T·Y·LIN INTERNATIONAL

Waitsfield Bridge No. 177
Contract Modified Deck Design and Ancillary Elements

Waitsfield, VT

Waitsfield BRF 013-4(39)

Project Load Rating Calculations

February 3, 2016

Prepared by

T·Y·LIN INTERNATIONAL
engineers | planners | scientists

12 Northbrook Drive
Building A, Suite One
Falmouth, ME 04105

Joshua K Olund, P.E.

STATE OF VERMONT
JOSHUA K. OLUND
NO. 72818
Structural Part II
LICENSED
PROFESSIONAL ENGINEER

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1. Project Description and Load Rating Summary

Waitsfield Bridge No. 177 is an existing 2-span continuous rolled beam bridge constructed in 1938 in the town of Waitsfield, VT. This bridge is going to be replaced by a single span steel beam bridge. The design of this new bridge was done by McFarland Johnson for the Vermont Agency of Transportation (VTrans). This new bridge is a 172 ft. simple span steel I-girder structure with a composite concrete deck. This is a parallel skew bridge with skew angle of 45 degrees.

The Contractor A.L. St. Onge successfully bid the construction contract of this bridge, as advertised by VTrans. After bids were opened, the Contractor recognized an alternate construction method that could save the State money while still meeting all other project goals.

T.Y. Lin International (TYLI) was tasked to provide the design for an alternate deck using partial depth prestressed precast concrete panels. The calculations provided herein are a load rating of the new deck design. The travel way consists of two 11 ft. lanes and 5 ft. shoulders on a relatively flat vertical profile.

The load ratings were performed in accordance with the AASHTO Manual for Bridge Evaluation (MBE) 2010 with interims through 2015. Only superstructure beams were analyzed as a part of this rating using MDX software.

As noted in the VTrans Structures Design Manual, load rating values were calculated for the following trucks:

- H20 Truck
- HL-93 Design Load
- VTrans 3S2 Truck
- 6 Axle Trailer
- 3 Axle Straight
- 4 Axle Straight, and
- 5 Axle Semi.

The H20 Truck and the HL-93 Design Load were treated as 'Design Loads' and reported inventory and operating rating values, whereas the other 5 trucks were considered to be Legal Loads (routine commercial operating vehicles) and were therefore only rated under operating conditions. The following are additional notes for the load rating of this bridge:

- The load rating analysis preformed and reported herein was based upon the design model created for the bridge to re-determine camber values due to change deck thickness and strength.
- The load rating analysis was completed using LRFR methodology.
- Strength I and Service II load combinations were considered for the load ratings; fatigue was not considered. Checks for moment and shear of the I-girders were included.
    i. For HL-93 and H-20 inventory trucks, the load factors are 1.75 and 1.30 for Strength I and Service II, respectively.
    ii. For HL-93 and H-20 operating trucks, the load factors are 1.35 and 1.0 for Strength I and Service II, respectively.
    iii. For all other trucks, the load factors are 1.30 for both Strength I and Service II.

It should be noted that except for the 3 Axle Straight truck, the fascia girder controls the overall rating of the superstructure. The controlling behavior is the moment in all cases. With this in mind, load rating values could be further improved if live load was confined to the travel lanes and not placed within the shoulders of the structure. The controlling locations are either mid-span or at flange transition locations near quarter of span. The following table summarizes the load rating for this bridge.

	Load Rating Results						
Loading Levels	H20	HL-93	3S2	6 Axle	3 Axle	4 Axle	5 Axle
Inventory	4.47	1.57					
Operating	5.79	2.29	3.05	1.75	3.31	2.98	2.82

Further details of the load rating are provided in the table below. The minimum rating factors are listed for each vehicle. Note that in this bridge, Girders 1 and 5 are the fascia girders and Girders 2 to 4 are the interior girders. *L* is the span length, 172ft.

Truck	**Rating Factor**	**Girder(s)**	**Location**	**Load Combo**
HL-93 - Inventory	1.57	1 & 5	0.5*L*	Strength I
HL-93 – Operating	2.29	1 & 5	0.25 *L* & 0.75 *L*	Service II
H-20 – Inventory	4.47	1 & 5	0.5*L*	Strength I
H-20 – Operating	5.79	1 & 5	0.5*L*	Strength I
3S2	3.05	1 & 5	0.25 *L* & 0.75 *L*	Service II
6 Axle Trailer	1.75	1 & 5	0.25 *L* & 0.75 *L*	Service II
3 Axle Straight	3.31	4	0.75*L*	Service II
4 Axle Straight	2.98	1 & 5	0.25 *L* & 0.75 *L*	Service II
5 Axle Semi	2.82	1 & 5	0.25 *L* & 0.75 *L*	Service II

2. MDX Load Rating Reports

WAITSFIELD HL-93
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:26:59 2015

```
ID: WAITSFIELD HL-93
CONDITIONS
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD HL-93
Girder 1 : Input File : Definition
Tue Dec 08 18:20:57 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
```

```
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD HL-93
Girder 2 : Input File : Definition
Tue Dec 08 18:21:18 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  TFISPB 8.75
  TFISPT  0.75
```

```
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD HL-93
Girder 3 : Input File : Definition
Tue Dec 08 18:21:29 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  TFISPB 8.75
  TFISPT  0.75
```

```
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD HL-93
Girder 4 : Input File : Definition
Tue Dec 08 18:21:38 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  TFISPB 8.75
  TFISPT  0.75
```

```
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD HL-93
Girder 5 : Input File : Definition
Tue Dec 08 18:21:47 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
```

```
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD HL-93
Bracing : Input File : Definition
Tue Dec 08 18:21:55 2015

```
ID: WAITSFIELD
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
```

WAITSFIELD HL-93
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:22:18 2015

[This table uses the rating equation (6B.4.1-1) of the 2011 edition of the Manual for Bridge Evaluation where A1D is the sum of factored composite dead, noncomposite dead, and factored wearing surface loads. The denominator A2L(1+I) is the factored live load. If equation (6a.4.2.1-1) is to be used for LRFR ratings the condition LRFR RATINGS must be used in the girder input file.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. B	928.39	137.28 T	240.24	5.28	9.24
17.20	13447. C	928.39	4.89 B	8.56	6.64	11.62
34.40	13447. C	928.39	2.37 B	4.15	8.79	15.38
45.00L	13447. C	928.39	1.82 B	3.18	10.45	18.29
45.00R	15422. C	928.39	2.23 B	3.89	10.45	18.29
51.60	15422. C	928.39	1.98 B	3.47	11.79	20.64
68.80	15422. C	928.39	1.64 B	2.88	15.75	27.57
86.00	15422. C	928.39	1.57 B	2.76	17.04	29.82
103.20	15422. C	928.39	1.72 B	3.00	13.13	22.98
120.40	15422. C	928.39	2.16 B	3.78	10.35	18.11
127.00L	15422. C	928.39	2.47 B	4.32	9.59	16.78
127.00R	13447. C	928.39	2.01 B	3.52	9.59	16.78
137.60	13447. C	928.39	2.70 B	4.73	8.55	14.96
154.80	13447. C	928.39	5.86 B	10.25	7.45	13.03
172.00	13447. C	928.39	566.97 B	992.21	6.41	11.22

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	151.91 B	197.48
17.20	47500. S	5.17 B	6.72
34.40	47500. S	2.38 B	3.09
45.00L	47500. S	1.76 B	2.29
45.00R	47500. S	2.60 B	3.38
51.60	47500. S	2.30 B	2.99
68.80	47500. S	1.89 B	2.45
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.97 B	2.56

120.40	47500.	S	2.51	B	3.26
127.00L	47500.	S	2.88	B	3.74
127.00R	47500.	S	1.95	B	2.54
137.60	47500.	S	2.71	B	3.52
154.80	47500.	S	6.19	B	8.05
172.00	47500.	S	627.40	B	815.62

```
*****************************************************
Minimum rating is  1.57 at location  86.00 in span 1.
*****************************************************
```

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs
R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb \text{ - factored dead load stress}}{\text{factored LL+I stress}}$$

WAITSFIELD HL-93
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:22:42 2015

[This table uses the rating equation (6B.4.1-1) of the 2011 edition of the Manual for Bridge Evaluation where A1D is the sum of factored composite dead, noncomposite dead, and factored wearing surface loads. The denominator A2L(1+I) is the factored live load. If equation (6a.4.2.1-1) is to be used for LRFR ratings the condition LRFR RATINGS must be used in the girder input file.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. B	928.39	158.57 T	277.50	4.54	7.94
17.20	14218. C	1241.60	5.28 B	9.24	9.16	16.03
34.40	14218. C	1241.60	2.68 B	4.68	11.10	19.43
45.00L	14218. C	1170.25	2.06 B	3.61	11.42	19.99
45.00R	16800. C	1170.25	2.64 B	4.62	11.42	19.99
51.60	16800. C	1241.60	2.35 B	4.12	12.91	22.59
68.80	16800. C	1241.60	1.94 B	3.40	15.39	26.94
86.00	16800. C	1241.60	1.82 B	3.19	17.66	30.90
103.20	16800. C	1241.60	1.93 B	3.37	14.67	25.67
120.40	16800. C	1241.60	2.33 B	4.08	12.36	21.63
127.00L	16800. C	1170.25	2.61 B	4.57	10.93	19.13
127.00R	14218. C	1170.25	2.04 B	3.58	10.93	19.13
137.60	14218. C	1241.60	2.66 B	4.65	10.63	18.60
154.80	14218. C	1241.60	5.32 B	9.30	9.07	15.87
172.00	14218. C	928.39	252.60 B	442.05	4.76	8.32

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	168.18 B	218.63
17.20	47500. S	5.27 B	6.86
34.40	47500. S	2.49 B	3.24
45.00L	47500. S	1.83 B	2.38
45.00R	47500. S	2.75 B	3.57
51.60	47500. S	2.42 B	3.15
68.80	47500. S	1.96 B	2.54
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.94 B	2.53

```
120.40           47500. S                    2.40 B   3.12
127.00L          47500. S                    2.72 B   3.54
127.00R          47500. S                    1.82 B   2.37
137.60           47500. S                    2.47 B   3.21
154.80           47500. S                    5.31 B   6.90
172.00           47500. S                  267.91 B 348.29

   ******************************************************
   Minimum rating is  1.82 at location  86.00 in span 1.
   ******************************************************


        Rating Codes:
        T - Top steel governs
        B - Bottom steel governs
        C - Concrete governs
        R - Rebar governs
        V - Shear governs
        S - Serviceability governs

        Mom Strength Codes:
        C - Compact
        B - Braced non-compact
        U - Unbraced non-compact
        T - Transition between compact and braced non-compact
        S - Serviceability

   Noncompact shapes ratings based on stress, as

                Fb  -  factored dead load stress
           IR = ---------------------------------
                      factored LL+I stress
```

WAITSFIELD HL-93
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:22:57 2015

[This table uses the rating equation (6B.4.1-1) of the 2011 edition of the Manual for Bridge Evaluation where A1D is the sum of factored composite dead, noncomposite dead, and factored wearing surface loads. The denominator A2L(1+I) is the factored live load. If equation (6a.4.2.1-1) is to be used for LRFR ratings the condition LRFR RATINGS must be used in the girder input file.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. B	928.39	246.00 T	430.51	4.92	8.61
17.20	14218. C	1241.60	5.69 B	9.97	9.89	17.30
34.40	14218. C	1241.60	2.91 B	5.09	11.81	20.67
45.00L	14218. C	1170.25	2.26 B	3.96	12.12	21.20
45.00R	16800. C	1170.25	2.89 B	5.06	12.12	21.20
51.60	16800. C	1241.60	2.60 B	4.54	13.67	23.92
68.80	16800. C	1241.60	2.17 B	3.80	15.82	27.69
86.00	16800. C	1241.60	2.05 B	3.59	18.59	32.53
103.20	16800. C	1241.60	2.17 B	3.80	15.84	27.72
120.40	16800. C	1241.60	2.59 B	4.54	13.66	23.90
127.00L	16800. C	1170.25	2.89 B	5.06	12.10	21.17
127.00R	14218. C	1170.25	2.26 B	3.95	12.10	21.17
137.60	14218. C	1241.60	2.90 B	5.08	11.78	20.61
154.80	14218. C	1241.60	5.69 B	9.95	9.85	17.24
172.00	14218. B	928.39	243.49 T	426.11	4.93	8.63

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	260.91 B	339.18
17.20	47500. S	5.69 B	7.39
34.40	47500. S	2.70 B	3.51
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.01 B	3.91
51.60	47500. S	2.67 B	3.47
68.80	47500. S	2.18 B	2.84
86.00	47500. S	2.04 B	2.66
103.20	47500. S	2.18 B	2.84

```
120.40           47500. S                    2.67 B   3.46
127.00L          47500. S                    3.01 B   3.91
127.00R          47500. S                    2.00 B   2.60
137.60           47500. S                    2.69 B   3.50
154.80           47500. S                    5.67 B   7.37
172.00           47500. S                  258.24 B 335.72

   ******************************************************
   Minimum rating is  2.00 at location 127.00 in span 1.
   ******************************************************


        Rating Codes:
        T - Top steel governs
        B - Bottom steel governs
        C - Concrete governs
        R - Rebar governs
        V - Shear governs
        S - Serviceability governs

        Mom Strength Codes:
        C - Compact
        B - Braced non-compact
        U - Unbraced non-compact
        T - Transition between compact and braced non-compact
        S - Serviceability

   Noncompact shapes ratings based on stress, as

                Fb  -  factored dead load stress
           IR = ---------------------------------
                      factored LL+I stress
```

WAITSFIELD HL-93
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:23:11 2015

[This table uses the rating equation (6B.4.1-1) of the 2011 edition of the Manual for Bridge Evaluation where A1D is the sum of factored composite dead, noncomposite dead, and factored wearing surface loads. The denominator A2L(1+I) is the factored live load. If equation (6a.4.2.1-1) is to be used for LRFR ratings the condition LRFR RATINGS must be used in the girder input file.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	255.18 B	446.56	4.75	8.32
17.20	14218. C	1241.60	5.32 B	9.32	9.06	15.85
34.40	14218. C	1241.60	2.66 B	4.65	10.66	18.65
45.00L	14218. C	1170.25	2.05 B	3.58	10.96	19.18
45.00R	16800. C	1170.25	2.62 B	4.58	10.96	19.18
51.60	16800. C	1241.60	2.33 B	4.09	12.38	21.66
68.80	16800. C	1241.60	1.93 B	3.38	14.69	25.70
86.00	16800. C	1241.60	1.82 B	3.19	18.76	32.83
103.20	16800. C	1241.60	1.94 B	3.40	15.36	26.88
120.40	16800. C	1241.60	2.35 B	4.11	12.90	22.57
127.00L	16800. C	1170.25	2.63 B	4.61	11.40	19.95
127.00R	14218. C	1170.25	2.06 B	3.60	11.40	19.95
137.60	14218. C	1241.60	2.67 B	4.68	11.07	19.36
154.80	14218. C	1241.60	5.27 B	9.22	9.28	16.23
172.00	14218. B	928.39	157.23 T	275.15	4.54	7.95

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	270.65 B	351.84
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.55
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.95 B	2.54

```
120.40           47500. S                    2.42 B   3.15
127.00L          47500. S                    2.74 B   3.57
127.00R          47500. S                    1.83 B   2.38
137.60           47500. S                    2.49 B   3.23
154.80           47500. S                    5.26 B   6.84
172.00           47500. S                  166.75 B 216.78

   ******************************************************
   Minimum rating is  1.82 at location  86.00 in span 1.
   ******************************************************


        Rating Codes:
        T - Top steel governs
        B - Bottom steel governs
        C - Concrete governs
        R - Rebar governs
        V - Shear governs
        S - Serviceability governs

        Mom Strength Codes:
        C - Compact
        B - Braced non-compact
        U - Unbraced non-compact
        T - Transition between compact and braced non-compact
        S - Serviceability

   Noncompact shapes ratings based on stress, as

                Fb  -  factored dead load stress
           IR = --------------------------------
                      factored LL+I stress
```

WAITSFIELD HL-93
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:23:21 2015

[This table uses the rating equation (6B.4.1-1) of the 2011 edition of the Manual for Bridge Evaluation where A1D is the sum of factored composite dead, noncomposite dead, and factored wearing surface loads. The denominator A2L(1+I) is the factored live load. If equation (6a.4.2.1-1) is to be used for LRFR ratings the condition LRFR RATINGS must be used in the girder input file.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	571.39 B	999.93	6.42	11.23
17.20	13447. C	928.39	5.87 B	10.28	7.57	13.25
34.40	13447. C	928.39	2.71 B	4.74	8.69	15.22
45.00L	13447. C	928.39	2.02 B	3.54	9.77	17.09
45.00R	15422. C	928.39	2.47 B	4.33	9.77	17.09
51.60	15422. C	928.39	2.17 B	3.79	10.55	18.47
68.80	15422. C	928.39	1.72 B	3.01	13.38	23.42
86.00	15422. C	928.39	1.57 B	2.76	18.64	32.62
103.20	15422. C	928.39	1.64 B	2.88	15.93	27.87
120.40	15422. C	928.39	1.98 B	3.47	11.79	20.64
127.00L	15422. C	928.39	2.23 B	3.89	10.42	18.24
127.00R	13447. C	928.39	1.82 B	3.18	10.42	18.24
137.60	13447. C	928.39	2.37 B	4.15	8.74	15.29
154.80	13447. C	928.39	4.89 B	8.56	6.41	11.22
172.00	13447. B	928.39	134.81 T	235.91	5.30	9.27

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	632.28 B	821.97
17.20	47500. S	6.22 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.28
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45

```
120.40           47500. S                    2.30 B   2.99
127.00L          47500. S                    2.60 B   3.38
127.00R          47500. S                    1.76 B   2.29
137.60           47500. S                    2.38 B   3.09
154.80           47500. S                    5.17 B   6.72
172.00           47500. S                  149.17 B 193.92

   ******************************************************
   Minimum rating is  1.57 at location  86.00 in span 1.
   ******************************************************


        Rating Codes:
        T - Top steel governs
        B - Bottom steel governs
        C - Concrete governs
        R - Rebar governs
        V - Shear governs
        S - Serviceability governs

        Mom Strength Codes:
        C - Compact
        B - Braced non-compact
        U - Unbraced non-compact
        T - Transition between compact and braced non-compact
        S - Serviceability

