

Bridge Load Rating

Prepared for

Maine Department of Transportation

Bridge No. 1431 (SB) & 5949 (NB)

HAMPDEN

INTERSTATE 95

OVER

SOUADABSCOOK STREAM EAST

Date of Inspection: 10/26/2011 (1431), 7/19/2011 (5949)

Date of Rating: 5/10/2013

Prepared By: Kimberly Z. Smith

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Q.C. Review By: Timothy S. Bryant, P.E. *T.S.B.*

Vanasse Hangen Brustlin, Inc.

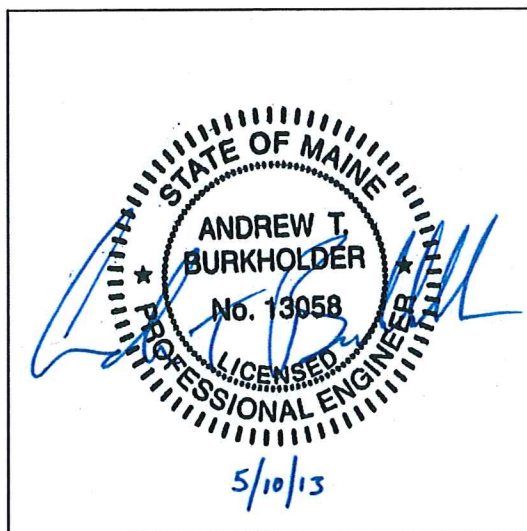


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Bridge No: 1431 (SB) & 5949 (NB)
 Town/City: Hampden, ME
 Route Carried: I-95
 Crosses: Souadabscook Stream East

Owner: Maine DOT
 Maintainer: Maine DOT
 Year Built: 1961
 Year(s) Rebuilt/Rehab: _____

SUMMARY OF BRIDGE RATING

VEHICLE TYPE		RF	RT (TONS)	POSTING LOAD (TONS)
HL-93	INVENTORY	0.83		
	OPERATING	1.08		
HL-93 modified	INVENTORY			
	OPERATING			
CONFIGURATION 1		1.35	67.50	OK
CONFIGURATION 2		1.42	66.60	OK
CONFIGURATION 3		1.28	56.32	OK
CONFIGURATION 4		1.30	57.20	OK
CONFIGURATION 5		1.29	56.76	OK
CONFIGURATION 6		1.00	37.95	OK
CONFIGURATION 7		1.21	35.70	OK
CONFIGURATION 8		1.76	32.91	OK

Group 1 Posting Analysis (Configuration 1)

Governing Posting: _____
 Governing Load Model: _____

Group 2 Posting Analysis (Configurations 2 - 5)

Governing Posting: _____
 Governing Load Model: _____

Group 3 Posting Analysis (Configurations 6 - 8)

Governing Posting: _____
 Governing Load Model: _____

LRFR Evaluation Factors:

Live Load Factor: 1.75 (0.75 Fatigue)
 Live Load Routine Commercial: 1.31
 Live Load Special Hauling: 1.31
 Impact Factor: 33% (15% Fatigue)
 Governing Condition Factor, ϕ_c : 1.00
 System Factor, ϕ_s : 1.00
 ADTT (one-way): 1341

Please check all the boxes that apply:

- ☐ Bridge load rating is governed by substructure rating
- ☐ Connections control the load rating
- ☒ Exterior girder controls load rating
- ☒ As-built load rating
- ☐ As-inspected load rating
- ☐ One Lane Loaded
- ☐ Advanced Analysis Used
- ☐ Actual Measurements Taken
- ☒ Finite Fatigue Life 0 years

BREAKDOWN OF BRIDGE RATING

Town/City: Hampden, ME
 Bridge No: 1431 (SB) & 5949 (NB)

Route Carried: I-95
 Crosses: Souadabscook Stream East

LOAD RATING POINTS OF INTEREST

<u>Bridge Component</u>	HL-93		HL-93 Modified		MaineDOT Truck Configurations							
	Inv 72.0 kip	Oper 72.0 kip	Inv 90.0 kip	Oper 90.0 kip	1 100.0 kip	2 94.0 kip	3 88.0 kip	4 88.0 kip	5 88.0 kip	6 75.9 kip	7 59.0 kip	8 37.4 kip
Exterior Girder Strength I Negative Moment Pier 1	0.83	1.08			1.35	1.48	1.28	1.30	1.29	1.00	1.21	1.76
Exterior Girder Strength I Positive Moment 0.5L Span 2	0.95	1.23			1.70	1.42	1.36	1.44	1.43	1.18	1.46	2.27
Exterior Girder Strength I Shear Pier 1	1.51	1.96										
Interior Girder Strength I Negative Moment Pier 1	0.87	1.13			1.41	1.56	1.34	1.36	1.35	1.05	1.27	1.85
Interior Girder Strength I Positive Moment 0.5L Span 2	1.08	1.39										
Interior Girder Strength I Shear Pier 1	1.28	1.66										
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
[COMPONENT] [LIMIT STATE] [ANALYZED CONDITION]												
CONTROLLING RATING FACTORS (STRENGTH I)	0.83	1.08			1.35	1.42	1.28	1.30	1.29	1.00	1.21	1.76

DESCRIPTION OF BRIDGE

Bridge Number:	1431 (SB) & 5949 (NB)
Owner:	Maine DOT
Maintained By:	Maine DOT
Location:	Hampden, ME
Route Carried:	I-95
Feature Intersected:	Souadabscook Stream East
Latest NBI Inspection Date:	10/26/2011 (1431), 7/19/2011 (5949)
Field Verification Date (if applicable):	N/A
Date of Construction:	1961
Bridge Type:	Steel rolled beam with cover plates with non-composite concrete deck
Material Properties:	Fy = 32 ksi (beams), 40 ksi (rebar), f'c = 3 ksi
Original Design Loading:	HS 20
Date(s) of Rebuild/Rehab :	N/A
Description of Rebuild/Rehab :	N/A
Posting:	N/A, Open
Superstructure:	Continuous steel rolled beams with cover plates
Substructure:	Reinforced concrete abutments and piers
Bearings:	Steel Bearings
Bridge Spans:	Spans = 40'-0", 50'-0", 40'-0" Total = 130'-0"
Bridge Skew:	15°00'00"
Bridge Width:	42'-4" out-to-out
Roadway Width:	40'-0" curb-to-curb
Roadway Surface:	Bituminous Pavement
Curbs:	Concrete
Sidewalk/Walkway/Median:	N/A
Utilities:	N/A
Bridge Railing:	Aluminum Rail on Concrete Parapet
Approach Railing:	Steel Guardrail
Wearing Surface Condition:	
Bridge Railing Condition:	
Deck Condition:	6 - Satisfactory (1431), 5 - Fair (5949)
Beam Condition:	6 - Satisfactory (1431), 7 - Good (5949)
Bearing Condition:	
Abutment Condition:	6 - Satisfactory
Pier Condition:	6 - Satisfactory



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Hampden, ME	Sheet	
Calculated by	KZS	Date	4/18/2013
Checked by	DZ	Date	4/26/2013
Title	Br. No. 1431 & 5949 Load Rating		

Notes and Assumptions

References Used:

- *The Manual for Bridge Evaluation (MBE)*, Second Edition, 2011 (MBE) w/ 2013 Interims
- *AASHTO LRFD Bridge Design Specifications*, Fifth Edition, 2010 w/ 2010 Interims (LRFD)
- MaineDOT Load Rating Guide, 2013

General Notes:

This load rating was performed in accordance with the Maine Department of Transportation guidelines.

Virtis Version 6.4 software with an AASHTO analysis engine was used to rate this bridge.

The girders will be rated for the HL-93 load case. If the Inventory rating factor is less than 1.0, the controlling girder will be rated using the 8 MaineDOT Legal Load configurations.

Bridge No. 1431 & 5949 are 3-span non-composite continuous bridge with 6 steel girders spaced at 7'-6". The bridge is approximately 40'-0" curb-to-curb. There is a 6.5" concrete slab with a 2" bituminous pavement wearing surface per original plans.

The bridge was evaluated at the strength and service limit states. The service ratings were not allowed to control per the MaineDOT Load Rating Guide (3.6.1).

Condition Factors:

A condition factor of 1.0 was used due to the "good" superstructure condition evaluation reported in the latest MaineDOT Inspection Report on July 19, 2011 for bridge 5949 and "satisfactory" condition per report on October 26, 2011 for bridge 1431.

Assumptions:

- Material Strength: Steel: $F_y = 32$ ksi (Beams, Stiffeners), $F_y = 40$ ksi (Reinforcing Steel)
- Material Strength: Concrete: $f_c = 3$ ksi
- Non-composite action
- Capacity Checked with AASHTO LRFD Specifications, Appendix A6
- Total wearing surface = 2.25 in (Includes waterproofing)
- Superimposed dead loads distributed equally between all girders
- Continuous lateral bracing of top flange assumed per MBE 6A.6.9.3
- Splices not considered in ratings because they are assumed to have equal or greater capacity than the adjoining members
- Diaphragm weights input directly into rating software. An additional 2% self-weight load of the beams used to account for connection plates, splices and miscellaneous hardware.



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Hampden, ME	Sheet	
Calculated by	KZS	Date	4/18/2013
Checked by	DZ	Date	4/26/2013
Title	Br. No. 1431 & 5949 Load Rating		

Legal Load Factors

References Used:

- *The Manual for Bridge Evaluation (MBE)*, Second Edition, 2011 w/ 2013 Interims
- *AASHTO LRFD Bridge Design Specifications*, Fifth Edition, 2010 w/ 2010 Interims (LRFD)
- MaineDOT Load Rating Guide, 2013

MaineDOT Legal Loads:

The MaineDOT Load Rating Guide states that Legal Load Configurations 1 thru 5, 7, and 8 are significantly heavier than the AASHTO legal loads and should be rated using load factors specified for Routine Commercial Traffic Table 6A.4.4.2.3a-1 in the MBE. Configuration 6 is considered a specialized hauling vehicle (SHV) and is load rated for the load factors specified in Table 6A.4.4.2.3b-1.

Bridge Information

ADT =	12190	From SIA Sheet (5949)
Truck % =	11	From SIA Sheet (5949)
Directional % =	100	Per LRFD C3.6.1.4.2
ADTT =	1341	One Direction (Input 0 if traffic data is unknown)

Legal Live Load Factors

For Configurations 1 - 5, 7 and 8

Table 6A.4.4.2.3a-1

ADTT (one direction)	Load Factor
Unknown	1.45
≥ 5000	1.45
< 1000	1.30

For Configuration 6

Table 6A.4.4.2.3b-1

ADTT (one direction)	Load Factor
Unknown	1.45
> 5000	1.45
< 1000	1.30

LL Factor Configurations 1 - 5, 7 and 8 =	1.31
LL Factor Configuration 6 =	1.31

Structure Inventory and Appraisal Sheet

Bridge Key: 1431	Agency ID: 1431	SR: 94.4	SD/FO: ND
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IDENTIFICATION

State 1: 23 Maine Struc Num 8: 1431
 Facility Carried 7: I-95 SB Location 9: 3.3 MI E TL /95 MI 177.9
 Rte.(On/Under)5A: Route On Structure Rte. Signing Prefix 5B: 3 State Hwy
 Level of Service 5C: 1 Mainline Rte. Number 5D: 00095
 Directional Suffix 5E: 3 South % Responsibility : 0
 SHD District 2: 04 Eastern County Code 3: 019 Penobscot
 Place Code 4: 19280 Hampden Kilometer Post 11: 204.3 km
 Feature Intersected 6: SOUADABSCOOK STREAM
 Latitude 16: 44d 45' 54" Longitude 17: 068d 53' 40"
 Border Bridge Code 98: Not Applicable (P)
 Border Bridge Number 99: n/a

INSPECTION

Frequency 91: 24 months Inspection Date 90: 10/26/2011 Next Inspection: 10/26/2013
 FC Frequency 92A: NA FC Inspection Date 93A: NA Next FC Inspection: NA
 UW Frequency 92B: 60 months UW Inspection Date 93B: 10/26/2011 Next UW Inspection: 10/26/2016
 SI Frequency 92C: NA SI Date 93C: NA Next SI: NA
 Element Frequency: 24 months Element Inspection Date: 10/26/2011 Next Elem. Insp. Due: 10/26/2013

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 46: 0 Number of Spans Main Unit 45: 3
 Main Span Material/Design 43A/B:
 4 Steel Continuous 02 Stringer/Girder
 Deck Type 107: 1 Concrete-Cast-in-Place
 Wearing Surface 108A: 8 Gravel
 Membrane 108B: 0 None
 Deck Protection 108C: None

CLASSIFICATION

Defense Highway 100: 1 On Interstate STRAHNET Parallel Structure 101: Left of || bridge
 Direction of Traffic 102: 1 1-way traffic Temporary Structure 103: Not Applicable (P)
 Highway System 104: 1 On the NHS NBIS Length 112: Long Enough
 Toll Facility 20: 3 On free road Functional Class 26: 01 Rural Interstate
 Defense Hwy 110: 1 On Interstate STRAHNET Historical Significance 37: 4 Hist sign not determin
 Owner 22: 01 State Highway Agency
 Custodian 21: 01 State Highway Agency

AGE AND SERVICE

Year Built 27: 1961 Year Reconstructed 106: 0
 Type of Service on 42A: 1 Highway
 Type of Service under 42B: 5 Waterway
 Lanes on 28A: 2 Lanes Under 28B: 0 Detour Length 19: 6.6 km
 ADT 29: 11,520 Truck ADT 109: 11 % Year of ADT 30: 2011

CONDITION

Deck 58: 6 Satisfactory Super 59: 6 Satisfactory Sub 60: 6 Satisfactory
 Culvert 62: N N/A (NBI) Channel/Channel Protection 61: 6 Bank Slumping

GEOMETRIC DATA

Length Max Span 48: 15.24 m Structure Length 49: 41.15 m
 Curb/Sdwk Width L 50A: 0.06 m Curb/Sidewalk Width R 50B: 0.06 m
 Width Curb to Curb 51: 12.25 m Width Out to Out 52: 12.92 m
 Approach Roadway Width 32:(w/ shoulders) 12.19 m Median 33: 0 No median
 Deck Area: 531.80 m²
 Skew 34: 15.00 ° Structure Flared 35: 0 No flare
 Vertical Clearance 10: 99.99 m Horiz. Clearance 47: 12.19 m
 Minimum Vertical Clearance Over Bridge 53: 99.90 m
 Minimum Vertical Underclearance Reference 54A: N Feature not hwy or RR
 Minimum Vertical Underclearance 54B: 00.00 m
 Minimum Lateral Underclearance Reference R 55A: N Feature not hwy or RR
 Minimum Lateral Underclearance R 55: 99.90 m
 Minimum Lateral Underclearance L 56: 99.90 m

LOAD RATING AND POSTING

Inventory Rating Method 65: 2 AS Allowable Stress Operating Rating Method 63: 2 AS Allowable Stress
 Inventory Rating 66: MS19.2 Operating Rating 64: MS28.2
 Design Load 31: 6 MS18(HS20)+mod Posting 70: 5 At/Above Legal Loads
 Posting status 41: A Open, no restriction

APPRAISAL

Bridge Rail 36A: 0 Substandard Approach Rail 36C: 1 Meets Standards
 Transition 36B: 1 Meets Standards Approach Rail Ends 36D: 1 Meets Standards
 Str. Evaluation 67: 6 Equal Min Criteria Deck Geometry 68: 7 Above Min Criteria
 Underclearance, Vertical and Horizontal 69: N Not applicable (NBI)
 Waterway Adequacy 71: 9 Above Desirable Approach Alignment 72: 8 Equal Desirable Crit
 Scour Critical 113: 8 Stable Above Footing

PROPOSED IMPROVEMENTS

Bridge Cost 94: NA Type of Work 75: Unknown (P)
 Roadway Cost 95: Unknown Length of Improvement 76: 16,128
 Total Cost 96: Unknown Future ADT 114: 2031
 Year of Cost Estimate 97: Unknown Year of Future ADT 115: 2031

NAVIGATION DATA

Navigation Control 38: 0 Permit Not Required
 Vertical Clearance 39: 0.00 m Horizontal Clearance 40: 0.00 m
 Pier Protection 111: Not Applicable (P) Lift Bridge Vertical Clearance 116: 0.00 m

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	22/2	P Conc Deck/Rigid Ov	sq.m.	532	0 %	0	100 %	532	0 %	0	0 %	0	0 %	0
1	107/2	Paint Stl Opn Girder	m.	247	83 %	205	2 %	5	10 %	25	5 %	12	0 %	0
1	210/2	R/Conc Pier Wall	m.	26	85 %	22	13 %	3	2 %	1	0 %	0	0 %	0
1	218/2	Undefined Wall Elem.	m.	4	50 %	2	25 %	1	24 %	1	1 %	0	0 %	0
1	301/2	Pourable Joint Seal	m.	26	0 %	0	0 %	0	100 %	26	0 %	0	0 %	0

INSP001_Inspection_SIA_Metric

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Page 1 of 2

Structure Inventory and Appraisal Sheet

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	311/2	Moveable Bearing	ea.	12	22 %	2	65 %	8	13 %	2	0 %	0	0 %	0
1	313/2	Fixed Bearing	ea.	12	22 %	2	65 %	8	13 %	2	0 %	0	0 %	0
1	333/2	Other Bridge Railing	m.	82	50 %	41	50 %	41	0 %	0	0 %	0	0 %	0
1	385/2	Wear.Surf. - Rigid	sq.m.	504	80 %	403	20 %	101	0 %	0	0 %	0	0 %	0
1	388/2	Paint	sq.m.	1,151	100 %	1,151	0 %	0	0 %	0	0 %	0	0 %	0
1	389/2	Reinfor conc dk/slab	sq.m.	532	33 %	175	33 %	175	34 %	181	0 %	0	0 %	0

Structure Inventory and Appraisal Sheet

Bridge Key: 5949	Agency ID: 5949	SR: 93.2	SD/FO: ND
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IDENTIFICATION

State 1: 23 Maine Struc Num 8: 5949
Facility Carried 7: I 95 NB Location 9: 3.3 MI E TL / 95 MI 177.9

Rte.(On/Under)5A: Route On Structure Rte. Signing Prefix 5B: 3 State Hwy

Level of Service 5C: 1 Mainline Rte. Number 5D: 00095

Directional Suffix 5E: 1 North % Responsibility : 0

SHD District 2: 04 Eastern County Code 3: 019 Penobscot

Place Code 4: 19280 Hampden Kilometer Post 11: 284.5 km

Feature Intersected 6: SOUADABSCOOK STREAM

Latitude 16: 44d 45' 54" Longitude 17: 068d 53' 39"

Border Bridge Code 98: Not Applicable (P)

Border Bridge Number 99: n/a

INSPECTION

Frequency 91: 24 months Inspection Date 90: 7/19/2011 Next Inspection: 07/19/2013

FC Frequency 92A: NA FC Inspection Date 93A: NA Next FC Inspection: NA

UW Frequency 92B: 60 months UW Inspection Date 93B: 10/26/2011 Next UW Inspection: 10/26/2016

SI Frequency 92C: NA SI Date 93C: NA Next SI: NA

Element Frequency: 24 months Element Inspection Date: 01/01/1901 Next Elem. Insp. Due: 01/01/1901

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 46: 0 Number of Spans Main Unit 45: 3

Main Span Material/Design 43A/B:

4 Steel Continuous 02 Stringer/Girder

Deck Type 107: 1 Concrete-Cast-in-Place

Wearing Surface 108A: 2 Integral Concrete

Membrane 108B: 0 None

Deck Protection 108C: None

CLASSIFICATION

Defense Highway 100: 1 On Interstate STRAHNET Parallel Structure 101: Right of || bridge

Direction of Traffic 102: 1 1-way traffic Temporary Structure 103: Not Applicable (P)

Highway System 104: 1 On the NHS NBIS Length 112: Long Enough

Toll Facility 20: 3 On free road Functional Class 26: 01 Rural Interstate

Defense Hwy 110: 1 On Interstate STRAHNET Historical Significance 37: 4 Hist sign not determin

Owner 22: 01 State Highway Agency

Custodian 21: 01 State Highway Agency

AGE AND SERVICE

Year Built 27: 1961 Year Reconstructed 106: -4

Type of Service on 42A: 1 Highway

Type of Service under 42B: 5 Waterway

Lanes on 28A: 2 Lanes Under 28B: 0 Detour Length 19: 6.6 km

ADT 29: 12,190 Truck ADT 109: 11 % Year of ADT 30: 2011

CONDITION

Deck 58: 5 Fair Super 59: 7 Good Sub 60: 6 Satisfactory

Culvert 62: N N/A (NBI) Channel/Channel Protection 61: 6 Bank Slumping

GEOMETRIC DATA

Length Max Span 48: 15.24 m Structure Length 49: 41.15 m

Curb/Sdwk Width L 50A: 0.06 m Curb/Sidewalk Width R 50B: 0.06 m

Width Curb to Curb 51: 12.19 m Width Out to Out 52: 12.92 m

Approach Roadway Width 32:(w/ shoulders) 12.19 m Median 33: 0 No median

Deck Area: 531.80 m²

Skew 34: 15.00 ° Structure Flared 35: 0 No flare

Vertical Clearance 10: 99.99 m Horiz. Clearance 47: 12.19 m

Minimum Vertical Clearance Over Bridge 53: 99.90 m

Minimum Vertical Underclearance Reference 54A: N Feature not hwy or RR

Minimum Vertical Underclearance 54B: 00.00 m

Minimum Lateral Underclearance Reference R 55A: N Feature not hwy or RR

Minimum Lateral Underclearance R 55: 99.90 m

Minimum Lateral Underclearance L 56: 99.90 m

LOAD RATING AND POSTING

Inventory Rating Method 65: 2 AS Allowable Stress Operating Rating Method 63: 2 AS Allowable Stress

Inventory Rating 66: MS19.2 Operating Rating 64: MS28.2

Design Load 31: 6 MS18(HS20)+mod Posting 70: 5 At/Above Legal Loads

Posting status 41: A Open, no restriction

APPRAISAL

Bridge Rail 36A: 0 Substandard Approach Rail 36C: 1 Meets Standards

Transition 36B: 1 Meets Standards Approach Rail Ends 36D: 1 Meets Standards

Str. Evaluation 67: 6 Equal Min Criteria Deck Geometry 68: 7 Above Min Criteria

Underclearance, Vertical and Horizontal 69: N Not applicable (NBI)

Waterway Adequacy 71: 9 Above Desirable Approach Alignment 72: 8 Equal Desirable Crit

Scour Critical 113: 8 Stable Above Footing

PROPOSED IMPROVEMENTS

Bridge Cost 94: NA Type of Work 75: Unknown (P)

Roadway Cost 95: Unknown Length of Improvement 76: 17,066

Total Cost 96: Unknown Future ADT 114: 2031

Year of Cost Estimate 97: Unknown Year of Future ADT 115: 2031

NAVIGATION DATA

Navigation Control 38: 0 Permit Not Required

Vertical Clearance 39: 0.00 m Horizontal Clearance 40: 0.00 m

Pier Protection 111: Not Applicable (P) Lift Bridge Vertical Clearance 116: 0.00 m

ELEMENT CONDITION STATE DATA

SECTION 3: LOAD AND RESISTANCE FACTOR RATING GUIDELINES

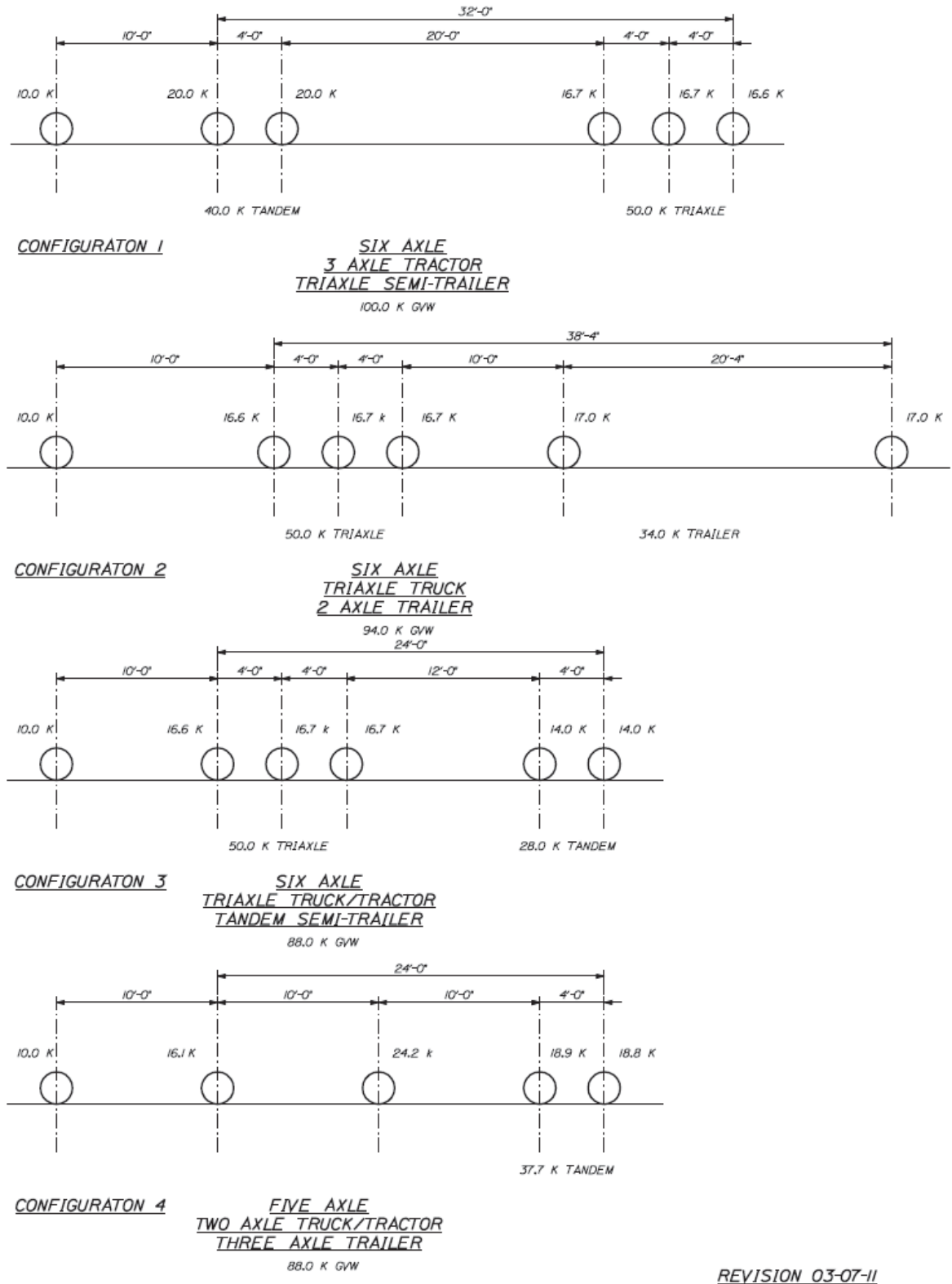
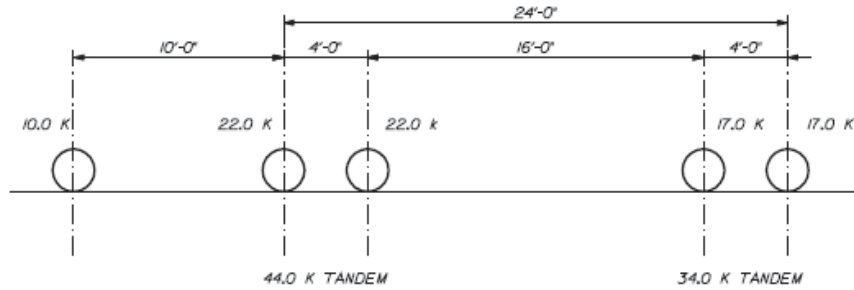
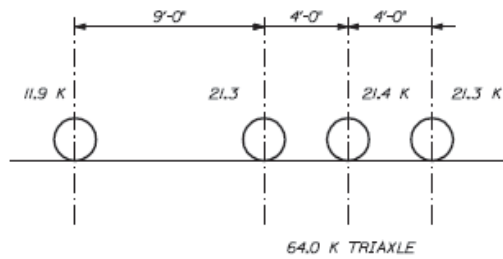


Figure 1. Maine DOT Legal Loads

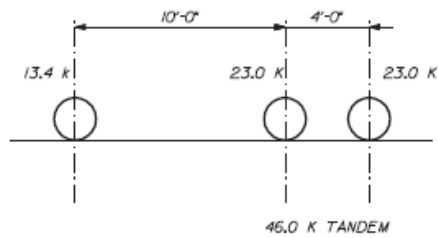
SECTION 3: LOAD AND RESISTANCE FACTOR RATING GUIDELINES



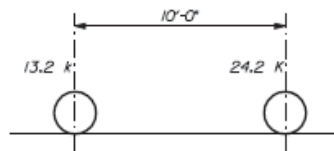
CONFIGURATON 5 FIVE AXLE
TANDEM AXLE TRUCK
OR TRACTOR SEMI-TRAILER
88.0 K GVW



CONFIGURATON 6 FOUR AXLE TRUCK
75.9 K GVW

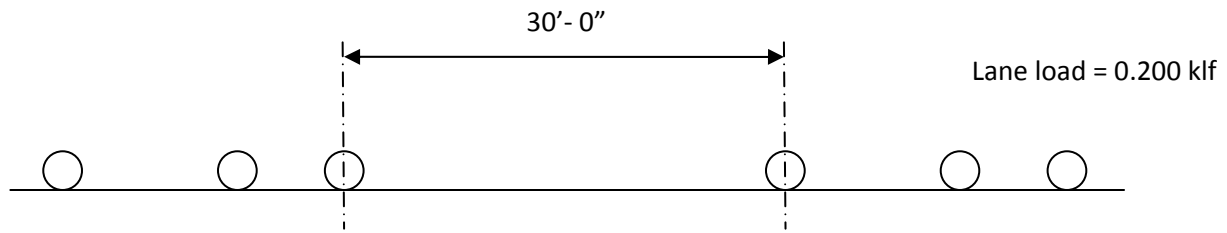


CONFIGURATON 7 THREE AXLE TRUCK
59.0 K GVW



CONFIGURATON 8 TWO AXLE TRUCK
37.4 K GVW

Figure 2. Maine DOT Legal Loads



For negative moments and interior reactions:

MaineDOT legal vehicles multiplied by 0.75 separated by 30' heading in the same direction.

For one direction ADTT < 500: The lane load component may be excluded and the 0.75 factor changed to 1.0.

Username: virtis

Date: Tuesday, April 23, 2013 11:45:19

Bridge ID Br. No. 1431+5949 I95 over Souadabscook Stream

NBI Structure ID (8): 1431+5949

Description:

Description

Location: Hampden
Total Length: 130.00 (ft)
Facility Carried: I95
Route Number: 95
Feature Intersected: Souadabscook
Mi Post: (mi)
Units: US Customary
Year Built: 1961
Recent ADTT: 1340
District:
County:
Owner:
National Highway System:
Functional Class:

Global Reference Point

X Coordinate: 0.000 (ft)
Y Coordinate: 0.000 (ft)
Elevation: (ft)
Longitude: (Degrees)
Latitude: (Degrees)

Materials

Structural Steel

Name: **ASTM A373**
Description: ASTM A 737
Specified minimum yield strength (Fy): 32.000 (ksi)
Specified minimum tensile strength (Fu): 58.000 (ksi)
Coefficient of thermal expansion: 0.0000065000 (1/F)
Density: 0.4900 (kcf)
Modulus of elasticity (E): 29000.00 (ksi)

Concrete

Name: **Class A (US)**
Description: Class A cement concrete
Specified compressive strength at 28 days (f'c): 3.000 (ksi)
Initial specified compressive strength (f'ci): (ksi)
Coefficient of thermal expansion: 0.0000060000 (1/F)
Density (for dead loads): 0.150 (kcf)
Density (for modulus of elasticity): 0.145 (kcf)
Modulus of elasticity (Ec): 3155.92 (ksi)
Poisson's ratio: 0.200

Modulus of rupture:	0.416 (ksi)
Shear factor:	1.000
Composition of concrete:	Normal
Initial modulus of elasticity (Eci):	(ksi)

Reinforcing Steel

Name:	Grade 40
Description:	40 ksi reinforcing steel
Specified yield strength (Fy):	40.000 (ksi)
Modulus of elasticity (Es):	29000.00 (ksi)
Ultimate strength (Fu):	70.000 (ksi)
Type:	Plain

No prestressing strand materials.

No timber materials.

Beam Shapes

Steel Shapes

No steel angles.

No steel channels.

Steel I Shapes

Name:	W24x110
Description:	
Depth (d):	24.1250 (in)
Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	32.360 (in^2)
Nominal load:	110.000 (lb/ft)
Ixx:	3315.000 (in^4)
Iyy:	229.100 (in^4)
Zx:	308.000 (in^3)
Zy:	64.400 (in^3)
Nominal Depth:	24.0000 (in)
Type:	W Shape
Name:	W24x110 w/ CP span 1
Description:	
Depth (d):	24.0000 (in)

Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	34.860 (in ²)
Nominal load:	118.507 (lb/ft)
Ixx:	3688.265 (in ⁴)
Iyy:	232.433 (in ⁴)
Zx:	338.550 (in ³)
Zy:	66.900 (in ³)
Nominal Depth:	24.7500 (in)
Type:	W Shape

Name: **W24x110 w/ CP pier 1**

Description:	
Depth (d):	24.0000 (in)
Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	39.860 (in ²)
Nominal load:	135.521 (lb/ft)
Ixx:	4440.557 (in ⁴)
Iyy:	291.600 (in ⁴)
Zx:	399.875 (in ³)
Zy:	83.150 (in ³)
Nominal Depth:	24.8750 (in)
Type:	W Shape

Name: **W24x110 w/CP span 2**

Description:	
Depth (d):	24.0000 (in)
Flange width (bf):	12.0000 (in)
Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	34.860 (in ²)
Nominal load:	118.507 (lb/ft)
Ixx:	3688.265 (in ⁴)
Iyy:	232.433 (in ⁴)
Zx:	338.547 (in ³)
Zy:	66.900 (in ³)
Nominal Depth:	24.7500 (in)
Type:	W Shape

Name: **W24x110 w/CP pier 1 taper**

Description:	
Depth (d):	24.1250 (in)
Flange width (bf):	12.0000 (in)

Flange thickness (tf):	0.8750 (in)
Web thickness (tw):	0.5000 (in)
k:	(in)
k1:	(in)
Cross sectional area:	37.610 (in^2)
Nominal load:	127.865 (lb/ft)
Ixx:	4102.890 (in^4)
Iyy:	250.538 (in^4)
Zx:	372.313 (in^3)
Zy:	73.588 (in^3)
Nominal Depth:	24.8750 (in)
Type:	W Shape

No steel structural tee shapes.

Prestressed Shapes

No prestressed shapes.

Timber Shapes

No timber shapes.

Appurtenances

Parapets

Name:	Concrete Rail
Description:	Concrete Rail
X1:	12.0000 (in)
X2:	0.0000 (in)
X3:	2.0000 (in)
Y1:	0.0000 (in)
Y2:	18.0000 (in)
Y3:	0.0000 (in)
Y4:	11.0000 (in)
Distance to Center of Gravity of Load:	6.0000 (in)
Additional Load:	0.000 (kip/ft)
Concrete Density:	0.0000 (kcf)

No concrete medians.

No concrete generics.

No steel railings.

Impact

Standard Impact Factor

Type: Standard - AASHTO
LRFD Dynamic Load Allowance
 Fatigue and fracture limit states: 15.0 (%)
 All other limit states: 33.0 (%)

Factors

No LFD Factors specified.

No LRFD Factors specified.

No Bridge Alternatives defined.

Superstructure Definition 1431+5949

Definition

Units: US Customary
 Number of spans: 3
 Number of girders: 6

	Length
Span	(ft)
1	40.0000
2	50.0000
3	40.0000

Frame Structure Simplified Definition:

Support Frame Connection

1
2
3
4

Girder Spacing Display Type: Perpendicular

Average Humidity: (%)

Analysis

Default Library Factors

Factor Override

Analysis Module

Analysis Method: ASD

Analysis Module:

Analysis Module Component:

Properties:

Analysis Method: LFD

Analysis Module:

Analysis Module Component:

Properties:

Analysis Method: LRFD

Analysis Module:
 Analysis Module Component:
 Properties:

Analysis Method: LRFR
 Analysis Module:
 Analysis Module Component:
 Properties:

Analysis Method: Distribution Factors
 Analysis Module:
 Analysis Module Component:
 Properties:

Default rating method: LFD

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Structure Framing Plan Details

Layout

Skew
 (Degrees)
 Support
 1 -15.0000
 2 -15.0000
 3 -15.0000
 4 -15.0000

Girder Spacing Orientation: Perpendicular

Girder Bay	Girder Spacing Start (ft)	Girder Spacing End (ft)
1	7.5000	7.5000
2	7.5000	7.5000
3	7.5000	7.5000
4	7.5000	7.5000
5	7.5000	7.5000

Diaphragms

Girder Bay 1

Distance Left Girder (ft)	Distance Right Girder (ft)	Diaphragm Spacing (ft)	Number of Spaces	Diaphragm Weight (kip)
0.00	0.00	22.00	1	0.3049
0.00	0.00	0.00	1	0.3049
22.00	22.00	18.00	1	0.2886
40.00	40.00	15.00	1	0.3049

55.00	55.00	20.00	1	0.3049
75.00	75.00	15.00	1	0.2886
90.00	90.00	18.00	1	0.3049
108.00	108.00	22.00	1	0.3049
<i>Girder Bay 2</i>				
Distance Left Girder (ft)	Distance Right Girder (ft)	Diaphragm Spacing (ft)	Number of Spaces	Diaphragm Weight (kip)
0.00	0.00	0.00	1	0.3049
0.00	0.00	22.00	1	0.3049
22.00	22.00	18.00	1	0.2886
40.00	40.00	15.00	1	0.3049
55.00	55.00	20.00	1	0.3049
75.00	75.00	15.00	1	0.2886
90.00	90.00	18.00	1	0.3049
108.00	108.00	22.00	1	0.3049
<i>Girder Bay 3</i>				
Distance Left Girder (ft)	Distance Right Girder (ft)	Diaphragm Spacing (ft)	Number of Spaces	Diaphragm Weight (kip)
0.00	0.00	0.00	1	0.3049
0.00	0.00	22.00	1	0.3049
22.00	22.00	18.00	1	0.2886
40.00	40.00	15.00	1	0.3049
55.00	55.00	20.00	1	0.3049
75.00	75.00	15.00	1	0.2886
90.00	90.00	18.00	1	0.3049
108.00	108.00	22.00	1	0.3049
<i>Girder Bay 4</i>				
Distance Left Girder (ft)	Distance Right Girder (ft)	Diaphragm Spacing (ft)	Number of Spaces	Diaphragm Weight (kip)
0.00	0.00	0.00	1	0.3049
0.00	0.00	22.00	1	0.3049
22.00	22.00	18.00	1	0.2886
40.00	40.00	15.00	1	0.3049
55.00	55.00	20.00	1	0.3049
75.00	75.00	15.00	1	0.2886
90.00	90.00	18.00	1	0.3049
108.00	108.00	22.00	1	0.3049
<i>Girder Bay 5</i>				
Distance Left Girder (ft)	Distance Right Girder (ft)	Diaphragm Spacing (ft)	Number of Spaces	Diaphragm Weight (kip)
0.00	0.00	0.00	1	0.3049
0.00	0.00	22.00	1	0.3049
22.00	22.00	18.00	1	0.2886
40.00	40.00	15.00	1	0.3049
55.00	55.00	20.00	1	0.3049
75.00	75.00	15.00	1	0.2886
90.00	90.00	18.00	1	0.3049

108.00 108.00 22.00 1 0.3049

Structure Typical Section

Deck

Left start width: 21.17 (ft)
 Left end width: 21.17 (ft)
 Right start width: 21.17 (ft)
 Right end width: 21.17 (ft)
 Left start overhang: 2.42 (ft)
 Left end overhang: 2.42 (ft)

Deck (Cont'd)

Deck concrete: Class A (US)
 Total deck thickness: 6.5000 (in)
 Deck crack control parameter: (kip/in)
 Sustained modular ratio factor: 3.000

Parapet

Name	Load Case	Measure To	Measured From	Distance At Start	Distance At End	Front Face Orientation
Concrete ...	DC2	Front	Left Ed...	1.17	1.17	Right
Concrete ...	DC2	Front	Right E...	1.17	1.17	Left

Lane Position

Offset Left Start: -20.00 (ft)
 Offset Left End: -20.00 (ft)
 Offset Right Start: 20.00 (ft)
 Offset Right End: 20.00 (ft)

Wearing Surface

Wearing surface material: bituminous
 Description:
 Wearing surface thickness: 2.2500 (in)
 Wearing surface density: 140.000 (pcf)
 Load case: DW

Load Case Description

Load Case Name	Description	Stage	Type	Time (Days)
DC1	DC acting on non-comp...	Non-composite (Sta...		D,DC
DC2	DC acting on long-ter...	Composite (long te...		D,DC
DW	DW acting on long-ter...	Composite (long te...		D,DW

Superstructure Loads

DL Distribution

Stage 1 Dead Load Distribution: Tributary Area
 Stage 2 Dead Load Distribution: Uniformly to All Girders

Stiffener Definitions

Transverse Stiffeners

Name: Single Connection PL

Stiffener number: Single
 Plate Width: 6.0000 (in)
 Plate Thickness: 0.3750 (in)
 Material: ASTM A373
 Top Gap: 2.0000 (in)
 Bottom Gap: 2.0000 (in)
 Top Weld:
 Web Weld:
 Bottom Weld:

Name: Double Connection PL
 Stiffener number: Pair
 Plate Width: 6.0000 (in)
 Plate Thickness: 0.3750 (in)
 Material: ASTM A373
 Top Gap: 2.0000 (in)
 Bottom Gap: 2.0000 (in)
 Top Weld:
 Web Weld:
 Bottom Weld:

No prestress stress limits.

No prestress properties.

No vertical shear reinforcement definitions.

No horizontal shear reinforcement definitions.

Member G1

Link with: None

Description:

Existing: G1 -

Current: G1 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance (ft)	Length (ft)	Start (kip/ft)	End (kip/ft)	Load Case Name
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G1

Description:

Description

Material Type: Steel
Girder Type: Rolled
Member units: US Customary
Girder property input method: Schedule based
Left end X: (in)
Right end X: (in)
Additional Self Load: (kip/ft)
Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
Analysis Module: AASHTO ASD
Analysis Module Component:

Properties:

Analysis Method: LFD

Analysis Module: AASHTO LFD
Analysis Module Component:
Properties:

Analysis Method: LRFD
Analysis Module: AASHTO LRFD
Analysis Module Component:
Properties:

Analysis Method: LRFR
Analysis Module: AASHTO LRFR
Analysis Module Component:
Properties:

Analysis Method: Distribution Factors
Analysis Module: Virtis Dist Fact
Analysis Module Component:
Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		
Timber	NA	

Default Materials

Structural steel: ASTM A373
Deck concrete: Class A (US)
Deck reinforcement: Grade 40
Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.32	Moment	0.600	0.676
29.32	21.65	Moment	0.600	0.676
50.97	28.06	Moment	0.600	0.676
79.03	21.65	Moment	0.600	0.676
100.68	29.32	Moment	0.600	0.676
0.00	4.00	Shear	0.650	0.732
4.00	36.00	Shear	0.600	0.676
40.00	50.00	Shear	0.600	0.676
90.00	36.00	Shear	0.600	0.676
126.00	4.00	Shear	0.650	0.732
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape:	W24x110
Distance:	0.00 (ft)
Length:	14.00 (ft)
Material:	ASTM A373
Shape:	W24x110 w/ CP span 1
Distance:	14.00 (ft)
Length:	12.00 (ft)
Material:	ASTM A373
Shape:	W24x110
Distance:	26.00 (ft)
Length:	9.50 (ft)
Material:	ASTM A373
Shape:	W24x110 w/CP pier 1 taper
Distance:	35.50 (ft)
Length:	2.00 (ft)
Material:	ASTM A373
Shape:	W24x110 w/ CP pier 1
Distance:	37.50 (ft)
Length:	5.00 (ft)
Material:	ASTM A373
Shape:	W24x110 w/CP pier 1 taper
Distance:	42.50 (ft)

Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n (ft)	Length (ft)	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	67.9980	73.9980

Haunch Profile

Haunch Type: Flange edges

Embedded flange:		TRUE					
Distance	Length	Z1	Z2	Z3	Z4	Y1	Y2
(ft)	(ft)	(in)	(in)	(in)	(in)	(in)	(in)
0.00	130.00	4.0000	4.0000	4.0000	4.0000	1.0000	1.0000

Bracing Ranges

Lateral Support

Distance	Length
(ft)	(ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance	Number	Spacing
	(ft)		(in)
Single Connection ...	22.00	1	0.0000
Single Connection ...	55.00	1	0.0000
Single Connection ...	75.00	1	0.0000
Single Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G2

Link with: None

Description:

Existing: G2 -

Current: G2 -

Number of Spans: 3

Span	Span Length
Number	(ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance	Length	Start	End	Load Case Name
(ft)	(ft)	(kip/ft)	(kip/ft)	
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G2

Description:

Description

Material Type: Steel
Girder Type: Rolled
Member units: US Customary
Girder property input method: Schedule based
Left end X: (in)
Right end X: (in)
Additional Self Load: (kip/ft)
Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
Analysis Module: AASHTO ASD
Analysis Module Component:

Properties:

Analysis Method: LFD
Analysis Module: AASHTO LFD
Analysis Module Component:
Properties:

Analysis Method: LRFD
Analysis Module: AASHTO LRFD

Analysis Module Component:
Properties:

Analysis Method: LRFR
Analysis Module: AASHTO LRFR
Analysis Module Component:
Properties:

Analysis Method: Distribution Factors
Analysis Module: Virtis Dist Fact
Analysis Module Component:
Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		
Timber	NA	

Default Materials

Structural steel: ASTM A373
Deck concrete: Class A (US)
Deck reinforcement: Grade 40
Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

	D i s t r i b u t i o n F a c t o r (Wheels)
Lanes	Shear at

Loaded
1 Lane
Multi-Lane

Shear

Supports

Moment

Deflection

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.472	0.617
29.38	21.50	Moment	0.460	0.608
50.87	28.25	Moment	0.436	0.582
79.13	21.50	Moment	0.460	0.608
100.62	29.38	Moment	0.472	0.617
0.00	4.00	Shear	0.715	0.844
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.715	0.844
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110

Distance: 0.00 (ft)

Length: 14.00 (ft)

Material: ASTM A373

Shape: W24x110 w/ CP span 1

Distance: 14.00 (ft)

Length: 12.00 (ft)

Material: ASTM A373

Shape: W24x110

Distance: 26.00 (ft)

Length: 9.50 (ft)

Material: ASTM A373

Shape: W24x110 w/CP pier 1 taper

Distance: 35.50 (ft)

Length: 2.00 (ft)

Material: ASTM A373

Shape: W24x110 w/ CP pier 1

Distance: 37.50 (ft)

Length: 5.00 (ft)

Material: ASTM A373

Shape: W24x110 w/CP pier 1 taper

Distance: 42.50 (ft)

Length: 2.00 (ft)

Material: ASTM A373

Shape: W24x110

Distance: 44.50 (ft)

Length: 14.50 (ft)

Material: ASTM A373

Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n	Length	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	78.0000	90.0000

Haunch Profile

Haunch Type:		Flange edges		
Embedded flange:		TRUE		
Distance (ft)	Length (ft)	Z1 (in)	Z2 (in)	Y1 (in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support
 Distance Length
 (ft) (ft)
 0.00 130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000
Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G3

Link with: None

Description:

Existing: G3 -

Current: G3 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

<u>Elastic</u> Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G3

Description:

Description

Material Type: Steel
 Girder Type: Rolled
 Member units: US Customary
 Girder property input method: Schedule based
 Left end X: (in)
 Right end X: (in)
 Additional Self Load: (kip/ft)
 Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
 Analysis Module: AASHTO ASD
 Analysis Module Component:

Properties:

Analysis Method: LFD
 Analysis Module: AASHTO LFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFD
 Analysis Module: AASHTO LRFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFR
 Analysis Module: AASHTO LRFR
 Analysis Module Component:
 Properties:

Analysis Method: Distribution Factors
 Analysis Module: Virtis Dist Fact
 Analysis Module Component:

Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

Inventory Operating

Structural steel

Concrete

PS Concrete Comp.

PS Concrete Tens.

PS Moment Cap.

Reinforcement

Bearing Stiffener

Stirrup

Timber

NA

Default Materials

Structural steel: ASTM A373

Deck concrete: Class A (US)

Deck reinforcement: Grade 40

Welds:

Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.472	0.617
29.38	21.50	Moment	0.460	0.608
50.87	28.25	Moment	0.436	0.582
79.13	21.50	Moment	0.460	0.608

100.62	29.38	Moment	0.472	0.617
0.00	4.00	Shear	0.715	0.844
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.715	0.844
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110
 Distance: 0.00 *(ft)*
 Length: 14.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 14.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 26.00 *(ft)*
 Length: 9.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 35.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 *(ft)*
 Length: 5.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 42.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 85.50 *(ft)*
 Length: 2.00 *(ft)*

Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n (ft)	Length (ft)	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00	130.00		6.5000	78.0000	90.0000
	9.20...					

Haunch Profile

Haunch Type:	Flange edges			
Embedded flange:	TRUE			
Distance	Length	Z1	Z2	Y1
(ft)	(ft)	(in)	(in)	(in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support

Distance	Length
(ft)	(ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000

Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G4

Link with: None

Description:

Existing: G4 -

Current: G4 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				

2
3
4

Member Alternative G4

Description:

Description

Material Type: Steel
Girder Type: Rolled
Member units: US Customary
Girder property input method: Schedule based
Left end X: (in)
Right end X: (in)
Additional Self Load: (kip/ft)
Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
Analysis Module: AASHTO ASD
Analysis Module Component:
Properties:

Analysis Method: LFD
Analysis Module: AASHTO LFD
Analysis Module Component:
Properties:

Analysis Method: LRFD
Analysis Module: AASHTO LRFD
Analysis Module Component:
Properties:

Analysis Method: LRFR
Analysis Module: AASHTO LRFR
Analysis Module Component:
Properties:

Analysis Method: Distribution Factors
Analysis Module: Virtis Dist Fact
Analysis Module Component:
Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

Structural steel Inventory Operating

Concrete
 PS Concrete Comp.
 PS Concrete Tens.
 PS Moment Cap.
 Reinforcement
 Bearing Stiffener
 Stirrup
 Timber NA

Default Materials

Structural steel: ASTM A373
 Deck concrete: Class A (US)
 Deck reinforcement: Grade 40
 Welds:
 Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.38	Moment	0.472	0.617
29.38	21.50	Moment	0.460	0.608
50.87	28.25	Moment	0.436	0.582
79.13	21.50	Moment	0.460	0.608
100.62	29.38	Moment	0.472	0.617
0.00	4.00	Shear	0.715	0.844
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.715	0.844
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110
 Distance: 0.00 *(ft)*
 Length: 14.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 14.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 26.00 *(ft)*
 Length: 9.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 35.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 *(ft)*
 Length: 5.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 42.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 85.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 *(ft)*
 Length: 5.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 92.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 *(ft)*

Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n	Length	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00	130.00		6.5000	78.0000	90.0000
	9.20...					

