legal	150'
175'	HS 10.5	HS 17.2	Legal	Legal	Legal	175'
200'	HS 10.5	HS 17.3	Legal	Legal	39.3*	200'
225'	HS 10.2	HS 17.2	Legal	39.4*	38.0*	225'
250'	HS 10.4	HS 17.9	Legal	Legal	39.7*	250'
300'	HS 10.8	HS 19.2	Legal	Legal	Legal	300'

* Legal with one lane of traffic.

4 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
174'	HS 11.0	HS 17.0	26.2*	Legal	Legal	174'
208.5'	HS 10.2	HS 15.9	25.1*	Legal	39.6*	208.5'
243'	HS 10.5	HS 17.2	Legal	Legal	Legal	243'
278'	HS 10.6	HS 17.2	Legal	Legal	39.2*	278'
313'	HS 10.2	HS 17.1	Legal	39.3*	37.9*	313'
347.5'	HS 10.4	HS 17.9	Legal	Legal	39.5*	347.5'
417'	HS 10.9	HS 19.2	Legal	Legal	Legal	417'

* Legal with one lane of traffic.

V10 Standard Issued 1964

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

20' Nominal Roadway Width

5 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
223'	HS 11.0	HS 16.9	26.0*	Legal	Legal	223'
267'	HS 10.0	HS 15.7	24.8*	Legal	39.0*	267'
311'	HS 10.5	HS 17.0	Legal	Legal	Legal	311'
356'	HS 10.6	HS 17.2	Legal	Legal	39.0*	356'
401'	HS 10.2	HS 17.1	Legal	39.2*	37.7*	401'
445'	HS 10.4	HS 17.9	Legal	Legal	39.2*	445'
534'	HS 10.8	HS 19.2	Legal	Legal	Legal	534'

* Legal with one lane of traffic.

V10A Standard Issued 1957

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

20' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
125'	HS 9.5	HS 15.2	23.3*	39.7*	Legal	125'
150'	HS 9.6	HS 15.5	24.5*	39.8*	38.6*	150'
175'	HS 9.9	HS 16.5	26.7*	Legal	39.7*	175'
200'	HS 9.7	HS 16.2	26.6*	38.5*	36.9*	200'
250'	HS 10.2	HS 16.7	Legal	Legal	39.6*	250'
300'	HS 11.5	HS 16.9	Legal	Legal	Legal	300'

*Legal with one lane of traffic.

V11 Standard Issued 1957

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

24' Nominal Roadway Width

			Legal Loads in Tons			
Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Span
23'-9	HS 12.4	HS 17.5	Legal	Legal	Legal	23'-9
30'-0	HS 12.1	HS 17.6	Legal	Legal	Legal	30'-0
42'-6	HS 9.3	HS 16.4	26.2*	Legal	Legal	42'-6
55'-0	HS 6.9	HS 13.9	22.5*	34.6*	33.8*	55'-0
67'-6	HS 8.7	HS 16.7	Legal	37.1*	37.5*	67'-6
80'-0	HS 8.2	HS 16.7	Legal	35.5*	35.8*	80'-0

* Legal with one lane of traffic centered on roadway.

V11 Standard Issued 1964

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

24' Nominal Roadway Width

			Legal Loads in Tons			
Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Span
23'-9	HS 16.3	HS 23.4	Legal	Legal	Legal	23'-9
30'-0	HS 15.6	HS 23.4	Legal	Legal	Legal	30'-0
42'-6	HS 11.2	HS 19.1	Legal	Legal	Legal	42'-6
55'-0	HS 10.9	HS 19.4	Legal	Legal	Legal	55'-0
67'-6	HS 10.8	HS 20.1	Legal	Legal	Legal	67'-6
80'-0	HS 11.2	HS 21.5	Legal	Legal	Legal	80'-0

V12 Standard Issued 1957

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

24' Nominal Roadway Width

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
125'	HS 10.7	HS 16.7	26.0*	Legal	Legal	125'
150'	HS 10.7	HS 16.8	26.6*	Legal	Legal	150'
175'	HS 11.4	HS 17.5	Legal	Legal	Legal	175'
200'	HS 9.6	HS 15.6	25.5*	36.9*	35.2*	200'
250'	HS 10.0	HS 16.7	Legal	37.4*	36.1*	250'
300'	HS 9.3	HS 16.6	Legal	36.2*	35.2*	300'

* Legal with one lane of traffic centered on bridge.