   Noncompact shapes ratings based on stress, as

                Fb  -  factored dead load stress
           IR = ---------------------------------
                      factored LL+I stress
```

WAITSFIELD H20 INVENTORY
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:29:21 2015

```
ID: WAITSFIELD H20 INVENTORY
CONDITIONS
  ALL LANES
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  PERMIT TRUCK IN ALL LANES
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  PRMITP 8. 32.
  PRMITSP 14.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  TFACTT 1.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WHLSPC 6.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD H20 INVENTORY
Girder 1 : Input File : Definition
Tue Dec 08 18:29:33 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.75
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
```

```
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD H20 INVENTORY
Girder 2 : Input File : Definition
Tue Dec 08 18:29:46 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.75
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD H20 INVENTORY
Girder 3 : Input File : Definition
Tue Dec 08 18:29:53 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.75
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD H20 INVENTORY
Girder 4 : Input File : Definition
Tue Dec 08 18:30:07 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.75
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD H20 INVENTORY
Girder 5 : Input File : Definition
Tue Dec 08 18:30:16 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.75
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
  TFISPB 8.75
```

```
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD H20 INVENTORY
Bracing : Input File : Definition
Tue Dec 08 18:30:32 2015

```
ID: WAITSFIELD H20 INVENTORY
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
```

WAITSFIELD H20 INVENTORY
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:30:57 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	134.81 B	174.75	5.28	6.84
17.20	13447. C	928.39	4.89 B	6.34	6.64	8.61
34.40	13447. C	928.39	2.37 B	3.07	8.79	11.39
45.00L	13447. C	928.39	1.82 B	2.36	10.53	13.65
45.00R	15422. C	928.39	2.23 B	2.89	10.53	13.65
51.60	15422. C	928.39	1.98 B	2.57	11.79	15.28
68.80	15422. C	928.39	1.64 B	2.13	15.75	20.42
86.00	15422. C	928.39	1.57 B	2.04	17.04	22.09
103.20	15422. C	928.39	1.72 B	2.23	13.13	17.02
120.40	15422. C	928.39	2.16 B	2.80	10.35	13.41
127.00L	15422. C	928.39	2.47 B	3.20	9.57	12.41
127.00R	13447. C	928.39	2.01 B	2.61	9.57	12.41
137.60	13447. C	928.39	2.70 B	3.50	8.55	11.08
154.80	13447. C	928.39	5.86 B	7.59	7.45	9.65
172.00	13447. C	928.39	567.18 B	735.23	6.41	8.31

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	149.16 B	193.90
17.20	47500. S	5.17 B	6.72
34.40	47500. S	2.38 B	3.09
45.00L	47500. S	1.76 B	2.29
45.00R	47500. S	2.60 B	3.38
51.60	47500. S	2.30 B	2.99
68.80	47500. S	1.89 B	2.45
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.97 B	2.56
120.40	47500. S	2.51 B	3.26
127.00L	47500. S	2.88 B	3.74
127.00R	47500. S	1.95 B	2.54
137.60	47500. S	2.71 B	3.52
154.80	47500. S	6.19 B	8.05
172.00	47500. S	627.54 B	815.81

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	411.67			15.49
17.20	13447. C	928.39	13.77			18.13
34.40	13447. C	928.39	6.65			23.06
45.00L	13447. C	928.39	5.11			26.83
45.00R	15422. C	928.39	6.26			26.83
51.60	15422. C	928.39	5.59			29.44
68.80	15422. C	928.39	4.66			37.08
86.00	15422. C	928.39	4.47			41.24
103.20	15422. C	928.39	4.86			33.95
120.40	15422. C	928.39	6.08			27.99
127.00L	15422. C	928.39	6.92			26.19
127.00R	13447. C	928.39	5.65			26.19
137.60	13447. C	928.39	7.58			23.71
154.80	13447. C	928.39	16.64			21.17
172.00	13447. C	928.39	>999.00			17.58

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	350.38 B	455.49
17.20	47500. S	11.19 B	14.55
34.40	47500. S	5.13 B	6.67
45.00L	47500. S	3.81 B	4.95
45.00R	47500. S	5.62 B	7.31
51.60	47500. S	4.99 B	6.49
68.80	47500. S	4.11 B	5.35
86.00	47500. S	3.93 B	5.11
103.20	47500. S	4.29 B	5.58
120.40	47500. S	5.43 B	7.06
127.00L	47500. S	6.22 B	8.08
127.00R	47500. S	4.21 B	5.48
137.60	47500. S	5.85 B	7.60
154.80	47500. S	13.54 B	17.60
172.00	47500. S	> 999.00 B	>999.00

****
Minimum rating is 3.81 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 INVENTORY
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:31:08 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	157.44 B	204.09	4.54	5.88
17.20	14218. B	1241.60	5.28 T	6.84	9.16	11.87
34.40	14218. B	1241.60	2.68 T	3.47	11.10	14.39
45.00L	14218. C	1170.25	2.06 B	2.67	11.42	14.80
45.00R	16800. C	1170.25	2.64 B	3.42	11.42	14.80
51.60	16800. C	1241.60	2.35 B	3.05	12.91	16.73
68.80	16800. C	1241.60	1.94 B	2.52	15.39	19.96
86.00	16800. B	1241.60	1.82 T	2.36	17.66	22.89
103.20	16800. C	1241.60	1.93 B	2.50	14.67	19.02
120.40	16800. C	1241.60	2.33 B	3.02	12.36	16.02
127.00L	16800. C	1170.25	2.61 B	3.39	11.50	14.90
127.00R	14218. C	1170.25	2.04 B	2.65	11.50	14.90
137.60	14218. B	1241.60	2.66 T	3.44	10.63	13.78
154.80	14218. B	1241.60	5.32 T	6.89	9.07	11.76
172.00	14218. C	928.39	252.69 B	327.56	4.76	6.17

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	166.95 B	217.04
17.20	47500. S	5.27 B	6.86
34.40	47500. S	2.49 B	3.24
45.00L	47500. S	1.83 B	2.38
45.00R	47500. S	2.75 B	3.57
51.60	47500. S	2.42 B	3.15
68.80	47500. S	1.96 B	2.54
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.94 B	2.53
120.40	47500. S	2.40 B	3.12
127.00L	47500. S	2.72 B	3.54
127.00R	47500. S	1.82 B	2.37
137.60	47500. S	2.47 B	3.21
154.80	47500. S	5.31 B	6.90
172.00	47500. S	267.95 B	348.34

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39		500.42		10.42
17.20	14218. C	1241.60		12.75		21.19
34.40	14218. C	1241.60		6.83		25.84
45.00L	14218. C	1170.25		5.37		26.01
45.00R	16800. C	1170.25		6.86		26.01
51.60	16800. C	1241.60		6.17		28.95
68.80	16800. C	1241.60		5.15		32.69
86.00	16800. C	1241.60		4.84		36.71
103.20	16800. C	1241.60		5.11		36.71
120.40	16800. C	1241.60		6.13		31.80
127.00L	16800. C	1170.25		6.85		28.44
127.00R	14218. C	1170.25		5.36		28.44
137.60	14218. C	1241.60		6.92		28.20
154.80	14218. C	1241.60		13.42		25.05
172.00	14218. C	928.39		774.56		11.07

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	408.20 B	530.66
17.20	47500. S	9.80 B	12.74
34.40	47500. S	4.89 B	6.36
45.00L	47500. S	3.67 B	4.77
45.00R	47500. S	5.50 B	7.15
51.60	47500. S	4.89 B	6.36
68.80	47500. S	3.99 B	5.19
86.00	47500. S	3.72 B	4.84
103.20	47500. S	3.96 B	5.15
120.40	47500. S	4.86 B	6.32
127.00L	47500. S	5.49 B	7.14
127.00R	47500. S	3.67 B	4.77
137.60	47500. S	4.96 B	6.44
154.80	47500. S	10.31 B	13.41
172.00	47500. S	631.81 B	821.36

****
Minimum rating is 3.67 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 INVENTORY
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:31:17 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	243.49 B	315.63	4.92	6.38
17.20	14218. B	1241.60	5.70 T	7.38	9.89	12.82
34.40	14218. B	1241.60	2.91 T	3.77	11.81	15.31
45.00L	14218. C	1170.25	2.26 B	2.93	12.13	15.73
45.00R	16800. C	1170.25	2.89 B	3.75	12.13	15.73
51.60	16800. C	1241.60	2.60 B	3.36	13.67	17.71
68.80	16800. C	1241.60	2.17 B	2.82	15.82	20.51
86.00	16800. B	1241.60	2.05 T	2.66	18.32	23.75
103.20	16800. C	1241.60	2.17 B	2.81	15.84	20.53
120.40	16800. C	1241.60	2.59 B	3.36	13.66	17.71
127.00L	16800. C	1170.25	2.89 B	3.75	12.70	16.47
127.00R	14218. C	1170.25	2.26 B	2.93	12.70	16.47
137.60	14218. B	1241.60	2.90 T	3.76	11.78	15.27
154.80	14218. B	1241.60	5.69 T	7.37	9.85	12.77
172.00	14218. C	928.39	243.54 B	315.69	4.93	6.39

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	258.20 B	335.66
17.20	47500. S	5.69 B	7.39
34.40	47500. S	2.70 B	3.51
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.01 B	3.91
51.60	47500. S	2.67 B	3.47
68.80	47500. S	2.18 B	2.84
86.00	47500. S	2.04 B	2.66
103.20	47500. S	2.18 B	2.84
120.40	47500. S	2.67 B	3.46
127.00L	47500. S	3.01 B	3.91
127.00R	47500. S	2.00 B	2.60
137.60	47500. S	2.69 B	3.50
154.80	47500. S	5.67 B	7.37
172.00	47500. S	258.25 B	335.73

****

Minimum rating is 2.00 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	761.67			11.20
17.20	14218. C	1241.60	13.63			22.59
34.40	14218. C	1241.60	7.24			27.01
45.00L	14218. C	1170.25	5.74			27.30
45.00R	16800. C	1170.25	7.35			27.30
51.60	16800. C	1241.60	6.65			30.40
68.80	16800. C	1241.60	5.66			34.14
86.00	16800. C	1241.60	5.37			37.95
103.20	16800. C	1241.60	5.66			39.37
120.40	16800. C	1241.60	6.64			34.83
127.00L	16800. C	1170.25	7.34			31.19
127.00R	14218. C	1170.25	5.73			31.19
137.60	14218. C	1241.60	7.23			30.78
154.80	14218. C	1241.60	13.61			26.23
172.00	14218. C	928.39	761.90			11.21

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	621.31 B	807.70
17.20	47500. S	10.47 B	13.61
34.40	47500. S	5.18 B	6.73
45.00L	47500. S	3.92 B	5.09
45.00R	47500. S	5.88 B	7.65
51.60	47500. S	5.26 B	6.84
68.80	47500. S	4.37 B	5.69
86.00	47500. S	4.11 B	5.35
103.20	47500. S	4.37 B	5.68
120.40	47500. S	5.25 B	6.83
127.00L	47500. S	5.87 B	7.64
127.00R	47500. S	3.91 B	5.08
137.60	47500. S	5.16 B	6.71
154.80	47500. S	10.44 B	13.57
172.00	47500. S	621.49 B	807.94

****
Minimum rating is 3.91 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 INVENTORY
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:31:26 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	252.82 B	327.73	4.76	6.16
17.20	14218. B	1241.60	5.33 T	6.90	9.06	11.74
34.40	14218. B	1241.60	2.66 T	3.45	10.66	13.81
45.00L	14218. C	1170.25	2.05 B	2.66	10.95	14.20
45.00R	16800. C	1170.25	2.62 B	3.39	10.95	14.20
51.60	16800. C	1241.60	2.33 B	3.03	12.38	16.04
68.80	16800. C	1241.60	1.93 B	2.50	14.69	19.04
86.00	16800. B	1241.60	1.82 T	2.36	18.76	24.32
103.20	16800. C	1241.60	1.94 B	2.52	15.36	19.92
120.40	16800. C	1241.60	2.35 B	3.05	12.90	16.72
127.00L	16800. C	1170.25	2.63 B	3.42	11.39	14.77
127.00R	14218. C	1170.25	2.06 B	2.67	11.39	14.77
137.60	14218. B	1241.60	2.67 T	3.46	11.07	14.34
154.80	14218. B	1241.60	5.27 T	6.83	9.28	12.02
172.00	14218. C	928.39	157.26 B	203.86	4.54	5.89

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	268.10 B	348.53
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.55
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.95 B	2.54
120.40	47500. S	2.42 B	3.15
127.00L	47500. S	2.74 B	3.57
127.00R	47500. S	1.83 B	2.38
137.60	47500. S	2.49 B	3.23
154.80	47500. S	5.26 B	6.84
172.00	47500. S	166.77 B	216.80

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	774.95			11.06
17.20	14218. C	1241.60	13.45			21.59
34.40	14218. C	1241.60	6.93			24.80
45.00L	14218. C	1170.25	5.37			24.79
45.00R	16800. C	1170.25	6.86			24.79
51.60	16800. C	1241.60	6.14			27.53
68.80	16800. C	1241.60	5.12			31.29
86.00	16800. C	1241.60	4.85			31.01
103.20	16800. C	1241.60	5.15			38.56
120.40	16800. C	1241.60	6.17			33.45
127.00L	16800. C	1170.25	6.85			29.90
127.00R	14218. C	1170.25	5.36			29.90
137.60	14218. C	1241.60	6.82			29.59
154.80	14218. C	1241.60	12.73			25.43
172.00	14218. C	928.39	500.44			10.43

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	632.13 B	821.77
17.20	47500. S	10.34 B	13.44
34.40	47500. S	4.97 B	6.46
45.00L	47500. S	3.68 B	4.78
45.00R	47500. S	5.50 B	7.15
51.60	47500. S	4.87 B	6.33
68.80	47500. S	3.97 B	5.16
86.00	47500. S	3.72 B	4.84
103.20	47500. S	3.99 B	5.19
120.40	47500. S	4.88 B	6.35
127.00L	47500. S	5.49 B	7.14
127.00R	47500. S	3.66 B	4.76
137.60	47500. S	4.88 B	6.34
154.80	47500. S	9.78 B	12.71
172.00	47500. S	408.22 B	530.68

****
Minimum rating is 3.66 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 INVENTORY
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:31:35 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	566.99 B	734.98	6.42	8.32
17.20	13447. C	928.39	5.87 B	7.61	7.57	9.82
34.40	13447. C	928.39	2.71 B	3.51	8.70	11.27
45.00L	13447. C	928.39	2.02 B	2.62	9.76	12.65
45.00R	15422. C	928.39	2.47 B	3.21	9.76	12.65
51.60	15422. C	928.39	2.17 B	2.81	10.55	13.68
68.80	15422. C	928.39	1.72 B	2.23	13.38	17.35
86.00	15422. C	928.39	1.57 B	2.04	18.64	24.16
103.20	15422. C	928.39	1.64 B	2.13	15.93	20.65
120.40	15422. C	928.39	1.98 B	2.57	11.79	15.29
127.00L	15422. C	928.39	2.23 B	2.89	10.50	13.61
127.00R	13447. C	928.39	1.82 B	2.36	10.50	13.61
137.60	13447. C	928.39	2.37 B	3.07	8.74	11.33
154.80	13447. C	928.39	4.89 B	6.34	6.41	8.31
172.00	13447. C	928.39	134.83 B	174.78	5.30	6.87

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	627.33 B	815.53
17.20	47500. S	6.22 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.28
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45
120.40	47500. S	2.30 B	2.99
127.00L	47500. S	2.60 B	3.38
127.00R	47500. S	1.76 B	2.29
137.60	47500. S	2.38 B	3.09
154.80	47500. S	5.17 B	6.72
172.00	47500. S	149.18 B	193.94

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	>999.00			17.58
17.20	13447. C	928.39	16.69			20.86
34.40	13447. C	928.39	7.61			23.10
45.00L	13447. C	928.39	5.67			25.49
45.00R	15422. C	928.39	6.94			25.49
51.60	15422. C	928.39	6.10			27.19
68.80	15422. C	928.39	4.88			32.69
86.00	15422. C	928.39	4.47			43.47
103.20	15422. C	928.39	4.66			34.82
120.40	15422. C	928.39	5.59			27.81
127.00L	15422. C	928.39	6.26			25.47
127.00R	13447. C	928.39	5.11			25.47
137.60	13447. C	928.39	6.65			22.10
154.80	13447. C	928.39	13.77			18.14
172.00	13447. C	928.39	411.80			15.51

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	> 999.00 B	>999.00
17.20	47500. S	13.58 B	17.66
34.40	47500. S	5.88 B	7.64
45.00L	47500. S	4.24 B	5.51
45.00R	47500. S	6.24 B	8.11
51.60	47500. S	5.45 B	7.08
68.80	47500. S	4.31 B	5.60
86.00	47500. S	3.93 B	5.11
103.20	47500. S	4.11 B	5.35
120.40	47500. S	4.99 B	6.49
127.00L	47500. S	5.62 B	7.31
127.00R	47500. S	3.81 B	4.95
137.60	47500. S	5.13 B	6.67
154.80	47500. S	11.20 B	14.56
172.00	47500. S	350.49 B	455.64

****
Minimum rating is 3.81 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 OPERATING
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:33:50 2015

```
ID: WAITSFIELD H20 OPERATING
CONDITIONS
  ALL LANES
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  PERMIT TRUCK IN ALL LANES
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  PRMITP 8. 32.
  PRMITSP 14.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  TFACTT 1.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WHLSPC 6.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD H20 OPERATING
Girder 1 : Input File : Definition
Tue Dec 08 18:34:01 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.35
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.
```

```
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD H20 OPERATING
Girder 2 : Input File : Definition
Tue Dec 08 18:34:33 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.35
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD H20 OPERATING
Girder 3 : Input File : Definition
Tue Dec 08 18:34:50 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.35
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD H20 OPERATING
Girder 4 : Input File : Definition
Tue Dec 08 18:35:12 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.35
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD H20 OPERATING
Girder 5 : Input File : Definition
Tue Dec 08 18:35:22 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.35
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.
  TFISPB 8.75
```

```
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD H20 OPERATING
Bracing : Input File : Definition
Tue Dec 08 18:35:30 2015