Haunch Profile

Haunch Type:	Flange edges			
Embedded flange:	TRUE			
Distance (ft)	Length (ft)	Z1 (in)	Z2 (in)	Y1 (in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support

Distance (ft)	Length (ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000
Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G5

Link with: None

Description:

Existing: G5 -
 Current: G5 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support Number	Frame Connection
1	
2	
3	
4	

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance (ft)	Length (ft)	Start (kip/ft)	End (kip/ft)	Load Case Name
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G5

Description:

Description

Material Type: Steel
 Girder Type: Rolled
 Member units: US Customary
 Girder property input method: Schedule based
 Left end X: (in)
 Right end X: (in)
 Additional Self Load: (kip/ft)
 Additional Self Load %: 2.0 (%)

Analysis Module

Analysis Method: ASD
 Analysis Module: AASHTO ASD
 Analysis Module Component:
 Properties:

Analysis Method: LFD
 Analysis Module: AASHTO LFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFD
 Analysis Module: AASHTO LRFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFR
 Analysis Module: AASHTO LRFR
 Analysis Module Component:
 Properties:

Analysis Method: Distribution Factors
 Analysis Module: Virtis Dist Fact
 Analysis Module Component:
 Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		

Timber

NA

Default Materials

Structural steel: ASTM A373
Deck concrete: Class A (US)
Deck reinforcement: Grade 40
Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at Supports	Moment	Deflection
Loaded				
1 Lane				
Multi-Lane				

LRFD

Distance (ft)	Length (ft)	Type	1 Lane	Multi-Lane
0.00	29.31	Moment	0.472	0.617
29.31	21.57	Moment	0.460	0.608
50.87	28.55	Moment	0.436	0.582
79.43	20.94	Moment	0.453	0.598
100.36	29.64	Moment	0.472	0.617
0.00	4.00	Shear	0.715	0.844
4.00	36.00	Shear	0.660	0.779
40.00	50.00	Shear	0.660	0.779
90.00	36.00	Shear	0.660	0.779
126.00	4.00	Shear	0.715	0.844
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110
Distance: 0.00 (ft)
Length: 14.00 (ft)
Material: ASTM A373
Shape: W24x110 w/ CP span 1
Distance: 14.00 (ft)
Length: 12.00 (ft)

Material: ASTM A373
 Shape: W24x110
 Distance: 26.00 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 35.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 42.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 (ft)
 Length: 14.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 85.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 (ft)
 Length: 5.00 (ft)
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 92.50 (ft)
 Length: 2.00 (ft)
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 (ft)
 Length: 9.50 (ft)
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 (ft)
 Length: 12.00 (ft)
 Material: ASTM A373
 Shape: W24x110

Distance: 116.00 (ft)
 Length: 14.00 (ft)
 Material: ASTM A373

Deck Profile

Deck Concrete

Material (LRFD)	Distance n (ft)	Length (ft)	Total Thickness (in)	Structural Thickness (in)	Effective Width (Std) (in)	Effective Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	78.0000	90.0000

Haunch Profile

Haunch Type: Flange edges

Embedded flange: TRUE

Distance (ft)	Length (ft)	Z1 (in)	Z2 (in)	Y1 (in)
0.00	130.00	4.0000	4.0000	1.0000

Bracing Ranges

Lateral Support

Distance (ft)	Length (ft)
0.00	130.00

Stiffener Ranges

Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Double Connection ...	22.00	1	0.0000
Double Connection ...	55.00	1	0.0000
Double Connection ...	75.00	1	0.0000
Double Connection ...	108.00	1	0.0000

Bearing Stiffener Locations

Member G6

Link with: None

Description:

Existing: G6 -

Current: G6 -

Number of Spans: 3

Span Number	Span Length (ft)
1	40.000000
2	50.000000
3	40.000000

Support Frame Connection

1
2
3
4

Pedestrian load: (lb/ft)

Member Loads

Distributed Loads

Distance (ft)	Length (ft)	Start (kip/ft)	End (kip/ft)	Load Case Name
0.00	130.00	0.205	0.205	DC2

Member Loads - Settlement

Support Number	Horizontal (in)	Vertical (in)	Rotational (Radians)	Load Case Name
1				
2				
3				
4				

Support Constraints

General

Support Number	Support Type	X Translation	Y Translation	Z Rotation
1	Pinned	Fixed	Fixed	Free
2	Roller	Free	Fixed	Free
3	Roller	Free	Fixed	Free
4	Roller	Free	Fixed	Free

Elastic

Support Number	X Translation (kip/ft)	Y Translation (kip/ft)	Z Rotation (kip-in/rad)	Override Computed Z Rotation
1				
2				
3				
4				

Member Alternative G6

Description:

Description

Material Type: Steel

Girder Type: Rolled

Member units: US Customary

Girder property input method: Schedule based

Left end X: (in)

Right end X: (in)

Additional Self Load: (kip/ft)

Additional Self Load %: 2.0 (%)
Analysis Module
 Analysis Method: ASD
 Analysis Module: AASHTO ASD
 Analysis Module Component:
 Properties:

Analysis Method: LFD
 Analysis Module: AASHTO LFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFD
 Analysis Module: AASHTO LRFD
 Analysis Module Component:
 Properties:

Analysis Method: LRFR
 Analysis Module: AASHTO LRFR
 Analysis Module Component:
 Properties:

Analysis Method: Distribution Factors
 Analysis Module: Virtis Dist Fact
 Analysis Module Component:
 Properties:

Default rating method: LRFR

Factors

Factor Override

LRFD:

LFD:

ASD Factors

	Inventory	Operating
Structural steel		
Concrete		
PS Concrete Comp.		
PS Concrete Tens.		
PS Moment Cap.		
Reinforcement		
Bearing Stiffener		
Stirrup		
Timber	NA	

Default Materials

Structural steel: ASTM A373
 Deck concrete: Class A (US)
 Deck reinforcement: Grade 40

Welds:
Bolts:

Impact

Standard Impact Factor

Type: Standard - AASHTO

LRFD Dynamic Load Allowance

Fatigue and fracture limit states: 15.0 (%)

All other limit states: 33.0 (%)

Live Load Distribution

Standard

D i s t r i b u t i o n F a c t o r (Wheels)

Lanes	Shear	Shear at	Moment	Deflection
Loaded		Supports		
1 Lane				
Multi-Lane				

LRFD

Distance	Length	Type	1 Lane	Multi-Lane
(ft)	(ft)			
0.00	29.32	Moment	0.600	0.676
29.32	21.65	Moment	0.600	0.676
50.97	28.06	Moment	0.600	0.676
79.03	21.65	Moment	0.600	0.676
100.68	29.32	Moment	0.600	0.676
0.00	4.00	Shear	0.650	0.732
4.00	36.00	Shear	0.600	0.676
40.00	50.00	Shear	0.600	0.676
90.00	36.00	Shear	0.600	0.676
126.00	4.00	Shear	0.650	0.732
0.00	130.00	Deflectio...	0.200	0.425

Girder Profile

Shape

Shape: W24x110

Distance: 0.00 (ft)

Length: 14.00 (ft)

Material: ASTM A373

Shape: W24x110 w/ CP span 1

Distance: 14.00 (ft)

Length: 12.00 (ft)

Material: ASTM A373

Shape: W24x110

Distance: 26.00 (ft)

Length: 9.50 (ft)

Material: ASTM A373

Shape: W24x110 w/CP pier 1 taper

Distance: 35.50 (ft)

Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 37.50 *(ft)*
 Length: 5.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 42.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 44.50 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP span 2
 Distance: 59.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 71.00 *(ft)*
 Length: 14.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 85.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP pier 1
 Distance: 87.50 *(ft)*
 Length: 5.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/CP pier 1 taper
 Distance: 92.50 *(ft)*
 Length: 2.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 94.50 *(ft)*
 Length: 9.50 *(ft)*
 Material: ASTM A373
 Shape: W24x110 w/ CP span 1
 Distance: 104.00 *(ft)*
 Length: 12.00 *(ft)*
 Material: ASTM A373
 Shape: W24x110
 Distance: 116.00 *(ft)*
 Length: 14.00 *(ft)*
 Material: ASTM A373

Deck Profile

Deck Concrete

Total Structural Effective Effective

Material (LRFD)	Distance n (ft)	Length (ft)	Thickness (in)	Thickness (in)	Width (Std) (in)	Width (in)
Class A (US)	0.00 9.20...	130.00		6.5000	68.0028	74.0028

Haunch Profile

Haunch Type:		Flange edges					
Embedded flange:		TRUE					
Distance	Length	Z1	Z2	Z3	Z4	Y1	Y2
(ft)	(ft)	(in)	(in)	(in)	(in)	(in)	(in)
0.00	130.00	4.0000	4.0000	4.0000	4.0000	1.0000	1.0000

Bracing Ranges

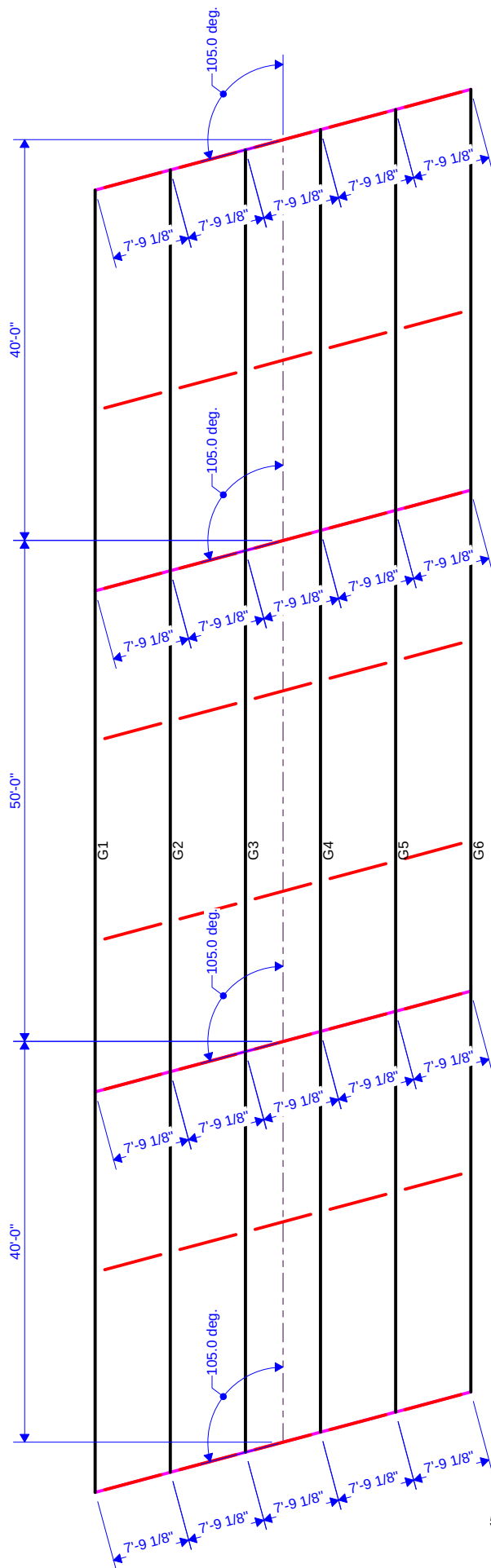
Lateral Support	
Distance	Length
(ft)	(ft)
0.00	130.00

Stiffener Ranges

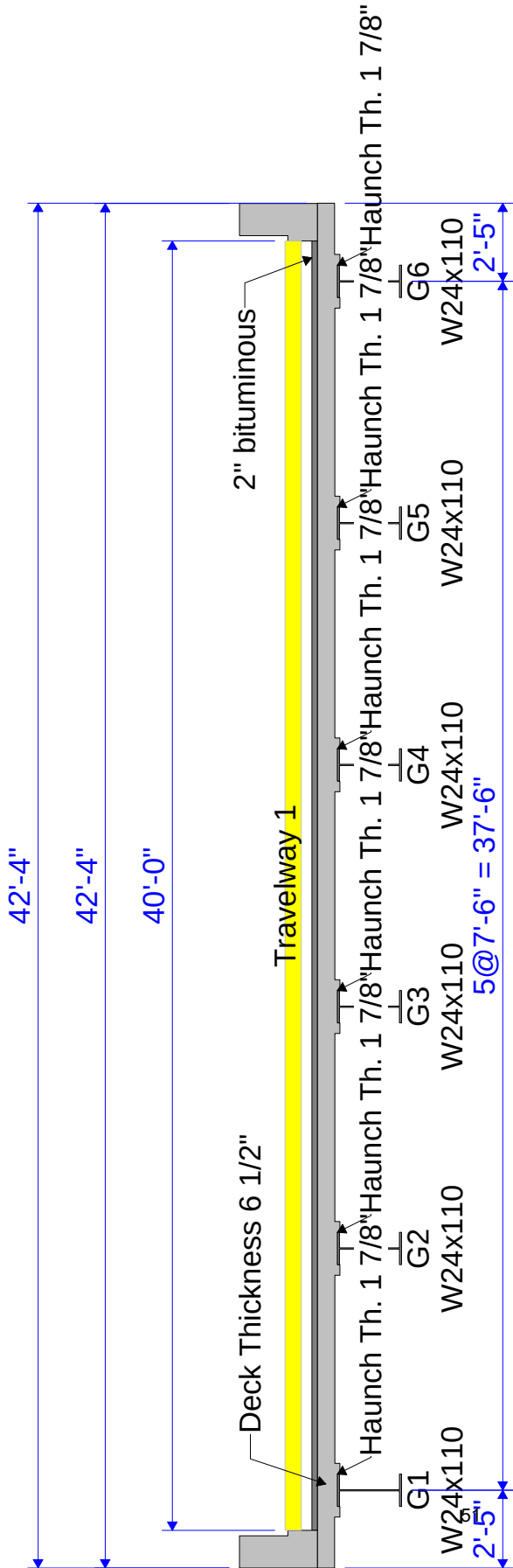
Transverse Stiffener Ranges (Location)

Name	Distance (ft)	Number	Spacing (in)
Single Connection ...	22.00	1	0.0000
Single Connection ...	55.00	1	0.0000
Single Connection ...	75.00	1	0.0000
Single Connection ...	108.00	1	0.0000

Bearing Stiffener Locations



Br. No. 1431+5949
I95 over Souadabscook Stream - 1431+5949
I95 / Souadabscook
04/18/13

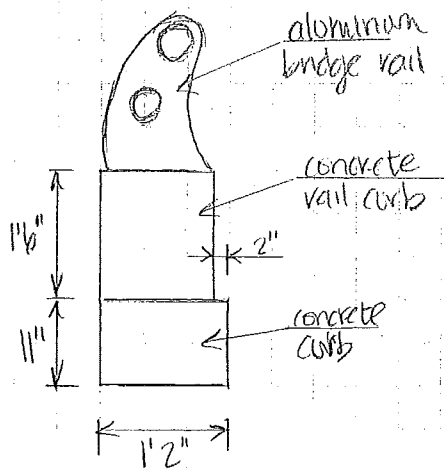




Computations

Project: NHDOT Load Rating Project # 55005
 Location: 1431/5949, 1432/5950 Sheet 1 of 1
 Calculated by: K2S 1433/5951 Date: 4/18/2013
 Checked by: AMG Date: 4/22/2013
 Title: Rail Weight

Rail Weight



$$\text{rail} = 0.025 \text{ k/ft} \quad (\text{NHDOT Design Guide})$$

$$\text{concrete} = 1.5'(1') / (0.150 \text{ kcf}) + 11/12 (12"/12) (0.150) = 0.385 \text{ k/ft}$$

$$\text{Total} = 0.025 + 0.385 = 0.410 \text{ k/ft}^*$$

* evenly distributed between exterior and first interior girder



Computations

Project: MaineDOT Load Ratings Project # 55005
Location: 1A31+5949 Sheet 1 of 1
Calculated by: KJS Date: 4/18/2013
Checked by: AMB Date: 4/22/2013
Title: Diaphragm weight

Diaphragm Weight

$$\text{length} = 7'6" / \cos 15^\circ = 7.76'$$

$$\text{Type D1} = W16 \times 36 \Rightarrow 36 \text{ lb/ft}$$

$$\text{Type D2} = C15 \times 33.9 \Rightarrow 33.9 \text{ lb/ft}$$

$$\text{connection plate} = 1'8" \times 6" \times 3/8"$$

$$\text{Volume} = 1.667 \times 0.5 \times 3/8 / 2 = 0.026 \text{ ft}^3$$

weight type D1

$$\text{diaphragm} = 7.76' (36 \text{ lb/ft}) = 279.4 \text{ lb}$$

$$\text{connection} = 0.026 \times 2 \times 490 = 25.5 \text{ lb}$$

$$\text{Total} = 279.4 + 25.5 = 304.9 \text{ lb} \Rightarrow \underline{0.3049 \text{ K}}$$

weight type D2

$$\text{diaphragm} = 7.76' (33.9 \text{ lb/ft}) = 263.1 \text{ lb}$$

$$\text{connection} = 0.026 \times 2 \times 490 = 25.5 \text{ lb}$$

$$\text{Total} = 263.1 + 25.5 = 288.6 \text{ lb} \Rightarrow \underline{0.2886 \text{ K}}$$



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431/5949 Hampden, ME	Sheet	1 of 1
Calculated by	DZ	Date	4/10/2013
Checked by	AMG	Date	4/18/2013
Title	Girder Properties with Cover Plates (span 1)		

Girder Properties with Cover Plates

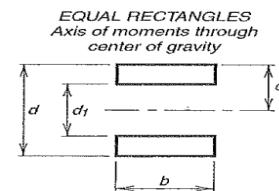
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{xo} = 3315 in⁴
I_{yo} = 229.1 in⁴
Z_{xo} = 308 in³
Z_{yo} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (span 1 near Pier 1)

h = 0.3125 in (thickness) b
b = 4 in (width)
d = 24.75 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 8.507 lb/ft Load = Area * 490 pcf
Area = 2.5 in² Area = 2 * h * b
I_{x1} = 373.265 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 3.333333 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 30.54688 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 2.5 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 118.507 lb/ft Σ Loads
Area = 34.86 in² Σ Areas
I_x = 3688.265 in⁴ I_x = I_{xo} + I_{x1}
I_y = 232.433 in⁴ I_y = I_{yo} + I_{y1}
Z_x = 338.547 in³ Z_x = Z_{xo} + Z_{x1}
Z_y = 66.9 in³ Z_y = Z_{yo} + Z_{y1}
Depth = 24.75 in Depth = d₁ + 2*h



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431/5949 Hampden, ME	Sheet	1 of 1
Calculated by	DZ	Date	4/10/2013
Checked by	AMG	Date	4/18/2013
Title Girder Properties with Cover Plates (Pier 1)			

Girder Properties with Cover Plates

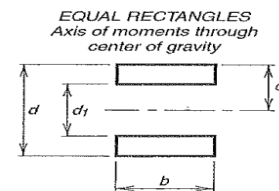
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{xo} = 3315 in⁴
I_{yo} = 229.1 in⁴
Z_{xo} = 308 in³
Z_{yo} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (Pier 1)

h = 0.375 in (thickness) b
b = 10 in (width)
d = 24.875 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 25.521 lb/ft Load = Area * 490 pcf
Area = 7.5 in² Area = 2 * h * b
I_{x1} = 1125.557 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 62.5 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 91.875 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 18.75 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 135.521 lb/ft Σ Loads
Area = 39.86 in² Σ Areas
I_x = 4440.557 in⁴ I_x = I_{xo} + I_{x1}
I_y = 291.600 in⁴ I_y = I_{yo} + I_{y1}
Z_x = 399.875 in³ Z_x = Z_{xo} + Z_{x1}
Z_y = 83.15 in³ Z_y = Z_{yo} + Z_{y1}
Depth = 24.875 in Depth = d₁ + 2*h



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431/5949 Hampden, ME	Sheet	1 of 1
Calculated by	KZS	Date	4/22/2013
Checked by	AMG	Date	4/22/2013
Title Girder Properties with Cover Plates (Pier 1 taper)			

Girder Properties with Cover Plates

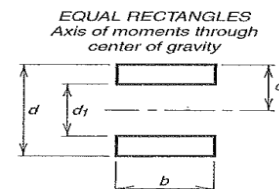
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{xo} = 3315 in⁴
I_{yo} = 229.1 in⁴
Z_{xo} = 308 in³
Z_{yo} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (Pier 1 Taper)

h = 0.375 in (thickness) h b
b = 7 in (width)
d = 24.875 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 17.865 lb/ft Load = Area * 490 pcf
Area = 5.25 in² Area = 2 * h * b
I_{x1} = 787.8896 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 21.4375 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 64.3125 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 9.1875 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 127.865 lb/ft Σ Loads
Area = 37.61 in² Σ Areas
I_x = 4102.89 in⁴ I_x = I_{xo} + I_{x1}
I_y = 250.538 in⁴ I_y = I_{yo} + I_{y1}
Z_x = 372.313 in³ Z_x = Z_{xo} + Z_{x1}
Z_y = 73.5875 in³ Z_y = Z_{yo} + Z_{y1}
Depth = 24.875 in Depth = d₁ + 2*h



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431/5949 Hampden, ME	Sheet	1 of 1
Calculated by	DZ	Date	4/10/2013
Checked by	AMG	Date	4/18/2013
Title Girder Properties with Cover Plates (Span 2)			

Girder Properties with Cover Plates

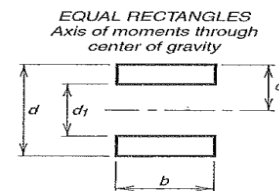
Girder Without Cover Plates:(taken from Virtis)

= input

Load = 110 lb/ft
Area = 32.36 in²
I_{xo} = 3315 in⁴
I_{yo} = 229.1 in⁴
Z_{xo} = 308 in³
Z_{yo} = 64.4 in³
Depth = d₁ = 24.125 in

Cover Plates: (Span 2)

h = 0.3125 in (thickness) b
b = 4 in (width)
d = 24.75 in (distance between top of top cover plate and bottom of bottom cover plate, see fig. below.)
Load = 8.507 lb/ft Load = Area * 490 pcf
Area = 2.5 in² Area = 2 * h * b
I_{x1} = 373.265 in⁴ I_x = $\frac{b(d^3 - d_1^3)}{12}$
I_{y1} = 3.333333 in⁴ I_y = $\frac{h*b^3}{12} \times 2 \text{ plates}$
Z_{x1} = 30.54688 in³ Z_x = $\frac{b}{4}(d^2 - d_1^2)$
Z_{y1} = 2.5 in³ Z_y = $\frac{h*b^2}{4} \times 2 \text{ plates}$



Girder With Cover Plates:

Load = 118.507 lb/ft Σ Loads
Area = 34.86 in² Σ Areas
I_x = 3688.265 in⁴ I_x = I_{xo} + I_{x1}
I_y = 232.433 in⁴ I_y = I_{yo} + I_{y1}
Z_x = 338.547 in³ Z_x = Z_{xo} + Z_{x1}
Z_y = 66.9 in³ Z_y = Z_{yo} + Z_{y1}
Depth = 24.75 in Depth = d₁ + 2*h

Rating Results Summary Report

Name: I95 over Souadabscook Stream
Struct-Def: 1431+5949

Bridge ID: Br. No. 1431+5949
Member: G1

NBl: 1431+5949
Member Alt: G1

Live Load	Live Load Type	Rating Method	Rating Level	Load Rating (Ton)	Rating Factor	Location (ft)	Location Span-(%)	Limit State	Impact	Lane
HL-93 (US)	Truck + Lane	LRFR	Inventory	29.90	0.831	90.00	3 - (0.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Truck + Lane	LRFR	Operating	38.76	1.077	90.00	3 - (0.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Inventory	33.38	0.927	14.00	1 - (35.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Operating	43.39	1.205	14.00	1 - (35.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Inventory	35.12	0.975	90.00	3 - (0.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Operating	45.52	1.265	90.00	3 - (0.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested

Bridge Name: I95 over Souadabscook Stream
NBI Structure ID: 1431+5949
Bridge ID: Br. No. 1431+5949

Analyzed By: Virtis
Analyze Date: Friday, May 10, 2013 08:01:17
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Friday, May 10, 2013 08:23:02

Structure Definition Name: 1431+5949
Member Name: G1
Pier Alternative Name: G1

6A.4.2.1 General Load Rating Equation - Steel Flexure Moment

Limit State: Stage: 3
Vehicle: Flex Sense: N/A

6A Load and Resistance Factor Rating
6A.4 Load Rating Procedures
6A.4.2 General Load-Rating Equation
6A.4.2.1 Steel Flexure Moment General
(AASHTO Manual for Bridge Evaluation, Second Edition - 2011)

Steel Rolled Shape - At Location = 40.000 (ft) - Left Stage 3

Section at Brace Point

Input:

Section Type: Noncomposite
Top Flange Laterally Supported: Yes
Compact: No
Allow Plastic Analysis Control Option: Yes
Allow Moment Redistribution Control Option: No
Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -180.9288 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Location: 40.00 ft
Pass/Fail: Failed

Load	Vehicle	Limit State	LL (kip-ft)		LL fl (kip-ft)	DC	Load Factors		Phi	Mn (kip-ft)	RF	Capacity (Ton)
			LL				DW	DW-WS				
DesignInv	HL-93 (US) - Truck + Lane	STR-I	67.48		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-365.28		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	29.90
DesignOp	HL-93 (US) - Truck + Lane	STR-I	67.48		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-365.28		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	38.76
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	61.47		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-304.77		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	35.84
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	61.47		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-304.77		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	46.46
DesignInv	HL-93 (US) - 90% (Truck Pair +-)	STR-I	0.00		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	3564.00
DesignInv	HL-93 (US) - 90% (Truck Pair +-)	STR-I	-311.05		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	35.12
DesignOp	HL-93 (US) - 90% (Truck Pair +-)	STR-I	0.00		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	3564.00
DesignOp	HL-93 (US) - 90% (Truck Pair +-)	STR-I	-311.05		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	45.52
Legal	Maine DOT Config. 1 - Legal T~	STR-I	50.65		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA
Legal	Maine DOT Config. 1 - Legal T~	STR-I	-344.05		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	58.91
Legal	Maine DOT Config. 1 x2 - Lega~	STR-I	50.65		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA
Legal	Maine DOT Config. 1 x2 - Lega~	STR-I	-358.13		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	113.18
Legal	Maine DOT Config. 2 - Legal T~	STR-I	60.87		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA

Legal	Maine DOT Config. 2 - Legal T~ STR-I	-321.33	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.26	59.29	
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	60.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	-321.33	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.26	118.58	
Legal	Maine DOT Config. 3 - Legal T~ STR-I	61.03	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 3 - Legal T~ STR-I	-276.68	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.46	64.46	
Legal	Maine DOT Config. 3 x2 - Leg~ STR-I	61.03	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 3 x2 - Leg~ STR-I	-378.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.07	94.26	
Legal	Maine DOT Config. 4 - Legal T~ STR-I	61.85	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 4 - Legal T~ STR-I	-277.39	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.46	64.29	
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	61.85	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	-372.30	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.09	95.81	
Legal	Maine DOT Config. 5 - Legal T~ STR-I	57.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 5 - Legal T~ STR-I	-267.21	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.52	66.75	
Legal	Maine DOT Config. 5 x2 - Leg~ STR-I	57.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 5 x2 - Leg~ STR-I	-376.15	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.08	94.83	
Legal	Maine DOT Config. 6 - Legal T~ STR-I	69.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 6 - Legal T~ STR-I	-288.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.40	53.25	
Legal	Maine DOT Config. 6 x2 - Leg~ STR-I	69.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 6 x2 - Leg~ STR-I	-495.98	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.82	62.03	
Legal	Maine DOT Config. 7 - Legal T~ STR-I	54.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 7 - Legal T~ STR-I	-229.32	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.77	52.50	
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	54.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	-401.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.01	59.90	
Legal	Maine DOT Config. 8 - Legal T~ STR-I	34.98	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 8 - Legal T~ STR-I	-145.62	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	2.78	52.05	
Legal	Maine DOT Config. 8 x2 - Leg~ STR-I	34.99	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	
Legal	Maine DOT Config. 8 x2 - Leg~ STR-I	-263.68	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.54	57.49	

Legend:
NA - Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State	Vehicle	Design Inv~	Capacity (Ton)	Vehicle	Design Op~	Capacity (Ton)	Vehicle	Legal Load~	Capacity (Ton)	Vehicle	Permit Load~	Capacity (Ton)
HL-I	HL-93 (US) - Truck + Lane	0.83	29.90	HL-93 (US) - Truck + Lane	1.08	38.76	Maine DOT Config. 6 x2 - L~	0.82	62.03			

Steel Rolled Shape - At Location = 40.0000 (ft) - Right Stage 3

Section at Brace Point

Input:

Section Type: Noncomposite
Top Flange Laterally Supported: Yes
Compact: No
Allow Plastic Analysis Control Option: Yes
Allow Moment Redistribution Control Option: No
Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -180.9288 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Load	Vehicle	Limit State	LL (kip-ft)	LL _{f1} (kip-ft)	DC	DW	Load Factors	Phi	Mn (kip-ft)	RF	Capacity (Ton)
DesignInv	HL-93 (US) - Truck + Lane	STR-I	67.48	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-365.28	0.00	1.25	1.50	1.50	1.75	-812.52	0.83	29.90
DesignOp	HL-93 (US) - Truck + Lane	STR-I	67.48	0.00	1.25	1.50	1.50	1.35	-812.52	NA	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-365.28	0.00	1.25	1.50	1.50	1.35	-812.52	1.08	38.76
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	61.47	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-304.77	0.00	1.25	1.50	1.50	1.75	-812.52	1.00	35.84

DesignOp	HL-93 (US) - Tandem + Lane	STR-I	61.47	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA	NA	NA
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-304.77	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	1.29	46.46	NA
DesignInv	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	0.00	0.00	1.25	1.50	1.50	1.75	1.00	-812.52	99.00	3564.00	NA
DesignInv	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-311.05	0.00	1.25	1.50	1.50	1.75	1.00	-812.52	0.98	35.12	NA
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	0.00	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	99.00	3564.00	NA
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-311.05	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	1.26	45.52	NA
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	50.65	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	58.91	NA
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	-344.05	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.18	58.91	NA
Legal	Maine DOT Config. 1 x2 - Lega~ STR-I	STR-I	50.65	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	113.18	NA
Legal	Maine DOT Config. 1 x2 - Lega~ STR-I	STR-I	-358.13	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.13	113.18	NA
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	60.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	59.29	NA
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	-321.33	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.26	59.29	NA
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	STR-I	60.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	118.58	NA
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	STR-I	-321.33	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.26	118.58	NA
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	61.03	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	64.46	NA
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	-276.68	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.46	64.46	NA
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	STR-I	61.03	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	94.26	NA
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	STR-I	-378.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.07	94.26	NA
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	61.85	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	64.29	NA
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	-277.39	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.46	64.29	NA
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	STR-I	61.85	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	95.81	NA
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	STR-I	-372.30	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.09	95.81	NA
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	57.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	66.75	NA
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	-267.21	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.52	66.75	NA
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	STR-I	57.42	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	94.83	NA
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	STR-I	-376.15	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.08	94.83	NA
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	69.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	53.25	NA
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	-288.88	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.40	53.25	NA
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	STR-I	69.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	62.03	NA
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	STR-I	-495.98	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.82	62.03	NA
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	54.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	52.50	NA
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	-229.32	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.77	52.50	NA
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	STR-I	54.81	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	59.90	NA
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	STR-I	-401.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.01	59.90	NA
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	34.98	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	52.05	NA
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	-145.62	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	2.78	52.05	NA
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	STR-I	34.99	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	57.49	NA
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	STR-I	-263.68	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.54	57.49	NA

Legend:
NA - Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State	Vehicle	Design Inv~ RF	Capacity (ton)	Vehicle	Design Op~ RF	Capacity (ton)	Vehicle	Legal Load~ RF	Capacity (ton)	Vehicle	Permit Load~ RF	Capacity (ton)
STR-I	HL-93 (US) - Truck + Lane	0.83	29.90	HL-93 (US) - Truck + Lane	1.08	38.76	Maine DOT Config. 6 x2 - L~	0.82	62.03			

Bridge Name: I95 over Souadabscook Stream
NBI Structure ID: 1431+5949
Bridge ID: Br. No. 1431+5949

Analyzed By: Virtis
Analyze Date: Tuesday, April 23, 2013 10:26:57
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Tuesday, April 23, 2013 10:40:29

Structure Definition Name: 1431+5949
Member Name: G1
Member Alternative Name: G1

Report by Action: ☒ **Flexure** ☒ **Shear** ☐ **Overload** ☐ **Critical**

Detailed Rating Results
HL-93 (US)
Truck + Lane
Impact: As Requested
Lane: As Requested

Span 1

								Inventory	Inventory	Operating	Operating
								Rating	Load Rating	Rating	Load Rating
Location											
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)	
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00	
0.00	0.0	Shear	KIPS	207.64	15.11	59.24	1.814	65.32	2.352	84.67	
4.00	10.0	Flexure	KIP-FT	817.88	52.27	185.69	2.309	83.12	2.993	107.75	
4.00	10.0	Shear	KIPS	207.64	11.02	49.46	2.234	80.43	2.896	104.26	
8.00	20.0	Flexure	KIP-FT	817.88	88.19	307.42	1.308	47.10	1.696	61.06	
8.00	20.0	Shear	KIPS	207.64	6.94	37.13	3.058	110.08	3.964	142.70	
12.00	30.0	Flexure	KIP-FT	817.88	107.76	370.33	1.047	37.69	1.357	48.86	
12.00	30.0	Shear	KIPS	207.64	2.85	29.23	3.987	143.55	5.169	186.08	
14.00	35.0	Flexure	KIP-FT	812.52	111.43	384.10	0.995	35.80	1.289	46.41	
14.00	35.0	Shear	KIPS	206.48	0.81	25.71	4.565	164.35	5.918	213.05	
16.00	40.0	Flexure	KIP-FT	812.52	110.98	393.58	0.971	34.97	1.259	45.33	
16.00	40.0	Shear	KIPS	206.48	1.31	22.39	5.227	188.16	6.775	243.91	

20.00	50.0	Flexure	KIP-FT	812.52	97.73	384.23	1.021	36.74	1.323	47.62
20.00	50.0	Shear	KIPS	206.48	5.43	26.57	4.290	154.42	5.561	200.18
24.00	60.0	Flexure	KIP-FT	812.52	67.70	354.78	1.168	42.04	1.514	54.50
24.00	60.0	Shear	KIPS	206.48	9.65	34.14	3.247	116.90	4.209	151.54
26.00	65.0	Flexure	KIP-FT	812.52	46.35	320.74	1.341	48.27	1.738	62.57
26.00	65.0	Shear	KIPS	206.48	11.71	37.87	2.887	103.95	3.743	134.75
28.00	70.0	Flexure	KIP-FT	817.88	20.90	280.49	1.611	58.00	2.089	75.19
28.00	70.0	Shear	KIPS	207.64	13.75	41.70	2.602	93.67	3.373	121.42
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-243.73	1.550	55.79	2.009	72.32
32.00	80.0	Shear	KIPS	207.64	17.83	49.46	2.132	76.77	2.764	99.52
35.50	88.8	Flexure	KIP-FT	-715.59	-	-110.95	1.170	42.11	1.516	54.59
35.50	88.8	Shear	KIPS	207.64	21.41	56.10	1.833	66.00	2.376	85.55
36.00	90.0	Flexure	KIP-FT	-817.88	-	-121.78	1.320	47.51	1.711	61.59
36.00	90.0	Shear	KIPS	207.64	21.93	57.02	1.797	64.69	2.329	83.85
37.50	93.8	Flexure	KIP-FT	-812.52	-	-155.85	1.137	40.93	1.474	53.05
37.50	93.8	Shear	KIPS	206.48	23.49	59.71	1.685	60.68	2.185	78.66
40.00	100.0	Flexure	KIP-FT	-812.52	-	-217.84	0.831	29.90	1.077	38.76
40.00	100.0	Shear	KIPS	206.48	25.84	65.53	1.509	54.33	1.956	70.43

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	- 156.51	- 274.58	1.270	45.72	1.646	59.27
2.50	5.0	Shear	KIPS	206.48	23.22	61.49	1.640	59.03	2.126	76.53
4.50	9.0	Flexure	KIP-FT	-817.88	- 112.14	- 226.98	1.694	60.99	2.196	79.06
4.50	9.0	Shear	KIPS	207.64	21.14	58.16	1.771	63.77	2.296	82.67
5.00	10.0	Flexure	KIP-FT	-817.88	- 101.69	- 220.77	1.777	63.96	2.303	82.91
5.00	10.0	Shear	KIPS	207.64	20.63	57.32	1.804	64.95	2.339	84.19
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	191.79	2.480	89.29	3.215	115.75
10.00	20.0	Shear	KIPS	207.64	15.53	48.62	2.205	79.37	2.858	102.89
15.00	30.0	Flexure	KIP-	817.88	53.57	315.70	1.355	48.78	1.757	63.24

			FT							
15.00	30.0	Shear	KIPS	207.64	10.42	39.75	2.792	100.50	3.619	130.28
19.00	38.0	Flexure	KIP-FT	812.52	86.47	381.45	1.050	37.79	1.361	48.99
19.00	38.0	Shear	KIPS	206.48	6.18	32.78	3.460	124.57	4.486	161.48
20.00	40.0	Flexure	KIP-FT	812.52	92.13	392.04	1.011	36.39	1.310	47.17
20.00	40.0	Shear	KIPS	206.48	5.15	31.07	3.675	132.31	4.764	171.52
25.00	50.0	Flexure	KIP-FT	812.52	105.01	408.82	0.946	34.06	1.226	44.15
25.00	50.0	Shear	KIPS	206.48	0.00	23.15	5.098	183.51	6.608	237.89
30.00	60.0	Flexure	KIP-FT	812.52	92.13	392.04	1.011	36.39	1.310	47.17
30.00	60.0	Shear	KIPS	206.48	5.15	31.07	3.675	132.31	4.764	171.52
31.00	62.0	Flexure	KIP-FT	812.52	86.47	381.45	1.050	37.79	1.361	48.99
31.00	62.0	Shear	KIPS	206.48	6.18	32.78	3.460	124.57	4.486	161.48
35.00	70.0	Flexure	KIP-FT	817.88	53.57	315.70	1.355	48.78	1.757	63.24
35.00	70.0	Shear	KIPS	207.64	10.42	39.75	2.792	100.50	3.619	130.28
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	191.79	2.480	89.29	3.215	115.75
40.00	80.0	Shear	KIPS	207.64	15.53	48.62	2.205	79.37	2.858	102.89
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	1.777	63.96	2.303	82.91
45.00	90.0	Shear	KIPS	207.64	20.63	57.32	1.804	64.95	2.339	84.19
45.50	91.0	Flexure	KIP-FT	-817.88	-	-	1.694	60.99	2.196	79.06
45.50	91.0	Shear	KIPS	207.64	21.14	58.16	1.771	63.77	2.296	82.67
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.270	45.72	1.646	59.27
47.50	95.0	Shear	KIPS	206.48	23.22	61.49	1.640	59.03	2.126	76.53

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-	-	0.831	29.90	1.077	38.76
0.00	0.0	Shear	KIPS	206.48	25.84	65.53	1.509	54.33	1.956	70.43
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.137	40.93	1.474	53.05
2.50	6.3	Shear	KIPS	206.48	23.49	59.71	1.685	60.68	2.185	78.66
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.320	47.51	1.711	61.59

4.00	10.0	Shear	KIPS	207.64	21.93	57.02	1.797	64.69	2.329	83.85
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.170	42.11	1.516	54.59
4.50	11.3	Shear	KIPS	207.64	21.41	56.10	1.833	66.00	2.376	85.55
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-	1.550	55.79	2.009	72.32
8.00	20.0	Shear	KIPS	207.64	17.83	49.46	2.132	76.77	2.764	99.52
12.00	30.0	Flexure	KIP-FT	817.88	20.90	280.49	1.611	58.00	2.089	75.19
12.00	30.0	Shear	KIPS	207.64	13.75	41.70	2.602	93.67	3.373	121.42
14.00	35.0	Flexure	KIP-FT	812.52	46.35	320.74	1.341	48.27	1.738	62.57
14.00	35.0	Shear	KIPS	206.48	11.71	37.87	2.887	103.95	3.743	134.75
16.00	40.0	Flexure	KIP-FT	812.52	67.70	354.78	1.168	42.04	1.514	54.50
16.00	40.0	Shear	KIPS	206.48	9.65	34.14	3.247	116.90	4.209	151.54
20.00	50.0	Flexure	KIP-FT	812.52	97.73	384.23	1.021	36.74	1.323	47.62
20.00	50.0	Shear	KIPS	206.48	5.43	26.57	4.290	154.42	5.561	200.18
24.00	60.0	Flexure	KIP-FT	812.52	110.98	393.58	0.971	34.97	1.259	45.33
24.00	60.0	Shear	KIPS	206.48	1.31	22.39	5.227	188.16	6.775	243.91
26.00	65.0	Flexure	KIP-FT	812.52	111.43	384.10	0.995	35.80	1.289	46.41
26.00	65.0	Shear	KIPS	206.48	0.81	25.71	4.565	164.35	5.918	213.05
28.00	70.0	Flexure	KIP-FT	817.88	107.76	370.33	1.047	37.69	1.357	48.86
28.00	70.0	Shear	KIPS	207.64	2.85	29.23	3.987	143.55	5.169	186.08
32.00	80.0	Flexure	KIP-FT	817.88	88.19	307.42	1.308	47.10	1.696	61.06
32.00	80.0	Shear	KIPS	207.64	6.94	37.13	3.058	110.08	3.964	142.70
36.00	90.0	Flexure	KIP-FT	817.88	52.27	185.69	2.309	83.12	2.993	107.75
36.00	90.0	Shear	KIPS	207.64	11.02	49.46	2.234	80.43	2.896	104.26
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	15.11	59.24	1.814	65.32	2.352	84.67

Detailed Rating Results
HL-93 (US)
90%(Truck Pair + Lane)
Impact: As Requested
Lane: As Requested

Span 1

Location	Inventory Rating	Inventory Load	Operating Rating	Operating Load
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								Rating		Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	15.11	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	817.88	52.27	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Shear	KIPS	207.64	11.02	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	817.88	88.19	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Shear	KIPS	207.64	6.94	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	107.76	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	2.85	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	111.43	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	0.81	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	110.98	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	1.31	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	97.73	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	5.43	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	67.70	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	9.65	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	46.35	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	11.71	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-FT	817.88	20.90	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Shear	KIPS	207.64	13.75	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-217.96	1.733	62.38	2.246	80.87
32.00	80.0	Shear	KIPS	207.64	17.83	0.00	99.000	3564.00	99.000	3564.00
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-250.01	1.308	47.08	1.695	61.03
35.50	88.8	Shear	KIPS	207.64	21.41	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-255.82	1.475	53.11	1.913	68.85
36.00	90.0	Shear	KIPS	207.64	21.93	0.00	99.000	3564.00	99.000	3564.00
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-274.80	1.271	45.75	1.647	59.30
37.50	93.8	Shear	KIPS	207.64	23.49	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-311.05	0.975	35.12	1.265	45.52
40.00	100.0	Shear	KIPS	206.48	26.11	0.00	99.000	3564.00	99.000	3564.00

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-	-	1.470	52.92	1.906	68.60
2.50	5.0	Shear	KIPS	206.48	23.22	0.00	99.000	3564.00	99.000	3564.00
4.50	9.0	Flexure	KIP-FT	-817.88	-	-	1.848	66.53	2.396	86.24
4.50	9.0	Shear	KIPS	207.64	21.14	0.00	99.000	3564.00	99.000	3564.00
5.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.948	70.12	2.525	90.90
5.00	10.0	Shear	KIPS	207.64	20.63	0.00	99.000	3564.00	99.000	3564.00
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-	2.889	104.02	3.746	134.84
10.00	20.0	Shear	KIPS	207.64	15.53	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Flexure	KIP-FT	817.88	53.57	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Shear	KIPS	207.64	10.42	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Flexure	KIP-FT	817.88	86.47	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Shear	KIPS	207.64	6.18	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Flexure	KIP-FT	812.52	92.13	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Shear	KIPS	206.48	5.15	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Flexure	KIP-FT	812.52	105.01	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Shear	KIPS	206.48	0.00	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Flexure	KIP-FT	812.52	92.13	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Shear	KIPS	206.48	5.15	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Flexure	KIP-FT	812.52	86.47	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Shear	KIPS	206.48	6.18	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Flexure	KIP-FT	817.88	53.57	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Shear	KIPS	207.64	10.27	0.00	99.000	3564.00	99.000	3564.00
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-	2.889	104.02	3.746	134.84
40.00	80.0	Shear	KIPS	207.64	15.53	0.00	99.000	3564.00	99.000	3564.00
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	1.948	70.12	2.525	90.90
45.00	90.0	Shear	KIPS	207.64	20.63	0.00	99.000	3564.00	99.000	3564.00
45.50	91.0	Flexure	KIP-	-817.88	-	-	1.848	66.53	2.396	86.24

			FT		112.14	208.09				
45.50	91.0	Shear	KIPS	207.64	21.14	0.00	99.000	3564.00	99.000	3564.00
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.470	52.92	1.906	68.60
					156.51	237.23				
47.50	95.0	Shear	KIPS	207.64	23.22	0.00	99.000	3564.00	99.000	3564.00

Span 3

							Inventory	Inventory	Operating	Operating
							Rating	Load Rating	Rating	Load Rating
Location										
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-	-	0.975	35.12	1.265	45.52
					217.84	311.05				
0.00	0.0	Shear	KIPS	206.48	25.84	0.00	99.000	3564.00	99.000	3564.00
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.271	45.75	1.647	59.30
					155.85	274.80				
2.50	6.3	Shear	KIPS	206.48	23.49	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.475	53.11	1.913	68.85
					121.78	255.82				
4.00	10.0	Shear	KIPS	207.64	21.93	0.00	99.000	3564.00	99.000	3564.00
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.308	47.08	1.695	61.03
					110.95	250.01				
4.50	11.3	Shear	KIPS	207.64	21.41	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-	1.733	62.38	2.246	80.87
						217.96				
8.00	20.0	Shear	KIPS	207.64	17.83	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	20.90	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	13.75	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	46.35	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	11.71	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	67.70	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	9.65	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	97.73	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	5.43	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	110.98	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	1.31	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	111.43	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	0.81	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-FT	817.88	107.76	0.00	99.000	3564.00	99.000	3564.00

28.00	70.0	Shear	KIPS	207.64	2.85	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	817.88	88.19	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Shear	KIPS	207.64	6.94	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	817.88	52.27	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Shear	KIPS	207.64	11.02	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	15.11	0.00	99.000	3564.00	99.000	3564.00

**Detailed Rating Results
HL-93 (US)
Tandem + Lane
Impact: As Requested
Lane: As Requested**

Span 1

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	15.11	54.21	1.983	71.38	2.570	92.53
4.00	10.0	Flexure	KIP-FT	817.88	52.27	174.44	2.458	88.48	3.186	114.70
4.00	10.0	Shear	KIPS	207.64	11.02	46.42	2.381	85.71	3.086	111.10
8.00	20.0	Flexure	KIP-FT	817.88	88.19	298.21	1.349	48.56	1.748	62.94
8.00	20.0	Shear	KIPS	207.64	6.94	35.98	3.156	113.60	4.091	147.26
12.00	30.0	Flexure	KIP-FT	817.88	107.76	373.42	1.038	37.38	1.346	48.46
12.00	30.0	Shear	KIPS	207.64	2.85	29.49	3.953	142.29	5.124	184.46
14.00	35.0	Flexure	KIP-FT	812.52	111.43	393.99	0.970	34.91	1.257	45.25
14.00	35.0	Shear	KIPS	206.48	0.81	26.42	4.443	159.96	5.760	207.35
16.00	40.0	Flexure	KIP-FT	812.52	110.98	403.12	0.948	34.14	1.229	44.26
16.00	40.0	Shear	KIPS	206.48	1.31	23.43	4.993	179.76	6.473	233.02
20.00	50.0	Flexure	KIP-FT	812.52	97.73	396.66	0.989	35.59	1.281	46.13
20.00	50.0	Shear	KIPS	206.48	5.43	28.34	4.022	144.77	5.213	187.67
24.00	60.0	Flexure	KIP-FT	812.52	67.70	358.79	1.155	41.57	1.497	53.89
24.00	60.0	Shear	KIPS	206.48	9.65	34.22	3.239	116.62	4.199	151.17

26.00	65.0	Flexure	KIP-FT	812.52	46.35	326.28	1.318	47.45	1.709	61.51
26.00	65.0	Shear	KIPS	206.48	11.71	37.10	2.947	106.09	3.820	137.53
28.00	70.0	Flexure	KIP-FT	817.88	20.90	285.80	1.581	56.93	2.050	73.79
28.00	70.0	Shear	KIPS	207.64	13.75	39.92	2.718	97.84	3.523	126.83
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-209.50	1.803	64.90	2.337	84.13
32.00	80.0	Shear	KIPS	207.64	17.83	45.33	2.327	83.77	3.016	108.59
35.50	88.8	Flexure	KIP-FT	-715.59	-	-110.95	1.354	48.73	1.755	63.17
35.50	88.8	Shear	KIPS	207.64	21.41	49.74	2.068	74.43	2.680	96.49
36.00	90.0	Flexure	KIP-FT	-817.88	-	-121.78	1.525	54.90	1.977	71.17
36.00	90.0	Shear	KIPS	207.64	21.93	50.34	2.035	73.27	2.638	94.98
37.50	93.8	Flexure	KIP-FT	-812.52	-	-155.85	1.308	47.08	1.695	61.02
37.50	93.8	Shear	KIPS	206.48	23.49	52.08	1.933	69.57	2.505	90.19
40.00	100.0	Flexure	KIP-FT	-812.52	-	-217.84	0.996	35.84	1.291	46.46
40.00	100.0	Shear	KIPS	206.48	25.84	55.64	1.778	63.99	2.304	82.95

Span 2

							Inventory	Inventory	Operating	Operating
							Rating	Load Rating	Rating	Load Rating
Location										
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-	-156.51	1.484	53.44	1.924	69.27
2.50	5.0	Shear	KIPS	206.48	23.22	52.91	1.906	68.61	2.470	88.94
4.50	9.0	Flexure	KIP-FT	-817.88	-	-112.14	1.844	66.37	2.390	86.03
4.50	9.0	Shear	KIPS	207.64	21.14	50.61	2.036	73.29	2.639	95.00
5.00	10.0	Flexure	KIP-FT	-817.88	-	-101.69	1.936	69.68	2.509	90.33
5.00	10.0	Shear	KIPS	207.64	20.63	50.02	2.067	74.43	2.680	96.48
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	207.76	2.290	82.43	2.968	106.85
10.00	20.0	Shear	KIPS	207.64	15.53	43.79	2.448	88.12	3.173	114.23
15.00	30.0	Flexure	KIP-FT	817.88	53.57	316.81	1.350	48.61	1.750	63.02
15.00	30.0	Shear	KIPS	207.64	10.42	37.20	2.983	107.38	3.866	139.19
19.00	38.0	Flexure	KIP-FT	812.52	86.47	376.81	1.063	38.26	1.378	49.59
19.00	38.0	Shear	KIPS	206.48	6.18	31.81	3.566	128.38	4.623	166.41
20.00	40.0	Flexure	KIP-	812.52	92.13	386.55	1.025	36.90	1.329	47.84

			FT							
20.00	40.0	Shear	KIPS	206.48	5.15	30.47	3.748	134.93	4.859	174.91
25.00	50.0	Flexure	KIP- FT	812.52	105.01	406.70	0.951	34.23	1.233	44.38
25.00	50.0	Shear	KIPS	206.48	0.00	23.87	4.944	177.98	6.409	230.71
30.00	60.0	Flexure	KIP- FT	812.52	92.13	386.55	1.025	36.90	1.329	47.84
30.00	60.0	Shear	KIPS	206.48	5.15	30.47	3.748	134.93	4.859	174.91
31.00	62.0	Flexure	KIP- FT	812.52	86.47	376.81	1.063	38.26	1.378	49.59
31.00	62.0	Shear	KIPS	206.48	6.18	31.81	3.566	128.38	4.623	166.41
35.00	70.0	Flexure	KIP- FT	817.88	53.57	316.81	1.350	48.61	1.750	63.02
35.00	70.0	Shear	KIPS	207.64	10.42	37.20	2.983	107.38	3.866	139.19
40.00	80.0	Flexure	KIP- FT	817.88	-11.29	207.76	2.290	82.43	2.968	106.85
40.00	80.0	Shear	KIPS	207.64	15.53	43.79	2.448	88.12	3.173	114.23
45.00	90.0	Flexure	KIP- FT	-817.88	-	-	1.936	69.68	2.509	90.33
45.00	90.0	Shear	KIPS	207.64	20.63	50.02	2.067	74.43	2.680	96.48
45.50	91.0	Flexure	KIP- FT	-817.88	-	-	1.844	66.37	2.390	86.03
45.50	91.0	Shear	KIPS	207.64	21.14	50.61	2.036	73.29	2.639	95.00
47.50	95.0	Flexure	KIP- FT	-812.52	-	-	1.484	53.44	1.924	69.27
47.50	95.0	Shear	KIPS	206.48	23.22	52.91	1.906	68.61	2.470	88.94

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP- FT	-812.52	- 217.84	- 304.77	0.996	35.84	1.291	46.46
0.00	0.0	Shear	KIPS	206.48	25.84	55.64	1.778	63.99	2.304	82.95
2.50	6.3	Flexure	KIP- FT	-812.52	- 155.85	- 267.05	1.308	47.08	1.695	61.02
2.50	6.3	Shear	KIPS	206.48	23.49	52.08	1.933	69.57	2.505	90.19
4.00	10.0	Flexure	KIP- FT	-817.88	- 121.78	- 247.48	1.525	54.90	1.977	71.17
4.00	10.0	Shear	KIPS	207.64	21.93	50.34	2.035	73.27	2.638	94.98
4.50	11.3	Flexure	KIP- FT	-715.59	- 110.95	- 241.54	1.354	48.73	1.755	63.17
4.50	11.3	Shear	KIPS	207.64	21.41	49.74	2.068	74.43	2.680	96.49
8.00	20.0	Flexure	KIP- FT	-715.59	-42.27	- 209.50	1.803	64.90	2.337	84.13

8.00	20.0	Shear	KIPS	207.64	17.83	45.33	2.327	83.77	3.016	108.59
12.00	30.0	Flexure	KIP-FT	817.88	20.90	285.80	1.581	56.93	2.050	73.79
12.00	30.0	Shear	KIPS	207.64	13.75	39.92	2.718	97.84	3.523	126.83
14.00	35.0	Flexure	KIP-FT	812.52	46.35	326.28	1.318	47.45	1.709	61.51
14.00	35.0	Shear	KIPS	206.48	11.71	37.10	2.947	106.09	3.820	137.53
16.00	40.0	Flexure	KIP-FT	812.52	67.70	358.79	1.155	41.57	1.497	53.89
16.00	40.0	Shear	KIPS	206.48	9.65	34.22	3.239	116.62	4.199	151.17
20.00	50.0	Flexure	KIP-FT	812.52	97.73	396.66	0.989	35.59	1.281	46.13
20.00	50.0	Shear	KIPS	206.48	5.43	28.34	4.022	144.77	5.213	187.67
24.00	60.0	Flexure	KIP-FT	812.52	110.98	403.12	0.948	34.14	1.229	44.26
24.00	60.0	Shear	KIPS	206.48	1.31	23.43	4.993	179.76	6.473	233.02
26.00	65.0	Flexure	KIP-FT	812.52	111.43	393.99	0.970	34.91	1.257	45.25
26.00	65.0	Shear	KIPS	206.48	0.81	26.42	4.443	159.96	5.760	207.35
28.00	70.0	Flexure	KIP-FT	817.88	107.76	373.42	1.038	37.38	1.346	48.46
28.00	70.0	Shear	KIPS	207.64	2.85	29.49	3.953	142.29	5.124	184.46
32.00	80.0	Flexure	KIP-FT	817.88	88.19	298.21	1.349	48.56	1.748	62.94
32.00	80.0	Shear	KIPS	207.64	6.94	35.98	3.156	113.60	4.091	147.26
36.00	90.0	Flexure	KIP-FT	817.88	52.27	174.44	2.458	88.48	3.186	114.70
36.00	90.0	Shear	KIPS	207.64	11.02	46.42	2.381	85.71	3.086	111.10
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	15.11	54.21	1.983	71.38	2.570	92.53

Bridge Name: I95 over Souadabscook Stream
NBI Structure ID: 1431+5949
Bridge ID: Br. No. 1431+5949

Analyzed By: Virtis
Analyze Date: Thursday, April 25, 2013 07:49:04
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Thursday, April 25, 2013 08:13:14

Structure Definition Name: 1431+5949
Member Name: G1
Member Alternative Name: G1

Report by Action: ☒ **Flexure** ☒ **Shear** ☐ **Overload** ☐ **Critical**

Detailed Rating Results
Legal Lane Load
Lane
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
0.00	0.0	Shear	KIPS	207.64	15.11	2.67	53.750	0.00
4.00	10.0	Flexure	KIP-FT	817.88	52.27	8.78	65.207	0.00
4.00	10.0	Shear	KIPS	207.64	11.02	2.12	69.564	0.00
8.00	20.0	Flexure	KIP-FT	817.88	88.19	15.40	34.882	0.00
8.00	20.0	Shear	KIPS	207.64	6.94	1.52	99.000	0.00
12.00	30.0	Flexure	KIP-FT	817.88	107.76	19.86	26.083	0.00
12.00	30.0	Shear	KIPS	207.64	2.85	1.14	99.000	0.00
14.00	35.0	Flexure	KIP-FT	812.52	111.43	21.28	23.984	0.00
14.00	35.0	Shear	KIPS	207.64	0.81	0.98	99.000	0.00
16.00	40.0	Flexure	KIP-FT	812.52	110.98	22.15	23.056	0.00
16.00	40.0	Shear	KIPS	206.48	1.31	1.00	99.000	0.00
20.00	50.0	Flexure	KIP-FT	812.52	97.73	22.28	23.509	0.00
20.00	50.0	Shear	KIPS	206.48	5.43	1.29	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	67.70	20.25	27.336	0.00
24.00	60.0	Shear	KIPS	206.48	9.65	1.64	90.163	0.00
26.00	65.0	Flexure	KIP-FT	812.52	46.35	18.42	31.193	0.00

26.00	65.0	Shear	KIPS	206.48	11.71	1.84	79.506	0.00
28.00	70.0	Flexure	KIP-FT	817.88	20.90	16.05	37.619	0.00
28.00	70.0	Shear	KIPS	207.64	13.75	2.04	70.892	0.00
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-15.07	33.479	0.00
32.00	80.0	Shear	KIPS	207.64	17.83	2.49	56.495	0.00
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-19.57	22.320	0.00
35.50	88.8	Shear	KIPS	207.64	21.41	2.92	47.022	0.00
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-20.64	24.429	0.00
36.00	90.0	Shear	KIPS	207.64	21.93	2.99	45.851	0.00
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-24.39	19.125	0.00
37.50	93.8	Shear	KIPS	206.48	23.49	3.18	42.298	0.00
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-32.24	12.571	0.00
40.00	100.0	Shear	KIPS	206.48	25.84	3.73	35.456	0.00

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-23.77	19.598	0.00
2.50	5.0	Shear	KIPS	206.48	23.22	3.39	39.690	0.00
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-18.28	28.103	0.00
4.50	9.0	Shear	KIPS	207.64	21.14	3.14	43.884	0.00
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-17.11	30.627	0.00
5.00	10.0	Shear	KIPS	207.64	20.63	3.07	44.949	0.00
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-10.08	60.805	0.00
10.00	20.0	Shear	KIPS	207.64	15.53	2.47	57.861	0.00
15.00	30.0	Flexure	KIP-FT	817.88	53.57	16.66	34.302	0.00
15.00	30.0	Shear	KIPS	207.64	10.42	1.94	76.311	0.00
19.00	38.0	Flexure	KIP-FT	812.52	86.47	20.99	25.488	0.00
19.00	38.0	Shear	KIPS	206.48	6.18	1.57	96.531	0.00
20.00	40.0	Flexure	KIP-FT	812.52	92.13	21.73	24.359	0.00
20.00	40.0	Shear	KIPS	206.48	5.15	1.48	99.000	0.00
25.00	50.0	Flexure	KIP-FT	812.52	105.01	23.42	22.058	0.00
25.00	50.0	Shear	KIPS	206.48	0.00	1.11	99.000	0.00
30.00	60.0	Flexure	KIP-FT	812.52	92.13	21.73	24.359	0.00
30.00	60.0	Shear	KIPS	206.48	5.15	1.48	99.000	0.00
31.00	62.0	Flexure	KIP-FT	812.52	86.47	20.99	25.488	0.00
31.00	62.0	Shear	KIPS	206.48	6.18	1.57	96.531	0.00
35.00	70.0	Flexure	KIP-FT	817.88	53.57	16.66	34.302	0.00
35.00	70.0	Shear	KIPS	207.64	10.42	1.94	76.311	0.00
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-10.08	60.805	0.00
40.00	80.0	Shear	KIPS	207.64	15.53	2.47	57.861	0.00

45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-17.11	30.627	0.00
45.00	90.0	Shear	KIPS	207.64	20.63	3.07	44.949	0.00
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-18.28	28.103	0.00
45.50	91.0	Shear	KIPS	207.64	21.14	3.14	43.884	0.00
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-23.77	19.598	0.00
47.50	95.0	Shear	KIPS	206.48	23.22	3.39	39.690	0.00

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-32.24	12.571	0.00
0.00	0.0	Shear	KIPS	206.48	25.84	3.73	35.456	0.00
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-24.39	19.125	0.00
2.50	6.3	Shear	KIPS	206.48	23.49	3.18	42.298	0.00
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-20.64	24.429	0.00
4.00	10.0	Shear	KIPS	207.64	21.93	2.99	45.851	0.00
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-19.57	22.320	0.00
4.50	11.3	Shear	KIPS	207.64	21.41	2.92	47.022	0.00
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-15.07	33.479	0.00
8.00	20.0	Shear	KIPS	207.64	17.83	2.49	56.495	0.00
12.00	30.0	Flexure	KIP-FT	817.88	20.90	16.05	37.619	0.00
12.00	30.0	Shear	KIPS	207.64	13.75	2.04	70.892	0.00
14.00	35.0	Flexure	KIP-FT	812.52	46.35	18.42	31.193	0.00
14.00	35.0	Shear	KIPS	206.48	11.71	1.84	79.506	0.00
16.00	40.0	Flexure	KIP-FT	812.52	67.70	20.25	27.336	0.00
16.00	40.0	Shear	KIPS	206.48	9.65	1.64	90.163	0.00
20.00	50.0	Flexure	KIP-FT	812.52	97.73	22.28	23.509	0.00
20.00	50.0	Shear	KIPS	206.48	5.43	1.29	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	110.98	22.15	23.056	0.00
24.00	60.0	Shear	KIPS	206.48	1.31	1.00	99.000	0.00
26.00	65.0	Flexure	KIP-FT	812.52	111.43	21.28	23.984	0.00
26.00	65.0	Shear	KIPS	206.48	0.81	0.98	99.000	0.00
28.00	70.0	Flexure	KIP-FT	817.88	107.76	19.86	26.083	0.00
28.00	70.0	Shear	KIPS	207.64	2.85	1.14	99.000	0.00
32.00	80.0	Flexure	KIP-FT	817.88	88.19	15.40	34.882	0.00
32.00	80.0	Shear	KIPS	207.64	6.94	1.52	99.000	0.00
36.00	90.0	Flexure	KIP-FT	817.88	52.27	8.78	65.207	0.00
36.00	90.0	Shear	KIPS	207.64	11.02	2.12	69.564	0.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
40.00	100.0	Shear	KIPS	207.64	15.11	2.67	53.750	0.00

**Detailed Rating Results
Maine DOT Config. 1
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
0.00	0.0	Shear	KIPS	207.64	15.11	49.00	2.930	146.52
4.00	10.0	Flexure	KIP-FT	817.88	52.27	146.45	3.911	195.55
4.00	10.0	Shear	KIPS	207.64	11.02	39.66	3.723	186.13
8.00	20.0	Flexure	KIP-FT	817.88	88.19	233.19	2.304	115.21
8.00	20.0	Shear	KIPS	207.64	6.94	28.68	5.287	264.36
12.00	30.0	Flexure	KIP-FT	817.88	107.76	284.50	1.821	91.04
12.00	30.0	Shear	KIPS	207.64	2.85	23.33	6.675	333.74
14.00	35.0	Flexure	KIP-FT	812.52	111.43	302.48	1.687	84.35
14.00	35.0	Shear	KIPS	206.48	0.81	20.85	7.523	376.14
16.00	40.0	Flexure	KIP-FT	812.52	110.98	313.13	1.631	81.56
16.00	40.0	Shear	KIPS	206.48	1.31	18.42	8.488	424.40
20.00	50.0	Flexure	KIP-FT	812.52	97.73	308.27	1.699	84.96
20.00	50.0	Shear	KIPS	206.48	5.43	23.45	6.494	324.69
24.00	60.0	Flexure	KIP-FT	812.52	67.70	271.90	2.036	101.78
24.00	60.0	Shear	KIPS	206.48	9.65	29.84	4.963	248.14
26.00	65.0	Flexure	KIP-FT	812.52	46.35	250.82	2.291	114.53
26.00	65.0	Shear	KIPS	206.48	11.71	32.72	4.464	223.18
28.00	70.0	Flexure	KIP-FT	817.88	20.90	219.18	2.754	137.72
28.00	70.0	Shear	KIPS	207.64	13.75	35.36	4.099	204.94
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-200.62	2.515	125.75
32.00	80.0	Shear	KIPS	207.64	17.83	40.03	3.520	176.00
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-222.57	1.963	98.13
35.50	88.8	Shear	KIPS	207.64	21.41	44.73	3.072	153.58
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-225.70	2.234	111.70
36.00	90.0	Shear	KIPS	207.64	21.93	45.72	2.994	149.68
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-249.40	1.870	93.52
37.50	93.8	Shear	KIPS	206.48	23.49	48.58	2.767	138.36
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-344.05	1.178	58.91
40.00	100.0	Shear	KIPS	206.48	25.84	57.09	2.314	115.71

Span 2

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-253.39	1.838	91.92
2.50	5.0	Shear	KIPS	206.48	23.22	52.77	2.553	127.64
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-182.74	2.811	140.55
4.50	9.0	Shear	KIPS	207.64	21.14	49.28	2.793	139.66
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-166.27	3.152	157.58
5.00	10.0	Shear	KIPS	207.64	20.63	48.40	2.854	142.71
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	157.17	4.043	202.17
10.00	20.0	Shear	KIPS	207.64	15.53	39.53	3.622	181.10
15.00	30.0	Flexure	KIP-FT	817.88	53.57	263.55	2.168	108.42
15.00	30.0	Shear	KIPS	207.64	10.42	32.12	4.615	230.73
19.00	38.0	Flexure	KIP-FT	812.52	86.47	305.99	1.748	87.41
19.00	38.0	Shear	KIPS	206.48	6.18	26.66	5.684	284.22
20.00	40.0	Flexure	KIP-FT	812.52	92.13	310.87	1.703	85.14
20.00	40.0	Shear	KIPS	206.48	5.15	25.22	6.048	302.42
25.00	50.0	Flexure	KIP-FT	812.52	105.01	303.69	1.701	85.06
25.00	50.0	Shear	KIPS	206.48	0.00	17.42	9.046	452.32
30.00	60.0	Flexure	KIP-FT	812.52	92.13	310.87	1.703	85.14
30.00	60.0	Shear	KIPS	206.48	5.15	25.22	6.048	302.42
31.00	62.0	Flexure	KIP-FT	812.52	86.47	305.99	1.748	87.41
31.00	62.0	Shear	KIPS	206.48	6.18	26.66	5.684	284.22
35.00	70.0	Flexure	KIP-FT	817.88	53.57	263.55	2.168	108.42
35.00	70.0	Shear	KIPS	207.64	10.42	32.12	4.615	230.73
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	157.17	4.043	202.17
40.00	80.0	Shear	KIPS	207.64	15.53	39.53	3.622	181.10
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-166.27	3.152	157.58
45.00	90.0	Shear	KIPS	207.64	20.63	48.40	2.854	142.71
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-182.74	2.811	140.55
45.50	91.0	Shear	KIPS	207.64	21.14	49.28	2.793	139.66
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-253.39	1.838	91.92
47.50	95.0	Shear	KIPS	206.48	23.22	52.77	2.553	127.64

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-344.05	1.178	58.91
0.00	0.0	Shear	KIPS	206.48	25.84	57.09	2.314	115.71
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-249.40	1.870	93.52
2.50	6.3	Shear	KIPS	206.48	23.49	48.58	2.767	138.36