V12 Standard Issued 1964

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

24' Nominal Roadway Width

3 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
125'	HS 13.0	HS 19.5	Legal	Legal	Legal	125'
150'	HS 13.5	HS 20.3	Legal	Legal	Legal	150'
175'	HS 12.4	HS 19.4	Legal	Legal	Legal	175'
200'	HS 12.9	HS 19.9	Legal	Legal	Legal	200'
225'	HS 12.8	HS 20.1	Legal	Legal	Legal	225'
250'	HS 13.4	HS 21.4	Legal	Legal	Legal	250'

4 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
174'	HS 13.0	HS 19.4	Legal	Legal	Legal	174'
208.5'	HS 13.3	HS 20.1	Legal	Legal	Legal	208.5'
243'	HS 12.4	HS 19.2	Legal	Legal	Legal	243'
278'	HS 12.9	HS 19.9	Legal	Legal	Legal	278'
313'	HS 12.8	HS 20.1	Legal	Legal	Legal	313'
347.5'	HS 13.4	HS 21.4	Legal	Legal	Legal	347.5'

V12 Standard Issued 1964

Note: Ratings were calculated using a 1/4" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

24' Nominal Roadway Width

5 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
223'	HS 12.9	HS 19.2	Legal	Legal	Legal	223'
267'	HS 13.2	HS 19.9	Legal	Legal	Legal	267'
311'	HS 12.4	HS 19.0	Legal	Legal	Legal	311'
356'	HS 12.9	HS 19.9	Legal	Legal	Legal	356'
401'	HS 12.8	HS 20.0	Legal	Legal	Legal	401'
445'	HS 13.4	HS 21.3	Legal	Legal	Legal	445'

V13 Standard Issued 1960

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

28' Nominal Roadway Width

			Legal Loads in Tons			
Span	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Span
23'-9	HS 16.3	HS 23.7	Legal	Legal	Legal	23'-9
30'-0	HS 16.4	HS 23.7	Legal	Legal	Legal	30'-0
42'-6	HS 16.5	HS 23.8	Legal	Legal	Legal	42'-6
55'-0	HS 16.1	HS 23.9	Legal	Legal	Legal	55'-0
67-'6	HS 16.6	HS 24.1	Legal	Legal	Legal	67'-6

V14 Standard Issued 1960

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

28' Nominal Roadway Width

3 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
125'	HS 16.4	HS 23.8	Legal	Legal	Legal	125'
150'	HS 16.1	HS 23.9	Legal	Legal	Legal	150'
175'	HS 16.5	HS 23.9	Legal	Legal	Legal	175'
200'	HS 16.6	HS 24.0	Legal	Legal	Legal	200'
225'	HS 16.7	HS 24.1	Legal	Legal	Legal	225'
250'	HS 16.7	HS 24.1	Legal	Legal	Legal	250'

4 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
174'	HS 16.2	HS 23.8	Legal	Legal	Legal	174'
208.5'	HS 16.2	HS 23.9	Legal	Legal	Legal	208.5'
243'	HS 16.5	HS 23.9	Legal	Legal	Legal	243'
278'	HS 16.6	HS 24.0	Legal	Legal	Legal	278'
313'	HS 16.7	HS 24.1	Legal	Legal	Legal	313'
347.5'	HS 16.7	HS 24.1	Legal	Legal	Legal	347.5'

V14 Standard Issued 1960

Note: Ratings were calculated using a 1/2" integral wearing surface deducted from the slab as shown on the standard plans. The curb was used as part of the exterior beam composite section.

28' Nominal Roadway Width
5 Span Bridge

			Legal Loads in Tons			
Bridge Length	Inventory	Operating	Type 4	Type 3S3	Type 3-3	Bridge Length
223'	HS 16.1	HS 23.8	Legal	Legal	Legal	223'
267'	HS 16.2	HS 23.9	Legal	Legal	Legal	267'
311'	HS 16.5	HS 23.9	Legal	Legal	Legal	311'
356'	HS 16.6	HS 24.0	Legal	Legal	Legal	356'
401'	HS 16.7	HS 24.1	Legal	Legal	Legal	401'
445'	HS 16.7	HS 24.1	Legal	Legal	Legal	445'

Rating Summary

Standard Series: W (W1 thru W5)

Date Issued: 1924 (Including 1925, 1928, and 1931 revisions.)

Standard No.	Span Length	Rating (1) (HS)		Legal Load Capacity, Tons (1) Truck Type		
	ft.	Inv.	Oper.	4	3S3	3-3
W1	50	15.6	22.8	L	L	L
W2	60	16.3	24.9	L	L	L
W3	70	16.9	25.2	L	L	L
W4	80	17.0	25.4	L	L	L
W5	90	16.3	24.4	L	L	L

(1) Does not include any allowance for added wearing surface. (L = Legal)

Rating Summary

Bridge Standard: X Series (X1 thru X28)