```
ID: WAITSFIELD H20 OPERATING
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
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WAITSFIELD H20 OPERATING
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:35:49 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	134.81 B	174.75	5.28	6.84
17.20	13447. C	928.39	4.89 B	6.34	6.64	8.61
34.40	13447. C	928.39	2.37 B	3.07	8.79	11.39
45.00L	13447. C	928.39	1.82 B	2.36	10.53	13.65
45.00R	15422. C	928.39	2.23 B	2.89	10.53	13.65
51.60	15422. C	928.39	1.98 B	2.57	11.79	15.28
68.80	15422. C	928.39	1.64 B	2.13	15.75	20.42
86.00	15422. C	928.39	1.57 B	2.04	17.04	22.09
103.20	15422. C	928.39	1.72 B	2.23	13.13	17.02
120.40	15422. C	928.39	2.16 B	2.80	10.35	13.41
127.00L	15422. C	928.39	2.47 B	3.20	9.57	12.41
127.00R	13447. C	928.39	2.01 B	2.61	9.57	12.41
137.60	13447. C	928.39	2.70 B	3.50	8.55	11.08
154.80	13447. C	928.39	5.86 B	7.59	7.45	9.65
172.00	13447. C	928.39	567.18 B	735.23	6.41	8.31

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	149.16 B	193.90
17.20	47500. S	5.17 B	6.72
34.40	47500. S	2.38 B	3.09
45.00L	47500. S	1.76 B	2.29
45.00R	47500. S	2.60 B	3.38
51.60	47500. S	2.30 B	2.99
68.80	47500. S	1.89 B	2.45
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.97 B	2.56
120.40	47500. S	2.51 B	3.26
127.00L	47500. S	2.88 B	3.74
127.00R	47500. S	1.95 B	2.54
137.60	47500. S	2.71 B	3.52
154.80	47500. S	6.19 B	8.05
172.00	47500. S	627.54 B	815.81

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39		533.65		20.08
17.20	13447. C	928.39		17.84		23.50
34.40	13447. C	928.39		8.62		29.89
45.00L	13447. C	928.39		6.62		34.78
45.00R	15422. C	928.39		8.11		34.78
51.60	15422. C	928.39		7.24		38.17
68.80	15422. C	928.39		6.04		48.06
86.00	15422. C	928.39		5.79		53.46
103.20	15422. C	928.39		6.30		44.01
120.40	15422. C	928.39		7.88		36.28
127.00L	15422. C	928.39		8.97		33.95
127.00R	13447. C	928.39		7.33		33.95
137.60	13447. C	928.39		9.83		30.74
154.80	13447. C	928.39		21.58		27.45
172.00	13447. C	928.39		>999.00		22.79

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	592.14 B	592.14
17.20	47500. S	18.92 B	18.92
34.40	47500. S	8.67 B	8.67
45.00L	47500. S	6.44 B	6.44
45.00R	47500. S	9.50 B	9.50
51.60	47500. S	8.43 B	8.43
68.80	47500. S	6.95 B	6.95
86.00	47500. S	6.64 B	6.64
103.20	47500. S	7.26 B	7.26
120.40	47500. S	9.17 B	9.17
127.00L	47500. S	10.51 B	10.51
127.00R	47500. S	7.12 B	7.12
137.60	47500. S	9.88 B	9.88
154.80	47500. S	22.88 B	22.88
172.00	47500. S	> 999.00 B	>999.00

****
Minimum rating is 5.79 at location 86.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 OPERATING
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:35:58 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	157.44 B	204.09	4.54	5.88
17.20	14218. B	1241.60	5.28 T	6.84	9.16	11.87
34.40	14218. B	1241.60	2.68 T	3.47	11.10	14.39
45.00L	14218. C	1170.25	2.06 B	2.67	11.42	14.80
45.00R	16800. C	1170.25	2.64 B	3.42	11.42	14.80
51.60	16800. C	1241.60	2.35 B	3.05	12.91	16.73
68.80	16800. C	1241.60	1.94 B	2.52	15.39	19.96
86.00	16800. B	1241.60	1.82 T	2.36	17.66	22.89
103.20	16800. C	1241.60	1.93 B	2.50	14.67	19.02
120.40	16800. C	1241.60	2.33 B	3.02	12.36	16.02
127.00L	16800. C	1170.25	2.61 B	3.39	11.50	14.90
127.00R	14218. C	1170.25	2.04 B	2.65	11.50	14.90
137.60	14218. B	1241.60	2.66 T	3.44	10.63	13.78
154.80	14218. B	1241.60	5.32 T	6.89	9.07	11.76
172.00	14218. C	928.39	252.69 B	327.56	4.76	6.17

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	166.95 B	217.04
17.20	47500. S	5.27 B	6.86
34.40	47500. S	2.49 B	3.24
45.00L	47500. S	1.83 B	2.38
45.00R	47500. S	2.75 B	3.57
51.60	47500. S	2.42 B	3.15
68.80	47500. S	1.96 B	2.54
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.94 B	2.53
120.40	47500. S	2.40 B	3.12
127.00L	47500. S	2.72 B	3.54
127.00R	47500. S	1.82 B	2.37
137.60	47500. S	2.47 B	3.21
154.80	47500. S	5.31 B	6.90
172.00	47500. S	267.95 B	348.34

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	648.69			13.51
17.20	14218. C	1241.60	16.53			27.46
34.40	14218. C	1241.60	8.85			33.49
45.00L	14218. C	1170.25	6.96			33.71
45.00R	16800. C	1170.25	8.89			33.71
51.60	16800. C	1241.60	8.00			37.52
68.80	16800. C	1241.60	6.68			42.38
86.00	16800. C	1241.60	6.28			47.59
103.20	16800. C	1241.60	6.63			47.58
120.40	16800. C	1241.60	7.95			41.22
127.00L	16800. C	1170.25	8.88			36.87
127.00R	14218. C	1170.25	6.95			36.87
137.60	14218. C	1241.60	8.97			36.56
154.80	14218. C	1241.60	17.40			32.47
172.00	14218. C	928.39	******			14.34

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	689.86 B	689.86
17.20	47500. S	16.56 B	16.56
34.40	47500. S	8.26 B	8.26
45.00L	47500. S	6.20 B	6.20
45.00R	47500. S	9.29 B	9.29
51.60	47500. S	8.26 B	8.26
68.80	47500. S	6.75 B	6.75
86.00	47500. S	6.29 B	6.29
103.20	47500. S	6.70 B	6.70
120.40	47500. S	8.22 B	8.22
127.00L	47500. S	9.28 B	9.28
127.00R	47500. S	6.20 B	6.20
137.60	47500. S	8.38 B	8.38
154.80	47500. S	17.43 B	17.43
172.00	47500. S	> 999.00 B	>999.00

****
Minimum rating is 6.20 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 OPERATING
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:36:06 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	243.49 B	315.63	4.92	6.38
17.20	14218. B	1241.60	5.70 T	7.38	9.89	12.82
34.40	14218. B	1241.60	2.91 T	3.77	11.81	15.31
45.00L	14218. C	1170.25	2.26 B	2.93	12.13	15.73
45.00R	16800. C	1170.25	2.89 B	3.75	12.13	15.73
51.60	16800. C	1241.60	2.60 B	3.36	13.67	17.71
68.80	16800. C	1241.60	2.17 B	2.82	15.82	20.51
86.00	16800. B	1241.60	2.05 T	2.66	18.32	23.75
103.20	16800. C	1241.60	2.17 B	2.81	15.84	20.53
120.40	16800. C	1241.60	2.59 B	3.36	13.66	17.71
127.00L	16800. C	1170.25	2.89 B	3.75	12.70	16.47
127.00R	14218. C	1170.25	2.26 B	2.93	12.70	16.47
137.60	14218. B	1241.60	2.90 T	3.76	11.78	15.27
154.80	14218. B	1241.60	5.69 T	7.37	9.85	12.77
172.00	14218. C	928.39	243.54 B	315.69	4.93	6.39

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	258.20 B	335.66
17.20	47500. S	5.69 B	7.39
34.40	47500. S	2.70 B	3.51
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.01 B	3.91
51.60	47500. S	2.67 B	3.47
68.80	47500. S	2.18 B	2.84
86.00	47500. S	2.04 B	2.66
103.20	47500. S	2.18 B	2.84
120.40	47500. S	2.67 B	3.46
127.00L	47500. S	3.01 B	3.91
127.00R	47500. S	2.00 B	2.60
137.60	47500. S	2.69 B	3.50
154.80	47500. S	5.67 B	7.37
172.00	47500. S	258.25 B	335.73

****

Minimum rating is 2.00 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	987.35			14.52
17.20	14218. C	1241.60	17.67			29.29
34.40	14218. C	1241.60	9.39			35.01
45.00L	14218. C	1170.25	7.45			35.38
45.00R	16800. C	1170.25	9.53			35.38
51.60	16800. C	1241.60	8.62			39.41
68.80	16800. C	1241.60	7.34			44.25
86.00	16800. C	1241.60	6.96			49.20
103.20	16800. C	1241.60	7.33			51.03
120.40	16800. C	1241.60	8.61			45.16
127.00L	16800. C	1170.25	9.52			40.43
127.00R	14218. C	1170.25	7.43			40.43
137.60	14218. C	1241.60	9.38			39.90
154.80	14218. C	1241.60	17.64			34.00
172.00	14218. C	928.39	987.65			14.53

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	> 999.00 B	>999.00
17.20	47500. S	17.69 B	17.69
34.40	47500. S	8.75 B	8.75
45.00L	47500. S	6.62 B	6.62
45.00R	47500. S	9.94 B	9.94
51.60	47500. S	8.89 B	8.89
68.80	47500. S	7.39 B	7.39
86.00	47500. S	6.95 B	6.95
103.20	47500. S	7.38 B	7.38
120.40	47500. S	8.88 B	8.88
127.00L	47500. S	9.93 B	9.93
127.00R	47500. S	6.60 B	6.60
137.60	47500. S	8.73 B	8.73
154.80	47500. S	17.65 B	17.65
172.00	47500. S	> 999.00 B	>999.00

****
Minimum rating is 6.60 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 OPERATING
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:36:15 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	252.82 B	327.73	4.76	6.16
17.20	14218. B	1241.60	5.33 T	6.90	9.06	11.74
34.40	14218. B	1241.60	2.66 T	3.45	10.66	13.81
45.00L	14218. C	1170.25	2.05 B	2.66	10.95	14.20
45.00R	16800. C	1170.25	2.62 B	3.39	10.95	14.20
51.60	16800. C	1241.60	2.33 B	3.03	12.38	16.04
68.80	16800. C	1241.60	1.93 B	2.50	14.69	19.04
86.00	16800. B	1241.60	1.82 T	2.36	18.76	24.32
103.20	16800. C	1241.60	1.94 B	2.52	15.36	19.92
120.40	16800. C	1241.60	2.35 B	3.05	12.90	16.72
127.00L	16800. C	1170.25	2.63 B	3.42	11.39	14.77
127.00R	14218. C	1170.25	2.06 B	2.67	11.39	14.77
137.60	14218. B	1241.60	2.67 T	3.46	11.07	14.34
154.80	14218. B	1241.60	5.27 T	6.83	9.28	12.02
172.00	14218. C	928.39	157.26 B	203.86	4.54	5.89

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	268.10 B	348.53
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.55
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.95 B	2.54
120.40	47500. S	2.42 B	3.15
127.00L	47500. S	2.74 B	3.57
127.00R	47500. S	1.83 B	2.38
137.60	47500. S	2.49 B	3.23
154.80	47500. S	5.26 B	6.84
172.00	47500. S	166.77 B	216.80

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39		******		14.34
17.20	14218. C	1241.60		17.43		27.98
34.40	14218. C	1241.60		8.98		32.15
45.00L	14218. C	1170.25		6.96		32.13
45.00R	16800. C	1170.25		8.89		32.13
51.60	16800. C	1241.60		7.96		35.69
68.80	16800. C	1241.60		6.64		40.56
86.00	16800. C	1241.60		6.28		40.20
103.20	16800. C	1241.60		6.68		49.98
120.40	16800. C	1241.60		7.99		43.37
127.00L	16800. C	1170.25		8.89		38.76
127.00R	14218. C	1170.25		6.95		38.76
137.60	14218. C	1241.60		8.84		38.35
154.80	14218. C	1241.60		16.51		32.97
172.00	14218. C	928.39		648.72		13.52

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	> 999.00 B	>999.00
17.20	47500. S	17.48 B	17.48
34.40	47500. S	8.40 B	8.40
45.00L	47500. S	6.22 B	6.22
45.00R	47500. S	9.30 B	9.30
51.60	47500. S	8.23 B	8.23
68.80	47500. S	6.71 B	6.71
86.00	47500. S	6.29 B	6.29
103.20	47500. S	6.74 B	6.74
120.40	47500. S	8.25 B	8.25
127.00L	47500. S	9.28 B	9.28
127.00R	47500. S	6.19 B	6.19
137.60	47500. S	8.25 B	8.25
154.80	47500. S	16.52 B	16.52
172.00	47500. S	689.89 B	689.89

****
Minimum rating is 6.19 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD H20 OPERATING
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:36:24 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	566.99 B	734.98	6.42	8.32
17.20	13447. C	928.39	5.87 B	7.61	7.57	9.82
34.40	13447. C	928.39	2.71 B	3.51	8.70	11.27
45.00L	13447. C	928.39	2.02 B	2.62	9.76	12.65
45.00R	15422. C	928.39	2.47 B	3.21	9.76	12.65
51.60	15422. C	928.39	2.17 B	2.81	10.55	13.68
68.80	15422. C	928.39	1.72 B	2.23	13.38	17.35
86.00	15422. C	928.39	1.57 B	2.04	18.64	24.16
103.20	15422. C	928.39	1.64 B	2.13	15.93	20.65
120.40	15422. C	928.39	1.98 B	2.57	11.79	15.29
127.00L	15422. C	928.39	2.23 B	2.89	10.50	13.61
127.00R	13447. C	928.39	1.82 B	2.36	10.50	13.61
137.60	13447. C	928.39	2.37 B	3.07	8.74	11.33
154.80	13447. C	928.39	4.89 B	6.34	6.41	8.31
172.00	13447. C	928.39	134.83 B	174.78	5.30	6.87

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	627.33 B	815.53
17.20	47500. S	6.22 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.28
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45
120.40	47500. S	2.30 B	2.99
127.00L	47500. S	2.60 B	3.38
127.00R	47500. S	1.76 B	2.29
137.60	47500. S	2.38 B	3.09
154.80	47500. S	5.17 B	6.72
172.00	47500. S	149.18 B	193.94

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	>999.00			22.79
17.20	13447. C	928.39	21.63			27.05
34.40	13447. C	928.39	9.86			29.94
45.00L	13447. C	928.39	7.35			33.04
45.00R	15422. C	928.39	9.00			33.04
51.60	15422. C	928.39	7.90			35.25
68.80	15422. C	928.39	6.32			42.37
86.00	15422. C	928.39	5.79			56.35
103.20	15422. C	928.39	6.04			45.14
120.40	15422. C	928.39	7.24			36.05
127.00L	15422. C	928.39	8.12			33.01
127.00R	13447. C	928.39	6.62			33.01
137.60	13447. C	928.39	8.62			28.65
154.80	13447. C	928.39	17.85			23.51
172.00	13447. C	928.39	533.82			20.10

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	> 999.00 B	>999.00
17.20	47500. S	22.96 B	22.96
34.40	47500. S	9.93 B	9.93
45.00L	47500. S	7.16 B	7.16
45.00R	47500. S	10.54 B	10.54
51.60	47500. S	9.21 B	9.21
68.80	47500. S	7.28 B	7.28
86.00	47500. S	6.64 B	6.64
103.20	47500. S	6.95 B	6.95
120.40	47500. S	8.43 B	8.43
127.00L	47500. S	9.50 B	9.50
127.00R	47500. S	6.44 B	6.44
137.60	47500. S	8.67 B	8.67
154.80	47500. S	18.93 B	18.93
172.00	47500. S	592.33 B	592.33

****
Minimum rating is 5.79 at location 86.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3S2
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:41:03 2015

```
ID: WAITSFIELD 3S2
CONDITIONS
  ALL LANES
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  PERMIT TRUCK IN ALL LANES
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  PRMITP 8. 16. 16. 16. 16.
  PRMITSP 11. 4. 22. 4.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WHLSPC 6.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD 3S2
Girder 1 : Input File : Definition
Tue Dec 08 18:41:12 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
```

```
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD 3S2
Girder 2 : Input File : Definition
Tue Dec 08 18:41:19 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 3S2
Girder 3 : Input File : Definition
Tue Dec 08 18:41:26 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 3S2
Girder 4 : Input File : Definition
Tue Dec 08 18:41:34 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 3S2
Girder 5 : Input File : Definition
Tue Dec 08 18:41:40 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
  TFISPB 8.75
```

```
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD 3S2
Bracing : Input File : Definition
Tue Dec 08 18:41:51 2015