4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-225.70	2.234	111.70
4.00	10.0	Shear	KIPS	207.64	21.93	45.72	2.994	149.68
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-222.57	1.963	98.13
4.50	11.3	Shear	KIPS	207.64	21.41	44.73	3.072	153.58
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-200.62	2.515	125.75
8.00	20.0	Shear	KIPS	207.64	17.83	40.03	3.520	176.00
12.00	30.0	Flexure	KIP-FT	817.88	20.90	219.18	2.754	137.72
12.00	30.0	Shear	KIPS	207.64	13.75	35.36	4.099	204.94
14.00	35.0	Flexure	KIP-FT	812.52	46.35	250.82	2.291	114.53
14.00	35.0	Shear	KIPS	206.48	11.71	32.72	4.464	223.18
16.00	40.0	Flexure	KIP-FT	812.52	67.70	271.90	2.036	101.78
16.00	40.0	Shear	KIPS	206.48	9.65	29.84	4.963	248.14
20.00	50.0	Flexure	KIP-FT	812.52	97.73	308.27	1.699	84.96
20.00	50.0	Shear	KIPS	206.48	5.43	23.45	6.494	324.69
24.00	60.0	Flexure	KIP-FT	812.52	110.98	313.13	1.631	81.56
24.00	60.0	Shear	KIPS	206.48	1.31	18.42	8.488	424.40
26.00	65.0	Flexure	KIP-FT	812.52	111.43	302.48	1.687	84.35
26.00	65.0	Shear	KIPS	206.48	0.81	20.85	7.523	376.14
28.00	70.0	Flexure	KIP-FT	817.88	107.76	284.50	1.821	91.04
28.00	70.0	Shear	KIPS	207.64	2.85	23.33	6.675	333.74
32.00	80.0	Flexure	KIP-FT	817.88	88.19	233.19	2.304	115.21
32.00	80.0	Shear	KIPS	207.64	6.94	28.68	5.287	264.36
36.00	90.0	Flexure	KIP-FT	817.88	52.27	146.45	3.911	195.55
36.00	90.0	Shear	KIPS	207.64	11.02	39.66	3.723	186.13
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
40.00	100.0	Shear	KIPS	207.64	15.11	49.00	2.930	146.52

Detailed Rating Results
Maine DOT Config. 1 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
0.00	0.0	Shear	KIPS	207.64	15.11	49.00	2.930	293.03
4.00	10.0	Flexure	KIP-FT	817.88	52.27	146.45	3.911	391.09
4.00	10.0	Shear	KIPS	207.64	11.02	39.66	3.723	372.25
8.00	20.0	Flexure	KIP-FT	817.88	88.19	233.19	2.304	230.42
8.00	20.0	Shear	KIPS	207.64	6.94	28.68	5.287	528.71

12.00	30.0	Flexure	KIP-FT	817.88	107.76	284.50	1.821	182.08
12.00	30.0	Shear	KIPS	207.64	2.85	23.33	6.675	667.49
14.00	35.0	Flexure	KIP-FT	812.52	111.43	302.48	1.687	168.71
14.00	35.0	Shear	KIPS	206.48	0.81	20.85	7.523	752.27
16.00	40.0	Flexure	KIP-FT	812.52	110.98	313.13	1.631	163.11
16.00	40.0	Shear	KIPS	206.48	1.31	22.20	7.043	704.29
20.00	50.0	Flexure	KIP-FT	812.52	97.73	308.27	1.699	169.93
20.00	50.0	Shear	KIPS	206.48	5.43	26.80	5.682	568.22
24.00	60.0	Flexure	KIP-FT	812.52	67.70	271.90	2.036	203.55
24.00	60.0	Shear	KIPS	206.48	9.65	30.89	4.794	479.42
26.00	65.0	Flexure	KIP-FT	812.52	46.35	250.82	2.291	229.06
26.00	65.0	Shear	KIPS	206.48	11.71	32.79	4.455	445.48
28.00	70.0	Flexure	KIP-FT	817.88	20.90	219.18	2.754	275.44
28.00	70.0	Shear	KIPS	207.64	13.75	35.36	4.099	409.88
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-186.97	2.699	269.86
32.00	80.0	Shear	KIPS	207.64	17.83	40.09	3.515	351.45
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-256.14	1.705	170.54
35.50	88.8	Shear	KIPS	207.64	21.41	46.47	2.957	295.67
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-266.52	1.892	189.18
36.00	90.0	Shear	KIPS	207.64	21.93	47.35	2.891	289.07
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-298.98	1.560	156.03
37.50	93.8	Shear	KIPS	206.48	23.49	49.88	2.695	269.52
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-358.13	1.132	113.18
40.00	100.0	Shear	KIPS	206.48	25.84	57.63	2.292	229.25

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-273.83	1.701	170.12
2.50	5.0	Shear	KIPS	206.48	23.22	53.71	2.508	250.81
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-214.60	2.394	239.38
4.50	9.0	Shear	KIPS	207.64	21.14	50.57	2.722	272.17
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-201.70	2.598	259.80
5.00	10.0	Shear	KIPS	207.64	20.63	49.82	2.773	277.27
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	159.80	3.977	397.67
10.00	20.0	Shear	KIPS	207.64	15.53	42.15	3.397	339.70
15.00	30.0	Flexure	KIP-FT	817.88	53.57	260.00	2.198	219.81
15.00	30.0	Shear	KIPS	207.64	10.42	34.41	4.307	430.71
19.00	38.0	Flexure	KIP-FT	812.52	86.47	303.76	1.761	176.11
19.00	38.0	Shear	KIPS	206.48	6.18	28.31	5.352	535.18
20.00	40.0	Flexure	KIP-FT	812.52	92.13	309.19	1.712	171.21

20.00	40.0	Shear	KIPS	206.48	5.15	26.82	5.688	568.79
25.00	50.0	Flexure	KIP-FT	812.52	105.01	302.38	1.709	170.86
25.00	50.0	Shear	KIPS	206.48	0.00	19.57	8.052	805.23
30.00	60.0	Flexure	KIP-FT	812.52	92.13	309.19	1.712	171.21
30.00	60.0	Shear	KIPS	206.48	5.15	26.82	5.688	568.79
31.00	62.0	Flexure	KIP-FT	812.52	86.47	303.76	1.761	176.11
31.00	62.0	Shear	KIPS	206.48	6.18	28.31	5.352	535.18
35.00	70.0	Flexure	KIP-FT	817.88	53.57	260.00	2.198	219.81
35.00	70.0	Shear	KIPS	207.64	10.42	34.41	4.307	430.71
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	159.80	3.977	397.67
40.00	80.0	Shear	KIPS	207.64	15.53	42.15	3.397	339.70
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-201.70	2.598	259.80
45.00	90.0	Shear	KIPS	207.64	20.63	49.82	2.773	277.27
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-214.60	2.394	239.38
45.50	91.0	Shear	KIPS	207.64	21.14	50.57	2.722	272.17
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-273.83	1.701	170.12
47.50	95.0	Shear	KIPS	206.48	23.22	53.71	2.508	250.81

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-358.13	1.132	113.18
0.00	0.0	Shear	KIPS	206.48	25.84	57.63	2.292	229.25
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-298.98	1.560	156.03
2.50	6.3	Shear	KIPS	206.48	23.49	49.88	2.695	269.52
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-266.52	1.892	189.18
4.00	10.0	Shear	KIPS	207.64	21.93	47.35	2.891	289.07
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-256.14	1.705	170.54
4.50	11.3	Shear	KIPS	207.64	21.41	46.47	2.957	295.67
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-186.97	2.699	269.86
8.00	20.0	Shear	KIPS	207.64	17.83	40.09	3.515	351.45
12.00	30.0	Flexure	KIP-FT	817.88	20.90	219.18	2.754	275.44
12.00	30.0	Shear	KIPS	207.64	13.75	35.36	4.099	409.88
14.00	35.0	Flexure	KIP-FT	812.52	46.35	250.82	2.291	229.06
14.00	35.0	Shear	KIPS	206.48	11.71	32.79	4.455	445.48
16.00	40.0	Flexure	KIP-FT	812.52	67.70	271.90	2.036	203.55
16.00	40.0	Shear	KIPS	206.48	9.65	30.89	4.794	479.42
20.00	50.0	Flexure	KIP-FT	812.52	97.73	308.27	1.699	169.93
20.00	50.0	Shear	KIPS	206.48	5.43	26.80	5.682	568.22
24.00	60.0	Flexure	KIP-FT	812.52	110.98	313.13	1.631	163.11
24.00	60.0	Shear	KIPS	206.48	1.31	22.20	7.043	704.29

26.00	65.0	Flexure	KIP-FT	812.52	111.43	302.48	1.687	168.71
26.00	65.0	Shear	KIPS	206.48	0.81	20.85	7.523	752.27
28.00	70.0	Flexure	KIP-FT	817.88	107.76	284.50	1.821	182.08
28.00	70.0	Shear	KIPS	207.64	2.85	23.33	6.675	667.49
32.00	80.0	Flexure	KIP-FT	817.88	88.19	233.19	2.304	230.42
32.00	80.0	Shear	KIPS	207.64	6.94	28.68	5.287	528.71
36.00	90.0	Flexure	KIP-FT	817.88	52.27	146.45	3.911	391.09
36.00	90.0	Shear	KIPS	207.64	11.02	39.66	3.723	372.25
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
40.00	100.0	Shear	KIPS	207.64	15.11	49.00	2.930	293.03

Detailed Rating Results
Maine DOT Config. 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
0.00	0.0	Shear	KIPS	207.64	15.11	50.67	2.834	133.19
4.00	10.0	Flexure	KIP-FT	817.88	52.27	155.37	3.686	173.26
4.00	10.0	Shear	KIPS	207.64	11.02	42.07	3.509	164.92
8.00	20.0	Flexure	KIP-FT	817.88	88.19	251.03	2.141	100.60
8.00	20.0	Shear	KIPS	207.64	6.94	31.37	4.834	227.21
12.00	30.0	Flexure	KIP-FT	817.88	107.76	317.22	1.633	76.75
12.00	30.0	Shear	KIPS	207.64	2.85	23.89	6.517	306.28
14.00	35.0	Flexure	KIP-FT	812.52	111.43	342.40	1.490	70.05
14.00	35.0	Shear	KIPS	206.48	0.81	20.12	7.794	366.32
16.00	40.0	Flexure	KIP-FT	812.52	110.98	354.11	1.442	67.79
16.00	40.0	Shear	KIPS	206.48	1.31	16.49	9.482	445.67
20.00	50.0	Flexure	KIP-FT	812.52	97.73	359.63	1.457	68.46
20.00	50.0	Shear	KIPS	206.48	5.43	21.08	7.223	339.50
24.00	60.0	Flexure	KIP-FT	812.52	67.70	317.67	1.742	81.89
24.00	60.0	Shear	KIPS	206.48	9.65	28.57	5.185	243.67
26.00	65.0	Flexure	KIP-FT	812.52	46.35	281.19	2.043	96.03
26.00	65.0	Shear	KIPS	206.48	11.71	32.15	4.544	213.57
28.00	70.0	Flexure	KIP-FT	817.88	20.90	235.51	2.563	120.48
28.00	70.0	Shear	KIPS	207.64	13.75	35.60	4.072	191.38
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-207.17	2.436	114.47
32.00	80.0	Shear	KIPS	207.64	17.83	42.05	3.351	157.49

35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-240.26	1.818	85.45
35.50	88.8	Shear	KIPS	207.64	21.41	47.14	2.915	136.98
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-249.17	2.024	95.11
36.00	90.0	Shear	KIPS	207.64	21.93	47.82	2.862	134.52
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-275.95	1.691	79.46
37.50	93.8	Shear	KIPS	206.48	23.49	49.78	2.701	126.94
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-321.33	1.261	59.29
40.00	100.0	Shear	KIPS	206.48	25.84	56.21	2.350	110.47

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-237.05	1.965	92.36
2.50	5.0	Shear	KIPS	206.48	23.22	52.60	2.561	120.38
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-204.55	2.511	118.03
4.50	9.0	Shear	KIPS	207.64	21.14	49.55	2.778	130.56
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-196.47	2.667	125.35
5.00	10.0	Shear	KIPS	207.64	20.63	48.79	2.832	133.09
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-156.32	3.923	184.37
10.00	20.0	Shear	KIPS	207.64	15.53	40.77	3.512	165.05
15.00	30.0	Flexure	KIP-FT	817.88	53.57	282.40	2.024	95.11
15.00	30.0	Shear	KIPS	207.64	10.42	32.41	4.573	214.94
19.00	38.0	Flexure	KIP-FT	812.52	86.47	342.13	1.564	73.49
19.00	38.0	Shear	KIPS	206.48	6.18	25.85	5.862	275.50
20.00	40.0	Flexure	KIP-FT	812.52	92.13	351.61	1.506	70.76
20.00	40.0	Shear	KIPS	206.48	5.15	24.24	6.293	295.76
25.00	50.0	Flexure	KIP-FT	812.52	105.01	364.49	1.417	66.62
25.00	50.0	Shear	KIPS	206.48	0.00	15.97	9.870	463.87
30.00	60.0	Flexure	KIP-FT	812.52	92.13	351.61	1.506	70.76
30.00	60.0	Shear	KIPS	206.48	5.15	24.24	6.293	295.76
31.00	62.0	Flexure	KIP-FT	812.52	86.47	342.13	1.564	73.49
31.00	62.0	Shear	KIPS	206.48	6.18	25.85	5.862	275.50
35.00	70.0	Flexure	KIP-FT	817.88	53.57	282.40	2.024	95.11
35.00	70.0	Shear	KIPS	207.64	10.42	32.41	4.573	214.94
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-156.32	3.923	184.37
40.00	80.0	Shear	KIPS	207.64	15.53	40.77	3.512	165.05
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-196.47	2.667	125.35
45.00	90.0	Shear	KIPS	207.64	20.63	48.79	2.832	133.09
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-204.55	2.511	118.03
45.50	91.0	Shear	KIPS	207.64	21.14	49.55	2.778	130.56
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-237.05	1.965	92.36

47.50	95.0	Shear	KIPS	206.48	23.22	52.60	2.561	120.38
Span 3								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-321.33	1.261	59.29
0.00	0.0	Shear	KIPS	206.48	25.84	56.21	2.350	110.47
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-275.95	1.691	79.46
2.50	6.3	Shear	KIPS	206.48	23.49	49.78	2.701	126.94
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-249.17	2.024	95.11
4.00	10.0	Shear	KIPS	207.64	21.93	47.82	2.862	134.52
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-240.26	1.818	85.45
4.50	11.3	Shear	KIPS	207.64	21.41	47.14	2.915	136.98
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-207.17	2.436	114.47
8.00	20.0	Shear	KIPS	207.64	17.83	42.05	3.351	157.49
12.00	30.0	Flexure	KIP-FT	817.88	20.90	235.51	2.563	120.48
12.00	30.0	Shear	KIPS	207.64	13.75	35.60	4.072	191.38
14.00	35.0	Flexure	KIP-FT	812.52	46.35	281.19	2.043	96.03
14.00	35.0	Shear	KIPS	206.48	11.71	32.15	4.544	213.57
16.00	40.0	Flexure	KIP-FT	812.52	67.70	317.67	1.742	81.89
16.00	40.0	Shear	KIPS	206.48	9.65	28.57	5.185	243.67
20.00	50.0	Flexure	KIP-FT	812.52	97.73	359.63	1.457	68.46
20.00	50.0	Shear	KIPS	206.48	5.43	21.08	7.223	339.50
24.00	60.0	Flexure	KIP-FT	812.52	110.98	354.11	1.442	67.79
24.00	60.0	Shear	KIPS	206.48	1.31	16.49	9.482	445.67
26.00	65.0	Flexure	KIP-FT	812.52	111.43	342.40	1.490	70.05
26.00	65.0	Shear	KIPS	206.48	0.81	20.12	7.794	366.32
28.00	70.0	Flexure	KIP-FT	817.88	107.76	317.22	1.633	76.75
28.00	70.0	Shear	KIPS	207.64	2.85	23.89	6.517	306.28
32.00	80.0	Flexure	KIP-FT	817.88	88.19	251.03	2.141	100.60
32.00	80.0	Shear	KIPS	207.64	6.94	31.37	4.834	227.21
36.00	90.0	Flexure	KIP-FT	817.88	52.27	155.37	3.686	173.26
36.00	90.0	Shear	KIPS	207.64	11.02	42.07	3.509	164.92
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
40.00	100.0	Shear	KIPS	207.64	15.11	50.67	2.834	133.19

Detailed Rating Results
Maine DOT Config. 2 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
0.00	0.0	Shear	KIPS	207.64	15.11	50.67	2.834	266.38
4.00	10.0	Flexure	KIP-FT	817.88	52.27	155.37	3.686	346.53
4.00	10.0	Shear	KIPS	207.64	11.02	42.07	3.509	329.83
8.00	20.0	Flexure	KIP-FT	817.88	88.19	251.11	2.140	201.14
8.00	20.0	Shear	KIPS	207.64	6.94	31.39	4.832	454.17
12.00	30.0	Flexure	KIP-FT	817.88	107.76	317.22	1.633	153.50
12.00	30.0	Shear	KIPS	207.64	2.85	24.51	6.352	597.13
14.00	35.0	Flexure	KIP-FT	812.52	111.43	342.40	1.490	140.10
14.00	35.0	Shear	KIPS	206.48	0.81	20.97	7.477	702.84
16.00	40.0	Flexure	KIP-FT	812.52	110.98	354.11	1.442	135.58
16.00	40.0	Shear	KIPS	206.48	1.31	17.57	8.895	836.13
20.00	50.0	Flexure	KIP-FT	812.52	97.73	359.63	1.457	136.92
20.00	50.0	Shear	KIPS	206.48	5.43	22.66	6.719	631.60
24.00	60.0	Flexure	KIP-FT	812.52	67.70	317.67	1.742	163.77
24.00	60.0	Shear	KIPS	206.48	9.65	29.41	5.036	473.42
26.00	65.0	Flexure	KIP-FT	812.52	46.35	281.58	2.040	191.79
26.00	65.0	Shear	KIPS	206.48	11.71	32.67	4.471	420.26
28.00	70.0	Flexure	KIP-FT	817.88	20.90	242.28	2.492	234.23
28.00	70.0	Shear	KIPS	207.64	13.75	35.82	4.046	380.33
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-203.82	2.476	232.70
32.00	80.0	Shear	KIPS	207.64	17.83	42.05	3.351	314.97
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-247.39	1.766	165.97
35.50	88.8	Shear	KIPS	207.64	21.41	47.14	2.915	273.96
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-254.11	1.984	186.51
36.00	90.0	Shear	KIPS	207.64	21.93	47.82	2.862	269.03
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-275.95	1.691	158.91
37.50	93.8	Shear	KIPS	206.48	23.49	49.78	2.701	253.87
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-321.33	1.261	118.58
40.00	100.0	Shear	KIPS	206.48	25.84	56.21	2.350	220.94

Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-237.05	1.965	184.73
2.50	5.0	Shear	KIPS	206.48	23.22	52.84	2.549	239.64
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-204.55	2.511	236.07
4.50	9.0	Shear	KIPS	207.64	21.14	49.99	2.754	258.83
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-196.47	2.667	250.71
5.00	10.0	Shear	KIPS	207.64	20.63	49.27	2.804	263.57
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	162.43	3.912	367.76
10.00	20.0	Shear	KIPS	207.64	15.53	41.69	3.434	322.83
15.00	30.0	Flexure	KIP-FT	817.88	53.57	279.99	2.041	191.87
15.00	30.0	Shear	KIPS	207.64	10.42	33.67	4.402	413.79
19.00	38.0	Flexure	KIP-FT	812.52	86.47	339.22	1.577	148.24
19.00	38.0	Shear	KIPS	206.48	6.18	27.13	5.585	524.95
20.00	40.0	Flexure	KIP-FT	812.52	92.13	348.80	1.518	142.66
20.00	40.0	Shear	KIPS	206.48	5.15	25.50	5.981	562.20
25.00	50.0	Flexure	KIP-FT	812.52	105.01	363.96	1.420	133.44
25.00	50.0	Shear	KIPS	206.48	0.00	17.91	8.800	827.15
30.00	60.0	Flexure	KIP-FT	812.52	92.13	348.80	1.518	142.66
30.00	60.0	Shear	KIPS	206.48	5.15	25.50	5.981	562.20
31.00	62.0	Flexure	KIP-FT	812.52	86.47	339.22	1.577	148.24
31.00	62.0	Shear	KIPS	206.48	6.18	27.13	5.585	524.95
35.00	70.0	Flexure	KIP-FT	817.88	53.57	279.99	2.041	191.87
35.00	70.0	Shear	KIPS	207.64	10.42	33.67	4.402	413.79
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	162.43	3.912	367.76
40.00	80.0	Shear	KIPS	207.64	15.53	41.69	3.434	322.83
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-196.47	2.667	250.71
45.00	90.0	Shear	KIPS	207.64	20.63	49.27	2.804	263.57
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-204.55	2.511	236.07
45.50	91.0	Shear	KIPS	207.64	21.14	49.99	2.754	258.83
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-237.05	1.965	184.73
47.50	95.0	Shear	KIPS	206.48	23.22	52.84	2.549	239.64

Span 3

							Legal	Legal
Location							Rating	Load
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	Rating (Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-321.33	1.261	118.58
0.00	0.0	Shear	KIPS	206.48	25.84	56.21	2.350	220.94
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-275.95	1.691	158.91
2.50	6.3	Shear	KIPS	206.48	23.49	49.78	2.701	253.87
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-254.11	1.984	186.51
4.00	10.0	Shear	KIPS	207.64	21.93	47.82	2.862	269.03
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-247.39	1.766	165.97

4.50	11.3	Shear	KIPS	207.64	21.41	47.14	2.915	273.96
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-203.82	2.476	232.70
8.00	20.0	Shear	KIPS	207.64	17.83	42.05	3.351	314.97
12.00	30.0	Flexure	KIP-FT	817.88	20.90	242.28	2.492	234.23
12.00	30.0	Shear	KIPS	207.64	13.75	35.82	4.046	380.33
14.00	35.0	Flexure	KIP-FT	812.52	46.35	281.58	2.040	191.79
14.00	35.0	Shear	KIPS	206.48	11.71	32.67	4.471	420.26
16.00	40.0	Flexure	KIP-FT	812.52	67.70	317.67	1.742	163.77
16.00	40.0	Shear	KIPS	206.48	9.65	29.41	5.036	473.42
20.00	50.0	Flexure	KIP-FT	812.52	97.73	359.63	1.457	136.92
20.00	50.0	Shear	KIPS	206.48	5.43	22.66	6.719	631.60
24.00	60.0	Flexure	KIP-FT	812.52	110.98	354.11	1.442	135.58
24.00	60.0	Shear	KIPS	206.48	1.31	17.57	8.895	836.13
26.00	65.0	Flexure	KIP-FT	812.52	111.43	342.40	1.490	140.10
26.00	65.0	Shear	KIPS	206.48	0.81	20.97	7.477	702.84
28.00	70.0	Flexure	KIP-FT	817.88	107.76	317.22	1.633	153.50
28.00	70.0	Shear	KIPS	207.64	2.85	24.51	6.352	597.13
32.00	80.0	Flexure	KIP-FT	817.88	88.19	251.11	2.140	201.14
32.00	80.0	Shear	KIPS	207.64	6.94	31.39	4.832	454.17
36.00	90.0	Flexure	KIP-FT	817.88	52.27	155.37	3.686	346.53
36.00	90.0	Shear	KIPS	207.64	11.02	42.07	3.509	329.83
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
40.00	100.0	Shear	KIPS	207.64	15.11	50.67	2.834	266.38

**Detailed Rating Results
Maine DOT Config. 3
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	15.11	52.34	2.743	120.71
4.00	10.0	Flexure	KIP-FT	817.88	52.27	161.35	3.550	156.19
4.00	10.0	Shear	KIPS	207.64	11.02	43.69	3.379	148.67
8.00	20.0	Flexure	KIP-FT	817.88	88.19	262.99	2.043	89.90
8.00	20.0	Shear	KIPS	207.64	6.94	32.74	4.632	203.82
12.00	30.0	Flexure	KIP-FT	817.88	107.76	333.16	1.555	68.41
12.00	30.0	Shear	KIPS	207.64	2.85	25.08	6.207	273.12
14.00	35.0	Flexure	KIP-FT	812.52	111.43	348.57	1.464	64.42

14.00	35.0	Shear	KIPS	206.48	0.81	21.22	7.391	325.19
16.00	40.0	Flexure	KIP-FT	812.52	110.98	359.59	1.420	62.50
16.00	40.0	Shear	KIPS	206.48	1.31	17.68	8.843	389.10
20.00	50.0	Flexure	KIP-FT	812.52	97.73	343.83	1.524	67.03
20.00	50.0	Shear	KIPS	206.48	5.43	20.12	7.566	332.90
24.00	60.0	Flexure	KIP-FT	812.52	67.70	316.34	1.750	76.98
24.00	60.0	Shear	KIPS	206.48	9.65	27.52	5.382	236.83
26.00	65.0	Flexure	KIP-FT	812.52	46.35	283.53	2.026	89.16
26.00	65.0	Shear	KIPS	206.48	11.71	31.49	4.639	204.12
28.00	70.0	Flexure	KIP-FT	817.88	20.90	238.62	2.530	111.32
28.00	70.0	Shear	KIPS	207.64	13.75	35.58	4.074	179.26
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-221.34	2.280	100.30
32.00	80.0	Shear	KIPS	207.64	17.83	43.29	3.255	143.22
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-245.55	1.779	78.27
35.50	88.8	Shear	KIPS	207.64	21.41	49.47	2.777	122.19
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-249.01	2.025	89.09
36.00	90.0	Shear	KIPS	207.64	21.93	50.31	2.720	119.69
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-259.39	1.798	79.13
37.50	93.8	Shear	KIPS	206.48	23.49	52.71	2.551	112.22
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-276.68	1.465	64.46
40.00	100.0	Shear	KIPS	206.48	25.84	57.44	2.300	101.21

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-197.56	2.358	103.75
2.50	5.0	Shear	KIPS	206.48	23.22	53.98	2.495	109.80
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-186.67	2.752	121.09
4.50	9.0	Shear	KIPS	207.64	21.14	51.03	2.697	118.69
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-183.95	2.849	125.34
5.00	10.0	Shear	KIPS	207.64	20.63	50.28	2.748	120.90
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-156.73	3.913	172.15
10.00	20.0	Shear	KIPS	207.64	15.53	42.30	3.385	148.93
15.00	30.0	Flexure	KIP-FT	817.88	53.57	286.54	1.994	87.76
15.00	30.0	Shear	KIPS	207.64	10.42	33.85	4.380	192.70
19.00	38.0	Flexure	KIP-FT	812.52	86.47	351.64	1.521	66.94
19.00	38.0	Shear	KIPS	206.48	6.18	26.95	5.621	247.34
20.00	40.0	Flexure	KIP-FT	812.52	92.13	362.43	1.461	64.27
20.00	40.0	Shear	KIPS	206.48	5.15	25.24	6.044	265.95
25.00	50.0	Flexure	KIP-FT	812.52	105.01	379.25	1.362	59.94
25.00	50.0	Shear	KIPS	206.48	0.00	16.88	9.338	410.88

30.00	60.0	Flexure	KIP-FT	812.52	92.13	362.43	1.461	64.27
30.00	60.0	Shear	KIPS	206.48	5.15	25.24	6.044	265.95
31.00	62.0	Flexure	KIP-FT	812.52	86.47	351.64	1.521	66.94
31.00	62.0	Shear	KIPS	206.48	6.18	26.95	5.621	247.34
35.00	70.0	Flexure	KIP-FT	817.88	53.57	286.54	1.994	87.76
35.00	70.0	Shear	KIPS	207.64	10.42	33.85	4.380	192.70
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-156.73	3.913	172.15
40.00	80.0	Shear	KIPS	207.64	15.53	42.30	3.385	148.93
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-183.95	2.849	125.34
45.00	90.0	Shear	KIPS	207.64	20.63	50.28	2.748	120.90
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-186.67	2.752	121.09
45.50	91.0	Shear	KIPS	207.64	21.14	51.03	2.697	118.69
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-197.56	2.358	103.75
47.50	95.0	Shear	KIPS	206.48	23.22	53.98	2.495	109.80

Span 3

							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-276.68	1.465	64.46
0.00	0.0	Shear	KIPS	206.48	25.84	57.44	2.300	101.21
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-259.39	1.798	79.13
2.50	6.3	Shear	KIPS	206.48	23.49	52.71	2.551	112.22
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-249.01	2.025	89.09
4.00	10.0	Shear	KIPS	207.64	21.93	50.31	2.720	119.69
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-245.55	1.779	78.27
4.50	11.3	Shear	KIPS	207.64	21.41	49.47	2.777	122.19
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-221.34	2.280	100.30
8.00	20.0	Shear	KIPS	207.64	17.83	43.29	3.255	143.22
12.00	30.0	Flexure	KIP-FT	817.88	20.90	238.62	2.530	111.32
12.00	30.0	Shear	KIPS	207.64	13.75	35.58	4.074	179.26
14.00	35.0	Flexure	KIP-FT	812.52	46.35	283.53	2.026	89.16
14.00	35.0	Shear	KIPS	206.48	11.71	31.49	4.639	204.12
16.00	40.0	Flexure	KIP-FT	812.52	67.70	316.34	1.750	76.98
16.00	40.0	Shear	KIPS	206.48	9.65	27.52	5.382	236.83
20.00	50.0	Flexure	KIP-FT	812.52	97.73	343.83	1.524	67.03
20.00	50.0	Shear	KIPS	206.48	5.43	20.12	7.566	332.90
24.00	60.0	Flexure	KIP-FT	812.52	110.98	359.59	1.420	62.50
24.00	60.0	Shear	KIPS	206.48	1.31	17.68	8.843	389.10
26.00	65.0	Flexure	KIP-FT	812.52	111.43	348.57	1.464	64.42
26.00	65.0	Shear	KIPS	206.48	0.81	21.22	7.391	325.19
28.00	70.0	Flexure	KIP-FT	817.88	107.76	333.16	1.555	68.41

28.00	70.0	Shear	KIPS	207.64	2.85	25.08	6.207	273.12
32.00	80.0	Flexure	KIP-FT	817.88	88.19	262.99	2.043	89.90
32.00	80.0	Shear	KIPS	207.64	6.94	32.74	4.632	203.82
36.00	90.0	Flexure	KIP-FT	817.88	52.27	161.35	3.550	156.19
36.00	90.0	Shear	KIPS	207.64	11.02	43.69	3.379	148.67
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	15.11	52.34	2.743	120.71

Detailed Rating Results
Maine DOT Config. 3 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	15.11	52.34	2.743	241.41
4.00	10.0	Flexure	KIP-FT	817.88	52.27	161.35	3.550	312.38
4.00	10.0	Shear	KIPS	207.64	11.02	43.69	3.379	297.33
8.00	20.0	Flexure	KIP-FT	817.88	88.19	262.99	2.043	179.80
8.00	20.0	Shear	KIPS	207.64	6.94	32.74	4.632	407.64
12.00	30.0	Flexure	KIP-FT	817.88	107.76	333.16	1.555	136.83
12.00	30.0	Shear	KIPS	207.64	2.85	25.08	6.207	546.24
14.00	35.0	Flexure	KIP-FT	812.52	111.43	348.57	1.464	128.83
14.00	35.0	Shear	KIPS	206.48	0.81	21.22	7.391	650.39
16.00	40.0	Flexure	KIP-FT	812.52	110.98	359.59	1.420	124.99
16.00	40.0	Shear	KIPS	206.48	1.31	19.76	7.913	696.32
20.00	50.0	Flexure	KIP-FT	812.52	97.73	343.83	1.524	134.07
20.00	50.0	Shear	KIPS	206.48	5.43	24.71	6.161	542.20
24.00	60.0	Flexure	KIP-FT	812.52	67.70	316.34	1.750	153.96
24.00	60.0	Shear	KIPS	206.48	9.65	30.75	4.816	423.84
26.00	65.0	Flexure	KIP-FT	812.52	46.35	283.53	2.026	178.31
26.00	65.0	Shear	KIPS	206.48	11.71	34.40	4.247	373.73
28.00	70.0	Flexure	KIP-FT	817.88	20.90	238.62	2.530	222.64
28.00	70.0	Shear	KIPS	207.64	13.75	37.92	3.822	336.33
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-215.80	2.338	205.75
32.00	80.0	Shear	KIPS	207.64	17.83	44.60	3.160	278.05
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-272.79	1.601	140.91
35.50	88.8	Shear	KIPS	207.64	21.41	49.96	2.750	241.99
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-281.24	1.793	157.76

36.00	90.0	Shear	KIPS	207.64	21.93	50.69	2.700	237.59
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-314.12	1.485	130.69
37.50	93.8	Shear	KIPS	206.48	23.49	52.78	2.547	224.15
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-378.42	1.071	94.26
40.00	100.0	Shear	KIPS	206.48	25.84	57.44	2.300	202.41

Span 2

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-297.42	1.566	137.83
2.50	5.0	Shear	KIPS	206.48	23.22	54.18	2.486	218.78
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-249.11	2.062	181.47
4.50	9.0	Shear	KIPS	207.64	21.14	51.43	2.676	235.53
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-232.59	2.253	198.26
5.00	10.0	Shear	KIPS	207.64	20.63	50.75	2.722	239.53
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	164.64	3.860	339.66
10.00	20.0	Shear	KIPS	207.64	15.53	43.53	3.289	289.45
15.00	30.0	Flexure	KIP-FT	817.88	53.57	272.35	2.098	184.66
15.00	30.0	Shear	KIPS	207.64	10.42	35.71	4.151	365.31
19.00	38.0	Flexure	KIP-FT	812.52	86.47	329.89	1.622	142.70
19.00	38.0	Shear	KIPS	206.48	6.18	29.46	5.144	452.67
20.00	40.0	Flexure	KIP-FT	812.52	92.13	340.31	1.555	136.88
20.00	40.0	Shear	KIPS	206.48	5.15	27.91	5.465	480.94
25.00	50.0	Flexure	KIP-FT	812.52	105.01	361.21	1.430	125.87
25.00	50.0	Shear	KIPS	206.48	0.00	20.72	7.607	669.41
30.00	60.0	Flexure	KIP-FT	812.52	92.13	340.31	1.555	136.88
30.00	60.0	Shear	KIPS	206.48	5.15	27.91	5.465	480.94
31.00	62.0	Flexure	KIP-FT	812.52	86.47	329.89	1.622	142.70
31.00	62.0	Shear	KIPS	206.48	6.18	29.46	5.144	452.67
35.00	70.0	Flexure	KIP-FT	817.88	53.57	272.35	2.098	184.66
35.00	70.0	Shear	KIPS	207.64	10.42	35.71	4.151	365.31
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	164.64	3.860	339.66
40.00	80.0	Shear	KIPS	207.64	15.53	43.53	3.289	289.45
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-232.59	2.253	198.26
45.00	90.0	Shear	KIPS	207.64	20.63	50.75	2.722	239.53
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-249.11	2.062	181.47
45.50	91.0	Shear	KIPS	207.64	21.14	51.43	2.676	235.53
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-297.42	1.566	137.83
47.50	95.0	Shear	KIPS	206.48	23.22	54.18	2.486	218.78

Span 3

							Legal	Legal
							Rating	Load
Location								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-378.42	1.071	94.26
0.00	0.0	Shear	KIPS	206.48	25.84	57.44	2.300	202.41
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-314.12	1.485	130.69
2.50	6.3	Shear	KIPS	206.48	23.49	52.78	2.547	224.15
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-281.24	1.793	157.76
4.00	10.0	Shear	KIPS	207.64	21.93	50.69	2.700	237.59
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-272.79	1.601	140.91
4.50	11.3	Shear	KIPS	207.64	21.41	49.96	2.750	241.99
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-215.80	2.338	205.75
8.00	20.0	Shear	KIPS	207.64	17.83	44.60	3.160	278.05
12.00	30.0	Flexure	KIP-FT	817.88	20.90	238.62	2.530	222.64
12.00	30.0	Shear	KIPS	207.64	13.75	37.92	3.822	336.33
14.00	35.0	Flexure	KIP-FT	812.52	46.35	283.53	2.026	178.31
14.00	35.0	Shear	KIPS	206.48	11.71	34.40	4.247	373.73
16.00	40.0	Flexure	KIP-FT	812.52	67.70	316.34	1.750	153.96
16.00	40.0	Shear	KIPS	206.48	9.65	30.75	4.816	423.84
20.00	50.0	Flexure	KIP-FT	812.52	97.73	343.83	1.524	134.07
20.00	50.0	Shear	KIPS	206.48	5.43	24.71	6.161	542.20
24.00	60.0	Flexure	KIP-FT	812.52	110.98	359.59	1.420	124.99
24.00	60.0	Shear	KIPS	206.48	1.31	19.76	7.913	696.32
26.00	65.0	Flexure	KIP-FT	812.52	111.43	348.57	1.464	128.83
26.00	65.0	Shear	KIPS	206.48	0.81	21.22	7.391	650.39
28.00	70.0	Flexure	KIP-FT	817.88	107.76	333.16	1.555	136.83
28.00	70.0	Shear	KIPS	207.64	2.85	25.08	6.207	546.24
32.00	80.0	Flexure	KIP-FT	817.88	88.19	262.99	2.043	179.80
32.00	80.0	Shear	KIPS	207.64	6.94	32.74	4.632	407.64
36.00	90.0	Flexure	KIP-FT	817.88	52.27	161.35	3.550	312.38
36.00	90.0	Shear	KIPS	207.64	11.02	43.69	3.379	297.33
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	15.11	52.34	2.743	241.41

Detailed Rating Results
Maine DOT Config. 4
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location	Legal Rating	Legal Load
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								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	15.11	53.62	2.678	117.82
4.00	10.0	Flexure	KIP-FT	817.88	52.27	163.72	3.498	153.93
4.00	10.0	Shear	KIPS	207.64	11.02	44.33	3.330	146.51
8.00	20.0	Flexure	KIP-FT	817.88	88.19	262.49	2.047	90.07
8.00	20.0	Shear	KIPS	207.64	6.94	32.81	4.622	203.38
12.00	30.0	Flexure	KIP-FT	817.88	107.76	326.11	1.588	69.89
12.00	30.0	Shear	KIPS	207.64	2.85	25.30	6.153	270.72
14.00	35.0	Flexure	KIP-FT	812.52	111.43	338.33	1.508	66.37
14.00	35.0	Shear	KIPS	206.48	0.81	21.82	7.187	316.25
16.00	40.0	Flexure	KIP-FT	812.52	110.98	338.91	1.507	66.31
16.00	40.0	Shear	KIPS	206.48	1.31	18.49	8.454	371.98
20.00	50.0	Flexure	KIP-FT	812.52	97.73	329.55	1.590	69.94
20.00	50.0	Shear	KIPS	206.48	5.43	22.30	6.828	300.43
24.00	60.0	Flexure	KIP-FT	812.52	67.70	306.26	1.807	79.51
24.00	60.0	Shear	KIPS	206.48	9.65	28.55	5.188	228.28
26.00	65.0	Flexure	KIP-FT	812.52	46.35	278.80	2.061	90.67
26.00	65.0	Shear	KIPS	206.48	11.71	32.45	4.501	198.05
28.00	70.0	Flexure	KIP-FT	817.88	20.90	239.92	2.516	110.72
28.00	70.0	Shear	KIPS	207.64	13.75	36.25	3.998	175.92
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-221.92	2.274	100.04
32.00	80.0	Shear	KIPS	207.64	17.83	43.46	3.242	142.65
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-246.19	1.774	78.07
35.50	88.8	Shear	KIPS	207.64	21.41	49.74	2.762	121.52
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-249.66	2.020	88.86
36.00	90.0	Shear	KIPS	207.64	21.93	50.68	2.700	118.82
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-260.06	1.794	78.93
37.50	93.8	Shear	KIPS	206.48	23.49	53.40	2.518	110.78
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-277.39	1.461	64.29
40.00	100.0	Shear	KIPS	206.48	25.84	59.58	2.217	97.57

Span 2

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-198.55	2.346	103.23
2.50	5.0	Shear	KIPS	206.48	23.22	55.77	2.415	106.28
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-189.18	2.715	119.48
4.50	9.0	Shear	KIPS	207.64	21.14	52.59	2.617	115.16

5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-186.42	2.811	123.68
5.00	10.0	Shear	KIPS	207.64	20.63	51.78	2.668	117.39
10.00	20.0	Flexure	KIP-FT	-817.88	-11.29	-158.83	3.861	169.87
10.00	20.0	Shear	KIPS	207.64	15.53	43.41	3.299	145.15
15.00	30.0	Flexure	KIP-FT	817.88	53.57	281.06	2.033	89.47
15.00	30.0	Shear	KIPS	207.64	10.42	34.90	4.247	186.88
19.00	38.0	Flexure	KIP-FT	812.52	86.47	335.08	1.596	70.25
19.00	38.0	Shear	KIPS	206.48	6.18	28.17	5.378	236.63
20.00	40.0	Flexure	KIP-FT	812.52	92.13	342.08	1.547	68.09
20.00	40.0	Shear	KIPS	206.48	5.15	26.54	5.748	252.93
25.00	50.0	Flexure	KIP-FT	812.52	105.01	358.91	1.439	63.34
25.00	50.0	Shear	KIPS	206.48	0.00	18.74	8.409	370.01
30.00	60.0	Flexure	KIP-FT	812.52	92.13	342.08	1.547	68.09
30.00	60.0	Shear	KIPS	206.48	5.15	26.54	5.748	252.93
31.00	62.0	Flexure	KIP-FT	812.52	86.47	335.08	1.596	70.25
31.00	62.0	Shear	KIPS	206.48	6.18	28.17	5.378	236.63
35.00	70.0	Flexure	KIP-FT	817.88	53.57	281.06	2.033	89.47
35.00	70.0	Shear	KIPS	207.64	10.42	34.90	4.247	186.88
40.00	80.0	Flexure	KIP-FT	-817.88	-11.29	-158.83	3.861	169.87
40.00	80.0	Shear	KIPS	207.64	15.53	43.41	3.299	145.15
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-186.42	2.811	123.68
45.00	90.0	Shear	KIPS	207.64	20.63	51.78	2.668	117.39
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-189.18	2.715	119.48
45.50	91.0	Shear	KIPS	207.64	21.14	52.59	2.617	115.16
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-198.55	2.346	103.23
47.50	95.0	Shear	KIPS	206.48	23.22	55.77	2.415	106.28

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-277.39	1.461	64.29
0.00	0.0	Shear	KIPS	206.48	25.84	59.58	2.217	97.57
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-260.06	1.794	78.93
2.50	6.3	Shear	KIPS	206.48	23.49	53.40	2.518	110.78
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-249.66	2.020	88.86
4.00	10.0	Shear	KIPS	207.64	21.93	50.68	2.700	118.82
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-246.19	1.774	78.07
4.50	11.3	Shear	KIPS	207.64	21.41	49.74	2.762	121.52
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-221.92	2.274	100.04
8.00	20.0	Shear	KIPS	207.64	17.83	43.46	3.242	142.65
12.00	30.0	Flexure	KIP-FT	817.88	20.90	239.92	2.516	110.72

12.00	30.0	Shear	KIPS	207.64	13.75	36.25	3.998	175.92
14.00	35.0	Flexure	KIP-FT	812.52	46.35	278.80	2.061	90.67
14.00	35.0	Shear	KIPS	206.48	11.71	32.45	4.501	198.05
16.00	40.0	Flexure	KIP-FT	812.52	67.70	306.26	1.807	79.51
16.00	40.0	Shear	KIPS	206.48	9.65	28.55	5.188	228.28
20.00	50.0	Flexure	KIP-FT	812.52	97.73	329.55	1.590	69.94
20.00	50.0	Shear	KIPS	206.48	5.43	22.30	6.828	300.43
24.00	60.0	Flexure	KIP-FT	812.52	110.98	338.91	1.507	66.31
24.00	60.0	Shear	KIPS	206.48	1.31	18.49	8.454	371.98
26.00	65.0	Flexure	KIP-FT	812.52	111.43	338.33	1.508	66.37
26.00	65.0	Shear	KIPS	206.48	0.81	21.82	7.187	316.25
28.00	70.0	Flexure	KIP-FT	817.88	107.76	326.11	1.588	69.89
28.00	70.0	Shear	KIPS	207.64	2.85	25.30	6.153	270.72
32.00	80.0	Flexure	KIP-FT	817.88	88.19	262.49	2.047	90.07
32.00	80.0	Shear	KIPS	207.64	6.94	32.81	4.622	203.38
36.00	90.0	Flexure	KIP-FT	817.88	52.27	163.72	3.498	153.93
36.00	90.0	Shear	KIPS	207.64	11.02	44.33	3.330	146.51
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	15.11	53.62	2.678	117.82

Detailed Rating Results
Maine DOT Config. 4 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	15.11	53.62	2.678	235.65
4.00	10.0	Flexure	KIP-FT	817.88	52.27	163.72	3.498	307.86
4.00	10.0	Shear	KIPS	207.64	11.02	44.33	3.330	293.03
8.00	20.0	Flexure	KIP-FT	817.88	88.19	262.49	2.047	180.14
8.00	20.0	Shear	KIPS	207.64	6.94	32.81	4.622	406.75
12.00	30.0	Flexure	KIP-FT	817.88	107.76	326.11	1.588	139.79
12.00	30.0	Shear	KIPS	207.64	2.85	25.30	6.153	541.45
14.00	35.0	Flexure	KIP-FT	812.52	111.43	338.33	1.508	132.73
14.00	35.0	Shear	KIPS	206.48	0.81	21.82	7.187	632.49
16.00	40.0	Flexure	KIP-FT	812.52	110.98	338.91	1.507	132.62
16.00	40.0	Shear	KIPS	206.48	1.31	21.96	7.120	626.53
20.00	50.0	Flexure	KIP-FT	812.52	97.73	329.55	1.590	139.88

20.00	50.0	Shear	KIPS	206.48	5.43	27.82	5.472	481.54
24.00	60.0	Flexure	KIP-FT	812.52	67.70	306.26	1.807	159.03
24.00	60.0	Shear	KIPS	206.48	9.65	33.13	4.470	393.39
26.00	65.0	Flexure	KIP-FT	812.52	46.35	278.80	2.061	181.34
26.00	65.0	Shear	KIPS	206.48	11.71	36.53	3.999	351.89
28.00	70.0	Flexure	KIP-FT	817.88	20.90	239.92	2.516	221.44
28.00	70.0	Shear	KIPS	207.64	13.75	39.80	3.642	320.50
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-212.66	2.373	208.79
32.00	80.0	Shear	KIPS	207.64	17.83	45.94	3.067	269.91
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-271.36	1.610	141.65
35.50	88.8	Shear	KIPS	207.64	21.41	51.33	2.676	235.53
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-280.39	1.798	158.24
36.00	90.0	Shear	KIPS	207.64	21.93	52.15	2.625	230.96
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-310.15	1.504	132.36
37.50	93.8	Shear	KIPS	206.48	23.49	54.50	2.467	217.08
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-372.30	1.089	95.81
40.00	100.0	Shear	KIPS	206.48	25.84	60.12	2.198	193.38

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-296.32	1.572	138.35
2.50	5.0	Shear	KIPS	206.48	23.22	56.65	2.378	209.25
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-249.05	2.063	181.51
4.50	9.0	Shear	KIPS	207.64	21.14	53.73	2.562	225.43
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-238.06	2.201	193.70
5.00	10.0	Shear	KIPS	207.64	20.63	52.98	2.608	229.46
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	167.19	3.801	334.48
10.00	20.0	Shear	KIPS	207.64	15.53	45.14	3.172	279.15
15.00	30.0	Flexure	KIP-FT	817.88	53.57	271.04	2.109	185.55
15.00	30.0	Shear	KIPS	207.64	10.42	37.66	3.936	346.40
19.00	38.0	Flexure	KIP-FT	812.52	86.47	320.70	1.668	146.79
19.00	38.0	Shear	KIPS	206.48	6.18	31.51	4.808	423.14
20.00	40.0	Flexure	KIP-FT	812.52	92.13	327.54	1.616	142.22
20.00	40.0	Shear	KIPS	206.48	5.15	29.99	5.087	447.63
25.00	50.0	Flexure	KIP-FT	812.52	105.01	335.40	1.540	135.56
25.00	50.0	Shear	KIPS	206.48	0.00	23.06	6.835	601.52
30.00	60.0	Flexure	KIP-FT	812.52	92.13	327.54	1.616	142.22
30.00	60.0	Shear	KIPS	206.48	5.15	29.99	5.087	447.63
31.00	62.0	Flexure	KIP-FT	812.52	86.47	320.70	1.668	146.79
31.00	62.0	Shear	KIPS	206.48	6.18	31.51	4.808	423.14

35.00	70.0	Flexure	KIP-FT	817.88	53.57	271.04	2.109	185.55
35.00	70.0	Shear	KIPS	207.64	10.42	37.66	3.936	346.40
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	167.19	3.801	334.48
40.00	80.0	Shear	KIPS	207.64	15.53	45.14	3.172	279.15
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-238.06	2.201	193.70
45.00	90.0	Shear	KIPS	207.64	20.63	52.98	2.608	229.46
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-249.05	2.063	181.51
45.50	91.0	Shear	KIPS	207.64	21.14	53.73	2.562	225.43
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-296.32	1.572	138.35
47.50	95.0	Shear	KIPS	206.48	23.22	56.65	2.378	209.25

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-372.30	1.089	95.81
0.00	0.0	Shear	KIPS	206.48	25.84	60.12	2.198	193.38
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-310.15	1.504	132.36
2.50	6.3	Shear	KIPS	206.48	23.49	54.50	2.467	217.08
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-280.39	1.798	158.24
4.00	10.0	Shear	KIPS	207.64	21.93	52.15	2.625	230.96
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-271.36	1.610	141.65
4.50	11.3	Shear	KIPS	207.64	21.41	51.33	2.676	235.53
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-212.66	2.373	208.79
8.00	20.0	Shear	KIPS	207.64	17.83	45.94	3.067	269.91
12.00	30.0	Flexure	KIP-FT	817.88	20.90	239.92	2.516	221.44
12.00	30.0	Shear	KIPS	207.64	13.75	39.80	3.642	320.50
14.00	35.0	Flexure	KIP-FT	812.52	46.35	278.80	2.061	181.34
14.00	35.0	Shear	KIPS	206.48	11.71	36.53	3.999	351.89
16.00	40.0	Flexure	KIP-FT	812.52	67.70	306.26	1.807	159.03
16.00	40.0	Shear	KIPS	206.48	9.65	33.13	4.470	393.39
20.00	50.0	Flexure	KIP-FT	812.52	97.73	329.55	1.590	139.88
20.00	50.0	Shear	KIPS	206.48	5.43	27.82	5.472	481.54
24.00	60.0	Flexure	KIP-FT	812.52	110.98	338.91	1.507	132.62
24.00	60.0	Shear	KIPS	206.48	1.31	21.96	7.120	626.53
26.00	65.0	Flexure	KIP-FT	812.52	111.43	338.33	1.508	132.73
26.00	65.0	Shear	KIPS	206.48	0.81	21.82	7.187	632.49
28.00	70.0	Flexure	KIP-FT	817.88	107.76	326.11	1.588	139.79
28.00	70.0	Shear	KIPS	207.64	2.85	25.30	6.153	541.45
32.00	80.0	Flexure	KIP-FT	817.88	88.19	262.49	2.047	180.14
32.00	80.0	Shear	KIPS	207.64	6.94	32.81	4.622	406.75
36.00	90.0	Flexure	KIP-FT	817.88	52.27	163.72	3.498	307.86

36.00	90.0	Shear	KIPS	207.64	11.02	44.33	3.330	293.03
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	15.11	53.62	2.678	235.65

**Detailed Rating Results
Maine DOT Config. 5
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	15.11	51.97	2.763	121.58
4.00	10.0	Flexure	KIP-FT	817.88	52.27	160.29	3.573	157.23
4.00	10.0	Shear	KIPS	207.64	11.02	43.40	3.401	149.65
8.00	20.0	Flexure	KIP-FT	817.88	88.19	260.47	2.063	90.77
8.00	20.0	Shear	KIPS	207.64	6.94	32.56	4.658	204.95
12.00	30.0	Flexure	KIP-FT	817.88	107.76	318.01	1.629	71.67
12.00	30.0	Shear	KIPS	207.64	2.85	25.03	6.220	273.70
14.00	35.0	Flexure	KIP-FT	812.52	111.43	332.79	1.533	67.47
14.00	35.0	Shear	KIPS	206.48	0.81	22.38	7.007	308.31
16.00	40.0	Flexure	KIP-FT	812.52	110.98	338.88	1.507	66.32
16.00	40.0	Shear	KIPS	206.48	1.31	19.79	7.899	347.57
20.00	50.0	Flexure	KIP-FT	812.52	97.73	324.42	1.615	71.04
20.00	50.0	Shear	KIPS	206.48	5.43	22.09	6.893	303.28
24.00	60.0	Flexure	KIP-FT	812.52	67.70	297.35	1.861	81.90
24.00	60.0	Shear	KIPS	206.48	9.65	28.97	5.113	224.97
26.00	65.0	Flexure	KIP-FT	812.52	46.35	272.19	2.111	92.87
26.00	65.0	Shear	KIPS	206.48	11.71	32.14	4.545	199.98
28.00	70.0	Flexure	KIP-FT	817.88	20.90	237.19	2.545	111.99
28.00	70.0	Shear	KIPS	207.64	13.75	35.13	4.126	181.53
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-213.77	2.360	103.85
32.00	80.0	Shear	KIPS	207.64	17.83	42.50	3.315	145.87
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-237.15	1.842	81.04
35.50	88.8	Shear	KIPS	207.64	21.41	48.66	2.824	124.24
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-240.49	2.097	92.25
36.00	90.0	Shear	KIPS	207.64	21.93	49.49	2.766	121.69
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-250.51	1.862	81.94
37.50	93.8	Shear	KIPS	206.48	23.49	51.88	2.591	114.02
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-267.21	1.517	66.75

40.00	100.0	Shear	KIPS	206.48	25.84	56.71	2.330	102.51
Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-185.88	2.506	110.27
2.50	5.0	Shear	KIPS	206.48	23.22	53.29	2.528	111.22
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-175.64	2.925	128.69
4.50	9.0	Shear	KIPS	207.64	21.14	50.40	2.731	120.18
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-173.08	3.028	133.21
5.00	10.0	Shear	KIPS	207.64	20.63	49.65	2.782	122.42
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	162.81	3.903	171.74
10.00	20.0	Shear	KIPS	207.64	15.53	41.78	3.427	150.80
15.00	30.0	Flexure	KIP-FT	817.88	53.57	279.60	2.044	89.93
15.00	30.0	Shear	KIPS	207.64	10.42	33.46	4.431	194.94
19.00	38.0	Flexure	KIP-FT	812.52	86.47	334.78	1.598	70.31
19.00	38.0	Shear	KIPS	206.48	6.18	26.67	5.681	249.95
20.00	40.0	Flexure	KIP-FT	812.52	92.13	345.11	1.534	67.49
20.00	40.0	Shear	KIPS	206.48	5.15	24.98	6.105	268.64
25.00	50.0	Flexure	KIP-FT	812.52	105.01	361.53	1.429	62.88
25.00	50.0	Shear	KIPS	206.48	0.00	16.79	9.387	413.02
30.00	60.0	Flexure	KIP-FT	812.52	92.13	345.11	1.534	67.49
30.00	60.0	Shear	KIPS	206.48	5.15	24.98	6.105	268.64
31.00	62.0	Flexure	KIP-FT	812.52	86.47	334.78	1.598	70.31
31.00	62.0	Shear	KIPS	206.48	6.18	26.67	5.681	249.95
35.00	70.0	Flexure	KIP-FT	817.88	53.57	279.60	2.044	89.93
35.00	70.0	Shear	KIPS	207.64	10.42	33.46	4.431	194.94
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	162.81	3.903	171.74
40.00	80.0	Shear	KIPS	207.64	15.53	41.78	3.427	150.80
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-173.08	3.028	133.21
45.00	90.0	Shear	KIPS	207.64	20.63	49.65	2.782	122.42
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-175.64	2.925	128.69
45.50	91.0	Shear	KIPS	207.64	21.14	50.40	2.731	120.18
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-185.88	2.506	110.27
47.50	95.0	Shear	KIPS	206.48	23.22	53.29	2.528	111.22

Span 3								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit	Units	Capacity	DL	LL	Factor	(Ton)

		State						
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-267.21	1.517	66.75
0.00	0.0	Shear	KIPS	206.48	25.84	56.71	2.330	102.51
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-250.51	1.862	81.94
2.50	6.3	Shear	KIPS	206.48	23.49	51.88	2.591	114.02
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-240.49	2.097	92.25
4.00	10.0	Shear	KIPS	207.64	21.93	49.49	2.766	121.69
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-237.15	1.842	81.04
4.50	11.3	Shear	KIPS	207.64	21.41	48.66	2.824	124.24
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-213.77	2.360	103.85
8.00	20.0	Shear	KIPS	207.64	17.83	42.50	3.315	145.87
12.00	30.0	Flexure	KIP-FT	817.88	20.90	237.19	2.545	111.99
12.00	30.0	Shear	KIPS	207.64	13.75	35.13	4.126	181.53
14.00	35.0	Flexure	KIP-FT	812.52	46.35	272.19	2.111	92.87
14.00	35.0	Shear	KIPS	206.48	11.71	32.14	4.545	199.98
16.00	40.0	Flexure	KIP-FT	812.52	67.70	297.35	1.861	81.90
16.00	40.0	Shear	KIPS	206.48	9.65	28.97	5.113	224.97
20.00	50.0	Flexure	KIP-FT	812.52	97.73	324.42	1.615	71.04
20.00	50.0	Shear	KIPS	206.48	5.43	22.09	6.893	303.28
24.00	60.0	Flexure	KIP-FT	812.52	110.98	338.88	1.507	66.32
24.00	60.0	Shear	KIPS	206.48	1.31	19.79	7.899	347.57
26.00	65.0	Flexure	KIP-FT	812.52	111.43	332.79	1.533	67.47
26.00	65.0	Shear	KIPS	206.48	0.81	22.38	7.007	308.31
28.00	70.0	Flexure	KIP-FT	817.88	107.76	318.01	1.629	71.67
28.00	70.0	Shear	KIPS	207.64	2.85	25.03	6.220	273.70
32.00	80.0	Flexure	KIP-FT	817.88	88.19	260.47	2.063	90.77
32.00	80.0	Shear	KIPS	207.64	6.94	32.56	4.658	204.95
36.00	90.0	Flexure	KIP-FT	817.88	52.27	160.29	3.573	157.23
36.00	90.0	Shear	KIPS	207.64	11.02	43.40	3.401	149.65
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	15.11	51.97	2.763	121.58

Detailed Rating Results
Maine DOT Config. 5 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1							Legal	Legal
							Rating	Load
Location								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00

0.00	0.0	Shear	KIPS	207.64	15.11	51.97	2.763	243.15
4.00	10.0	Flexure	KIP-FT	817.88	52.27	160.29	3.573	314.46
4.00	10.0	Shear	KIPS	207.64	11.02	43.40	3.401	299.31
8.00	20.0	Flexure	KIP-FT	817.88	88.19	260.47	2.063	181.53
8.00	20.0	Shear	KIPS	207.64	6.94	32.56	4.658	409.91
12.00	30.0	Flexure	KIP-FT	817.88	107.76	318.01	1.629	143.34
12.00	30.0	Shear	KIPS	207.64	2.85	25.03	6.220	547.39
14.00	35.0	Flexure	KIP-FT	812.52	111.43	332.79	1.533	134.94
14.00	35.0	Shear	KIPS	206.48	0.81	22.38	7.007	616.63
16.00	40.0	Flexure	KIP-FT	812.52	110.98	338.88	1.507	132.63
16.00	40.0	Shear	KIPS	206.48	1.31	20.04	7.800	686.43
20.00	50.0	Flexure	KIP-FT	812.52	97.73	324.42	1.615	142.09
20.00	50.0	Shear	KIPS	206.48	5.43	24.35	6.253	550.24
24.00	60.0	Flexure	KIP-FT	812.52	67.70	297.35	1.861	163.80
24.00	60.0	Shear	KIPS	206.48	9.65	30.08	4.923	433.26
26.00	65.0	Flexure	KIP-FT	812.52	46.35	272.19	2.111	185.75
26.00	65.0	Shear	KIPS	206.48	11.71	33.75	4.327	380.82
28.00	70.0	Flexure	KIP-FT	817.88	20.90	237.19	2.545	223.99
28.00	70.0	Shear	KIPS	207.64	13.75	37.28	3.887	342.10
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-205.46	2.456	216.11
32.00	80.0	Shear	KIPS	207.64	17.83	43.97	3.205	282.01
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-270.22	1.616	142.25
35.50	88.8	Shear	KIPS	207.64	21.41	49.33	2.785	245.10
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-279.62	1.803	158.68
36.00	90.0	Shear	KIPS	207.64	21.93	50.06	2.734	240.62
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-312.98	1.491	131.17
37.50	93.8	Shear	KIPS	206.48	23.49	52.14	2.578	226.91
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-376.15	1.078	94.83
40.00	100.0	Shear	KIPS	206.48	25.84	56.71	2.330	205.02