Date of Issue: 1914

St'd No.	Span Length	Roadway Width	Rating (1) (HS)		Legal Load Capacity, Tons (1) Truck Type			One Lane (2) Truck Type		
	ft.	ft.	Inv.	Oper.	4	3S3	3-3	4	3S3	3-3
X1	35	16	10.5	17.9	L	L	L			
X2	35	18	6.6	11.8	18	26	33	26	38	L
X3	40	16	11.7	18.8	L	L	L			
X4	40	18	7.7	12.4	19	28	37	L	L	L
X5	45	16	8.9	15.3	25	L	L			
X6	45	18	7.1	11.6	17	25	34	25	37	L
X7	50	16	9.7	16.7	L	L	L			
X8	50	18	6.1	11.0	18	27	29	25	39	39
X9	55	16	8.4	15.7	26	39	39			
X10	55	18	6.6	11.4	17	24	31	24	36	L
X11	60	16	9.0	16.4	L	L	39			
X12	60	18	7.2	11.7	18	26	28	26	38	39
X13	65	16	10.2	17.1	L	L	39			
X14	65	18	6.7	12.2	19	28	30	L	L	L
X15	70	16	9.9	18.9	L	L	L			
X16	70	18	6.5	11.7	18	26	30	26	38	L
X17	75	16	10.4	18.6	L	L	L			
X18	75	18	7.6	12.2	19	27	31	L	L	L
X19	80	16	8.4	15.0	26	35	36			
X20	80	18	7.9	12.4	19	28	33	L	L	L
X21	85	16	12.6	20.8	L	L	L			
X22	85	18	7.4	11.9	18	26	32	26	39	L
X23	90	16	12.5	19.8	L	L	L			
X24	90	18	7.1	11.6	17	25	34	25	37	L
X25	95	16	11.4	18.6	L	L	L			
X26	95	18	9.3	16.1	24	35	36	L	L	L

Rating Summary

Bridge Standard: X Series (X1 thru X28)

Date of Issue: 1914

St'd No.	Span Length	Roadway Width	Rating (1) (HS)		Legal Load Capacity, Tons (1) Truck Type			One Lane (2) Truck Type		
	ft.	ft.	Inv.	Oper.	4	3S3	3-3	4	3S3	3-3
X27	100	16	13.0	19.1	L	L	L			
X28	100	18	10.0	15.8	22	33	38	L	L	L

(1) Includes allowance of 30 psf for the 3 in. earth fill as detailed on the standard plans. (L = Legal)
(2) Legal load capacity if traffic is restricted to one lane. (16 ft. roadway bridges are considered one lane bridges.)

Rating Summary

Bridge Standard: Y Series (Y1 thru Y20)

Date Issued: 1914

St'd No.	Span Length	Roadway Width	Rating (1) (HS)		Legal Load Capacity, Tons (1)					
					Truck Type			One Lane (2) Truck Type		
	ft.	ft.	Inv.	Oper.	4	3S3	3-3	4	3S3	3-3
Y1	40	16	8.5	15.5	26	38	L			
Y2	40	18	6.5	10.6	18	27	33	L	L	L
Y3	45	16	8.6	15.2	25	36	L			
Y4	45	18	5.6	8.8	14	21	27	25	37	L
Y5	50	16	9.1	17.0	L	L	L			
Y6	50	18	6.8	10.6	16	24	32	L	L	L
Y7	55	16	7.6	15.2	25	37	37			
Y8	55	18	6.3	10.1	17	25	29	26	L	L
Y9	60	16	8.6	15.2	25	36	L			
Y10	60	18	5.6	8.8	14	21	27	25	37	39
Y11	65	16	8.0	16.2	L	36	37			
Y12	65	18	7.1	11.0	17	25	32	L	L	L
Y13	70	16	7.9	14.7	25	36	36			
Y14	70	18	6.4	9.8	16	24	31	L	L	L
Y15	75	16	9.6	15.2	25	36	39			
Y16	75	18	5.6	8.8	14	21	27	25	37	L
Y17	80	16	10.4	18.7	L	L	L			
Y18	80	18	7.4	11.3	18	26	33	L	L	L
Y19	85	16	9.3	17.5	L	39	L			
Y20	85	18	6.5	10.2	15	23	31	L	L	L

(1) Includes allowance of 30 psf for the 3 in. earth fill as detailed on the standard plans. (L=LEGAL). Live loads were assumed to be supported by the interior stringers only.
(2) Legal load capacity if traffic is restricted to one lane. (16 ft. roadway bridges are considered one lane bridges.)

Rating Summary

Bridge Standard: Z Series (Z1 thru Z7 , and Z9)

Date Issued: 1927 (except Z9, issued in 1930)

Date Revised: 1945

St'd No.	Span Length	Roadway Width	Rating (1) (HS)		Legal Load Capacity, Tons (1)		
					Truck Type		
	ft.	ft.	Inv.	Oper.	4	3S3	3-3
Z1	45	16	5.0	7.2	12	17	22
Z2	60	16	5.0	7.2	12	17	22
Z3	75	16	5.0	7.2	12	17	22
Z4	90	16	5.0	7.2	12	17	22
Z5	105	16	4.8	7.0	10	15	21
Z6	122.5	16	4.8	7.0	10	15	21
Z7	140	16	4.8	7.0	10	15	21
Z9	157.5	16	4.8	7.0	10	15	21

(1) 16 ft. roadway bridges are considered one lane bridges.

NOTE: Rating and load capacity for all spans was controlled by the laterally unsupported compression flange of interior stringers. If the original wood plank floor has been replaced with planks adequately attached to the top of all stringers, the rating and load capacity should be re-evaluated.