```
ID: WAITSFIELD 3S2
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
```

WAITSFIELD 3S2
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:42:10 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	134.81 B	174.75	5.28	6.84
17.20	13447. C	928.39	4.89 B	6.34	6.64	8.61
34.40	13447. C	928.39	2.37 B	3.07	8.79	11.39
45.00L	13447. C	928.39	1.82 B	2.36	10.53	13.65
45.00R	15422. C	928.39	2.23 B	2.89	10.53	13.65
51.60	15422. C	928.39	1.98 B	2.57	11.79	15.28
68.80	15422. C	928.39	1.64 B	2.13	15.75	20.42
86.00	15422. C	928.39	1.57 B	2.04	17.04	22.09
103.20	15422. C	928.39	1.72 B	2.23	13.13	17.02
120.40	15422. C	928.39	2.16 B	2.80	10.35	13.41
127.00L	15422. C	928.39	2.47 B	3.20	9.57	12.41
127.00R	13447. C	928.39	2.01 B	2.61	9.57	12.41
137.60	13447. C	928.39	2.70 B	3.50	8.55	11.08
154.80	13447. C	928.39	5.86 B	7.59	7.45	9.65
172.00	13447. C	928.39	567.18 B	735.23	6.41	8.31

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	149.16 B	193.90
17.20	47500. S	5.17 B	6.72
34.40	47500. S	2.38 B	3.09
45.00L	47500. S	1.76 B	2.29
45.00R	47500. S	2.60 B	3.38
51.60	47500. S	2.30 B	2.99
68.80	47500. S	1.89 B	2.45
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.97 B	2.56
120.40	47500. S	2.51 B	3.26
127.00L	47500. S	2.88 B	3.74
127.00R	47500. S	1.95 B	2.54
137.60	47500. S	2.71 B	3.52
154.80	47500. S	6.19 B	8.05
172.00	47500. S	627.54 B	815.81

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39		321.08		12.08
17.20	13447. C	928.39		11.49		15.00
34.40	13447. C	928.39		5.50		19.42
45.00L	13447. C	928.39		4.23		23.08
45.00R	15422. C	928.39		5.18		23.08
51.60	15422. C	928.39		4.63		25.65
68.80	15422. C	928.39		3.90		33.03
86.00	15422. C	928.39		3.75		35.11
103.20	15422. C	928.39		4.05		28.22
120.40	15422. C	928.39		5.05		22.75
127.00L	15422. C	928.39		5.75		21.23
127.00R	13447. C	928.39		4.69		21.23
137.60	13447. C	928.39		6.31		19.23
154.80	13447. C	928.39		13.79		17.02
172.00	13447. C	928.39		>999.00		14.50

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	203.01 B	263.91
17.20	47500. S	6.94 B	9.02
34.40	47500. S	3.15 B	4.10
45.00L	47500. S	2.34 B	3.05
45.00R	47500. S	3.46 B	4.50
51.60	47500. S	3.07 B	4.00
68.80	47500. S	2.56 B	3.33
86.00	47500. S	2.45 B	3.18
103.20	47500. S	2.66 B	3.46
120.40	47500. S	3.35 B	4.35
127.00L	47500. S	3.83 B	4.98
127.00R	47500. S	2.60 B	3.38
137.60	47500. S	3.61 B	4.70
154.80	47500. S	8.33 B	10.83
172.00	47500. S	866.02 B	******

****
Minimum rating is 2.34 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3S2
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:42:20 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	157.44 B	204.09	4.54	5.88
17.20	14218. B	1241.60	5.28 T	6.84	9.16	11.87
34.40	14218. B	1241.60	2.68 T	3.47	11.10	14.39
45.00L	14218. C	1170.25	2.06 B	2.67	11.42	14.80
45.00R	16800. C	1170.25	2.64 B	3.42	11.42	14.80
51.60	16800. C	1241.60	2.35 B	3.05	12.91	16.73
68.80	16800. C	1241.60	1.94 B	2.52	15.39	19.96
86.00	16800. B	1241.60	1.82 T	2.36	17.66	22.89
103.20	16800. C	1241.60	1.93 B	2.50	14.67	19.02
120.40	16800. C	1241.60	2.33 B	3.02	12.36	16.02
127.00L	16800. C	1170.25	2.61 B	3.39	10.61	13.76
127.00R	14218. C	1170.25	2.04 B	2.65	10.61	13.76
137.60	14218. B	1241.60	2.66 T	3.44	10.63	13.78
154.80	14218. B	1241.60	5.32 T	6.89	9.07	11.76
172.00	14218. C	928.39	252.69 B	327.56	4.76	6.17

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	166.95 B	217.04
17.20	47500. S	5.27 B	6.86
34.40	47500. S	2.49 B	3.24
45.00L	47500. S	1.83 B	2.38
45.00R	47500. S	2.75 B	3.57
51.60	47500. S	2.42 B	3.15
68.80	47500. S	1.96 B	2.54
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.94 B	2.53
120.40	47500. S	2.40 B	3.12
127.00L	47500. S	2.72 B	3.54
127.00R	47500. S	1.82 B	2.37
137.60	47500. S	2.47 B	3.21
154.80	47500. S	5.31 B	6.90
172.00	47500. S	267.95 B	348.34

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	384.85			9.77
17.20	14218. C	1241.60	11.93			19.83
34.40	14218. C	1241.60	6.10			24.30
45.00L	14218. C	1170.25	4.75			24.62
45.00R	16800. C	1170.25	6.07			24.62
51.60	16800. C	1241.60	5.44			27.60
68.80	16800. C	1241.60	4.55			32.24
86.00	16800. C	1241.60	4.31			38.29
103.20	16800. C	1241.60	4.51			32.56
120.40	16800. C	1241.60	5.38			27.64
127.00L	16800. C	1170.25	6.01			24.57
127.00R	14218. C	1170.25	4.70			24.57
137.60	14218. C	1241.60	6.10			24.15
154.80	14218. C	1241.60	12.23			21.15
172.00	14218. C	928.39	607.15			10.35

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	233.21 B	303.17
17.20	47500. S	6.81 B	8.85
34.40	47500. S	3.24 B	4.22
45.00L	47500. S	2.41 B	3.14
45.00R	47500. S	3.61 B	4.70
51.60	47500. S	3.20 B	4.17
68.80	47500. S	2.62 B	3.40
86.00	47500. S	2.46 B	3.20
103.20	47500. S	2.60 B	3.38
120.40	47500. S	3.17 B	4.12
127.00L	47500. S	3.58 B	4.65
127.00R	47500. S	2.39 B	3.11
137.60	47500. S	3.25 B	4.22
154.80	47500. S	6.98 B	9.07
172.00	47500. S	367.91 B	478.28

****
Minimum rating is 2.39 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3S2
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:42:29 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	243.49 B	315.63	4.92	6.38
17.20	14218. B	1241.60	5.70 T	7.38	9.89	12.82
34.40	14218. B	1241.60	2.91 T	3.77	11.81	15.31
45.00L	14218. C	1170.25	2.26 B	2.93	12.13	15.73
45.00R	16800. C	1170.25	2.89 B	3.75	12.13	15.73
51.60	16800. C	1241.60	2.60 B	3.36	13.67	17.71
68.80	16800. C	1241.60	2.17 B	2.82	15.82	20.51
86.00	16800. B	1241.60	2.05 T	2.66	18.32	23.75
103.20	16800. C	1241.60	2.17 B	2.81	15.84	20.53
120.40	16800. C	1241.60	2.59 B	3.36	13.66	17.71
127.00L	16800. C	1170.25	2.89 B	3.75	11.84	15.35
127.00R	14218. C	1170.25	2.26 B	2.93	11.84	15.35
137.60	14218. B	1241.60	2.90 T	3.76	11.78	15.27
154.80	14218. B	1241.60	5.69 T	7.37	9.85	12.77
172.00	14218. C	928.39	243.54 B	315.69	4.93	6.39

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	258.20 B	335.66
17.20	47500. S	5.69 B	7.39
34.40	47500. S	2.70 B	3.51
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.01 B	3.91
51.60	47500. S	2.67 B	3.47
68.80	47500. S	2.18 B	2.84
86.00	47500. S	2.04 B	2.66
103.20	47500. S	2.18 B	2.84
120.40	47500. S	2.67 B	3.46
127.00L	47500. S	3.01 B	3.91
127.00R	47500. S	2.00 B	2.60
137.60	47500. S	2.69 B	3.50
154.80	47500. S	5.67 B	7.37
172.00	47500. S	258.25 B	335.73

****

Minimum rating is 2.00 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	593.10			10.42
17.20	14218. C	1241.60	12.80			21.26
34.40	14218. C	1241.60	6.55			25.93
45.00L	14218. C	1170.25	5.16			26.42
45.00R	16800. C	1170.25	6.60			26.42
51.60	16800. C	1241.60	5.96			29.62
68.80	16800. C	1241.60	5.08			33.99
86.00	16800. C	1241.60	4.85			38.97
103.20	16800. C	1241.60	5.08			34.63
120.40	16800. C	1241.60	5.96			30.24
127.00L	16800. C	1170.25	6.59			27.00
127.00R	14218. C	1170.25	5.15			27.00
137.60	14218. C	1241.60	6.54			26.56
154.80	14218. C	1241.60	12.78			22.66
172.00	14218. C	928.39	591.90			10.42

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	359.40 B	467.21
17.20	47500. S	7.31 B	9.50
34.40	47500. S	3.48 B	4.52
45.00L	47500. S	2.61 B	3.40
45.00R	47500. S	3.92 B	5.10
51.60	47500. S	3.50 B	4.56
68.80	47500. S	2.92 B	3.79
86.00	47500. S	2.76 B	3.58
103.20	47500. S	2.92 B	3.79
120.40	47500. S	3.50 B	4.55
127.00L	47500. S	3.92 B	5.09
127.00R	47500. S	2.61 B	3.39
137.60	47500. S	3.47 B	4.51
154.80	47500. S	7.29 B	9.47
172.00	47500. S	358.67 B	466.27

****
Minimum rating is 2.61 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3S2
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:42:37 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	252.82 B	327.73	4.76	6.16
17.20	14218. B	1241.60	5.33 T	6.90	9.06	11.74
34.40	14218. B	1241.60	2.66 T	3.45	10.66	13.81
45.00L	14218. C	1170.25	2.05 B	2.66	10.95	14.20
45.00R	16800. C	1170.25	2.62 B	3.39	10.95	14.20
51.60	16800. C	1241.60	2.33 B	3.03	12.38	16.04
68.80	16800. C	1241.60	1.93 B	2.50	14.69	19.04
86.00	16800. B	1241.60	1.82 T	2.36	18.76	24.32
103.20	16800. C	1241.60	1.94 B	2.52	15.36	19.92
120.40	16800. C	1241.60	2.35 B	3.05	12.90	16.72
127.00L	16800. C	1170.25	2.63 B	3.42	11.39	14.77
127.00R	14218. C	1170.25	2.06 B	2.67	11.39	14.77
137.60	14218. B	1241.60	2.67 T	3.46	11.07	14.34
154.80	14218. B	1241.60	5.27 T	6.83	9.28	12.02
172.00	14218. C	928.39	157.26 B	203.86	4.54	5.89

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	268.10 B	348.53
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.55
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.95 B	2.54
120.40	47500. S	2.42 B	3.15
127.00L	47500. S	2.74 B	3.57
127.00R	47500. S	1.83 B	2.38
137.60	47500. S	2.49 B	3.23
154.80	47500. S	5.26 B	6.84
172.00	47500. S	166.77 B	216.80

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39		606.68		10.34
17.20	14218. C	1241.60		12.25		19.81
34.40	14218. C	1241.60		6.12		23.34
45.00L	14218. C	1170.25		4.71		23.71
45.00R	16800. C	1170.25		6.02		23.71
51.60	16800. C	1241.60		5.39		26.61
68.80	16800. C	1241.60		4.52		31.15
86.00	16800. C	1241.60		4.31		28.66
103.20	16800. C	1241.60		4.54		33.98
120.40	16800. C	1241.60		5.44		28.78
127.00L	16800. C	1170.25		6.06		25.60
127.00R	14218. C	1170.25		4.74		25.60
137.60	14218. C	1241.60		6.09		25.20
154.80	14218. C	1241.60		11.91		22.52
172.00	14218. C	928.39		384.39		9.78

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	367.62 B	477.91
17.20	47500. S	7.00 B	9.10
34.40	47500. S	3.26 B	4.24
45.00L	47500. S	2.40 B	3.12
45.00R	47500. S	3.59 B	4.66
51.60	47500. S	3.17 B	4.12
68.80	47500. S	2.60 B	3.38
86.00	47500. S	2.46 B	3.20
103.20	47500. S	2.62 B	3.40
120.40	47500. S	3.20 B	4.16
127.00L	47500. S	3.61 B	4.69
127.00R	47500. S	2.41 B	3.13
137.60	47500. S	3.24 B	4.21
154.80	47500. S	6.79 B	8.83
172.00	47500. S	232.93 B	302.81

****
Minimum rating is 2.40 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3S2
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:42:45 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	566.99 B	734.98	6.42	8.32
17.20	13447. C	928.39	5.87 B	7.61	7.57	9.82
34.40	13447. C	928.39	2.71 B	3.51	8.70	11.27
45.00L	13447. C	928.39	2.02 B	2.62	9.76	12.65
45.00R	15422. C	928.39	2.47 B	3.21	9.76	12.65
51.60	15422. C	928.39	2.17 B	2.81	10.55	13.68
68.80	15422. C	928.39	1.72 B	2.23	13.38	17.35
86.00	15422. C	928.39	1.57 B	2.04	18.64	24.16
103.20	15422. C	928.39	1.64 B	2.13	15.93	20.65
120.40	15422. C	928.39	1.98 B	2.57	11.79	15.29
127.00L	15422. C	928.39	2.23 B	2.89	10.50	13.61
127.00R	13447. C	928.39	1.82 B	2.36	10.50	13.61
137.60	13447. C	928.39	2.37 B	3.07	8.74	11.33
154.80	13447. C	928.39	4.89 B	6.34	6.41	8.31
172.00	13447. C	928.39	134.83 B	174.78	5.30	6.87

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	627.33 B	815.53
17.20	47500. S	6.22 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.28
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45
120.40	47500. S	2.30 B	2.99
127.00L	47500. S	2.60 B	3.38
127.00R	47500. S	1.76 B	2.29
137.60	47500. S	2.38 B	3.09
154.80	47500. S	5.17 B	6.72
172.00	47500. S	149.18 B	193.94

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	>999.00			14.49
17.20	13447. C	928.39	13.83			17.34
34.40	13447. C	928.39	6.33			19.57
45.00L	13447. C	928.39	4.71			21.60
45.00R	15422. C	928.39	5.76			21.60
51.60	15422. C	928.39	5.06			23.15
68.80	15422. C	928.39	4.07			28.85
86.00	15422. C	928.39	3.75			35.79
103.20	15422. C	928.39	3.90			28.27
120.40	15422. C	928.39	4.63			22.41
127.00L	15422. C	928.39	5.18			20.42
127.00R	13447. C	928.39	4.23			20.42
137.60	13447. C	928.39	5.50			17.58
154.80	13447. C	928.39	11.49			15.00
172.00	13447. C	928.39	321.02			12.08

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	863.90 B	******
17.20	47500. S	8.37 B	10.88
34.40	47500. S	3.63 B	4.72
45.00L	47500. S	2.61 B	3.40
45.00R	47500. S	3.85 B	5.00
51.60	47500. S	3.36 B	4.37
68.80	47500. S	2.67 B	3.47
86.00	47500. S	2.45 B	3.18
103.20	47500. S	2.56 B	3.33
120.40	47500. S	3.07 B	4.00
127.00L	47500. S	3.46 B	4.50
127.00R	47500. S	2.34 B	3.05
137.60	47500. S	3.15 B	4.10
154.80	47500. S	6.94 B	9.02
172.00	47500. S	202.97 B	263.86

****
Minimum rating is 2.34 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 6 AXLE TRAILER
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:44:32 2015

```
ID: WAITSFIELD 6 AXLE TRAILER
CONDITIONS
  ALL LANES
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  PERMIT TRUCK IN ALL LANES
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  PRMITP 12. 24. 24. 24. 24. 24.
  PRMITSP 11. 4.67 31. 4. 4.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WHLSPC 6.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD 6 AXLE TRAILER
Girder 1 : Input File : Definition
Tue Dec 08 18:44:40 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
```

```
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD 6 AXLE TRAILER
Girder 2 : Input File : Definition
Tue Dec 08 18:44:47 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 6 AXLE TRAILER
Girder 3 : Input File : Definition
Tue Dec 08 18:45:01 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 6 AXLE TRAILER
Girder 4 : Input File : Definition
Tue Dec 08 18:45:12 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 6 AXLE TRAILER
Girder 5 : Input File : Definition
Tue Dec 08 18:45:19 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
  TFISPB 8.75
```

```
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD 6 AXLE TRAILER
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:46:06 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	134.81 B	174.75	5.28	6.84
17.20	13447. C	928.39	4.89 B	6.34	6.64	8.61
34.40	13447. C	928.39	2.37 B	3.07	8.79	11.39
45.00L	13447. C	928.39	1.82 B	2.36	10.53	13.65
45.00R	15422. C	928.39	2.23 B	2.89	10.53	13.65
51.60	15422. C	928.39	1.98 B	2.57	11.79	15.28
68.80	15422. C	928.39	1.64 B	2.13	15.75	20.42
86.00	15422. C	928.39	1.57 B	2.04	17.04	22.09
103.20	15422. C	928.39	1.72 B	2.23	13.13	17.02
120.40	15422. C	928.39	2.16 B	2.80	10.35	13.41
127.00L	15422. C	928.39	2.47 B	3.20	9.57	12.41
127.00R	13447. C	928.39	2.01 B	2.61	9.57	12.41
137.60	13447. C	928.39	2.70 B	3.50	8.55	11.08
154.80	13447. C	928.39	5.86 B	7.59	7.45	9.65
172.00	13447. C	928.39	567.18 B	735.23	6.41	8.31

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	149.16 B	193.90
17.20	47500. S	5.17 B	6.72
34.40	47500. S	2.38 B	3.09
45.00L	47500. S	1.76 B	2.29
45.00R	47500. S	2.60 B	3.38
51.60	47500. S	2.30 B	2.99
68.80	47500. S	1.89 B	2.45
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.97 B	2.56
120.40	47500. S	2.51 B	3.26
127.00L	47500. S	2.88 B	3.74
127.00R	47500. S	1.95 B	2.54
137.60	47500. S	2.71 B	3.52
154.80	47500. S	6.19 B	8.05
172.00	47500. S	627.54 B	815.81

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	181.30			6.79
17.20	13447. C	928.39	6.36			8.31
34.40	13447. C	928.39	3.13			10.75
45.00L	13447. C	928.39	2.43			12.78
45.00R	15422. C	928.39	2.98			12.78
51.60	15422. C	928.39	2.67			14.20
68.80	15422. C	928.39	2.24			18.33
86.00	15422. C	928.39	2.17			21.60
103.20	15422. C	928.39	2.33			16.86
120.40	15422. C	928.39	2.90			13.33
127.00L	15422. C	928.39	3.29			12.40
127.00R	13447. C	928.39	2.69			12.40
137.60	13447. C	928.39	3.57			11.20
154.80	13447. C	928.39	7.66			9.89
172.00	13447. C	928.39	776.01			8.40

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	114.63 B	149.02
17.20	47500. S	3.84 B	5.00
34.40	47500. S	1.79 B	2.33
45.00L	47500. S	1.35 B	1.75
45.00R	47500. S	1.99 B	2.59
51.60	47500. S	1.77 B	2.30
68.80	47500. S	1.47 B	1.91
86.00	47500. S	1.42 B	1.84
103.20	47500. S	1.53 B	1.99
120.40	47500. S	1.93 B	2.50
127.00L	47500. S	2.20 B	2.86
127.00R	47500. S	1.49 B	1.94
137.60	47500. S	2.04 B	2.66
154.80	47500. S	4.63 B	6.02
172.00	47500. S	490.63 B	637.82