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-292.74	1.591	140.04
2.50	5.0	Shear	KIPS	206.48	23.22	53.54	2.516	221.42
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-238.87	2.151	189.25
4.50	9.0	Shear	KIPS	207.64	21.14	50.88	2.705	238.06
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-228.11	2.297	202.15
5.00	10.0	Shear	KIPS	207.64	20.63	50.23	2.750	242.01
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	167.60	3.792	333.66
10.00	20.0	Shear	KIPS	207.64	15.53	43.27	3.309	291.19

15.00	30.0	Flexure	KIP-FT	817.88	53.57	268.13	2.131	187.57
15.00	30.0	Shear	KIPS	207.64	10.42	35.72	4.150	365.22
19.00	38.0	Flexure	KIP-FT	812.52	86.47	318.92	1.677	147.61
19.00	38.0	Shear	KIPS	206.48	6.18	29.36	5.161	454.13
20.00	40.0	Flexure	KIP-FT	812.52	92.13	326.26	1.623	142.78
20.00	40.0	Shear	KIPS	206.48	5.15	27.77	5.494	483.46
25.00	50.0	Flexure	KIP-FT	812.52	105.01	340.96	1.515	133.34
25.00	50.0	Shear	KIPS	206.48	0.00	20.52	7.683	676.08
30.00	60.0	Flexure	KIP-FT	812.52	92.13	326.26	1.623	142.78
30.00	60.0	Shear	KIPS	206.48	5.15	27.77	5.494	483.46
31.00	62.0	Flexure	KIP-FT	812.52	86.47	318.92	1.677	147.61
31.00	62.0	Shear	KIPS	206.48	6.18	29.36	5.161	454.13
35.00	70.0	Flexure	KIP-FT	817.88	53.57	268.13	2.131	187.57
35.00	70.0	Shear	KIPS	207.64	10.42	35.72	4.150	365.22
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	167.60	3.792	333.66
40.00	80.0	Shear	KIPS	207.64	15.53	43.27	3.309	291.19
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-228.11	2.297	202.15
45.00	90.0	Shear	KIPS	207.64	20.63	50.23	2.750	242.01
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-238.87	2.151	189.25
45.50	91.0	Shear	KIPS	207.64	21.14	50.88	2.705	238.06
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-292.74	1.591	140.04
47.50	95.0	Shear	KIPS	206.48	23.22	53.54	2.516	221.42

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-376.15	1.078	94.83
0.00	0.0	Shear	KIPS	206.48	25.84	56.71	2.330	205.02
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-312.98	1.491	131.17
2.50	6.3	Shear	KIPS	206.48	23.49	52.14	2.578	226.91
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-279.62	1.803	158.68
4.00	10.0	Shear	KIPS	207.64	21.93	50.06	2.734	240.62
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-270.22	1.616	142.25
4.50	11.3	Shear	KIPS	207.64	21.41	49.33	2.785	245.10
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-205.46	2.456	216.11
8.00	20.0	Shear	KIPS	207.64	17.83	43.97	3.205	282.01
12.00	30.0	Flexure	KIP-FT	817.88	20.90	237.19	2.545	223.99
12.00	30.0	Shear	KIPS	207.64	13.75	37.28	3.887	342.10
14.00	35.0	Flexure	KIP-FT	812.52	46.35	272.19	2.111	185.75
14.00	35.0	Shear	KIPS	206.48	11.71	33.75	4.327	380.82
16.00	40.0	Flexure	KIP-FT	812.52	67.70	297.35	1.861	163.80

16.00	40.0	Shear	KIPS	206.48	9.65	30.08	4.923	433.26
20.00	50.0	Flexure	KIP-FT	812.52	97.73	324.42	1.615	142.09
20.00	50.0	Shear	KIPS	206.48	5.43	24.35	6.253	550.24
24.00	60.0	Flexure	KIP-FT	812.52	110.98	338.88	1.507	132.63
24.00	60.0	Shear	KIPS	206.48	1.31	20.04	7.800	686.43
26.00	65.0	Flexure	KIP-FT	812.52	111.43	332.79	1.533	134.94
26.00	65.0	Shear	KIPS	206.48	0.81	22.38	7.007	616.63
28.00	70.0	Flexure	KIP-FT	817.88	107.76	318.01	1.629	143.34
28.00	70.0	Shear	KIPS	207.64	2.85	25.03	6.220	547.39
32.00	80.0	Flexure	KIP-FT	817.88	88.19	260.47	2.063	181.53
32.00	80.0	Shear	KIPS	207.64	6.94	32.56	4.658	409.91
36.00	90.0	Flexure	KIP-FT	817.88	52.27	160.29	3.573	314.46
36.00	90.0	Shear	KIPS	207.64	11.02	43.40	3.401	299.31
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	15.11	51.97	2.763	243.15

**Detailed Rating Results
Maine DOT Config. 6
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
0.00	0.0	Shear	KIPS	207.64	15.11	60.27	2.383	90.42
4.00	10.0	Flexure	KIP-FT	817.88	52.27	189.67	3.020	114.60
4.00	10.0	Shear	KIPS	207.64	11.02	51.36	2.874	109.08
8.00	20.0	Flexure	KIP-FT	817.88	88.19	315.71	1.702	64.59
8.00	20.0	Shear	KIPS	207.64	6.94	39.46	3.843	145.84
12.00	30.0	Flexure	KIP-FT	817.88	107.76	396.94	1.305	49.53
12.00	30.0	Shear	KIPS	207.64	2.85	31.87	4.885	185.38
14.00	35.0	Flexure	KIP-FT	812.52	111.43	422.26	1.209	45.86
14.00	35.0	Shear	KIPS	206.48	0.81	28.25	5.551	210.67
16.00	40.0	Flexure	KIP-FT	812.52	110.98	433.34	1.179	44.73
16.00	40.0	Shear	KIPS	206.48	1.31	24.74	6.318	239.78
20.00	50.0	Flexure	KIP-FT	812.52	97.73	423.03	1.238	46.99
20.00	50.0	Shear	KIPS	206.48	5.43	28.71	5.302	201.23
24.00	60.0	Flexure	KIP-FT	812.52	67.70	378.83	1.461	55.44
24.00	60.0	Shear	KIPS	206.48	9.65	36.32	4.078	154.76
26.00	65.0	Flexure	KIP-FT	812.52	46.35	340.94	1.685	63.95

26.00	65.0	Shear	KIPS	206.48	11.71	39.95	3.657	138.77
28.00	70.0	Flexure	KIP-FT	817.88	20.90	293.12	2.060	78.16
28.00	70.0	Shear	KIPS	207.64	13.75	43.48	3.333	126.50
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-231.11	2.183	82.85
32.00	80.0	Shear	KIPS	207.64	17.83	50.08	2.813	106.77
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-256.38	1.704	64.66
35.50	88.8	Shear	KIPS	207.64	21.41	55.29	2.485	94.29
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-259.99	1.939	73.60
36.00	90.0	Shear	KIPS	207.64	21.93	56.00	2.444	92.75
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-270.83	1.722	65.37
37.50	93.8	Shear	KIPS	206.48	23.49	57.99	2.318	87.98
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-288.88	1.403	53.25
40.00	100.0	Shear	KIPS	206.48	25.84	61.51	2.148	81.52

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-224.80	2.072	78.64
2.50	5.0	Shear	KIPS	206.48	23.22	58.55	2.301	87.31
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-212.41	2.418	91.78
4.50	9.0	Shear	KIPS	207.64	21.14	55.98	2.459	93.32
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-209.32	2.503	95.01
5.00	10.0	Shear	KIPS	207.64	20.63	55.31	2.497	94.78
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	214.81	2.958	112.27
10.00	20.0	Shear	KIPS	207.64	15.53	48.23	2.969	112.67
15.00	30.0	Flexure	KIP-FT	817.88	53.57	338.33	1.689	64.10
15.00	30.0	Shear	KIPS	207.64	10.42	40.53	3.658	138.81
19.00	38.0	Flexure	KIP-FT	812.52	86.47	404.48	1.323	50.19
19.00	38.0	Shear	KIPS	206.48	6.18	34.14	4.438	168.42
20.00	40.0	Flexure	KIP-FT	812.52	92.13	416.02	1.272	48.29
20.00	40.0	Shear	KIPS	206.48	5.15	32.55	4.687	177.86
25.00	50.0	Flexure	KIP-FT	812.52	105.01	438.48	1.178	44.72
25.00	50.0	Shear	KIPS	206.48	0.00	24.63	6.401	242.91
30.00	60.0	Flexure	KIP-FT	812.52	92.13	416.02	1.272	48.29
30.00	60.0	Shear	KIPS	206.48	5.15	32.55	4.687	177.86
31.00	62.0	Flexure	KIP-FT	812.52	86.47	404.48	1.323	50.19
31.00	62.0	Shear	KIPS	206.48	6.18	34.14	4.438	168.42
35.00	70.0	Flexure	KIP-FT	817.88	53.57	338.33	1.689	64.10
35.00	70.0	Shear	KIPS	207.64	10.42	40.53	3.658	138.81
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	214.81	2.958	112.27
40.00	80.0	Shear	KIPS	207.64	15.53	48.23	2.969	112.67

45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-209.32	2.503	95.01
45.00	90.0	Shear	KIPS	207.64	20.63	55.31	2.497	94.78
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-212.41	2.418	91.78
45.50	91.0	Shear	KIPS	207.64	21.14	55.98	2.459	93.32
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-224.80	2.072	78.64
47.50	95.0	Shear	KIPS	206.48	23.22	58.55	2.301	87.31

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-288.88	1.403	53.25
0.00	0.0	Shear	KIPS	206.48	25.84	61.51	2.148	81.52
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-270.83	1.722	65.37
2.50	6.3	Shear	KIPS	206.48	23.49	57.99	2.318	87.98
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-259.99	1.939	73.60
4.00	10.0	Shear	KIPS	207.64	21.93	56.00	2.444	92.75
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-256.38	1.704	64.66
4.50	11.3	Shear	KIPS	207.64	21.41	55.29	2.485	94.29
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-231.11	2.183	82.85
8.00	20.0	Shear	KIPS	207.64	17.83	50.08	2.813	106.77
12.00	30.0	Flexure	KIP-FT	817.88	20.90	293.12	2.060	78.16
12.00	30.0	Shear	KIPS	207.64	13.75	43.48	3.333	126.50
14.00	35.0	Flexure	KIP-FT	812.52	46.35	340.94	1.685	63.95
14.00	35.0	Shear	KIPS	206.48	11.71	39.95	3.657	138.77
16.00	40.0	Flexure	KIP-FT	812.52	67.70	378.83	1.461	55.44
16.00	40.0	Shear	KIPS	206.48	9.65	36.32	4.078	154.76
20.00	50.0	Flexure	KIP-FT	812.52	97.73	423.03	1.238	46.99
20.00	50.0	Shear	KIPS	206.48	5.43	28.71	5.302	201.23
24.00	60.0	Flexure	KIP-FT	812.52	110.98	433.34	1.179	44.73
24.00	60.0	Shear	KIPS	206.48	1.31	24.74	6.318	239.78
26.00	65.0	Flexure	KIP-FT	812.52	111.43	422.26	1.209	45.86
26.00	65.0	Shear	KIPS	206.48	0.81	28.25	5.551	210.67
28.00	70.0	Flexure	KIP-FT	817.88	107.76	396.94	1.305	49.53
28.00	70.0	Shear	KIPS	207.64	2.85	31.87	4.885	185.38
32.00	80.0	Flexure	KIP-FT	817.88	88.19	315.71	1.702	64.59
32.00	80.0	Shear	KIPS	207.64	6.94	39.46	3.843	145.84
36.00	90.0	Flexure	KIP-FT	817.88	52.27	189.67	3.020	114.60
36.00	90.0	Shear	KIPS	207.64	11.02	51.36	2.874	109.08
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
40.00	100.0	Shear	KIPS	207.64	15.11	60.27	2.383	90.42

**Detailed Rating Results
Maine DOT Config. 6 x2
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
0.00	0.0	Shear	KIPS	207.64	15.11	60.27	2.383	180.85
4.00	10.0	Flexure	KIP-FT	817.88	52.27	189.67	3.020	229.20
4.00	10.0	Shear	KIPS	207.64	11.02	51.36	2.874	218.16
8.00	20.0	Flexure	KIP-FT	817.88	88.19	315.71	1.702	129.18
8.00	20.0	Shear	KIPS	207.64	6.94	39.46	3.843	291.69
12.00	30.0	Flexure	KIP-FT	817.88	107.76	396.94	1.305	99.05
12.00	30.0	Shear	KIPS	207.64	2.85	31.87	4.885	370.75
14.00	35.0	Flexure	KIP-FT	812.52	111.43	422.26	1.209	91.73
14.00	35.0	Shear	KIPS	206.48	0.81	28.25	5.551	421.34
16.00	40.0	Flexure	KIP-FT	812.52	110.98	433.34	1.179	89.46
16.00	40.0	Shear	KIPS	206.48	1.31	28.15	5.554	421.52
20.00	50.0	Flexure	KIP-FT	812.52	97.73	423.03	1.238	93.99
20.00	50.0	Shear	KIPS	206.48	5.43	35.84	4.249	322.48
24.00	60.0	Flexure	KIP-FT	812.52	67.70	378.83	1.461	110.89
24.00	60.0	Shear	KIPS	206.48	9.65	43.03	3.442	261.23
26.00	65.0	Flexure	KIP-FT	812.52	46.35	340.94	1.685	127.90
26.00	65.0	Shear	KIPS	206.48	11.71	46.35	3.152	239.20
28.00	70.0	Flexure	KIP-FT	817.88	20.90	293.12	2.060	156.33
28.00	70.0	Shear	KIPS	207.64	13.75	49.47	2.930	222.38
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-210.46	2.397	181.96
32.00	80.0	Shear	KIPS	207.64	17.83	55.07	2.559	194.21
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-320.36	1.363	103.49
35.50	88.8	Shear	KIPS	207.64	21.41	59.27	2.318	175.92
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-338.37	1.490	113.10
36.00	90.0	Shear	KIPS	207.64	21.93	59.83	2.288	173.63
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-393.44	1.186	90.00
37.50	93.8	Shear	KIPS	206.48	23.49	61.37	2.191	166.29
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-495.98	0.817	62.03
40.00	100.0	Shear	KIPS	206.48	26.11	63.79	2.067	156.89

Span 2

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-398.68	1.168	88.69
2.50	5.0	Shear	KIPS	206.48	23.22	59.75	2.254	171.11
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-327.10	1.571	119.20
4.50	9.0	Shear	KIPS	207.64	21.14	57.68	2.386	181.11
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-310.13	1.690	128.24
5.00	10.0	Shear	KIPS	207.64	20.63	57.16	2.417	183.43
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	220.43	2.883	218.82
10.00	20.0	Shear	KIPS	207.64	15.53	51.71	2.769	210.16
15.00	30.0	Flexure	KIP-FT	817.88	53.57	315.74	1.810	137.38
15.00	30.0	Shear	KIPS	207.64	10.42	45.51	3.257	247.18
19.00	38.0	Flexure	KIP-FT	812.52	86.47	356.22	1.502	113.98
19.00	38.0	Shear	KIPS	206.48	6.18	39.92	3.796	288.08
20.00	40.0	Flexure	KIP-FT	812.52	92.13	362.13	1.462	110.95
20.00	40.0	Shear	KIPS	206.48	5.15	38.43	3.969	301.24
25.00	50.0	Flexure	KIP-FT	812.52	105.01	362.94	1.424	108.04
25.00	50.0	Shear	KIPS	206.48	0.00	30.66	5.141	390.18
30.00	60.0	Flexure	KIP-FT	812.52	92.13	362.13	1.462	110.95
30.00	60.0	Shear	KIPS	206.48	5.15	38.43	3.969	301.24
31.00	62.0	Flexure	KIP-FT	812.52	86.47	356.22	1.502	113.98
31.00	62.0	Shear	KIPS	206.48	6.18	39.92	3.796	288.08
35.00	70.0	Flexure	KIP-FT	817.88	53.57	315.74	1.810	137.38
35.00	70.0	Shear	KIPS	207.64	10.42	45.51	3.257	247.18
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	220.43	2.883	218.82
40.00	80.0	Shear	KIPS	207.64	15.53	51.71	2.769	210.16
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-310.13	1.690	128.24
45.00	90.0	Shear	KIPS	207.64	20.63	57.16	2.417	183.43
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-327.10	1.571	119.20
45.50	91.0	Shear	KIPS	207.64	21.14	57.68	2.386	181.11
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-398.68	1.168	88.69
47.50	95.0	Shear	KIPS	206.48	23.22	59.75	2.254	171.11

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-495.98	0.817	62.03
0.00	0.0	Shear	KIPS	206.48	26.11	63.79	2.067	156.89
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-393.44	1.186	90.00
2.50	6.3	Shear	KIPS	206.48	23.49	61.37	2.191	166.29

4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-338.37	1.490	113.10
4.00	10.0	Shear	KIPS	207.64	21.93	59.83	2.288	173.63
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-320.36	1.363	103.49
4.50	11.3	Shear	KIPS	207.64	21.41	59.27	2.318	175.92
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-210.46	2.397	181.96
8.00	20.0	Shear	KIPS	207.64	17.83	55.07	2.559	194.21
12.00	30.0	Flexure	KIP-FT	817.88	20.90	293.12	2.060	156.33
12.00	30.0	Shear	KIPS	207.64	13.75	49.47	2.930	222.38
14.00	35.0	Flexure	KIP-FT	812.52	46.35	340.94	1.685	127.90
14.00	35.0	Shear	KIPS	206.48	11.71	46.35	3.152	239.20
16.00	40.0	Flexure	KIP-FT	812.52	67.70	378.83	1.461	110.89
16.00	40.0	Shear	KIPS	206.48	9.65	43.03	3.442	261.23
20.00	50.0	Flexure	KIP-FT	812.52	97.73	423.03	1.238	93.99
20.00	50.0	Shear	KIPS	206.48	5.43	35.84	4.249	322.48
24.00	60.0	Flexure	KIP-FT	812.52	110.98	433.34	1.179	89.46
24.00	60.0	Shear	KIPS	206.48	1.31	28.15	5.554	421.52
26.00	65.0	Flexure	KIP-FT	812.52	111.43	422.26	1.209	91.73
26.00	65.0	Shear	KIPS	206.48	0.81	28.25	5.551	421.34
28.00	70.0	Flexure	KIP-FT	817.88	107.76	396.94	1.305	99.05
28.00	70.0	Shear	KIPS	207.64	2.85	31.87	4.885	370.75
32.00	80.0	Flexure	KIP-FT	817.88	88.19	315.71	1.702	129.18
32.00	80.0	Shear	KIPS	207.64	6.94	39.46	3.843	291.69
36.00	90.0	Flexure	KIP-FT	817.88	52.27	189.67	3.020	229.20
36.00	90.0	Shear	KIPS	207.64	11.02	51.36	2.874	218.16
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
40.00	100.0	Shear	KIPS	207.64	15.11	60.27	2.383	180.85

Detailed Rating Results
Maine DOT Config. 7
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
0.00	0.0	Shear	KIPS	207.64	15.11	49.50	2.901	86.16
4.00	10.0	Flexure	KIP-FT	817.88	52.27	156.89	3.651	108.43
4.00	10.0	Shear	KIPS	207.64	11.02	42.48	3.475	103.20
8.00	20.0	Flexure	KIP-FT	817.88	88.19	263.21	2.041	60.63
8.00	20.0	Shear	KIPS	207.64	6.94	32.90	4.610	136.90

12.00	30.0	Flexure	KIP-FT	817.88	107.76	322.16	1.608	47.76
12.00	30.0	Shear	KIPS	207.64	2.85	26.85	5.799	172.24
14.00	35.0	Flexure	KIP-FT	812.52	111.43	335.38	1.522	45.19
14.00	35.0	Shear	KIPS	206.48	0.81	23.96	6.546	194.42
16.00	40.0	Flexure	KIP-FT	812.52	110.98	346.81	1.473	43.74
16.00	40.0	Shear	KIPS	206.48	1.31	21.14	7.396	219.67
20.00	50.0	Flexure	KIP-FT	812.52	97.73	340.55	1.538	45.68
20.00	50.0	Shear	KIPS	206.48	5.43	24.51	6.212	184.49
24.00	60.0	Flexure	KIP-FT	812.52	67.70	301.82	1.834	54.46
24.00	60.0	Shear	KIPS	206.48	9.65	30.37	4.877	144.86
26.00	65.0	Flexure	KIP-FT	812.52	46.35	275.25	2.087	61.99
26.00	65.0	Shear	KIPS	206.48	11.71	33.16	4.405	130.83
28.00	70.0	Flexure	KIP-FT	817.88	20.90	240.53	2.510	74.55
28.00	70.0	Shear	KIPS	207.64	13.75	35.85	4.043	120.08
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-183.46	2.750	81.68
32.00	80.0	Shear	KIPS	207.64	17.83	40.85	3.450	102.45
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-203.52	2.146	63.74
35.50	88.8	Shear	KIPS	207.64	21.41	44.78	3.068	91.13
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-206.39	2.443	72.56
36.00	90.0	Shear	KIPS	207.64	21.93	45.30	3.021	89.73
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-214.99	2.170	64.45
37.50	93.8	Shear	KIPS	206.48	23.49	46.78	2.874	85.35
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-229.32	1.768	52.50
40.00	100.0	Shear	KIPS	206.48	25.84	49.33	2.679	79.55

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-177.43	2.626	77.98
2.50	5.0	Shear	KIPS	206.48	23.22	47.13	2.858	84.89
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-167.65	3.064	91.01
4.50	9.0	Shear	KIPS	207.64	21.14	45.22	3.044	90.40
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-165.21	3.172	94.20
5.00	10.0	Shear	KIPS	207.64	20.63	44.72	3.089	91.74
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	177.23	3.586	106.49
10.00	20.0	Shear	KIPS	207.64	15.53	39.31	3.642	108.17
15.00	30.0	Flexure	KIP-FT	817.88	53.57	271.33	2.106	62.56
15.00	30.0	Shear	KIPS	207.64	10.42	33.38	4.441	131.90
19.00	38.0	Flexure	KIP-FT	812.52	86.47	322.11	1.661	49.33
19.00	38.0	Shear	KIPS	206.48	6.18	28.39	5.338	158.52
20.00	40.0	Flexure	KIP-FT	812.52	92.13	331.80	1.595	47.38

20.00	40.0	Shear	KIPS	206.48	5.15	27.13	5.623	166.99
25.00	50.0	Flexure	KIP-FT	812.52	105.01	352.92	1.464	43.48
25.00	50.0	Shear	KIPS	206.48	0.00	20.89	7.546	224.13
30.00	60.0	Flexure	KIP-FT	812.52	92.13	331.80	1.595	47.38
30.00	60.0	Shear	KIPS	206.48	5.15	27.13	5.623	166.99
31.00	62.0	Flexure	KIP-FT	812.52	86.47	322.11	1.661	49.33
31.00	62.0	Shear	KIPS	206.48	6.18	28.39	5.338	158.52
35.00	70.0	Flexure	KIP-FT	817.88	53.57	271.33	2.106	62.56
35.00	70.0	Shear	KIPS	207.64	10.42	33.38	4.441	131.90
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	177.23	3.586	106.49
40.00	80.0	Shear	KIPS	207.64	15.53	39.31	3.642	108.17
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-165.21	3.172	94.20
45.00	90.0	Shear	KIPS	207.64	20.63	44.72	3.089	91.74
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-167.65	3.064	91.01
45.50	91.0	Shear	KIPS	207.64	21.14	45.22	3.044	90.40
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-177.43	2.626	77.98
47.50	95.0	Shear	KIPS	206.48	23.22	47.13	2.858	84.89

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-229.32	1.768	52.50
0.00	0.0	Shear	KIPS	206.48	25.84	49.33	2.679	79.55
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-214.99	2.170	64.45
2.50	6.3	Shear	KIPS	206.48	23.49	46.78	2.874	85.35
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-206.39	2.443	72.56
4.00	10.0	Shear	KIPS	207.64	21.93	45.30	3.021	89.73
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-203.52	2.146	63.74
4.50	11.3	Shear	KIPS	207.64	21.41	44.78	3.068	91.13
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-183.46	2.750	81.68
8.00	20.0	Shear	KIPS	207.64	17.83	40.85	3.450	102.45
12.00	30.0	Flexure	KIP-FT	817.88	20.90	240.53	2.510	74.55
12.00	30.0	Shear	KIPS	207.64	13.75	35.85	4.043	120.08
14.00	35.0	Flexure	KIP-FT	812.52	46.35	275.25	2.087	61.99
14.00	35.0	Shear	KIPS	206.48	11.71	33.16	4.405	130.83
16.00	40.0	Flexure	KIP-FT	812.52	67.70	301.82	1.834	54.46
16.00	40.0	Shear	KIPS	206.48	9.65	30.37	4.877	144.86
20.00	50.0	Flexure	KIP-FT	812.52	97.73	340.55	1.538	45.68
20.00	50.0	Shear	KIPS	206.48	5.43	24.51	6.212	184.49
24.00	60.0	Flexure	KIP-FT	812.52	110.98	346.81	1.473	43.74
24.00	60.0	Shear	KIPS	206.48	1.31	21.14	7.396	219.67

26.00	65.0	Flexure	KIP-FT	812.52	111.43	335.38	1.522	45.19
26.00	65.0	Shear	KIPS	206.48	0.81	23.96	6.546	194.42
28.00	70.0	Flexure	KIP-FT	817.88	107.76	322.16	1.608	47.76
28.00	70.0	Shear	KIPS	207.64	2.85	26.85	5.799	172.24
32.00	80.0	Flexure	KIP-FT	817.88	88.19	263.21	2.041	60.63
32.00	80.0	Shear	KIPS	207.64	6.94	32.90	4.610	136.90
36.00	90.0	Flexure	KIP-FT	817.88	52.27	156.89	3.651	108.43
36.00	90.0	Shear	KIPS	207.64	11.02	42.48	3.475	103.20
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
40.00	100.0	Shear	KIPS	207.64	15.11	49.50	2.901	86.16

Detailed Rating Results
Maine DOT Config. 7 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
0.00	0.0	Shear	KIPS	207.64	15.11	49.50	2.901	172.31
4.00	10.0	Flexure	KIP-FT	817.88	52.27	156.89	3.651	216.86
4.00	10.0	Shear	KIPS	207.64	11.02	42.48	3.475	206.41
8.00	20.0	Flexure	KIP-FT	817.88	88.19	263.21	2.041	121.26
8.00	20.0	Shear	KIPS	207.64	6.94	32.90	4.610	273.81
12.00	30.0	Flexure	KIP-FT	817.88	107.76	322.16	1.608	95.51
12.00	30.0	Shear	KIPS	207.64	2.85	26.85	5.799	344.48
14.00	35.0	Flexure	KIP-FT	812.52	111.43	335.38	1.522	90.38
14.00	35.0	Shear	KIPS	206.48	0.81	23.96	6.546	388.85
16.00	40.0	Flexure	KIP-FT	812.52	110.98	346.81	1.473	87.48
16.00	40.0	Shear	KIPS	206.48	1.31	23.77	6.575	390.57
20.00	50.0	Flexure	KIP-FT	812.52	97.73	340.55	1.538	91.37
20.00	50.0	Shear	KIPS	206.48	5.43	30.16	5.048	299.85
24.00	60.0	Flexure	KIP-FT	812.52	67.70	301.82	1.834	108.92
24.00	60.0	Shear	KIPS	206.48	9.65	35.81	4.136	245.66
26.00	65.0	Flexure	KIP-FT	812.52	46.35	275.25	2.087	123.98
26.00	65.0	Shear	KIPS	206.48	11.71	38.42	3.802	225.82
28.00	70.0	Flexure	KIP-FT	817.88	20.90	240.53	2.510	149.09
28.00	70.0	Shear	KIPS	207.64	13.75	40.82	3.551	210.91
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-157.53	3.203	190.25
32.00	80.0	Shear	KIPS	207.64	17.83	45.11	3.124	185.57

35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-254.81	1.714	101.82
35.50	88.8	Shear	KIPS	207.64	21.41	48.28	2.845	169.01
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-270.22	1.866	110.83
36.00	90.0	Shear	KIPS	207.64	21.93	48.69	2.811	166.97
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-317.77	1.468	87.20
37.50	93.8	Shear	KIPS	206.48	23.49	49.82	2.699	160.31
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-401.93	1.008	59.90
40.00	100.0	Shear	KIPS	206.48	26.11	51.58	2.556	151.85

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-321.25	1.450	86.14
2.50	5.0	Shear	KIPS	206.48	23.22	48.33	2.787	165.56
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-259.60	1.979	117.54
4.50	9.0	Shear	KIPS	207.64	21.14	46.85	2.938	174.52
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-245.20	2.137	126.94
5.00	10.0	Shear	KIPS	207.64	20.63	46.50	2.971	176.46
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	181.61	3.499	207.85
10.00	20.0	Shear	KIPS	207.64	15.53	42.49	3.370	200.18
15.00	30.0	Flexure	KIP-FT	817.88	53.57	253.83	2.251	133.74
15.00	30.0	Shear	KIPS	207.64	10.42	37.61	3.941	234.11
19.00	38.0	Flexure	KIP-FT	812.52	86.47	285.74	1.872	111.21
19.00	38.0	Shear	KIPS	206.48	6.18	33.09	4.580	272.04
20.00	40.0	Flexure	KIP-FT	812.52	92.13	289.89	1.826	108.47
20.00	40.0	Shear	KIPS	206.48	5.15	31.90	4.781	284.00
25.00	50.0	Flexure	KIP-FT	812.52	105.01	286.73	1.802	107.03
25.00	50.0	Shear	KIPS	206.48	0.00	25.54	6.173	366.65
30.00	60.0	Flexure	KIP-FT	812.52	92.13	289.89	1.826	108.47
30.00	60.0	Shear	KIPS	206.48	5.15	31.90	4.781	284.00
31.00	62.0	Flexure	KIP-FT	812.52	86.47	285.74	1.872	111.21
31.00	62.0	Shear	KIPS	206.48	6.18	33.09	4.580	272.04
35.00	70.0	Flexure	KIP-FT	817.88	53.57	253.83	2.251	133.74
35.00	70.0	Shear	KIPS	207.64	10.42	37.61	3.941	234.11
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	181.61	3.499	207.85
40.00	80.0	Shear	KIPS	207.64	15.53	42.49	3.370	200.18
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-245.20	2.137	126.94
45.00	90.0	Shear	KIPS	207.64	20.63	46.50	2.971	176.46
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-259.60	1.979	117.54
45.50	91.0	Shear	KIPS	207.64	21.14	46.85	2.938	174.52
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-321.25	1.450	86.14

47.50	95.0	Shear	KIPS	206.48	23.22	48.33	2.787	165.56
Span 3								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-401.93	1.008	59.90
0.00	0.0	Shear	KIPS	206.48	26.11	51.58	2.556	151.85
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-317.77	1.468	87.20
2.50	6.3	Shear	KIPS	206.48	23.49	49.82	2.699	160.31
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-270.22	1.866	110.83
4.00	10.0	Shear	KIPS	207.64	21.93	48.69	2.811	166.97
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-254.81	1.714	101.82
4.50	11.3	Shear	KIPS	207.64	21.41	48.28	2.845	169.01
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-157.53	3.203	190.25
8.00	20.0	Shear	KIPS	207.64	17.83	45.11	3.124	185.57
12.00	30.0	Flexure	KIP-FT	817.88	20.90	240.53	2.510	149.09
12.00	30.0	Shear	KIPS	207.64	13.75	40.82	3.551	210.91
14.00	35.0	Flexure	KIP-FT	812.52	46.35	275.25	2.087	123.98
14.00	35.0	Shear	KIPS	206.48	11.71	38.42	3.802	225.82
16.00	40.0	Flexure	KIP-FT	812.52	67.70	301.82	1.834	108.92
16.00	40.0	Shear	KIPS	206.48	9.65	35.81	4.136	245.66
20.00	50.0	Flexure	KIP-FT	812.52	97.73	340.55	1.538	91.37
20.00	50.0	Shear	KIPS	206.48	5.43	30.16	5.048	299.85
24.00	60.0	Flexure	KIP-FT	812.52	110.98	346.81	1.473	87.48
24.00	60.0	Shear	KIPS	206.48	1.31	23.77	6.575	390.57
26.00	65.0	Flexure	KIP-FT	812.52	111.43	335.38	1.522	90.38
26.00	65.0	Shear	KIPS	206.48	0.81	23.96	6.546	388.85
28.00	70.0	Flexure	KIP-FT	817.88	107.76	322.16	1.608	95.51
28.00	70.0	Shear	KIPS	207.64	2.85	26.85	5.799	344.48
32.00	80.0	Flexure	KIP-FT	817.88	88.19	263.21	2.041	121.26
32.00	80.0	Shear	KIPS	207.64	6.94	32.90	4.610	273.81
36.00	90.0	Flexure	KIP-FT	817.88	52.27	156.89	3.651	216.86
36.00	90.0	Shear	KIPS	207.64	11.02	42.48	3.475	206.41
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
40.00	100.0	Shear	KIPS	207.64	15.11	49.50	2.901	172.31

Detailed Rating Results
Maine DOT Config. 8
Axle Load
Impact: As Requested
Lane: As Requested

Span 1								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
0.00	0.0	Shear	KIPS	207.64	15.11	32.47	4.423	82.71
4.00	10.0	Flexure	KIP-FT	817.88	52.27	103.43	5.538	103.56
4.00	10.0	Shear	KIPS	207.64	11.02	28.01	5.271	98.57
8.00	20.0	Flexure	KIP-FT	817.88	88.19	174.78	3.074	57.49
8.00	20.0	Shear	KIPS	207.64	6.94	21.85	6.942	129.81
12.00	30.0	Flexure	KIP-FT	817.88	107.76	215.58	2.403	44.93
12.00	30.0	Shear	KIPS	207.64	2.85	17.96	8.666	162.06
14.00	35.0	Flexure	KIP-FT	812.52	111.43	225.38	2.264	42.34
14.00	35.0	Shear	KIPS	206.48	0.81	16.10	9.741	182.16
16.00	40.0	Flexure	KIP-FT	812.52	110.98	228.58	2.234	41.78
16.00	40.0	Shear	KIPS	206.48	1.31	14.29	10.942	204.61
20.00	50.0	Flexure	KIP-FT	812.52	97.73	222.67	2.353	43.99
20.00	50.0	Shear	KIPS	206.48	5.43	16.57	9.191	171.88
24.00	60.0	Flexure	KIP-FT	812.52	67.70	203.78	2.716	50.79
24.00	60.0	Shear	KIPS	206.48	9.65	20.20	7.333	137.13
26.00	65.0	Flexure	KIP-FT	812.52	46.35	185.82	3.092	57.82
26.00	65.0	Shear	KIPS	206.48	11.71	21.92	6.663	124.61
28.00	70.0	Flexure	KIP-FT	817.88	20.90	163.21	3.699	69.17
28.00	70.0	Shear	KIPS	207.64	13.75	23.57	6.151	115.02
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-116.49	4.331	80.99
32.00	80.0	Shear	KIPS	207.64	17.83	26.64	5.290	98.92
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-129.23	3.380	63.20
35.50	88.8	Shear	KIPS	207.64	21.41	29.01	4.735	88.54
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-131.05	3.847	71.94
36.00	90.0	Shear	KIPS	207.64	21.93	29.33	4.666	87.26
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-136.52	3.417	63.90
37.50	93.8	Shear	KIPS	206.48	23.49	30.24	4.446	83.14
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-145.62	2.784	52.05
40.00	100.0	Shear	KIPS	206.48	25.84	31.73	4.164	77.87

Span 2								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-113.25	4.113	76.92
2.50	5.0	Shear	KIPS	206.48	23.22	30.38	4.433	82.90
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-107.01	4.801	89.77
4.50	9.0	Shear	KIPS	207.64	21.14	29.24	4.708	88.03
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-105.45	4.969	92.93
5.00	10.0	Shear	KIPS	207.64	20.63	28.94	4.773	89.26
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	122.25	5.198	97.21
10.00	20.0	Shear	KIPS	207.64	15.53	25.63	5.587	104.47
15.00	30.0	Flexure	KIP-FT	817.88	53.57	183.23	3.119	58.33
15.00	30.0	Shear	KIPS	207.64	10.42	21.93	6.760	126.41
19.00	38.0	Flexure	KIP-FT	812.52	86.47	214.87	2.490	46.56
19.00	38.0	Shear	KIPS	206.48	6.18	18.80	8.060	150.72
20.00	40.0	Flexure	KIP-FT	812.52	92.13	219.70	2.409	45.06
20.00	40.0	Shear	KIPS	206.48	5.15	18.00	8.473	158.45
25.00	50.0	Flexure	KIP-FT	812.52	105.01	227.95	2.266	42.38
25.00	50.0	Shear	KIPS	206.48	0.00	14.03	11.235	210.09
30.00	60.0	Flexure	KIP-FT	812.52	92.13	219.70	2.409	45.06
30.00	60.0	Shear	KIPS	206.48	5.15	18.00	8.473	158.45
31.00	62.0	Flexure	KIP-FT	812.52	86.47	214.87	2.490	46.56
31.00	62.0	Shear	KIPS	206.48	6.18	18.80	8.060	150.72
35.00	70.0	Flexure	KIP-FT	817.88	53.57	183.23	3.119	58.33
35.00	70.0	Shear	KIPS	207.64	10.42	21.93	6.760	126.41
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	122.25	5.198	97.21
40.00	80.0	Shear	KIPS	207.64	15.53	25.63	5.587	104.47
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-105.45	4.969	92.93
45.00	90.0	Shear	KIPS	207.64	20.63	28.94	4.773	89.26
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-107.01	4.801	89.77
45.50	91.0	Shear	KIPS	207.64	21.14	29.24	4.708	88.03
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-113.25	4.113	76.92
47.50	95.0	Shear	KIPS	206.48	23.22	30.38	4.433	82.90

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-145.62	2.784	52.05
0.00	0.0	Shear	KIPS	206.48	25.84	31.73	4.164	77.87
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-136.52	3.417	63.90
2.50	6.3	Shear	KIPS	206.48	23.49	30.24	4.446	83.14
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-131.05	3.847	71.94
4.00	10.0	Shear	KIPS	207.64	21.93	29.33	4.666	87.26
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-129.23	3.380	63.20

4.50	11.3	Shear	KIPS	207.64	21.41	29.01	4.735	88.54
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-116.49	4.331	80.99
8.00	20.0	Shear	KIPS	207.64	17.83	26.64	5.290	98.92
12.00	30.0	Flexure	KIP-FT	817.88	20.90	163.21	3.699	69.17
12.00	30.0	Shear	KIPS	207.64	13.75	23.57	6.151	115.02
14.00	35.0	Flexure	KIP-FT	812.52	46.35	185.82	3.092	57.82
14.00	35.0	Shear	KIPS	206.48	11.71	21.92	6.663	124.61
16.00	40.0	Flexure	KIP-FT	812.52	67.70	203.78	2.716	50.79
16.00	40.0	Shear	KIPS	206.48	9.65	20.20	7.333	137.13
20.00	50.0	Flexure	KIP-FT	812.52	97.73	222.67	2.353	43.99
20.00	50.0	Shear	KIPS	206.48	5.43	16.57	9.191	171.88
24.00	60.0	Flexure	KIP-FT	812.52	110.98	228.58	2.234	41.78
24.00	60.0	Shear	KIPS	206.48	1.31	14.29	10.942	204.61
26.00	65.0	Flexure	KIP-FT	812.52	111.43	225.38	2.264	42.34
26.00	65.0	Shear	KIPS	206.48	0.81	16.10	9.741	182.16
28.00	70.0	Flexure	KIP-FT	817.88	107.76	215.58	2.403	44.93
28.00	70.0	Shear	KIPS	207.64	2.85	17.96	8.666	162.06
32.00	80.0	Flexure	KIP-FT	817.88	88.19	174.78	3.074	57.49
32.00	80.0	Shear	KIPS	207.64	6.94	21.85	6.942	129.81
36.00	90.0	Flexure	KIP-FT	817.88	52.27	103.43	5.538	103.56
36.00	90.0	Shear	KIPS	207.64	11.02	28.01	5.271	98.57
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
40.00	100.0	Shear	KIPS	207.64	15.11	32.47	4.423	82.71

Detailed Rating Results
Maine DOT Config. 8 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal	Legal
							Rating	Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
0.00	0.0	Shear	KIPS	207.64	15.11	32.47	4.423	165.41
4.00	10.0	Flexure	KIP-FT	817.88	52.27	103.43	5.538	207.12
4.00	10.0	Shear	KIPS	207.64	11.02	28.01	5.271	197.14
8.00	20.0	Flexure	KIP-FT	817.88	88.19	174.78	3.074	114.98
8.00	20.0	Shear	KIPS	207.64	6.94	21.85	6.942	259.62
12.00	30.0	Flexure	KIP-FT	817.88	107.76	215.58	2.403	89.87
12.00	30.0	Shear	KIPS	207.64	2.85	17.96	8.666	324.13
14.00	35.0	Flexure	KIP-FT	812.52	111.43	225.38	2.264	84.68

14.00	35.0	Shear	KIPS	206.48	0.81	16.10	9.741	364.33
16.00	40.0	Flexure	KIP-FT	812.52	110.98	228.58	2.234	83.57
16.00	40.0	Shear	KIPS	206.48	1.31	15.91	9.823	367.38
20.00	50.0	Flexure	KIP-FT	812.52	97.73	222.67	2.353	87.98
20.00	50.0	Shear	KIPS	206.48	5.43	20.12	7.567	282.99
24.00	60.0	Flexure	KIP-FT	812.52	67.70	203.78	2.716	101.58
24.00	60.0	Shear	KIPS	206.48	9.65	23.78	6.229	232.96
26.00	65.0	Flexure	KIP-FT	812.52	46.35	185.82	3.092	115.63
26.00	65.0	Shear	KIPS	206.48	11.71	25.45	5.740	214.69
28.00	70.0	Flexure	KIP-FT	817.88	20.90	163.21	3.699	138.34
28.00	70.0	Shear	KIPS	207.64	13.75	26.97	5.375	201.01
32.00	80.0	Flexure	KIP-FT	-715.59	-42.27	-97.58	5.170	193.38
32.00	80.0	Shear	KIPS	207.64	17.83	29.68	4.748	177.56
35.50	88.8	Flexure	KIP-FT	-715.59	-110.95	-160.75	2.717	101.63
35.50	88.8	Shear	KIPS	207.64	21.41	31.64	4.342	162.40
36.00	90.0	Flexure	KIP-FT	-817.88	-121.78	-171.79	2.935	109.77
36.00	90.0	Shear	KIPS	207.64	21.93	31.88	4.293	160.55
37.50	93.8	Flexure	KIP-FT	-812.52	-155.85	-203.15	2.296	85.88
37.50	93.8	Shear	KIPS	206.48	23.49	32.58	4.127	154.35
40.00	100.0	Flexure	KIP-FT	-812.52	-217.84	-263.68	1.537	57.49
40.00	100.0	Shear	KIPS	206.48	25.84	35.22	3.751	140.30

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	5.0	Flexure	KIP-FT	-812.52	-156.51	-207.25	2.248	84.06
2.50	5.0	Shear	KIPS	206.48	23.22	32.51	4.143	154.95
4.50	9.0	Flexure	KIP-FT	-817.88	-112.14	-164.27	3.127	116.96
4.50	9.0	Shear	KIPS	207.64	21.14	30.82	4.466	167.05
5.00	10.0	Flexure	KIP-FT	-817.88	-101.69	-154.11	3.400	127.17
5.00	10.0	Shear	KIPS	207.64	20.63	30.61	4.514	168.81
10.00	20.0	Flexure	KIP-FT	817.88	-11.29	123.45	5.147	192.52
10.00	20.0	Shear	KIPS	207.64	15.53	28.08	5.100	190.73
15.00	30.0	Flexure	KIP-FT	817.88	53.57	174.56	3.274	122.44
15.00	30.0	Shear	KIPS	207.64	10.42	24.88	5.958	222.84
19.00	38.0	Flexure	KIP-FT	812.52	86.47	192.35	2.781	104.01
19.00	38.0	Shear	KIPS	206.48	6.18	21.88	6.926	259.03
20.00	40.0	Flexure	KIP-FT	812.52	92.13	193.63	2.734	102.25
20.00	40.0	Shear	KIPS	206.48	5.15	21.09	7.234	270.55
25.00	50.0	Flexure	KIP-FT	812.52	105.01	190.21	2.716	101.59
25.00	50.0	Shear	KIPS	206.48	0.00	16.77	9.401	351.59

30.00	60.0	Flexure	KIP-FT	812.52	92.13	193.63	2.734	102.25
30.00	60.0	Shear	KIPS	206.48	5.15	21.09	7.234	270.55
31.00	62.0	Flexure	KIP-FT	812.52	86.47	192.35	2.781	104.01
31.00	62.0	Shear	KIPS	206.48	6.18	21.88	6.926	259.03
35.00	70.0	Flexure	KIP-FT	817.88	53.57	174.56	3.274	122.44
35.00	70.0	Shear	KIPS	207.64	10.42	24.88	5.958	222.84
40.00	80.0	Flexure	KIP-FT	817.88	-11.29	123.45	5.147	192.52
40.00	80.0	Shear	KIPS	207.64	15.53	28.08	5.100	190.73
45.00	90.0	Flexure	KIP-FT	-817.88	-101.69	-154.11	3.400	127.17
45.00	90.0	Shear	KIPS	207.64	20.63	30.61	4.514	168.81
45.50	91.0	Flexure	KIP-FT	-817.88	-112.14	-164.27	3.127	116.96
45.50	91.0	Shear	KIPS	207.64	21.14	30.82	4.466	167.05
47.50	95.0	Flexure	KIP-FT	-812.52	-156.51	-207.25	2.248	84.06
47.50	95.0	Shear	KIPS	206.48	23.22	32.51	4.143	154.95

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-217.84	-263.68	1.537	57.49
0.00	0.0	Shear	KIPS	206.48	25.84	35.22	3.751	140.30
2.50	6.3	Flexure	KIP-FT	-812.52	-155.85	-203.15	2.296	85.88
2.50	6.3	Shear	KIPS	206.48	23.49	32.58	4.127	154.35
4.00	10.0	Flexure	KIP-FT	-817.88	-121.78	-171.79	2.935	109.77
4.00	10.0	Shear	KIPS	207.64	21.93	31.88	4.293	160.55
4.50	11.3	Flexure	KIP-FT	-715.59	-110.95	-160.75	2.717	101.63
4.50	11.3	Shear	KIPS	207.64	21.41	31.64	4.342	162.40
8.00	20.0	Flexure	KIP-FT	-715.59	-42.27	-97.58	5.170	193.38
8.00	20.0	Shear	KIPS	207.64	17.83	29.68	4.748	177.56
12.00	30.0	Flexure	KIP-FT	817.88	20.90	163.21	3.699	138.34
12.00	30.0	Shear	KIPS	207.64	13.75	26.97	5.375	201.01
14.00	35.0	Flexure	KIP-FT	812.52	46.35	185.82	3.092	115.63
14.00	35.0	Shear	KIPS	206.48	11.71	25.45	5.740	214.69
16.00	40.0	Flexure	KIP-FT	812.52	67.70	203.78	2.716	101.58
16.00	40.0	Shear	KIPS	206.48	9.65	23.78	6.229	232.96
20.00	50.0	Flexure	KIP-FT	812.52	97.73	222.67	2.353	87.98
20.00	50.0	Shear	KIPS	206.48	5.43	20.12	7.567	282.99
24.00	60.0	Flexure	KIP-FT	812.52	110.98	228.58	2.234	83.57
24.00	60.0	Shear	KIPS	206.48	1.31	15.91	9.823	367.38
26.00	65.0	Flexure	KIP-FT	812.52	111.43	225.38	2.264	84.68
26.00	65.0	Shear	KIPS	206.48	0.81	16.10	9.741	364.33
28.00	70.0	Flexure	KIP-FT	817.88	107.76	215.58	2.403	89.87

28.00	70.0	Shear	KIPS	207.64	2.85	17.96	8.666	324.13
32.00	80.0	Flexure	KIP-FT	817.88	88.19	174.78	3.074	114.98
32.00	80.0	Shear	KIPS	207.64	6.94	21.85	6.942	259.62
36.00	90.0	Flexure	KIP-FT	817.88	52.27	103.43	5.538	207.12
36.00	90.0	Shear	KIPS	207.64	11.02	28.01	5.271	197.14
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
40.00	100.0	Shear	KIPS	207.64	15.11	32.47	4.423	165.41



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Legal Load Rating

Objective

Rate girder for legal loads using combined legal trucks and legal lane load output from Virtis

Location of Interest

Girder 1, Pier 1

Moments (Taken From Virtis)

Maximum Live Load Forces	
Load Case/Configuration:	Moment, kip-ft
Config.	
DC Moment	180.90
DW Moment	36.90
Legal Lane	32.24
Config. 1	358.13
Config. 2	321.33
Config. 3	378.42
Config. 4	372.30
Config. 5	376.15
Config. 6	495.98
Config. 7	401.93
Config. 8	263.68

Capacity	
Moment, kip-ft	812.52

(All loads are unfactored)

Legal Lane = 42.99

0.75 factor is only applied to truck, not lane. Since the entire legal load live load factor is multiplied by 0.75, the inputted lane must be divided by 0.75 so it cancels out.

Load and Resistance Factors

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

$*V_{DC}$ =	1.25
$*V_{DW}$ =	1.50

$*V_{LL}$ = 1.31 Maine Truck Config. 1-5, 7-8

$*V_{LL}$ = 1.31 Maine Truck Config. 6

$*V_{LL}$ = 0.98 Maine Truck Config. 1-5, 7-8

$*V_{LL}$ = 0.98 Maine Truck Config. 6

0.75 factor applied per MaineDOT Load Rating Guide (3.3.3.3)



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
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Title	Legal Load Ratings		

Configuration 1

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	401	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{Rn} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 1 Strength I	
RF _{Flexure} =	1.35

- * Ref. MBE Table 6A.4.2.2-1
** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 2

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	364	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{Rn} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 2 Strength I	
RF _{Flexure} =	1.48

- * Ref. MBE Table 6A.4.2.2-1
** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 3

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	421	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{Rn} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 3 Strength I	
RF _{Flexure} =	1.28

- * Ref. MBE Table 6A.4.2.2-1
- ** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 4

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	415	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{Rn} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 4 Strength I	
RF _{Flexure} =	1.30

- * Ref. MBE Table 6A.4.2.2-1
** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 5

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	419	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{Rn} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 5 Strength I	
RF _{Flexure} =	1.29

- * Ref. MBE Table 6A.4.2.2-1
** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 6

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	539	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{Rn} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 6 Strength I	
RF _{Flexure} =	1.00

- * Ref. MBE Table 6A.4.2.2-1
** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 7

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	445	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 7 Strength I	
RF _{Flexure} =	1.21

- * Ref. MBE Table 6A.4.2.2-1
** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 8

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	181	37	307	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{Rn} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DC})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 8 Strength I	
RF _{Flexure} =	1.76

- * Ref. MBE Table 6A.4.2.2-1
** MBE Table 6A.4.4.2.3b-1

Transportation
Land Development
Environmental
Services



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Summary of Ratings

Rating Summary	
Load Case/Configuration:	Strength I
Config.	
Config. 1	1.35
Config. 2	1.48
Config. 3	1.28
Config. 4	1.30
Config. 5	1.29
Config. 6	1.00
Config. 7	1.21
Config. 8	1.76

Rating Results Summary Report

Name: I95 over Souadabscook Stream
Struct-Def: 1431+5949

Bridge ID: Br. No. 1431+5949
Member: G2

NBl: 1431+5949
Member Alt: G2

Live Load	Live Load Type	Rating Method	Rating Level	Load Rating (Ton)	Rating Factor	Location (ft)	Location Span-(%)	Limit State	Impact	Lane
HL-93 (US)	Truck + Lane	LRFR	Inventory	31.35	0.871	90.00	2 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Truck + Lane	LRFR	Operating	40.64	1.129	90.00	2 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Inventory	35.64	0.990	14.00	1 - (35.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Operating	46.33	1.287	14.00	1 - (35.0)	SERVICE-II Steel Flexure Stress	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Inventory	36.82	1.023	90.00	2 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested
HL-93 (US)	90%(Truck Pair + Lane)	LRFR	Operating	47.72	1.326	90.00	2 - (100.0)	STRENGTH-I Steel Flexure Moment	As Requested	As Requested

Bridge Name: I95 over Souadabscook Stream
NBI Structure ID: 1431+5949
Bridge ID: Br. No. 1431+5949

Analyzed By: Virtis
Analyze Date: Friday, May 10, 2013 08:01:17
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Friday, May 10, 2013 08:20:38

Structure Definition Name: 1431+5949
Member Name: G2
Pier Alternative Name: G2

6A.4.2.1 General Load Rating Equation - Steel Flexure Moment

Limit State: Stage: 3
Vehicle: Flex Sense: N/A

Location: 40.00 ft
Pass/Fail: Failed

6A Load and Resistance Factor Rating
6A.4 Load Rating Procedures
6A.4.2 General Load-Rating Equation
6A.4.2.1 Steel Flexure Moment General
(AASHTO Manual for Bridge Evaluation, Second Edition - 2011)

Steel Rolled Shape - At Location = 40.0000 (ft) - Left Stage 3

Section at Brace Point

Input:

1

Section Type: Noncomposite
Top Flange Laterally Supported: Yes
Compact: No
Allow Plastic Analysis Control Option: Yes
Allow Moment Redistribution Control Option: No
Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -205.2746 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Load	Vehicle	Limit State	LL (kip-ft)		LL fl (kip-ft)	DC	Load Factors		Phi	Mn (kip-ft)	RF	Capacity (Ton)
			LL				DW	DW-WS				
DesignInv	HL-93 (US) - Truck + Lane	STR-I	60.67		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-328.45		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	31.35
DesignOp	HL-93 (US) - Truck + Lane	STR-I	60.67		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-328.45		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	40.64
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	55.27		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-274.04		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	37.58
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	55.27		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-274.04		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	48.71
DesignInv	HL-93 (US) - 90% (Truck Pair +- Lane	STR-I	0.00		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	3564.00
DesignInv	HL-93 (US) - 90% (Truck Pair +- Lane	STR-I	-279.69		0.00	1.25	1.50	1.50	1.75	1.00	-812.52	36.82
DesignOp	HL-93 (US) - 90% (Truck Pair +- Lane	STR-I	0.00		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	3564.00
DesignOp	HL-93 (US) - 90% (Truck Pair +- Lane	STR-I	-279.69		0.00	1.25	1.50	1.50	1.35	1.00	-812.52	47.72
Legal	Maine DOT Config. 1 - Legal T~	STR-I	45.54		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA
Legal	Maine DOT Config. 1 - Legal T~	STR-I	-309.37		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	61.76
Legal	Maine DOT Config. 1 x2 - Lega~	STR-I	45.54		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA
Legal	Maine DOT Config. 1 x2 - Lega~	STR-I	-322.03		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	118.66
Legal	Maine DOT Config. 2 - Legal T~	STR-I	54.73		0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA

Legal	Maine DOT Config. 2 - Legal T~ STR-I	-288.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.32	62.16
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	54.73	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 2 x 2 - Leg~ STR-I	-288.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.32	124.31
Legal	Maine DOT Config. 3 - Legal T~ STR-I	54.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 3 - Legal T~ STR-I	-248.79	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.54	67.58
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	54.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 3 x2 - Lega~ STR-I	-340.27	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.12	98.82
Legal	Maine DOT Config. 4 - Legal T~ STR-I	55.61	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 4 - Legal T~ STR-I	-249.43	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.53	67.40
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	55.61	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 4 x 2 - Leg~ STR-I	-334.77	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.14	100.44
Legal	Maine DOT Config. 5 - Legal T~ STR-I	51.63	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 5 - Legal T~ STR-I	-240.27	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.59	69.97
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	51.63	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 5 x2 - Lega~ STR-I	-338.23	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.13	99.41
Legal	Maine DOT Config. 6 - Legal T~ STR-I	62.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 6 - Legal T~ STR-I	-259.76	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.47	55.82
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	62.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 6 x2 - Lega~ STR-I	-445.98	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	0.86	65.03
Legal	Maine DOT Config. 7 - Legal T~ STR-I	49.28	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 7 - Legal T~ STR-I	-206.20	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.85	55.04
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	49.28	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 7 x 2 - Leg~ STR-I	-361.40	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.06	62.80
Legal	Maine DOT Config. 8 - Legal T~ STR-I	31.46	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 8 - Legal T~ STR-I	-130.94	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	2.92	54.57
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	31.46	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA
Legal	Maine DOT Config. 8 x2 - Lega~ STR-I	-237.10	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	1.61	60.27

Legend:
NA - Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State	Vehicle	Design Inv~	Capacity (Ton)	Vehicle	Design Op~	Capacity (Ton)	Vehicle	Legal Load~	Capacity (Ton)	Vehicle	Permit Load~	Capacity (Ton)
STR-I	HL-93 (US) - Truck + Lane	0.87	31.35	HL-93 (US) - Truck + Lane	1.13	40.64	Maine DOT Config. 6 x2 - L~	0.86	65.03			

Steel Rolled Shape - At Location = 40.0000 (ft) - Right Stage 3

Section at Brace Point

Input:

Section Type: Noncomposite
Top Flange Laterally Supported: Yes
Compact: No
Allow Plastic Analysis Control Option: Yes
Allow Moment Redistribution Control Option: No
Moment Redistribution Qualified: No, redistribution did not occur.

For positive flexure, composite, noncompact sections:

Condition Factor = 1.0000
System Factor = 1.0000
DC Moment = -205.2746 (kip-ft)
DW Moment = -36.9119 (kip-ft)
DW-WS Moment = 0.0000 (kip-ft) (Moment due to wearing surface)

LL total = LL + (1/3)LL_{f1}

Load	Vehicle	Limit State	LL (kip-ft)	LL _{f1} (kip-ft)	DC	DW	Load Factors	Phi	Mn (kip-ft)	RF	Capacity (Ton)
DesignInv	HL-93 (US) - Truck + Lane	STR-I	60.67	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Truck + Lane	STR-I	-328.45	0.00	1.25	1.50	1.50	1.75	-812.52	0.87	31.35
DesignOp	HL-93 (US) - Truck + Lane	STR-I	60.67	0.00	1.25	1.50	1.50	1.35	-812.52	NA	NA
DesignOp	HL-93 (US) - Truck + Lane	STR-I	-328.45	0.00	1.25	1.50	1.50	1.35	-812.52	1.13	40.64
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	55.27	0.00	1.25	1.50	1.50	1.75	-812.52	NA	NA
DesignInv	HL-93 (US) - Tandem + Lane	STR-I	-274.04	0.00	1.25	1.50	1.50	1.75	-812.52	1.04	37.58

DesignOp	HL-93 (US) - Tandem + Lane	STR-I	55.27	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	NA	NA	NA
DesignOp	HL-93 (US) - Tandem + Lane	STR-I	-274.04	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	48.71	48.71	48.71
DesignInv	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	0.00	0.00	1.25	1.50	1.50	1.75	1.00	-812.52	3564.00	3564.00	3564.00
DesignInv	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-279.69	0.00	1.25	1.50	1.50	1.75	1.00	-812.52	36.82	36.82	36.82
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	0.00	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	3564.00	3564.00	3564.00
DesignOp	HL-93 (US) - 90%(Truck Fair +- STR-I	STR-I	-279.69	0.00	1.25	1.50	1.50	1.35	1.00	-812.52	47.72	47.72	47.72
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	45.54	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	-309.37	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	61.76	61.76	61.76
Legal	Maine DOT Config. 1 - Legal ~- STR-I	STR-I	45.54	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 1 x2 - Lega- STR-I	STR-I	-322.03	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	118.66	118.66	118.66
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	54.73	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 2 - Legal ~- STR-I	STR-I	-288.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	62.16	62.16	62.16
Legal	Maine DOT Config. 2 x 2 - Leg- STR-I	STR-I	54.73	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 2 x 2 - Leg- STR-I	STR-I	-288.93	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	124.31	124.31	124.31
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	54.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 3 - Legal ~- STR-I	STR-I	-248.79	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	67.58	67.58	67.58
Legal	Maine DOT Config. 3 x2 - Lega- STR-I	STR-I	54.87	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 3 x2 - Lega- STR-I	STR-I	-340.27	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	98.82	98.82	98.82
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	55.61	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 4 - Legal ~- STR-I	STR-I	-249.43	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	67.40	67.40	67.40
Legal	Maine DOT Config. 4 x 2 - Leg- STR-I	STR-I	55.61	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 4 x 2 - Leg- STR-I	STR-I	-334.77	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	100.44	100.44	100.44
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	51.63	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 5 - Legal ~- STR-I	STR-I	-240.27	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	69.97	69.97	69.97
Legal	Maine DOT Config. 5 x2 - Lega- STR-I	STR-I	51.63	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 5 x2 - Lega- STR-I	STR-I	-338.23	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	99.41	99.41	99.41
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	62.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 6 - Legal ~- STR-I	STR-I	-259.76	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	55.82	55.82	55.82
Legal	Maine DOT Config. 6 x2 - Lega- STR-I	STR-I	62.44	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 6 x2 - Lega- STR-I	STR-I	-445.98	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	65.03	65.03	65.03
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	49.28	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 7 - Legal ~- STR-I	STR-I	-206.20	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	55.04	55.04	55.04
Legal	Maine DOT Config. 7 x 2 - Leg- STR-I	STR-I	49.28	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 7 x 2 - Leg- STR-I	STR-I	-361.40	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	62.80	62.80	62.80
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	31.46	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 8 - Legal ~- STR-I	STR-I	-130.94	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	54.57	54.57	54.57
Legal	Maine DOT Config. 8 x2 - Lega- STR-I	STR-I	31.46	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	NA	NA	NA
Legal	Maine DOT Config. 8 x2 - Lega- STR-I	STR-I	-237.10	0.00	1.25	1.50	1.50	1.31	1.00	-812.52	60.27	60.27	60.27

Legend:

NA Resistance and live load are of opposite sign so rating factor is not applicable.

Controlling Rating Factors

Limit State	Vehicle	Design Inv- RF	Capacity (ton)	Vehicle	Design Op- RF	Capacity (ton)	Vehicle	Legal Load- RF	Capacity (ton)	Vehicle	Permit Load- RF	Capacity (ton)
STR-I	HL-93 (US) - Truck + Lane	0.87	31.35	HL-93 (US) - Truck + Lane	1.13	40.64	Maine DOT Config. 6 x2 - L-	0.86	65.03			

Bridge Name: I95 over Souadabscook Stream
NBI Structure ID: 1431+5949
Bridge ID: Br. No. 1431+5949

Analyzed By: Virtis
Analyze Date: Tuesday, April 23, 2013 10:26:57
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Tuesday, April 23, 2013 10:54:02

Structure Definition Name: 1431+5949
Member Name: G2
Member Alternative Name: G2

Report by Action: ☒ **Flexure** ☒ **Shear** ☐ **Overload** ☐ **Critical**

Detailed Rating Results
HL-93 (US)
Truck + Lane
Impact: As Requested
Lane: As Requested

Span 1

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	16.74	68.26	1.558	56.08	2.019	72.69
4.00	10.0	Flexure	KIP-FT	817.88	57.91	169.45	2.507	90.23	3.249	116.97
4.00	10.0	Shear	KIPS	207.64	12.22	56.99	1.924	69.27	2.494	89.79
8.00	20.0	Flexure	KIP-FT	817.88	97.73	280.53	1.409	50.74	1.827	65.78
8.00	20.0	Shear	KIPS	207.64	7.70	42.78	2.641	95.08	3.424	123.25
12.00	30.0	Flexure	KIP-FT	817.88	119.49	337.94	1.123	40.42	1.455	52.39
12.00	30.0	Shear	KIPS	207.64	3.18	33.68	3.454	124.33	4.477	161.17
14.00	35.0	Flexure	KIP-FT	812.52	123.58	350.50	1.065	38.34	1.381	49.71
14.00	35.0	Shear	KIPS	206.48	0.92	29.63	3.960	142.55	5.133	184.78
16.00	40.0	Flexure	KIP-FT	812.52	123.14	359.15	1.040	37.45	1.349	48.55
16.00	40.0	Shear	KIPS	206.48	1.48	25.80	4.532	163.14	5.874	211.48

20.00	50.0	Flexure	KIP-FT	812.52	108.60	350.62	1.096	39.46	1.421	51.16
20.00	50.0	Shear	KIPS	206.48	6.04	30.61	3.709	133.52	4.808	173.08
24.00	60.0	Flexure	KIP-FT	812.52	75.24	323.74	1.263	45.47	1.637	58.95
24.00	60.0	Shear	KIPS	206.48	10.77	39.34	2.798	100.72	3.627	130.57
26.00	65.0	Flexure	KIP-FT	812.52	51.42	292.68	1.457	52.45	1.889	68.00
26.00	65.0	Shear	KIPS	206.48	13.05	43.63	2.484	89.43	3.220	115.92
28.00	70.0	Flexure	KIP-FT	817.88	23.06	255.95	1.760	63.35	2.281	82.12
28.00	70.0	Shear	KIPS	207.64	15.31	48.05	2.235	80.46	2.897	104.30
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-219.16	1.707	61.46	2.213	79.67
32.00	80.0	Shear	KIPS	207.64	19.83	56.99	1.826	65.73	2.367	85.21
35.50	88.8	Flexure	KIP-FT	-715.59	-	-123.52	1.265	45.55	1.640	59.04
35.50	88.8	Shear	KIPS	207.64	23.78	64.64	1.565	56.33	2.028	73.03
36.00	90.0	Flexure	KIP-FT	-817.88	-	-135.56	1.429	51.46	1.853	66.71
36.00	90.0	Shear	KIPS	207.64	24.36	65.70	1.533	55.19	1.987	71.55
37.50	93.8	Flexure	KIP-FT	-812.52	-	-173.38	1.219	43.88	1.580	56.89
37.50	93.8	Shear	KIPS	206.48	26.08	68.80	1.436	51.70	1.861	67.01

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	- 242.19	- 328.45	0.871	31.35	1.129	40.64
0.00	0.0	Shear	KIPS	206.48	28.70	75.51	1.283	46.18	1.663	59.87
2.50	5.0	Flexure	KIP-FT	-812.52	- 174.04	- 246.90	1.362	49.02	1.765	63.54
2.50	5.0	Shear	KIPS	206.48	25.81	70.85	1.397	50.30	1.811	65.20
4.50	9.0	Flexure	KIP-FT	-817.88	- 124.71	- 204.09	1.840	66.25	2.385	85.88
4.50	9.0	Shear	KIPS	207.64	23.52	67.02	1.512	54.44	1.960	70.57
5.00	10.0	Flexure	KIP-FT	-817.88	- 113.09	- 198.52	1.935	69.66	2.508	90.30
5.00	10.0	Shear	KIPS	207.64	22.95	66.05	1.541	55.46	1.997	71.90
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	172.45	2.763	99.48	3.582	128.95
10.00	20.0	Shear	KIPS	207.64	17.30	56.01	1.891	68.07	2.451	88.24
15.00	30.0	Flexure	KIP-	817.88	59.95	271.70	1.558	56.08	2.019	72.70

			FT							
15.00	30.0	Shear	KIPS	207.64	11.66	45.80	2.404	86.53	3.116	112.17
19.00	38.0	Flexure	KIP-FT	812.52	96.32	328.28	1.198	43.14	1.553	55.93
19.00	38.0	Shear	KIPS	206.48	6.83	37.77	2.991	107.68	3.877	139.58
20.00	40.0	Flexure	KIP-FT	812.52	102.58	337.40	1.152	41.48	1.494	53.78
20.00	40.0	Shear	KIPS	206.48	5.69	35.80	3.179	114.45	4.121	148.36
25.00	50.0	Flexure	KIP-FT	812.52	116.81	351.84	1.075	38.71	1.394	50.18
25.00	50.0	Shear	KIPS	206.48	0.00	26.67	4.424	159.27	5.735	206.46
30.00	60.0	Flexure	KIP-FT	812.52	102.58	337.40	1.152	41.48	1.494	53.78
30.00	60.0	Shear	KIPS	206.48	5.69	35.80	3.179	114.45	4.121	148.36
31.00	62.0	Flexure	KIP-FT	812.52	96.32	328.28	1.198	43.14	1.553	55.93
31.00	62.0	Shear	KIPS	206.48	6.83	37.77	2.991	107.68	3.877	139.58
35.00	70.0	Flexure	KIP-FT	817.88	59.95	271.70	1.558	56.08	2.019	72.70
35.00	70.0	Shear	KIPS	207.64	11.66	45.80	2.404	86.53	3.116	112.17
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	172.45	2.763	99.48	3.582	128.95
40.00	80.0	Shear	KIPS	207.64	17.30	56.01	1.891	68.07	2.451	88.24
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	1.935	69.66	2.508	90.30
45.00	90.0	Shear	KIPS	207.64	22.95	66.05	1.541	55.46	1.997	71.90
45.50	91.0	Flexure	KIP-FT	-817.88	-	-	1.840	66.25	2.385	85.88
45.50	91.0	Shear	KIPS	207.64	23.52	67.02	1.512	54.44	1.960	70.57
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.362	49.02	1.765	63.54
47.50	95.0	Shear	KIPS	206.48	25.81	70.85	1.397	50.30	1.811	65.20
50.00	100.0	Flexure	KIP-FT	-812.52	-	-	0.871	31.35	1.129	40.64
50.00	100.0	Shear	KIPS	206.48	28.70	75.51	1.283	46.18	1.663	59.87

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.219	43.88	1.580	56.89
2.50	6.3	Shear	KIPS	206.48	26.08	68.80	1.436	51.70	1.861	67.01
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.429	51.46	1.853	66.71

4.00	10.0	Shear	KIPS	207.64	24.36	65.70	1.533	55.19	1.987	71.55
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.265	45.55	1.640	59.04
4.50	11.3	Shear	KIPS	207.64	23.78	64.64	1.565	56.33	2.028	73.03
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-	1.707	61.46	2.213	79.67
8.00	20.0	Shear	KIPS	207.64	19.83	56.99	1.826	65.73	2.367	85.21
12.00	30.0	Flexure	KIP-FT	817.88	23.06	255.95	1.760	63.35	2.281	82.12
12.00	30.0	Shear	KIPS	207.64	15.31	48.05	2.235	80.46	2.897	104.30
14.00	35.0	Flexure	KIP-FT	812.52	51.42	292.68	1.457	52.45	1.889	68.00
14.00	35.0	Shear	KIPS	206.48	13.05	43.63	2.484	89.43	3.220	115.92
16.00	40.0	Flexure	KIP-FT	812.52	75.24	323.74	1.263	45.47	1.637	58.95
16.00	40.0	Shear	KIPS	206.48	10.77	39.34	2.798	100.72	3.627	130.57
20.00	50.0	Flexure	KIP-FT	812.52	108.60	350.62	1.096	39.46	1.421	51.16
20.00	50.0	Shear	KIPS	206.48	6.04	30.61	3.709	133.52	4.808	173.08
24.00	60.0	Flexure	KIP-FT	812.52	123.14	359.15	1.040	37.45	1.349	48.55
24.00	60.0	Shear	KIPS	206.48	1.48	25.80	4.532	163.14	5.874	211.48
26.00	65.0	Flexure	KIP-FT	812.52	123.58	350.50	1.065	38.34	1.381	49.71
26.00	65.0	Shear	KIPS	206.48	0.92	29.63	3.960	142.55	5.133	184.78
28.00	70.0	Flexure	KIP-FT	817.88	119.49	337.94	1.123	40.42	1.455	52.39
28.00	70.0	Shear	KIPS	207.64	3.18	33.68	3.454	124.33	4.477	161.17
32.00	80.0	Flexure	KIP-FT	817.88	97.73	280.53	1.409	50.74	1.827	65.78
32.00	80.0	Shear	KIPS	207.64	7.70	42.78	2.641	95.08	3.424	123.25
36.00	90.0	Flexure	KIP-FT	817.88	57.91	169.45	2.507	90.23	3.249	116.97
36.00	90.0	Shear	KIPS	207.64	12.22	56.99	1.924	69.27	2.494	89.79
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	16.74	68.26	1.558	56.08	2.019	72.69

Detailed Rating Results
HL-93 (US)
90%(Truck Pair + Lane)
Impact: As Requested
Lane: As Requested

Span 1

Location	Inventory Rating	Inventory Load	Operating Rating	Operating Load
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								Rating		Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	16.74	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	817.88	57.91	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Shear	KIPS	207.64	12.22	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	817.88	97.73	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Shear	KIPS	207.64	7.70	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	119.49	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	3.18	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	123.58	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	0.92	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	123.14	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	1.48	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	108.60	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	6.04	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	75.24	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	10.77	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	51.42	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	13.05	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-FT	817.88	23.06	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Shear	KIPS	207.64	15.31	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-195.98	1.909	68.73	2.475	89.09
32.00	80.0	Shear	KIPS	207.64	19.83	0.00	99.000	3564.00	99.000	3564.00
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-224.80	1.415	50.92	1.834	66.01
35.50	88.8	Shear	KIPS	207.64	23.78	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-230.03	1.598	57.53	2.072	74.57
36.00	90.0	Shear	KIPS	207.64	24.36	0.00	99.000	3564.00	99.000	3564.00
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-247.10	1.363	49.05	1.766	63.59
37.50	93.8	Shear	KIPS	207.64	26.08	0.00	99.000	3564.00	99.000	3564.00

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP- FT	-812.52	- 242.19	- 279.69	1.023	36.82	1.326	47.72
0.00	0.0	Shear	KIPS	206.48	28.97	0.00	99.000	3564.00	99.000	3564.00
2.50	5.0	Flexure	KIP- FT	-812.52	- 174.04	- 213.31	1.576	56.74	2.043	73.55
2.50	5.0	Shear	KIPS	206.48	25.81	0.00	99.000	3564.00	99.000	3564.00
4.50	9.0	Flexure	KIP- FT	-817.88	- 124.71	- 187.11	2.007	72.26	2.602	93.67
4.50	9.0	Shear	KIPS	207.64	23.52	0.00	99.000	3564.00	99.000	3564.00
5.00	10.0	Flexure	KIP- FT	-817.88	- 113.09	- 181.09	2.121	76.36	2.750	98.99
5.00	10.0	Shear	KIPS	207.64	22.95	0.00	99.000	3564.00	99.000	3564.00
10.00	20.0	Flexure	KIP- FT	-817.88	-12.45	- 142.85	3.208	115.47	4.158	149.69
10.00	20.0	Shear	KIPS	207.64	17.30	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Flexure	KIP- FT	817.88	59.95	0.00	99.000	3564.00	99.000	3564.00
15.00	30.0	Shear	KIPS	207.64	11.66	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Flexure	KIP- FT	817.88	96.32	0.00	99.000	3564.00	99.000	3564.00
19.00	38.0	Shear	KIPS	207.64	6.83	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Flexure	KIP- FT	812.52	102.58	0.00	99.000	3564.00	99.000	3564.00
20.00	40.0	Shear	KIPS	206.48	5.69	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Flexure	KIP- FT	812.52	116.81	0.00	99.000	3564.00	99.000	3564.00
25.00	50.0	Shear	KIPS	206.48	0.00	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Flexure	KIP- FT	812.52	102.58	0.00	99.000	3564.00	99.000	3564.00
30.00	60.0	Shear	KIPS	206.48	5.69	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Flexure	KIP- FT	812.52	96.32	0.00	99.000	3564.00	99.000	3564.00
31.00	62.0	Shear	KIPS	206.48	6.83	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Flexure	KIP- FT	817.88	59.95	0.00	99.000	3564.00	99.000	3564.00
35.00	70.0	Shear	KIPS	207.64	11.35	0.00	99.000	3564.00	99.000	3564.00
40.00	80.0	Flexure	KIP- FT	-817.88	-12.45	- 142.85	3.208	115.47	4.158	149.69
40.00	80.0	Shear	KIPS	207.64	17.30	0.00	99.000	3564.00	99.000	3564.00
45.00	90.0	Flexure	KIP- FT	-817.88	- 113.09	- 181.09	2.121	76.36	2.750	98.99
45.00	90.0	Shear	KIPS	207.64	22.95	0.00	99.000	3564.00	99.000	3564.00

45.50	91.0	Flexure	KIP-FT	-817.88	-	-	2.007	72.26	2.602	93.67
45.50	91.0	Shear	KIPS	207.64	23.52	0.00	99.000	3564.00	99.000	3564.00
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.576	56.74	2.043	73.55
47.50	95.0	Shear	KIPS	207.64	25.81	0.00	99.000	3564.00	99.000	3564.00
50.00	100.0	Flexure	KIP-FT	-812.52	-	-	1.023	36.82	1.326	47.72
50.00	100.0	Shear	KIPS	206.48	28.70	0.00	99.000	3564.00	99.000	3564.00

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.363	49.05	1.766	63.59
2.50	6.3	Shear	KIPS	206.48	26.08	0.00	99.000	3564.00	99.000	3564.00
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.598	57.53	2.072	74.57
4.00	10.0	Shear	KIPS	207.64	24.36	0.00	99.000	3564.00	99.000	3564.00
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.415	50.92	1.834	66.01
4.50	11.3	Shear	KIPS	207.64	23.78	0.00	99.000	3564.00	99.000	3564.00
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-	1.909	68.73	2.475	89.09
8.00	20.0	Shear	KIPS	207.64	19.83	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Flexure	KIP-FT	817.88	23.06	0.00	99.000	3564.00	99.000	3564.00
12.00	30.0	Shear	KIPS	207.64	15.31	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Flexure	KIP-FT	817.88	51.42	0.00	99.000	3564.00	99.000	3564.00
14.00	35.0	Shear	KIPS	207.64	13.05	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Flexure	KIP-FT	812.52	75.24	0.00	99.000	3564.00	99.000	3564.00
16.00	40.0	Shear	KIPS	206.48	10.77	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Flexure	KIP-FT	812.52	108.60	0.00	99.000	3564.00	99.000	3564.00
20.00	50.0	Shear	KIPS	206.48	6.04	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Flexure	KIP-FT	812.52	123.14	0.00	99.000	3564.00	99.000	3564.00
24.00	60.0	Shear	KIPS	206.48	1.48	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Flexure	KIP-FT	812.52	123.58	0.00	99.000	3564.00	99.000	3564.00
26.00	65.0	Shear	KIPS	206.48	0.92	0.00	99.000	3564.00	99.000	3564.00
28.00	70.0	Flexure	KIP-	817.88	119.49	0.00	99.000	3564.00	99.000	3564.00

			FT							
28.00	70.0	Shear	KIPS	207.64	3.18	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Flexure	KIP-FT	817.88	97.73	0.00	99.000	3564.00	99.000	3564.00
32.00	80.0	Shear	KIPS	207.64	7.70	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Flexure	KIP-FT	817.88	57.91	0.00	99.000	3564.00	99.000	3564.00
36.00	90.0	Shear	KIPS	207.64	12.22	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	16.74	0.00	99.000	3564.00	99.000	3564.00

**Detailed Rating Results
HL-93 (US)
Tandem + Lane
Impact: As Requested
Lane: As Requested**

Span 1

							Inventory	Inventory	Operating	Operating
							Rating	Load	Rating	Load
Location								Rating		
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
0.00	0.0	Shear	KIPS	207.64	16.74	62.47	1.702	61.28	2.207	79.44
4.00	10.0	Flexure	KIP-FT	817.88	57.91	159.18	2.668	96.05	3.459	124.51
4.00	10.0	Shear	KIPS	207.64	12.22	53.48	2.050	73.81	2.658	95.68
8.00	20.0	Flexure	KIP-FT	817.88	97.73	272.12	1.453	52.31	1.884	67.81
8.00	20.0	Shear	KIPS	207.64	7.70	41.45	2.726	98.13	3.533	127.20
12.00	30.0	Flexure	KIP-FT	817.88	119.49	340.75	1.113	40.08	1.443	51.96
12.00	30.0	Shear	KIPS	207.64	3.18	33.97	3.424	123.25	4.438	159.77
14.00	35.0	Flexure	KIP-FT	812.52	123.58	359.52	1.038	37.38	1.346	48.46
14.00	35.0	Shear	KIPS	206.48	0.92	30.44	3.854	138.73	4.996	179.84
16.00	40.0	Flexure	KIP-FT	812.52	123.14	367.86	1.016	36.57	1.317	47.40
16.00	40.0	Shear	KIPS	206.48	1.48	27.00	4.329	155.85	5.612	202.03
20.00	50.0	Flexure	KIP-FT	812.52	108.60	361.96	1.062	38.23	1.377	49.55
20.00	50.0	Shear	KIPS	206.48	6.04	32.65	3.477	125.18	4.507	162.27
24.00	60.0	Flexure	KIP-FT	812.52	75.24	327.40	1.249	44.96	1.619	58.29

24.00	60.0	Shear	KIPS	206.48	10.77	39.43	2.791	100.48	3.618	130.25
26.00	65.0	Flexure	KIP-FT	812.52	51.42	297.74	1.432	51.56	1.857	66.84
26.00	65.0	Shear	KIPS	206.48	13.05	42.75	2.535	91.27	3.287	118.32
28.00	70.0	Flexure	KIP-FT	817.88	23.06	260.80	1.727	62.17	2.239	80.59
28.00	70.0	Shear	KIPS	207.64	15.31	46.00	2.335	84.04	3.026	108.94
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-188.38	1.986	71.50	2.575	92.69
32.00	80.0	Shear	KIPS	207.64	19.83	52.23	1.992	71.72	2.583	92.97
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-217.19	1.464	52.71	1.898	68.33
35.50	88.8	Shear	KIPS	207.64	23.78	57.31	1.765	63.54	2.288	82.36
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-222.53	1.652	59.47	2.141	77.09
36.00	90.0	Shear	KIPS	207.64	24.36	58.00	1.736	62.51	2.251	81.04
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-240.12	1.402	50.48	1.818	65.43
37.50	93.8	Shear	KIPS	206.48	26.08	60.00	1.646	59.27	2.134	76.84

Span 2

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-274.04	1.044	37.58	1.353	48.71
0.00	0.0	Shear	KIPS	206.48	28.70	64.11	1.511	54.39	1.959	70.51
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-211.23	1.592	57.30	2.063	74.28
2.50	5.0	Shear	KIPS	206.48	25.81	60.96	1.624	58.45	2.105	75.77
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-187.56	2.002	72.09	2.596	93.45
4.50	9.0	Shear	KIPS	207.64	23.52	58.32	1.738	62.56	2.253	81.10
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-182.22	2.108	75.89	2.733	98.37
5.00	10.0	Shear	KIPS	207.64	22.95	57.63	1.766	63.56	2.289	82.39
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	186.81	2.551	91.83	3.307	119.04
10.00	20.0	Shear	KIPS	207.64	17.30	50.45	2.099	75.58	2.721	97.97
15.00	30.0	Flexure	KIP-FT	817.88	59.95	272.65	1.552	55.88	2.012	72.44
15.00	30.0	Shear	KIPS	207.64	11.66	42.86	2.568	92.45	3.329	119.84
19.00	38.0	Flexure	KIP-FT	812.52	96.32	324.28	1.213	43.67	1.573	56.61
19.00	38.0	Shear	KIPS	206.48	6.83	36.65	3.082	110.96	3.996	143.84

20.00	40.0	Flexure	KIP-FT	812.52	102.58	332.67	1.169	42.07	1.515	54.54
20.00	40.0	Shear	KIPS	206.48	5.69	35.10	3.242	116.71	4.203	151.29
25.00	50.0	Flexure	KIP-FT	812.52	116.81	350.01	1.081	38.91	1.401	50.44
25.00	50.0	Shear	KIPS	206.48	0.00	27.50	4.291	154.47	5.562	200.24
30.00	60.0	Flexure	KIP-FT	812.52	102.58	332.67	1.169	42.07	1.515	54.54
30.00	60.0	Shear	KIPS	206.48	5.69	35.10	3.242	116.71	4.203	151.29
31.00	62.0	Flexure	KIP-FT	812.52	96.32	324.28	1.213	43.67	1.573	56.61
31.00	62.0	Shear	KIPS	206.48	6.83	36.65	3.082	110.96	3.996	143.84
35.00	70.0	Flexure	KIP-FT	817.88	59.95	272.65	1.552	55.88	2.012	72.44
35.00	70.0	Shear	KIPS	207.64	11.66	42.86	2.568	92.45	3.329	119.84
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	186.81	2.551	91.83	3.307	119.04
40.00	80.0	Shear	KIPS	207.64	17.30	50.45	2.099	75.58	2.721	97.97
45.00	90.0	Flexure	KIP-FT	-817.88	-	-	2.108	75.89	2.733	98.37
45.00	90.0	Shear	KIPS	207.64	22.95	57.63	1.766	63.56	2.289	82.39
45.50	91.0	Flexure	KIP-FT	-817.88	-	-	2.002	72.09	2.596	93.45
45.50	91.0	Shear	KIPS	207.64	23.52	58.32	1.738	62.56	2.253	81.10
47.50	95.0	Flexure	KIP-FT	-812.52	-	-	1.592	57.30	2.063	74.28
47.50	95.0	Shear	KIPS	206.48	25.81	60.96	1.624	58.45	2.105	75.77
50.00	100.0	Flexure	KIP-FT	-812.52	-	-	1.044	37.58	1.353	48.71
50.00	100.0	Shear	KIPS	206.48	28.70	64.11	1.511	54.39	1.959	70.51

Span 3

							Inventory	Inventory	Operating	Operating
Location							Rating	Load Rating	Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-	-	1.402	50.48	1.818	65.43
2.50	6.3	Shear	KIPS	206.48	26.08	60.00	1.646	59.27	2.134	76.84
4.00	10.0	Flexure	KIP-FT	-817.88	-	-	1.652	59.47	2.141	77.09
4.00	10.0	Shear	KIPS	207.64	24.36	58.00	1.736	62.51	2.251	81.04
4.50	11.3	Flexure	KIP-FT	-715.59	-	-	1.464	52.71	1.898	68.33
4.50	11.3	Shear	KIPS	207.64	23.78	57.31	1.765	63.54	2.288	82.36
8.00	20.0	Flexure	KIP-	-715.59	-47.21	-	1.986	71.50	2.575	92.69

			FT			188.38				
8.00	20.0	Shear	KIPS	207.64	19.83	52.23	1.992	71.72	2.583	92.97
12.00	30.0	Flexure	KIP- FT	817.88	23.06	260.80	1.727	62.17	2.239	80.59
12.00	30.0	Shear	KIPS	207.64	15.31	46.00	2.335	84.04	3.026	108.94
14.00	35.0	Flexure	KIP- FT	812.52	51.42	297.74	1.432	51.56	1.857	66.84
14.00	35.0	Shear	KIPS	206.48	13.05	42.75	2.535	91.27	3.287	118.32
16.00	40.0	Flexure	KIP- FT	812.52	75.24	327.40	1.249	44.96	1.619	58.29
16.00	40.0	Shear	KIPS	206.48	10.77	39.43	2.791	100.48	3.618	130.25
20.00	50.0	Flexure	KIP- FT	812.52	108.60	361.96	1.062	38.23	1.377	49.55
20.00	50.0	Shear	KIPS	206.48	6.04	32.65	3.477	125.18	4.507	162.27
24.00	60.0	Flexure	KIP- FT	812.52	123.14	367.86	1.016	36.57	1.317	47.40
24.00	60.0	Shear	KIPS	206.48	1.48	27.00	4.329	155.85	5.612	202.03
26.00	65.0	Flexure	KIP- FT	812.52	123.58	359.52	1.038	37.38	1.346	48.46
26.00	65.0	Shear	KIPS	206.48	0.92	30.44	3.854	138.73	4.996	179.84
28.00	70.0	Flexure	KIP- FT	817.88	119.49	340.75	1.113	40.08	1.443	51.96
28.00	70.0	Shear	KIPS	207.64	3.18	33.97	3.424	123.25	4.438	159.77
32.00	80.0	Flexure	KIP- FT	817.88	97.73	272.12	1.453	52.31	1.884	67.81
32.00	80.0	Shear	KIPS	207.64	7.70	41.45	2.726	98.13	3.533	127.20
36.00	90.0	Flexure	KIP- FT	817.88	57.91	159.18	2.668	96.05	3.459	124.51
36.00	90.0	Shear	KIPS	207.64	12.22	53.48	2.050	73.81	2.658	95.68
40.00	100.0	Flexure	KIP- FT	817.88	0.00	0.00	99.000	3564.00	99.000	3564.00
40.00	100.0	Shear	KIPS	207.64	16.74	62.47	1.702	61.28	2.207	79.44

Bridge Name: I95 over Souadabscook Stream
NBI Structure ID: 1431+5949
Bridge ID: Br. No. 1431+5949

Analyzed By: Virtis
Analyze Date: Thursday, April 25, 2013 07:49:04
Analysis Engine: AASHTO LRFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: virtis
Report Date: Thursday, April 25, 2013 08:14:58

Structure Definition Name: 1431+5949
Member Name: G2
Member Alternative Name: G2

Report by Action: ☒ **Flexure** ☒ **Shear** ☐ **Overload** ☐ **Critical**

Detailed Rating Results
Legal Lane Load
Lane
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
0.00	0.0	Shear	KIPS	207.64	16.74	3.08	46.145	0.00
4.00	10.0	Flexure	KIP-FT	817.88	57.91	8.02	70.786	0.00
4.00	10.0	Shear	KIPS	207.64	12.22	2.45	59.909	0.00
8.00	20.0	Flexure	KIP-FT	817.88	97.73	14.06	37.578	0.00
8.00	20.0	Shear	KIPS	207.64	7.70	1.75	86.231	0.00
12.00	30.0	Flexure	KIP-FT	817.88	119.49	18.12	27.966	0.00
12.00	30.0	Shear	KIPS	207.64	3.18	1.32	99.000	0.00
14.00	35.0	Flexure	KIP-FT	812.52	123.58	19.42	25.686	0.00
14.00	35.0	Shear	KIPS	207.64	0.92	1.13	99.000	0.00
16.00	40.0	Flexure	KIP-FT	812.52	123.14	20.21	24.692	0.00
16.00	40.0	Shear	KIPS	206.48	1.48	1.16	99.000	0.00
20.00	50.0	Flexure	KIP-FT	812.52	108.60	20.33	25.253	0.00
20.00	50.0	Shear	KIPS	206.48	6.04	1.49	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	75.24	18.48	29.567	0.00
24.00	60.0	Shear	KIPS	206.48	10.77	1.89	77.685	0.00
26.00	65.0	Flexure	KIP-FT	812.52	51.42	16.81	33.896	0.00

26.00	65.0	Shear	KIPS	206.48	13.05	2.12	68.399	0.00
28.00	70.0	Flexure	KIP-FT	817.88	23.06	14.64	41.085	0.00
28.00	70.0	Shear	KIPS	207.64	15.31	2.36	60.896	0.00
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-13.55	36.885	0.00
32.00	80.0	Shear	KIPS	207.64	19.83	2.87	48.371	0.00
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-17.60	24.141	0.00
35.50	88.8	Shear	KIPS	207.64	23.78	3.37	40.138	0.00
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-18.56	26.459	0.00
36.00	90.0	Shear	KIPS	207.64	24.36	3.44	39.121	0.00
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-21.93	20.507	0.00
37.50	93.8	Shear	KIPS	206.48	26.08	3.66	36.036	0.00

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-28.99	13.180	0.00
0.00	0.0	Shear	KIPS	206.48	28.70	4.29	30.137	0.00
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-21.37	21.012	0.00
2.50	5.0	Shear	KIPS	206.48	25.81	3.91	33.815	0.00
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-16.44	30.524	0.00
4.50	9.0	Shear	KIPS	207.64	23.52	3.61	37.461	0.00
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-15.38	33.354	0.00
5.00	10.0	Shear	KIPS	207.64	22.95	3.54	38.387	0.00
10.00	20.0	Flexure	KIP-FT	-817.88	-12.45	-9.07	67.502	0.00
10.00	20.0	Shear	KIPS	207.64	17.30	2.85	49.623	0.00
15.00	30.0	Flexure	KIP-FT	817.88	59.95	14.34	39.433	0.00
15.00	30.0	Shear	KIPS	207.64	11.66	2.24	65.704	0.00
19.00	38.0	Flexure	KIP-FT	812.52	96.32	18.06	29.096	0.00
19.00	38.0	Shear	KIPS	206.48	6.83	1.81	83.437	0.00
20.00	40.0	Flexure	KIP-FT	812.52	102.58	18.70	27.771	0.00
20.00	40.0	Shear	KIPS	206.48	5.69	1.71	88.893	0.00
25.00	50.0	Flexure	KIP-FT	812.52	116.81	20.16	25.072	0.00
25.00	50.0	Shear	KIPS	206.48	0.00	1.27	99.000	0.00
30.00	60.0	Flexure	KIP-FT	812.52	102.58	18.70	27.771	0.00
30.00	60.0	Shear	KIPS	206.48	5.69	1.71	88.893	0.00
31.00	62.0	Flexure	KIP-FT	812.52	96.32	18.06	29.096	0.00
31.00	62.0	Shear	KIPS	206.48	6.83	1.81	83.437	0.00
35.00	70.0	Flexure	KIP-FT	817.88	59.95	14.34	39.433	0.00
35.00	70.0	Shear	KIPS	207.64	11.66	2.24	65.704	0.00
40.00	80.0	Flexure	KIP-FT	-817.88	-12.45	-9.07	67.502	0.00
40.00	80.0	Shear	KIPS	207.64	17.30	2.85	49.623	0.00

45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-15.38	33.354	0.00
45.00	90.0	Shear	KIPS	207.64	22.95	3.54	38.387	0.00
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-16.44	30.524	0.00
45.50	91.0	Shear	KIPS	207.64	23.52	3.61	37.461	0.00
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-21.37	21.012	0.00
47.50	95.0	Shear	KIPS	206.48	25.81	3.91	33.815	0.00
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-28.99	13.180	0.00
50.00	100.0	Shear	KIPS	206.48	28.70	4.29	30.137	0.00

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-21.93	20.507	0.00
2.50	6.3	Shear	KIPS	206.48	26.08	3.66	36.036	0.00
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-18.56	26.459	0.00
4.00	10.0	Shear	KIPS	207.64	24.36	3.44	39.121	0.00
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-17.60	24.141	0.00
4.50	11.3	Shear	KIPS	207.64	23.78	3.37	40.138	0.00
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-13.55	36.885	0.00
8.00	20.0	Shear	KIPS	207.64	19.83	2.87	48.371	0.00
12.00	30.0	Flexure	KIP-FT	817.88	23.06	14.64	41.085	0.00
12.00	30.0	Shear	KIPS	207.64	15.31	2.36	60.896	0.00
14.00	35.0	Flexure	KIP-FT	812.52	51.42	16.81	33.896	0.00
14.00	35.0	Shear	KIPS	206.48	13.05	2.12	68.399	0.00
16.00	40.0	Flexure	KIP-FT	812.52	75.24	18.48	29.567	0.00
16.00	40.0	Shear	KIPS	206.48	10.77	1.89	77.685	0.00
20.00	50.0	Flexure	KIP-FT	812.52	108.60	20.33	25.253	0.00
20.00	50.0	Shear	KIPS	206.48	6.04	1.49	99.000	0.00
24.00	60.0	Flexure	KIP-FT	812.52	123.14	20.21	24.692	0.00
24.00	60.0	Shear	KIPS	206.48	1.48	1.16	99.000	0.00
26.00	65.0	Flexure	KIP-FT	812.52	123.58	19.42	25.686	0.00
26.00	65.0	Shear	KIPS	206.48	0.92	1.13	99.000	0.00
28.00	70.0	Flexure	KIP-FT	817.88	119.49	18.12	27.966	0.00
28.00	70.0	Shear	KIPS	207.64	3.18	1.32	99.000	0.00
32.00	80.0	Flexure	KIP-FT	817.88	97.73	14.06	37.578	0.00
32.00	80.0	Shear	KIPS	207.64	7.70	1.75	86.231	0.00
36.00	90.0	Flexure	KIP-FT	817.88	57.91	8.02	70.786	0.00
36.00	90.0	Shear	KIPS	207.64	12.22	2.45	59.909	0.00
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	0.00
40.00	100.0	Shear	KIPS	207.64	16.74	3.08	46.145	0.00

**Detailed Rating Results
Maine DOT Config. 1
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
0.00	0.0	Shear	KIPS	207.64	16.74	56.46	2.516	125.79
4.00	10.0	Flexure	KIP-FT	817.88	57.91	133.64	4.246	212.28
4.00	10.0	Shear	KIPS	207.64	12.22	45.69	3.206	160.29
8.00	20.0	Flexure	KIP-FT	817.88	97.73	212.79	2.482	124.12
8.00	20.0	Shear	KIPS	207.64	7.70	33.05	4.567	228.34
12.00	30.0	Flexure	KIP-FT	817.88	119.49	259.61	1.952	97.61
12.00	30.0	Shear	KIPS	207.64	3.18	26.88	5.782	289.08
14.00	35.0	Flexure	KIP-FT	812.52	123.58	276.02	1.807	90.34
14.00	35.0	Shear	KIPS	206.48	0.92	24.02	6.525	326.23
16.00	40.0	Flexure	KIP-FT	812.52	123.14	285.73	1.747	87.34
16.00	40.0	Shear	KIPS	206.48	1.48	21.22	7.359	367.96
20.00	50.0	Flexure	KIP-FT	812.52	108.60	281.30	1.825	91.27
20.00	50.0	Shear	KIPS	206.48	6.04	27.02	5.615	280.73
24.00	60.0	Flexure	KIP-FT	812.52	75.24	248.11	2.202	110.08
24.00	60.0	Shear	KIPS	206.48	10.77	34.38	4.276	213.80
26.00	65.0	Flexure	KIP-FT	812.52	51.42	228.88	2.489	124.45
26.00	65.0	Shear	KIPS	206.48	13.05	37.71	3.840	192.00
28.00	70.0	Flexure	KIP-FT	817.88	23.06	200.01	3.008	150.41
28.00	70.0	Shear	KIPS	207.64	15.31	40.74	3.521	176.04
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-180.40	2.771	138.54
32.00	80.0	Shear	KIPS	207.64	19.83	46.12	3.014	150.69
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-200.13	2.123	106.13
35.50	88.8	Shear	KIPS	207.64	23.78	51.53	2.622	131.10
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-202.95	2.420	120.98
36.00	90.0	Shear	KIPS	207.64	24.36	52.68	2.554	127.71
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-224.26	2.006	100.28
37.50	93.8	Shear	KIPS	206.48	26.08	55.98	2.358	117.88

Span 2

Location							Legal Rating	Legal Load Rating
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(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-309.37	1.235	61.76
0.00	0.0	Shear	KIPS	206.48	28.70	65.78	1.967	98.35
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-227.84	1.971	98.56
2.50	5.0	Shear	KIPS	206.48	25.81	60.80	2.175	108.74
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-164.32	3.053	152.66
4.50	9.0	Shear	KIPS	207.64	23.52	56.78	2.384	119.22
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-149.51	3.432	171.61
5.00	10.0	Shear	KIPS	207.64	22.95	55.77	2.438	121.88
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	141.32	4.504	225.22
10.00	20.0	Shear	KIPS	207.64	17.30	45.55	3.106	155.32
15.00	30.0	Flexure	KIP-FT	817.88	59.95	226.82	2.493	124.64
15.00	30.0	Shear	KIPS	207.64	11.66	37.01	3.973	198.66
19.00	38.0	Flexure	KIP-FT	812.52	96.32	263.34	1.996	99.79
19.00	38.0	Shear	KIPS	206.48	6.83	30.71	4.913	245.67
20.00	40.0	Flexure	KIP-FT	812.52	102.58	267.54	1.941	97.07
20.00	40.0	Shear	KIPS	206.48	5.69	29.06	5.232	261.58
25.00	50.0	Flexure	KIP-FT	812.52	116.81	261.36	1.934	96.69
25.00	50.0	Shear	KIPS	206.48	0.00	20.08	7.851	392.57
30.00	60.0	Flexure	KIP-FT	812.52	102.58	267.54	1.941	97.07
30.00	60.0	Shear	KIPS	206.48	5.69	29.06	5.232	261.58
31.00	62.0	Flexure	KIP-FT	812.52	96.32	263.34	1.996	99.79
31.00	62.0	Shear	KIPS	206.48	6.83	30.71	4.913	245.67
35.00	70.0	Flexure	KIP-FT	817.88	59.95	226.82	2.493	124.64
35.00	70.0	Shear	KIPS	207.64	11.66	37.01	3.973	198.66
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	141.32	4.504	225.22
40.00	80.0	Shear	KIPS	207.64	17.30	45.55	3.106	155.32
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-149.51	3.432	171.61
45.00	90.0	Shear	KIPS	207.64	22.95	55.77	2.438	121.88
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-164.32	3.053	152.66
45.50	91.0	Shear	KIPS	207.64	23.52	56.78	2.384	119.22
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-227.84	1.971	98.56
47.50	95.0	Shear	KIPS	206.48	25.81	60.80	2.175	108.74
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-309.37	1.235	61.76
50.00	100.0	Shear	KIPS	206.48	28.70	65.78	1.967	98.35

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-224.26	2.006	100.28

2.50	6.3	Shear	KIPS	206.48	26.08	55.98	2.358	117.88
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-202.95	2.420	120.98
4.00	10.0	Shear	KIPS	207.64	24.36	52.68	2.554	127.71
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-200.13	2.123	106.13
4.50	11.3	Shear	KIPS	207.64	23.78	51.53	2.622	131.10
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-180.40	2.771	138.54
8.00	20.0	Shear	KIPS	207.64	19.83	46.12	3.014	150.69
12.00	30.0	Flexure	KIP-FT	817.88	23.06	200.01	3.008	150.41
12.00	30.0	Shear	KIPS	207.64	15.31	40.74	3.521	176.04
14.00	35.0	Flexure	KIP-FT	812.52	51.42	228.88	2.489	124.45
14.00	35.0	Shear	KIPS	206.48	13.05	37.71	3.840	192.00
16.00	40.0	Flexure	KIP-FT	812.52	75.24	248.11	2.202	110.08
16.00	40.0	Shear	KIPS	206.48	10.77	34.38	4.276	213.80
20.00	50.0	Flexure	KIP-FT	812.52	108.60	281.30	1.825	91.27
20.00	50.0	Shear	KIPS	206.48	6.04	27.02	5.615	280.73
24.00	60.0	Flexure	KIP-FT	812.52	123.14	285.73	1.747	87.34
24.00	60.0	Shear	KIPS	206.48	1.48	21.22	7.359	367.96
26.00	65.0	Flexure	KIP-FT	812.52	123.58	276.02	1.807	90.34
26.00	65.0	Shear	KIPS	206.48	0.92	24.02	6.525	326.23
28.00	70.0	Flexure	KIP-FT	817.88	119.49	259.61	1.952	97.61
28.00	70.0	Shear	KIPS	207.64	3.18	26.88	5.782	289.08
32.00	80.0	Flexure	KIP-FT	817.88	97.73	212.79	2.482	124.12
32.00	80.0	Shear	KIPS	207.64	7.70	33.05	4.567	228.34
36.00	90.0	Flexure	KIP-FT	817.88	57.91	133.64	4.246	212.28
36.00	90.0	Shear	KIPS	207.64	12.22	45.69	3.206	160.29
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4950.00
40.00	100.0	Shear	KIPS	207.64	16.74	56.46	2.516	125.79

Detailed Rating Results
Maine DOT Config. 1 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
0.00	0.0	Shear	KIPS	207.64	16.74	56.46	2.516	251.58
4.00	10.0	Flexure	KIP-FT	817.88	57.91	133.64	4.246	424.56
4.00	10.0	Shear	KIPS	207.64	12.22	45.69	3.206	320.59
8.00	20.0	Flexure	KIP-FT	817.88	97.73	212.79	2.482	248.23

8.00	20.0	Shear	KIPS	207.64	7.70	33.05	4.567	456.68
12.00	30.0	Flexure	KIP-FT	817.88	119.49	259.61	1.952	195.22
12.00	30.0	Shear	KIPS	207.64	3.18	26.88	5.782	578.16
14.00	35.0	Flexure	KIP-FT	812.52	123.58	276.02	1.807	180.68
14.00	35.0	Shear	KIPS	206.48	0.92	24.02	6.525	652.47
16.00	40.0	Flexure	KIP-FT	812.52	123.14	285.73	1.747	174.69
16.00	40.0	Shear	KIPS	206.48	1.48	25.57	6.106	610.63
20.00	50.0	Flexure	KIP-FT	812.52	108.60	281.30	1.825	182.53
20.00	50.0	Shear	KIPS	206.48	6.04	30.87	4.913	491.30
24.00	60.0	Flexure	KIP-FT	812.52	75.24	248.11	2.202	220.17
24.00	60.0	Shear	KIPS	206.48	10.77	35.59	4.131	413.07
26.00	65.0	Flexure	KIP-FT	812.52	51.42	228.88	2.489	248.91
26.00	65.0	Shear	KIPS	206.48	13.05	37.78	3.832	383.24
28.00	70.0	Flexure	KIP-FT	817.88	23.06	200.01	3.008	300.81
28.00	70.0	Shear	KIPS	207.64	15.31	40.74	3.521	352.09
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-168.12	2.973	297.32
32.00	80.0	Shear	KIPS	207.64	19.83	46.20	3.009	300.91
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-230.31	1.844	184.45
35.50	88.8	Shear	KIPS	207.64	23.78	53.54	2.524	252.38
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-239.65	2.049	204.90
36.00	90.0	Shear	KIPS	207.64	24.36	54.55	2.466	246.65
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-268.84	1.673	167.30
37.50	93.8	Shear	KIPS	206.48	26.08	57.48	2.296	229.62

Span 2

							Legal	Legal
							Rating	Load
Location								Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-322.03	1.187	118.66
0.00	0.0	Shear	KIPS	206.48	28.70	66.41	1.949	194.85
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-246.22	1.824	182.40
2.50	5.0	Shear	KIPS	206.48	25.81	61.88	2.137	213.69
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-192.97	2.600	260.00
4.50	9.0	Shear	KIPS	207.64	23.52	58.27	2.323	232.33
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-181.36	2.829	282.94
5.00	10.0	Shear	KIPS	207.64	22.95	57.41	2.368	236.79
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	143.69	4.430	443.03
10.00	20.0	Shear	KIPS	207.64	17.30	48.57	2.913	291.33
15.00	30.0	Flexure	KIP-FT	817.88	59.95	223.76	2.527	252.68
15.00	30.0	Shear	KIPS	207.64	11.66	39.65	3.708	370.84
19.00	38.0	Flexure	KIP-FT	812.52	96.32	261.42	2.010	201.04
19.00	38.0	Shear	KIPS	206.48	6.83	32.62	4.626	462.59

20.00	40.0	Flexure	KIP-FT	812.52	102.58	266.10	1.952	195.19
20.00	40.0	Shear	KIPS	206.48	5.69	30.90	4.920	491.98
25.00	50.0	Flexure	KIP-FT	812.52	116.81	260.23	1.942	194.21
25.00	50.0	Shear	KIPS	206.48	0.00	22.55	6.989	698.87
30.00	60.0	Flexure	KIP-FT	812.52	102.58	266.10	1.952	195.19
30.00	60.0	Shear	KIPS	206.48	5.69	30.90	4.920	491.98
31.00	62.0	Flexure	KIP-FT	812.52	96.32	261.42	2.010	201.04
31.00	62.0	Shear	KIPS	206.48	6.83	32.62	4.626	462.59
35.00	70.0	Flexure	KIP-FT	817.88	59.95	223.76	2.527	252.68
35.00	70.0	Shear	KIPS	207.64	11.66	39.65	3.708	370.84
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	143.69	4.430	443.03
40.00	80.0	Shear	KIPS	207.64	17.30	48.57	2.913	291.33
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-181.36	2.829	282.94
45.00	90.0	Shear	KIPS	207.64	22.95	57.41	2.368	236.79
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-192.97	2.600	260.00
45.50	91.0	Shear	KIPS	207.64	23.52	58.27	2.323	232.33
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-246.22	1.824	182.40
47.50	95.0	Shear	KIPS	206.48	25.81	61.88	2.137	213.69
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-322.03	1.187	118.66
50.00	100.0	Shear	KIPS	206.48	28.70	66.41	1.949	194.85

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-268.84	1.673	167.30
2.50	6.3	Shear	KIPS	206.48	26.08	57.48	2.296	229.62
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-239.65	2.049	204.90
4.00	10.0	Shear	KIPS	207.64	24.36	54.55	2.466	246.65
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-230.31	1.844	184.45
4.50	11.3	Shear	KIPS	207.64	23.78	53.54	2.524	252.38
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-168.12	2.973	297.32
8.00	20.0	Shear	KIPS	207.64	19.83	46.20	3.009	300.91
12.00	30.0	Flexure	KIP-FT	817.88	23.06	200.01	3.008	300.81
12.00	30.0	Shear	KIPS	207.64	15.31	40.74	3.521	352.09
14.00	35.0	Flexure	KIP-FT	812.52	51.42	228.88	2.489	248.91
14.00	35.0	Shear	KIPS	206.48	13.05	37.78	3.832	383.24
16.00	40.0	Flexure	KIP-FT	812.52	75.24	248.11	2.202	220.17
16.00	40.0	Shear	KIPS	206.48	10.77	35.59	4.131	413.07
20.00	50.0	Flexure	KIP-FT	812.52	108.60	281.30	1.825	182.53
20.00	50.0	Shear	KIPS	206.48	6.04	30.87	4.913	491.30
24.00	60.0	Flexure	KIP-FT	812.52	123.14	285.73	1.747	174.69

24.00	60.0	Shear	KIPS	206.48	1.48	25.57	6.106	610.63
26.00	65.0	Flexure	KIP-FT	812.52	123.58	276.02	1.807	180.68
26.00	65.0	Shear	KIPS	206.48	0.92	24.02	6.525	652.47
28.00	70.0	Flexure	KIP-FT	817.88	119.49	259.61	1.952	195.22
28.00	70.0	Shear	KIPS	207.64	3.18	26.88	5.782	578.16
32.00	80.0	Flexure	KIP-FT	817.88	97.73	212.79	2.482	248.23
32.00	80.0	Shear	KIPS	207.64	7.70	33.05	4.567	456.68
36.00	90.0	Flexure	KIP-FT	817.88	57.91	133.64	4.246	424.56
36.00	90.0	Shear	KIPS	207.64	12.22	45.69	3.206	320.59
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9900.00
40.00	100.0	Shear	KIPS	207.64	16.74	56.46	2.516	251.58

**Detailed Rating Results
Maine DOT Config. 2
Axle Load
Impact: As Requested
Lane: As Requested**

							Legal Rating	Legal Load Rating
Span 1								
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
0.00	0.0	Shear	KIPS	207.64	16.74	58.38	2.433	114.35
4.00	10.0	Flexure	KIP-FT	817.88	57.91	141.78	4.002	188.09
4.00	10.0	Shear	KIPS	207.64	12.22	48.48	3.022	142.03
8.00	20.0	Flexure	KIP-FT	817.88	97.73	229.07	2.306	108.38
8.00	20.0	Shear	KIPS	207.64	7.70	36.15	4.176	196.26
12.00	30.0	Flexure	KIP-FT	817.88	119.49	289.47	1.751	82.29
12.00	30.0	Shear	KIPS	207.64	3.18	27.53	5.645	265.29
14.00	35.0	Flexure	KIP-FT	812.52	123.58	312.45	1.596	75.02
14.00	35.0	Shear	KIPS	206.48	0.92	23.18	6.760	317.72
16.00	40.0	Flexure	KIP-FT	812.52	123.14	323.13	1.545	72.60
16.00	40.0	Shear	KIPS	206.48	1.48	18.99	8.221	386.40
20.00	50.0	Flexure	KIP-FT	812.52	108.60	328.17	1.565	73.54
20.00	50.0	Shear	KIPS	206.48	6.04	24.29	6.246	293.54
24.00	60.0	Flexure	KIP-FT	812.52	75.24	289.88	1.884	88.57
24.00	60.0	Shear	KIPS	206.48	10.77	32.91	4.467	209.95
26.00	65.0	Flexure	KIP-FT	812.52	51.42	256.59	2.220	104.35
26.00	65.0	Shear	KIPS	206.48	13.05	37.04	3.909	183.73
28.00	70.0	Flexure	KIP-FT	817.88	23.06	214.90	2.800	131.58
28.00	70.0	Shear	KIPS	207.64	15.31	41.01	3.498	164.39
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-186.28	2.683	126.11

32.00	80.0	Shear	KIPS	207.64	19.83	48.45	2.869	134.84
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-216.03	1.966	92.42
35.50	88.8	Shear	KIPS	207.64	23.78	54.31	2.488	116.93
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-224.05	2.192	103.01
36.00	90.0	Shear	KIPS	207.64	24.36	55.10	2.442	114.77
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-248.13	1.813	85.19
37.50	93.8	Shear	KIPS	206.48	26.08	57.36	2.301	108.15

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-288.93	1.322	62.16
0.00	0.0	Shear	KIPS	206.48	28.70	64.77	1.998	93.90
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-213.15	2.107	99.03
2.50	5.0	Shear	KIPS	206.48	25.81	60.60	2.182	102.56
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-183.93	2.728	128.20
4.50	9.0	Shear	KIPS	207.64	23.52	57.09	2.371	111.45
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-176.67	2.905	136.51
5.00	10.0	Shear	KIPS	207.64	22.95	56.21	2.418	113.66
10.00	20.0	Flexure	KIP-FT	-817.88	-12.45	-140.56	4.355	204.67
10.00	20.0	Shear	KIPS	207.64	17.30	46.98	3.012	141.55
15.00	30.0	Flexure	KIP-FT	817.88	59.95	243.04	2.326	109.34
15.00	30.0	Shear	KIPS	207.64	11.66	37.35	3.937	185.06
19.00	38.0	Flexure	KIP-FT	812.52	96.32	294.44	1.785	83.89
19.00	38.0	Shear	KIPS	206.48	6.83	29.78	5.067	238.13
20.00	40.0	Flexure	KIP-FT	812.52	102.58	302.60	1.716	80.67
20.00	40.0	Shear	KIPS	206.48	5.69	27.93	5.443	255.82
25.00	50.0	Flexure	KIP-FT	812.52	116.81	313.69	1.611	75.72
25.00	50.0	Shear	KIPS	206.48	0.00	18.40	8.566	402.60
30.00	60.0	Flexure	KIP-FT	812.52	102.58	302.60	1.716	80.67
30.00	60.0	Shear	KIPS	206.48	5.69	27.93	5.443	255.82
31.00	62.0	Flexure	KIP-FT	812.52	96.32	294.44	1.785	83.89
31.00	62.0	Shear	KIPS	206.48	6.83	29.78	5.067	238.13
35.00	70.0	Flexure	KIP-FT	817.88	59.95	243.04	2.326	109.34
35.00	70.0	Shear	KIPS	207.64	11.66	37.35	3.937	185.06
40.00	80.0	Flexure	KIP-FT	-817.88	-12.45	-140.56	4.355	204.67
40.00	80.0	Shear	KIPS	207.64	17.30	46.98	3.012	141.55
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-176.67	2.905	136.51
45.00	90.0	Shear	KIPS	207.64	22.95	56.21	2.418	113.66
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-183.93	2.728	128.20
45.50	91.0	Shear	KIPS	207.64	23.52	57.09	2.371	111.45

47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-213.15	2.107	99.03
47.50	95.0	Shear	KIPS	206.48	25.81	60.60	2.182	102.56
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-288.93	1.322	62.16
50.00	100.0	Shear	KIPS	206.48	28.70	64.77	1.998	93.90

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-248.13	1.813	85.19
2.50	6.3	Shear	KIPS	206.48	26.08	57.36	2.301	108.15
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-224.05	2.192	103.01
4.00	10.0	Shear	KIPS	207.64	24.36	55.10	2.442	114.77
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-216.03	1.966	92.42
4.50	11.3	Shear	KIPS	207.64	23.78	54.31	2.488	116.93
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-186.28	2.683	126.11
8.00	20.0	Shear	KIPS	207.64	19.83	48.45	2.869	134.84
12.00	30.0	Flexure	KIP-FT	817.88	23.06	214.90	2.800	131.58
12.00	30.0	Shear	KIPS	207.64	15.31	41.01	3.498	164.39
14.00	35.0	Flexure	KIP-FT	812.52	51.42	256.59	2.220	104.35
14.00	35.0	Shear	KIPS	206.48	13.05	37.04	3.909	183.73
16.00	40.0	Flexure	KIP-FT	812.52	75.24	289.88	1.884	88.57
16.00	40.0	Shear	KIPS	206.48	10.77	32.91	4.467	209.95
20.00	50.0	Flexure	KIP-FT	812.52	108.60	328.17	1.565	73.54
20.00	50.0	Shear	KIPS	206.48	6.04	24.29	6.246	293.54
24.00	60.0	Flexure	KIP-FT	812.52	123.14	323.13	1.545	72.60
24.00	60.0	Shear	KIPS	206.48	1.48	18.99	8.221	386.40
26.00	65.0	Flexure	KIP-FT	812.52	123.58	312.45	1.596	75.02
26.00	65.0	Shear	KIPS	206.48	0.92	23.18	6.760	317.72
28.00	70.0	Flexure	KIP-FT	817.88	119.49	289.47	1.751	82.29
28.00	70.0	Shear	KIPS	207.64	3.18	27.53	5.645	265.29
32.00	80.0	Flexure	KIP-FT	817.88	97.73	229.07	2.306	108.38
32.00	80.0	Shear	KIPS	207.64	7.70	36.15	4.176	196.26
36.00	90.0	Flexure	KIP-FT	817.88	57.91	141.78	4.002	188.09
36.00	90.0	Shear	KIPS	207.64	12.22	48.48	3.022	142.03
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4653.00
40.00	100.0	Shear	KIPS	207.64	16.74	58.38	2.433	114.35

Detailed Rating Results
Maine DOT Config. 2 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
0.00	0.0	Shear	KIPS	207.64	16.74	58.38	2.433	228.69
4.00	10.0	Flexure	KIP-FT	817.88	57.91	141.78	4.002	376.18
4.00	10.0	Shear	KIPS	207.64	12.22	48.48	3.022	284.05
8.00	20.0	Flexure	KIP-FT	817.88	97.73	229.14	2.305	216.69
8.00	20.0	Shear	KIPS	207.64	7.70	36.17	4.173	392.30
12.00	30.0	Flexure	KIP-FT	817.88	119.49	289.47	1.751	164.58
12.00	30.0	Shear	KIPS	207.64	3.18	28.24	5.502	517.22
14.00	35.0	Flexure	KIP-FT	812.52	123.58	312.45	1.596	150.04
14.00	35.0	Shear	KIPS	206.48	0.92	24.17	6.485	609.59
16.00	40.0	Flexure	KIP-FT	812.52	123.14	323.13	1.545	145.20
16.00	40.0	Shear	KIPS	206.48	1.48	20.25	7.712	724.94
20.00	50.0	Flexure	KIP-FT	812.52	108.60	328.17	1.565	147.07
20.00	50.0	Shear	KIPS	206.48	6.04	26.11	5.810	546.10
24.00	60.0	Flexure	KIP-FT	812.52	75.24	289.88	1.884	177.14
24.00	60.0	Shear	KIPS	206.48	10.77	33.88	4.339	407.91
26.00	65.0	Flexure	KIP-FT	812.52	51.42	256.95	2.217	208.41
26.00	65.0	Shear	KIPS	206.48	13.05	37.65	3.846	361.54
28.00	70.0	Flexure	KIP-FT	817.88	23.06	221.09	2.721	255.81
28.00	70.0	Shear	KIPS	207.64	15.31	41.27	3.476	326.70
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-183.27	2.727	256.37
32.00	80.0	Shear	KIPS	207.64	19.83	48.45	2.869	269.68
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-222.45	1.910	179.51
35.50	88.8	Shear	KIPS	207.64	23.78	54.31	2.488	233.86
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-228.49	2.149	202.02
36.00	90.0	Shear	KIPS	207.64	24.36	55.10	2.442	229.55
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-248.13	1.813	170.39
37.50	93.8	Shear	KIPS	206.48	26.08	57.36	2.301	216.29