****
Minimum rating is 1.35 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 6 AXLE TRAILER
Bracing : Input File : Definition
Tue Dec 08 18:45:38 2015

```
ID: WAITSFIELD
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
```

WAITSFIELD 6 AXLE TRAILER
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:46:14 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	157.44 B	204.09	4.54	5.88
17.20	14218. B	1241.60	5.28 T	6.84	9.16	11.87
34.40	14218. B	1241.60	2.68 T	3.47	11.10	14.39
45.00L	14218. C	1170.25	2.06 B	2.67	11.42	14.80
45.00R	16800. C	1170.25	2.64 B	3.42	11.42	14.80
51.60	16800. C	1241.60	2.35 B	3.05	12.91	16.73
68.80	16800. C	1241.60	1.94 B	2.52	15.39	19.96
86.00	16800. B	1241.60	1.82 T	2.36	17.66	22.89
103.20	16800. C	1241.60	1.93 B	2.50	14.67	19.02
120.40	16800. C	1241.60	2.33 B	3.02	12.36	16.02
127.00L	16800. C	1170.25	2.61 B	3.39	10.61	13.76
127.00R	14218. C	1170.25	2.04 B	2.65	10.61	13.76
137.60	14218. B	1241.60	2.66 T	3.44	10.63	13.78
154.80	14218. B	1241.60	5.32 T	6.89	9.07	11.76
172.00	14218. C	928.39	252.69 B	327.56	4.76	6.17

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	166.95 B	217.04
17.20	47500. S	5.27 B	6.86
34.40	47500. S	2.49 B	3.24
45.00L	47500. S	1.83 B	2.38
45.00R	47500. S	2.75 B	3.57
51.60	47500. S	2.42 B	3.15
68.80	47500. S	1.96 B	2.54
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.94 B	2.53
120.40	47500. S	2.40 B	3.12
127.00L	47500. S	2.72 B	3.54
127.00R	47500. S	1.82 B	2.37
137.60	47500. S	2.47 B	3.21
154.80	47500. S	5.31 B	6.90
172.00	47500. S	267.95 B	348.34

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	214.92			5.55
17.20	14218. C	1241.60	6.70			11.10
34.40	14218. C	1241.60	3.52			13.35
45.00L	14218. C	1170.25	2.76			13.57
45.00R	16800. C	1170.25	3.52			13.57
51.60	16800. C	1241.60	3.17			15.25
68.80	16800. C	1241.60	2.65			17.93
86.00	16800. C	1241.60	2.52			21.48
103.20	16800. C	1241.60	2.63			19.95
120.40	16800. C	1241.60	3.14			16.69
127.00L	16800. C	1170.25	3.49			14.76
127.00R	14218. C	1170.25	2.73			14.76
137.60	14218. C	1241.60	3.49			14.40
154.80	14218. C	1241.60	6.81			12.47
172.00	14218. C	928.39	343.53			6.28

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	130.24 B	169.31
17.20	47500. S	3.82 B	4.97
34.40	47500. S	1.87 B	2.43
45.00L	47500. S	1.40 B	1.82
45.00R	47500. S	2.10 B	2.73
51.60	47500. S	1.86 B	2.42
68.80	47500. S	1.53 B	1.98
86.00	47500. S	1.44 B	1.87
103.20	47500. S	1.51 B	1.97
120.40	47500. S	1.85 B	2.40
127.00L	47500. S	2.08 B	2.70
127.00R	47500. S	1.39 B	1.80
137.60	47500. S	1.86 B	2.41
154.80	47500. S	3.89 B	5.06
172.00	47500. S	208.16 B	270.61

****
Minimum rating is 1.39 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 6 AXLE TRAILER
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:46:22 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	243.49 B	315.63	4.92	6.38
17.20	14218. B	1241.60	5.70 T	7.38	9.89	12.82
34.40	14218. B	1241.60	2.91 T	3.77	11.81	15.31
45.00L	14218. C	1170.25	2.26 B	2.93	12.13	15.73
45.00R	16800. C	1170.25	2.89 B	3.75	12.13	15.73
51.60	16800. C	1241.60	2.60 B	3.36	13.67	17.71
68.80	16800. C	1241.60	2.17 B	2.82	15.82	20.51
86.00	16800. B	1241.60	2.05 T	2.66	18.32	23.75
103.20	16800. C	1241.60	2.17 B	2.81	15.84	20.53
120.40	16800. C	1241.60	2.59 B	3.36	13.66	17.71
127.00L	16800. C	1170.25	2.89 B	3.75	11.84	15.35
127.00R	14218. C	1170.25	2.26 B	2.93	11.84	15.35
137.60	14218. B	1241.60	2.90 T	3.76	11.78	15.27
154.80	14218. B	1241.60	5.69 T	7.37	9.85	12.77
172.00	14218. C	928.39	243.54 B	315.69	4.93	6.39

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	258.20 B	335.66
17.20	47500. S	5.69 B	7.39
34.40	47500. S	2.70 B	3.51
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.01 B	3.91
51.60	47500. S	2.67 B	3.47
68.80	47500. S	2.18 B	2.84
86.00	47500. S	2.04 B	2.66
103.20	47500. S	2.18 B	2.84
120.40	47500. S	2.67 B	3.46
127.00L	47500. S	3.01 B	3.91
127.00R	47500. S	2.00 B	2.60
137.60	47500. S	2.69 B	3.50
154.80	47500. S	5.67 B	7.37
172.00	47500. S	258.25 B	335.73

****

Minimum rating is 2.00 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	332.38			5.93
17.20	14218. C	1241.60	7.20			11.91
34.40	14218. C	1241.60	3.82			14.18
45.00L	14218. C	1170.25	3.03			14.43
45.00R	16800. C	1170.25	3.88			14.43
51.60	16800. C	1241.60	3.51			16.16
68.80	16800. C	1241.60	2.97			18.53
86.00	16800. C	1241.60	2.84			21.31
103.20	16800. C	1241.60	2.97			21.24
120.40	16800. C	1241.60	3.50			18.33
127.00L	16800. C	1170.25	3.87			16.30
127.00R	14218. C	1170.25	3.02			16.30
137.60	14218. C	1241.60	3.81			15.97
154.80	14218. C	1241.60	7.19			13.61
172.00	14218. C	928.39	333.29			6.40

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	201.41 B	261.83
17.20	47500. S	4.11 B	5.34
34.40	47500. S	2.03 B	2.63
45.00L	47500. S	1.53 B	1.99
45.00R	47500. S	2.30 B	3.00
51.60	47500. S	2.06 B	2.68
68.80	47500. S	1.71 B	2.22
86.00	47500. S	1.61 B	2.10
103.20	47500. S	1.71 B	2.22
120.40	47500. S	2.06 B	2.67
127.00L	47500. S	2.30 B	2.99
127.00R	47500. S	1.53 B	1.99
137.60	47500. S	2.02 B	2.63
154.80	47500. S	4.10 B	5.33
172.00	47500. S	201.96 B	262.55

****
Minimum rating is 1.53 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 6 AXLE TRAILER
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:46:29 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	252.82 B	327.73	4.76	6.16
17.20	14218. B	1241.60	5.33 T	6.90	9.06	11.74
34.40	14218. B	1241.60	2.66 T	3.45	10.66	13.81
45.00L	14218. C	1170.25	2.05 B	2.66	10.95	14.20
45.00R	16800. C	1170.25	2.62 B	3.39	10.95	14.20
51.60	16800. C	1241.60	2.33 B	3.03	12.38	16.04
68.80	16800. C	1241.60	1.93 B	2.50	14.69	19.04
86.00	16800. B	1241.60	1.82 T	2.36	18.76	24.32
103.20	16800. C	1241.60	1.94 B	2.52	15.36	19.92
120.40	16800. C	1241.60	2.35 B	3.05	12.90	16.72
127.00L	16800. C	1170.25	2.63 B	3.42	11.39	14.77
127.00R	14218. C	1170.25	2.06 B	2.67	11.39	14.77
137.60	14218. B	1241.60	2.67 T	3.46	11.07	14.34
154.80	14218. B	1241.60	5.27 T	6.83	9.28	12.02
172.00	14218. C	928.39	157.26 B	203.86	4.54	5.89

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	268.10 B	348.53
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.55
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.95 B	2.54
120.40	47500. S	2.42 B	3.15
127.00L	47500. S	2.74 B	3.57
127.00R	47500. S	1.83 B	2.38
137.60	47500. S	2.49 B	3.23
154.80	47500. S	5.26 B	6.84
172.00	47500. S	166.77 B	216.80

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	343.40			5.83
17.20	14218. C	1241.60	6.83			11.11
34.40	14218. C	1241.60	3.49			12.87
45.00L	14218. C	1170.25	2.73			13.06
45.00R	16800. C	1170.25	3.49			13.06
51.60	16800. C	1241.60	3.14			14.66
68.80	16800. C	1241.60	2.63			17.19
86.00	16800. C	1241.60	2.52			17.84
103.20	16800. C	1241.60	2.65			20.75
120.40	16800. C	1241.60	3.16			17.26
127.00L	16800. C	1170.25	3.52			15.27
127.00R	14218. C	1170.25	2.75			15.27
137.60	14218. C	1241.60	3.51			14.95
154.80	14218. C	1241.60	6.69			13.16
172.00	14218. C	928.39	214.56			5.95

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	208.08 B	270.51
17.20	47500. S	3.90 B	5.07
34.40	47500. S	1.86 B	2.42
45.00L	47500. S	1.39 B	1.81
45.00R	47500. S	2.08 B	2.71
51.60	47500. S	1.85 B	2.40
68.80	47500. S	1.52 B	1.97
86.00	47500. S	1.44 B	1.87
103.20	47500. S	1.53 B	1.98
120.40	47500. S	1.86 B	2.42
127.00L	47500. S	2.09 B	2.72
127.00R	47500. S	1.40 B	1.82
137.60	47500. S	1.87 B	2.43
154.80	47500. S	3.81 B	4.96
172.00	47500. S	130.01 B	169.02

****
Minimum rating is 1.39 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 6 AXLE TRAILER
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:46:38 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	566.99 B	734.98	6.42	8.32
17.20	13447. C	928.39	5.87 B	7.61	7.57	9.82
34.40	13447. C	928.39	2.71 B	3.51	8.70	11.27
45.00L	13447. C	928.39	2.02 B	2.62	9.76	12.65
45.00R	15422. C	928.39	2.47 B	3.21	9.76	12.65
51.60	15422. C	928.39	2.17 B	2.81	10.55	13.68
68.80	15422. C	928.39	1.72 B	2.23	13.38	17.35
86.00	15422. C	928.39	1.57 B	2.04	18.64	24.16
103.20	15422. C	928.39	1.64 B	2.13	15.93	20.65
120.40	15422. C	928.39	1.98 B	2.57	11.79	15.29
127.00L	15422. C	928.39	2.23 B	2.89	10.50	13.61
127.00R	13447. C	928.39	1.82 B	2.36	10.50	13.61
137.60	13447. C	928.39	2.37 B	3.07	8.74	11.33
154.80	13447. C	928.39	4.89 B	6.34	6.41	8.31
172.00	13447. C	928.39	134.83 B	174.78	5.30	6.87

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	627.33 B	815.53
17.20	47500. S	6.22 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.28
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45
120.40	47500. S	2.30 B	2.99
127.00L	47500. S	2.60 B	3.38
127.00R	47500. S	1.76 B	2.29
137.60	47500. S	2.38 B	3.09
154.80	47500. S	5.17 B	6.72
172.00	47500. S	149.18 B	193.94

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	774.37			8.12
17.20	13447. C	928.39	7.68			9.63
34.40	13447. C	928.39	3.58			10.84
45.00L	13447. C	928.39	2.70			11.97
45.00R	15422. C	928.39	3.30			11.97
51.60	15422. C	928.39	2.91			12.84
68.80	15422. C	928.39	2.34			16.00
86.00	15422. C	928.39	2.17			21.27
103.20	15422. C	928.39	2.24			16.57
120.40	15422. C	928.39	2.67			13.02
127.00L	15422. C	928.39	2.98			11.82
127.00R	13447. C	928.39	2.43			11.82
137.60	13447. C	928.39	3.13			10.11
154.80	13447. C	928.39	6.36			8.31
172.00	13447. C	928.39	181.79			6.88

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	489.60 B	636.48
17.20	47500. S	4.65 B	6.04
34.40	47500. S	2.05 B	2.67
45.00L	47500. S	1.50 B	1.95
45.00R	47500. S	2.20 B	2.87
51.60	47500. S	1.93 B	2.51
68.80	47500. S	1.53 B	1.99
86.00	47500. S	1.42 B	1.84
103.20	47500. S	1.47 B	1.91
120.40	47500. S	1.77 B	2.30
127.00L	47500. S	1.99 B	2.59
127.00R	47500. S	1.35 B	1.75
137.60	47500. S	1.79 B	2.33
154.80	47500. S	3.84 B	5.00
172.00	47500. S	114.94 B	149.42

****
Minimum rating is 1.35 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3 AXLE STRAIGHT
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:48:41 2015

```
ID: WAITSFIELD 3 AXLE STRAIGHT
CONDITIONS
  ALL LANES
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  PERMIT TRUCK IN ALL LANES
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  PRMITP 12. 24. 24.
  PRMITSP 15. 4.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WHLSPC 6.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD 3 AXLE STRAIGHT
Girder 1 : Input File : Definition
Tue Dec 08 18:48:49 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
```

```
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD 3 AXLE STRAIGHT
Girder 2 : Input File : Definition
Tue Dec 08 18:49:15 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NMOD 8
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
```

```
  SUPBSW 9.5
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 3 AXLE STRAIGHT
Girder 3 : Input File : Definition
Tue Dec 08 18:49:26 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 3 AXLE STRAIGHT
Girder 4 : Input File : Definition
Tue Dec 08 18:49:37 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 3 AXLE STRAIGHT
Girder 5 : Input File : Definition
Tue Dec 08 18:49:46 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
  TFISPB 8.75
```

```
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD 3 AXLE STRAIGHT
Bracing : Input File : Definition
Tue Dec 08 18:49:54 2015