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-288.93	1.322	124.31
0.00	0.0	Shear	KIPS	206.48	28.70	64.77	1.998	187.79

2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-213.15	2.107	198.06
2.50	5.0	Shear	KIPS	206.48	25.81	60.88	2.172	204.17
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-183.93	2.728	256.41
4.50	9.0	Shear	KIPS	207.64	23.52	57.60	2.351	220.95
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-176.67	2.905	273.03
5.00	10.0	Shear	KIPS	207.64	22.95	56.77	2.395	225.09
10.00	20.0	Flexure	KIP-FT	-817.88	-12.45	-140.56	4.355	409.34
10.00	20.0	Shear	KIPS	207.64	17.30	48.04	2.945	276.86
15.00	30.0	Flexure	KIP-FT	817.88	59.95	240.96	2.346	220.57
15.00	30.0	Shear	KIPS	207.64	11.66	38.80	3.790	356.28
19.00	38.0	Flexure	KIP-FT	812.52	96.32	291.94	1.800	169.22
19.00	38.0	Shear	KIPS	206.48	6.83	31.26	4.827	453.75
20.00	40.0	Flexure	KIP-FT	812.52	102.58	300.19	1.730	162.64
20.00	40.0	Shear	KIPS	206.48	5.69	29.39	5.173	486.29
25.00	50.0	Flexure	KIP-FT	812.52	116.81	313.23	1.613	151.67
25.00	50.0	Shear	KIPS	206.48	0.00	20.64	7.637	717.89
30.00	60.0	Flexure	KIP-FT	812.52	102.58	300.19	1.730	162.64
30.00	60.0	Shear	KIPS	206.48	5.69	29.39	5.173	486.29
31.00	62.0	Flexure	KIP-FT	812.52	96.32	291.94	1.800	169.22
31.00	62.0	Shear	KIPS	206.48	6.83	31.26	4.827	453.75
35.00	70.0	Flexure	KIP-FT	817.88	59.95	240.96	2.346	220.57
35.00	70.0	Shear	KIPS	207.64	11.66	38.80	3.790	356.28
40.00	80.0	Flexure	KIP-FT	-817.88	-12.45	-140.56	4.355	409.34
40.00	80.0	Shear	KIPS	207.64	17.30	48.04	2.945	276.86
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-176.67	2.905	273.03
45.00	90.0	Shear	KIPS	207.64	22.95	56.77	2.395	225.09
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-183.93	2.728	256.41
45.50	91.0	Shear	KIPS	207.64	23.52	57.60	2.351	220.95
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-213.15	2.107	198.06
47.50	95.0	Shear	KIPS	206.48	25.81	60.88	2.172	204.17
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-288.93	1.322	124.31
50.00	100.0	Shear	KIPS	206.48	28.70	64.77	1.998	187.79

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-248.13	1.813	170.39
2.50	6.3	Shear	KIPS	206.48	26.08	57.36	2.301	216.29
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-228.49	2.149	202.02
4.00	10.0	Shear	KIPS	207.64	24.36	55.10	2.442	229.55
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-222.45	1.910	179.51

4.50	11.3	Shear	KIPS	207.64	23.78	54.31	2.488	233.86
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-183.27	2.727	256.37
8.00	20.0	Shear	KIPS	207.64	19.83	48.45	2.869	269.68
12.00	30.0	Flexure	KIP-FT	817.88	23.06	221.09	2.721	255.81
12.00	30.0	Shear	KIPS	207.64	15.31	41.27	3.476	326.70
14.00	35.0	Flexure	KIP-FT	812.52	51.42	256.95	2.217	208.41
14.00	35.0	Shear	KIPS	206.48	13.05	37.65	3.846	361.54
16.00	40.0	Flexure	KIP-FT	812.52	75.24	289.88	1.884	177.14
16.00	40.0	Shear	KIPS	206.48	10.77	33.88	4.339	407.91
20.00	50.0	Flexure	KIP-FT	812.52	108.60	328.17	1.565	147.07
20.00	50.0	Shear	KIPS	206.48	6.04	26.11	5.810	546.10
24.00	60.0	Flexure	KIP-FT	812.52	123.14	323.13	1.545	145.20
24.00	60.0	Shear	KIPS	206.48	1.48	20.25	7.712	724.94
26.00	65.0	Flexure	KIP-FT	812.52	123.58	312.45	1.596	150.04
26.00	65.0	Shear	KIPS	206.48	0.92	24.17	6.485	609.59
28.00	70.0	Flexure	KIP-FT	817.88	119.49	289.47	1.751	164.58
28.00	70.0	Shear	KIPS	207.64	3.18	28.24	5.502	517.22
32.00	80.0	Flexure	KIP-FT	817.88	97.73	229.14	2.305	216.69
32.00	80.0	Shear	KIPS	207.64	7.70	36.17	4.173	392.30
36.00	90.0	Flexure	KIP-FT	817.88	57.91	141.78	4.002	376.18
36.00	90.0	Shear	KIPS	207.64	12.22	48.48	3.022	284.05
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	9306.00
40.00	100.0	Shear	KIPS	207.64	16.74	58.38	2.433	228.69

Detailed Rating Results
Maine DOT Config. 3
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal	Legal
							Rating	Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	16.74	60.31	2.355	103.63
4.00	10.0	Flexure	KIP-FT	817.88	57.91	147.23	3.854	169.56
4.00	10.0	Shear	KIPS	207.64	12.22	50.34	2.910	128.03
8.00	20.0	Flexure	KIP-FT	817.88	97.73	239.98	2.201	96.85
8.00	20.0	Shear	KIPS	207.64	7.70	37.72	4.001	176.05
12.00	30.0	Flexure	KIP-FT	817.88	119.49	304.01	1.667	73.35
12.00	30.0	Shear	KIPS	207.64	3.18	28.90	5.377	236.57
14.00	35.0	Flexure	KIP-FT	812.52	123.58	318.07	1.568	68.99

14.00	35.0	Shear	KIPS	206.48	0.92	24.45	6.410	282.05
16.00	40.0	Flexure	KIP-FT	812.52	123.14	328.13	1.521	66.93
16.00	40.0	Shear	KIPS	206.48	1.48	20.37	7.667	337.35
20.00	50.0	Flexure	KIP-FT	812.52	108.60	313.75	1.637	72.01
20.00	50.0	Shear	KIPS	206.48	6.04	23.19	6.542	287.83
24.00	60.0	Flexure	KIP-FT	812.52	75.24	288.66	1.892	83.27
24.00	60.0	Shear	KIPS	206.48	10.77	31.70	4.638	204.05
26.00	65.0	Flexure	KIP-FT	812.52	51.42	258.73	2.202	96.88
26.00	65.0	Shear	KIPS	206.48	13.05	36.28	3.991	175.61
28.00	70.0	Flexure	KIP-FT	817.88	23.06	217.75	2.763	121.58
28.00	70.0	Shear	KIPS	207.64	15.31	40.99	3.500	153.98
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-199.03	2.511	110.50
32.00	80.0	Shear	KIPS	207.64	19.83	49.88	2.787	122.62
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-220.80	1.924	84.65
35.50	88.8	Shear	KIPS	207.64	23.78	57.00	2.370	104.30
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-223.91	2.193	96.50
36.00	90.0	Shear	KIPS	207.64	24.36	57.97	2.321	102.13
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-233.24	1.928	84.85
37.50	93.8	Shear	KIPS	206.48	26.08	60.73	2.173	95.61

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-248.79	1.536	67.58
0.00	0.0	Shear	KIPS	206.48	28.70	66.18	1.955	86.02
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-177.64	2.528	111.24
2.50	5.0	Shear	KIPS	206.48	25.81	62.20	2.126	93.55
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-167.85	2.989	131.52
4.50	9.0	Shear	KIPS	207.64	23.52	58.79	2.303	101.31
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-165.40	3.102	136.51
5.00	10.0	Shear	KIPS	207.64	22.95	57.93	2.347	103.25
10.00	20.0	Flexure	KIP-FT	-817.88	-12.45	-140.93	4.343	191.11
10.00	20.0	Shear	KIPS	207.64	17.30	48.74	2.903	127.73
15.00	30.0	Flexure	KIP-FT	817.88	59.95	246.60	2.293	100.88
15.00	30.0	Shear	KIPS	207.64	11.66	39.00	3.771	165.92
19.00	38.0	Flexure	KIP-FT	812.52	96.32	302.62	1.737	76.41
19.00	38.0	Shear	KIPS	206.48	6.83	31.06	4.859	213.79
20.00	40.0	Flexure	KIP-FT	812.52	102.58	311.91	1.665	73.27
20.00	40.0	Shear	KIPS	206.48	5.69	29.08	5.228	230.04
25.00	50.0	Flexure	KIP-FT	812.52	116.81	326.39	1.548	68.13
25.00	50.0	Shear	KIPS	206.48	0.00	19.45	8.105	356.61

30.00	60.0	Flexure	KIP-FT	812.52	102.58	311.91	1.665	73.27
30.00	60.0	Shear	KIPS	206.48	5.69	29.08	5.228	230.04
31.00	62.0	Flexure	KIP-FT	812.52	96.32	302.62	1.737	76.41
31.00	62.0	Shear	KIPS	206.48	6.83	31.06	4.859	213.79
35.00	70.0	Flexure	KIP-FT	817.88	59.95	246.60	2.293	100.88
35.00	70.0	Shear	KIPS	207.64	11.66	39.00	3.771	165.92
40.00	80.0	Flexure	KIP-FT	-817.88	-12.45	-140.93	4.343	191.11
40.00	80.0	Shear	KIPS	207.64	17.30	48.74	2.903	127.73
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-165.40	3.102	136.51
45.00	90.0	Shear	KIPS	207.64	22.95	57.93	2.347	103.25
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-167.85	2.989	131.52
45.50	91.0	Shear	KIPS	207.64	23.52	58.79	2.303	101.31
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-177.64	2.528	111.24
47.50	95.0	Shear	KIPS	206.48	25.81	62.20	2.126	93.55
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-248.79	1.536	67.58
50.00	100.0	Shear	KIPS	206.48	28.70	66.18	1.955	86.02

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-233.24	1.928	84.85
2.50	6.3	Shear	KIPS	206.48	26.08	60.73	2.173	95.61
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-223.91	2.193	96.50
4.00	10.0	Shear	KIPS	207.64	24.36	57.97	2.321	102.13
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-220.80	1.924	84.65
4.50	11.3	Shear	KIPS	207.64	23.78	57.00	2.370	104.30
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-199.03	2.511	110.50
8.00	20.0	Shear	KIPS	207.64	19.83	49.88	2.787	122.62
12.00	30.0	Flexure	KIP-FT	817.88	23.06	217.75	2.763	121.58
12.00	30.0	Shear	KIPS	207.64	15.31	40.99	3.500	153.98
14.00	35.0	Flexure	KIP-FT	812.52	51.42	258.73	2.202	96.88
14.00	35.0	Shear	KIPS	206.48	13.05	36.28	3.991	175.61
16.00	40.0	Flexure	KIP-FT	812.52	75.24	288.66	1.892	83.27
16.00	40.0	Shear	KIPS	206.48	10.77	31.70	4.638	204.05
20.00	50.0	Flexure	KIP-FT	812.52	108.60	313.75	1.637	72.01
20.00	50.0	Shear	KIPS	206.48	6.04	23.19	6.542	287.83
24.00	60.0	Flexure	KIP-FT	812.52	123.14	328.13	1.521	66.93
24.00	60.0	Shear	KIPS	206.48	1.48	20.37	7.667	337.35
26.00	65.0	Flexure	KIP-FT	812.52	123.58	318.07	1.568	68.99
26.00	65.0	Shear	KIPS	206.48	0.92	24.45	6.410	282.05
28.00	70.0	Flexure	KIP-FT	817.88	119.49	304.01	1.667	73.35

28.00	70.0	Shear	KIPS	207.64	3.18	28.90	5.377	236.57
32.00	80.0	Flexure	KIP-FT	817.88	97.73	239.98	2.201	96.85
32.00	80.0	Shear	KIPS	207.64	7.70	37.72	4.001	176.05
36.00	90.0	Flexure	KIP-FT	817.88	57.91	147.23	3.854	169.56
36.00	90.0	Shear	KIPS	207.64	12.22	50.34	2.910	128.03
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	16.74	60.31	2.355	103.63

Detailed Rating Results
Maine DOT Config. 3 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal	Legal
							Rating	Load
Location							Factor	Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL		(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	16.74	60.31	2.355	207.26
4.00	10.0	Flexure	KIP-FT	817.88	57.91	147.23	3.854	339.12
4.00	10.0	Shear	KIPS	207.64	12.22	50.34	2.910	256.07
8.00	20.0	Flexure	KIP-FT	817.88	97.73	239.98	2.201	193.69
8.00	20.0	Shear	KIPS	207.64	7.70	37.72	4.001	352.10
12.00	30.0	Flexure	KIP-FT	817.88	119.49	304.01	1.667	146.71
12.00	30.0	Shear	KIPS	207.64	3.18	28.90	5.377	473.14
14.00	35.0	Flexure	KIP-FT	812.52	123.58	318.07	1.568	137.98
14.00	35.0	Shear	KIPS	206.48	0.92	24.45	6.410	564.10
16.00	40.0	Flexure	KIP-FT	812.52	123.14	328.13	1.521	133.86
16.00	40.0	Shear	KIPS	206.48	1.48	22.76	6.860	603.72
20.00	50.0	Flexure	KIP-FT	812.52	108.60	313.75	1.637	144.01
20.00	50.0	Shear	KIPS	206.48	6.04	28.47	5.327	468.81
24.00	60.0	Flexure	KIP-FT	812.52	75.24	288.66	1.892	166.53
24.00	60.0	Shear	KIPS	206.48	10.77	35.43	4.150	365.19
26.00	65.0	Flexure	KIP-FT	812.52	51.42	258.73	2.202	193.76
26.00	65.0	Shear	KIPS	206.48	13.05	39.63	3.654	321.52
28.00	70.0	Flexure	KIP-FT	817.88	23.06	217.75	2.763	243.15
28.00	70.0	Shear	KIPS	207.64	15.31	43.70	3.283	288.91
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-194.04	2.576	226.68
32.00	80.0	Shear	KIPS	207.64	19.83	51.38	2.705	238.07
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-245.29	1.732	152.40
35.50	88.8	Shear	KIPS	207.64	23.78	57.56	2.347	206.56
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-252.89	1.942	170.88

36.00	90.0	Shear	KIPS	207.64	24.36	58.41	2.304	202.72
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-282.45	1.592	140.13
37.50	93.8	Shear	KIPS	206.48	26.08	60.82	2.170	190.96

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-340.27	1.123	98.82
0.00	0.0	Shear	KIPS	206.48	28.70	66.18	1.955	172.05
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-267.44	1.679	147.78
2.50	5.0	Shear	KIPS	206.48	25.81	62.43	2.118	186.40
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-224.00	2.240	197.11
4.50	9.0	Shear	KIPS	207.64	23.52	59.25	2.285	201.05
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-209.14	2.454	215.91
5.00	10.0	Shear	KIPS	207.64	22.95	58.48	2.325	204.56
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	148.04	4.300	378.40
10.00	20.0	Shear	KIPS	207.64	17.30	50.16	2.821	248.24
15.00	30.0	Flexure	KIP-FT	817.88	59.95	234.39	2.412	212.28
15.00	30.0	Shear	KIPS	207.64	11.66	41.14	3.574	314.54
19.00	38.0	Flexure	KIP-FT	812.52	96.32	283.91	1.851	162.90
19.00	38.0	Shear	KIPS	206.48	6.83	33.94	4.446	391.27
20.00	40.0	Flexure	KIP-FT	812.52	102.58	292.88	1.773	156.06
20.00	40.0	Shear	KIPS	206.48	5.69	32.16	4.727	416.00
25.00	50.0	Flexure	KIP-FT	812.52	116.81	310.87	1.626	143.07
25.00	50.0	Shear	KIPS	206.48	0.00	23.87	6.602	580.98
30.00	60.0	Flexure	KIP-FT	812.52	102.58	292.88	1.773	156.06
30.00	60.0	Shear	KIPS	206.48	5.69	32.16	4.727	416.00
31.00	62.0	Flexure	KIP-FT	812.52	96.32	283.91	1.851	162.90
31.00	62.0	Shear	KIPS	206.48	6.83	33.94	4.446	391.27
35.00	70.0	Flexure	KIP-FT	817.88	59.95	234.39	2.412	212.28
35.00	70.0	Shear	KIPS	207.64	11.66	41.14	3.574	314.54
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	148.04	4.300	378.40
40.00	80.0	Shear	KIPS	207.64	17.30	50.16	2.821	248.24
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-209.14	2.454	215.91
45.00	90.0	Shear	KIPS	207.64	22.95	58.48	2.325	204.56
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-224.00	2.240	197.11
45.50	91.0	Shear	KIPS	207.64	23.52	59.25	2.285	201.05
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-267.44	1.679	147.78
47.50	95.0	Shear	KIPS	206.48	25.81	62.43	2.118	186.40
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-340.27	1.123	98.82
50.00	100.0	Shear	KIPS	206.48	28.70	66.18	1.955	172.05

Span 3								
Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-282.45	1.592	140.13
2.50	6.3	Shear	KIPS	206.48	26.08	60.82	2.170	190.96
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-252.89	1.942	170.88
4.00	10.0	Shear	KIPS	207.64	24.36	58.41	2.304	202.72
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-245.29	1.732	152.40
4.50	11.3	Shear	KIPS	207.64	23.78	57.56	2.347	206.56
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-194.04	2.576	226.68
8.00	20.0	Shear	KIPS	207.64	19.83	51.38	2.705	238.07
12.00	30.0	Flexure	KIP-FT	817.88	23.06	217.75	2.763	243.15
12.00	30.0	Shear	KIPS	207.64	15.31	43.70	3.283	288.91
14.00	35.0	Flexure	KIP-FT	812.52	51.42	258.73	2.202	193.76
14.00	35.0	Shear	KIPS	206.48	13.05	39.63	3.654	321.52
16.00	40.0	Flexure	KIP-FT	812.52	75.24	288.66	1.892	166.53
16.00	40.0	Shear	KIPS	206.48	10.77	35.43	4.150	365.19
20.00	50.0	Flexure	KIP-FT	812.52	108.60	313.75	1.637	144.01
20.00	50.0	Shear	KIPS	206.48	6.04	28.47	5.327	468.81
24.00	60.0	Flexure	KIP-FT	812.52	123.14	328.13	1.521	133.86
24.00	60.0	Shear	KIPS	206.48	1.48	22.76	6.860	603.72
26.00	65.0	Flexure	KIP-FT	812.52	123.58	318.07	1.568	137.98
26.00	65.0	Shear	KIPS	206.48	0.92	24.45	6.410	564.10
28.00	70.0	Flexure	KIP-FT	817.88	119.49	304.01	1.667	146.71
28.00	70.0	Shear	KIPS	207.64	3.18	28.90	5.377	473.14
32.00	80.0	Flexure	KIP-FT	817.88	97.73	239.98	2.201	193.69
32.00	80.0	Shear	KIPS	207.64	7.70	37.72	4.001	352.10
36.00	90.0	Flexure	KIP-FT	817.88	57.91	147.23	3.854	339.12
36.00	90.0	Shear	KIPS	207.64	12.22	50.34	2.910	256.07
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	16.74	60.31	2.355	207.26

Detailed Rating Results
Maine DOT Config. 4
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	16.74	61.79	2.299	101.15
4.00	10.0	Flexure	KIP-FT	817.88	57.91	149.40	3.798	167.10
4.00	10.0	Shear	KIPS	207.64	12.22	51.08	2.868	126.18
8.00	20.0	Flexure	KIP-FT	817.88	97.73	239.53	2.205	97.03
8.00	20.0	Shear	KIPS	207.64	7.70	37.80	3.992	175.67
12.00	30.0	Flexure	KIP-FT	817.88	119.49	297.58	1.703	74.94
12.00	30.0	Shear	KIPS	207.64	3.18	29.16	5.329	234.49
14.00	35.0	Flexure	KIP-FT	812.52	123.58	308.73	1.615	71.07
14.00	35.0	Shear	KIPS	206.48	0.92	25.14	6.234	274.29
16.00	40.0	Flexure	KIP-FT	812.52	123.14	309.26	1.614	71.02
16.00	40.0	Shear	KIPS	206.48	1.48	21.30	7.330	322.51
20.00	50.0	Flexure	KIP-FT	812.52	108.60	300.72	1.707	75.13
20.00	50.0	Shear	KIPS	206.48	6.04	25.69	5.904	259.76
24.00	60.0	Flexure	KIP-FT	812.52	75.24	279.47	1.955	86.00
24.00	60.0	Shear	KIPS	206.48	10.77	32.89	4.470	196.69
26.00	65.0	Flexure	KIP-FT	812.52	51.42	254.41	2.239	98.53
26.00	65.0	Shear	KIPS	206.48	13.05	37.39	3.872	170.38
28.00	70.0	Flexure	KIP-FT	817.88	23.06	218.93	2.748	120.92
28.00	70.0	Shear	KIPS	207.64	15.31	41.77	3.434	151.12
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-199.54	2.505	110.22
32.00	80.0	Shear	KIPS	207.64	19.83	50.08	2.776	122.14
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-221.37	1.919	84.44
35.50	88.8	Shear	KIPS	207.64	23.78	57.31	2.358	103.73
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-224.49	2.187	96.25
36.00	90.0	Shear	KIPS	207.64	24.36	58.40	2.304	101.38
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-233.84	1.923	84.63
37.50	93.8	Shear	KIPS	206.48	26.08	61.53	2.145	94.38

Span 2

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-249.43	1.532	67.40
0.00	0.0	Shear	KIPS	206.48	28.70	68.65	1.885	82.93
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-178.54	2.516	110.68
2.50	5.0	Shear	KIPS	206.48	25.81	64.26	2.058	90.55
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-170.11	2.949	129.78
4.50	9.0	Shear	KIPS	207.64	23.52	60.60	2.234	98.30

5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-167.63	3.061	134.69
5.00	10.0	Shear	KIPS	207.64	22.95	59.66	2.278	100.25
10.00	20.0	Flexure	KIP-FT	-817.88	-12.45	-142.82	4.286	188.57
10.00	20.0	Shear	KIPS	207.64	17.30	50.01	2.829	124.48
15.00	30.0	Flexure	KIP-FT	817.88	59.95	241.88	2.338	102.85
15.00	30.0	Shear	KIPS	207.64	11.66	40.21	3.657	160.90
19.00	38.0	Flexure	KIP-FT	812.52	96.32	288.37	1.822	80.19
19.00	38.0	Shear	KIPS	206.48	6.83	32.46	4.648	204.53
20.00	40.0	Flexure	KIP-FT	812.52	102.58	294.40	1.764	77.63
20.00	40.0	Shear	KIPS	206.48	5.69	30.57	4.972	218.77
25.00	50.0	Flexure	KIP-FT	812.52	116.81	308.89	1.636	71.99
25.00	50.0	Shear	KIPS	206.48	0.00	21.60	7.298	321.13
30.00	60.0	Flexure	KIP-FT	812.52	102.58	294.40	1.764	77.63
30.00	60.0	Shear	KIPS	206.48	5.69	30.57	4.972	218.77
31.00	62.0	Flexure	KIP-FT	812.52	96.32	288.37	1.822	80.19
31.00	62.0	Shear	KIPS	206.48	6.83	32.46	4.648	204.53
35.00	70.0	Flexure	KIP-FT	817.88	59.95	241.88	2.338	102.85
35.00	70.0	Shear	KIPS	207.64	11.66	40.21	3.657	160.90
40.00	80.0	Flexure	KIP-FT	-817.88	-12.45	-142.82	4.286	188.57
40.00	80.0	Shear	KIPS	207.64	17.30	50.01	2.829	124.48
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-167.63	3.061	134.69
45.00	90.0	Shear	KIPS	207.64	22.95	59.66	2.278	100.25
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-170.11	2.949	129.78
45.50	91.0	Shear	KIPS	207.64	23.52	60.60	2.234	98.30
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-178.54	2.516	110.68
47.50	95.0	Shear	KIPS	206.48	25.81	64.26	2.058	90.55
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-249.43	1.532	67.40
50.00	100.0	Shear	KIPS	206.48	28.70	68.65	1.885	82.93

Span 3

Location		Limit State	Units	Capacity	DL	LL	Legal Rating	Legal Load Rating
(ft)	Percent						Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-233.84	1.923	84.63
2.50	6.3	Shear	KIPS	206.48	26.08	61.53	2.145	94.38
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-224.49	2.187	96.25
4.00	10.0	Shear	KIPS	207.64	24.36	58.40	2.304	101.38
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-221.37	1.919	84.44
4.50	11.3	Shear	KIPS	207.64	23.78	57.31	2.358	103.73
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-199.54	2.505	110.22
8.00	20.0	Shear	KIPS	207.64	19.83	50.08	2.776	122.14
12.00	30.0	Flexure	KIP-FT	817.88	23.06	218.93	2.748	120.92

12.00	30.0	Shear	KIPS	207.64	15.31	41.77	3.434	151.12
14.00	35.0	Flexure	KIP-FT	812.52	51.42	254.41	2.239	98.53
14.00	35.0	Shear	KIPS	206.48	13.05	37.39	3.872	170.38
16.00	40.0	Flexure	KIP-FT	812.52	75.24	279.47	1.955	86.00
16.00	40.0	Shear	KIPS	206.48	10.77	32.89	4.470	196.69
20.00	50.0	Flexure	KIP-FT	812.52	108.60	300.72	1.707	75.13
20.00	50.0	Shear	KIPS	206.48	6.04	25.69	5.904	259.76
24.00	60.0	Flexure	KIP-FT	812.52	123.14	309.26	1.614	71.02
24.00	60.0	Shear	KIPS	206.48	1.48	21.30	7.330	322.51
26.00	65.0	Flexure	KIP-FT	812.52	123.58	308.73	1.615	71.07
26.00	65.0	Shear	KIPS	206.48	0.92	25.14	6.234	274.29
28.00	70.0	Flexure	KIP-FT	817.88	119.49	297.58	1.703	74.94
28.00	70.0	Shear	KIPS	207.64	3.18	29.16	5.329	234.49
32.00	80.0	Flexure	KIP-FT	817.88	97.73	239.53	2.205	97.03
32.00	80.0	Shear	KIPS	207.64	7.70	37.80	3.992	175.67
36.00	90.0	Flexure	KIP-FT	817.88	57.91	149.40	3.798	167.10
36.00	90.0	Shear	KIPS	207.64	12.22	51.08	2.868	126.18
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	16.74	61.79	2.299	101.15

Detailed Rating Results
Maine DOT Config. 4 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	16.74	61.79	2.299	202.31
4.00	10.0	Flexure	KIP-FT	817.88	57.91	149.40	3.798	334.21
4.00	10.0	Shear	KIPS	207.64	12.22	51.08	2.868	252.36
8.00	20.0	Flexure	KIP-FT	817.88	97.73	239.53	2.205	194.06
8.00	20.0	Shear	KIPS	207.64	7.70	37.80	3.992	351.34
12.00	30.0	Flexure	KIP-FT	817.88	119.49	297.58	1.703	149.88
12.00	30.0	Shear	KIPS	207.64	3.18	29.16	5.329	468.98
14.00	35.0	Flexure	KIP-FT	812.52	123.58	308.73	1.615	142.15
14.00	35.0	Shear	KIPS	206.48	0.92	25.14	6.234	548.58
16.00	40.0	Flexure	KIP-FT	812.52	123.14	309.26	1.614	142.03
16.00	40.0	Shear	KIPS	206.48	1.48	25.30	6.173	543.21
20.00	50.0	Flexure	KIP-FT	812.52	108.60	300.72	1.707	150.25

20.00	50.0	Shear	KIPS	206.48	6.04	32.06	4.731	416.35
24.00	60.0	Flexure	KIP-FT	812.52	75.24	279.47	1.955	172.01
24.00	60.0	Shear	KIPS	206.48	10.77	38.17	3.852	338.95
26.00	65.0	Flexure	KIP-FT	812.52	51.42	254.41	2.239	197.05
26.00	65.0	Shear	KIPS	206.48	13.05	42.09	3.440	302.73
28.00	70.0	Flexure	KIP-FT	817.88	23.06	218.93	2.748	241.83
28.00	70.0	Shear	KIPS	207.64	15.31	45.85	3.129	275.31
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-191.22	2.614	230.03
32.00	80.0	Shear	KIPS	207.64	19.83	52.93	2.626	231.10
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-244.00	1.741	153.21
35.50	88.8	Shear	KIPS	207.64	23.78	59.14	2.285	201.05
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-252.12	1.948	171.40
36.00	90.0	Shear	KIPS	207.64	24.36	60.09	2.239	197.06
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-278.88	1.613	141.92
37.50	93.8	Shear	KIPS	206.48	26.08	62.80	2.102	184.95

Span 2

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-334.77	1.141	100.44
0.00	0.0	Shear	KIPS	206.48	28.70	69.28	1.868	164.37
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-266.44	1.686	148.33
2.50	5.0	Shear	KIPS	206.48	25.81	65.27	2.026	178.28
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-223.94	2.240	197.15
4.50	9.0	Shear	KIPS	207.64	23.52	61.91	2.187	192.44
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-214.06	2.397	210.95
5.00	10.0	Shear	KIPS	207.64	22.95	61.04	2.227	195.96
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	150.34	4.234	372.62
10.00	20.0	Shear	KIPS	207.64	17.30	52.01	2.721	239.41
15.00	30.0	Flexure	KIP-FT	817.88	59.95	233.26	2.424	213.31
15.00	30.0	Shear	KIPS	207.64	11.66	43.39	3.389	298.25
19.00	38.0	Flexure	KIP-FT	812.52	96.32	276.00	1.904	167.57
19.00	38.0	Shear	KIPS	206.48	6.83	36.31	4.156	365.74
20.00	40.0	Flexure	KIP-FT	812.52	102.58	281.89	1.843	162.15
20.00	40.0	Shear	KIPS	206.48	5.69	34.55	4.400	387.18
25.00	50.0	Flexure	KIP-FT	812.52	116.81	288.65	1.751	154.08
25.00	50.0	Shear	KIPS	206.48	0.00	26.57	5.933	522.07
30.00	60.0	Flexure	KIP-FT	812.52	102.58	281.89	1.843	162.15
30.00	60.0	Shear	KIPS	206.48	5.69	34.55	4.400	387.18
31.00	62.0	Flexure	KIP-FT	812.52	96.32	276.00	1.904	167.57
31.00	62.0	Shear	KIPS	206.48	6.83	36.31	4.156	365.74

35.00	70.0	Flexure	KIP-FT	817.88	59.95	233.26	2.424	213.31
35.00	70.0	Shear	KIPS	207.64	11.66	43.39	3.389	298.25
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	150.34	4.234	372.62
40.00	80.0	Shear	KIPS	207.64	17.30	52.01	2.721	239.41
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-214.06	2.397	210.95
45.00	90.0	Shear	KIPS	207.64	22.95	61.04	2.227	195.96
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-223.94	2.240	197.15
45.50	91.0	Shear	KIPS	207.64	23.52	61.91	2.187	192.44
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-266.44	1.686	148.33
47.50	95.0	Shear	KIPS	206.48	25.81	65.27	2.026	178.28
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-334.77	1.141	100.44
50.00	100.0	Shear	KIPS	206.48	28.70	69.28	1.868	164.37

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-278.88	1.613	141.92
2.50	6.3	Shear	KIPS	206.48	26.08	62.80	2.102	184.95
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-252.12	1.948	171.40
4.00	10.0	Shear	KIPS	207.64	24.36	60.09	2.239	197.06
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-244.00	1.741	153.21
4.50	11.3	Shear	KIPS	207.64	23.78	59.14	2.285	201.05
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-191.22	2.614	230.03
8.00	20.0	Shear	KIPS	207.64	19.83	52.93	2.626	231.10
12.00	30.0	Flexure	KIP-FT	817.88	23.06	218.93	2.748	241.83
12.00	30.0	Shear	KIPS	207.64	15.31	45.85	3.129	275.31
14.00	35.0	Flexure	KIP-FT	812.52	51.42	254.41	2.239	197.05
14.00	35.0	Shear	KIPS	206.48	13.05	42.09	3.440	302.73
16.00	40.0	Flexure	KIP-FT	812.52	75.24	279.47	1.955	172.01
16.00	40.0	Shear	KIPS	206.48	10.77	38.17	3.852	338.95
20.00	50.0	Flexure	KIP-FT	812.52	108.60	300.72	1.707	150.25
20.00	50.0	Shear	KIPS	206.48	6.04	32.06	4.731	416.35
24.00	60.0	Flexure	KIP-FT	812.52	123.14	309.26	1.614	142.03
24.00	60.0	Shear	KIPS	206.48	1.48	25.30	6.173	543.21
26.00	65.0	Flexure	KIP-FT	812.52	123.58	308.73	1.615	142.15
26.00	65.0	Shear	KIPS	206.48	0.92	25.14	6.234	548.58
28.00	70.0	Flexure	KIP-FT	817.88	119.49	297.58	1.703	149.88
28.00	70.0	Shear	KIPS	207.64	3.18	29.16	5.329	468.98
32.00	80.0	Flexure	KIP-FT	817.88	97.73	239.53	2.205	194.06
32.00	80.0	Shear	KIPS	207.64	7.70	37.80	3.992	351.34
36.00	90.0	Flexure	KIP-FT	817.88	57.91	149.40	3.798	334.21

36.00	90.0	Shear	KIPS	207.64	12.22	51.08	2.868	252.36
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	16.74	61.79	2.299	202.31

**Detailed Rating Results
Maine DOT Config. 5
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
0.00	0.0	Shear	KIPS	207.64	16.74	59.88	2.372	104.38
4.00	10.0	Flexure	KIP-FT	817.88	57.91	146.26	3.879	170.68
4.00	10.0	Shear	KIPS	207.64	12.22	50.01	2.929	128.88
8.00	20.0	Flexure	KIP-FT	817.88	97.73	237.68	2.222	97.78
8.00	20.0	Shear	KIPS	207.64	7.70	37.51	4.023	177.03
12.00	30.0	Flexure	KIP-FT	817.88	119.49	290.19	1.747	76.85
12.00	30.0	Shear	KIPS	207.64	3.18	28.84	5.388	237.07
14.00	35.0	Flexure	KIP-FT	812.52	123.58	303.68	1.642	72.26
14.00	35.0	Shear	KIPS	206.48	0.92	25.79	6.077	267.41
16.00	40.0	Flexure	KIP-FT	812.52	123.14	309.23	1.614	71.02
16.00	40.0	Shear	KIPS	206.48	1.48	22.80	6.849	301.35
20.00	50.0	Flexure	KIP-FT	812.52	108.60	296.04	1.734	76.31
20.00	50.0	Shear	KIPS	206.48	6.04	25.45	5.960	262.23
24.00	60.0	Flexure	KIP-FT	812.52	75.24	271.33	2.013	88.58
24.00	60.0	Shear	KIPS	206.48	10.77	33.38	4.405	193.83
26.00	65.0	Flexure	KIP-FT	812.52	51.42	248.37	2.294	100.92
26.00	65.0	Shear	KIPS	206.48	13.05	37.03	3.910	172.04
28.00	70.0	Flexure	KIP-FT	817.88	23.06	216.44	2.780	122.31
28.00	70.0	Shear	KIPS	207.64	15.31	40.48	3.544	155.93
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-192.22	2.600	114.42
32.00	80.0	Shear	KIPS	207.64	19.83	48.97	2.838	124.89
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-213.24	1.992	87.65
35.50	88.8	Shear	KIPS	207.64	23.78	56.06	2.410	106.05
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-216.24	2.271	99.92
36.00	90.0	Shear	KIPS	207.64	24.36	57.02	2.360	103.83
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-225.25	1.997	87.86
37.50	93.8	Shear	KIPS	206.48	26.08	59.78	2.208	97.14

Span 2							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-240.27	1.590	69.97
0.00	0.0	Shear	KIPS	206.48	28.70	65.34	1.980	87.13
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-167.14	2.687	118.23
2.50	5.0	Shear	KIPS	206.48	25.81	61.40	2.154	94.75
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-157.93	3.177	139.78
4.50	9.0	Shear	KIPS	207.64	23.52	58.07	2.331	102.59
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-155.63	3.297	145.08
5.00	10.0	Shear	KIPS	207.64	22.95	57.21	2.376	104.55
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	146.40	4.348	191.33
10.00	20.0	Shear	KIPS	207.64	17.30	48.14	2.939	129.33
15.00	30.0	Flexure	KIP-FT	817.88	59.95	240.63	2.350	103.39
15.00	30.0	Shear	KIPS	207.64	11.66	38.55	3.815	167.85
19.00	38.0	Flexure	KIP-FT	812.52	96.32	288.12	1.824	80.26
19.00	38.0	Shear	KIPS	206.48	6.83	30.73	4.910	216.04
20.00	40.0	Flexure	KIP-FT	812.52	102.58	297.01	1.749	76.94
20.00	40.0	Shear	KIPS	206.48	5.69	28.79	5.281	232.36
25.00	50.0	Flexure	KIP-FT	812.52	116.81	311.14	1.624	71.47
25.00	50.0	Shear	KIPS	206.48	0.00	19.35	8.147	358.47
30.00	60.0	Flexure	KIP-FT	812.52	102.58	297.01	1.749	76.94
30.00	60.0	Shear	KIPS	206.48	5.69	28.79	5.281	232.36
31.00	62.0	Flexure	KIP-FT	812.52	96.32	288.12	1.824	80.26
31.00	62.0	Shear	KIPS	206.48	6.83	30.73	4.910	216.04
35.00	70.0	Flexure	KIP-FT	817.88	59.95	240.63	2.350	103.39
35.00	70.0	Shear	KIPS	207.64	11.66	38.55	3.815	167.85
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	146.40	4.348	191.33
40.00	80.0	Shear	KIPS	207.64	17.30	48.14	2.939	129.33
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-155.63	3.297	145.08
45.00	90.0	Shear	KIPS	207.64	22.95	57.21	2.376	104.55
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-157.93	3.177	139.78
45.50	91.0	Shear	KIPS	207.64	23.52	58.07	2.331	102.59
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-167.14	2.687	118.23
47.50	95.0	Shear	KIPS	206.48	25.81	61.40	2.154	94.75
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-240.27	1.590	69.97
50.00	100.0	Shear	KIPS	206.48	28.70	65.34	1.980	87.13

Span 3

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-225.25	1.997	87.86
2.50	6.3	Shear	KIPS	206.48	26.08	59.78	2.208	97.14
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-216.24	2.271	99.92
4.00	10.0	Shear	KIPS	207.64	24.36	57.02	2.360	103.83
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-213.24	1.992	87.65
4.50	11.3	Shear	KIPS	207.64	23.78	56.06	2.410	106.05
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-192.22	2.600	114.42
8.00	20.0	Shear	KIPS	207.64	19.83	48.97	2.838	124.89
12.00	30.0	Flexure	KIP-FT	817.88	23.06	216.44	2.780	122.31
12.00	30.0	Shear	KIPS	207.64	15.31	40.48	3.544	155.93
14.00	35.0	Flexure	KIP-FT	812.52	51.42	248.37	2.294	100.92
14.00	35.0	Shear	KIPS	206.48	13.05	37.03	3.910	172.04
16.00	40.0	Flexure	KIP-FT	812.52	75.24	271.33	2.013	88.58
16.00	40.0	Shear	KIPS	206.48	10.77	33.38	4.405	193.83
20.00	50.0	Flexure	KIP-FT	812.52	108.60	296.04	1.734	76.31
20.00	50.0	Shear	KIPS	206.48	6.04	25.45	5.960	262.23
24.00	60.0	Flexure	KIP-FT	812.52	123.14	309.23	1.614	71.02
24.00	60.0	Shear	KIPS	206.48	1.48	22.80	6.849	301.35
26.00	65.0	Flexure	KIP-FT	812.52	123.58	303.68	1.642	72.26
26.00	65.0	Shear	KIPS	206.48	0.92	25.79	6.077	267.41
28.00	70.0	Flexure	KIP-FT	817.88	119.49	290.19	1.747	76.85
28.00	70.0	Shear	KIPS	207.64	3.18	28.84	5.388	237.07
32.00	80.0	Flexure	KIP-FT	817.88	97.73	237.68	2.222	97.78
32.00	80.0	Shear	KIPS	207.64	7.70	37.51	4.023	177.03
36.00	90.0	Flexure	KIP-FT	817.88	57.91	146.26	3.879	170.68
36.00	90.0	Shear	KIPS	207.64	12.22	50.01	2.929	128.88
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	4356.00
40.00	100.0	Shear	KIPS	207.64	16.74	59.88	2.372	104.38

Detailed Rating Results
Maine DOT Config. 5 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
0.00	0.0	Shear	KIPS	207.64	16.74	59.88	2.372	208.75
4.00	10.0	Flexure	KIP-FT	817.88	57.91	146.26	3.879	341.37
4.00	10.0	Shear	KIPS	207.64	12.22	50.01	2.929	257.77
8.00	20.0	Flexure	KIP-FT	817.88	97.73	237.68	2.222	195.56
8.00	20.0	Shear	KIPS	207.64	7.70	37.51	4.023	354.06
12.00	30.0	Flexure	KIP-FT	817.88	119.49	290.19	1.747	153.69
12.00	30.0	Shear	KIPS	207.64	3.18	28.84	5.388	474.13
14.00	35.0	Flexure	KIP-FT	812.52	123.58	303.68	1.642	144.51
14.00	35.0	Shear	KIPS	206.48	0.92	25.79	6.077	534.82
16.00	40.0	Flexure	KIP-FT	812.52	123.14	309.23	1.614	142.05
16.00	40.0	Shear	KIPS	206.48	1.48	23.09	6.763	595.14
20.00	50.0	Flexure	KIP-FT	812.52	108.60	296.04	1.734	152.63
20.00	50.0	Shear	KIPS	206.48	6.04	28.06	5.406	475.76
24.00	60.0	Flexure	KIP-FT	812.52	75.24	271.33	2.013	177.17
24.00	60.0	Shear	KIPS	206.48	10.77	34.66	4.242	373.30
26.00	65.0	Flexure	KIP-FT	812.52	51.42	248.37	2.294	201.84
26.00	65.0	Shear	KIPS	206.48	13.05	38.89	3.723	327.62
28.00	70.0	Flexure	KIP-FT	817.88	23.06	216.44	2.780	244.62
28.00	70.0	Shear	KIPS	207.64	15.31	42.96	3.339	293.86
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-184.74	2.706	238.09
32.00	80.0	Shear	KIPS	207.64	19.83	50.66	2.744	241.46
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-242.98	1.748	153.85
35.50	88.8	Shear	KIPS	207.64	23.78	56.83	2.377	209.22
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-251.43	1.953	171.87
36.00	90.0	Shear	KIPS	207.64	24.36	57.67	2.333	205.30
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-281.42	1.598	140.64
37.50	93.8	Shear	KIPS	206.48	26.08	60.08	2.197	193.31

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-338.23	1.130	99.41
0.00	0.0	Shear	KIPS	206.48	28.70	65.34	1.980	174.26
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-263.22	1.706	150.15
2.50	5.0	Shear	KIPS	206.48	25.81	61.69	2.144	188.64
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-214.79	2.336	205.56
4.50	9.0	Shear	KIPS	207.64	23.52	58.62	2.309	203.21
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-205.11	2.502	220.15
5.00	10.0	Shear	KIPS	207.64	22.95	57.88	2.349	206.68
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	150.70	4.224	371.71

10.00	20.0	Shear	KIPS	207.64	17.30	49.86	2.838	249.73
15.00	30.0	Flexure	KIP-FT	817.88	59.95	230.75	2.450	215.62
15.00	30.0	Shear	KIPS	207.64	11.66	41.15	3.573	314.45
19.00	38.0	Flexure	KIP-FT	812.52	96.32	274.47	1.915	168.50
19.00	38.0	Shear	KIPS	206.48	6.83	33.83	4.461	392.53
20.00	40.0	Flexure	KIP-FT	812.52	102.58	280.78	1.850	162.78
20.00	40.0	Shear	KIPS	206.48	5.69	31.99	4.752	418.17
25.00	50.0	Flexure	KIP-FT	812.52	116.81	293.44	1.722	151.57
25.00	50.0	Shear	KIPS	206.48	0.00	23.64	6.668	586.77
30.00	60.0	Flexure	KIP-FT	812.52	102.58	280.78	1.850	162.78
30.00	60.0	Shear	KIPS	206.48	5.69	31.99	4.752	418.17
31.00	62.0	Flexure	KIP-FT	812.52	96.32	274.47	1.915	168.50
31.00	62.0	Shear	KIPS	206.48	6.83	33.83	4.461	392.53
35.00	70.0	Flexure	KIP-FT	817.88	59.95	230.75	2.450	215.62
35.00	70.0	Shear	KIPS	207.64	11.66	41.15	3.573	314.45
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	150.70	4.224	371.71
40.00	80.0	Shear	KIPS	207.64	17.30	49.86	2.838	249.73
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-205.11	2.502	220.15
45.00	90.0	Shear	KIPS	207.64	22.95	57.88	2.349	206.68
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-214.79	2.336	205.56
45.50	91.0	Shear	KIPS	207.64	23.52	58.62	2.309	203.21
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-263.22	1.706	150.15
47.50	95.0	Shear	KIPS	206.48	25.81	61.69	2.144	188.64
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-338.23	1.130	99.41
50.00	100.0	Shear	KIPS	206.48	28.70	65.34	1.980	174.26

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-281.42	1.598	140.64
2.50	6.3	Shear	KIPS	206.48	26.08	60.08	2.197	193.31
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-251.43	1.953	171.87
4.00	10.0	Shear	KIPS	207.64	24.36	57.67	2.333	205.30
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-242.98	1.748	153.85
4.50	11.3	Shear	KIPS	207.64	23.78	56.83	2.377	209.22
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-184.74	2.706	238.09
8.00	20.0	Shear	KIPS	207.64	19.83	50.66	2.744	241.46
12.00	30.0	Flexure	KIP-FT	817.88	23.06	216.44	2.780	244.62
12.00	30.0	Shear	KIPS	207.64	15.31	42.96	3.339	293.86
14.00	35.0	Flexure	KIP-FT	812.52	51.42	248.37	2.294	201.84
14.00	35.0	Shear	KIPS	206.48	13.05	38.89	3.723	327.62

16.00	40.0	Flexure	KIP-FT	812.52	75.24	271.33	2.013	177.17
16.00	40.0	Shear	KIPS	206.48	10.77	34.66	4.242	373.30
20.00	50.0	Flexure	KIP-FT	812.52	108.60	296.04	1.734	152.63
20.00	50.0	Shear	KIPS	206.48	6.04	28.06	5.406	475.76
24.00	60.0	Flexure	KIP-FT	812.52	123.14	309.23	1.614	142.05
24.00	60.0	Shear	KIPS	206.48	1.48	23.09	6.763	595.14
26.00	65.0	Flexure	KIP-FT	812.52	123.58	303.68	1.642	144.51
26.00	65.0	Shear	KIPS	206.48	0.92	25.79	6.077	534.82
28.00	70.0	Flexure	KIP-FT	817.88	119.49	290.19	1.747	153.69
28.00	70.0	Shear	KIPS	207.64	3.18	28.84	5.388	474.13
32.00	80.0	Flexure	KIP-FT	817.88	97.73	237.68	2.222	195.56
32.00	80.0	Shear	KIPS	207.64	7.70	37.51	4.023	354.06
36.00	90.0	Flexure	KIP-FT	817.88	57.91	146.26	3.879	341.37
36.00	90.0	Shear	KIPS	207.64	12.22	50.01	2.929	257.77
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	8712.00
40.00	100.0	Shear	KIPS	207.64	16.74	59.88	2.372	208.75

**Detailed Rating Results
Maine DOT Config. 6
Axle Load
Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
0.00	0.0	Shear	KIPS	207.64	16.74	69.44	2.046	77.63
4.00	10.0	Flexure	KIP-FT	817.88	57.91	173.08	3.278	124.41
4.00	10.0	Shear	KIPS	207.64	12.22	59.18	2.475	93.94
8.00	20.0	Flexure	KIP-FT	817.88	97.73	288.09	1.834	69.58
8.00	20.0	Shear	KIPS	207.64	7.70	45.47	3.319	125.97
12.00	30.0	Flexure	KIP-FT	817.88	119.49	362.21	1.399	53.10
12.00	30.0	Shear	KIPS	207.64	3.18	36.72	4.231	160.57
14.00	35.0	Flexure	KIP-FT	812.52	123.58	385.32	1.294	49.12
14.00	35.0	Shear	KIPS	206.48	0.92	32.55	4.815	182.72
16.00	40.0	Flexure	KIP-FT	812.52	123.14	395.43	1.262	47.90
16.00	40.0	Shear	KIPS	206.48	1.48	28.51	5.478	207.89
20.00	50.0	Flexure	KIP-FT	812.52	108.60	386.02	1.330	50.48
20.00	50.0	Shear	KIPS	206.48	6.04	33.08	4.585	173.99
24.00	60.0	Flexure	KIP-FT	812.52	75.24	345.69	1.580	59.97
24.00	60.0	Shear	KIPS	206.48	10.77	41.85	3.514	133.34

26.00	65.0	Flexure	KIP-FT	812.52	51.42	311.12	1.831	69.49
26.00	65.0	Shear	KIPS	206.48	13.05	46.03	3.146	119.38
28.00	70.0	Flexure	KIP-FT	817.88	23.06	267.47	2.249	85.36
28.00	70.0	Shear	KIPS	207.64	15.31	50.10	2.863	108.66
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-207.81	2.405	91.28
32.00	80.0	Shear	KIPS	207.64	19.83	57.71	2.409	91.42
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-230.54	1.843	69.93
35.50	88.8	Shear	KIPS	207.64	23.78	63.71	2.121	80.49
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-233.78	2.100	79.71
36.00	90.0	Shear	KIPS	207.64	24.36	64.53	2.085	79.14
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-243.52	1.847	70.09
37.50	93.8	Shear	KIPS	206.48	26.08	66.82	1.975	74.95

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-259.76	1.471	55.82
0.00	0.0	Shear	KIPS	206.48	28.70	70.87	1.826	69.29
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-202.14	2.222	84.32
2.50	5.0	Shear	KIPS	206.48	25.81	67.46	1.960	74.39
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-191.00	2.627	99.69
4.50	9.0	Shear	KIPS	207.64	23.52	64.50	2.099	79.66
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-188.21	2.726	103.47
5.00	10.0	Shear	KIPS	207.64	22.95	63.73	2.133	80.94
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	193.15	3.296	125.07
10.00	20.0	Shear	KIPS	207.64	17.30	55.57	2.546	96.63
15.00	30.0	Flexure	KIP-FT	817.88	59.95	291.17	1.942	73.69
15.00	30.0	Shear	KIPS	207.64	11.66	46.69	3.149	119.51
19.00	38.0	Flexure	KIP-FT	812.52	96.32	348.10	1.510	57.30
19.00	38.0	Shear	KIPS	206.48	6.83	39.34	3.836	145.57
20.00	40.0	Flexure	KIP-FT	812.52	102.58	358.03	1.451	55.05
20.00	40.0	Shear	KIPS	206.48	5.69	37.50	4.054	153.84
25.00	50.0	Flexure	KIP-FT	812.52	116.81	377.36	1.339	50.83
25.00	50.0	Shear	KIPS	206.48	0.00	28.37	5.555	210.82
30.00	60.0	Flexure	KIP-FT	812.52	102.58	358.03	1.451	55.05
30.00	60.0	Shear	KIPS	206.48	5.69	37.50	4.054	153.84
31.00	62.0	Flexure	KIP-FT	812.52	96.32	348.10	1.510	57.30
31.00	62.0	Shear	KIPS	206.48	6.83	39.34	3.836	145.57
35.00	70.0	Flexure	KIP-FT	817.88	59.95	291.17	1.942	73.69
35.00	70.0	Shear	KIPS	207.64	11.66	46.69	3.149	119.51
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	193.15	3.296	125.07

40.00	80.0	Shear	KIPS	207.64	17.30	55.57	2.546	96.63
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-188.21	2.726	103.47
45.00	90.0	Shear	KIPS	207.64	22.95	63.73	2.133	80.94
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-191.00	2.627	99.69
45.50	91.0	Shear	KIPS	207.64	23.52	64.50	2.099	79.66
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-202.14	2.222	84.32
47.50	95.0	Shear	KIPS	206.48	25.81	67.46	1.960	74.39
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-259.76	1.471	55.82
50.00	100.0	Shear	KIPS	206.48	28.70	70.87	1.826	69.29

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-243.52	1.847	70.09
2.50	6.3	Shear	KIPS	206.48	26.08	66.82	1.975	74.95
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-233.78	2.100	79.71
4.00	10.0	Shear	KIPS	207.64	24.36	64.53	2.085	79.14
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-230.54	1.843	69.93
4.50	11.3	Shear	KIPS	207.64	23.78	63.71	2.121	80.49
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-207.81	2.405	91.28
8.00	20.0	Shear	KIPS	207.64	19.83	57.71	2.409	91.42
12.00	30.0	Flexure	KIP-FT	817.88	23.06	267.47	2.249	85.36
12.00	30.0	Shear	KIPS	207.64	15.31	50.10	2.863	108.66
14.00	35.0	Flexure	KIP-FT	812.52	51.42	311.12	1.831	69.49
14.00	35.0	Shear	KIPS	206.48	13.05	46.03	3.146	119.38
16.00	40.0	Flexure	KIP-FT	812.52	75.24	345.69	1.580	59.97
16.00	40.0	Shear	KIPS	206.48	10.77	41.85	3.514	133.34
20.00	50.0	Flexure	KIP-FT	812.52	108.60	386.02	1.330	50.48
20.00	50.0	Shear	KIPS	206.48	6.04	33.08	4.585	173.99
24.00	60.0	Flexure	KIP-FT	812.52	123.14	395.43	1.262	47.90
24.00	60.0	Shear	KIPS	206.48	1.48	28.51	5.478	207.89
26.00	65.0	Flexure	KIP-FT	812.52	123.58	385.32	1.294	49.12
26.00	65.0	Shear	KIPS	206.48	0.92	32.55	4.815	182.72
28.00	70.0	Flexure	KIP-FT	817.88	119.49	362.21	1.399	53.10
28.00	70.0	Shear	KIPS	207.64	3.18	36.72	4.231	160.57
32.00	80.0	Flexure	KIP-FT	817.88	97.73	288.09	1.834	69.58
32.00	80.0	Shear	KIPS	207.64	7.70	45.47	3.319	125.97
36.00	90.0	Flexure	KIP-FT	817.88	57.91	173.08	3.278	124.41
36.00	90.0	Shear	KIPS	207.64	12.22	59.18	2.475	93.94
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3757.05
40.00	100.0	Shear	KIPS	207.64	16.74	69.44	2.046	77.63

Detailed Rating Results
Maine DOT Config. 6 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
0.00	0.0	Shear	KIPS	207.64	16.74	69.44	2.046	155.26
4.00	10.0	Flexure	KIP-FT	817.88	57.91	173.08	3.278	248.81
4.00	10.0	Shear	KIPS	207.64	12.22	59.18	2.475	187.88
8.00	20.0	Flexure	KIP-FT	817.88	97.73	288.09	1.834	139.16
8.00	20.0	Shear	KIPS	207.64	7.70	45.47	3.319	251.95
12.00	30.0	Flexure	KIP-FT	817.88	119.49	362.21	1.399	106.20
12.00	30.0	Shear	KIPS	207.64	3.18	36.72	4.231	321.14
14.00	35.0	Flexure	KIP-FT	812.52	123.58	385.32	1.294	98.23
14.00	35.0	Shear	KIPS	206.48	0.92	32.55	4.815	365.44
16.00	40.0	Flexure	KIP-FT	812.52	123.14	395.43	1.262	95.81
16.00	40.0	Shear	KIPS	206.48	1.48	32.43	4.815	365.46
20.00	50.0	Flexure	KIP-FT	812.52	108.60	386.02	1.330	100.96
20.00	50.0	Shear	KIPS	206.48	6.04	41.29	3.674	278.83
24.00	60.0	Flexure	KIP-FT	812.52	75.24	345.69	1.580	119.94
24.00	60.0	Shear	KIPS	206.48	10.77	49.58	2.965	225.08
26.00	65.0	Flexure	KIP-FT	812.52	51.42	311.12	1.831	138.98
26.00	65.0	Shear	KIPS	206.48	13.05	53.40	2.711	205.79
28.00	70.0	Flexure	KIP-FT	817.88	23.06	267.47	2.249	170.73
28.00	70.0	Shear	KIPS	207.64	15.31	57.00	2.517	191.02
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-189.24	2.641	200.48
32.00	80.0	Shear	KIPS	207.64	19.83	63.45	2.191	166.28
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-288.06	1.475	111.93
35.50	88.8	Shear	KIPS	207.64	23.78	68.29	1.978	150.17
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-304.26	1.614	122.50
36.00	90.0	Shear	KIPS	207.64	24.36	68.94	1.952	148.14
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-353.77	1.271	96.50
37.50	93.8	Shear	KIPS	206.48	26.08	70.71	1.867	141.67

Span 2

Legal Legal

Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-445.98	0.857	65.03
0.00	0.0	Shear	KIPS	206.48	28.97	73.50	1.757	133.35
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-358.49	1.253	95.09
2.50	5.0	Shear	KIPS	206.48	25.81	68.85	1.921	145.78
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-294.12	1.706	129.47
4.50	9.0	Shear	KIPS	207.64	23.52	66.46	2.037	154.60
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-278.87	1.840	139.66
5.00	10.0	Shear	KIPS	207.64	22.95	65.86	2.064	156.65
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	198.20	3.212	243.77
10.00	20.0	Shear	KIPS	207.64	17.30	59.58	2.375	180.24
15.00	30.0	Flexure	KIP-FT	817.88	59.95	271.73	2.081	157.93
15.00	30.0	Shear	KIPS	207.64	11.66	52.44	2.804	212.82
19.00	38.0	Flexure	KIP-FT	812.52	96.32	306.57	1.714	130.12
19.00	38.0	Shear	KIPS	206.48	6.83	46.00	3.281	249.00
20.00	40.0	Flexure	KIP-FT	812.52	102.58	311.65	1.667	126.49
20.00	40.0	Shear	KIPS	206.48	5.69	44.28	3.433	260.56
25.00	50.0	Flexure	KIP-FT	812.52	116.81	312.35	1.618	122.81
25.00	50.0	Shear	KIPS	206.48	0.00	35.33	4.462	338.64
30.00	60.0	Flexure	KIP-FT	812.52	102.58	311.65	1.667	126.49
30.00	60.0	Shear	KIPS	206.48	5.69	44.28	3.433	260.56
31.00	62.0	Flexure	KIP-FT	812.52	96.32	306.57	1.714	130.12
31.00	62.0	Shear	KIPS	206.48	6.83	46.00	3.281	249.00
35.00	70.0	Flexure	KIP-FT	817.88	59.95	271.73	2.081	157.93
35.00	70.0	Shear	KIPS	207.64	11.66	52.44	2.804	212.82
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	198.20	3.212	243.77
40.00	80.0	Shear	KIPS	207.64	17.30	59.58	2.375	180.24
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-278.87	1.840	139.66
45.00	90.0	Shear	KIPS	207.64	22.95	65.86	2.064	156.65
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-294.12	1.706	129.47
45.50	91.0	Shear	KIPS	207.64	23.52	66.46	2.037	154.60
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-358.49	1.253	95.09
47.50	95.0	Shear	KIPS	206.48	25.81	68.85	1.921	145.78
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-445.98	0.857	65.03
50.00	100.0	Shear	KIPS	206.48	28.97	73.50	1.757	133.35