```
ID: WAITSFIELD 3 AXLE STRAIGHT
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
```

WAITSFIELD 3 AXLE STRAIGHT
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:50:08 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	134.43 B	174.26	5.26	6.82
17.20	13447. C	928.39	4.87 B	6.32	6.62	8.58
34.40	13447. C	928.39	2.36 B	3.06	8.75	11.35
45.00L	13447. C	928.39	1.81 B	2.34	10.50	13.60
45.00R	15422. C	928.39	2.22 B	2.87	10.50	13.60
51.60	15422. C	928.39	1.97 B	2.56	11.76	15.25
68.80	15422. C	928.39	1.64 B	2.12	15.72	20.38
86.00	15422. C	928.39	1.57 B	2.03	17.01	22.05
103.20	15422. C	928.39	1.71 B	2.21	13.09	16.97
120.40	15422. C	928.39	2.15 B	2.79	10.31	13.36
127.00L	15422. C	928.39	2.46 B	3.18	9.53	12.36
127.00R	13447. C	928.39	2.00 B	2.60	9.53	12.36
137.60	13447. C	928.39	2.69 B	3.49	8.51	11.04
154.80	13447. C	928.39	5.84 B	7.56	7.42	9.61
172.00	13447. C	928.39	566.89 B	734.86	6.40	8.29

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	148.74 B	193.36
17.20	47500. S	5.15 B	6.70
34.40	47500. S	2.37 B	3.08
45.00L	47500. S	1.75 B	2.28
45.00R	47500. S	2.59 B	3.36
51.60	47500. S	2.29 B	2.98
68.80	47500. S	1.88 B	2.44
86.00	47500. S	1.79 B	2.33
103.20	47500. S	1.96 B	2.55
120.40	47500. S	2.50 B	3.25
127.00L	47500. S	2.87 B	3.73
127.00R	47500. S	1.94 B	2.53
137.60	47500. S	2.70 B	3.51
154.80	47500. S	6.17 B	8.02
172.00	47500. S	627.23 B	815.40

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	371.31			13.93
17.20	13447. C	928.39	12.74			16.74
34.40	13447. C	928.39	6.16			21.46
45.00L	13447. C	928.39	4.70			25.20
45.00R	15422. C	928.39	5.76			25.20
51.60	15422. C	928.39	5.12			27.78
68.80	15422. C	928.39	4.25			35.21
86.00	15422. C	928.39	4.07			36.37
103.20	15422. C	928.39	4.44			30.00
120.40	15422. C	928.39	5.59			24.83
127.00L	15422. C	928.39	6.39			23.24
127.00R	13447. C	928.39	5.22			23.24
137.60	13447. C	928.39	7.07			21.03
154.80	13447. C	928.39	15.36			18.82
172.00	13447. C	928.39	>999.00			16.08

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	234.76 B	305.19
17.20	47500. S	7.69 B	10.00
34.40	47500. S	3.53 B	4.59
45.00L	47500. S	2.60 B	3.38
45.00R	47500. S	3.84 B	4.99
51.60	47500. S	3.40 B	4.42
68.80	47500. S	2.79 B	3.62
86.00	47500. S	2.66 B	3.46
103.20	47500. S	2.91 B	3.79
120.40	47500. S	3.71 B	4.82
127.00L	47500. S	4.26 B	5.54
127.00R	47500. S	2.89 B	3.76
137.60	47500. S	4.05 B	5.27
154.80	47500. S	9.28 B	12.06
172.00	47500. S	> 999.00 B	>999.00

****
Minimum rating is 2.60 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3 AXLE STRAIGHT
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:50:20 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.		Rating Factors Bending Oper.		Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	156.94	B	203.44		4.56	5.91
17.20	14218. B	1241.60	5.32	T	6.90		9.23	11.97
34.40	14218. B	1241.60	2.70	T	3.50		11.19	14.50
45.00L	14218. C	1170.25	2.08	B	2.70		11.49	14.90
45.00R	16800. C	1170.25	2.66	B	3.45		11.49	14.90
51.60	16800. C	1241.60	2.38	B	3.08		12.99	16.84
68.80	16800. C	1241.60	1.96	B	2.54		15.47	20.05
86.00	16800. B	1241.60	1.84	T	2.39		17.71	22.96
103.20	16800. C	1241.60	1.95	B	2.53		14.74	19.11
120.40	16800. C	1241.60	2.36	B	3.05		12.44	16.12
127.00L	16800. C	1170.25	2.64	B	3.42		10.69	13.86
127.00R	14218. C	1170.25	2.06	B	2.68		10.69	13.86
137.60	14218. B	1241.60	2.68	T	3.47		10.71	13.88
154.80	14218. B	1241.60	5.36	T	6.95		9.14	11.85
172.00	14218. C	928.39	252.31	B	327.07		4.78	6.19

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.		Rating Factors Bending Oper.	
0.00	47500. S	165.76	B	215.49	
17.20	47500. S	5.30	B	6.89	
34.40	47500. S	2.51	B	3.26	
45.00L	47500. S	1.84	B	2.40	
45.00R	47500. S	2.76	B	3.59	
51.60	47500. S	2.44	B	3.17	
68.80	47500. S	1.97	B	2.56	
86.00	47500. S	1.83	B	2.38	
103.20	47500. S	1.96	B	2.54	
120.40	47500. S	2.42	B	3.14	
127.00L	47500. S	2.74	B	3.56	
127.00R	47500. S	1.83	B	2.38	
137.60	47500. S	2.49	B	3.23	
154.80	47500. S	5.33	B	6.93	
172.00	47500. S	266.49	B	346.44	

****

Minimum rating is 1.83 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	449.51			9.78
17.20	14218. C	1241.60	12.44			20.74
34.40	14218. C	1241.60	6.51			25.67
45.00L	14218. C	1170.25	5.07			25.91
45.00R	16800. C	1170.25	6.49			25.91
51.60	16800. C	1241.60	5.81			28.91
68.80	16800. C	1241.60	4.82			33.08
86.00	16800. C	1241.60	4.52			37.78
103.20	16800. C	1241.60	4.78			32.43
120.40	16800. C	1241.60	5.78			28.19
127.00L	16800. C	1170.25	6.47			25.24
127.00R	14218. C	1170.25	5.07			25.24
137.60	14218. C	1241.60	6.57			25.07
154.80	14218. C	1241.60	13.09			22.31
172.00	14218. C	928.39	699.20			10.38

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	271.30 B	352.69
17.20	47500. S	7.07 B	9.20
34.40	47500. S	3.45 B	4.49
45.00L	47500. S	2.57 B	3.34
45.00R	47500. S	3.85 B	5.00
51.60	47500. S	3.41 B	4.43
68.80	47500. S	2.76 B	3.59
86.00	47500. S	2.57 B	3.34
103.20	47500. S	2.74 B	3.57
120.40	47500. S	3.39 B	4.41
127.00L	47500. S	3.84 B	4.99
127.00R	47500. S	2.57 B	3.33
137.60	47500. S	3.48 B	4.53
154.80	47500. S	7.44 B	9.67
172.00	47500. S	421.99 B	548.59

****
Minimum rating is 2.57 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3 AXLE STRAIGHT
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:50:28 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	242.14 B	313.89	4.92	6.37
17.20	14218. B	1241.60	5.69 T	7.37	9.87	12.79
34.40	14218. B	1241.60	2.90 T	3.76	11.77	15.26
45.00L	14218. C	1170.25	2.25 B	2.92	12.10	15.69
45.00R	16800. C	1170.25	2.89 B	3.74	12.10	15.69
51.60	16800. C	1241.60	2.59 B	3.35	13.63	17.67
68.80	16800. C	1241.60	2.17 B	2.81	15.78	20.46
86.00	16800. B	1241.60	2.05 T	2.65	18.28	23.69
103.20	16800. C	1241.60	2.16 B	2.81	15.83	20.52
120.40	16800. C	1241.60	2.58 B	3.35	13.64	17.68
127.00L	16800. C	1170.25	2.88 B	3.73	11.83	15.33
127.00R	14218. C	1170.25	2.25 B	2.92	11.83	15.33
137.60	14218. B	1241.60	2.89 T	3.75	11.76	15.24
154.80	14218. B	1241.60	5.67 T	7.35	9.83	12.74
172.00	14218. C	928.39	243.96 B	316.25	4.92	6.38

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	256.77 B	333.81
17.20	47500. S	5.68 B	7.38
34.40	47500. S	2.69 B	3.50
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.00 B	3.90
51.60	47500. S	2.66 B	3.46
68.80	47500. S	2.18 B	2.83
86.00	47500. S	2.04 B	2.65
103.20	47500. S	2.17 B	2.83
120.40	47500. S	2.66 B	3.45
127.00L	47500. S	3.00 B	3.89
127.00R	47500. S	1.99 B	2.59
137.60	47500. S	2.68 B	3.49
154.80	47500. S	5.66 B	7.35
172.00	47500. S	258.71 B	336.32

****

Minimum rating is 1.99 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	686.01			10.46
17.20	14218. C	1241.60	13.46			22.33
34.40	14218. C	1241.60	6.85			26.65
45.00L	14218. C	1170.25	5.37			26.99
45.00R	16800. C	1170.25	6.88			26.99
51.60	16800. C	1241.60	6.19			30.11
68.80	16800. C	1241.60	5.23			34.01
86.00	16800. C	1241.60	4.96			38.21
103.20	16800. C	1241.60	5.23			34.63
120.40	16800. C	1241.60	6.19			30.67
127.00L	16800. C	1170.25	6.87			27.47
127.00R	14218. C	1170.25	5.36			27.47
137.60	14218. C	1241.60	6.84			27.11
154.80	14218. C	1241.60	13.43			23.08
172.00	14218. C	928.39	688.66			10.46

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	415.69 B	540.40
17.20	47500. S	7.68 B	9.99
34.40	47500. S	3.64 B	4.73
45.00L	47500. S	2.72 B	3.54
45.00R	47500. S	4.09 B	5.31
51.60	47500. S	3.64 B	4.73
68.80	47500. S	3.00 B	3.91
86.00	47500. S	2.82 B	3.66
103.20	47500. S	3.00 B	3.90
120.40	47500. S	3.63 B	4.73
127.00L	47500. S	4.08 B	5.31
127.00R	47500. S	2.71 B	3.53
137.60	47500. S	3.63 B	4.71
154.80	47500. S	7.66 B	9.95
172.00	47500. S	417.30 B	542.49

****
Minimum rating is 2.71 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3 AXLE STRAIGHT
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:50:36 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	253.24 B	328.27	4.75	6.16
17.20	14218. B	1241.60	5.32 T	6.90	9.05	11.74
34.40	14218. B	1241.60	2.66 T	3.45	10.65	13.80
45.00L	14218. C	1170.25	2.05 B	2.65	10.94	14.19
45.00R	16800. C	1170.25	2.61 B	3.39	10.94	14.19
51.60	16800. C	1241.60	2.33 B	3.02	12.37	16.03
68.80	16800. C	1241.60	1.93 B	2.50	14.68	19.03
86.00	16800. B	1241.60	1.82 T	2.36	18.76	24.32
103.20	16800. C	1241.60	1.94 B	2.51	15.36	19.91
120.40	16800. C	1241.60	2.35 B	3.04	12.89	16.71
127.00L	16800. C	1170.25	2.63 B	3.41	11.39	14.76
127.00R	14218. C	1170.25	2.06 B	2.67	11.39	14.76
137.60	14218. B	1241.60	2.67 T	3.46	11.06	14.34
154.80	14218. B	1241.60	5.26 T	6.82	9.27	12.01
172.00	14218. C	928.39	157.41 B	204.05	4.54	5.89

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	268.54 B	349.10
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.54
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.36
103.20	47500. S	1.95 B	2.54
120.40	47500. S	2.42 B	3.14
127.00L	47500. S	2.74 B	3.56
127.00R	47500. S	1.83 B	2.38
137.60	47500. S	2.48 B	3.23
154.80	47500. S	5.26 B	6.83
172.00	47500. S	166.93 B	217.01

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	702.14			10.36
17.20	14218. C	1241.60	13.02			20.91
34.40	14218. C	1241.60	6.52			24.45
45.00L	14218. C	1170.25	5.03			24.58
45.00R	16800. C	1170.25	6.42			24.58
51.60	16800. C	1241.60	5.73			27.40
68.80	16800. C	1241.60	4.74			31.49
86.00	16800. C	1241.60	4.47			27.15
103.20	16800. C	1241.60	4.76			33.93
120.40	16800. C	1241.60	5.75			29.51
127.00L	16800. C	1170.25	6.42			26.39
127.00R	14218. C	1170.25	5.02			26.39
137.60	14218. C	1241.60	6.45			26.12
154.80	14218. C	1241.60	12.34			22.95
172.00	14218. C	928.39	452.47			9.77

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	425.47 B	553.11
17.20	47500. S	7.44 B	9.67
34.40	47500. S	3.48 B	4.52
45.00L	47500. S	2.56 B	3.33
45.00R	47500. S	3.83 B	4.97
51.60	47500. S	3.38 B	4.39
68.80	47500. S	2.73 B	3.55
86.00	47500. S	2.55 B	3.32
103.20	47500. S	2.74 B	3.56
120.40	47500. S	3.38 B	4.40
127.00L	47500. S	3.82 B	4.96
127.00R	47500. S	2.55 B	3.31
137.60	47500. S	3.43 B	4.45
154.80	47500. S	7.04 B	9.15
172.00	47500. S	274.18 B	356.44

****
Minimum rating is 2.55 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 3 AXLE STRAIGHT
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:50:43 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	567.70 B	735.90	6.42	8.32
17.20	13447. C	928.39	5.87 B	7.61	7.57	9.81
34.40	13447. C	928.39	2.71 B	3.51	8.69	11.27
45.00L	13447. C	928.39	2.02 B	2.62	9.76	12.65
45.00R	15422. C	928.39	2.47 B	3.21	9.76	12.65
51.60	15422. C	928.39	2.17 B	2.81	10.55	13.68
68.80	15422. C	928.39	1.72 B	2.23	13.38	17.35
86.00	15422. C	928.39	1.57 B	2.04	18.64	24.16
103.20	15422. C	928.39	1.64 B	2.13	15.93	20.64
120.40	15422. C	928.39	1.98 B	2.57	11.79	15.29
127.00L	15422. C	928.39	2.23 B	2.89	10.50	13.61
127.00R	13447. C	928.39	1.82 B	2.35	10.50	13.61
137.60	13447. C	928.39	2.37 B	3.07	8.74	11.33
154.80	13447. C	928.39	4.89 B	6.34	6.41	8.31
172.00	13447. C	928.39	134.94 B	174.92	5.30	6.87

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	628.12 B	816.56
17.20	47500. S	6.21 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.27
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45
120.40	47500. S	2.30 B	2.99
127.00L	47500. S	2.60 B	3.38
127.00R	47500. S	1.76 B	2.29
137.60	47500. S	2.38 B	3.09
154.80	47500. S	5.17 B	6.72
172.00	47500. S	149.30 B	194.09

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	>999.00			16.09
17.20	13447. C	928.39	15.45			19.33
34.40	13447. C	928.39	7.12			21.56
45.00L	13447. C	928.39	5.26			23.81
45.00R	15422. C	928.39	6.44			23.81
51.60	15422. C	928.39	5.63			25.45
68.80	15422. C	928.39	4.48			30.93
86.00	15422. C	928.39	4.09			38.56
103.20	15422. C	928.39	4.27			30.94
120.40	15422. C	928.39	5.14			24.73
127.00L	15422. C	928.39	5.78			22.67
127.00R	13447. C	928.39	4.72			22.67
137.60	13447. C	928.39	6.19			19.73
154.80	13447. C	928.39	12.79			16.81
172.00	13447. C	928.39	372.16			13.99

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	> 999.00 B	>999.00
17.20	47500. S	9.34 B	12.14
34.40	47500. S	4.09 B	5.31
45.00L	47500. S	2.92 B	3.79
45.00R	47500. S	4.30 B	5.59
51.60	47500. S	3.74 B	4.86
68.80	47500. S	2.94 B	3.82
86.00	47500. S	2.67 B	3.47
103.20	47500. S	2.80 B	3.64
120.40	47500. S	3.41 B	4.44
127.00L	47500. S	3.86 B	5.02
127.00R	47500. S	2.61 B	3.40
137.60	47500. S	3.55 B	4.61
154.80	47500. S	7.73 B	10.04
172.00	47500. S	235.30 B	305.89

****
Minimum rating is 2.61 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 4 AXLE STRAIGHT
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:52:15 2015

```
ID: WAITSFIELD 4 AXLE STRAIGHT
CONDITIONS
  ALL LANES
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  PERMIT TRUCK IN ALL LANES
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  PRMITP 12. 19. 19. 19.
  PRMITSP 15. 4. 4.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WHLSPC 6.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD 4 AXLE STRAIGHT
Girder 1 : Input File : Definition
Tue Dec 08 18:52:26 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
```

```
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD 4 AXLE STRAIGHT
Girder 2 : Input File : Definition
Tue Dec 08 18:52:33 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 4 AXLE STRAIGHT
Girder 3 : Input File : Definition
Tue Dec 08 18:52:40 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 4 AXLE STRAIGHT
Girder 4 : Input File : Definition
Tue Dec 08 18:52:46 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 4 AXLE STRAIGHT
Girder 5 : Input File : Definition
Tue Dec 08 18:52:55 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
  TFISPB 8.75
```

```
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD 4 AXLE STRAIGHT
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:53:14 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	134.81 B	174.75	5.28	6.84
17.20	13447. C	928.39	4.89 B	6.34	6.64	8.61
34.40	13447. C	928.39	2.37 B	3.07	8.79	11.39
45.00L	13447. C	928.39	1.82 B	2.36	10.53	13.65
45.00R	15422. C	928.39	2.23 B	2.89	10.53	13.65
51.60	15422. C	928.39	1.98 B	2.57	11.79	15.28
68.80	15422. C	928.39	1.64 B	2.13	15.75	20.42
86.00	15422. C	928.39	1.57 B	2.04	17.04	22.09
103.20	15422. C	928.39	1.72 B	2.23	13.13	17.02
120.40	15422. C	928.39	2.16 B	2.80	10.35	13.41
127.00L	15422. C	928.39	2.47 B	3.20	9.57	12.41
127.00R	13447. C	928.39	2.01 B	2.61	9.57	12.41
137.60	13447. C	928.39	2.70 B	3.50	8.55	11.08
154.80	13447. C	928.39	5.86 B	7.59	7.45	9.65
172.00	13447. C	928.39	567.18 B	735.23	6.41	8.31

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	149.16 B	193.90
17.20	47500. S	5.17 B	6.72
34.40	47500. S	2.38 B	3.09
45.00L	47500. S	1.76 B	2.29
45.00R	47500. S	2.60 B	3.38
51.60	47500. S	2.30 B	2.99
68.80	47500. S	1.89 B	2.45
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.97 B	2.56
120.40	47500. S	2.51 B	3.26
127.00L	47500. S	2.88 B	3.74
127.00R	47500. S	1.95 B	2.54
137.60	47500. S	2.71 B	3.52
154.80	47500. S	6.19 B	8.05
172.00	47500. S	627.54 B	815.81

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	325.59			12.19
17.20	13447. C	928.39	11.02			14.49
34.40	13447. C	928.39	5.36			18.51
45.00L	13447. C	928.39	4.14			21.66
45.00R	15422. C	928.39	5.07			21.66
51.60	15422. C	928.39	4.53			23.84
68.80	15422. C	928.39	3.76			30.14
86.00	15422. C	928.39	3.60			31.00
103.20	15422. C	928.39	3.94			25.68
120.40	15422. C	928.39	4.92			21.38
127.00L	15422. C	928.39	5.60			20.04
127.00R	13447. C	928.39	4.57			20.04
137.60	13447. C	928.39	6.10			18.14
154.80	13447. C	928.39	13.30			16.26
172.00	13447. C	928.39	>999.00			14.19

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	205.86 B	267.61
17.20	47500. S	6.66 B	8.66
34.40	47500. S	3.07 B	3.99
45.00L	47500. S	2.29 B	2.98
45.00R	47500. S	3.38 B	4.40
51.60	47500. S	3.00 B	3.90
68.80	47500. S	2.47 B	3.21
86.00	47500. S	2.35 B	3.06
103.20	47500. S	2.59 B	3.36
120.40	47500. S	3.26 B	4.24
127.00L	47500. S	3.73 B	4.85
127.00R	47500. S	2.53 B	3.29
137.60	47500. S	3.50 B	4.55
154.80	47500. S	8.04 B	10.45
172.00	47500. S	875.37 B	******

****
Minimum rating is 2.29 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 4 AXLE STRAIGHT
Bracing : Input File : Definition
Tue Dec 08 18:53:02 2015

```
ID: WAITSFIELD 4 AXLE STRAIGHT
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
```

WAITSFIELD 4 AXLE STRAIGHT
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:53:23 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	157.44 B	204.09	4.54	5.88
17.20	14218. B	1241.60	5.28 T	6.84	9.16	11.87
34.40	14218. B	1241.60	2.68 T	3.47	11.10	14.39
45.00L	14218. C	1170.25	2.06 B	2.67	11.42	14.80
45.00R	16800. C	1170.25	2.64 B	3.42	11.42	14.80
51.60	16800. C	1241.60	2.35 B	3.05	12.91	16.73
68.80	16800. C	1241.60	1.94 B	2.52	15.39	19.96
86.00	16800. B	1241.60	1.82 T	2.36	17.66	22.89
103.20	16800. C	1241.60	1.93 B	2.50	14.67	19.02
120.40	16800. C	1241.60	2.33 B	3.02	12.36	16.02
127.00L	16800. C	1170.25	2.61 B	3.39	10.61	13.76
127.00R	14218. C	1170.25	2.04 B	2.65	10.61	13.76
137.60	14218. B	1241.60	2.66 T	3.44	10.63	13.78
154.80	14218. B	1241.60	5.32 T	6.89	9.07	11.76
172.00	14218. C	928.39	252.69 B	327.56	4.76	6.17

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	166.95 B	217.04
17.20	47500. S	5.27 B	6.86
34.40	47500. S	2.49 B	3.24
45.00L	47500. S	1.83 B	2.38
45.00R	47500. S	2.75 B	3.57
51.60	47500. S	2.42 B	3.15
68.80	47500. S	1.96 B	2.54
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.94 B	2.53
120.40	47500. S	2.40 B	3.12
127.00L	47500. S	2.72 B	3.54
127.00R	47500. S	1.82 B	2.37
137.60	47500. S	2.47 B	3.21
154.80	47500. S	5.31 B	6.90
172.00	47500. S	267.95 B	348.34

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	393.10			8.74
17.20	14218. C	1241.60	10.71			17.79
34.40	14218. C	1241.60	5.70			21.54
45.00L	14218. C	1170.25	4.48			21.74
45.00R	16800. C	1170.25	5.73			21.74
51.60	16800. C	1241.60	5.14			24.26
68.80	16800. C	1241.60	4.25			27.66
86.00	16800. C	1241.60	3.97			31.67
103.20	16800. C	1241.60	4.22			27.24
120.40	16800. C	1241.60	5.08			23.72
127.00L	16800. C	1170.25	5.68			21.26
127.00R	14218. C	1170.25	4.45			21.26
137.60	14218. C	1241.60	5.73			21.13
154.80	14218. C	1241.60	11.20			18.84
172.00	14218. C	928.39	612.91			9.29

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	238.20 B	309.66
17.20	47500. S	6.11 B	7.94
34.40	47500. S	3.03 B	3.94
45.00L	47500. S	2.28 B	2.96
45.00R	47500. S	3.41 B	4.44
51.60	47500. S	3.03 B	3.94
68.80	47500. S	2.44 B	3.18
86.00	47500. S	2.27 B	2.95
103.20	47500. S	2.43 B	3.16
120.40	47500. S	2.99 B	3.89
127.00L	47500. S	3.38 B	4.40
127.00R	47500. S	2.26 B	2.94
137.60	47500. S	3.05 B	3.97
154.80	47500. S	6.39 B	8.31
172.00	47500. S	371.39 B	482.81

****
Minimum rating is 2.26 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 4 AXLE STRAIGHT
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:53:31 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	243.49 B	315.63	4.92	6.38
17.20	14218. B	1241.60	5.70 T	7.38	9.89	12.82
34.40	14218. B	1241.60	2.91 T	3.77	11.81	15.31
45.00L	14218. C	1170.25	2.26 B	2.93	12.13	15.73
45.00R	16800. C	1170.25	2.89 B	3.75	12.13	15.73
51.60	16800. C	1241.60	2.60 B	3.36	13.67	17.71
68.80	16800. C	1241.60	2.17 B	2.82	15.82	20.51
86.00	16800. B	1241.60	2.05 T	2.66	18.32	23.75
103.20	16800. C	1241.60	2.17 B	2.81	15.84	20.53
120.40	16800. C	1241.60	2.59 B	3.36	13.66	17.71
127.00L	16800. C	1170.25	2.89 B	3.75	11.84	15.35
127.00R	14218. C	1170.25	2.26 B	2.93	11.84	15.35
137.60	14218. B	1241.60	2.90 T	3.76	11.78	15.27
154.80	14218. B	1241.60	5.69 T	7.37	9.85	12.77
172.00	14218. C	928.39	243.54 B	315.69	4.93	6.39

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	258.20 B	335.66
17.20	47500. S	5.69 B	7.39
34.40	47500. S	2.70 B	3.51
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.01 B	3.91
51.60	47500. S	2.67 B	3.47
68.80	47500. S	2.18 B	2.84
86.00	47500. S	2.04 B	2.66
103.20	47500. S	2.18 B	2.84
120.40	47500. S	2.67 B	3.46
127.00L	47500. S	3.01 B	3.91
127.00R	47500. S	2.00 B	2.60
137.60	47500. S	2.69 B	3.50
154.80	47500. S	5.67 B	7.37
172.00	47500. S	258.25 B	335.73

****

Minimum rating is 2.00 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	601.50			9.36
17.20	14218. C	1241.60	11.43			18.95
34.40	14218. C	1241.60	6.07			22.55
45.00L	14218. C	1170.25	4.81			22.82
45.00R	16800. C	1170.25	6.15			22.82
51.60	16800. C	1241.60	5.56			25.44
68.80	16800. C	1241.60	4.67			28.68
86.00	16800. C	1241.60	4.42			32.11
103.20	16800. C	1241.60	4.67			29.29
120.40	16800. C	1241.60	5.55			26.01
127.00L	16800. C	1170.25	6.15			23.31
127.00R	14218. C	1170.25	4.80			23.31
137.60	14218. C	1241.60	6.06			23.02
154.80	14218. C	1241.60	11.41			19.61
172.00	14218. C	928.39	600.83			9.36

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	364.49 B	473.83
17.20	47500. S	6.52 B	8.48
34.40	47500. S	3.22 B	4.19
45.00L	47500. S	2.44 B	3.17
45.00R	47500. S	3.66 B	4.76
51.60	47500. S	3.27 B	4.24
68.80	47500. S	2.68 B	3.49
86.00	47500. S	2.51 B	3.27
103.20	47500. S	2.68 B	3.49
120.40	47500. S	3.26 B	4.24
127.00L	47500. S	3.65 B	4.75
127.00R	47500. S	2.43 B	3.16
137.60	47500. S	3.21 B	4.18
154.80	47500. S	6.51 B	8.46
172.00	47500. S	364.08 B	473.30

****
Minimum rating is 2.43 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 4 AXLE STRAIGHT
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:53:39 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	252.82 B	327.73	4.76	6.16
17.20	14218. B	1241.60	5.33 T	6.90	9.06	11.74
34.40	14218. B	1241.60	2.66 T	3.45	10.66	13.81
45.00L	14218. C	1170.25	2.05 B	2.66	10.95	14.20
45.00R	16800. C	1170.25	2.62 B	3.39	10.95	14.20
51.60	16800. C	1241.60	2.33 B	3.03	12.38	16.04
68.80	16800. C	1241.60	1.93 B	2.50	14.69	19.04
86.00	16800. B	1241.60	1.82 T	2.36	18.76	24.32
103.20	16800. C	1241.60	1.94 B	2.52	15.36	19.92
120.40	16800. C	1241.60	2.35 B	3.05	12.90	16.72
127.00L	16800. C	1170.25	2.63 B	3.42	11.39	14.77
127.00R	14218. C	1170.25	2.06 B	2.67	11.39	14.77
137.60	14218. B	1241.60	2.67 T	3.46	11.07	14.34
154.80	14218. B	1241.60	5.27 T	6.83	9.28	12.02
172.00	14218. C	928.39	157.26 B	203.86	4.54	5.89

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	268.10 B	348.53
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.55
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.95 B	2.54
120.40	47500. S	2.42 B	3.15
127.00L	47500. S	2.74 B	3.57
127.00R	47500. S	1.83 B	2.38
137.60	47500. S	2.49 B	3.23
154.80	47500. S	5.26 B	6.84
172.00	47500. S	166.77 B	216.80

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	612.92			9.28
17.20	14218. C	1241.60	11.21			18.07
34.40	14218. C	1241.60	5.74			20.67
45.00L	14218. C	1170.25	4.45			20.73
45.00R	16800. C	1170.25	5.69			20.73
51.60	16800. C	1241.60	5.09			23.09
68.80	16800. C	1241.60	4.22			26.44
86.00	16800. C	1241.60	3.97			22.76
103.20	16800. C	1241.60	4.24			28.67
120.40	16800. C	1241.60	5.14			25.03
127.00L	16800. C	1170.25	5.73			22.41
127.00R	14218. C	1170.25	4.48			22.41
137.60	14218. C	1241.60	5.69			22.20
154.80	14218. C	1241.60	10.69			19.46
172.00	14218. C	928.39	393.10			8.74

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	371.40 B	482.82
17.20	47500. S	6.41 B	8.33
34.40	47500. S	3.06 B	3.98
45.00L	47500. S	2.27 B	2.95
45.00R	47500. S	3.39 B	4.41
51.60	47500. S	3.00 B	3.90
68.80	47500. S	2.43 B	3.16
86.00	47500. S	2.27 B	2.95
103.20	47500. S	2.44 B	3.17
120.40	47500. S	3.02 B	3.93
127.00L	47500. S	3.41 B	4.43
127.00R	47500. S	2.27 B	2.95
137.60	47500. S	3.02 B	3.93
154.80	47500. S	6.10 B	7.93
172.00	47500. S	238.20 B	309.67

****
Minimum rating is 2.27 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 4 AXLE STRAIGHT
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:53:48 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	566.99 B	734.98	6.42	8.32
17.20	13447. C	928.39	5.87 B	7.61	7.57	9.82
34.40	13447. C	928.39	2.71 B	3.51	8.70	11.27
45.00L	13447. C	928.39	2.02 B	2.62	9.76	12.65
45.00R	15422. C	928.39	2.47 B	3.21	9.76	12.65
51.60	15422. C	928.39	2.17 B	2.81	10.55	13.68
68.80	15422. C	928.39	1.72 B	2.23	13.38	17.35
86.00	15422. C	928.39	1.57 B	2.04	18.64	24.16
103.20	15422. C	928.39	1.64 B	2.13	15.93	20.65
120.40	15422. C	928.39	1.98 B	2.57	11.79	15.29
127.00L	15422. C	928.39	2.23 B	2.89	10.50	13.61
127.00R	13447. C	928.39	1.82 B	2.36	10.50	13.61
137.60	13447. C	928.39	2.37 B	3.07	8.74	11.33
154.80	13447. C	928.39	4.89 B	6.34	6.41	8.31
172.00	13447. C	928.39	134.83 B	174.78	5.30	6.87

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	627.33 B	815.53
17.20	47500. S	6.22 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.28
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45
120.40	47500. S	2.30 B	2.99
127.00L	47500. S	2.60 B	3.38
127.00R	47500. S	1.76 B	2.29
137.60	47500. S	2.38 B	3.09
154.80	47500. S	5.17 B	6.72
172.00	47500. S	149.18 B	193.94

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39	>999.00			14.18
17.20	13447. C	928.39	13.34			16.69
34.40	13447. C	928.39	6.13			18.56
45.00L	13447. C	928.39	4.59			20.48
45.00R	15422. C	928.39	5.61			20.48
51.60	15422. C	928.39	4.93			21.87
68.80	15422. C	928.39	3.95			26.49
86.00	15422. C	928.39	3.60			32.97
103.20	15422. C	928.39	3.76			26.51
120.40	15422. C	928.39	4.53			21.22
127.00L	15422. C	928.39	5.07			19.47
127.00R	13447. C	928.39	4.14			19.47
137.60	13447. C	928.39	5.36			16.98
154.80	13447. C	928.39	11.03			14.50
172.00	13447. C	928.39	325.49			12.20

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	874.92 B	******
17.20	47500. S	8.07 B	10.48
34.40	47500. S	3.52 B	4.57
45.00L	47500. S	2.55 B	3.31
45.00R	47500. S	3.75 B	4.87
51.60	47500. S	3.28 B	4.26
68.80	47500. S	2.60 B	3.37
86.00	47500. S	2.35 B	3.06
103.20	47500. S	2.47 B	3.21
120.40	47500. S	3.00 B	3.90
127.00L	47500. S	3.38 B	4.40
127.00R	47500. S	2.29 B	2.98
137.60	47500. S	3.07 B	3.99
154.80	47500. S	6.66 B	8.66
172.00	47500. S	205.80 B	267.53

****
Minimum rating is 2.29 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 5 AXLE SEMI
Girder System : Input File : Layout/Slab/Loading Definition
Tue Dec 08 18:55:16 2015

```
ID: WAITSFIELD 5 AXLE SEMI
CONDITIONS
  ALL LANES
  ENGLISH INPUT
  ENGLISH OUTPUT
  FLOAT LANES
  GRID MODEL
  HIGH RESOLUTION MESH
  INTERMEDIATE BRACING NOT BOLTED FOR STEEL ANALYSIS
  LRFD METHOD
  PERMIT TRUCK IN ALL LANES
  RATE MODE
  RATING PROJECT
  SELF WEIGHT FOR DEAD LOAD 1
DATA
  BR-1 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-2 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-3 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  BR-4 10.25 18. 18. 18. 18. 18. 18. 18. 18.
  CURB  -0.5
  FPC 4.
  GDSPC 7.5 7.5 7.5 7.5
  LANES 11. 11.
  PRMITP 8. 17. 17. 17. 17.
  PRMITSP 11. 4. 16. 4.
  ROADWP 31.
  SKEW-1 135. 135.
  SLABEXT 2.5 2.5
  SLABT 9.
  SLABWEAR  0.5
  SPN-1 172.
  WAC-1  0.064
  WAC-2  0.0417
  WAC-3  0.0417
  WAC-4  0.0417
  WAC-5  0.064
  WAS-1  0.0102
  WAS-2  0.0203
  WAS-3  0.0203
  WAS-4  0.0203
  WAS-5  0.0102
  WCONC 150.
  WHLSPC 6.
  WS-1  0.09
  WS-2  0.09
  WS-3  0.09
  WS-4  0.09
  WS-5  0.09
GO
```

```
WAITSFIELD 5 AXLE SEMI
Girder 1 : Input File : Definition
Tue Dec 08 18:55:25 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 18. 18. 18. 18. 18. 18. 18. 18. 17.75
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 1
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
```

```
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 123. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

```
WAITSFIELD 5 AXLE SEMI
Girder 2 : Input File : Definition
Tue Dec 08 18:55:32 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 2
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 5 AXLE SEMI
Girder 3 : Input File : Definition
Tue Dec 08 18:55:43 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 3
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 5 AXLE SEMI
Girder 4 : Input File : Definition
Tue Dec 08 18:55:50 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 10.25 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5 10.5 7.5
  10.5 7.5 10.5 7.5 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 90.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEBFW 3.
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 4
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
```

```
  SVPBETA 1.3
  TFISPB 8.75
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 90.
  TSPL 45. 82.
  TSSP 123. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90. 126. 90.
  126. 90. 126. 90.
  WCONC 150.
GO
```

```
WAITSFIELD 5 AXLE SEMI
Girder 5 : Input File : Definition
Tue Dec 08 18:56:00 2015


ID: WAITSFIELD
CONDITIONS
  CLASS B SURFACE
  ENGLISH INPUT
  ENGLISH OUTPUT
  FINE RESOLUTION OUTPUT
  FLANGE BOLTS NOT STAGGERED
  FULL DEPTH CONNECTION PLATES
  INCLUDE SLAB FILLER IN SECTION PROPERTIES
  INTERMEDIATE TRANSVERSE STIFFENERS ONE SIDE OF WEB
  LRFD METHOD
  LRFR RATINGS
  M270-50W BOTTOM FLANGE STEEL
  M270-50W STIFFENER STEEL
  M270-50W TOP FLANGE STEEL
  M270-50W WEB STEEL
  RATE MODE
  SINGLE BEARING STIFFENERS EACH SIDE
  SYSTEM FORCES
DATA
  ADTT 245
  BFISPB 10.5
  BFISPT 1.
  BFNHOLES 6
  BFOSPB 24.
  BFOSPT 1.
  BR 17.75 18. 18. 18. 18. 18. 18. 18. 18. 10.25
  BSPL 45. 82.
  EDGEH 1.5
  EDGEV 1.5
  EDGEW 2.125
  ESLABW 75.
  ETAD 1.
  ETAI 1.
  ETAR 1.
  FBLTDIAM  0.875
  FILLET 1.
  FPC 4.
  FPEDGE 1.5
  FPEND 1.5
  FSPBSP 3.
  GAGEBF 3.75
  GAGEH 3.
  GAGETF 5.75
  GAGETFW 2.75
  GAGEV 3.5
  IGIRD 5
  LIFE 100
  NBLTB 48
  NBLTT 32
  NLINEH 15
  NLINEV 4
  NSTUDL 2
  PBETA 1.3
  SLABT 9.
  SLABWEAR  0.5
  SPL 122.
  SPLBFT 1.25 1.75 1.25
  SPLBFW 24.
  SPLT  0.5
  SPLTFT 1.25 1.5 1.25
  SPLTFW 20.
  SPLTST  0.5
  SPLTSW 9.5
  SPLTYP 1
  SPLWD 60.
  SPLWT  0.75
  SPN 172.
  SS 1.
  STD  0.875
  STFGAP  0.
  STH 7.
  SUPBST 1.
  SUPBSW 9.5
  SVPBETA 1.3
  TFISPB 8.75
```

```
  TFISPT  0.75
  TFNHOLES 4
  TFOSPB 20.
  TFOSPT  0.75
  TSLABW 75.
  TSPL 45. 82.
  TSSP 213. 216. 216. 216. 216. 216. 216. 216. 216.
  WCONC 150.
GO
```

WAITSFIELD 5 AXLE SEMI
Bracing : Input File : Definition
Tue Dec 08 18:56:06 2015