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)

2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-353.77	1.271	96.50
2.50	6.3	Shear	KIPS	206.48	26.08	70.71	1.867	141.67
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-304.26	1.614	122.50
4.00	10.0	Shear	KIPS	207.64	24.36	68.94	1.952	148.14
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-288.06	1.475	111.93
4.50	11.3	Shear	KIPS	207.64	23.78	68.29	1.978	150.17
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-189.24	2.641	200.48
8.00	20.0	Shear	KIPS	207.64	19.83	63.45	2.191	166.28
12.00	30.0	Flexure	KIP-FT	817.88	23.06	267.47	2.249	170.73
12.00	30.0	Shear	KIPS	207.64	15.31	57.00	2.517	191.02
14.00	35.0	Flexure	KIP-FT	812.52	51.42	311.12	1.831	138.98
14.00	35.0	Shear	KIPS	206.48	13.05	53.40	2.711	205.79
16.00	40.0	Flexure	KIP-FT	812.52	75.24	345.69	1.580	119.94
16.00	40.0	Shear	KIPS	206.48	10.77	49.58	2.965	225.08
20.00	50.0	Flexure	KIP-FT	812.52	108.60	386.02	1.330	100.96
20.00	50.0	Shear	KIPS	206.48	6.04	41.29	3.674	278.83
24.00	60.0	Flexure	KIP-FT	812.52	123.14	395.43	1.262	95.81
24.00	60.0	Shear	KIPS	206.48	1.48	32.43	4.815	365.46
26.00	65.0	Flexure	KIP-FT	812.52	123.58	385.32	1.294	98.23
26.00	65.0	Shear	KIPS	206.48	0.92	32.55	4.815	365.44
28.00	70.0	Flexure	KIP-FT	817.88	119.49	362.21	1.399	106.20
28.00	70.0	Shear	KIPS	207.64	3.18	36.72	4.231	321.14
32.00	80.0	Flexure	KIP-FT	817.88	97.73	288.09	1.834	139.16
32.00	80.0	Shear	KIPS	207.64	7.70	45.47	3.319	251.95
36.00	90.0	Flexure	KIP-FT	817.88	57.91	173.08	3.278	248.81
36.00	90.0	Shear	KIPS	207.64	12.22	59.18	2.475	187.88
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	7514.10
40.00	100.0	Shear	KIPS	207.64	16.74	69.44	2.046	155.26

Detailed Rating Results
Maine DOT Config. 7
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
0.00	0.0	Shear	KIPS	207.64	16.74	57.03	2.491	73.97
4.00	10.0	Flexure	KIP-FT	817.88	57.91	143.16	3.963	117.71
4.00	10.0	Shear	KIPS	207.64	12.22	48.95	2.993	88.88

8.00	20.0	Flexure	KIP-FT	817.88	97.73	240.18	2.199	65.32
8.00	20.0	Shear	KIPS	207.64	7.70	37.91	3.982	118.25
12.00	30.0	Flexure	KIP-FT	817.88	119.49	293.97	1.724	51.20
12.00	30.0	Shear	KIPS	207.64	3.18	30.93	5.023	149.19
14.00	35.0	Flexure	KIP-FT	812.52	123.58	306.04	1.630	48.40
14.00	35.0	Shear	KIPS	206.48	0.92	27.60	5.678	168.63
16.00	40.0	Flexure	KIP-FT	812.52	123.14	316.47	1.577	46.84
16.00	40.0	Shear	KIPS	206.48	1.48	24.35	6.413	190.46
20.00	50.0	Flexure	KIP-FT	812.52	108.60	310.76	1.652	49.07
20.00	50.0	Shear	KIPS	206.48	6.04	28.24	5.371	159.51
24.00	60.0	Flexure	KIP-FT	812.52	75.24	275.42	1.983	58.91
24.00	60.0	Shear	KIPS	206.48	10.77	34.99	4.202	124.81
26.00	65.0	Flexure	KIP-FT	812.52	51.42	251.17	2.268	67.36
26.00	65.0	Shear	KIPS	206.48	13.05	38.21	3.790	112.55
28.00	70.0	Flexure	KIP-FT	817.88	23.06	219.49	2.741	81.41
28.00	70.0	Shear	KIPS	207.64	15.31	41.30	3.473	103.15
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-164.96	3.030	89.99
32.00	80.0	Shear	KIPS	207.64	19.83	47.07	2.954	87.72
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-183.01	2.321	68.94
35.50	88.8	Shear	KIPS	207.64	23.78	51.59	2.619	77.79
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-185.58	2.646	78.59
36.00	90.0	Shear	KIPS	207.64	24.36	52.20	2.578	76.56
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-193.32	2.327	69.10
37.50	93.8	Shear	KIPS	206.48	26.08	53.90	2.448	72.72

Span 2

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-206.20	1.853	55.04
0.00	0.0	Shear	KIPS	206.48	28.70	56.83	2.277	67.62
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-159.54	2.815	83.61
2.50	5.0	Shear	KIPS	206.48	25.81	54.30	2.435	72.33
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-150.75	3.328	98.85
4.50	9.0	Shear	KIPS	207.64	23.52	52.10	2.598	77.17
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-148.55	3.454	102.59
5.00	10.0	Shear	KIPS	207.64	22.95	51.53	2.638	78.34
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	159.36	3.995	118.64
10.00	20.0	Shear	KIPS	207.64	17.30	45.30	3.124	92.77
15.00	30.0	Flexure	KIP-FT	817.88	59.95	233.51	2.421	71.91
15.00	30.0	Shear	KIPS	207.64	11.66	38.46	3.824	113.56
19.00	38.0	Flexure	KIP-FT	812.52	96.32	277.21	1.896	56.31

19.00	38.0	Shear	KIPS	206.48	6.83	32.71	4.613	137.02
20.00	40.0	Flexure	KIP-FT	812.52	102.58	285.55	1.819	54.02
20.00	40.0	Shear	KIPS	206.48	5.69	31.26	4.863	144.44
25.00	50.0	Flexure	KIP-FT	812.52	116.81	303.73	1.664	49.42
25.00	50.0	Shear	KIPS	206.48	0.00	24.07	6.550	194.52
30.00	60.0	Flexure	KIP-FT	812.52	102.58	285.55	1.819	54.02
30.00	60.0	Shear	KIPS	206.48	5.69	31.26	4.863	144.44
31.00	62.0	Flexure	KIP-FT	812.52	96.32	277.21	1.896	56.31
31.00	62.0	Shear	KIPS	206.48	6.83	32.71	4.613	137.02
35.00	70.0	Flexure	KIP-FT	817.88	59.95	233.51	2.421	71.91
35.00	70.0	Shear	KIPS	207.64	11.66	38.46	3.824	113.56
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	159.36	3.995	118.64
40.00	80.0	Shear	KIPS	207.64	17.30	45.30	3.124	92.77
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-148.55	3.454	102.59
45.00	90.0	Shear	KIPS	207.64	22.95	51.53	2.638	78.34
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-150.75	3.328	98.85
45.50	91.0	Shear	KIPS	207.64	23.52	52.10	2.598	77.17
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-159.54	2.815	83.61
47.50	95.0	Shear	KIPS	206.48	25.81	54.30	2.435	72.33
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-206.20	1.853	55.04
50.00	100.0	Shear	KIPS	206.48	28.70	56.83	2.277	67.62

Span 3

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-193.32	2.327	69.10
2.50	6.3	Shear	KIPS	206.48	26.08	53.90	2.448	72.72
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-185.58	2.646	78.59
4.00	10.0	Shear	KIPS	207.64	24.36	52.20	2.578	76.56
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-183.01	2.321	68.94
4.50	11.3	Shear	KIPS	207.64	23.78	51.59	2.619	77.79
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-164.96	3.030	89.99
8.00	20.0	Shear	KIPS	207.64	19.83	47.07	2.954	87.72
12.00	30.0	Flexure	KIP-FT	817.88	23.06	219.49	2.741	81.41
12.00	30.0	Shear	KIPS	207.64	15.31	41.30	3.473	103.15
14.00	35.0	Flexure	KIP-FT	812.52	51.42	251.17	2.268	67.36
14.00	35.0	Shear	KIPS	206.48	13.05	38.21	3.790	112.55
16.00	40.0	Flexure	KIP-FT	812.52	75.24	275.42	1.983	58.91
16.00	40.0	Shear	KIPS	206.48	10.77	34.99	4.202	124.81
20.00	50.0	Flexure	KIP-FT	812.52	108.60	310.76	1.652	49.07
20.00	50.0	Shear	KIPS	206.48	6.04	28.24	5.371	159.51

24.00	60.0	Flexure	KIP-FT	812.52	123.14	316.47	1.577	46.84
24.00	60.0	Shear	KIPS	206.48	1.48	24.35	6.413	190.46
26.00	65.0	Flexure	KIP-FT	812.52	123.58	306.04	1.630	48.40
26.00	65.0	Shear	KIPS	206.48	0.92	27.60	5.678	168.63
28.00	70.0	Flexure	KIP-FT	817.88	119.49	293.97	1.724	51.20
28.00	70.0	Shear	KIPS	207.64	3.18	30.93	5.023	149.19
32.00	80.0	Flexure	KIP-FT	817.88	97.73	240.18	2.199	65.32
32.00	80.0	Shear	KIPS	207.64	7.70	37.91	3.982	118.25
36.00	90.0	Flexure	KIP-FT	817.88	57.91	143.16	3.963	117.71
36.00	90.0	Shear	KIPS	207.64	12.22	48.95	2.993	88.88
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	2940.30
40.00	100.0	Shear	KIPS	207.64	16.74	57.03	2.491	73.97

Detailed Rating Results
Maine DOT Config. 7 x 2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
0.00	0.0	Shear	KIPS	207.64	16.74	57.03	2.491	147.94
4.00	10.0	Flexure	KIP-FT	817.88	57.91	143.16	3.963	235.41
4.00	10.0	Shear	KIPS	207.64	12.22	48.95	2.993	177.76
8.00	20.0	Flexure	KIP-FT	817.88	97.73	240.18	2.199	130.63
8.00	20.0	Shear	KIPS	207.64	7.70	37.91	3.982	236.51
12.00	30.0	Flexure	KIP-FT	817.88	119.49	293.97	1.724	102.41
12.00	30.0	Shear	KIPS	207.64	3.18	30.93	5.023	298.38
14.00	35.0	Flexure	KIP-FT	812.52	123.58	306.04	1.630	96.79
14.00	35.0	Shear	KIPS	206.48	0.92	27.60	5.678	337.26
16.00	40.0	Flexure	KIP-FT	812.52	123.14	316.47	1.577	93.69
16.00	40.0	Shear	KIPS	206.48	1.48	27.39	5.701	338.63
20.00	50.0	Flexure	KIP-FT	812.52	108.60	310.76	1.652	98.15
20.00	50.0	Shear	KIPS	206.48	6.04	34.75	4.365	259.26
24.00	60.0	Flexure	KIP-FT	812.52	75.24	275.42	1.983	117.81
24.00	60.0	Shear	KIPS	206.48	10.77	41.26	3.563	211.66
26.00	65.0	Flexure	KIP-FT	812.52	51.42	251.17	2.268	134.73
26.00	65.0	Shear	KIPS	206.48	13.05	44.27	3.271	194.27
28.00	70.0	Flexure	KIP-FT	817.88	23.06	219.49	2.741	162.83
28.00	70.0	Shear	KIPS	207.64	15.31	47.03	3.050	181.17

32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-141.65	3.529	209.61
32.00	80.0	Shear	KIPS	207.64	19.83	51.97	2.675	158.88
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-229.12	1.854	110.13
35.50	88.8	Shear	KIPS	207.64	23.78	55.63	2.429	144.27
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-242.98	2.021	120.05
36.00	90.0	Shear	KIPS	207.64	24.36	56.10	2.398	142.47
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-285.73	1.574	93.50
37.50	93.8	Shear	KIPS	206.48	26.08	57.40	2.299	136.58

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-361.40	1.057	62.80
0.00	0.0	Shear	KIPS	206.48	28.97	59.43	2.173	129.06
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-288.86	1.555	92.35
2.50	5.0	Shear	KIPS	206.48	25.81	55.69	2.375	141.06
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-233.43	2.149	127.67
4.50	9.0	Shear	KIPS	207.64	23.52	53.98	2.508	148.98
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-220.48	2.327	138.25
5.00	10.0	Shear	KIPS	207.64	22.95	53.58	2.537	150.70
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	163.30	3.898	231.55
10.00	20.0	Shear	KIPS	207.64	17.30	48.96	2.890	171.68
15.00	30.0	Flexure	KIP-FT	817.88	59.95	218.45	2.588	153.74
15.00	30.0	Shear	KIPS	207.64	11.66	43.33	3.393	201.57
19.00	38.0	Flexure	KIP-FT	812.52	96.32	245.91	2.137	126.95
19.00	38.0	Shear	KIPS	206.48	6.83	38.12	3.959	235.14
20.00	40.0	Flexure	KIP-FT	812.52	102.58	249.48	2.082	123.67
20.00	40.0	Shear	KIPS	206.48	5.69	36.76	4.136	245.65
25.00	50.0	Flexure	KIP-FT	812.52	116.81	246.76	2.048	121.66
25.00	50.0	Shear	KIPS	206.48	0.00	29.42	5.357	318.22
30.00	60.0	Flexure	KIP-FT	812.52	102.58	249.48	2.082	123.67
30.00	60.0	Shear	KIPS	206.48	5.69	36.76	4.136	245.65
31.00	62.0	Flexure	KIP-FT	812.52	96.32	245.91	2.137	126.95
31.00	62.0	Shear	KIPS	206.48	6.83	38.12	3.959	235.14
35.00	70.0	Flexure	KIP-FT	817.88	59.95	218.45	2.588	153.74
35.00	70.0	Shear	KIPS	207.64	11.66	43.33	3.393	201.57
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	163.30	3.898	231.55
40.00	80.0	Shear	KIPS	207.64	17.30	48.96	2.890	171.68
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-220.48	2.327	138.25
45.00	90.0	Shear	KIPS	207.64	22.95	53.58	2.537	150.70
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-233.43	2.149	127.67

45.50	91.0	Shear	KIPS	207.64	23.52	53.98	2.508	148.98
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-288.86	1.555	92.35
47.50	95.0	Shear	KIPS	206.48	25.81	55.69	2.375	141.06
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-361.40	1.057	62.80
50.00	100.0	Shear	KIPS	206.48	28.97	59.43	2.173	129.06

Span 3

							Legal	Legal
Location							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-285.73	1.574	93.50
2.50	6.3	Shear	KIPS	206.48	26.08	57.40	2.299	136.58
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-242.98	2.021	120.05
4.00	10.0	Shear	KIPS	207.64	24.36	56.10	2.398	142.47
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-229.12	1.854	110.13
4.50	11.3	Shear	KIPS	207.64	23.78	55.63	2.429	144.27
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-141.65	3.529	209.61
8.00	20.0	Shear	KIPS	207.64	19.83	51.97	2.675	158.88
12.00	30.0	Flexure	KIP-FT	817.88	23.06	219.49	2.741	162.83
12.00	30.0	Shear	KIPS	207.64	15.31	47.03	3.050	181.17
14.00	35.0	Flexure	KIP-FT	812.52	51.42	251.17	2.268	134.73
14.00	35.0	Shear	KIPS	206.48	13.05	44.27	3.271	194.27
16.00	40.0	Flexure	KIP-FT	812.52	75.24	275.42	1.983	117.81
16.00	40.0	Shear	KIPS	206.48	10.77	41.26	3.563	211.66
20.00	50.0	Flexure	KIP-FT	812.52	108.60	310.76	1.652	98.15
20.00	50.0	Shear	KIPS	206.48	6.04	34.75	4.365	259.26
24.00	60.0	Flexure	KIP-FT	812.52	123.14	316.47	1.577	93.69
24.00	60.0	Shear	KIPS	206.48	1.48	27.39	5.701	338.63
26.00	65.0	Flexure	KIP-FT	812.52	123.58	306.04	1.630	96.79
26.00	65.0	Shear	KIPS	206.48	0.92	27.60	5.678	337.26
28.00	70.0	Flexure	KIP-FT	817.88	119.49	293.97	1.724	102.41
28.00	70.0	Shear	KIPS	207.64	3.18	30.93	5.023	298.38
32.00	80.0	Flexure	KIP-FT	817.88	97.73	240.18	2.199	130.63
32.00	80.0	Shear	KIPS	207.64	7.70	37.91	3.982	236.51
36.00	90.0	Flexure	KIP-FT	817.88	57.91	143.16	3.963	235.41
36.00	90.0	Shear	KIPS	207.64	12.22	48.95	2.993	177.76
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	5880.60
40.00	100.0	Shear	KIPS	207.64	16.74	57.03	2.491	147.94

**Detailed Rating Results
Maine DOT Config. 8
Axle Load**

**Impact: As Requested
Lane: As Requested**

Span 1

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
0.00	0.0	Shear	KIPS	207.64	16.74	37.41	3.797	71.00
4.00	10.0	Flexure	KIP-FT	817.88	57.91	94.38	6.012	112.42
4.00	10.0	Shear	KIPS	207.64	12.22	32.27	4.540	84.89
8.00	20.0	Flexure	KIP-FT	817.88	97.73	159.49	3.312	61.93
8.00	20.0	Shear	KIPS	207.64	7.70	25.17	5.996	112.12
12.00	30.0	Flexure	KIP-FT	817.88	119.49	196.72	2.576	48.18
12.00	30.0	Shear	KIPS	207.64	3.18	20.70	7.507	140.37
14.00	35.0	Flexure	KIP-FT	812.52	123.58	205.66	2.425	45.35
14.00	35.0	Shear	KIPS	206.48	0.92	18.55	8.449	157.99
16.00	40.0	Flexure	KIP-FT	812.52	123.14	208.59	2.393	44.75
16.00	40.0	Shear	KIPS	206.48	1.48	16.46	9.487	177.40
20.00	50.0	Flexure	KIP-FT	812.52	108.60	203.19	2.527	47.26
20.00	50.0	Shear	KIPS	206.48	6.04	19.09	7.947	148.61
24.00	60.0	Flexure	KIP-FT	812.52	75.24	185.95	2.938	54.94
24.00	60.0	Shear	KIPS	206.48	10.77	23.27	6.318	118.15
26.00	65.0	Flexure	KIP-FT	812.52	51.42	169.57	3.360	62.83
26.00	65.0	Shear	KIPS	206.48	13.05	25.26	5.733	107.20
28.00	70.0	Flexure	KIP-FT	817.88	23.06	148.93	4.040	75.54
28.00	70.0	Shear	KIPS	207.64	15.31	27.15	5.283	98.80
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-104.75	4.772	89.23
32.00	80.0	Shear	KIPS	207.64	19.83	30.69	4.529	84.69
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-116.21	3.656	68.36
35.50	88.8	Shear	KIPS	207.64	23.78	33.43	4.042	75.58
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-117.84	4.167	77.92
36.00	90.0	Shear	KIPS	207.64	24.36	33.80	3.981	74.45
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-122.75	3.664	68.52
37.50	93.8	Shear	KIPS	206.48	26.08	34.84	3.788	70.83

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-130.94	2.918	54.57

0.00	0.0	Shear	KIPS	206.48	28.70	36.56	3.539	66.19
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-101.83	4.410	82.47
2.50	5.0	Shear	KIPS	206.48	25.81	35.01	3.777	70.63
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-96.22	5.214	97.51
4.50	9.0	Shear	KIPS	207.64	23.52	33.69	4.019	75.15
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-94.82	5.412	101.20
5.00	10.0	Shear	KIPS	207.64	22.95	33.35	4.076	76.23
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	109.92	5.791	108.29
10.00	20.0	Shear	KIPS	207.64	17.30	29.53	4.791	89.60
15.00	30.0	Flexure	KIP-FT	817.88	59.95	157.69	3.586	67.05
15.00	30.0	Shear	KIPS	207.64	11.66	25.26	5.820	108.84
19.00	38.0	Flexure	KIP-FT	812.52	96.32	184.92	2.842	53.15
19.00	38.0	Shear	KIPS	206.48	6.83	21.66	6.966	130.27
20.00	40.0	Flexure	KIP-FT	812.52	102.58	189.07	2.747	51.37
20.00	40.0	Shear	KIPS	206.48	5.69	20.74	7.329	137.05
25.00	50.0	Flexure	KIP-FT	812.52	116.81	196.18	2.576	48.17
25.00	50.0	Shear	KIPS	206.48	0.00	16.16	9.751	182.34
30.00	60.0	Flexure	KIP-FT	812.52	102.58	189.07	2.747	51.37
30.00	60.0	Shear	KIPS	206.48	5.69	20.74	7.329	137.05
31.00	62.0	Flexure	KIP-FT	812.52	96.32	184.92	2.842	53.15
31.00	62.0	Shear	KIPS	206.48	6.83	21.66	6.966	130.27
35.00	70.0	Flexure	KIP-FT	817.88	59.95	157.69	3.586	67.05
35.00	70.0	Shear	KIPS	207.64	11.66	25.26	5.820	108.84
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	109.92	5.791	108.29
40.00	80.0	Shear	KIPS	207.64	17.30	29.53	4.791	89.60
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-94.82	5.412	101.20
45.00	90.0	Shear	KIPS	207.64	22.95	33.35	4.076	76.23
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-96.22	5.214	97.51
45.50	91.0	Shear	KIPS	207.64	23.52	33.69	4.019	75.15
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-101.83	4.410	82.47
47.50	95.0	Shear	KIPS	206.48	25.81	35.01	3.777	70.63
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-130.94	2.918	54.57
50.00	100.0	Shear	KIPS	206.48	28.70	36.56	3.539	66.19

Span 3

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-122.75	3.664	68.52
2.50	6.3	Shear	KIPS	206.48	26.08	34.84	3.788	70.83
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-117.84	4.167	77.92
4.00	10.0	Shear	KIPS	207.64	24.36	33.80	3.981	74.45

4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-116.21	3.656	68.36
4.50	11.3	Shear	KIPS	207.64	23.78	33.43	4.042	75.58
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-104.75	4.772	89.23
8.00	20.0	Shear	KIPS	207.64	19.83	30.69	4.529	84.69
12.00	30.0	Flexure	KIP-FT	817.88	23.06	148.93	4.040	75.54
12.00	30.0	Shear	KIPS	207.64	15.31	27.15	5.283	98.80
14.00	35.0	Flexure	KIP-FT	812.52	51.42	169.57	3.360	62.83
14.00	35.0	Shear	KIPS	206.48	13.05	25.26	5.733	107.20
16.00	40.0	Flexure	KIP-FT	812.52	75.24	185.95	2.938	54.94
16.00	40.0	Shear	KIPS	206.48	10.77	23.27	6.318	118.15
20.00	50.0	Flexure	KIP-FT	812.52	108.60	203.19	2.527	47.26
20.00	50.0	Shear	KIPS	206.48	6.04	19.09	7.947	148.61
24.00	60.0	Flexure	KIP-FT	812.52	123.14	208.59	2.393	44.75
24.00	60.0	Shear	KIPS	206.48	1.48	16.46	9.487	177.40
26.00	65.0	Flexure	KIP-FT	812.52	123.58	205.66	2.425	45.35
26.00	65.0	Shear	KIPS	206.48	0.92	18.55	8.449	157.99
28.00	70.0	Flexure	KIP-FT	817.88	119.49	196.72	2.576	48.18
28.00	70.0	Shear	KIPS	207.64	3.18	20.70	7.507	140.37
32.00	80.0	Flexure	KIP-FT	817.88	97.73	159.49	3.312	61.93
32.00	80.0	Shear	KIPS	207.64	7.70	25.17	5.996	112.12
36.00	90.0	Flexure	KIP-FT	817.88	57.91	94.38	6.012	112.42
36.00	90.0	Shear	KIPS	207.64	12.22	32.27	4.540	84.89
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	1851.30
40.00	100.0	Shear	KIPS	207.64	16.74	37.41	3.797	71.00

Detailed Rating Results
Maine DOT Config. 8 x2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
0.00	0.0	Shear	KIPS	207.64	16.74	37.41	3.797	142.01
4.00	10.0	Flexure	KIP-FT	817.88	57.91	94.38	6.012	224.84
4.00	10.0	Shear	KIPS	207.64	12.22	32.27	4.540	169.78
8.00	20.0	Flexure	KIP-FT	817.88	97.73	159.49	3.312	123.86
8.00	20.0	Shear	KIPS	207.64	7.70	25.17	5.996	224.25
12.00	30.0	Flexure	KIP-FT	817.88	119.49	196.72	2.576	96.36
12.00	30.0	Shear	KIPS	207.64	3.18	20.70	7.507	280.75

14.00	35.0	Flexure	KIP-FT	812.52	123.58	205.66	2.425	90.69
14.00	35.0	Shear	KIPS	206.48	0.92	18.55	8.449	315.99
16.00	40.0	Flexure	KIP-FT	812.52	123.14	208.59	2.393	89.50
16.00	40.0	Shear	KIPS	206.48	1.48	18.34	8.517	318.52
20.00	50.0	Flexure	KIP-FT	812.52	108.60	203.19	2.527	94.51
20.00	50.0	Shear	KIPS	206.48	6.04	23.18	6.542	244.68
24.00	60.0	Flexure	KIP-FT	812.52	75.24	185.95	2.938	109.87
24.00	60.0	Shear	KIPS	206.48	10.77	27.40	5.367	200.72
26.00	65.0	Flexure	KIP-FT	812.52	51.42	169.57	3.360	125.65
26.00	65.0	Shear	KIPS	206.48	13.05	29.32	4.938	184.70
28.00	70.0	Flexure	KIP-FT	817.88	23.06	148.93	4.040	151.09
28.00	70.0	Shear	KIPS	207.64	15.31	31.07	4.617	172.67
32.00	80.0	Flexure	KIP-FT	-715.59	-47.21	-87.75	5.697	213.05
32.00	80.0	Shear	KIPS	207.64	19.83	34.20	4.065	152.03
35.50	88.8	Flexure	KIP-FT	-715.59	-123.52	-144.54	2.939	109.92
35.50	88.8	Shear	KIPS	207.64	23.78	36.45	3.707	138.63
36.00	90.0	Flexure	KIP-FT	-817.88	-135.56	-154.47	3.179	118.89
36.00	90.0	Shear	KIPS	207.64	24.36	36.74	3.663	136.98
37.50	93.8	Flexure	KIP-FT	-812.52	-173.38	-182.67	2.462	92.08
37.50	93.8	Shear	KIPS	206.48	26.08	37.54	3.516	131.50

Span 2

							Legal Rating	Legal Load Rating
Location								
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
0.00	0.0	Flexure	KIP-FT	-812.52	-242.19	-237.10	1.612	60.27
0.00	0.0	Shear	KIPS	206.48	28.70	40.58	3.189	119.25
2.50	5.0	Flexure	KIP-FT	-812.52	-174.04	-186.36	2.410	90.13
2.50	5.0	Shear	KIPS	206.48	25.81	37.46	3.530	132.01
4.50	9.0	Flexure	KIP-FT	-817.88	-124.71	-147.71	3.397	127.04
4.50	9.0	Shear	KIPS	207.64	23.52	35.51	3.813	142.60
5.00	10.0	Flexure	KIP-FT	-817.88	-113.09	-138.58	3.703	138.49
5.00	10.0	Shear	KIPS	207.64	22.95	35.27	3.855	144.16
10.00	20.0	Flexure	KIP-FT	817.88	-12.45	111.01	5.734	214.47
10.00	20.0	Shear	KIPS	207.64	17.30	32.35	4.374	163.58
15.00	30.0	Flexure	KIP-FT	817.88	59.95	150.23	3.764	140.76
15.00	30.0	Shear	KIPS	207.64	11.66	28.66	5.130	191.87
19.00	38.0	Flexure	KIP-FT	812.52	96.32	165.54	3.175	118.74
19.00	38.0	Shear	KIPS	206.48	6.83	25.21	5.986	223.89
20.00	40.0	Flexure	KIP-FT	812.52	102.58	166.64	3.117	116.57
20.00	40.0	Shear	KIPS	206.48	5.69	24.30	6.257	234.02
25.00	50.0	Flexure	KIP-FT	812.52	116.81	163.70	3.087	115.47

25.00	50.0	Shear	KIPS	206.48	0.00	19.32	8.159	305.15
30.00	60.0	Flexure	KIP-FT	812.52	102.58	166.64	3.117	116.57
30.00	60.0	Shear	KIPS	206.48	5.69	24.30	6.257	234.02
31.00	62.0	Flexure	KIP-FT	812.52	96.32	165.54	3.175	118.74
31.00	62.0	Shear	KIPS	206.48	6.83	25.21	5.986	223.89
35.00	70.0	Flexure	KIP-FT	817.88	59.95	150.23	3.764	140.76
35.00	70.0	Shear	KIPS	207.64	11.66	28.66	5.130	191.87
40.00	80.0	Flexure	KIP-FT	817.88	-12.45	111.01	5.734	214.47
40.00	80.0	Shear	KIPS	207.64	17.30	32.35	4.374	163.58
45.00	90.0	Flexure	KIP-FT	-817.88	-113.09	-138.58	3.703	138.49
45.00	90.0	Shear	KIPS	207.64	22.95	35.27	3.855	144.16
45.50	91.0	Flexure	KIP-FT	-817.88	-124.71	-147.71	3.397	127.04
45.50	91.0	Shear	KIPS	207.64	23.52	35.51	3.813	142.60
47.50	95.0	Flexure	KIP-FT	-812.52	-174.04	-186.36	2.410	90.13
47.50	95.0	Shear	KIPS	206.48	25.81	37.46	3.530	132.01
50.00	100.0	Flexure	KIP-FT	-812.52	-242.19	-237.10	1.612	60.27
50.00	100.0	Shear	KIPS	206.48	28.70	40.58	3.189	119.25

Span 3

Location							Legal	Legal
							Rating	Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL	LL	Factor	(Ton)
2.50	6.3	Flexure	KIP-FT	-812.52	-173.38	-182.67	2.462	92.08
2.50	6.3	Shear	KIPS	206.48	26.08	37.54	3.516	131.50
4.00	10.0	Flexure	KIP-FT	-817.88	-135.56	-154.47	3.179	118.89
4.00	10.0	Shear	KIPS	207.64	24.36	36.74	3.663	136.98
4.50	11.3	Flexure	KIP-FT	-715.59	-123.52	-144.54	2.939	109.92
4.50	11.3	Shear	KIPS	207.64	23.78	36.45	3.707	138.63
8.00	20.0	Flexure	KIP-FT	-715.59	-47.21	-87.75	5.697	213.05
8.00	20.0	Shear	KIPS	207.64	19.83	34.20	4.065	152.03
12.00	30.0	Flexure	KIP-FT	817.88	23.06	148.93	4.040	151.09
12.00	30.0	Shear	KIPS	207.64	15.31	31.07	4.617	172.67
14.00	35.0	Flexure	KIP-FT	812.52	51.42	169.57	3.360	125.65
14.00	35.0	Shear	KIPS	206.48	13.05	29.32	4.938	184.70
16.00	40.0	Flexure	KIP-FT	812.52	75.24	185.95	2.938	109.87
16.00	40.0	Shear	KIPS	206.48	10.77	27.40	5.367	200.72
20.00	50.0	Flexure	KIP-FT	812.52	108.60	203.19	2.527	94.51
20.00	50.0	Shear	KIPS	206.48	6.04	23.18	6.542	244.68
24.00	60.0	Flexure	KIP-FT	812.52	123.14	208.59	2.393	89.50
24.00	60.0	Shear	KIPS	206.48	1.48	18.34	8.517	318.52
26.00	65.0	Flexure	KIP-FT	812.52	123.58	205.66	2.425	90.69
26.00	65.0	Shear	KIPS	206.48	0.92	18.55	8.449	315.99

28.00	70.0	Flexure	KIP-FT	817.88	119.49	196.72	2.576	96.36
28.00	70.0	Shear	KIPS	207.64	3.18	20.70	7.507	280.75
32.00	80.0	Flexure	KIP-FT	817.88	97.73	159.49	3.312	123.86
32.00	80.0	Shear	KIPS	207.64	7.70	25.17	5.996	224.25
36.00	90.0	Flexure	KIP-FT	817.88	57.91	94.38	6.012	224.84
36.00	90.0	Shear	KIPS	207.64	12.22	32.27	4.540	169.78
40.00	100.0	Flexure	KIP-FT	817.88	0.00	0.00	99.000	3702.60
40.00	100.0	Shear	KIPS	207.64	16.74	37.41	3.797	142.01



Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
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Title	Legal Load Ratings		

Legal Load Rating

Objective

Rate girder for legal loads using combined legal trucks and legal lane load output from Virtis

Location of Interest

Girder 2, Pier 1

Moments (Taken From Virtis)

Maximum Live Load Forces	
Load Case/Configuration:	Moment, kip-ft
Config.	
DC Moment	205.20
DW Moment	36.90
Legal Lane	28.99
Config. 1	322.03
Config. 2	288.93
Config. 3	340.27
Config. 4	334.77
Config. 5	338.23
Config. 6	445.98
Config. 7	361.40
Config. 8	237.10

(All loads are unfactored)

Legal Lane = 38.65

0.75 factor is only applied to truck, not lane. Since the entire legal load live load factor is multiplied by 0.75, the inputted lane must be divided by 0.75 so it cancels out.

Capacity	
Moment, kip-ft	812.52

Load and Resistance Factors

$\phi_c =$	1.00	Condition Factor, MBE 6A.4.2.3
$\phi_s =$	1.00	System Factor, MBE 6A.4.2.4
$\phi_f =$	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
$\phi_s =$	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

$*V_{DC} =$	1.25
$*V_{DW} =$	1.50

$*V_{LL} = 1.31$ Maine Truck Config. 1-5, 7-8

$*V_{LL} = 1.31$ Maine Truck Config. 6

$*V_{LL} = 0.98$ Maine Truck Config. 1-5, 7-8

$*V_{LL} = 0.98$ Maine Truck Config. 6

0.75 factor applied per MaineDOT Load Rating Guide (3.3.3.3)



Vanasse Hangen Brustlin, Inc.

Computations

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Title	Legal Load Ratings		

Configuration 1

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	361	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 1 Strength I	
RF _{Flexure} =	1.41

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 2

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	328	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 2 Strength I	
RF _{Flexure} =	1.56

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



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Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 3

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	379	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 3 Strength I	
RF _{Flexure} =	1.34

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 4

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	373	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 4 Strength I	
RF _{Flexure} =	1.36

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 5

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	377	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

ϕ_c =	1.00	Condition Factor, MBE 6A.4.2.3
ϕ_s =	1.00	System Factor, MBE 6A.4.2.4
ϕ_f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
ϕ_s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

$C = \phi_c \phi_s \phi_f R_n$ for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

* γ_{DC} =	1.25
* γ_{DW} =	1.50
** γ_{LL} =	0.98

Configuration 5 Strength I	
RF _{Flexure} =	1.35

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 6

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	485	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 6 Strength I	
RF _{Flexure} =	1.05

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 7

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	400	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 7 Strength I	
RF _{Flexure} =	1.27

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Configuration 8

Summary for Stringer

	Dead Load DC	Dead Load DW	Dist. Live Load + Impact	Nominal Capacity R _n
Moment, kip-ft	205	37	276	813

General Load-Rating Equation:

MBE Eq. 6A.4.2.1-1

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_p)(P)}{(\gamma_{LL})(LL + IM)}$$

φ _c =	1.00	Condition Factor, MBE 6A.4.2.3
φ _s =	1.00	System Factor, MBE 6A.4.2.4
φ _f =	1.00	LRFD Resistance Factor for flexure, LRFD 6.5.4.2
φ _s =	1.00	LRFD Resistance Factor for shear, LRFD 6.5.4.2

Strength I Limit State

C = φ_c φ_s φ_{R_n} for Strength Limit States

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW)}{(\gamma_{LL})(LL + IM)}$$

*V _{DC} =	1.25
*V _{DW} =	1.50
**V _{LL} =	0.98

Configuration 8 Strength I	
RF _{Flexure} =	1.85

* Ref. MBE Table 6A.4.2.2-1

** MBE Table 6A.4.4.2.3b-1



Vanasse Hangen Brustlin, Inc.

Computations

Project	MaineDOT Load Ratings	Project #	55005.00
Location	Br. No. 1431 & 5949	Sheet	
Calculated by	KZS	Date	4/25/2013
Checked by	ATB	Date	4/29/2013
Title	Legal Load Ratings		

Summary of Ratings

Rating Summary	
Load Case/Configuration:	Strength I
Config.	
Config. 1	1.41
Config. 2	1.56
Config. 3	1.34
Config. 4	1.36
Config. 5	1.35
Config. 6	1.05
Config. 7	1.27
Config. 8	1.85

Bridge # **Br. No. 1431/5949**
I-95 over Souadabscook

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Fatigue Rating Input Values

Designations

= input value

= result

References

a = AASHTO Manual for Bridge Evaluation, 2011 2nd Edition
 b = AASHTO LRFD Bridge Design Guide, 2012

Inputs

Partial load factor = $R_{sa} = 1$

a 7.2.2.1.1-2 Use 0.95 if using refined method of analysis
 a 7.2.2.1.1-3 Else, use 1

Truck-weight partial load factor = $R_{st} = 1$

a 7.2.2.1.1-4 Use 0.95 if truck weight estimate through weight-in-motion study
 a 7.2.2.1.1-5 Else, use 1

Detail Category = $A = E'$

a 7.2.5.2 Number of stress-range cycles per truck = $n = 2$
 This is assumed for continuous, near support, span $\leq 40'$

b 3.6.1.4.2 Average number of trucks per day in single lane $(ADTT)_{SL} = 1877$

Year built = 1961

Loading

Description of Point of Interest

Span 1 - 0.35L
Span 1 - 0.65L
Span 2 - 0.38L

*0.75 Factor

	Live Load Moment		*Factored		
	Max	Min	Max	Min	
A =	161.3	-34.2	121.0	-25.7	k -ft
B =	122.7	-63.6	92.0	-47.7	k -ft
C =	149.8	-40.3	112.3	-30.2	k -ft
D =			0.0	0.0	k -ft
E =			0.0	0.0	k -ft
F =			0.0	0.0	k -ft

Geometry

Welded or bolted cover plates? = (W/B) **W**

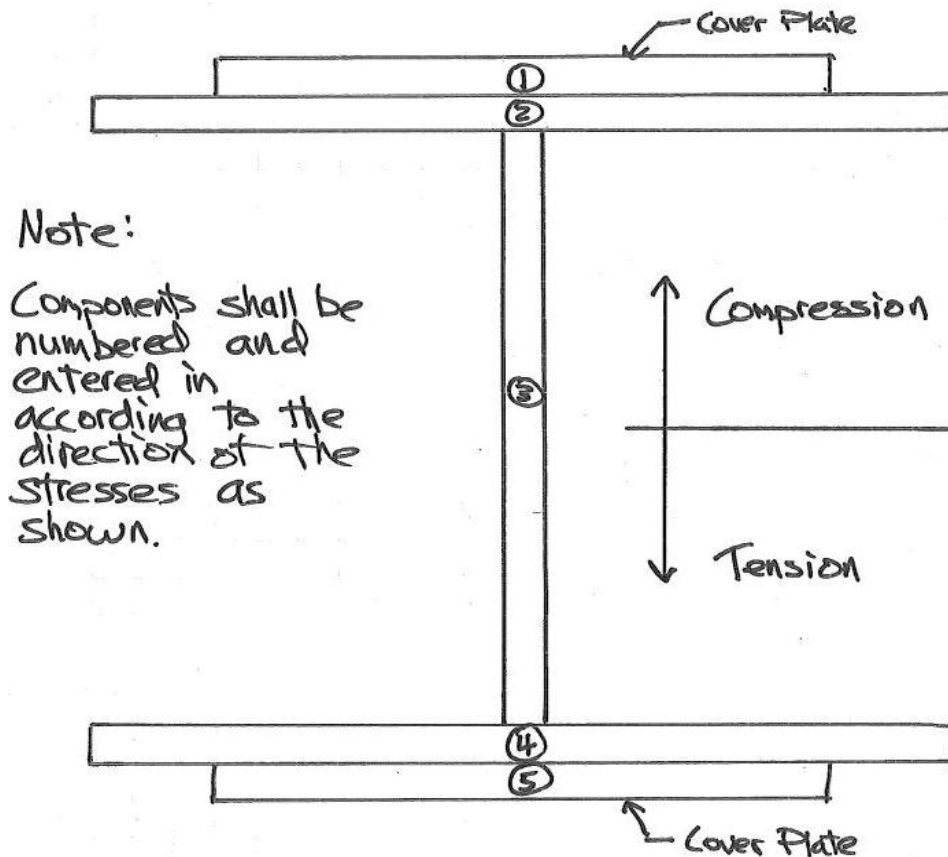
(For bolted cover plates only)

Diameter of rivets/bolts = $\phi = 0.000$ in
 Pitch = $s = 0.000$ in
 Gage = $g = 0.000$ in

Bridge # **Br. No. 1431/5949**

Project:	MaineDOT Ratings	Project #	55005.00
Location:	Hampden, ME	Sheet:	
Calculated by:	KZS	Date:	4/22/2013
Checked by:	AMG	Date:	4/23/2013
Title:	Fatigue Calculations - Cover Plate Mid Span		

Section Component Labeling



Note:

Spreadsheet is only valid if points of interest have same dimension properties in tension and compression. If not, a separate spreadsheet with the different properties must be created.

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Gross Section Properties

Component No.*	Dimensions & Centroid Distances				Gross Component Properties		
	w	h	x	y	A	I _x	I _y
	(in)	(in)	(in)	(in)	(in ²)	(in ⁴)	(in ⁴)
C	1	4.000	0.313	0.0000	1.250	0.010	1.667
↑	2	12.000	0.875	0.0000	10.500	0.67	126.000
	3	0.500	22.375	0.0000	11.188	466.743	0.233
↓	4	12.000	0.875	0.0000	10.500	0.670	126.000
T	5	4.000	0.313	0.0000	1.250	0.010	1.667
d = 24.750					34.688		

Component No.*	A	(A)(y)	I _x	d	Ad ²	I _x + Ad ²
	(in ²)	(in ³)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.250	30.742	0.010	12.219	186.622	186.632
2	10.500	252.000	0.670	11.625	1418.977	1419.646
3	11.188	138.445	466.743	0.000	0.000	466.743
4	10.500	7.875	0.670	11.625	1418.977	1419.646
5	1.250	0.195	0.010	12.219	186.622	186.632
Y _{x-x} = 12.375		I _{xx} = 3679				

* See diagram for definition of components.

Definition of Variables

w = component width (x direction)

h = component height (y direction)

x = horizontal distance from center of web to component center

y = vertical distance from bottom of entire section to component center

A = component area $A = wh$

I_x = moment of inertia about component x-x axis

I_y = moment of inertia about component y-y axis

$$I_x = \frac{1}{12} w h^3 \quad I_y = \frac{1}{12} h w^3$$

Definition of Variables

$$Y_{x-x} = x-x \text{ centroidal axis measured from bottom of section, in} \quad Y_{x-x} = \frac{\sum (Ay)}{\sum A}$$

$$d = \text{distance between member x-x centroidal axis and the center of the component} \quad d = |Y_{x-x} - y|$$

$$I_{xx} = \text{gross moment of inertia of the section about x-x axis, in}^4 \quad I_{xx} = \sum (I_x + Ad^2)$$

Gross Top Section Modulus

S_{top gross} = gross section modulus for compression (top)

$$S_{top_gross} = \frac{I_{xx}}{d_{tot} - Y_{x-x}}$$

$$S_{top_gross} = 297 \text{ in}^3$$

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings

Project # 55005.00

Location: Hampden, ME

Sheet:

Calculated by: KZS

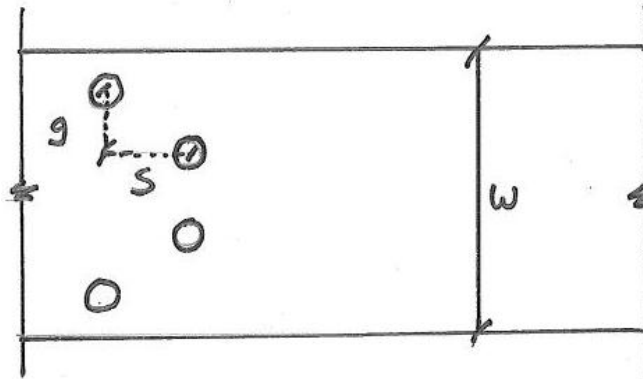
Date: 4/22/2013

Checked by: AMG

Date: 4/23/2013

Title: Fatigue Calculations - Cover Plate Mid Span

Tension Net Width



Effective Hole Diameter

$$d = \frac{1}{16}'' + \phi_{\text{rivet or bolt}}$$

$$d = \boxed{\text{N/A}} \text{ in}$$

Consider Straight Line Through One Row of Bolts

$$w_n = w - 2d$$

Flange	$w_{n1} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n1} = \boxed{\text{N/A}}$ in

Consider line through staggered bolt holes

$$w_n = w - 4d + 2 \frac{s^2}{4g}$$

Flange	$w_{n2} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n2} = \boxed{\text{N/A}}$ in

Use minimum value for net width

Flange	$w_n = \boxed{12.000}$ in
Cover Plate	$w_n = \boxed{4.000}$ in

Note: This sheet valid only for bolted cover plates.

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Gross Section Properties

Gross Section Properties About Y-Y Axis (for the area in compression only)

y_c = depth of section in compression, measured from top of section: $y_c = d_{tot} - Y_{x-x} = 12.375$ in

Component No.*	A	(A)(x)	h _c	A _c	d	A _c d ²	I _{y c}	I _{y c} +A _c d ²
	(in ²)	(in ³)	(in)	(in ²)	(in)	(in ⁴)	(in ⁴)	(in ⁴)
1	1.250	0.000	0.3125	1.250	0.000	0.000	1.667	1.667
2	10.500	0.000	0.8750	10.500	0.000	0.000	126.000	126.000
3	11.188	0.000	11.1875	5.594	0.000	0.000	0.117	0.117
4	10.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
5	1.250	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
X _{y-y} = 0.000			A _{c_tot} = 17.3		I _{yy_c} = 127.783			

Component No.*	Dimensions & Centroid Distances			
	w_n	h_n	x	y
	(in)	(in)	(in)	(in)
1	4.000	0.313	0.000	24.594
2	12.000	0.875	0.000	24.000
3	0.500	22.375	0.000	12.375
4	12.000	0.875	0.000	0.750
5	4.000	0.313	0.000	0.156

Definition of Variables

w_n = net width
 h_n = net height
 x = horizontal distance from center of web to component center
 y = vertical distance from bottom of entire section to component center

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings

Project # 55005.00

Location: Hampden, ME

Sheet:

Calculated by: KZS

Date: 4/22/2013

Checked by: AMG

Date: 4/23/2013

Title: Fatigue Calculations - Cover Plate Mid Span

Gross Section Properties

Component No. *	Net Member Properties						
	A_n	$(A_n)(y)$	I_{xn}	I_{yn}	d	$A_n d^2$	$I_{xn} + A_n d^2$
	(in ²)	(in ³)	(in ⁴)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.250	30.742	0.010	1.667	12.219	186.622	186.632
2	10.500	252.000	0.670	126.000	11.625	1418.977	1419.646
3	11.188	138.445	466.743	0.233	0.000	0.000	466.743
4	10.500	7.875	0.670	126.000	11.625	1418.977	1419.646
5	1.250	0.195	0.010	1.667	12.219	186.622	186.632
$Y_{x-xn} =$		12.375					
			$I_{xxn} =$				
			3679				

Definition of Variables

I_{xn} = net moment of inertia about component x-x axis

$$I_{xn} = \frac{1}{12} w_n h_n^3$$

I_{yn} = net moment of inertia about component y-y axis

$$I_{yn} = \frac{1}{12} h_n w_n^3$$

Y_{x-xn} = x-x centroidal axis measured from bottom of the net section, in

$$Y_{x-xn} = \frac{\sum (A_n y)}{\sum A_n}$$

I_{xxn} = net moment of inertia of the section about x-x axis, in⁴

$$I_{xxn} = \sum (I_{xn} + A_n d^2)$$

Net bottom Section Modulus

S_{bot_net} = net section modulus for tension (bottom)

$$S_{bot_net} = \frac{I_{xxn}}{Y_{x-xn}}$$

$$S_{bot_net} = 297 \text{ in}^3$$

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Fatigue Stresses

Moments

POI 1	121	-26	ft-k
POI 2	92	-48	ft-k
POI 3	112	-30	ft-k
POI 4	0	0	ft-k
POI 5	0	0	ft-k
POI 6	0	0	ft-k

Section Properties

Top Flange Section Modulus, gross section =	297	in ³
Bottom Flange Section Modulus, net section =	297	in ³

Actual Stresses

POI 1	4.883	-1.036	ksi
POI 2	3.714	-1.925	ksi
POI 3	4.533	-1.221	ksi
POI 4	0.000	0.000	ksi
POI 5	0.000	0.000	ksi
POI 6	0.000	0.000	ksi

$$\Delta f = \frac{M}{S}$$

Effective Stress Range

$$(\Delta f)_{eff} = R_s \Delta f$$

$$R_s = 1$$

where:

$$R_s = R_{sa} R_{st}$$

POI 1	(Δf) _{eff} =	5.919	ksi
POI 2	(Δf) _{eff} =	5.639	ksi
POI 3	(Δf) _{eff} =	5.754	ksi
POI 4	(Δf) _{eff} =	0.000	ksi
POI 5	(Δf) _{eff} =	0.000	ksi
POI 6	(Δf) _{eff} =	0.000	ksi

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Mid Span

Fatigue Life

Check Infinite-Life

If $(\Delta f)_{\max} \leq (\Delta F)_{TH}$ where: $(\Delta f)_{\max} = 2.0(\Delta f)_{\text{eff}}$
 $(\Delta F)_{TH} = (\text{From Table 6.6.1.2.5-3, Ref b})$
 Then $Y = \infty$

	$(\Delta f)_{\max}$		$(\Delta F)_{TH}$		RF
1	11.839	>	2.6	NOT INFINITE	0.220
2	11.279	>	2.6	NOT INFINITE	0.231
3	11.507	>	2.6	NOT INFINITE	0.226
4	0.000	<	2.6	N/A	
5	0.000	<	2.6	N/A	
6	0.000	<	2.6	N/A	

Calculate Remaining Fatigue Life for Non-Infinite Points

$$Y = \frac{R_R A}{365n(ADTT)_{SL} [(\Delta f)_{\text{eff}}]^B}$$

AASHTO MBE Table 7.2.5.2-1

Detail Category	Evaluation Life	Minimum Life	Mean Life
A	1.7	1.0	2.8
B	1.4	1.0	2.0
B'	1.5	1.0	2.4
C	1.2	1.0	1.3
C'	1.2	1.0	1.3
D	1.3	1.0	1.6
E	1.3	1.0	1.6
E'	1.6	1.0	2.5

	R_R	A	Y	Years Remaining	
1	1.6	390000000	2	-50	years
2	1.6	390000000	3	-49	years
3	1.6	390000000	2	-50	years
4	1.6	390000000			years
5	1.6	390000000			years
6	1.6	390000000			years

Controlling = -50 years

Bridge # **Br. No. 1431/5949**
I-95 over Souadabscook

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Pier

Fatigue Rating Input Values

Designations

= input value

= result

References

a = AASHTO Manual for Bridge Evaluation, 2011 2nd Edition
 b = AASHTO LRFD Bridge Design Guide, 2012

Inputs

Partial load factor = $R_{sa} = 1$

a 7.2.2.1.1-2 Use 0.95 if using refined method of analysis
 a 7.2.2.1.1-3 Else, use 1

Truck-weight partial load factor = $R_{st} = 1$

a 7.2.2.1.1-4 Use 0.95 if truck weight estimate through weight-in-motion study
 a 7.2.2.1.1-5 Else, use 1

Detail Category = $A = E'$

a 7.2.5.2 Number of stress-range cycles per truck = $n = 2$
 This is assumed for continuous, near support, span $\leq 40'$

b 3.6.1.4.2 Average number of trucks per day in single lane $(ADTT)_{SL} = 1877$

Year built = 1961

Loading

Description of Point of Interest	Live Load Moment		*Factored		
	Max	Min	Max	Min	
Span 1 - 37.5'	21.4	-128.3	16.1	-96.3	k -ft
Span 2 - 2.5'	17.8	-126.9	13.3	-95.2	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft

*0.75 Factor

Geometry

Welded or bolted cover plates? = (W/B) **W**

(For bolted cover plates only)

Diameter of rivets/bolts = $\phi = 0.000$ in

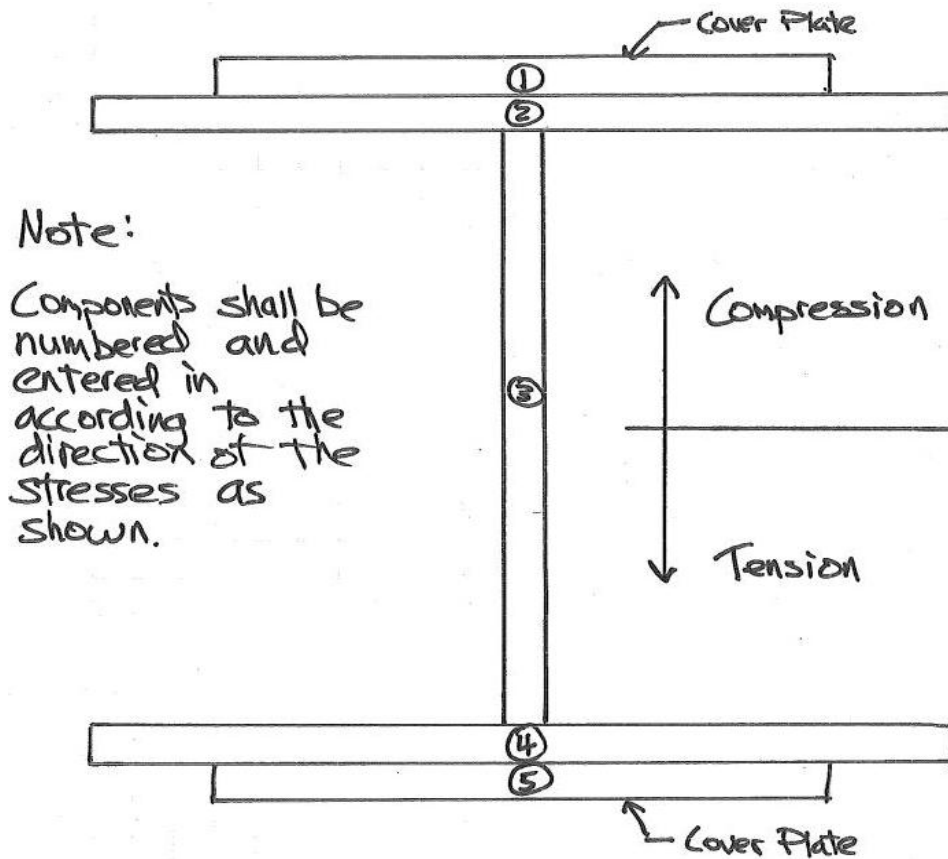
Pitch = $s = 0.000$ in

Gage = $g = 0.000$ in

Bridge # **Br. No. 1431/5949**

Project:	MaineDOT Ratings	Project #	55005.00
Location:	Hampden, ME	Sheet:	
Calculated by:	KZS	Date:	4/22/2013
Checked by:	AMG	Date:	4/23/2013
Title:	Fatigue Calculations - Cover Plate Pier		

Section Component Labeling



Note:

Spreadsheet is only valid if points of interest have same dimension properties in tension and compression. If not, a separate spreadsheet with the different properties must be created.

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Pier

Gross Section Properties

Component No.*	Dimensions & Centroid Distances				Gross Component Properties		
	w	h	x	y	A	I _x	I _y
	(in)	(in)	(in)	(in)	(in ²)	(in ⁴)	(in ⁴)
C	1	10.000	0.375	0.0000	3.750	0.044	31.250
↑	2	12.000	0.875	0.0000	10.500	0.67	126.000
	3	0.500	22.375	0.0000	11.188	466.743	0.233
↓	4	12.000	0.875	0.0000	10.500	0.670	126.000
T	5	10.000	0.375	0.0000	3.750	0.044	31.250
d = 24.875					39.688		

Component No.*	A	(A)(y)	I _x	d	Ad ²	I _x + Ad ²
	(in ²)	(in ³)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	3.750	92.578	0.044	12.250	562.734	562.778
2	10.500	252.656	0.670	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.000	0.000	466.743
4	10.500	8.531	0.670	11.625	1418.977	1419.646
5	3.750	0.703	0.044	12.250	562.734	562.778
Y _{x-x} = 12.438		I _{xx} = 4432				

* See diagram for definition of components.

Definition of Variables

w = component width (x direction)

h = component height (y direction)

x = horizontal distance from center of web to component center

y = vertical distance from bottom of entire section to component center

A = component area $A = wh$

I_x = moment of inertia about component x-x axis

I_y = moment of inertia about component y-y axis

$$I_x = \frac{1}{12} w h^3 \quad I_y = \frac{1}{12} h w^3$$

Definition of Variables

$$Y_{x-x} = \text{x-x centroidal axis measured from bottom of section, in} \quad Y_{x-x} = \frac{\sum (Ay)}{\sum A}$$

$$d = \text{distance between member x-x centroidal axis and the center of the component} \quad d = |Y_{x-x} - y|$$

$$I_{xx} = \text{gross moment of inertia of the section about x-x axis, in}^4 \quad I_{xx} = \sum (I_x + Ad^2)$$

Gross Top Section Modulus

S_{top gross} = gross section modulus for compression (top)

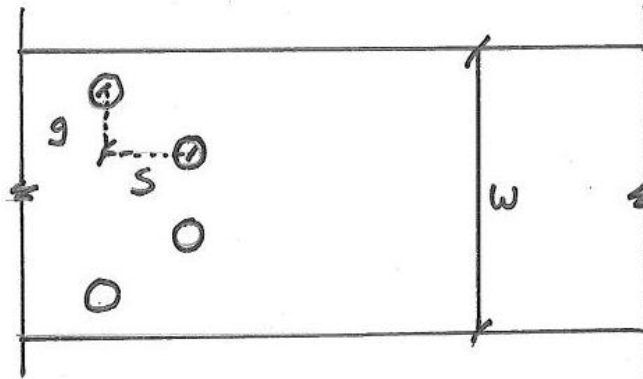
$$S_{top_gross} = \frac{I_{xx}}{d_{tot} - Y_{x-x}}$$

$$S_{top_gross} = 356 \text{ in}^3$$

Bridge # Br. No. 1431/5949

Project:	MaineDOT Ratings	Project #	55005.00
Location:	Hampden, ME	Sheet:	
Calculated by:	KZS	Date:	4/22/2013
Checked by:	AMG	Date:	4/23/2013
Title:	Fatigue Calculations - Cover Plate Pier		

Tension Net Width



Effective Hole Diameter

$$d = \frac{1}{16}'' + \phi_{\text{rivet or bolt}}$$

$$d = \boxed{\text{N/A}} \text{ in}$$

Consider Straight Line Through One Row of Bolts

$$w_n = w - 2d$$

Flange	$w_{n1} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n1} = \boxed{\text{N/A}}$ in

Consider line through staggered bolt holes

$$w_n = w - 4d + 2 \frac{s^2}{4g}$$

Flange	$w_{n2} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n2} = \boxed{\text{N/A}}$ in

Use minimum value for net width

Flange	$w_n = \boxed{12.000}$ in
Cover Plate	$w_n = \boxed{10.000}$ in

Note: This sheet valid only for bolted cover plates.

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Pier

Gross Section Properties

Gross Section Properties About Y-Y Axis (for the area in compression only)

y_c = depth of section in compression, measured from top of section: $y_c = d_{tot} - Y_{x-x} = 12.438$ in

Component No.*	A	(A)(x)	h _c	A _c	d	A _c d ²	I _{y c}	I _{y c} +A _c d ²
	(in ²)	(in ³)	(in)	(in ²)	(in)	(in ⁴)	(in ⁴)	(in ⁴)
1	3.750	0.000	0.3750	3.750	0.000	0.000	31.250	31.250
2	10.500	0.000	0.8750	10.500	0.000	0.000	126.000	126.000
3	11.188	0.000	11.1875	5.594	0.000	0.000	0.117	0.117
4	10.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
5	3.750	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
X _{y-y} = 0.000			A _{c_tot} = 19.8		I _{yy_c} = 157.367			

Component No.*	Dimensions & Centroid Distances			
	w_n	h_n	x	y
	(in)	(in)	(in)	(in)
1	10.000	0.375	0.000	24.688
2	12.000	0.875	0.000	24.063
3	0.500	22.375	0.000	12.438
4	12.000	0.875	0.000	0.813
5	10.000	0.375	0.000	0.188

Definition of Variables

w_n = net width
 h_n = net height
 x = horizontal distance from center of web to component center
 y = vertical distance from bottom of entire section to component center

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Pier

Gross Section Properties

Component No. *	Net Member Properties						
	A_n	$(A_n)(y)$	I_{xn}	I_{yn}	d	$A_n d^2$	$I_{xn} + A_n d^2$
	(in ²)	(in ³)	(in ⁴)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	3.750	92.578	0.044	31.250	12.250	562.734	562.778
2	10.500	252.656	0.670	126.000	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.233	0.000	0.000	466.743
4	10.500	8.531	0.670	126.000	11.625	1418.977	1419.646
5	3.750	0.703	0.044	31.250	12.250	562.734	562.778
$Y_{x-xn} =$		12.438					
			$I_{xxn} =$				
			4432				

Definition of Variables

I_{xn} = net moment of inertia about component x-x axis

$$I_{xn} = \frac{1}{12} w_n h_n^3$$

I_{yn} = net moment of inertia about component y-y axis

$$I_{yn} = \frac{1}{12} h_n w_n^3$$

Y_{x-xn} = x-x centroidal axis measured from bottom of the net section, in

$$Y_{x-xn} = \frac{\sum (A_n y)}{\sum A_n}$$

I_{xxn} = net moment of inertia of the section about x-x axis, in⁴

$$I_{xxn} = \sum (I_{xn} + A_n d^2)$$

Net bottom Section Modulus

S_{bot_net} = net section modulus for tension (bottom)

$$S_{bot_net} = \frac{I_{xxn}}{Y_{x-xn}}$$

$$S_{bot_net} = 356 \text{ in}^3$$

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Pier

Fatigue Stresses

Moments

POI 1	16	-96	ft-k
POI 2	13	-95	ft-k
POI 3	0	0	ft-k
POI 4	0	0	ft-k
POI 5	0	0	ft-k
POI 6	0	0	ft-k

Section Properties

Top Flange Section Modulus, gross section =	356	in ³
Bottom Flange Section Modulus, net section =	356	in ³

Actual Stresses

POI 1	0.541	-3.242	ksi
POI 2	0.448	-3.206	ksi
POI 3	0.000	0.000	ksi
POI 4	0.000	0.000	ksi
POI 5	0.000	0.000	ksi
POI 6	0.000	0.000	ksi

$$\Delta f = \frac{M}{S}$$

Effective Stress Range

$$(\Delta f)_{eff} = R_s \Delta f \quad R_s = 1$$

where:

$$R_s = R_{sa} R_{st}$$

POI 1	(Δf) _{eff} =	3.783	ksi
POI 2	(Δf) _{eff} =	3.654	ksi
POI 3	(Δf) _{eff} =	0.000	ksi
POI 4	(Δf) _{eff} =	0.000	ksi
POI 5	(Δf) _{eff} =	0.000	ksi
POI 6	(Δf) _{eff} =	0.000	ksi

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate Pier

Fatigue Life

Check Infinite-Life

If $(\Delta f)_{\max} \leq (\Delta F)_{TH}$ where: $(\Delta f)_{\max} = 2.0(\Delta f)_{\text{eff}}$
 $(\Delta F)_{TH} = (\text{From Table 6.6.1.2.5-3, Ref b})$
 Then $Y = \infty$

	$(\Delta f)_{\max}$		$(\Delta F)_{TH}$		RF
1	7.565	>	2.6	NOT INFINITE	0.344
2	7.308	>	2.6	NOT INFINITE	0.356
3	0.000	<	2.6	N/A	
4	0.000	<	2.6	N/A	
5	0.000	<	2.6	N/A	
6	0.000	<	2.6	N/A	

Calculate Remaining Fatigue Life for Non-Infinite Points

$$Y = \frac{R_R A}{365n(ADTT)_{SL} [(\Delta f)_{\text{eff}}]^B}$$

AASHTO MBE Table 7.2.5.2-1

Detail Category	Evaluation Life	Minimum Life	Mean Life
A	1.7	1.0	2.8
B	1.4	1.0	2.0
B'	1.5	1.0	2.4
C	1.2	1.0	1.3
C'	1.2	1.0	1.3
D	1.3	1.0	1.6
E	1.3	1.0	1.6
E'	1.6	1.0	2.5

	R_R	A	Y	Years Remaining	
1	1.6	390000000	8	-44	years
2	1.6	390000000	9	-43	years
3	1.6	390000000			years
4	1.6	390000000			years
5	1.6	390000000			years
6	1.6	390000000			years

Controlling = -44 years

Bridge # **Br. No. 1431/5949**
I-95 over Souadabscook

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Fatigue Rating Input Values

Designations

= input value

= result

References

a = AASHTO Manual for Bridge Evaluation, 2011 2nd Edition
 b = AASHTO LRFD Bridge Design Guide, 2012

Inputs

Partial load factor = $R_{sa} = 1$

a 7.2.2.1.1-2 Use 0.95 if using refined method of analysis
 a 7.2.2.1.1-3 Else, use 1

Truck-weight partial load factor = $R_{st} = 1$

a 7.2.2.1.1-4 Use 0.95 if truck weight estimate through weight-in-motion study
 a 7.2.2.1.1-5 Else, use 1

Detail Category = $A = E'$

a 7.2.5.2 Number of stress-range cycles per truck = $n = 2$
 This is assumed for continuous, near support, span $\leq 40'$

b 3.6.1.4.2 Average number of trucks per day in single lane $(ADTT)_{SL} = 1877$

Year built = 1961

Loading

Description of Point of Interest	Live Load Moment		*Factored		
	Max	Min	Max	Min	
Span 1 - 35.5'	32.5	-86.8	24.4	-65.1	k -ft
Span 2 - 5.5'	13.7	-98.8	10.3	-74.1	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft
			0.0	0.0	k -ft

*0.75 Factor

Geometry

Welded or bolted cover plates? = (W/B) **W**

(For bolted cover plates only)

Diameter of rivets/bolts = $\phi = 0.000$ in

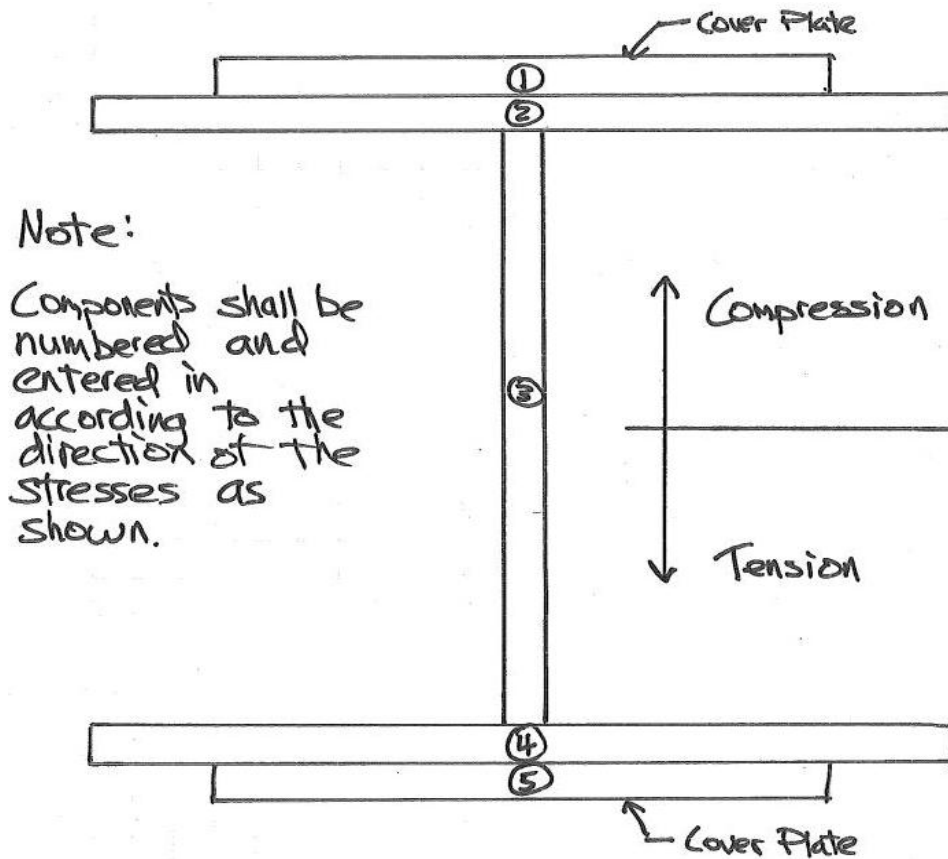
Pitch = $s = 0.000$ in

Gage = $g = 0.000$ in

Bridge # **Br. No. 1431/5949**

Project:	MaineDOT Ratings	Project #	55005.00
Location:	Hampden, ME	Sheet:	
Calculated by:	KZS	Date:	4/22/2013
Checked by:	AMG	Date:	4/23/2013
Title:	Fatigue Calculations - Cover Plate @ Pier end of taper		

Section Component Labeling



Note:

Spreadsheet is only valid if points of interest have same dimension properties in tension and compression. If not, a separate spreadsheet with the different properties must be created.

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Gross Section Properties

Component No.*	Dimensions & Centroid Distances				Gross Component Properties		
	w	h	x	y	A	I _x	I _y
	(in)	(in)	(in)	(in)	(in ²)	(in ⁴)	(in ⁴)
C	1	4.000	0.375	0.0000	1.500	0.018	2.000
	2	12.000	0.875	0.0000	10.500	0.67	126.000
	3	0.500	22.375	0.0000	11.188	466.743	0.233
	4	12.000	0.875	0.0000	10.500	0.670	126.000
T	5	4.000	0.375	0.0000	1.500	0.018	2.000
d = 24.875					35.188		

Component No.*	A	(A)(y)	I _x	d	Ad ²	I _x + Ad ²
	(in ²)	(in ³)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.500	37.031	0.018	12.250	225.094	225.111
2	10.500	252.656	0.670	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.000	0.000	466.743
4	10.500	8.531	0.670	11.625	1418.977	1419.646
5	1.500	0.281	0.018	12.250	225.094	225.111
Y _{x-x} = 12.438		I _{xx} = 3756				

* See diagram for definition of components.

Definition of Variables

w = component width (x direction)

h = component height (y direction)

x = horizontal distance from center of web to component center

y = vertical distance from bottom of entire section to component center

A = component area $A = wh$

I_x = moment of inertia about component x-x axis

I_y = moment of inertia about component y-y axis

$$I_x = \frac{1}{12} w h^3 \quad I_y = \frac{1}{12} h w^3$$

Definition of Variables

$$Y_{x-x} = x-x \text{ centroidal axis measured from bottom of section, in} \quad Y_{x-x} = \frac{\sum (Ay)}{\sum A}$$

$$d = \text{distance between member x-x centroidal axis and the center of the component} \quad d = |Y_{x-x} - y|$$

$$I_{xx} = \text{gross moment of inertia of the section about x-x axis, in}^4 \quad I_{xx} = \sum (I_x + Ad^2)$$

Gross Top Section Modulus

S_{top gross} = gross section modulus for compression (top)

$$S_{top_gross} = \frac{I_{xx}}{d_{tot} - Y_{x-x}}$$

$$S_{top_gross} = 302 \text{ in}^3$$

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings

Project # 55005.00

Location: Hampden, ME

Sheet:

Calculated by: KZS

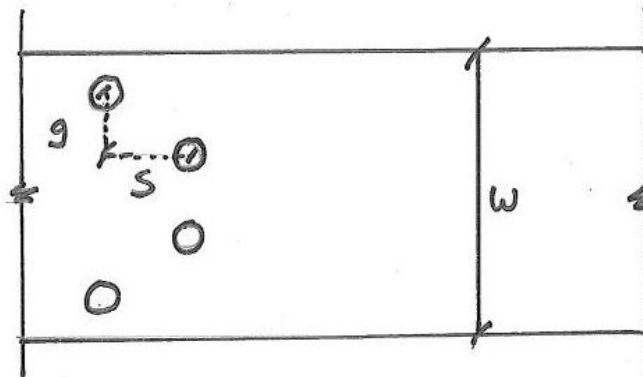
Date: 4/22/2013

Checked by: AMG

Date: 4/23/2013

Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Tension Net Width



Effective Hole Diameter

$$d = \frac{1}{16}'' + \phi_{\text{rivet or bolt}}$$

$$d = \boxed{\text{N/A}} \text{ in}$$

Consider Straight Line Through One Row of Bolts

$$w_n = w - 2d$$

Flange	$w_{n1} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n1} = \boxed{\text{N/A}}$ in

Consider line through staggered bolt holes

$$w_n = w - 4d + 2 \frac{s^2}{4g}$$

Flange	$w_{n2} = \boxed{\text{N/A}}$ in
Cover Plate	$w_{n2} = \boxed{\text{N/A}}$ in

Use minimum value for net width

Flange	$w_n = \boxed{12.000}$ in
Cover Plate	$w_n = \boxed{4.000}$ in

Note: This sheet valid only for bolted cover plates.

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Gross Section Properties

Gross Section Properties About Y-Y Axis (for the area in compression only)

y_c = depth of section in compression, measured from top of section: $y_c = d_{tot} - Y_{x-x} = 12.438$ in

Component No.*	A (in ²)	(A)(x) (in ³)	h_c (in)	A_c (in ²)	d (in)	$A_c d^2$ (in ⁴)	I_{y_c} (in ⁴)	$I_{y_c} + A_c d^2$ (in ⁴)
1	1.500	0.000	0.3750	1.500	0.000	0.000	2.000	2.000
2	10.500	0.000	0.8750	10.500	0.000	0.000	126.000	126.000
3	11.188	0.000	11.1875	5.594	0.000	0.000	0.117	0.117
4	10.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
5	1.500	0.000	0.0000	0.000	0.000	0.000	0.000	0.000
$X_{y-y} = 0.000$			$A_{c_tot} = 17.6$		$I_{yy_c} = 128.117$			

Component No.*	Dimensions & Centroid Distances			
	w_n	h_n	x	y
	(in)	(in)	(in)	(in)
1	4.000	0.375	0.000	24.688
2	12.000	0.875	0.000	24.063
3	0.500	22.375	0.000	12.438
4	12.000	0.875	0.000	0.813
5	4.000	0.375	0.000	0.188

Definition of Variables

w_n = net width
 h_n = net height
 x = horizontal distance from center of web to component center
 y = vertical distance from bottom of entire section to component center

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Gross Section Properties

Component No. *	Net Member Properties						
	A_n	$(A_n)(y)$	I_{xn}	I_{yn}	d	$A_n d^2$	$I_{xn} + A_n d^2$
	(in ²)	(in ³)	(in ⁴)	(in ⁴)	(in)	(in ⁴)	(in ⁴)
1	1.500	37.031	0.018	2.000	12.250	225.094	225.111
2	10.500	252.656	0.670	126.000	11.625	1418.977	1419.646
3	11.188	139.145	466.743	0.233	0.000	0.000	466.743
4	10.500	8.531	0.670	126.000	11.625	1418.977	1419.646
5	1.500	0.281	0.018	2.000	12.250	225.094	225.111
$Y_{x-xn} =$		12.438					
			$I_{xxn} =$				
			3756				

Definition of Variables

I_{xn} = net moment of inertia about component x-x axis

$$I_{xn} = \frac{1}{12} w_n h_n^3$$

I_{yn} = net moment of inertia about component y-y axis

$$I_{yn} = \frac{1}{12} h_n w_n^3$$

Y_{x-xn} = x-x centroidal axis measured from bottom of the net section, in

$$Y_{x-xn} = \frac{\sum (A_n y)}{\sum A_n}$$

I_{xxn} = net moment of inertia of the section about x-x axis, in⁴

$$I_{xxn} = \sum (I_{xn} + A_n d^2)$$

Net bottom Section Modulus

S_{bot_net} = net section modulus for tension (bottom)

$$S_{bot_net} = \frac{I_{xxn}}{Y_{x-xn}}$$

$$S_{bot_net} = 302 \text{ in}^3$$

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Fatigue Stresses

Moments

POI 1	24	-65	ft-k
POI 2	10	-74	ft-k
POI 3	0	0	ft-k
POI 4	0	0	ft-k
POI 5	0	0	ft-k
POI 6	0	0	ft-k

Section Properties

Top Flange Section Modulus, gross section =	302	in ³
Bottom Flange Section Modulus, net section =	302	in ³

Actual Stresses

POI 1	0.969	-2.588	ksi
POI 2	0.407	-2.944	ksi
POI 3	0.000	0.000	ksi
POI 4	0.000	0.000	ksi
POI 5	0.000	0.000	ksi
POI 6	0.000	0.000	ksi

$$\Delta f = \frac{M}{S}$$

Effective Stress Range

$$(\Delta f)_{eff} = R_s \Delta f \quad R_s = 1$$

where:

$$R_s = R_{sa} R_{st}$$

POI 1	(Δf) _{eff} =	3.556	ksi
POI 2	(Δf) _{eff} =	3.352	ksi
POI 3	(Δf) _{eff} =	0.000	ksi
POI 4	(Δf) _{eff} =	0.000	ksi
POI 5	(Δf) _{eff} =	0.000	ksi
POI 6	(Δf) _{eff} =	0.000	ksi

Bridge # Br. No. 1431/5949

Project: MaineDOT Ratings Project # 55005.00
 Location: Hampden, ME Sheet:
 Calculated by: KZS Date: 4/22/2013
 Checked by: AMG Date: 4/23/2013
 Title: Fatigue Calculations - Cover Plate @ Pier end of taper

Fatigue Life

Check Infinite-Life

If $(\Delta f)_{\max} \leq (\Delta F)_{TH}$ where: $(\Delta f)_{\max} = 2.0(\Delta f)_{\text{eff}}$
 $(\Delta F)_{TH} = (\text{From Table 6.6.1.2.5-3, Ref b})$
 Then $Y = \infty$

	$(\Delta f)_{\max}$		$(\Delta F)_{TH}$		RF
1	7.113	>	2.6	NOT INFINITE	0.366
2	6.703	>	2.6	NOT INFINITE	0.388
3	0.000	<	2.6	N/A	
4	0.000	<	2.6	N/A	
5	0.000	<	2.6	N/A	
6	0.000	<	2.6	N/A	

Calculate Remaining Fatigue Life for Non-Infinite Points

$$Y = \frac{R_R A}{365n(ADTT)_{SL} [(\Delta f)_{\text{eff}}]^B}$$

AASHTO MBE Table 7.2.5.2-1

	R_R		R_R		
Detail Category		Evaluation Life	Minimum Life	Mean Life	
A		1.7	1.0	2.8	
B		1.4	1.0	2.0	
B'		1.5	1.0	2.4	
C		1.2	1.0	1.3	
C'		1.2	1.0	1.3	
D		1.3	1.0	1.6	
E		1.3	1.0	1.6	
E'		1.6	1.0	2.5	
	R_R	A	Y	Years Remaining	
1	1.6	390000000	10	-42	years
2	1.6	390000000	12	-40	years
3	1.6	390000000			years
4	1.6	390000000			years
5	1.6	390000000			years
6	1.6	390000000			years

Controlling = -42 years

Live Load Actions Report

Name: I95 over Souadabscook Stream
Struct-Def: 1431+5949

Bridge ID: Br. No. 1431+5949
Member: G1

NBI: 1431+5949
Member Alt: G1

Stage: Composite (short term) (Stag...

Live Load: LRFD Fatigue Truck (US)

Live Load Type: Axle Load

Span	Location (ft)	% Span	Positive Moment (kip-ft)	Negative Moment (kip-ft)	Positive Shear (kip)	Negative Shear (kip)	Positive Axial (kip)	Negative Axial (kip)	Positive Reaction (kip)	Negative Reaction (kip)	Positive X Deflection (in)	Negative X Deflection (in)	Positive Y Deflection (in)	Negative Y Deflection (in)	% Impact Pos Reaction	% Impact Neg Reaction
1	0.00	0.0	-0.00	-0.00	23.29	-2.65	-0.00	-0.00	23.29	-2.65	0.0000	0.0000	0.0000	0.0000	15.000	15.000
1	4.00	10.0	72.90	-9.78	19.74	-2.65	0.00	0.00			0.0000	0.0000	0.0147	-0.0381		
1	8.00	20.0	123.73	-19.57	15.47	-4.56	0.00	0.00			0.0000	0.0000	0.0284	-0.0717		
1	11.00	27.5	148.07	-26.91	13.46	-6.96	0.00	0.00			0.0000	0.0000	0.0375	-0.0914		
1	12.00	30.0	153.67	-29.35	12.81	-7.73	0.00	0.00			0.0000	0.0000	0.0403	-0.0965		
1	14.00	35.0	161.31	-34.24	11.52	-9.21	0.00	0.00			0.0000	0.0000	0.0452	-0.1046		
1	16.00	40.0	164.47	-39.14	10.28	-10.60	0.00	0.00			0.0000	0.0000	0.0493	-0.1099		
1	20.00	50.0	158.26	-48.92	7.91	-13.47	0.00	0.00			0.0000	0.0000	0.0550	-0.1104		
1	22.00	55.0	149.45	-53.81	6.79	-14.84	0.00	0.00			0.0000	0.0000	0.0563	-0.1062		
1	24.00	60.0	137.53	-58.71	5.73	-16.18	0.00	0.00			0.0000	0.0000	0.0565	-0.0996		
1	26.00	65.0	122.65	-63.60	4.72	-17.42	0.00	0.00			0.0000	0.0000	0.0554	-0.0912		
1	28.00	70.0	108.56	-68.49	3.88	-18.56	0.00	0.00			0.0000	0.0000	0.0528	-0.0809		
1	31.00	77.5	84.74	-75.83	2.14	-20.08	0.00	0.00			0.0000	0.0000	0.0458	-0.0622		
1	32.00	80.0	75.38	-78.27	1.21	-20.54	0.00	0.00			0.0000	0.0000	0.0426	-0.0554		
1	35.50	88.8	32.50	-86.84	0.57	-21.99	0.00	0.00			0.0000	0.0000	0.0276	-0.0305		
1	36.00	90.0	25.21	-105.44	0.57	-22.17	0.00	0.00			0.0000	0.0000	0.0250	-0.0270		
1	37.50	93.8	21.41	-128.34	0.57	-22.67	0.00	0.00			0.0000	0.0000	0.0164	-0.0165		
1	40.00	00.0	22.84	-167.56	0.57	-24.56	0.00	0.00	35.68	-2.83	0.0000	0.0000	0.0000	0.0000	15.000	15.000
2	0.00	0.0	22.84	-167.56	25.84	-2.04	-0.00	-0.00	35.68	-2.83	0.0000	0.0000	0.0000	0.0000	15.000	15.000
2	2.50	5.0	17.75	-126.91	24.13	-2.04	0.00	0.00			0.0000	0.0000	0.0145	-0.0189		
2	4.50	9.0	13.67	-98.80	22.70	-2.04	0.00	0.00			0.0000	0.0000	0.0245	-0.0353		
2	5.00	10.0	19.16	-91.88	22.34	-2.04	0.00	0.00			0.0000	0.0000	0.0267	-0.0395		
2	7.50	15.0	55.26	-63.75	20.65	-2.04	0.00	0.00			0.0000	0.0000	0.0366	-0.0607		
2	10.00	20.0	84.77	-58.66	19.62	-2.04	0.00	0.00			0.0000	0.0000	0.0441	-0.0813		
2	15.00	30.0	128.20	-48.47	17.17	-3.94	0.00	0.00			0.0000	0.0000	0.0527	-0.1146		
2	19.00	38.0	149.75	-40.32	14.89	-6.75	0.00	0.00			0.0000	0.0000	0.0543	-0.1314		
2	20.00	40.0	152.55	-38.28	14.27	-7.44	0.00	0.00			0.0000	0.0000	0.0540	-0.1337		
2	25.00	50.0	151.91	-28.09	10.99	-10.99	0.00	0.00			0.0000	0.0000	0.0500	-0.1329		
2	30.00	60.0	152.55	-38.28	7.44	-14.27	0.00	0.00			0.0000	0.0000	0.0540	-0.1337		
2	31.00	62.0	149.75	-40.32	6.75	-14.89	0.00	0.00			0.0000	0.0000	0.0543	-0.1314		
2	35.00	70.0	128.20	-48.47	3.94	-17.17	0.00	0.00			0.0000	0.0000	0.0527	-0.1146		
2	40.00	80.0	84.77	-58.66	2.04	-19.62	0.00	0.00			0.0000	0.0000	0.0441	-0.0813		
2	42.50	85.0	55.26	-63.75	2.04	-20.65	0.00	0.00			0.0000	0.0000	0.0366	-0.0607		
2	45.00	90.0	19.16	-91.88	2.04	-22.34	0.00	0.00			0.0000	0.0000	0.0267	-0.0395		
2	45.50	91.0	13.67	-98.80	2.04	-22.70	0.00	0.00			0.0000	0.0000	0.0245	-0.0353		
2	47.50	95.0	17.75	-126.91	2.04	-24.13	0.00	0.00			0.0000	0.0000	0.0145	-0.0189		

Live Load Actions Report

Name: I95 over Souadabscook Stream
Struct-Def: 1431+5949

Bridge ID: Br. No. 1431+5949
Member: G1

NBl: 1431+5949
Member Alt: G1

Stage: Composite (short term) (Stag...

Live Load: LRFD Fatigue Truck (US)

Live Load Type: Axle Load

Span	Location (ft)	% Span	Positive Moment (kip-ft)	Negative Moment (kip-ft)	Positive Shear (kip)	Negative Shear (kip)	Positive Axial (kip)	Negative Axial (kip)	Positive Reaction (kip)	Negative Reaction (kip)	Positive X Deflection (in)	Negative X Deflection (in)	Positive Y Deflection (in)	Negative Y Deflection (in)	% Impact Pos Reaction	% Impact Neg Reaction
2	50.00	00.0	22.84	-167.56	2.04	-25.84	0.00	0.00	35.68	-2.83	0.0000	0.0000	0.0000	0.0000	15.000	15.000
3	0.00	0.0	22.84	-167.56	24.56	-0.57	-0.00	-0.00	35.68	-2.83	0.0000	0.0000	0.0000	0.0000	15.000	15.000
3	2.50	6.3	21.41	-128.34	22.67	-0.57	0.00	0.00			0.0000	0.0000	0.0164	-0.0165		
3	4.00	10.0	25.21	-105.44	22.17	-0.57	0.00	0.00			0.0000	0.0000	0.0250	-0.0270		
3	4.50	11.3	32.50	-86.84	21.99	-0.57	0.00	0.00			0.0000	0.0000	0.0276	-0.0305		
3	8.00	20.0	75.38	-78.27	20.54	1.21	0.00	0.00			0.0000	0.0000	0.0426	-0.0554		
3	9.00	22.5	84.74	-75.83	20.08	-2.14	0.00	0.00			0.0000	0.0000	0.0458	-0.0622		
3	12.00	30.0	108.56	-68.49	18.56	-3.88	0.00	0.00			0.0000	0.0000	0.0528	-0.0809		
3	14.00	35.0	122.65	-63.60	17.42	-4.72	0.00	0.00			0.0000	0.0000	0.0554	-0.0912		
3	16.00	40.0	137.53	-58.71	16.18	-5.73	0.00	0.00			0.0000	0.0000	0.0565	-0.0996		
3	18.00	45.0	149.45	-53.81	14.84	-6.79	0.00	0.00			0.0000	0.0000	0.0563	-0.1062		
3	20.00	50.0	158.26	-48.92	13.47	-7.91	0.00	0.00			0.0000	0.0000	0.0550	-0.1104		
3	24.00	60.0	164.47	-39.14	10.60	-10.28	0.00	0.00			0.0000	0.0000	0.0493	-0.1099		
3	26.00	65.0	161.31	-34.24	9.21	-11.52	0.00	0.00			0.0000	0.0000	0.0452	-0.1046		
3	28.00	70.0	153.67	-29.35	7.73	-12.81	0.00	0.00			0.0000	0.0000	0.0403	-0.0965		
3	29.00	72.5	148.07	-26.91	6.96	-13.46	0.00	0.00			0.0000	0.0000	0.0375	-0.0914		
3	32.00	80.0	123.73	-19.57	4.56	-15.47	0.00	0.00			0.0000	0.0000	0.0284	-0.0717		
3	36.00	90.0	72.90	-9.78	2.65	-19.74	0.00	0.00			0.0000	0.0000	0.0147	-0.0381		
3	40.00	00.0	0.00	0.00	2.65	-23.29	0.00	0.00	23.29	-2.65	0.0000	0.0000	0.0000	0.0000	15.000	15.000

Note: Abutments and Piers not shown



Note: Do not excavate ledge to provide channel/section shown.

[illegible]

Not part of this Contract

*State of Maine, State Highway Commission
Standard Specifications, Revision of January, 1956*

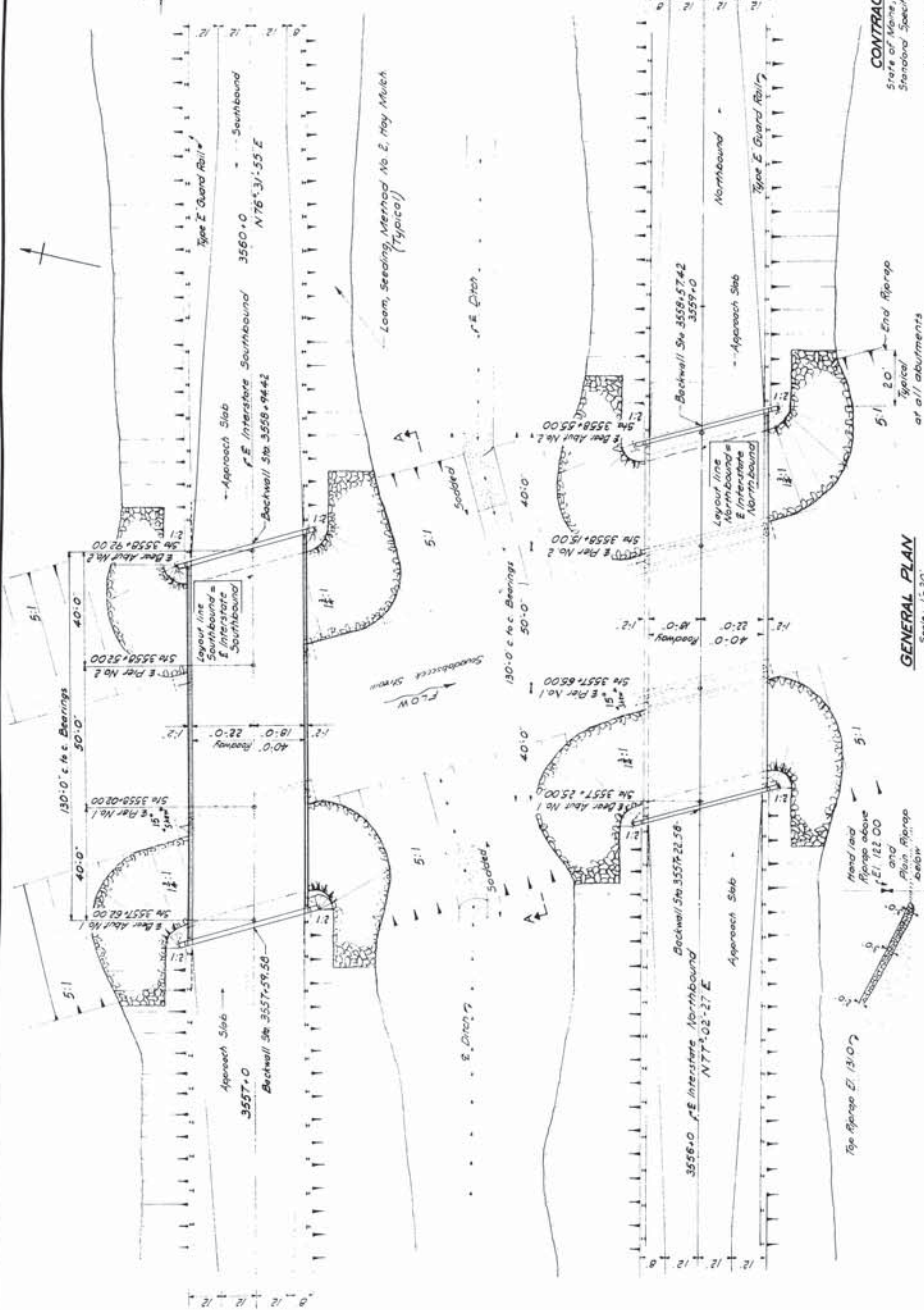
AASHTO Standard Specifications for Highway Bridges 1957 and Subsequent Editions

H20-516-44 as modified for
Interstate Highways

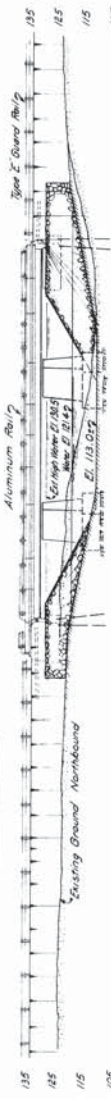
ADT - 1960 - 10310
DHV - 1235

CONCRETE CLASSIFICATION

Class D Her shafts
Class S Her footings

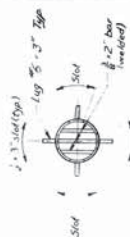


Scale: 1"=20'



Scale: 1" = 20'

100



PLAN VIEW OF DRAIN

Note: See sheet No. #13
for location of drains.

24 Drains required

NOTES: Drawings to be paid for under Items 702-103, 702-104 and 702-105.

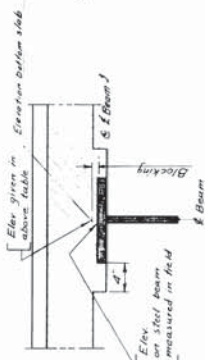
NORTHBOUND STRUCTURE

Bottom of Slab Elevations		Line a	Line b	Line c	Line d
Bearing Wall		134.40	134.53	134.66	134.79
	+10	134.41	134.54	134.67	134.80
	+20	134.42	134.55	134.68	134.81
	+30	134.43	134.56	134.69	134.82
Beam Pier	+40	134.40	134.53	134.66	134.79
	+50	134.41	134.54	134.67	134.80
	+60	134.42	134.55	134.68	134.81
	+70	134.43	134.56	134.69	134.82
5 Span #2		134.40	134.53	134.66	134.79
	+10	134.41	134.54	134.67	134.80

SOUTHBOUND STRUCTURE

Bottom of Slab Elevations			2.
Line a	Line b	Line c	
134.33	134.46	134.53	
134.34	134.47	134.60	
134.35	134.48	134.61	
134.36	134.49	134.60	
134.37	134.50	134.59	
134.38	134.51	134.58	
134.39	134.52	134.60	
134.40	134.53	134.61	
134.41	134.54	134.62	
134.42	134.55	134.61	
134.43	134.56	134.62	
134.44	134.57	134.61	
134.45	134.58	134.62	
134.46	134.59	134.61	
134.47	134.60	134.62	
134.48	134.61	134.61	
134.49	134.62	134.62	
134.50	134.63	134.61	
134.51	134.64	134.62	
134.52	134.65	134.61	
134.53	134.66	134.62	
134.54	134.67	134.61	
134.55	134.68	134.62	
134.56	134.69	134.61	
134.57	134.70	134.62	
134.58	134.71	134.61	
134.59	134.72	134.62	
134.60	134.73	134.61	
134.61	134.74	134.62	
134.62	134.75	134.61	
134.63	134.76	134.62	
134.64	134.77	134.61	
134.65	134.78	134.62	
134.66	134.79	134.61	
134.67	134.80	134.62	
134.68	134.81	134.61	
134.69	134.82	134.62	
134.70	134.83	134.61	
134.71	134.84	134.62	
134.72	134.85	134.61	
134.73	134.86	134.62	
134.74	134.87	134.61	
134.75	134.88	134.62	
134.76	134.89	134.61	
134.77	134.90	134.62	
134.78	134.91	134.61	
134.79	134.92	134.62	
134.80	134.93	134.61	
134.81	134.94	134.62	
134.82	134.95	134.61	
134.83	134.96	134.62	
134.84	134.97	134.61	
134.85	134.98	134.62	
134.86	134.99	134.61	
134.87	135.00	134.62	
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134.89	135.02	134.62	
134.90	135.03	134.61	
134.91	135.04	134.62	
134.92	135.05	134.61	
134.93	135.06	134.62	
134.94	135.07	134.61	
134.95	135.08	134.62	
134.96	135.09	134.61	
134.97	135.10	134.62	
134.98	135.11	134.61	
134.99	135.12	134.62	
135.00	135.13	134.61	
135.01	135.14	134.62	
135.02	135.15	134.61	
135.03	135.16	134.62	
135.04	135.17	134.61	
135.05	135.18	134.62	
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135.07	135.20	134.62	
135.08	135.21	134.61	
135.09	135.22	134.62	
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135.11	135.24	134.62	
135.12	135.25	134.61	
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135.16	135.29	134.61	
135.17	135.30	134.62	
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135.28	135.41	134.61	
135.29	135.42	134.62	
135.30	135.43	134.61	
135.31	135.44	134.62	
135.32	135.45	134.61	
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136.81	136.94	134.62	
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137.11	137.24	134.62	
137.12	137.25	134.61	
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137.23	137.36	134.62	
137.24	137.37	134.61	
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137.29	137.42	134.62	
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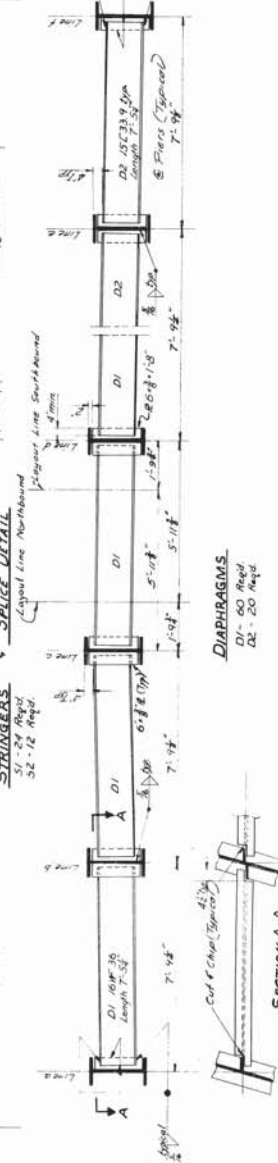
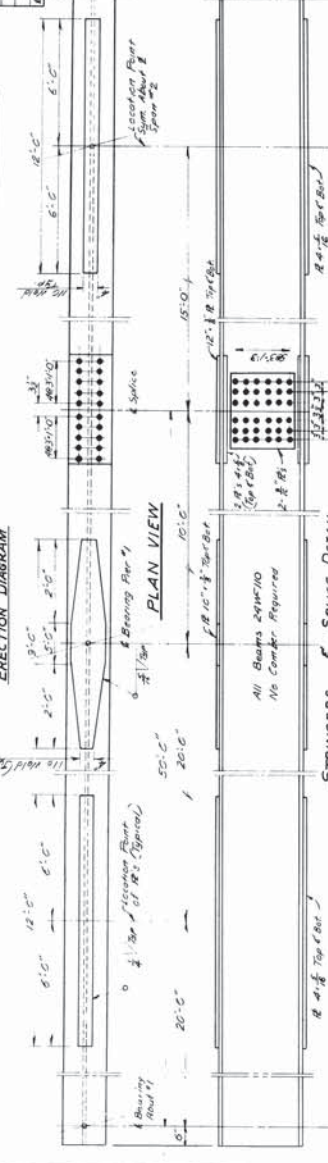
Note: In order to compensate for the dead load deflection and any irregularities in the rolling of the steel, elevations will be taken at the above points after the erection of the steel but before any forms have been constructed. These elevations will be subtracted from elevations given in the tables and the results will be the blocking. See blocking detail.



BLOCKING DETAIL

Blocking over 8 bearings
for all beams is 1" to 1 1/4"
WF beam to bottom of 1st

Blocking & Drains M.L.D.

[illegible]

NOTE:
Steel for beams and cover plates shall conform to A.S.T.M. Designation A-373. Other steel members shall conform to A.S.T.M. Designation A-373 or A-7. Steel connections shall be $\frac{5}{8}$ rivets or $\frac{3}{4}$ inch tensile strength bolts.
No paint required where steel is in contact with concrete.

Structural Steel - Cyclic

SECTION A-A

NOTE: Steel
to ASTM
shall conform
Fick
tensile stress
No P

SQUADABSCOOK STREAM BRIDGE
FAST

IN THE TOWN OF

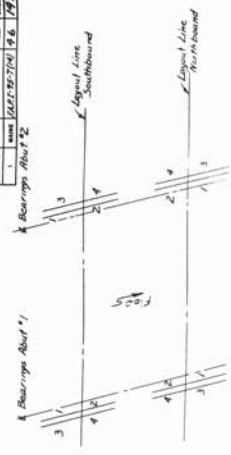
HAMPDEN
PENOBSCOT COUNTY

STRUCTURAL STEEL DETAILS

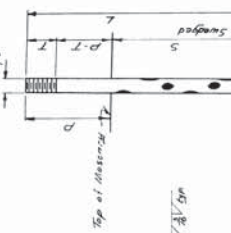
SHEET 11 OF 14 AUGUSTA, MAINE MARCH 1961

2551-14

NO.	DATE	PROJECT NUMBER	BY	DATE
1	10/27/74	196	MB	

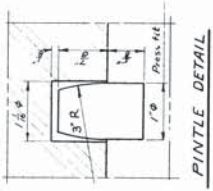


LOCATION OF ARMORED JOINTS

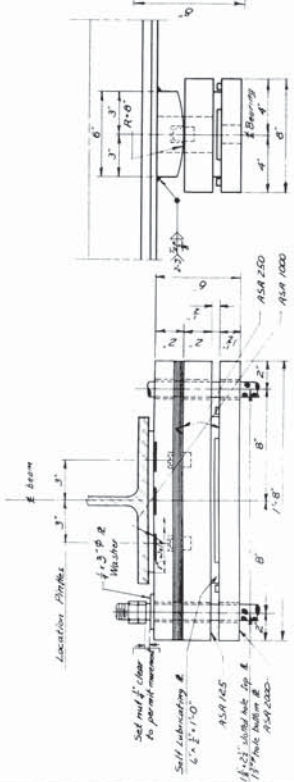


ABUTMENT	BEARING	SPACING	JOINT LOCATION
ABUTMENT #1	BEARING #1	10'-0"	10'-0"
ABUTMENT #1	BEARING #2	10'-0"	10'-0"
ABUTMENT #1	BEARING #3	10'-0"	10'-0"
ABUTMENT #1	BEARING #4	10'-0"	10'-0"
ABUTMENT #1	BEARING #5	10'-0"	10'-0"
ABUTMENT #1	BEARING #6	10'-0"	10'-0"
ABUTMENT #1	BEARING #7	10'-0"	10'-0"
ABUTMENT #1	BEARING #8	10'-0"	10'-0"
ABUTMENT #1	BEARING #9	10'-0"	10'-0"
ABUTMENT #1	BEARING #10	10'-0"	10'-0"
ABUTMENT #1	BEARING #11	10'-0"	10'-0"
ABUTMENT #1	BEARING #12	10'-0"	10'-0"
ABUTMENT #1	BEARING #13	10'-0"	10'-0"
ABUTMENT #1	BEARING #14	10'-0"	10'-0"
ABUTMENT #1	BEARING #15	10'-0"	10'-0"
ABUTMENT #1	BEARING #16	10'-0"	10'-0"
ABUTMENT #1	BEARING #17	10'-0"	10'-0"
ABUTMENT #1	BEARING #18	10'-0"	10'-0"
ABUTMENT #1	BEARING #19	10'-0"	10'-0"
ABUTMENT #1	BEARING #20	10'-0"	10'-0"
ABUTMENT #1	BEARING #21	10'-0"	10'-0"
ABUTMENT #1	BEARING #22	10'-0"	10'-0"
ABUTMENT #1	BEARING #23	10'-0"	10'-0"
ABUTMENT #1	BEARING #24	10'-0"	10'-0"
ABUTMENT #1	BEARING #25	10'-0"	10'-0"
ABUTMENT #1	BEARING #26	10'-0"	10'-0"
ABUTMENT #1	BEARING #27	10'-0"	10'-0"
ABUTMENT #1	BEARING #28	10'-0"	10'-0"
ABUTMENT #1	BEARING #29	10'-0"	10'-0"
ABUTMENT #1	BEARING #30	10'-0"	10'-0"
ABUTMENT #1	BEARING #31	10'-0"	10'-0"
ABUTMENT #1	BEARING #32	10'-0"	10'-0"
ABUTMENT #1	BEARING #33	10'-0"	10'-0"
ABUTMENT #1	BEARING #34	10'-0"	10'-0"
ABUTMENT #1	BEARING #35	10'-0"	10'-0"
ABUTMENT #1	BEARING #36	10'-0"	10'-0"
ABUTMENT #1	BEARING #37	10'-0"	10'-0"
ABUTMENT #1	BEARING #38	10'-0"	10'-0"
ABUTMENT #1	BEARING #39	10'-0"	10'-0"
ABUTMENT #1	BEARING #40	10'-0"	10'-0"
ABUTMENT #1	BEARING #41	10'-0"	10'-0"
ABUTMENT #1	BEARING #42	10'-0"	10'-0"
ABUTMENT #1	BEARING #43	10'-0"	10'-0"
ABUTMENT #1	BEARING #44	10'-0"	10'-0"
ABUTMENT #1	BEARING #45	10'-0"	10'-0"
ABUTMENT #1	BEARING #46	10'-0"	10'-0"
ABUTMENT #1	BEARING #47	10'-0"	10'-0"
ABUTMENT #1	BEARING #48	10'-0"	10'-0"
ABUTMENT #1	BEARING #49	10'-0"	10'-0"
ABUTMENT #1	BEARING #50	10'-0"	10'-0"
ABUTMENT #1	BEARING #51	10'-0"	10'-0"
ABUTMENT #1	BEARING #52	10'-0"	10'-0"
ABUTMENT #1	BEARING #53	10'-0"	10'-0"
ABUTMENT #1	BEARING #54	10'-0"	10'-0"
ABUTMENT #1	BEARING #55	10'-0"	10'-0"
ABUTMENT #1	BEARING #56	10'-0"	10'-0"
ABUTMENT #1	BEARING #57	10'-0"	10'-0"
ABUTMENT #1	BEARING #58	10'-0"	10'-0"
ABUTMENT #1	BEARING #59	10'-0"	10'-0"
ABUTMENT #1	BEARING #60	10'-0"	10'-0"
ABUTMENT #1	BEARING #61	10'-0"	10'-0"
ABUTMENT #1	BEARING #62	10'-0"	10'-0"
ABUTMENT #1	BEARING #63	10'-0"	10'-0"
ABUTMENT #1	BEARING #64	10'-0"	10'-0"
ABUTMENT #1	BEARING #65	10'-0"	10'-0"
ABUTMENT #1	BEARING #66	10'-0"	10'-0"
ABUTMENT #1	BEARING #67	10'-0"	10'-0"
ABUTMENT #1	BEARING #68	10'-0"	10'-0"
ABUTMENT #1	BEARING #69	10'-0"	10'-0"
ABUTMENT #1	BEARING #70	10'-0"	10'-0"
ABUTMENT #1	BEARING #71	10'-0"	10'-0"
ABUTMENT #1	BEARING #72	10'-0"	10'-0"
ABUTMENT #1	BEARING #73	10'-0"	10'-0"
ABUTMENT #1	BEARING #74	10'-0"	10'-0"
ABUTMENT #1	BEARING #75	10'-0"	10'-0"
ABUTMENT #1	BEARING #76	10'-0"	10'-0"
ABUTMENT #1	BEARING #77	10'-0"	10'-0"
ABUTMENT #1	BEARING #78	10'-0"	10'-0"
ABUTMENT #1	BEARING #79	10'-0"	10'-0"
ABUTMENT #1	BEARING #80	10'-0"	10'-0"
ABUTMENT #1	BEARING #81	10'-0"	10'-0"
ABUTMENT #1	BEARING #82	10'-0"	10'-0"
ABUTMENT #1	BEARING #83	10'-0"	10'-0"
ABUTMENT #1	BEARING #84	10'-0"	10'-0"
ABUTMENT #1	BEARING #85	10'-0"	10'-0"
ABUTMENT #1	BEARING #86	10'-0"	10'-0"
ABUTMENT #1	BEARING #87	10'-0"	10'-0"
ABUTMENT #1	BEARING #88	10'-0"	10'-0"
ABUTMENT #1	BEARING #89	10'-0"	10'-0"
ABUTMENT #1	BEARING #90	10'-0"	10'-0"
ABUTMENT #1	BEARING #91	10'-0"	10'-0"
ABUTMENT #1	BEARING #92	10'-0"	10'-0"
ABUTMENT #1	BEARING #93	10'-0"	10'-0"
ABUTMENT #1	BEARING #94	10'-0"	10'-0"
ABUTMENT #1	BEARING #95	10'-0"	10'-0"
ABUTMENT #1	BEARING #96	10'-0"	10'-0"
ABUTMENT #1	BEARING #97	10'-0"	10'-0"
ABUTMENT #1	BEARING #98	10'-0"	10'-0"
ABUTMENT #1	BEARING #99	10'-0"	10'-0"
ABUTMENT #1	BEARING #100	10'-0"	10'-0"

MASONRY PLATE FOR EB1 & EB2

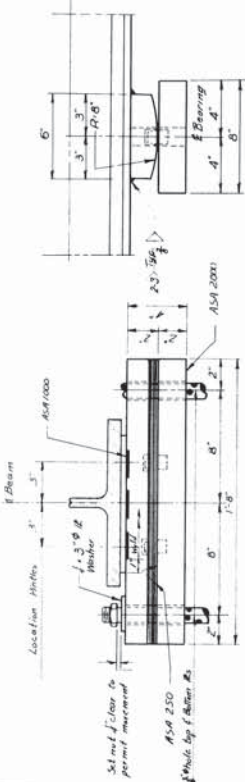


PINTLE DETAIL



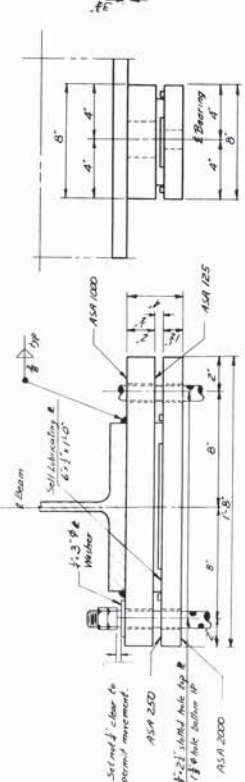
EXPANSION BEARING EB1

12 Required



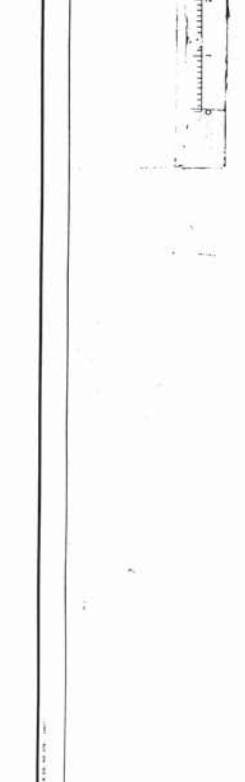
EXPANSION BEARING EB2

12 Required



FIXED BEARING FBI

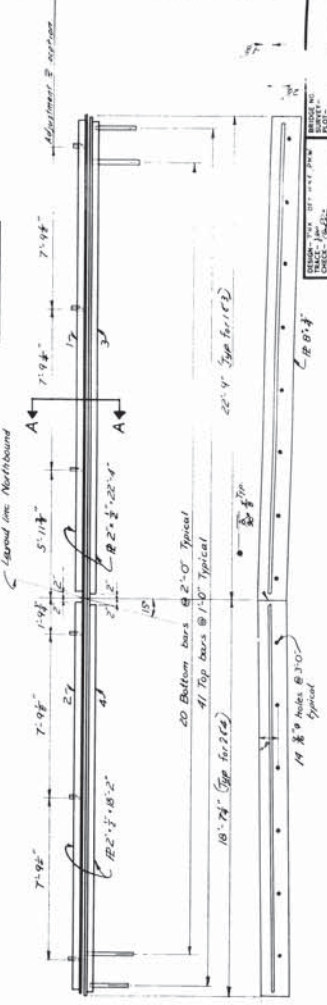
12 Required



EXPANSION BEARING EB2

24 Required

SECTION A-A



STATE HIGHWAY COMMISSION
BRIDGE DIVISION
SQUADABSCOOK STREAM BRIDGE
EAST
IN THE TOWN OF
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PENOBSCOT COUNTY
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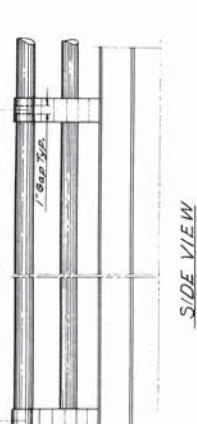
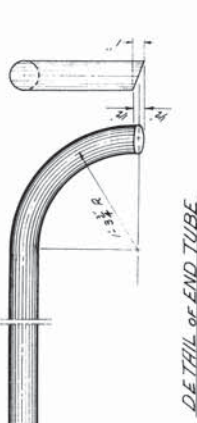
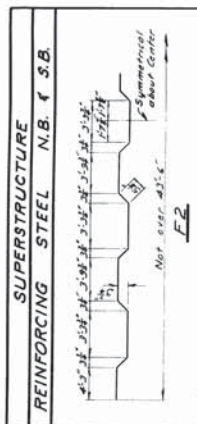
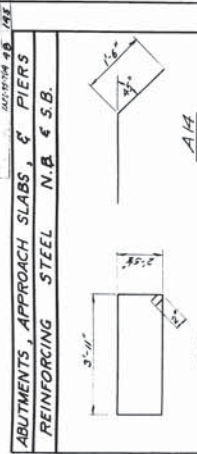
ARMORED JOINT

Note: For Southbound layout see "Location of Armored Joints"





SECTION A-A



ABUTMENTS, APPROACH SLABS, & PIERS
REINFORCING STEEL N.B. & S.B.

REINFORCING STEEL N.B. & S.B.

DETAIL OF END TUBE

PLAN VIEW OF RAIL ENDS

RAILING ANCHOR PLATE (ALUMINUM)

MARK	SIZE	NO.	LENGTH	LOCATION
A13	5	70	13'-1"	Bridge Slab, Pierheads
A14	5	112	2'-6"	Bridge Slab, Approach Slab

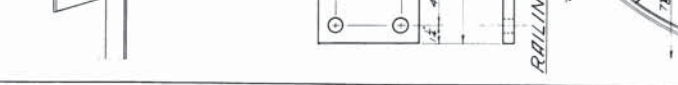
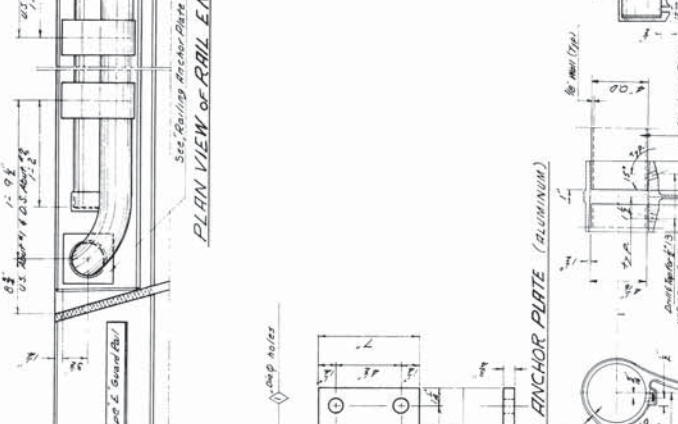
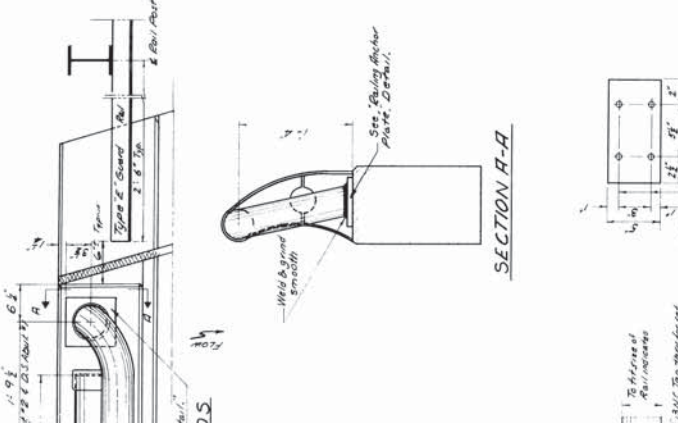
MARK	SIZE	NO.	LENGTH	LOCATION
A1	6	336	5'-2"	Feetings
A2	6	16	5'-4"	Feetings
A3	6	32	4'-0"	Feetings
A4	6	32	2'-8"	Feetings
A5	6	104	26'-9"	Feetings
A6	5	408	3'-6"	Feetings - Backwall
A7	5	376	5'-4"	Backwall & Wings
A8	5	32	4'-1"	Wings
A9	4	56	25'-9"	Backwall & Wings
A10	4	24	2'-1"	Backwall
A11	4	24	6'-6"	Wings
A12	6	168	4'-0"	Feetings - Bridge Slab

MARK	SIZE	NO.	LENGTH	LOCATION
A31	6	128	18'-10"	Approach Slab
A32	6	128	18'-9"	Approach Slab
A33	6	128	18'-9"	Approach Slab
A34	6	128	18'-9"	Approach Slab
A35	6	128	18'-9"	Approach Slab
A36	6	160	21'-6"	Approach Slab
A37	4	48	12'-0"	Approach Slab

MARK	SIZE	NO.	LENGTH	LOCATION
P1	6	176	4'-0"	All Piers
P2	6	46	17'-0"	Max. 2nd Substructure
P3	5	104	23'-0"	All Piers
P4	5	60	2'-6"	All Piers
P5	6	132	12'-0"	Max. 2nd Substructure

MARK	SIZE	NO.	LENGTH	LOCATION
F2	5	320	44'-9"	All Panels
S1	4	432	6'-10"	Curb - All Panels

MARK	SIZE	NO.	LENGTH	LOCATION
F1	5	624	43'-6"	All Panels
F3	5	222	22'-6"	Panel A
F4	5	222	32'-8"	Panel B
F5	5	126	19'-8"	Panel C
F6	5	56	13'-6"	Panel B - Curb
C1	4	48	11'-6"	Panel A - Curb
C2	4	48	10'-8"	Panel B - Curb
C3	4	48	17'-8"	Panel B - Curb
C4	4	48	14'-8"	Panel B - Curb
C5	4	48	9'-8"	Panel C - Curb
B1	5	260	5'-9"	Scantlings (End Diaphragm)



Notes: All steel to be Intermediate Grade
 REINFORCING STEEL
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 REINFORCING STEEL & RAIL DETAILS
 SHEET 46 OF 48 AUGUSTA, MAINE MARCH 1961

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