```
ID: WAITSFIELD 5 AXLE SEMI
CONDITIONS
  ALL SHAPES L4X4X0.5 FOR GROUP 1
  BOTTOM CHORD L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  CATEGORY E FATIGUE AT CONNECTIONS
  DIAGONALS L4X4X0.5 LONG LEG CONNECTED FOR GROUP 2
  ENGLISH INPUT
  ENGLISH OUTPUT
  LRFD METHOD
  M270-50W STEEL
  RATE MODE
  TOP CHORD MC8X22.8 FOR GROUP 2
  TYPE B BRACING FOR GROUP 2
  TYPE C BRACING FOR GROUP 1
DATA
  BRL-1 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-2 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-3 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  BRL-4 10.6066 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 10.6066
  ETAD 1.
  ETAI 1.
  ETAR 1.
  GCONNDST 8. 11.
  GRP-1 1 1 1 1 1 1 1 1 1 1 2
  GRP-2 1 1 1 1 1 1 1 1 1 1 2
  GRP-3 1 1 1 1 1 1 1 1 1 1 2
  GRP-4 1 1 1 1 1 1 1 1 1 1 2
  GRPHT 51. 48.
GO
```

WAITSFIELD 5 AXLE SEMI
Girder 1 : Rating Output : Lrfd Ratings
Tue Dec 08 18:56:19 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	134.81 B	174.75	5.28	6.84
17.20	13447. C	928.39	4.89 B	6.34	6.64	8.61
34.40	13447. C	928.39	2.37 B	3.07	8.79	11.39
45.00L	13447. C	928.39	1.82 B	2.36	10.53	13.65
45.00R	15422. C	928.39	2.23 B	2.89	10.53	13.65
51.60	15422. C	928.39	1.98 B	2.57	11.79	15.28
68.80	15422. C	928.39	1.64 B	2.13	15.75	20.42
86.00	15422. C	928.39	1.57 B	2.04	17.04	22.09
103.20	15422. C	928.39	1.72 B	2.23	13.13	17.02
120.40	15422. C	928.39	2.16 B	2.80	10.35	13.41
127.00L	15422. C	928.39	2.47 B	3.20	9.57	12.41
127.00R	13447. C	928.39	2.01 B	2.61	9.57	12.41
137.60	13447. C	928.39	2.70 B	3.50	8.55	11.08
154.80	13447. C	928.39	5.86 B	7.59	7.45	9.65
172.00	13447. C	928.39	567.18 B	735.23	6.41	8.31

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	149.16 B	193.90
17.20	47500. S	5.17 B	6.72
34.40	47500. S	2.38 B	3.09
45.00L	47500. S	1.76 B	2.29
45.00R	47500. S	2.60 B	3.38
51.60	47500. S	2.30 B	2.99
68.80	47500. S	1.89 B	2.45
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.97 B	2.56
120.40	47500. S	2.51 B	3.26
127.00L	47500. S	2.88 B	3.74
127.00R	47500. S	1.95 B	2.54
137.60	47500. S	2.71 B	3.52
154.80	47500. S	6.19 B	8.05
172.00	47500. S	627.54 B	815.81

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39		300.06		11.27
17.20	13447. C	928.39		10.48		13.73
34.40	13447. C	928.39		5.10		17.66
45.00L	13447. C	928.39		3.92		20.87
45.00R	15422. C	928.39		4.80		20.87
51.60	15422. C	928.39		4.29		23.09
68.80	15422. C	928.39		3.59		29.44
86.00	15422. C	928.39		3.44		30.86
103.20	15422. C	928.39		3.74		25.16
120.40	15422. C	928.39		4.67		20.57
127.00L	15422. C	928.39		5.32		19.24
127.00R	13447. C	928.39		4.34		19.24
137.60	13447. C	928.39		5.84		17.43
154.80	13447. C	928.39		12.60		15.51
172.00	13447. C	928.39		******		13.50

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	189.71 B	246.63
17.20	47500. S	6.33 B	8.23
34.40	47500. S	2.92 B	3.80
45.00L	47500. S	2.17 B	2.82
45.00R	47500. S	3.20 B	4.16
51.60	47500. S	2.84 B	3.70
68.80	47500. S	2.36 B	3.07
86.00	47500. S	2.25 B	2.93
103.20	47500. S	2.45 B	3.19
120.40	47500. S	3.10 B	4.03
127.00L	47500. S	3.55 B	4.61
127.00R	47500. S	2.41 B	3.13
137.60	47500. S	3.35 B	4.35
154.80	47500. S	7.61 B	9.90
172.00	47500. S	805.80 B	******

****
Minimum rating is 2.17 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 5 AXLE SEMI
Girder 2 : Rating Output : Lrfd Ratings
Tue Dec 08 18:56:29 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	157.44 B	204.09	4.54	5.88
17.20	14218. B	1241.60	5.28 T	6.84	9.16	11.87
34.40	14218. B	1241.60	2.68 T	3.47	11.10	14.39
45.00L	14218. C	1170.25	2.06 B	2.67	11.42	14.80
45.00R	16800. C	1170.25	2.64 B	3.42	11.42	14.80
51.60	16800. C	1241.60	2.35 B	3.05	12.91	16.73
68.80	16800. C	1241.60	1.94 B	2.52	15.39	19.96
86.00	16800. B	1241.60	1.82 T	2.36	17.66	22.89
103.20	16800. C	1241.60	1.93 B	2.50	14.67	19.02
120.40	16800. C	1241.60	2.33 B	3.02	12.36	16.02
127.00L	16800. C	1170.25	2.61 B	3.39	10.93	14.17
127.00R	14218. C	1170.25	2.04 B	2.65	10.93	14.17
137.60	14218. B	1241.60	2.66 T	3.44	10.63	13.78
154.80	14218. B	1241.60	5.32 T	6.89	9.07	11.76
172.00	14218. C	928.39	252.69 B	327.56	4.76	6.17

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	166.95 B	217.04
17.20	47500. S	5.27 B	6.86
34.40	47500. S	2.49 B	3.24
45.00L	47500. S	1.83 B	2.38
45.00R	47500. S	2.75 B	3.57
51.60	47500. S	2.42 B	3.15
68.80	47500. S	1.96 B	2.54
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.94 B	2.53
120.40	47500. S	2.40 B	3.12
127.00L	47500. S	2.72 B	3.54
127.00R	47500. S	1.82 B	2.37
137.60	47500. S	2.47 B	3.21
154.80	47500. S	5.31 B	6.90
172.00	47500. S	267.95 B	348.34

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	361.08			8.88
17.20	14218. C	1241.60	10.80			17.97
34.40	14218. C	1241.60	5.59			21.81
45.00L	14218. C	1170.25	4.35			22.09
45.00R	16800. C	1170.25	5.57			22.09
51.60	16800. C	1241.60	4.99			24.74
68.80	16800. C	1241.60	4.16			28.74
86.00	16800. C	1241.60	3.92			33.04
103.20	16800. C	1241.60	4.13			27.98
120.40	16800. C	1241.60	4.94			24.03
127.00L	16800. C	1170.25	5.52			21.44
127.00R	14218. C	1170.25	4.32			21.44
137.60	14218. C	1241.60	5.60			21.18
154.80	14218. C	1241.60	11.19			18.70
172.00	14218. C	928.39	566.42			9.44

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	218.80 B	284.44
17.20	47500. S	6.17 B	8.02
34.40	47500. S	2.97 B	3.86
45.00L	47500. S	2.21 B	2.88
45.00R	47500. S	3.31 B	4.31
51.60	47500. S	2.94 B	3.82
68.80	47500. S	2.40 B	3.11
86.00	47500. S	2.24 B	2.91
103.20	47500. S	2.38 B	3.09
120.40	47500. S	2.91 B	3.78
127.00L	47500. S	3.29 B	4.27
127.00R	47500. S	2.20 B	2.86
137.60	47500. S	2.98 B	3.87
154.80	47500. S	6.39 B	8.30
172.00	47500. S	343.22 B	446.19

****
Minimum rating is 2.20 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 5 AXLE SEMI
Girder 3 : Rating Output : Lrfd Ratings
Tue Dec 08 18:56:37 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	243.49 B	315.63	4.92	6.38
17.20	14218. B	1241.60	5.70 T	7.38	9.89	12.82
34.40	14218. B	1241.60	2.91 T	3.77	11.81	15.31
45.00L	14218. C	1170.25	2.26 B	2.93	12.13	15.73
45.00R	16800. C	1170.25	2.89 B	3.75	12.13	15.73
51.60	16800. C	1241.60	2.60 B	3.36	13.67	17.71
68.80	16800. C	1241.60	2.17 B	2.82	15.82	20.51
86.00	16800. B	1241.60	2.05 T	2.66	18.32	23.75
103.20	16800. C	1241.60	2.17 B	2.81	15.84	20.53
120.40	16800. C	1241.60	2.59 B	3.36	13.66	17.71
127.00L	16800. C	1170.25	2.89 B	3.75	11.84	15.35
127.00R	14218. C	1170.25	2.26 B	2.93	11.84	15.35
137.60	14218. B	1241.60	2.90 T	3.76	11.78	15.27
154.80	14218. B	1241.60	5.69 T	7.37	9.85	12.77
172.00	14218. C	928.39	243.54 B	315.69	4.93	6.39

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	258.20 B	335.66
17.20	47500. S	5.69 B	7.39
34.40	47500. S	2.70 B	3.51
45.00L	47500. S	2.00 B	2.60
45.00R	47500. S	3.01 B	3.91
51.60	47500. S	2.67 B	3.47
68.80	47500. S	2.18 B	2.84
86.00	47500. S	2.04 B	2.66
103.20	47500. S	2.18 B	2.84
120.40	47500. S	2.67 B	3.46
127.00L	47500. S	3.01 B	3.91
127.00R	47500. S	2.00 B	2.60
137.60	47500. S	2.69 B	3.50
154.80	47500. S	5.67 B	7.37
172.00	47500. S	258.25 B	335.73

****

Minimum rating is 2.00 at location 127.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39		554.23		9.47
17.20	14218. C	1241.60		11.66		19.34
34.40	14218. C	1241.60		5.98		22.95
45.00L	14218. C	1170.25		4.71		23.27
45.00R	16800. C	1170.25		6.03		23.27
51.60	16800. C	1241.60		5.45		26.00
68.80	16800. C	1241.60		4.63		29.56
86.00	16800. C	1241.60		4.39		33.54
103.20	16800. C	1241.60		4.63		29.89
120.40	16800. C	1241.60		5.44		26.31
127.00L	16800. C	1170.25		6.02		23.53
127.00R	14218. C	1170.25		4.70		23.53
137.60	14218. C	1241.60		5.97		23.19
154.80	14218. C	1241.60		11.64		19.77
172.00	14218. C	928.39		553.65		9.47

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	335.84 B	436.59
17.20	47500. S	6.65 B	8.65
34.40	47500. S	3.17 B	4.13
45.00L	47500. S	2.39 B	3.10
45.00R	47500. S	3.58 B	4.66
51.60	47500. S	3.20 B	4.16
68.80	47500. S	2.66 B	3.45
86.00	47500. S	2.50 B	3.25
103.20	47500. S	2.65 B	3.45
120.40	47500. S	3.20 B	4.15
127.00L	47500. S	3.58 B	4.65
127.00R	47500. S	2.38 B	3.09
137.60	47500. S	3.17 B	4.12
154.80	47500. S	6.64 B	8.63
172.00	47500. S	335.49 B	436.13

****
Minimum rating is 2.38 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 5 AXLE SEMI
Girder 4 : Rating Output : Lrfd Ratings
Tue Dec 08 18:56:45 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	14218. C	928.39	252.82 B	327.73	4.76	6.16
17.20	14218. B	1241.60	5.33 T	6.90	9.06	11.74
34.40	14218. B	1241.60	2.66 T	3.45	10.66	13.81
45.00L	14218. C	1170.25	2.05 B	2.66	10.95	14.20
45.00R	16800. C	1170.25	2.62 B	3.39	10.95	14.20
51.60	16800. C	1241.60	2.33 B	3.03	12.38	16.04
68.80	16800. C	1241.60	1.93 B	2.50	14.69	19.04
86.00	16800. B	1241.60	1.82 T	2.36	18.76	24.32
103.20	16800. C	1241.60	1.94 B	2.52	15.36	19.92
120.40	16800. C	1241.60	2.35 B	3.05	12.90	16.72
127.00L	16800. C	1170.25	2.63 B	3.42	11.39	14.77
127.00R	14218. C	1170.25	2.06 B	2.67	11.39	14.77
137.60	14218. B	1241.60	2.67 T	3.46	11.07	14.34
154.80	14218. B	1241.60	5.27 T	6.83	9.28	12.02
172.00	14218. C	928.39	157.26 B	203.86	4.54	5.89

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	268.10 B	348.53
17.20	47500. S	5.32 B	6.92
34.40	47500. S	2.48 B	3.22
45.00L	47500. S	1.82 B	2.37
45.00R	47500. S	2.73 B	3.55
51.60	47500. S	2.41 B	3.13
68.80	47500. S	1.94 B	2.53
86.00	47500. S	1.82 B	2.37
103.20	47500. S	1.95 B	2.54
120.40	47500. S	2.42 B	3.15
127.00L	47500. S	2.74 B	3.57
127.00R	47500. S	1.83 B	2.38
137.60	47500. S	2.49 B	3.23
154.80	47500. S	5.26 B	6.84
172.00	47500. S	166.77 B	216.80

****

Minimum rating is 1.82 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	14218. C	928.39	567.58		9.43	
17.20	14218. C	1241.60	11.21		18.11	
34.40	14218. C	1241.60	5.61		20.95	
45.00L	14218. C	1170.25	4.33		21.16	
45.00R	16800. C	1170.25	5.53		21.16	
51.60	16800. C	1241.60	4.94		23.67	
68.80	16800. C	1241.60	4.13		27.50	
86.00	16800. C	1241.60	3.92		24.04	
103.20	16800. C	1241.60	4.16		29.31	
120.40	16800. C	1241.60	4.99		25.18	
127.00L	16800. C	1170.25	5.56		22.46	
127.00R	14218. C	1170.25	4.35		22.46	
137.60	14218. C	1241.60	5.58		22.18	
154.80	14218. C	1241.60	10.79		19.70	
172.00	14218. C	928.39	360.79		8.89	

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	343.93 B	447.11
17.20	47500. S	6.40 B	8.33
34.40	47500. S	2.99 B	3.88
45.00L	47500. S	2.20 B	2.86
45.00R	47500. S	3.29 B	4.28
51.60	47500. S	2.91 B	3.79
68.80	47500. S	2.38 B	3.09
86.00	47500. S	2.24 B	2.91
103.20	47500. S	2.39 B	3.11
120.40	47500. S	2.93 B	3.81
127.00L	47500. S	3.31 B	4.30
127.00R	47500. S	2.21 B	2.87
137.60	47500. S	2.97 B	3.86
154.80	47500. S	6.15 B	8.00
172.00	47500. S	218.63 B	284.21

****
Minimum rating is 2.20 at location 45.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

WAITSFIELD 5 AXLE SEMI
Girder 5 : Rating Output : Lrfd Ratings
Tue Dec 08 18:56:56 2015

[This table uses the rating equation (6A.4.2.1-1) of the 2011 edition of the Manual for Bridge Evaluation.]

HL93

Strength I

Span 1

Location	Compct Mom Cap/Noncmpt Allow Stress	Shear Capacity	Rating Factors Bending Inv.	Bending Oper.	Shear Inv.	Shear Oper.
0.00	13447. C	928.39	566.99 B	734.98	6.42	8.32
17.20	13447. C	928.39	5.87 B	7.61	7.57	9.82
34.40	13447. C	928.39	2.71 B	3.51	8.70	11.27
45.00L	13447. C	928.39	2.02 B	2.62	9.76	12.65
45.00R	15422. C	928.39	2.47 B	3.21	9.76	12.65
51.60	15422. C	928.39	2.17 B	2.81	10.55	13.68
68.80	15422. C	928.39	1.72 B	2.23	13.38	17.35
86.00	15422. C	928.39	1.57 B	2.04	18.64	24.16
103.20	15422. C	928.39	1.64 B	2.13	15.93	20.65
120.40	15422. C	928.39	1.98 B	2.57	11.79	15.29
127.00L	15422. C	928.39	2.23 B	2.89	10.50	13.61
127.00R	13447. C	928.39	1.82 B	2.36	10.50	13.61
137.60	13447. C	928.39	2.37 B	3.07	8.74	11.33
154.80	13447. C	928.39	4.89 B	6.34	6.41	8.31
172.00	13447. C	928.39	134.83 B	174.78	5.30	6.87

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Bending Oper.
0.00	47500. S	627.33 B	815.53
17.20	47500. S	6.22 B	8.08
34.40	47500. S	2.72 B	3.54
45.00L	47500. S	1.96 B	2.55
45.00R	47500. S	2.89 B	3.76
51.60	47500. S	2.52 B	3.28
68.80	47500. S	1.98 B	2.57
86.00	47500. S	1.80 B	2.34
103.20	47500. S	1.89 B	2.45
120.40	47500. S	2.30 B	2.99
127.00L	47500. S	2.60 B	3.38
127.00R	47500. S	1.76 B	2.29
137.60	47500. S	2.38 B	3.09
154.80	47500. S	5.17 B	6.72
172.00	47500. S	149.18 B	193.94

****

Minimum rating is 1.57 at location 86.00 in span 1.
****

Permit

Strength II

Span 1

Location	Allowable	Shear	Rating Factors Bending Inv.	Rating Factors Bending Oper.	Rating Factors Shear Inv.	Rating Factors Shear Oper.
0.00	13447. C	928.39		******		13.50
17.20	13447. C	928.39		12.64		15.82
34.40	13447. C	928.39		5.86		17.76
45.00L	13447. C	928.39		4.36		19.59
45.00R	15422. C	928.39		5.33		19.59
51.60	15422. C	928.39		4.68		20.96
68.80	15422. C	928.39		3.75		25.77
86.00	15422. C	928.39		3.44		32.09
103.20	15422. C	928.39		3.59		25.56
120.40	15422. C	928.39		4.29		20.35
127.00L	15422. C	928.39		4.80		18.60
127.00R	13447. C	928.39		3.92		18.60
137.60	13447. C	928.39		5.10		16.10
154.80	13447. C	928.39		10.48		13.73
172.00	13447. C	928.39		299.71		11.27

Service II

Span 1

Location	Allowable Stress	Rating Factors Bending Inv.	Rating Factors Bending Oper.
0.00	47500. S	805.70 B	******
17.20	47500. S	7.64 B	9.93
34.40	47500. S	3.36 B	4.37
45.00L	47500. S	2.42 B	3.14
45.00R	47500. S	3.56 B	4.63
51.60	47500. S	3.11 B	4.04
68.80	47500. S	2.46 B	3.20
86.00	47500. S	2.25 B	2.93
103.20	47500. S	2.36 B	3.06
120.40	47500. S	2.84 B	3.70
127.00L	47500. S	3.20 B	4.16
127.00R	47500. S	2.17 B	2.82
137.60	47500. S	2.92 B	3.80
154.80	47500. S	6.33 B	8.23
172.00	47500. S	189.49 B	246.34

****
Minimum rating is 2.17 at location 127.00 in span 1.
****

Rating Codes:
T - Top steel governs
B - Bottom steel governs
C - Concrete governs

R - Rebar governs
V - Shear governs
S - Serviceability governs

Mom Strength Codes:
C - Compact
B - Braced non-compact
U - Unbraced non-compact
T - Transition between compact and braced non-compact
S - Serviceability

Noncompact shapes ratings based on stress, as

$$IR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Operating rating for Strength II is

$$OR = \frac{Fb - \text{factored dead load stress}}{\text{factored LL+I stress}}$$

Inventory rating for Strength II is

IR = OR/(LL+I factor)

3. Statements of Concurrence

Waitsfield VE

411847.00

ATTACHMENT 1
DESIGN CHECK
STATEMENT OF CONCURRENCE

Plan Sheets or Items Reviewed: Load Rating

I, Josh Olund (Checker), confirm that the designs and requirements noted in the documents listed above were verified in accordance with the procedures discussed in this Manual and meet the appropriate standards as outlined in the Contract and Project Scope of Work. All comments/questions proposed to the Designer during the Design Check process regarding these items are reconciled and appropriately accommodated within the documents being submitted to the Agency. By signing below, I acknowledge that I agree with the appropriateness of the design shown in the plan set submitted to the Agency.

Originator: VanVhank 12/18/15
(Signature) (Date)

Checker: 12/18/15
(Signature) (Date)

Additional Notes: