

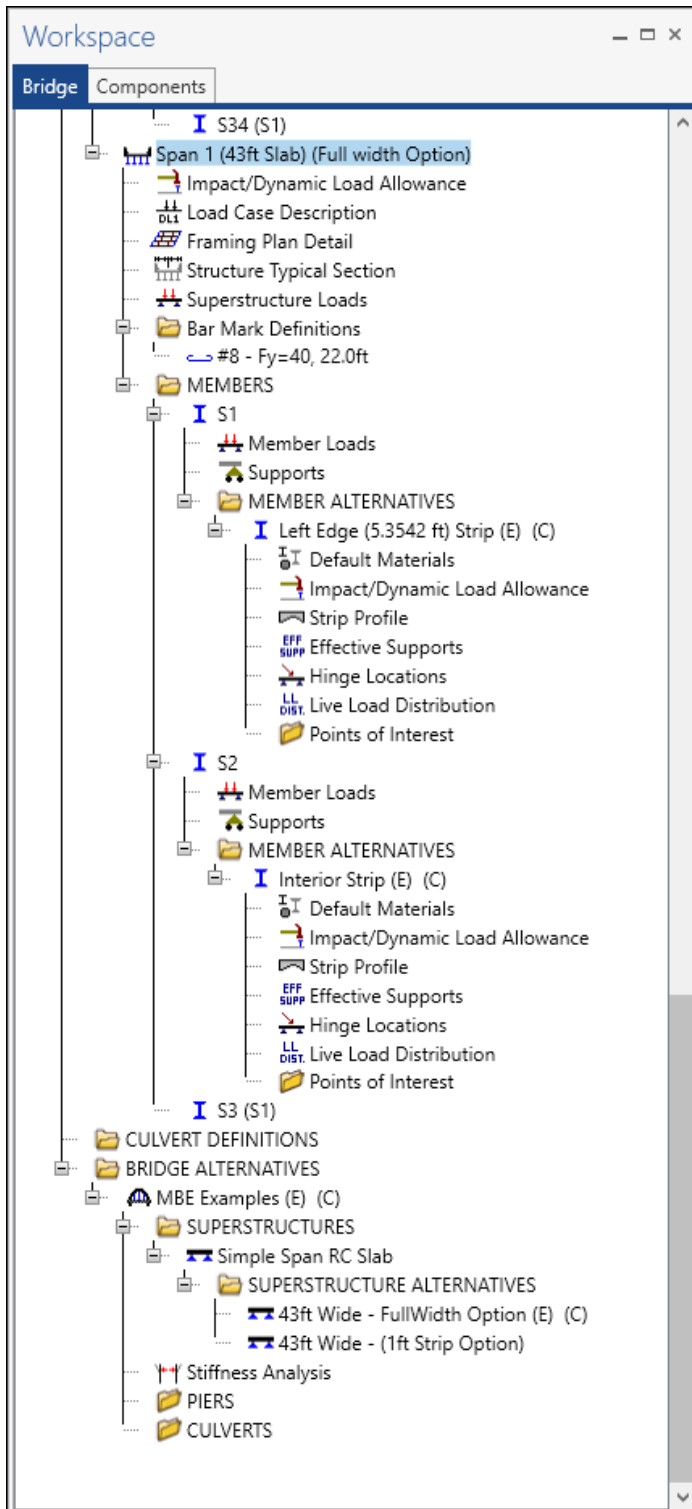
AASHTOWare BrDR 7.5.0

Reinforced Concrete Tutorial

Rating of the MBE Example A7 using BrDR Software Version

7.5.0

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0



RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Live load distribution factors for the Alternative One:

(1) Edge Strip

Member alternative: **Left Edge (5.3542 ft) Strip**

Action:

Support number	Start distance (ft)	Length (ft)	End distance (ft)	Distribution factor (lanes)	
				1 lane	Multi-lane
1	0.00	21.500	21.50	0.500	0.519

Action:

Support number	Start distance (ft)	Length (ft)	End distance (ft)	Distribution factor (lanes)	
				1 lane	Multi-lane
1	0.00	21.500	21.50	0.500	0.519

(2) First Interior Strip

Member alternative: **1.145833 ft Strip**

Action:

Support number	Start distance (ft)	Length (ft)	End distance (ft)	Distribution factor (lanes)	
				1 lane	Multi-lane
1	0.00	21.500	21.50	0.099	0.106

Action:

Support number	Start distance (ft)	Length (ft)	End distance (ft)	Distribution factor (lanes)	
				1 lane	Multi-lane
1	0.00	21.500	21.50	0.099	0.106

(3) Interior 1 foot strip

Member alternative: **1ft Strip (Used within MBE example)**

Action:

Support number	Start distance (ft)	Length (ft)	End distance (ft)	Distribution factor (lanes)	
				1 lane	Multi-lane
1	0.00	21.500	21.50	0.088	0.094

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Action: Shear

Support number	Start distance (ft)	Length (ft)	End distance (ft)	Distribution factor (lanes)	
				1 lane	Multi-lane
1	0.00	21.500	21.50	0.088	0.094

Analysis Settings

Analysis Settings

Design review Rating Rating method: LRFR

Analysis type: Line Girder Apply preference setting: None

Lane / Impact loading type: As Requested

Vehicles Output Engine Description

Traffic direction: Both directions Refresh Temporary vehicles Advanced

Vehicle selection Rating vehicles

Add to Remove from

Vehicle Properties

Vehicle	Tandem train	Scale factor	Impact	Single lane loaded	Legal pair	Override	Legal live load factor	Frequency	Loading condition	Override	Permit live load factor
HL-93 (US)	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
MBE-PER...	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
NRL	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU4	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU5	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU6	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
SU7	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3-3	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	
Type 3S2	<input type="checkbox"/>	1.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single Trip	Mixed with traffic	<input type="checkbox"/>	

Permit lane load: kip/ft Adjacent vehicle live load factor:

Exclude permit lane load from permit vehicle location

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Dead Load Demand on 1ft interior Strip (Member alternative name: 1ft Strip (Used within MBE example))

Load Case 1 – Self Load (Stage 1: D, DC)

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Dead Load Case
 Dead Load Actions Non-composite (Stage 1) Load Case 1 - Self Load(Stage 1)

Span	Location (ft)	% Span	Side	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.0	Right	0.00	1.88	0.00	1.88	0.0000	0.0000
1	2.15	10.0	Both	3.64	1.50	0.00		0.0000	-0.0305
1	4.30	20.0	Both	6.47	1.13	0.00		0.0000	-0.0577
1	6.45	30.0	Both	8.49	0.75	0.00		0.0000	-0.0790
1	8.60	40.0	Both	9.71	0.38	0.00		0.0000	-0.0925
1	10.75	50.0	Both	10.11	0.00	0.00		0.0000	-0.0972
1	12.90	60.0	Both	9.71	-0.38	0.00		0.0000	-0.0925
1	15.05	70.0	Both	8.49	-0.75	0.00		0.0000	-0.0790
1	17.20	80.0	Both	6.47	-1.13	0.00		0.0000	-0.0577
1	19.35	90.0	Both	3.64	-1.50	0.00		0.0000	-0.0305
1	21.50	100.0	Left	0.00	-1.88	0.00	1.88	0.0000	0.0000

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 Analysis preference setting: None

Close

Load Case 2 – Generic Loads (DC2:Stage 1:D, DC)

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Dead Load Case
 Dead Load Actions Non-composite (Stage 1) Load Case 2 - Generic Loads(DC2)

Span	Location (ft)	% Span	Side	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.0	Right	0.00	0.34	0.00	0.34	0.0000	0.0000
1	2.15	10.0	Both	0.67	0.28	0.00		0.0000	-0.0056
1	4.30	20.0	Both	1.18	0.21	0.00		0.0000	-0.0106
1	6.45	30.0	Both	1.55	0.14	0.00		0.0000	-0.0144
1	8.60	40.0	Both	1.78	0.07	0.00		0.0000	-0.0169
1	10.75	50.0	Both	1.85	0.00	0.00		0.0000	-0.0178
1	12.90	60.0	Both	1.78	-0.07	0.00		0.0000	-0.0169
1	15.05	70.0	Both	1.55	-0.14	0.00		0.0000	-0.0144
1	17.20	80.0	Both	1.18	-0.21	0.00		0.0000	-0.0106
1	19.35	90.0	Both	0.67	-0.28	0.00		0.0000	-0.0056
1	21.50	100.0	Left	0.00	-0.34	0.00	0.34	0.0000	0.0000

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 Analysis preference setting: None

Close

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Load Case 3 – Wearing Surface Loads (DW:Stage 1:DW-WS)

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Dead Load Case
 Dead Load Actions Non-composite (Stage 1) Load Case 3 - Wearing Surface L

Span	Location (ft)	% Span	Side	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.0	Right	0.00	0.42	0.00	0.42	0.0000	0.0000
1	2.15	10.0	Both	0.81	0.34	0.00		0.0000	-0.0068
1	4.30	20.0	Both	1.44	0.25	0.00		0.0000	-0.0129
1	6.45	30.0	Both	1.90	0.17	0.00		0.0000	-0.0176
1	8.60	40.0	Both	2.17	0.08	0.00		0.0000	-0.0207
1	10.75	50.0	Both	2.26	0.00	0.00		0.0000	-0.0217
1	12.90	60.0	Both	2.17	-0.08	0.00		0.0000	-0.0207
1	15.05	70.0	Both	1.90	-0.17	0.00		0.0000	-0.0176
1	17.20	80.0	Both	1.44	-0.25	0.00		0.0000	-0.0129
1	19.35	90.0	Both	0.81	-0.34	0.00		0.0000	-0.0068
1	21.50	100.0	Left	0.00	-0.42	0.00	0.42	0.0000	0.0000

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 Analysis preference setting: None

Close

Live Load Demand on 1ft interior Strip (Member alternative name: 1ft Strip (Used within MBE example))

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Live Load Live Load Type
 Live Load Actions Composite (short term) (Stage 3) HL-93 (US) 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	5.39	0.00	0.00	0.00	5.39	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	9.87	0.00	4.59	-0.40	0.00	0.00			0.0000	0.0000	0.0000	-0.0593		
1	4.30	20.0	16.31	0.00	3.79	-0.80	0.00	0.00			0.0000	0.0000	0.0000	-0.1107		
1	6.45	30.0	19.30	0.00	2.99	-1.20	0.00	0.00			0.0000	0.0000	0.0000	-0.1476		
1	8.60	40.0	20.62	0.00	2.40	-1.60	0.00	0.00			0.0000	0.0000	0.0000	-0.1660		
1	10.75	50.0	21.48	0.00	2.00	-2.00	0.00	0.00			0.0000	0.0000	0.0000	-0.1758		
1	12.90	60.0	20.62	0.00	1.60	-2.40	0.00	0.00			0.0000	0.0000	0.0000	-0.1660		
1	15.05	70.0	19.30	0.00	1.20	-2.99	0.00	0.00			0.0000	0.0000	0.0000	-0.1476		
1	17.20	80.0	16.31	0.00	0.80	-3.79	0.00	0.00			0.0000	0.0000	0.0000	-0.1107		
1	19.35	90.0	9.87	0.00	0.40	-4.59	0.00	0.00			0.0000	0.0000	0.0000	-0.0593		
1	21.50	100.0	0.00	0.00	0.00	-5.39	0.00	0.00	5.39	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
 Analysis preference setting: None

Close

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Live Load Live Load Type
 Live Load Actions Composite (short term) (Stage 3) HL-93 (US) Truck + Lane

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	6.04	0.00	0.00	0.00	6.04	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	11.12	0.00	5.11	-0.41	0.00	0.00			0.0000	0.0000	0.0000	-0.0704		
1	4.30	20.0	18.53	0.00	4.21	-0.83	0.00	0.00			0.0000	0.0000	0.0000	-0.1316		
1	6.45	30.0	22.22	0.00	3.31	-1.26	0.00	0.00			0.0000	0.0000	0.0000	-0.1763		
1	8.60	40.0	23.96	0.00	2.63	-1.70	0.00	0.00			0.0000	0.0000	0.0000	-0.1996		
1	10.75	50.0	24.96	0.00	2.16	-2.16	0.00	0.00			0.0000	0.0000	0.0000	-0.2111		
1	12.90	60.0	23.96	0.00	1.70	-2.63	0.00	0.00			0.0000	0.0000	0.0000	-0.1996		
1	15.05	70.0	22.22	0.00	1.26	-3.31	0.00	0.00			0.0000	0.0000	0.0000	-0.1763		
1	17.20	80.0	18.53	0.00	0.83	-4.21	0.00	0.00			0.0000	0.0000	0.0000	-0.1316		
1	19.35	90.0	11.12	0.00	0.41	-5.11	0.00	0.00			0.0000	0.0000	0.0000	-0.0704		
1	21.50	100.0	0.00	0.00	0.00	-6.04	0.00	0.00	6.04	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
 Analysis preference setting: None

Close

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Live Load Live Load Type
 Live Load Actions Composite (short term) (Stage 3) HL-93 (US) Tandem

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	5.66	0.00	0.00	0.00	5.66	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	10.83	0.00	5.04	-0.31	0.00	0.00			0.0000	0.0000	0.0000	-0.0794		
1	4.30	20.0	18.98	0.00	4.42	-0.67	0.00	0.00			0.0000	0.0000	0.0000	-0.1511		
1	6.45	30.0	24.45	0.00	3.79	-1.29	0.00	0.00			0.0000	0.0000	0.0000	-0.2091		
1	8.60	40.0	27.23	0.00	3.17	-1.92	0.00	0.00			0.0000	0.0000	0.0000	-0.2471		
1	10.75	50.0	27.32	0.00	2.54	-2.54	0.00	0.00			0.0000	0.0000	0.0000	-0.2604		
1	12.90	60.0	27.23	0.00	1.92	-3.17	0.00	0.00			0.0000	0.0000	0.0000	-0.2471		
1	15.05	70.0	24.45	0.00	1.29	-3.79	0.00	0.00			0.0000	0.0000	0.0000	-0.2091		
1	17.20	80.0	18.98	0.00	0.67	-4.42	0.00	0.00			0.0000	0.0000	0.0000	-0.1511		
1	19.35	90.0	10.83	0.00	0.31	-5.04	0.00	0.00			0.0000	0.0000	0.0000	-0.0794		
1	21.50	100.0	0.00	0.00	0.00	-5.66	0.00	0.00	5.66	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
 Analysis preference setting: None

Close

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Live Load Live Load Type
 Live Load Actions Composite (short term) (Stage 3) HL-93 (US) Tandem + Lane

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	6.31	0.00	0.00	0.00	6.31	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	12.09	0.00	5.56	-0.32	0.00	0.00			0.0000	0.0000	0.0000	-0.0905		
1	4.30	20.0	21.21	0.00	4.83	-0.69	0.00	0.00			0.0000	0.0000	0.0000	-0.1721		
1	6.45	30.0	27.37	0.00	4.11	-1.35	0.00	0.00			0.0000	0.0000	0.0000	-0.2377		
1	8.60	40.0	30.56	0.00	3.40	-2.02	0.00	0.00			0.0000	0.0000	0.0000	-0.2807		
1	10.75	50.0	30.79	0.00	2.70	-2.70	0.00	0.00			0.0000	0.0000	0.0000	-0.2957		
1	12.90	60.0	30.56	0.00	2.02	-3.40	0.00	0.00			0.0000	0.0000	0.0000	-0.2807		
1	15.05	70.0	27.37	0.00	1.35	-4.11	0.00	0.00			0.0000	0.0000	0.0000	-0.2377		
1	17.20	80.0	21.21	0.00	0.69	-4.83	0.00	0.00			0.0000	0.0000	0.0000	-0.1721		
1	19.35	90.0	12.09	0.00	0.32	-5.56	0.00	0.00			0.0000	0.0000	0.0000	-0.0905		
1	21.50	100.0	0.00	0.00	0.00	-6.31	0.00	0.00	6.31	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
 Analysis preference setting: None

Close

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Live Load Live Load Type
 Live Load Actions Composite (short term) (Stage 3) HL-93 (US) Lane

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	0.65	0.00	0.00	0.00	0.65	0.00	0.0000	0.0000	0.0000	0.0000	0.000	0.000
1	2.15	10.0	1.25	0.00	0.52	-0.01	0.00	0.00			0.0000	0.0000	0.0000	-0.0111		
1	4.30	20.0	2.22	0.00	0.41	-0.03	0.00	0.00			0.0000	0.0000	0.0000	-0.0209		
1	6.45	30.0	2.92	0.00	0.32	-0.06	0.00	0.00			0.0000	0.0000	0.0000	-0.0287		
1	8.60	40.0	3.33	0.00	0.23	-0.10	0.00	0.00			0.0000	0.0000	0.0000	-0.0336		
1	10.75	50.0	3.47	0.00	0.16	-0.16	0.00	0.00			0.0000	0.0000	0.0000	-0.0352		
1	12.90	60.0	3.33	0.00	0.10	-0.23	0.00	0.00			0.0000	0.0000	0.0000	-0.0336		
1	15.05	70.0	2.92	0.00	0.06	-0.32	0.00	0.00			0.0000	0.0000	0.0000	-0.0287		
1	17.20	80.0	2.22	0.00	0.03	-0.41	0.00	0.00			0.0000	0.0000	0.0000	-0.0209		
1	19.35	90.0	1.25	0.00	0.01	-0.52	0.00	0.00			0.0000	0.0000	0.0000	-0.0111		
1	21.50	100.0	0.00	0.00	0.00	-0.65	0.00	0.00	0.65	0.00	0.0000	0.0000	0.0000	0.0000	0.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
 Analysis preference setting: None

Close

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Live Load Live Load Type
 Live Load Actions Composite (short term) (Stage 3) NRL 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	5.18	0.00	0.00	0.00	5.18	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	9.57	0.00	4.45	-0.21	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	16.27	0.00	3.73	-0.45	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	21.37	0.00	3.05	-0.88	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	23.95	0.00	2.42	-1.33	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	24.70	0.00	1.86	-1.86	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	23.95	0.00	1.33	-2.42	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	21.37	0.00	0.88	-3.05	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	16.27	0.00	0.45	-3.73	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	9.57	0.00	0.21	-4.45	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-5.18	0.00	0.00	5.18	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
 Analysis preference setting: None

Close

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage Live Load Live Load Type
 Live Load Actions Composite (short term) (Stage 3) SU4 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	4.72	0.00	0.00	0.00	4.72	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	8.70	0.00	4.05	-0.21	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	14.75	0.00	3.43	-0.45	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	18.74	0.00	2.91	-0.88	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	21.27	0.00	2.38	-1.33	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	21.95	0.00	1.86	-1.86	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	21.27	0.00	1.33	-2.38	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	18.74	0.00	0.88	-2.91	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	14.75	0.00	0.45	-3.43	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	8.70	0.00	0.21	-4.05	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-4.72	0.00	0.00	4.72	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
 Analysis preference setting: None

Close

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Live Load Actions Stage Composite (short term) (Stage 3) Live Load SU5 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	4.92	0.00	0.00	0.00	4.92	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	9.24	0.00	4.30	-0.21	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	15.79	0.00	3.67	-0.45	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	19.65	0.00	3.05	-0.88	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	22.33	0.00	2.42	-1.33	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	23.32	0.00	1.86	-1.86	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	22.33	0.00	1.33	-2.42	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	19.65	0.00	0.88	-3.05	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	15.79	0.00	0.45	-3.67	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	9.24	0.00	0.21	-4.30	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-4.92	0.00	0.00	4.92	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Close

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Live Load Actions Stage Composite (short term) (Stage 3) Live Load SU6 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	4.92	0.00	0.00	0.00	4.92	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	9.24	0.00	4.30	-0.14	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	16.03	0.00	3.66	-0.29	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	21.37	0.00	2.93	-0.54	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	23.59	0.00	2.21	-0.92	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	24.70	0.00	1.54	-1.54	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	23.59	0.00	0.92	-2.21	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	21.37	0.00	0.54	-2.93	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	16.03	0.00	0.29	-3.66	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	9.24	0.00	0.14	-4.30	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-4.92	0.00	0.00	4.92	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Close

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Live Load Actions Stage Composite (short term) (Stage 3) Live Load SU7 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	4.92	0.00	0.00	0.00	4.92	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	9.24	0.00	4.30	-0.14	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	16.03	0.00	3.66	-0.29	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	21.37	0.00	2.93	-0.43	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	23.95	0.00	2.18	-0.69	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	24.70	0.00	1.41	-1.41	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	23.95	0.00	0.69	-2.18	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	21.37	0.00	0.43	-2.93	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	16.03	0.00	0.29	-3.66	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	9.24	0.00	0.14	-4.30	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-4.92	0.00	0.00	4.92	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Live Load Actions Stage Composite (short term) (Stage 3) Live Load Type 3 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	4.08	0.00	0.00	0.00	4.08	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	7.44	0.00	3.46	-0.21	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	12.91	0.00	3.00	-0.45	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	16.63	0.00	2.58	-0.88	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	18.51	0.00	2.15	-1.30	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	18.58	0.00	1.73	-1.73	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	18.51	0.00	1.30	-2.15	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	16.63	0.00	0.88	-2.58	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	12.91	0.00	0.45	-3.00	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	7.44	0.00	0.21	-3.46	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-4.08	0.00	0.00	4.08	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Live Load Actions Stage Composite (short term) (Stage 3) Live Load Type 3-3 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	3.31	0.00	0.00	0.00	3.31	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	6.07	0.00	2.82	-0.17	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	10.63	0.00	2.47	-0.37	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	13.69	0.00	2.12	-0.72	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	15.25	0.00	1.77	-1.07	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	15.30	0.00	1.42	-1.42	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	15.25	0.00	1.07	-1.77	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	13.69	0.00	0.72	-2.12	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	10.63	0.00	0.37	-2.47	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	6.07	0.00	0.17	-2.82	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-3.31	0.00	0.00	3.31	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage: Live Load Type: Axle Load

Live Load Actions: Composite (short term) (Stage 3) Live Load: Type 352

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	3.89	0.00	0.00	0.00	3.89	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	7.26	0.00	3.38	-0.19	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	4.30	20.0	12.32	0.00	2.87	-0.41	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	6.45	30.0	15.18	0.00	2.35	-0.80	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	8.60	40.0	16.88	0.00	1.96	-1.19	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	10.75	50.0	16.94	0.00	1.58	-1.58	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	12.90	60.0	16.88	0.00	1.19	-1.96	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	15.05	70.0	15.18	0.00	0.80	-2.35	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	17.20	80.0	12.32	0.00	0.41	-2.87	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	19.35	90.0	7.26	0.00	0.19	-3.38	0.00	0.00			0.0000	0.0000	0.0000	0.0000		
1	21.50	100.0	0.00	0.00	0.00	-3.89	0.00	0.00	3.89	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Close

Analysis Results - 1ft Strip (Used within MBE example)

Report type: Stage: Live Load Type: Axle Load

Live Load Actions: Composite (short term) (Stage 3) Live Load: MBE-PERMIT

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	6.67	0.00	0.00	0.00	6.67	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000
1	2.15	10.0	12.15	0.00	5.65	-0.20	0.00	0.00			0.0000	0.0000	0.0000	-0.1038		
1	4.30	20.0	19.92	0.00	4.63	-0.44	0.00	0.00			0.0000	0.0000	0.0000	-0.1962		
1	6.45	30.0	26.61	0.00	3.69	-0.84	0.00	0.00			0.0000	0.0000	0.0000	-0.2683		
1	8.60	40.0	29.69	0.00	2.85	-1.31	0.00	0.00			0.0000	0.0000	0.0000	-0.3133		
1	10.75	50.0	30.91	0.00	2.03	-2.03	0.00	0.00			0.0000	0.0000	0.0000	-0.3281		
1	12.90	60.0	29.69	0.00	1.31	-2.85	0.00	0.00			0.0000	0.0000	0.0000	-0.3133		
1	15.05	70.0	26.61	0.00	0.84	-3.69	0.00	0.00			0.0000	0.0000	0.0000	-0.2683		
1	17.20	80.0	19.92	0.00	0.44	-4.63	0.00	0.00			0.0000	0.0000	0.0000	-0.1962		
1	19.35	90.0	12.15	0.00	0.20	-5.65	0.00	0.00			0.0000	0.0000	0.0000	-0.1038		
1	21.50	100.0	0.00	0.00	0.00	-6.67	0.00	0.00	6.67	0.00	0.0000	0.0000	0.0000	0.0000	33.000	0.000

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Close

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Controlling Rating Factor for the Edge Strip of the Bridge

Analysis Results - Left Edge (5.3542 ft) Strip

Print

Report type: Rating Results Summary

Lane/Impact loading type: As requested Detailed

Display Format: Single rating level per row

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	27.35	0.760	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
HL-93 (US)	Truck + Lane	LRFR	Operating	35.45	0.985	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Inventory	22.16	0.616	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Operating	28.73	0.798	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
MBE-PERMIT	Axle Load	LRFR	Permit	95.17	0.865	10.75	1 - (50.0)	STRENGTH-II Concrete Flexure	As Requested	As Requested
NRL	Axle Load	LRFR	Legal	37.05	0.926	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU4	Axle Load	LRFR	Legal	28.14	1.042	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU5	Axle Load	LRFR	Legal	30.41	0.981	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU6	Axle Load	LRFR	Legal	32.19	0.926	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU7	Axle Load	LRFR	Legal	35.89	0.926	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
Type 3	Axle Load	LRFR	Legal	30.79	1.231	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
Type 3-3	Axle Load	LRFR	Legal	59.81	1.495	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
Type 3S2	Axle Load	LRFR	Legal	48.62	1.351	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested

AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Close

Controlling Rating Factor for the First Interior Strip of the Bridge

Analysis Results - 1.145833ft Strip

Print

Report type: Rating Results Summary

Lane/Impact loading type: As requested Detailed

Display Format: Single rating level per row

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	28.18	0.783	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
HL-93 (US)	Truck + Lane	LRFR	Operating	36.53	1.015	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Inventory	22.84	0.634	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
HL-93 (US)	Tandem + Lane	LRFR	Operating	29.60	0.822	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
MBE-PERMIT	Axle Load	LRFR	Permit	101.37	0.922	10.75	1 - (50.0)	STRENGTH-II Concrete Flexure	As Requested	As Requested
NRL	Axle Load	LRFR	Legal	38.18	0.954	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU4	Axle Load	LRFR	Legal	29.00	1.074	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU5	Axle Load	LRFR	Legal	31.33	1.011	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU6	Axle Load	LRFR	Legal	33.17	0.954	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
SU7	Axle Load	LRFR	Legal	36.99	0.954	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
Type 3	Axle Load	LRFR	Legal	31.72	1.269	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
Type 3-3	Axle Load	LRFR	Legal	61.63	1.541	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
Type 3S2	Axle Load	LRFR	Legal	50.10	1.392	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested


AASHTO LRFR Engine Version 7.5.0.3001
Analysis preference setting: None

Close

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Controlling Rating Factor for the Interior Strip of the Bridge

Analysis Results - 1ft Strip (Used within MBE example)
— □ ×



Print

Report type: Rating Results Summary

Lane/Impact loading type: As requested Detailed

Display Format: Single rating level per row

	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	28.23	0.784	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	HL-93 (US)	Truck + Lane	LRFR	Operating	36.60	1.017	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	HL-93 (US)	Tandem + Lane	LRFR	Inventory	22.88	0.636	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	HL-93 (US)	Tandem + Lane	LRFR	Operating	29.66	0.824	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	MBE-PERMIT	Axle Load	LRFR	Permit	101.56	0.923	10.75	1 - (50.0)	STRENGTH-II Concrete Flexure	As Requested	As Requested
	NRL	Axle Load	LRFR	Legal	38.25	0.956	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	SU4	Axle Load	LRFR	Legal	29.05	1.076	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	SU5	Axle Load	LRFR	Legal	31.39	1.013	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	SU6	Axle Load	LRFR	Legal	33.23	0.956	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	SU7	Axle Load	LRFR	Legal	37.06	0.956	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	Type 3	Axle Load	LRFR	Legal	31.78	1.271	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	Type 3-3	Axle Load	LRFR	Legal	61.75	1.544	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested
	Type 3S2	Axle Load	LRFR	Legal	50.20	1.394	10.75	1 - (50.0)	STRENGTH-I Concrete Flexure	As Requested	As Requested

AASHTO LRFR Engine Version 7.5.0.3001

Analysis preference setting: None

Close

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Rating Results at ALL analysis Points for Interior Strip for Each analysis Truck

Bridge Name: Simple Span RC Slab
NBI Structure ID: MBE-A7
Bridge ID: MBE-A7

Analyzed By: BrDR
Analyze Date: Monday, January 23, 2023 14:44:17
Analysis Engine: AASHTO LRFR Engine Version 7.5.0.3001
Analysis Preference Setting: None

Report By: BrDR
Report Date: Monday, January 23, 2023 15:16:52

Structure Definition Name: Span 1 (43ft Slab) (With 1ft Strip Option)
Member Name: S3
Member Alternative Name: 1ft Strip (Used within MBE example)

Detailed Rating Results
1ft Strip (Used within MBE example)
HL-93 (US)
Truck + Lane
Impact: As Requested
Lane: As Requested

Span 1

Location							Inventory	Inventory	Operating	Operating
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating Factor	Load Rating (Ton)	Rating Factor	Load Rating (Ton)
0.00	0.0	Flexure	kip-ft	6.06	0.00	0.00	99.000	3564.00	99.000	3564.00
2.06	9.6	Flexure	kip-ft	52.02	4.90	10.65	2.462	88.62	3.191	114.87
2.15	10.0	Flexure	kip-ft	52.02	5.12	11.12	2.344	84.38	3.039	109.39
4.30	20.0	Flexure	kip-ft	52.02	9.10	18.53	1.254	45.13	1.625	58.50
6.45	30.0	Flexure	kip-ft	52.02	11.94	22.22	0.954	34.34	1.236	44.51
8.60	40.0	Flexure	kip-ft	52.02	13.65	23.96	0.834	30.02	1.081	38.91
10.75	50.0	Flexure	kip-ft	52.02	14.22	24.96	0.784	28.23	1.017	36.60
12.90	60.0	Flexure	kip-ft	52.02	13.65	23.96	0.834	30.02	1.081	38.91
15.05	70.0	Flexure	kip-ft	52.02	11.94	22.22	0.954	34.34	1.236	44.51
17.20	80.0	Flexure	kip-ft	52.02	9.10	18.53	1.254	45.13	1.625	58.50
19.35	90.0	Flexure	kip-ft	52.02	5.12	11.12	2.344	84.38	3.039	109.39
19.44	90.4	Flexure	kip-ft	52.02	4.90	10.65	2.462	88.62	3.191	114.87
21.50	100.0	Flexure	kip-ft	6.06	0.00	0.00	99.000	3564.00	99.000	3564.00

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Detailed Rating Results
1ft Strip (Used within MBE example)
HL-93 (US)
Tandem + Lane
Impact: As Requested
Lane: As Requested

Span 1

Location							Inventory Rating	Inventory Load Rating	Operating Rating	Operating Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Factor	(Ton)	Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	3564	99	3564
2.06	9.6	Flexure	kip-ft	52.02	4.9	11.58	2.265	81.56	2.937	105.72
2.15	10	Flexure	kip-ft	52.02	5.12	12.09	2.157	77.66	2.796	100.67
4.3	20	Flexure	kip-ft	52.02	9.1	21.21	1.095	39.43	1.42	51.11
6.45	30	Flexure	kip-ft	52.02	11.94	27.37	0.775	27.88	1.004	36.14
8.6	40	Flexure	kip-ft	52.02	13.65	30.56	0.654	23.53	0.847	30.5
10.75	50	Flexure	kip-ft	52.02	14.22	30.79	0.636	22.88	0.824	29.66
12.9	60	Flexure	kip-ft	52.02	13.65	30.56	0.654	23.53	0.847	30.5
15.05	70	Flexure	kip-ft	52.02	11.94	27.37	0.775	27.88	1.004	36.14
17.2	80	Flexure	kip-ft	52.02	9.1	21.21	1.095	39.43	1.42	51.11
19.35	90	Flexure	kip-ft	52.02	5.12	12.09	2.157	77.66	2.796	100.67
19.44	90.4	Flexure	kip-ft	52.02	4.9	11.58	2.265	81.56	2.937	105.72
21.5	100	Flexure	kip-ft	6.06	0	0	99	3564	99	3564

Detailed Rating Results
1ft Strip (Used within MBE example)
NRL
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location								Legal Rating	Legal Load Rating
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL		Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0		99	3960
2.06	9.6	Flexure	kip-ft	52.02	4.9	9.17		3.452	138.09
2.15	10	Flexure	kip-ft	52.02	5.12	9.57		3.287	131.5
4.3	20	Flexure	kip-ft	52.02	9.1	16.27		1.723	68.93
6.45	30	Flexure	kip-ft	52.02	11.94	21.37		1.197	47.89
8.6	40	Flexure	kip-ft	52.02	13.65	23.95		1.007	40.27
10.75	50	Flexure	kip-ft	52.02	14.22	24.7		0.956	38.25
12.9	60	Flexure	kip-ft	52.02	13.65	23.95		1.007	40.27
15.05	70	Flexure	kip-ft	52.02	11.94	21.37		1.197	47.89
17.2	80	Flexure	kip-ft	52.02	9.1	16.27		1.723	68.93
19.35	90	Flexure	kip-ft	52.02	5.12	9.57		3.287	131.5
19.44	90.4	Flexure	kip-ft	52.02	4.9	9.17		3.452	138.09
21.5	100	Flexure	kip-ft	6.06	0	0		99	3960

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Detailed Rating Results
1ft Strip (Used within MBE example)
SU4
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal	Legal
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	2673
2.06	9.6	Flexure	kip-ft	52.02	4.9	8.34	3.796	102.5
2.15	10	Flexure	kip-ft	52.02	5.12	8.7	3.615	97.6
4.3	20	Flexure	kip-ft	52.02	9.1	14.75	1.901	51.32
6.45	30	Flexure	kip-ft	52.02	11.94	18.74	1.365	36.86
8.6	40	Flexure	kip-ft	52.02	13.65	21.27	1.133	30.6
10.75	50	Flexure	kip-ft	52.02	14.22	21.95	1.076	29.05
12.9	60	Flexure	kip-ft	52.02	13.65	21.27	1.133	30.6
15.05	70	Flexure	kip-ft	52.02	11.94	18.74	1.365	36.86
17.2	80	Flexure	kip-ft	52.02	9.1	14.75	1.901	51.32
19.35	90	Flexure	kip-ft	52.02	5.12	8.7	3.615	97.6
19.44	90.4	Flexure	kip-ft	52.02	4.9	8.34	3.796	102.5
21.5	100	Flexure	kip-ft	6.06	0	0	99	2673

Detailed Rating Results
1ft Strip (Used within MBE example)
SU5
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal	Legal
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	3069
2.06	9.6	Flexure	kip-ft	52.02	4.9	8.85	3.577	110.9
2.15	10	Flexure	kip-ft	52.02	5.12	9.24	3.407	105.6
4.3	20	Flexure	kip-ft	52.02	9.1	15.79	1.776	55.04
6.45	30	Flexure	kip-ft	52.02	11.94	19.65	1.302	40.35
8.6	40	Flexure	kip-ft	52.02	13.65	22.33	1.08	33.47
10.75	50	Flexure	kip-ft	52.02	14.22	23.32	1.013	31.39
12.9	60	Flexure	kip-ft	52.02	13.65	22.33	1.08	33.47
15.05	70	Flexure	kip-ft	52.02	11.94	19.65	1.302	40.35
17.2	80	Flexure	kip-ft	52.02	9.1	15.79	1.776	55.04
19.35	90	Flexure	kip-ft	52.02	5.12	9.24	3.407	105.6
19.44	90.4	Flexure	kip-ft	52.02	4.9	8.85	3.577	110.9
21.5	100	Flexure	kip-ft	6.06	0	0	99	3069

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Detailed Rating Results
1ft Strip (Used within MBE example)
SU6
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal	Legal
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	3440.25
2.06	9.6	Flexure	kip-ft	52.02	4.9	8.85	3.577	124.32
2.15	10	Flexure	kip-ft	52.02	5.12	9.24	3.407	118.38
4.3	20	Flexure	kip-ft	52.02	9.1	16.03	1.749	60.78
6.45	30	Flexure	kip-ft	52.02	11.94	21.37	1.197	41.6
8.6	40	Flexure	kip-ft	52.02	13.65	23.59	1.022	35.51
10.75	50	Flexure	kip-ft	52.02	14.22	24.7	0.956	33.23
12.9	60	Flexure	kip-ft	52.02	13.65	23.59	1.022	35.51
15.05	70	Flexure	kip-ft	52.02	11.94	21.37	1.197	41.6
17.2	80	Flexure	kip-ft	52.02	9.1	16.03	1.749	60.78
19.35	90	Flexure	kip-ft	52.02	5.12	9.24	3.407	118.38
19.44	90.4	Flexure	kip-ft	52.02	4.9	8.85	3.577	124.32
21.5	100	Flexure	kip-ft	6.06	0	0	99	3440.25

Detailed Rating Results
1ft Strip (Used within MBE example)
SU7
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal	Legal
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	3836.25
2.06	9.6	Flexure	kip-ft	52.02	4.9	8.85	3.577	138.63
2.15	10	Flexure	kip-ft	52.02	5.12	9.24	3.407	132.01
4.3	20	Flexure	kip-ft	52.02	9.1	16.03	1.749	67.78
6.45	30	Flexure	kip-ft	52.02	11.94	21.37	1.197	46.39
8.6	40	Flexure	kip-ft	52.02	13.65	23.95	1.007	39.01
10.75	50	Flexure	kip-ft	52.02	14.22	24.7	0.956	37.06
12.9	60	Flexure	kip-ft	52.02	13.65	23.95	1.007	39.01
15.05	70	Flexure	kip-ft	52.02	11.94	21.37	1.197	46.39
17.2	80	Flexure	kip-ft	52.02	9.1	16.03	1.749	67.78
19.35	90	Flexure	kip-ft	52.02	5.12	9.24	3.407	132.01
19.44	90.4	Flexure	kip-ft	52.02	4.9	8.85	3.577	138.63
21.5	100	Flexure	kip-ft	6.06	0	0	99	3836.25

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Detailed Rating Results
1ft Strip (Used within MBE example)
Type 3
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal	Legal
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	2475
2.06	9.6	Flexure	kip-ft	52.02	4.9	7.12	4.443	111.06
2.15	10	Flexure	kip-ft	52.02	5.12	7.44	4.23	105.76
4.3	20	Flexure	kip-ft	52.02	9.1	12.91	2.171	54.29
6.45	30	Flexure	kip-ft	52.02	11.94	16.63	1.539	38.47
8.6	40	Flexure	kip-ft	52.02	13.65	18.51	1.302	32.55
10.75	50	Flexure	kip-ft	52.02	14.22	18.58	1.271	31.78
12.9	60	Flexure	kip-ft	52.02	13.65	18.51	1.302	32.55
15.05	70	Flexure	kip-ft	52.02	11.94	16.63	1.539	38.47
17.2	80	Flexure	kip-ft	52.02	9.1	12.91	2.171	54.29
19.35	90	Flexure	kip-ft	52.02	5.12	7.44	4.23	105.76
19.44	90.4	Flexure	kip-ft	52.02	4.9	7.12	4.443	111.06
21.5	100	Flexure	kip-ft	6.06	0	0	99	2475

Detailed Rating Results
1ft Strip (Used within MBE example)
Type 3-3
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal	Legal
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	3960
2.06	9.6	Flexure	kip-ft	52.02	4.9	5.81	5.446	217.83
2.15	10	Flexure	kip-ft	52.02	5.12	6.07	5.186	207.43
4.3	20	Flexure	kip-ft	52.02	9.1	10.63	2.637	105.47
6.45	30	Flexure	kip-ft	52.02	11.94	13.69	1.868	74.74
8.6	40	Flexure	kip-ft	52.02	13.65	15.25	1.581	63.25
10.75	50	Flexure	kip-ft	52.02	14.22	15.3	1.544	61.75
12.9	60	Flexure	kip-ft	52.02	13.65	15.25	1.581	63.25
15.05	70	Flexure	kip-ft	52.02	11.94	13.69	1.868	74.74
17.2	80	Flexure	kip-ft	52.02	9.1	10.63	2.637	105.47
19.35	90	Flexure	kip-ft	52.02	5.12	6.07	5.186	207.43
19.44	90.4	Flexure	kip-ft	52.02	4.9	5.81	5.446	217.83
21.5	100	Flexure	kip-ft	6.06	0	0	99	3960

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Detailed Rating Results
1ft Strip (Used within MBE example)
Type 3S2
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Legal	Legal
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0	0	Flexure	kip-ft	6.06	0	0	99	3564
2.06	9.6	Flexure	kip-ft	52.02	4.9	6.95	4.551	163.83
2.15	10	Flexure	kip-ft	52.02	5.12	7.26	4.333	156
4.3	20	Flexure	kip-ft	52.02	9.1	12.32	2.275	81.91
6.45	30	Flexure	kip-ft	52.02	11.94	15.18	1.685	60.68
8.6	40	Flexure	kip-ft	52.02	13.65	16.88	1.428	51.42
10.75	50	Flexure	kip-ft	52.02	14.22	16.94	1.394	50.2
12.9	60	Flexure	kip-ft	52.02	13.65	16.88	1.428	51.42
15.05	70	Flexure	kip-ft	52.02	11.94	15.18	1.685	60.68
17.2	80	Flexure	kip-ft	52.02	9.1	12.32	2.275	81.91
19.35	90	Flexure	kip-ft	52.02	5.12	7.26	4.333	156
19.44	90.4	Flexure	kip-ft	52.02	4.9	6.95	4.551	163.83
21.5	100	Flexure	kip-ft	6.06	0	0	99	3564

Detailed Rating Results
1ft Strip (Used within MBE example)
MBE-PERMIT
Axle Load
Impact: As Requested
Lane: As Requested

Span 1

Location							Permit	Permit
(ft)	Percent	Limit State	Units	Capacity	DL + Adj-LL*	LL	Rating	Load Rating
							Factor	(Ton)
0.00	0.0	Flexure	kip-ft	6.06	0.00	0.00	99.000	10890.00
2.06	9.6	Flexure	kip-ft	52.02	4.90	11.64	3.285	361.37
2.15	10.0	Flexure	kip-ft	52.02	5.12	12.15	3.128	344.11
4.30	20.0	Flexure	kip-ft	52.02	9.10	19.92	1.700	187.02
6.45	30.0	Flexure	kip-ft	52.02	11.94	26.61	1.162	127.77
8.60	40.0	Flexure	kip-ft	52.02	13.65	29.69	0.981	107.93
10.75	50.0	Flexure	kip-ft	52.02	14.22	30.91	0.923	101.56
12.90	60.0	Flexure	kip-ft	52.02	13.65	29.69	0.981	107.93
15.05	70.0	Flexure	kip-ft	52.02	11.94	26.61	1.162	127.77
17.20	80.0	Flexure	kip-ft	52.02	9.10	19.92	1.700	187.02
19.35	90.0	Flexure	kip-ft	52.02	5.12	12.15	3.128	344.11
19.44	90.4	Flexure	kip-ft	52.02	4.90	11.64	3.285	361.37
21.50	100.0	Flexure	kip-ft	6.06	0.00	0.00	99.000	10890.00

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Bridge

Bridge Id	MBE-A7
NBI Structure ID	MBE-A7
Name	Simple Span RC Slab
Creation Timestamp	Monday, January 23, 2023
Description	
Location	
Year Built	1963
Recent ADTT	
Existing Bridge Alt Name	MBE Examples
Current Bridge Alt Name	MBE Examples

Bridge Alt

Name	MBE Examples
Description	
Creation Timestamp	
Last Modified Timestamp	

Superstructure

Name	Simple Span RC Slab
Description	
Last Modified TimeStamp	
Existing Super Structure Alternative Name	43ft Wide - FullWidth Option
Current Super Structure Alternative Name	43ft Wide - FullWidth Option

Superstructure Alternative

Name	43ft Wide - FullWidth Option
Description	
Last Modified Timestamp	
Superstructure Definition Name	Span 1 (43ft Slab) (Full width Option)

Superstructure Alternative

Name	43ft Wide - (1ft Strip Option)
Description	
Last Modified Timestamp	
Superstructure Definition Name	Span 1 (43ft Slab) (With 1ft Strip Option)

Materials

Concrete Material

Name	F'c= 3.000 ksi; Deck	
Description	per As-Built Plans	
Si Or Us Type	US Customary	
28 Day Compressive Strength	3.000	ksi
Density For DL	0.150	kcf
Density For Modulus Of Elasticity	0.145	kcf
Std Modulus Of Elasticity	3155.92	ksi
Composition Type	Normal	
Standard modulus of rupture	0.48	ksi
LRFD modulus of rupture	0.48	ksi
Shear Factor	1.000	

Reinforcing Steel Material

Name	Fy= 40 ksi
Description	Based of Yr of Construction
Si Or Us Type	US Customary

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Yield Strength	40.000	ksi
Modulus Of Elasticity	29000.00	ksi
Reinforcing Bar Type	Plain	
Ultimate Strength	70.000	ksi

Appurtenances

Concrete Generic Appurtenance

Name	Parapet + Curb	
Description		
Si Or Us Type	US Customary	
X1	18.0000	in
Y1	46.0000	in
Additional Load	0.688	kip/ft

Superstructures Definitions

Reinforced Concrete Slab Structure Def

Name	Span 1 (43ft Slab) (With 1ft Strip Option)
Description	
Slab Structure Type	Slab Not Integral with Pier
Strip Spacing Orientation Type	Perpendicular to Girder
Dead Load 1 Distribution Type	Tributary Area
Dead Load 2 Distribution Type	Uniformly to All Girders

Span Lengths

Span Length (ft)

1	21.5000
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Load Case Description

Name	Description	Stage Name	Load Type
DC1	DC acting on non-composite section	Non-composite (Stage 1)	D,DC
DC2	DC acting on long-term composite section	Composite (long term) (Stage 2)	D,DC
DW	DW acting on long-term composite section	Composite (long term) (Stage 2)	D,DW

Structure Framing Plan Details

Support Skew

Support Number	Skew (Degrees)
1	0.0000
2	0.0000

Strip Spacing

Strip Bay Number	Start Spacing (ft)	End Spacing (ft)
1	3.25	3.25
2	1.07	1.07

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3	1.00	1.00
4	1.00	1.00
5	1.00	1.00
6	1.00	1.00
7	1.00	1.00
8	1.00	1.00
9	1.00	1.00
10	1.00	1.00
11	1.00	1.00
12	1.00	1.00
13	1.00	1.00
14	1.00	1.00
15	1.00	1.00
16	1.00	1.00
17	1.00	1.00
18	1.00	1.00
19	1.00	1.00
20	1.00	1.00
21	1.00	1.00
22	1.00	1.00
23	1.00	1.00
24	1.00	1.00
25	1.00	1.00
26	1.00	1.00
27	1.00	1.00
28	1.00	1.00
29	1.00	1.00
30	1.00	1.00
31	1.00	1.00
32	1.07	1.07
33	3.25	3.25

Structure Typical Section

Concrete Deck

Deck Type	Concrete
Width Left Start	-21.50 ft
Width Left End	-21.50 ft
Width Right Start	21.50 ft
Width Right End	21.50 ft

Concrete Appurtenances

Name	Face Left Indicator	Offset At Start (ft)	Offset At End (ft)	Load Case Name	Measured To Front Face Indicator	Offset Reference Type
Parapet + Curb	FALSE			DC2	False	Left Edge
Parapet + Curb	TRUE			DC2	False	Right Edge

Travelway

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Distance (ft)	Length (ft)	Number Of Lanes	Offset Left Start (ft)	Offset Left End (ft)	Offset Right Start (ft)	Offset Right End (ft)
0.00	21.50	3	-20.00	-20.00	20.00	20.00

Wearing Surface

Wearing Surface Material Name AC
 Wearing Surface Description AC Overlay
 Wearing Surface Thickness 3.5000 in
 Wearing Surface Density 144.000 pcf
 Wearing Surface Load Case Name DW

Bar Mark Definition

Name #8 - Fy=40, 22.00ft
 Reinf Steel Name Fy= 40 ksi
 Bar Size 8
 Dimension A 22.0000 ft
 Hook At Start Indicator false
 Hook At End Indicator false

Slab Member

Name S1
 Description
 Creation Timestamp
 Last Modified Timestamp
 Pedestrian Live Load Force lb/ft
 Member Alternative Name-Current Left Edge (5.3542 ft) Strip
 Member Alternative Name-Existing Left Edge (5.3542 ft) Strip

Supports

General

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

Member Alt - Reinforced Concrete Slab - Schd

Name Left Edge (5.3542 ft) Strip
 Description
 Creation Timestamp
 System Of Units US Customary
 Default Rating Method LFR
 Beam Projection Start in
 Beam Projection End in
 Distribution Factor Input Method Type Simplified
 LRFD DF for Permit Loads With Routine Traffic Indicator true
 LRFD Distribution Factor Input Method Type Simplified
 LRFR Consider Sloped Portion Bent Long Reinf Ind false
 LRFR Ignore Design And Legal Load Shear Indicator true
 LRFR Consider Permit Load Tensile Steel Stress Indicator false
 LRFR Ignore Permit Load Shear Indicator true
 LRFR Shear Computation Method Type Ignore
 LRFR Ignore Long. Reinf. In Rating Indicator true
 LRFR Consider Inclined Flexural Forces Indicator false
 LRFR Allow Negative Epsilon General Shear Method Indicator false
 LRFR POI Generate at Supports Points true
 LRFR POI Generate at Supports Face and Critical Shear Points true

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

LRFR POI Tenth Points Indicator Except Supports	true	
LRFR Condition Factor	Good or Satisfactory	
LRFR System Factor Override	All Other Girder/Slab Bridges	
LRFR POI Tenth Points Indicator	false	
LRFR POI Section Change Points Indicator	true	
LRFR POI User-Defined Points Indicator	true	
LRFR Distribution Factor Application Method Type	By Point of Interest	
LRFR Field Measured Section Properties Indicator	false	
LRFR System Factor Override	false	
Additional Self Load		kip/ft
Additional Self Load Percentage		%

Strip Profile-Section

Start Distance (ft)	Length (ft)	Start Width (in)	End Width (in)	Concrete Material	Modular Ratio
0.00	21.50	64.250	64.250	F'c= 3.000 ksi; Deck	9.00

Slab Depth

Begin Depth (in)	Depth Vary	End Depth (in)	Distance (ft)	Length (ft)
14.0000	None	14.0000	0.000	21.500

Reinforcement Profile

Set Number	Bar Mark Definition Name	Inverted Bar Mark Indicator	Distance Reference Type	Vert Distance (in)	Bar Spacing (in)	Side Cover (in)	Bar Direction Type	Start Distance (ft)	Fully Developed Indicator	Num Bars Std	Num Bars Lrfd
1	#8 - Fy=40, 22.00ft	FALSE	Bottom of Slab				Left	-0.250		10.71	10.71

LRFD Live Load Distribution Factors

Action Type	Distance (ft)	Length (ft)	Multi Lane Factor	Single Lane Factor
Moment	0.00	21.500	0.519	0.500
Shear	0.00	21.500	0.519	0.500
Deflection	0.00	21.500	0.379	0.535

Analysis Event

Entered By	Bridge
Description	BrDR new analysis event.
Creation Timestamp	Wednesday, January 25, 2023
Agency Name	AASHTO
Event Type	Rating
Message	
Engine Version	AASHTO LRFR Engine Version 7.5.0.3001

Dead Load Actions

Load Case 1 - Self Load(Stage 1:D,DC)

Description	Load Case 1 - Self Load(Stage 1:D,DC)
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RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Load Type Girder Weight
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	10.07	0.00	10.07	0.0000	0.0000
1	2.15	19.49	8.06	0.00		0.0000	-0.0305
1	4.30	34.65	6.04	0.00		0.0000	-0.0577
1	6.45	45.48	4.03	0.00		0.0000	-0.0790
1	8.60	51.97	2.01	0.00		0.0000	-0.0925
1	10.75	54.14	0.00	0.00		0.0000	-0.0972
1	12.90	51.97	-2.01	0.00		0.0000	-0.0925
1	15.05	45.48	-4.03	0.00		0.0000	-0.0790
1	17.20	34.65	-6.04	0.00		0.0000	-0.0577
1	19.35	19.49	-8.06	0.00		0.0000	-0.0305
1	21.50	0.00	-10.07	0.00	10.07	0.0000	0.0000

Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)

Description Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)
 Load Type DC
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	1.84	0.00	1.84	0.0000	0.0000
1	2.15	3.56	1.47	0.00		0.0000	-0.0056
1	4.30	6.34	1.11	0.00		0.0000	-0.0106
1	6.45	8.32	0.74	0.00		0.0000	-0.0144
1	8.60	9.50	0.37	0.00		0.0000	-0.0169
1	10.75	9.90	0.00	0.00		0.0000	-0.0178
1	12.90	9.50	-0.37	0.00		0.0000	-0.0169
1	15.05	8.32	-0.74	0.00		0.0000	-0.0144
1	17.20	6.34	-1.11	0.00		0.0000	-0.0106
1	19.35	3.56	-1.47	0.00		0.0000	-0.0056
1	21.50	0.00	-1.84	0.00	1.84	0.0000	0.0000

Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)

Description Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)
 Load Type DW
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	2.25	0.00	2.25	0.0000	0.0000
1	2.15	4.35	1.80	0.00		0.0000	-0.0068
1	4.30	7.74	1.35	0.00		0.0000	-0.0129
1	6.45	10.15	0.90	0.00		0.0000	-0.0176
1	8.60	11.60	0.45	0.00		0.0000	-0.0207
1	10.75	12.09	0.00	0.00		0.0000	-0.0217
1	12.90	11.60	-0.45	0.00		0.0000	-0.0207
1	15.05	10.15	-0.90	0.00		0.0000	-0.0176
1	17.20	7.74	-1.35	0.00		0.0000	-0.0129
1	19.35	4.35	-1.80	0.00		0.0000	-0.0068
1	21.50	0.00	-2.25	0.00	2.25	0.0000	0.0000

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Live Load Actions

Vehicle Name HL-93 (US)
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	29.77	0.00
1	2.15	54.52	0.00	25.36	-2.21
1	4.30	90.05	0.00	20.94	-4.41
1	6.45	106.61	0.00	16.53	-6.62
1	8.60	113.89	0.00	13.24	-8.83
1	10.75	118.63	0.00	11.04	-11.04
1	12.90	113.89	0.00	8.83	-13.24
1	15.05	106.61	0.00	6.62	-16.53
1	17.20	90.05	0.00	4.41	-20.94
1	19.35	54.52	0.00	2.21	-25.36
1	21.50	0.00	0.00	0.00	-29.77

Vehicle Name HL-93 (US)
 Vehicle Type Truck + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	33.34	0.00
1	2.15	61.42	0.00	28.25	-2.24
1	4.30	102.33	0.00	23.23	-4.56
1	6.45	122.71	0.00	18.28	-6.94
1	8.60	132.30	0.00	14.53	-9.40
1	10.75	137.81	0.00	11.93	-11.93
1	12.90	132.30	0.00	9.40	-14.53
1	15.05	122.71	0.00	6.94	-18.28
1	17.20	102.33	0.00	4.56	-23.23
1	19.35	61.42	0.00	2.24	-28.25
1	21.50	0.00	0.00	0.00	-33.34

Vehicle Name HL-93 (US)
 Vehicle Type Tandem

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	31.28	0.00
1	2.15	59.83	0.00	27.83	-1.72
1	4.30	104.84	0.00	24.38	-3.69
1	6.45	135.02	0.00	20.93	-7.14
1	8.60	150.36	0.00	17.48	-10.59
1	10.75	150.88	0.00	14.04	-14.04
1	12.90	150.36	0.00	10.59	-17.48
1	15.05	135.02	0.00	7.14	-20.93
1	17.20	104.84	0.00	3.69	-24.38
1	19.35	59.83	0.00	1.72	-27.83
1	21.50	0.00	0.00	0.00	-31.28

Vehicle Name HL-93 (US)
 Vehicle Type Tandem + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	34.85	0.00

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	2.15	66.74	0.00	30.72	-1.76
1	4.30	117.11	0.00	26.66	-3.83
1	6.45	151.12	0.00	22.68	-7.46
1	8.60	168.77	0.00	18.77	-11.16
1	10.75	170.06	0.00	14.93	-14.93
1	12.90	168.77	0.00	11.16	-18.77
1	15.05	151.12	0.00	7.46	-22.68
1	17.20	117.11	0.00	3.83	-26.66
1	19.35	66.74	0.00	1.76	-30.72
1	21.50	0.00	0.00	0.00	-34.85
Vehicle Name	HL-93 (US)				
Vehicle Type	Lane				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	3.57	0.00
1	2.15	6.90	0.00	2.89	-0.04
1	4.30	12.27	0.00	2.28	-0.14
1	6.45	16.11	0.00	1.75	-0.32
1	8.60	18.41	0.00	1.28	-0.57
1	10.75	19.18	0.00	0.89	-0.89
1	12.90	18.41	0.00	0.57	-1.28
1	15.05	16.11	0.00	0.32	-1.75
1	17.20	12.27	0.00	0.14	-2.28
1	19.35	6.90	0.00	0.04	-2.89
1	21.50	0.00	0.00	0.00	-3.57

Vehicle Name MBE-PERMIT
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	38.09	0.00
1	2.15	69.37	0.00	32.27	-1.16
1	4.30	113.72	0.00	26.45	-2.49
1	6.45	151.89	0.00	21.07	-4.82
1	8.60	169.47	0.00	16.25	-7.47
1	10.75	176.44	0.00	11.60	-11.60
1	12.90	169.47	0.00	7.47	-16.25
1	15.05	151.89	0.00	4.82	-21.07
1	17.20	113.72	0.00	2.49	-26.45
1	19.35	69.37	0.00	1.16	-32.27
1	21.50	0.00	0.00	0.00	-38.09

Vehicle Name NRL
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	28.58	0.00
1	2.15	52.85	0.00	24.58	-1.17
1	4.30	89.83	0.00	20.58	-2.51
1	6.45	117.99	0.00	16.83	-4.85
1	8.60	132.26	0.00	13.38	-7.35
1	10.75	136.39	0.00	10.25	-10.25
1	12.90	132.26	0.00	7.35	-13.38
1	15.05	117.99	0.00	4.85	-16.83

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	17.20	89.83	0.00	2.51	-20.58
1	19.35	52.85	0.00	1.17	-24.58
1	21.50	0.00	0.00	0.00	-28.58
Vehicle Name		SU4			
Vehicle Type		Axle Load			

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	26.08	0.00
1	2.15	48.07	0.00	22.36	-1.17
1	4.30	81.44	0.00	18.94	-2.51
1	6.45	103.48	0.00	16.04	-4.85
1	8.60	117.48	0.00	13.15	-7.35
1	10.75	121.22	0.00	10.25	-10.25
1	12.90	117.48	0.00	7.35	-13.15
1	15.05	103.48	0.00	4.85	-16.04
1	17.20	81.44	0.00	2.51	-18.94
1	19.35	48.07	0.00	1.17	-22.36
1	21.50	0.00	0.00	0.00	-26.08

Vehicle Name SU5
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	27.17	0.00
1	2.15	51.01	0.00	23.72	-1.17
1	4.30	87.18	0.00	20.27	-2.51
1	6.45	108.53	0.00	16.83	-4.85
1	8.60	123.32	0.00	13.38	-7.35
1	10.75	128.81	0.00	10.25	-10.25
1	12.90	123.32	0.00	7.35	-13.38
1	15.05	108.53	0.00	4.85	-16.83
1	17.20	87.18	0.00	2.51	-20.27
1	19.35	51.01	0.00	1.17	-23.72
1	21.50	0.00	0.00	0.00	-27.17

Vehicle Name SU6
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	27.17	0.00
1	2.15	51.01	0.00	23.72	-0.79
1	4.30	88.51	0.00	20.20	-1.59
1	6.45	117.99	0.00	16.20	-2.99
1	8.60	130.28	0.00	12.20	-5.07
1	10.75	136.39	0.00	8.52	-8.52
1	12.90	130.28	0.00	5.07	-12.20
1	15.05	117.99	0.00	2.99	-16.20
1	17.20	88.51	0.00	1.59	-20.20
1	19.35	51.01	0.00	0.79	-23.72
1	21.50	0.00	0.00	0.00	-27.17

Vehicle Name SU7
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
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RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	0.00	0.00	0.00	27.17	0.00
1	2.15	51.01	0.00	23.72	-0.79
1	4.30	88.51	0.00	20.20	-1.59
1	6.45	117.99	0.00	16.20	-2.38
1	8.60	132.26	0.00	12.04	-3.81
1	10.75	136.39	0.00	7.81	-7.81
1	12.90	132.26	0.00	3.81	-12.04
1	15.05	117.99	0.00	2.38	-16.20
1	17.20	88.51	0.00	1.59	-20.20
1	19.35	51.01	0.00	0.79	-23.72
1	21.50	0.00	0.00	0.00	-27.17
Vehicle Name	Type 3				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	22.55	0.00
1	2.15	41.07	0.00	19.10	-1.17
1	4.30	71.29	0.00	16.58	-2.51
1	6.45	91.81	0.00	14.23	-4.85
1	8.60	102.25	0.00	11.89	-7.20
1	10.75	102.60	0.00	9.54	-9.54
1	12.90	102.25	0.00	7.20	-11.89
1	15.05	91.81	0.00	4.85	-14.23
1	17.20	71.29	0.00	2.51	-16.58
1	19.35	41.07	0.00	1.17	-19.10
1	21.50	0.00	0.00	0.00	-22.55

Vehicle Name Type 3-3
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	18.29	0.00
1	2.15	33.51	0.00	15.58	-0.97
1	4.30	58.71	0.00	13.65	-2.07
1	6.45	75.61	0.00	11.72	-4.00
1	8.60	84.20	0.00	9.79	-5.93
1	10.75	84.49	0.00	7.86	-7.86
1	12.90	84.20	0.00	5.93	-9.79
1	15.05	75.61	0.00	4.00	-11.72
1	17.20	58.71	0.00	2.07	-13.65
1	19.35	33.51	0.00	0.97	-15.58
1	21.50	0.00	0.00	0.00	-18.29

Vehicle Name Type 3S2
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	21.48	0.00
1	2.15	40.10	0.00	18.65	-1.07
1	4.30	68.04	0.00	15.82	-2.29
1	6.45	83.81	0.00	12.99	-4.43
1	8.60	93.22	0.00	10.84	-6.56
1	10.75	93.55	0.00	8.70	-8.70
1	12.90	93.22	0.00	6.56	-10.84

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	15.05	83.81	0.00	4.43	-12.99
1	17.20	68.04	0.00	2.29	-15.82
1	19.35	40.10	0.00	1.07	-18.65
1	21.50	0.00	0.00	0.00	-21.48

Rating Summary

Vehicle	Vehicle Type	Design Method	Inv RatingFactor	Opr RatingFactor	Legal RatingFactor	Permit RatingFactor
HL-93 (US)	Truck + Lane	LRFR	.76	.985		
HL-93 (US)	Tandem + Lane	LRFR	.616	.798		
MBE-PERMIT	Axle Load	LRFR				.865
NRL	Axle Load	LRFR			.926	
SU4	Axle Load	LRFR			1.042	
SU5	Axle Load	LRFR			.981	
SU6	Axle Load	LRFR			.926	
SU7	Axle Load	LRFR			.926	
Type 3	Axle Load	LRFR			1.231	
Type 3-3	Axle Load	LRFR			1.495	
Type 3S2	Axle Load	LRFR			1.351	

Slab Member

Name	S2
Description	
Creation Timestamp	
Last Modified Timestamp	
Pedestrian Live Load Force	lb/ft
Member Alternative Name-Current	1.145833ft Strip
Member Alternative Name-Existing	1.145833ft Strip

Supports

General

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

Member Alt - Reinforced Concrete Slab - Schd

Name	1.145833ft Strip
Description	
Creation Timestamp	
System Of Units	US Customary
Default Rating Method	LFR
Beam Projection Start	in
Beam Projection End	in
Distribution Factor Input Method Type	Simplified
LRFD DF for Permit Loads With Routine Traffic Indicator	true
LRFD Distribution Factor Input Method Type	Simplified
LRFR Consider Sloped Portion Bent Long Reinf Ind	false
LRFR Ignore Design And Legal Load Shear Indicator	true
LRFR Consider Permit Load Tensile Steel Stress Indicator	false
LRFR Ignore Permit Load Shear Indicator	true
LRFR Shear Computation Method Type	Ignore
LRFR Ignore Long. Reinf. In Rating Indicator	true
LRFR Consider Inclined Flexural Forces Indicator	false
LRFR Allow Negative Epsilon General Shear Method Indicator	false
LRFR POI Generate at Supports Points	true

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

LRFR POI Generate at Supports Face and Critical Shear Points	true	
LRFR POI Tenth Points Indicator Except Supports	true	
LRFR Condition Factor	Good or Satisfactory	
LRFR System Factor Override	All Other Girder/Slab Bridges	
LRFR POI Tenth Points Indicator	false	
LRFR POI Section Change Points Indicator	true	
LRFR POI User-Defined Points Indicator	true	
LRFR Distribution Factor Application Method Type	By Point of Interest	
LRFR Field Measured Section Properties Indicator	false	
LRFR System Factor Override	false	
Additional Self Load		kip/ft
Additional Self Load Percentage		%

Strip Profile-Section

Start Distance (ft)	Length (ft)	Start Width (in)	End Width (in)	Concrete Material	Modular Ratio
0.00	21.50	13.500	13.500	F'c= 3.000 ksi; Deck	9.00

Slab Depth

Begin Depth (in)	Depth Vary	End Depth (in)	Distance (ft)	Length (ft)
14.0000	None	14.0000	0.000	21.500

Reinforcement Profile

Set Number	Bar Mark Definition Name	Inverted Bar Mark Indicator	Distance Reference Type	Vert Distance (in)	Bar Spacing (in)	Side Cover (in)	Bar Direction Type	Start Distance (ft)	Fully Developed Indicator	Num Bars Std	Num Bars Lrfd
1	#8 - Fy=40, 22.00ft	FALSE	Bottom of Slab				Left	-0.250		2.25	2.25

LRFD Live Load Distribution Factors

Action Type	Distance (ft)	Length (ft)	Multi Lane Factor	Single Lane Factor
Moment	0.00	21.500	0.106	0.099
Shear	0.00	21.500	0.106	0.099
Deflection	0.00	21.500	0.080	0.113

Analysis Event

Entered By	Bridge
Description	BrDR new analysis event.
Creation Timestamp	Wednesday, January 25, 2023
Agency Name	AASHTO
Event Type	Rating
Message	
Engine Version	AASHTO LRFR Engine Version 7.5.0.3001

Dead Load Actions

Load Case 1 - Self Load(Stage 1:D,DC)

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Description Load Case 1 - Self Load(Stage 1:D,DC)
 Load Type Girder Weight
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	2.12	0.00	2.12	0.0000	0.0000
1	2.15	4.10	1.69	0.00		0.0000	-0.0305
1	4.30	7.28	1.27	0.00		0.0000	-0.0577
1	6.45	9.56	0.85	0.00		0.0000	-0.0790
1	8.60	10.92	0.42	0.00		0.0000	-0.0925
1	10.75	11.38	0.00	0.00		0.0000	-0.0972
1	12.90	10.92	-0.42	0.00		0.0000	-0.0925
1	15.05	9.56	-0.85	0.00		0.0000	-0.0790
1	17.20	7.28	-1.27	0.00		0.0000	-0.0577
1	19.35	4.10	-1.69	0.00		0.0000	-0.0305
1	21.50	0.00	-2.12	0.00	2.12	0.0000	0.0000

Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)

Description Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)
 Load Type DC
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	0.39	0.00	0.39	0.0000	0.0000
1	2.15	0.75	0.31	0.00		0.0000	-0.0056
1	4.30	1.33	0.23	0.00		0.0000	-0.0106
1	6.45	1.75	0.15	0.00		0.0000	-0.0144
1	8.60	2.00	0.08	0.00		0.0000	-0.0169
1	10.75	2.08	0.00	0.00		0.0000	-0.0178
1	12.90	2.00	-0.08	0.00		0.0000	-0.0169
1	15.05	1.75	-0.15	0.00		0.0000	-0.0144
1	17.20	1.33	-0.23	0.00		0.0000	-0.0106
1	19.35	0.75	-0.31	0.00		0.0000	-0.0056
1	21.50	0.00	-0.39	0.00	0.39	0.0000	0.0000

Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)

Description Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)
 Load Type DW
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	0.47	0.00	0.47	0.0000	0.0000
1	2.15	0.91	0.38	0.00		0.0000	-0.0068
1	4.30	1.63	0.28	0.00		0.0000	-0.0129
1	6.45	2.13	0.19	0.00		0.0000	-0.0176
1	8.60	2.44	0.09	0.00		0.0000	-0.0207
1	10.75	2.54	0.00	0.00		0.0000	-0.0217
1	12.90	2.44	-0.09	0.00		0.0000	-0.0207
1	15.05	2.13	-0.19	0.00		0.0000	-0.0176
1	17.20	1.63	-0.28	0.00		0.0000	-0.0129
1	19.35	0.91	-0.38	0.00		0.0000	-0.0068

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1 21.50 0.00 -0.47 0.00 0.47 0.0000 0.0000

Live Load Actions

Vehicle Name HL-93 (US)
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	6.06	0.00
1	2.15	11.11	0.00	5.17	-0.45
1	4.30	18.35	0.00	4.27	-0.90
1	6.45	21.72	0.00	3.37	-1.35
1	8.60	23.20	0.00	2.70	-1.80
1	10.75	24.17	0.00	2.25	-2.25
1	12.90	23.20	0.00	1.80	-2.70
1	15.05	21.72	0.00	1.35	-3.37
1	17.20	18.35	0.00	0.90	-4.27
1	19.35	11.11	0.00	0.45	-5.17
1	21.50	0.00	0.00	0.00	-6.06

Vehicle Name HL-93 (US)
 Vehicle Type Truck + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	6.79	0.00
1	2.15	12.51	0.00	5.75	-0.46
1	4.30	20.85	0.00	4.73	-0.93
1	6.45	25.00	0.00	3.72	-1.41
1	8.60	26.95	0.00	2.96	-1.91
1	10.75	28.07	0.00	2.43	-2.43
1	12.90	26.95	0.00	1.91	-2.96
1	15.05	25.00	0.00	1.41	-3.72
1	17.20	20.85	0.00	0.93	-4.73
1	19.35	12.51	0.00	0.46	-5.75
1	21.50	0.00	0.00	0.00	-6.79

Vehicle Name HL-93 (US)
 Vehicle Type Tandem

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	6.37	0.00
1	2.15	12.19	0.00	5.67	-0.35
1	4.30	21.36	0.00	4.97	-0.75
1	6.45	27.50	0.00	4.26	-1.45
1	8.60	30.63	0.00	3.56	-2.16
1	10.75	30.74	0.00	2.86	-2.86
1	12.90	30.63	0.00	2.16	-3.56
1	15.05	27.50	0.00	1.45	-4.26
1	17.20	21.36	0.00	0.75	-4.97
1	19.35	12.19	0.00	0.35	-5.67
1	21.50	0.00	0.00	0.00	-6.37

Vehicle Name HL-93 (US)
 Vehicle Type Tandem + Lane

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	7.10	0.00
1	2.15	13.60	0.00	6.26	-0.36
1	4.30	23.86	0.00	5.43	-0.78
1	6.45	30.79	0.00	4.62	-1.52
1	8.60	34.38	0.00	3.82	-2.27
1	10.75	34.64	0.00	3.04	-3.04
1	12.90	34.38	0.00	2.27	-3.82
1	15.05	30.79	0.00	1.52	-4.62
1	17.20	23.86	0.00	0.78	-5.43
1	19.35	13.60	0.00	0.36	-6.26
1	21.50	0.00	0.00	0.00	-7.10
Vehicle Name	HL-93 (US)				
Vehicle Type	Lane				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	0.73	0.00
1	2.15	1.41	0.00	0.59	-0.01
1	4.30	2.50	0.00	0.47	-0.03
1	6.45	3.28	0.00	0.36	-0.07
1	8.60	3.75	0.00	0.26	-0.12
1	10.75	3.91	0.00	0.18	-0.18
1	12.90	3.75	0.00	0.12	-0.26
1	15.05	3.28	0.00	0.07	-0.36
1	17.20	2.50	0.00	0.03	-0.47
1	19.35	1.41	0.00	0.01	-0.59
1	21.50	0.00	0.00	0.00	-0.73
Vehicle Name	MBE-PERMIT				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	7.51	0.00
1	2.15	13.67	0.00	6.36	-0.23
1	4.30	22.41	0.00	5.21	-0.49
1	6.45	29.94	0.00	4.15	-0.95
1	8.60	33.40	0.00	3.20	-1.47
1	10.75	34.78	0.00	2.29	-2.29
1	12.90	33.40	0.00	1.47	-3.20
1	15.05	29.94	0.00	0.95	-4.15
1	17.20	22.41	0.00	0.49	-5.21
1	19.35	13.67	0.00	0.23	-6.36
1	21.50	0.00	0.00	0.00	-7.51
Vehicle Name	NRL				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.82	0.00
1	2.15	10.77	0.00	5.01	-0.24
1	4.30	18.30	0.00	4.19	-0.51
1	6.45	24.04	0.00	3.43	-0.99
1	8.60	26.94	0.00	2.73	-1.50

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	10.75	27.79	0.00	2.09	-2.09
1	12.90	26.94	0.00	1.50	-2.73
1	15.05	24.04	0.00	0.99	-3.43
1	17.20	18.30	0.00	0.51	-4.19
1	19.35	10.77	0.00	0.24	-5.01
1	21.50	0.00	0.00	0.00	-5.82
Vehicle Name	SU4				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.31	0.00
1	2.15	9.79	0.00	4.55	-0.24
1	4.30	16.59	0.00	3.86	-0.51
1	6.45	21.08	0.00	3.27	-0.99
1	8.60	23.93	0.00	2.68	-1.50
1	10.75	24.69	0.00	2.09	-2.09
1	12.90	23.93	0.00	1.50	-2.68
1	15.05	21.08	0.00	0.99	-3.27
1	17.20	16.59	0.00	0.51	-3.86
1	19.35	9.79	0.00	0.24	-4.55
1	21.50	0.00	0.00	0.00	-5.31

Vehicle Name SU5
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.54	0.00
1	2.15	10.39	0.00	4.83	-0.24
1	4.30	17.76	0.00	4.13	-0.51
1	6.45	22.11	0.00	3.43	-0.99
1	8.60	25.12	0.00	2.73	-1.50
1	10.75	26.24	0.00	2.09	-2.09
1	12.90	25.12	0.00	1.50	-2.73
1	15.05	22.11	0.00	0.99	-3.43
1	17.20	17.76	0.00	0.51	-4.13
1	19.35	10.39	0.00	0.24	-4.83
1	21.50	0.00	0.00	0.00	-5.54

Vehicle Name SU6
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.54	0.00
1	2.15	10.39	0.00	4.83	-0.16
1	4.30	18.03	0.00	4.11	-0.32
1	6.45	24.04	0.00	3.30	-0.61
1	8.60	26.54	0.00	2.48	-1.03
1	10.75	27.79	0.00	1.74	-1.74
1	12.90	26.54	0.00	1.03	-2.48
1	15.05	24.04	0.00	0.61	-3.30
1	17.20	18.03	0.00	0.32	-4.11
1	19.35	10.39	0.00	0.16	-4.83
1	21.50	0.00	0.00	0.00	-5.54

Vehicle Name SU7
Vehicle Type Axle Load

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.54	0.00
1	2.15	10.39	0.00	4.83	-0.16
1	4.30	18.03	0.00	4.11	-0.32
1	6.45	24.04	0.00	3.30	-0.48
1	8.60	26.94	0.00	2.45	-0.78
1	10.75	27.79	0.00	1.59	-1.59
1	12.90	26.94	0.00	0.78	-2.45
1	15.05	24.04	0.00	0.48	-3.30
1	17.20	18.03	0.00	0.32	-4.11
1	19.35	10.39	0.00	0.16	-4.83
1	21.50	0.00	0.00	0.00	-5.54

Vehicle Name Type 3
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	4.59	0.00
1	2.15	8.37	0.00	3.89	-0.24
1	4.30	14.52	0.00	3.38	-0.51
1	6.45	18.70	0.00	2.90	-0.99
1	8.60	20.83	0.00	2.42	-1.47
1	10.75	20.90	0.00	1.94	-1.94
1	12.90	20.83	0.00	1.47	-2.42
1	15.05	18.70	0.00	0.99	-2.90
1	17.20	14.52	0.00	0.51	-3.38
1	19.35	8.37	0.00	0.24	-3.89
1	21.50	0.00	0.00	0.00	-4.59

Vehicle Name Type 3-3
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	3.73	0.00
1	2.15	6.83	0.00	3.17	-0.20
1	4.30	11.96	0.00	2.78	-0.42
1	6.45	15.40	0.00	2.39	-0.81
1	8.60	17.15	0.00	1.99	-1.21
1	10.75	17.21	0.00	1.60	-1.60
1	12.90	17.15	0.00	1.21	-1.99
1	15.05	15.40	0.00	0.81	-2.39
1	17.20	11.96	0.00	0.42	-2.78
1	19.35	6.83	0.00	0.20	-3.17
1	21.50	0.00	0.00	0.00	-3.73

Vehicle Name Type 3S2
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	4.38	0.00
1	2.15	8.17	0.00	3.80	-0.22
1	4.30	13.86	0.00	3.22	-0.47
1	6.45	17.07	0.00	2.65	-0.90
1	8.60	18.99	0.00	2.21	-1.34

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	10.75	19.06	0.00	1.77	-1.77
1	12.90	18.99	0.00	1.34	-2.21
1	15.05	17.07	0.00	0.90	-2.65
1	17.20	13.86	0.00	0.47	-3.22
1	19.35	8.17	0.00	0.22	-3.80
1	21.50	0.00	0.00	0.00	-4.38

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Rating Summary

Vehicle	Vehicle Type	Design Method	Inv RatingFactor	Opr RatingFactor	Legal RatingFactor	Permit RatingFactor
HL-93 (US)	Truck + Lane	LRFR	.783	1.015		
HL-93 (US)	Tandem + Lane	LRFR	.634	.822		
MBE-PERMIT	Axle Load	LRFR				.922
NRL	Axle Load	LRFR			.954	
SU4	Axle Load	LRFR			1.074	
SU5	Axle Load	LRFR			1.011	
SU6	Axle Load	LRFR			.954	
SU7	Axle Load	LRFR			.954	
Type 3	Axle Load	LRFR			1.269	
Type 3-3	Axle Load	LRFR			1.541	
Type 3S2	Axle Load	LRFR			1.392	

Slab Member

Name	S3
Description	
Creation Timestamp	
Last Modified Timestamp	
Pedestrian Live Load Force	lb/ft
Member Alternative Name-Current	1ft Strip (Used within MBE example)
Member Alternative Name-Existing	1ft Strip (Used within MBE example)

Supports

General

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

Member Alt - Reinforced Concrete Slab - Schd

Name	1ft Strip (Used within MBE example)
Description	
Creation Timestamp	
System Of Units	US Customary
Default Rating Method	LFR
Beam Projection Start	in
Beam Projection End	in
Distribution Factor Input Method Type	Simplified
LRFD DF for Permit Loads With Routine Traffic Indicator	true
LRFD Distribution Factor Input Method Type	Simplified
LRFR Consider Sloped Portion Bent Long Reinf Ind	false
LRFR Ignore Design And Legal Load Shear Indicator	true
LRFR Consider Permit Load Tensile Steel Stress Indicator	false
LRFR Ignore Permit Load Shear Indicator	true
LRFR Shear Computation Method Type	General Procedure - Appendix B5
LRFR Ignore Long. Reinf. In Rating Indicator	false
LRFR Consider Inclined Flexural Forces Indicator	false
LRFR Allow Negative Epsilon General Shear Method Indicator	false
LRFR POI Generate at Supports Points	true
LRFR POI Generate at Supports Face and Critical Shear Points	true
LRFR POI Tenth Points Indicator Except Supports	true
LRFR Condition Factor	Good or Satisfactory
LRFR System Factor Override	All Other Girder/Slab Bridges
LRFR POI Tenth Points Indicator	false
LRFR POI Section Change Points Indicator	true
LRFR POI User-Defined Points Indicator	true

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

LRFR Distribution Factor Application Method Type	By Point of Interest	
LRFR Field Measured Section Properties Indicator	false	
LRFR System Factor Override	false	
Additional Self Load		kip/ft
Additional Self Load Percentage		%

Strip Profile-Section

Start Distance (ft)	Length (ft)	Start Width (in)	End Width (in)	Concrete Material	Modular Ratio
0.00	21.50	12.000	12.000	F'c= 3.000 ksi; Deck	9.00

Slab Depth

Begin Depth (in)	Depth Vary	End Depth (in)	Distance (ft)	Length (ft)
14.0000	None	14.0000	0.000	21.500

Reinforcement Profile

Set Number	Bar Mark Definition Name	Inverted Bar Mark Indicator	Distance Reference Type	Vert Distance (in)	Bar Spacing (in)	Side Cover (in)	Bar Direction Type	Start Distance (ft)	Fully Developed Indicator	Num Bars Std	Num Bars Lrfd
1	#8 - Fy=40, 22.00ft	FALSE	Bottom of Slab				Left	-0.250		2.00	2.00

LRFD Live Load Distribution Factors

Action Type	Distance (ft)	Length (ft)	Multi Lane Factor	Single Lane Factor
Moment	0.00	21.500	0.094	0.088
Shear	0.00	21.500	0.094	0.088
Deflection	0.00	21.500	0.071	0.100

Analysis Event

Entered By	Bridge
Description	BrDR new analysis event.
Creation Timestamp	Wednesday, January 25, 2023
Agency Name	AASHTO
Event Type	Rating
Message	
Engine Version	AASHTO LRFR Engine Version 7.5.0.3001

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Dead Load Actions

Load Case 1 - Self Load(Stage 1:D,DC)

Description Load Case 1 - Self Load(Stage 1:D,DC)
 Load Type Girder Weight
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	1.88	0.00	1.88	0.0000	0.0000
1	2.15	3.64	1.50	0.00		0.0000	-0.0305
1	4.30	6.47	1.13	0.00		0.0000	-0.0577
1	6.45	8.49	0.75	0.00		0.0000	-0.0790
1	8.60	9.71	0.38	0.00		0.0000	-0.0925
1	10.75	10.11	0.00	0.00		0.0000	-0.0972
1	12.90	9.71	-0.38	0.00		0.0000	-0.0925
1	15.05	8.49	-0.75	0.00		0.0000	-0.0790
1	17.20	6.47	-1.13	0.00		0.0000	-0.0577
1	19.35	3.64	-1.50	0.00		0.0000	-0.0305
1	21.50	0.00	-1.88	0.00	1.88	0.0000	0.0000

Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)

Description Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)
 Load Type DC
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	0.34	0.00	0.34	0.0000	0.0000
1	2.15	0.67	0.28	0.00		0.0000	-0.0056
1	4.30	1.18	0.21	0.00		0.0000	-0.0106
1	6.45	1.55	0.14	0.00		0.0000	-0.0144
1	8.60	1.78	0.07	0.00		0.0000	-0.0169
1	10.75	1.85	0.00	0.00		0.0000	-0.0178
1	12.90	1.78	-0.07	0.00		0.0000	-0.0169
1	15.05	1.55	-0.14	0.00		0.0000	-0.0144
1	17.20	1.18	-0.21	0.00		0.0000	-0.0106
1	19.35	0.67	-0.28	0.00		0.0000	-0.0056
1	21.50	0.00	-0.34	0.00	0.34	0.0000	0.0000

Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)

Description Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)
 Load Type DW
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	0.42	0.00	0.42	0.0000	0.0000
1	2.15	0.81	0.34	0.00		0.0000	-0.0068
1	4.30	1.44	0.25	0.00		0.0000	-0.0129
1	6.45	1.90	0.17	0.00		0.0000	-0.0176
1	8.60	2.17	0.08	0.00		0.0000	-0.0207
1	10.75	2.26	0.00	0.00		0.0000	-0.0217

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	12.90	2.17	-0.08	0.00		0.0000	-0.0207
1	15.05	1.90	-0.17	0.00		0.0000	-0.0176
1	17.20	1.44	-0.25	0.00		0.0000	-0.0129
1	19.35	0.81	-0.34	0.00		0.0000	-0.0068
1	21.50	0.00	-0.42	0.00	0.42	0.0000	0.0000

Live Load Actions

Vehicle Name HL-93 (US)
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.39	0.00
1	2.15	9.87	0.00	4.59	-0.40
1	4.30	16.31	0.00	3.79	-0.80
1	6.45	19.30	0.00	2.99	-1.20
1	8.60	20.62	0.00	2.40	-1.60
1	10.75	21.48	0.00	2.00	-2.00
1	12.90	20.62	0.00	1.60	-2.40
1	15.05	19.30	0.00	1.20	-2.99
1	17.20	16.31	0.00	0.80	-3.79
1	19.35	9.87	0.00	0.40	-4.59
1	21.50	0.00	0.00	0.00	-5.39

Vehicle Name HL-93 (US)
 Vehicle Type Truck + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	6.04	0.00
1	2.15	11.12	0.00	5.11	-0.41
1	4.30	18.53	0.00	4.21	-0.83
1	6.45	22.22	0.00	3.31	-1.26
1	8.60	23.96	0.00	2.63	-1.70
1	10.75	24.96	0.00	2.16	-2.16
1	12.90	23.96	0.00	1.70	-2.63
1	15.05	22.22	0.00	1.26	-3.31
1	17.20	18.53	0.00	0.83	-4.21
1	19.35	11.12	0.00	0.41	-5.11
1	21.50	0.00	0.00	0.00	-6.04

Vehicle Name HL-93 (US)
 Vehicle Type Tandem

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.66	0.00
1	2.15	10.83	0.00	5.04	-0.31
1	4.30	18.98	0.00	4.42	-0.67
1	6.45	24.45	0.00	3.79	-1.29
1	8.60	27.23	0.00	3.17	-1.92
1	10.75	27.32	0.00	2.54	-2.54
1	12.90	27.23	0.00	1.92	-3.17
1	15.05	24.45	0.00	1.29	-3.79
1	17.20	18.98	0.00	0.67	-4.42
1	19.35	10.83	0.00	0.31	-5.04

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1 21.50 0.00 0.00 0.00 -5.66
 Vehicle Name HL-93 (US)
 Vehicle Type Tandem + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	6.31	0.00
1	2.15	12.09	0.00	5.56	-0.32
1	4.30	21.21	0.00	4.83	-0.69
1	6.45	27.37	0.00	4.11	-1.35
1	8.60	30.56	0.00	3.40	-2.02
1	10.75	30.79	0.00	2.70	-2.70
1	12.90	30.56	0.00	2.02	-3.40
1	15.05	27.37	0.00	1.35	-4.11
1	17.20	21.21	0.00	0.69	-4.83
1	19.35	12.09	0.00	0.32	-5.56
1	21.50	0.00	0.00	0.00	-6.31

Vehicle Name HL-93 (US)
 Vehicle Type Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	0.65	0.00
1	2.15	1.25	0.00	0.52	-0.01
1	4.30	2.22	0.00	0.41	-0.03
1	6.45	2.92	0.00	0.32	-0.06
1	8.60	3.33	0.00	0.23	-0.10
1	10.75	3.47	0.00	0.16	-0.16
1	12.90	3.33	0.00	0.10	-0.23
1	15.05	2.92	0.00	0.06	-0.32
1	17.20	2.22	0.00	0.03	-0.41
1	19.35	1.25	0.00	0.01	-0.52
1	21.50	0.00	0.00	0.00	-0.65

Vehicle Name MBE-PERMIT
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	6.67	0.00
1	2.15	12.15	0.00	5.65	-0.20
1	4.30	19.92	0.00	4.63	-0.44
1	6.45	26.61	0.00	3.69	-0.84
1	8.60	29.69	0.00	2.85	-1.31
1	10.75	30.91	0.00	2.03	-2.03
1	12.90	29.69	0.00	1.31	-2.85
1	15.05	26.61	0.00	0.84	-3.69
1	17.20	19.92	0.00	0.44	-4.63
1	19.35	12.15	0.00	0.20	-5.65
1	21.50	0.00	0.00	0.00	-6.67

Vehicle Name NRL
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	5.18	0.00
1	2.15	9.57	0.00	4.45	-0.21

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	4.30	16.27	0.00	3.73	-0.45
1	6.45	21.37	0.00	3.05	-0.88
1	8.60	23.95	0.00	2.42	-1.33
1	10.75	24.70	0.00	1.86	-1.86
1	12.90	23.95	0.00	1.33	-2.42
1	15.05	21.37	0.00	0.88	-3.05
1	17.20	16.27	0.00	0.45	-3.73
1	19.35	9.57	0.00	0.21	-4.45
1	21.50	0.00	0.00	0.00	-5.18
Vehicle Name	SU4				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	4.72	0.00
1	2.15	8.70	0.00	4.05	-0.21
1	4.30	14.75	0.00	3.43	-0.45
1	6.45	18.74	0.00	2.91	-0.88
1	8.60	21.27	0.00	2.38	-1.33
1	10.75	21.95	0.00	1.86	-1.86
1	12.90	21.27	0.00	1.33	-2.38
1	15.05	18.74	0.00	0.88	-2.91
1	17.20	14.75	0.00	0.45	-3.43
1	19.35	8.70	0.00	0.21	-4.05
1	21.50	0.00	0.00	0.00	-4.72

Vehicle Name SU5
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	4.92	0.00
1	2.15	9.24	0.00	4.30	-0.21
1	4.30	15.79	0.00	3.67	-0.45
1	6.45	19.65	0.00	3.05	-0.88
1	8.60	22.33	0.00	2.42	-1.33
1	10.75	23.32	0.00	1.86	-1.86
1	12.90	22.33	0.00	1.33	-2.42
1	15.05	19.65	0.00	0.88	-3.05
1	17.20	15.79	0.00	0.45	-3.67
1	19.35	9.24	0.00	0.21	-4.30
1	21.50	0.00	0.00	0.00	-4.92

Vehicle Name SU6
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	4.92	0.00
1	2.15	9.24	0.00	4.30	-0.14
1	4.30	16.03	0.00	3.66	-0.29
1	6.45	21.37	0.00	2.93	-0.54
1	8.60	23.59	0.00	2.21	-0.92
1	10.75	24.70	0.00	1.54	-1.54
1	12.90	23.59	0.00	0.92	-2.21
1	15.05	21.37	0.00	0.54	-2.93
1	17.20	16.03	0.00	0.29	-3.66

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	19.35	9.24	0.00	0.14	-4.30
1	21.50	0.00	0.00	0.00	-4.92
Vehicle Name	SU7				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	4.92	0.00
1	2.15	9.24	0.00	4.30	-0.14
1	4.30	16.03	0.00	3.66	-0.29
1	6.45	21.37	0.00	2.93	-0.43
1	8.60	23.95	0.00	2.18	-0.69
1	10.75	24.70	0.00	1.41	-1.41
1	12.90	23.95	0.00	0.69	-2.18
1	15.05	21.37	0.00	0.43	-2.93
1	17.20	16.03	0.00	0.29	-3.66
1	19.35	9.24	0.00	0.14	-4.30
1	21.50	0.00	0.00	0.00	-4.92

Vehicle Name Type 3
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	4.08	0.00
1	2.15	7.44	0.00	3.46	-0.21
1	4.30	12.91	0.00	3.00	-0.45
1	6.45	16.63	0.00	2.58	-0.88
1	8.60	18.51	0.00	2.15	-1.30
1	10.75	18.58	0.00	1.73	-1.73
1	12.90	18.51	0.00	1.30	-2.15
1	15.05	16.63	0.00	0.88	-2.58
1	17.20	12.91	0.00	0.45	-3.00
1	19.35	7.44	0.00	0.21	-3.46
1	21.50	0.00	0.00	0.00	-4.08

Vehicle Name Type 3-3
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	3.31	0.00
1	2.15	6.07	0.00	2.82	-0.17
1	4.30	10.63	0.00	2.47	-0.37
1	6.45	13.69	0.00	2.12	-0.72
1	8.60	15.25	0.00	1.77	-1.07
1	10.75	15.30	0.00	1.42	-1.42
1	12.90	15.25	0.00	1.07	-1.77
1	15.05	13.69	0.00	0.72	-2.12
1	17.20	10.63	0.00	0.37	-2.47
1	19.35	6.07	0.00	0.17	-2.82
1	21.50	0.00	0.00	0.00	-3.31

Vehicle Name Type 3S2
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	3.89	0.00

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	2.15	7.26	0.00	3.38	-0.19
1	4.30	12.32	0.00	2.87	-0.41
1	6.45	15.18	0.00	2.35	-0.80
1	8.60	16.88	0.00	1.96	-1.19
1	10.75	16.94	0.00	1.58	-1.58
1	12.90	16.88	0.00	1.19	-1.96
1	15.05	15.18	0.00	0.80	-2.35
1	17.20	12.32	0.00	0.41	-2.87
1	19.35	7.26	0.00	0.19	-3.38
1	21.50	0.00	0.00	0.00	-3.89

Rating Summary

Vehicle	Vehicle Type	Design Method	Inv RatingFactor	Opr RatingFactor	Legal RatingFactor	Permit RatingFactor
HL-93 (US)	Truck + Lane	LRFR	.784	1.017		
HL-93 (US)	Tandem + Lane	LRFR	.636	.824		
MBE-PERMIT	Axle Load	LRFR				.923
NRL	Axle Load	LRFR			.956	
SU4	Axle Load	LRFR			1.076	
SU5	Axle Load	LRFR			1.013	
SU6	Axle Load	LRFR			.956	
SU7	Axle Load	LRFR			.956	
Type 3	Axle Load	LRFR			1.271	
Type 3-3	Axle Load	LRFR			1.544	
Type 3S2	Axle Load	LRFR			1.394	

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Reinforced Concrete Slab Structure Def

Name	Span 1 (43ft Slab) (Full width Option)
Description	
Slab Structure Type	Slab Not Integral with Pier
Strip Spacing Orientation Type	Perpendicular to Girder
Dead Load 1 Distribution Type	Tributary Area
Dead Load 2 Distribution Type	Uniformly to All Girders

Span Lengths

Span Length (ft)

1 21.5000

Load Case Description

Name	Description	Stage Name	Load Type
DC1	DC acting on non-composite section	Non-composite (Stage 1)	D,DC
DC2	DC acting on long-term composite section	Composite (long term) (Stage 2)	D,DC
DW	DW acting on long-term composite section	Composite (long term) (Stage 2)	D,DW

Structure Framing Plan Details

Support Skew

Support Number	Skew (Degrees)
1	0.0000
2	0.0000

Strip Spacing

Strip Bay Number	Start Spacing (ft)	End Spacing (ft)
1	18.82	18.82
2	18.82	18.82

Structure Typical Section

Concrete Deck

Deck Type	Concrete
Width Left Start	-21.50 ft
Width Left End	-21.50 ft
Width Right Start	21.50 ft
Width Right End	21.50 ft

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Concrete Appurtenances

Name	Face Left Indicator	Offset At Start (ft)	Offset At End (ft)	Load Case Name	Measured To Front Face Indicator	Offset Reference Type
Parapet + Curb	FALSE			DC2	False	Left Edge
Parapet + Curb	TRUE			DC2	False	Right Edge

Travelway

Distance (ft)	Length (ft)	Number Of Lanes	Offset Left Start (ft)	Offset Left End (ft)	Offset Right Start (ft)	Offset Right End (ft)
0.00	21.50	3	-20.00	-20.00	20.00	20.00

Wearing Surface

Wearing Surface Material Name	AC
Wearing Surface Description	AC Overlay
Wearing Surface Thickness	3.5000 in
Wearing Surface Density	144.000 pcf
Wearing Surface Load Case Name	DW

Bar Mark Definition

Name	#8 - Fy=40, 22.0ft
Reinf Steel Name	Fy= 40 ksi
Bar Size	8
Dimension A	22.0000 ft
Hook At Start Indicator	false
Hook At End Indicator	false

Slab Member

Name	S1
Description	
Creation Timestamp	
Last Modified Timestamp	
Pedestrian Live Load Force	lb/ft
Member Alternative Name-Current	Left Edge (5.3542 ft) Strip
Member Alternative Name-Existing	Left Edge (5.3542 ft) Strip

Supports

General

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

Member Alt - Reinforced Concrete Slab - Schd

Name	Left Edge (5.3542 ft) Strip
Description	
Creation Timestamp	
System Of Units	US Customary
Default Rating Method	LFR

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Beam Projection Start		in
Beam Projection End		in
Distribution Factor Input Method Type	Simplified	
LRFD DF for Permit Loads With Routine Traffic Indicator	false	
LRFD Distribution Factor Input Method Type	Simplified	
LRFR Consider Sloped Portion Bent Long Reinf Ind	false	
LRFR Ignore Design And Legal Load Shear Indicator	true	
LRFR Consider Permit Load Tensile Steel Stress Indicator	false	
LRFR Ignore Permit Load Shear Indicator	true	
LRFR Shear Computation Method Type	General Procedure - Appendix B5	
LRFR Ignore Long. Reinf. In Rating Indicator	true	
LRFR Consider Inclined Flexural Forces Indicator	false	
LRFR Allow Negative Epsilon General Shear Method Indicator	false	
LRFR POI Generate at Supports Points	true	
LRFR POI Generate at Supports Face and Critical Shear Points	true	
LRFR POI Tenth Points Indicator Except Supports	true	
LRFR Condition Factor	Good or Satisfactory	
LRFR System Factor Override	All Other Girder/Slab Bridges	
LRFR POI Tenth Points Indicator	false	
LRFR POI Section Change Points Indicator	true	
LRFR POI User-Defined Points Indicator	true	
LRFR Distribution Factor Application Method Type	By Point of Interest	
LRFR Field Measured Section Properties Indicator	false	
LRFR System Factor Override	false	
Additional Self Load		kip/ft
Additional Self Load Percentage		%

Strip Profile-Section

Start Distance (ft)	Length (ft)	Start Width (in)	End Width (in)	Concrete Material	Modular Ratio
0.00	21.50	64.250	64.250	F'c= 3.000 ksi; Deck	9.00

Slab Depth

Begin Depth (in)	Depth Vary	End Depth (in)	Distance (ft)	Length (ft)
14.0000	None	14.0000	0.000	21.500

Reinforcement Profile

Set Number	Bar Mark Definition Name	Inverted Bar Mark Indicator	Distance Reference Type	Vert Distance (in)	Bar Spacing (in)	Side Cover (in)	Bar Direction Type	Start Distance (ft)	Fully Developed Indicator	Num Bars Std	Num Bars Lrfd
1	#8 - Fy=40, 22.0ft	FALSE	Bottom of Slab				Left	-0.250		10.71	10.71

Analysis Event

Entered By	Bridge
Description	BrDR new analysis event.
Creation Timestamp	Wednesday, January 25, 2023
Agency Name	AASHTO
Event Type	Rating
Message	
Engine Version	AASHTO LRFR Engine Version 7.5.0.3001

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Dead Load Actions

Load Case 1 - Self Load(Stage 1:D,DC)

Description Load Case 1 - Self Load(Stage 1:D,DC)
 Load Type Girder Weight
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	10.07	0.00	10.07	0.0000	0.0000
1	2.15	19.49	8.06	0.00		0.0000	-0.0305
1	4.30	34.65	6.04	0.00		0.0000	-0.0577
1	6.45	45.48	4.03	0.00		0.0000	-0.0790
1	8.60	51.97	2.01	0.00		0.0000	-0.0925
1	10.75	54.14	0.00	0.00		0.0000	-0.0972
1	12.90	51.97	-2.01	0.00		0.0000	-0.0925
1	15.05	45.48	-4.03	0.00		0.0000	-0.0790
1	17.20	34.65	-6.04	0.00		0.0000	-0.0577
1	19.35	19.49	-8.06	0.00		0.0000	-0.0305
1	21.50	0.00	-10.07	0.00	10.07	0.0000	0.0000

Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)

Description Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)
 Load Type DC
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	1.84	0.00	1.84	0.0000	0.0000
1	2.15	3.56	1.47	0.00		0.0000	-0.0056
1	4.30	6.34	1.11	0.00		0.0000	-0.0106
1	6.45	8.32	0.74	0.00		0.0000	-0.0144
1	8.60	9.50	0.37	0.00		0.0000	-0.0169
1	10.75	9.90	0.00	0.00		0.0000	-0.0178
1	12.90	9.50	-0.37	0.00		0.0000	-0.0169
1	15.05	8.32	-0.74	0.00		0.0000	-0.0144
1	17.20	6.34	-1.11	0.00		0.0000	-0.0106
1	19.35	3.56	-1.47	0.00		0.0000	-0.0056
1	21.50	0.00	-1.84	0.00	1.84	0.0000	0.0000

Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)

Description Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)
 Load Type DW
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	2.25	0.00	2.25	0.0000	0.0000
1	2.15	4.35	1.80	0.00		0.0000	-0.0068
1	4.30	7.74	1.35	0.00		0.0000	-0.0129
1	6.45	10.15	0.90	0.00		0.0000	-0.0176
1	8.60	11.60	0.45	0.00		0.0000	-0.0207
1	10.75	12.09	0.00	0.00		0.0000	-0.0217

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	12.90	11.60	-0.45	0.00		0.0000	-0.0207
1	15.05	10.15	-0.90	0.00		0.0000	-0.0176
1	17.20	7.74	-1.35	0.00		0.0000	-0.0129
1	19.35	4.35	-1.80	0.00		0.0000	-0.0068
1	21.50	0.00	-2.25	0.00	2.25	0.0000	0.0000

Live Load Actions

Vehicle Name HL-93 (US)
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	28.86	0.00
1	2.15	52.86	0.00	24.58	-2.14
1	4.30	87.31	0.00	20.30	-4.28
1	6.45	103.36	0.00	16.02	-6.42
1	8.60	110.42	0.00	12.84	-8.56
1	10.75	115.02	0.00	10.70	-10.70
1	12.90	110.42	0.00	8.56	-12.84
1	15.05	103.36	0.00	6.42	-16.02
1	17.20	87.31	0.00	4.28	-20.30
1	19.35	52.86	0.00	2.14	-24.58
1	21.50	0.00	0.00	0.00	-28.86

Vehicle Name HL-93 (US)
 Vehicle Type Truck + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	32.32	0.00
1	2.15	59.55	0.00	27.39	-2.17
1	4.30	99.21	0.00	22.52	-4.42
1	6.45	118.98	0.00	17.72	-6.73
1	8.60	128.27	0.00	14.08	-9.11
1	10.75	133.61	0.00	11.56	-11.56
1	12.90	128.27	0.00	9.11	-14.08
1	15.05	118.98	0.00	6.73	-17.72
1	17.20	99.21	0.00	4.42	-22.52
1	19.35	59.55	0.00	2.17	-27.39
1	21.50	0.00	0.00	0.00	-32.32

Vehicle Name HL-93 (US)
 Vehicle Type Tandem

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	30.33	0.00
1	2.15	58.01	0.00	26.98	-1.67
1	4.30	101.65	0.00	23.64	-3.58
1	6.45	130.90	0.00	20.30	-6.92
1	8.60	145.78	0.00	16.95	-10.26
1	10.75	146.28	0.00	13.61	-13.61
1	12.90	145.78	0.00	10.26	-16.95
1	15.05	130.90	0.00	6.92	-20.30
1	17.20	101.65	0.00	3.58	-23.64
1	19.35	58.01	0.00	1.67	-26.98

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1 21.50 0.00 0.00 0.00 -30.33
 Vehicle Name HL-93 (US)
 Vehicle Type Tandem + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	33.79	0.00
1	2.15	64.71	0.00	29.78	-1.71
1	4.30	113.55	0.00	25.85	-3.72
1	6.45	146.52	0.00	21.99	-7.23
1	8.60	163.63	0.00	18.20	-10.82
1	10.75	164.88	0.00	14.47	-14.47
1	12.90	163.63	0.00	10.82	-18.20
1	15.05	146.52	0.00	7.23	-21.99
1	17.20	113.55	0.00	3.72	-25.85
1	19.35	64.71	0.00	1.71	-29.78
1	21.50	0.00	0.00	0.00	-33.79

Vehicle Name HL-93 (US)
 Vehicle Type Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	3.46	0.00
1	2.15	6.69	0.00	2.80	-0.03
1	4.30	11.90	0.00	2.21	-0.14
1	6.45	15.62	0.00	1.70	-0.31
1	8.60	17.85	0.00	1.25	-0.55
1	10.75	18.59	0.00	0.86	-0.86
1	12.90	17.85	0.00	0.55	-1.25
1	15.05	15.62	0.00	0.31	-1.70
1	17.20	11.90	0.00	0.14	-2.21
1	19.35	6.69	0.00	0.03	-2.80
1	21.50	0.00	0.00	0.00	-3.46

Vehicle Name MBE-PERMIT
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	35.72	0.00
1	2.15	65.07	0.00	30.27	-1.09
1	4.30	106.67	0.00	24.81	-2.34
1	6.45	142.48	0.00	19.76	-4.52
1	8.60	158.97	0.00	15.24	-7.01
1	10.75	165.51	0.00	10.88	-10.88
1	12.90	158.97	0.00	7.01	-15.24
1	15.05	142.48	0.00	4.52	-19.76
1	17.20	106.67	0.00	2.34	-24.81
1	19.35	65.07	0.00	1.09	-30.27
1	21.50	0.00	0.00	0.00	-35.72

Vehicle Name NRL
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	27.71	0.00
1	2.15	51.24	0.00	23.83	-1.14

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	4.30	87.09	0.00	19.96	-2.43
1	6.45	114.40	0.00	16.31	-4.71
1	8.60	128.23	0.00	12.97	-7.13
1	10.75	132.24	0.00	9.94	-9.94
1	12.90	128.23	0.00	7.13	-12.97
1	15.05	114.40	0.00	4.71	-16.31
1	17.20	87.09	0.00	2.43	-19.96
1	19.35	51.24	0.00	1.14	-23.83
1	21.50	0.00	0.00	0.00	-27.71
Vehicle Name	SU4				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	25.29	0.00
1	2.15	46.60	0.00	21.68	-1.14
1	4.30	78.96	0.00	18.36	-2.43
1	6.45	100.33	0.00	15.55	-4.71
1	8.60	113.90	0.00	12.75	-7.13
1	10.75	117.53	0.00	9.94	-9.94
1	12.90	113.90	0.00	7.13	-12.75
1	15.05	100.33	0.00	4.71	-15.55
1	17.20	78.96	0.00	2.43	-18.36
1	19.35	46.60	0.00	1.14	-21.68
1	21.50	0.00	0.00	0.00	-25.29

Vehicle Name SU5
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	26.34	0.00
1	2.15	49.45	0.00	23.00	-1.14
1	4.30	84.53	0.00	19.66	-2.43
1	6.45	105.22	0.00	16.31	-4.71
1	8.60	119.57	0.00	12.97	-7.13
1	10.75	124.88	0.00	9.94	-9.94
1	12.90	119.57	0.00	7.13	-12.97
1	15.05	105.22	0.00	4.71	-16.31
1	17.20	84.53	0.00	2.43	-19.66
1	19.35	49.45	0.00	1.14	-23.00
1	21.50	0.00	0.00	0.00	-26.34

Vehicle Name SU6
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	26.34	0.00
1	2.15	49.45	0.00	23.00	-0.77
1	4.30	85.81	0.00	19.58	-1.54
1	6.45	114.40	0.00	15.70	-2.90
1	8.60	126.31	0.00	11.83	-4.91
1	10.75	132.24	0.00	8.26	-8.26
1	12.90	126.31	0.00	4.91	-11.83
1	15.05	114.40	0.00	2.90	-15.70
1	17.20	85.81	0.00	1.54	-19.58

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	19.35	49.45	0.00	0.77	-23.00
1	21.50	0.00	0.00	0.00	-26.34
Vehicle Name	SU7				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	26.34	0.00
1	2.15	49.45	0.00	23.00	-0.77
1	4.30	85.81	0.00	19.58	-1.54
1	6.45	114.40	0.00	15.70	-2.31
1	8.60	128.23	0.00	11.68	-3.70
1	10.75	132.24	0.00	7.57	-7.57
1	12.90	128.23	0.00	3.70	-11.68
1	15.05	114.40	0.00	2.31	-15.70
1	17.20	85.81	0.00	1.54	-19.58
1	19.35	49.45	0.00	0.77	-23.00
1	21.50	0.00	0.00	0.00	-26.34

Vehicle Name Type 3
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	21.87	0.00
1	2.15	39.82	0.00	18.52	-1.14
1	4.30	69.12	0.00	16.07	-2.43
1	6.45	89.01	0.00	13.80	-4.71
1	8.60	99.13	0.00	11.53	-6.98
1	10.75	99.47	0.00	9.25	-9.25
1	12.90	99.13	0.00	6.98	-11.53
1	15.05	89.01	0.00	4.71	-13.80
1	17.20	69.12	0.00	2.43	-16.07
1	19.35	39.82	0.00	1.14	-18.52
1	21.50	0.00	0.00	0.00	-21.87

Vehicle Name Type 3-3
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	17.73	0.00
1	2.15	32.49	0.00	15.11	-0.94
1	4.30	56.92	0.00	13.24	-2.00
1	6.45	73.31	0.00	11.37	-3.88
1	8.60	81.64	0.00	9.49	-5.75
1	10.75	81.92	0.00	7.62	-7.62
1	12.90	81.64	0.00	5.75	-9.49
1	15.05	73.31	0.00	3.88	-11.37
1	17.20	56.92	0.00	2.00	-13.24
1	19.35	32.49	0.00	0.94	-15.11
1	21.50	0.00	0.00	0.00	-17.73

Vehicle Name Type 3S2
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	20.82	0.00

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	2.15	38.88	0.00	18.08	-1.04
1	4.30	65.96	0.00	15.34	-2.22
1	6.45	81.26	0.00	12.60	-4.29
1	8.60	90.38	0.00	10.51	-6.36
1	10.75	90.70	0.00	8.44	-8.44
1	12.90	90.38	0.00	6.36	-10.51
1	15.05	81.26	0.00	4.29	-12.60
1	17.20	65.96	0.00	2.22	-15.34
1	19.35	38.88	0.00	1.04	-18.08
1	21.50	0.00	0.00	0.00	-20.82

Rating Summary

Vehicle	Vehicle Type	Design Method	Inv RatingFactor	Opr RatingFactor	Legal RatingFactor	Permit RatingFactor
HL-93 (US)	Truck + Lane	LRFR	.783	1.016		
HL-93 (US)	Tandem + Lane	LRFR	.635	.823		
MBE-PERMIT	Axle Load	LRFR				.922
NRL	Axle Load	LRFR			.955	
SU4	Axle Load	LRFR			1.075	
SU5	Axle Load	LRFR			1.012	
SU6	Axle Load	LRFR			.955	
SU7	Axle Load	LRFR			.955	
Type 3	Axle Load	LRFR			1.27	
Type 3-3	Axle Load	LRFR			1.542	
Type 3S2	Axle Load	LRFR			1.393	

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Slab Member

Name S2
 Description
 Creation Timestamp
 Last Modified Timestamp
 Pedestrian Live Load Force lb/ft
 Member Alternative Name-Current Interior Strip
 Member Alternative Name-Existing Interior Strip

Supports

General

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

Member Alt - Reinforced Concrete Slab - Schd

Name Interior Strip
 Description
 Creation Timestamp
 System Of Units US Customary
 Default Rating Method LFR
 Beam Projection Start in
 Beam Projection End in
 Distribution Factor Input Method Type Simplified
 LRFD DF for Permit Loads With Routine Traffic Indicator false
 LRFD Distribution Factor Input Method Type Simplified
 LRFR Consider Sloped Portion Bent Long Reinf Ind false
 LRFR Ignore Design And Legal Load Shear Indicator true
 LRFR Consider Permit Load Tensile Steel Stress Indicator false
 LRFR Ignore Permit Load Shear Indicator true
 LRFR Shear Computation Method Type General Procedure - Appendix B5
 LRFR Ignore Long. Reinf. In Rating Indicator true
 LRFR Consider Inclined Flexural Forces Indicator false
 LRFR Allow Negative Epsilon General Shear Method Indicator false
 LRFR POI Generate at Supports Points true
 LRFR POI Generate at Supports Face and Critical Shear Points true
 LRFR POI Tenth Points Indicator Except Supports true
 LRFR Condition Factor Good or Satisfactory
 LRFR System Factor Override All Other Girder/Slab Bridges
 LRFR POI Tenth Points Indicator false
 LRFR POI Section Change Points Indicator true
 LRFR POI User-Defined Points Indicator true
 LRFR Distribution Factor Application Method Type By Point of Interest
 LRFR Field Measured Section Properties Indicator false
 LRFR System Factor Override false
 Additional Self Load kip/ft
 Additional Self Load Percentage %

Strip Profile-Section

Start Distance (ft)	Length (ft)	Start Width (in)	End Width (in)	Concrete Material	Modular Ratio
0.00	21.50	387.499	387.499	F'c= 3.000 ksi; Deck	9.00

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Slab Depth

Begin Depth (in)	Depth Vary	End Depth (in)	Distance (ft)	Length (ft)
14.0000	None	14.0000	0.000	21.500

Reinforcement Profile

Set Number	Bar Mark Definition Name	Inverted Bar Mark Indicator	Distance Reference Type	Vert Distance (in)	Bar Spacing (in)	Side Cover (in)	Bar Direction Type	Start Distance (ft)	Fully Developed Indicator	Num Bars Std	Num Bars Lrfd
1	#8 - Fy=40, 22.0ft	FALSE	Bottom of Slab				Left	-0.250		64.58	64.58

Analysis Event

Entered By: Bridge
 Description: BrDR new analysis event.
 Creation Timestamp: Wednesday, January 25, 2023
 Agency Name: AASHTO
 Event Type: Rating
 Message:
 Engine Version: AASHTO LRFR Engine Version 7.5.0.3001

Dead Load Actions

Load Case 1 - Self Load(Stage 1:D,DC)

Description: Load Case 1 - Self Load(Stage 1:D,DC)
 Load Type: Girder Weight
 Stage: Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	60.75	0.00	60.75	0.0000	0.0000
1	2.15	117.55	48.60	0.00		0.0000	-0.0305
1	4.30	208.98	36.45	0.00		0.0000	-0.0577
1	6.45	274.28	24.30	0.00		0.0000	-0.0790
1	8.60	313.46	12.15	0.00		0.0000	-0.0925
1	10.75	326.52	0.00	0.00		0.0000	-0.0972
1	12.90	313.46	-12.15	0.00		0.0000	-0.0925
1	15.05	274.28	-24.30	0.00		0.0000	-0.0790
1	17.20	208.98	-36.45	0.00		0.0000	-0.0577
1	19.35	117.55	-48.60	0.00		0.0000	-0.0305
1	21.50	0.00	-60.75	0.00	60.75	0.0000	0.0000

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)

Description Load Case 2 - Generic Loads(DC2:Stage 1:D,DC)
 Load Type DC
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	11.11	0.00	11.11	0.0000	0.0000
1	2.15	21.49	8.89	0.00		0.0000	-0.0056
1	4.30	38.21	6.66	0.00		0.0000	-0.0106
1	6.45	50.15	4.44	0.00		0.0000	-0.0144
1	8.60	57.32	2.22	0.00		0.0000	-0.0169
1	10.75	59.71	0.00	0.00		0.0000	-0.0178
1	12.90	57.32	-2.22	0.00		0.0000	-0.0169
1	15.05	50.15	-4.44	0.00		0.0000	-0.0144
1	17.20	38.21	-6.66	0.00		0.0000	-0.0106
1	19.35	21.49	-8.89	0.00		0.0000	-0.0056
1	21.50	0.00	-11.11	0.00	11.11	0.0000	0.0000

Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)

Description Load Case 3 - Wearing Surface Loads(DW:Stage 1:DW-WS)
 Load Type DW
 Stage Non-composite (Stage 1)

Span	Location (ft)	Moment (kip-ft)	Shear (kip)	Axial (kip)	Reaction (kip)	X Deflection (in)	Y Deflection (in)
1	0.00	0.00	13.56	0.00	13.56	0.0000	0.0000
1	2.15	26.24	10.85	0.00		0.0000	-0.0068
1	4.30	46.65	8.14	0.00		0.0000	-0.0129
1	6.45	61.23	5.42	0.00		0.0000	-0.0176
1	8.60	69.98	2.71	0.00		0.0000	-0.0207
1	10.75	72.90	0.00	0.00		0.0000	-0.0217
1	12.90	69.98	-2.71	0.00		0.0000	-0.0207
1	15.05	61.23	-5.42	0.00		0.0000	-0.0176
1	17.20	46.65	-8.14	0.00		0.0000	-0.0129
1	19.35	26.24	-10.85	0.00		0.0000	-0.0068
1	21.50	0.00	-13.56	0.00	13.56	0.0000	0.0000

Live Load Actions

Vehicle Name HL-93 (US)
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	174.08	0.00
1	2.15	318.78	0.00	148.27	-12.91
1	4.30	526.57	0.00	122.46	-25.81
1	6.45	623.37	0.00	96.65	-38.72
1	8.60	665.96	0.00	77.44	-51.62
1	10.75	693.70	0.00	64.53	-64.53
1	12.90	665.96	0.00	51.62	-77.44
1	15.05	623.37	0.00	38.72	-96.65
1	17.20	526.57	0.00	25.81	-122.46

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	19.35	318.78	0.00	12.91	-148.27
1	21.50	0.00	0.00	0.00	-174.08
Vehicle Name	HL-93 (US)				
Vehicle Type	Truck + Lane				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	194.95	0.00
1	2.15	359.15	0.00	165.17	-13.11
1	4.30	598.34	0.00	135.81	-26.65
1	6.45	717.56	0.00	106.87	-40.60
1	8.60	773.61	0.00	84.95	-54.96
1	10.75	805.84	0.00	69.75	-69.75
1	12.90	773.61	0.00	54.96	-84.95
1	15.05	717.56	0.00	40.60	-106.87
1	17.20	598.34	0.00	26.65	-135.81
1	19.35	359.15	0.00	13.11	-165.17
1	21.50	0.00	0.00	0.00	-194.95

Vehicle Name HL-93 (US)
Vehicle Type Tandem

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	182.90	0.00
1	2.15	349.88	0.00	162.73	-10.08
1	4.30	613.04	0.00	142.57	-21.57
1	6.45	789.49	0.00	122.40	-41.74
1	8.60	879.23	0.00	102.24	-61.90
1	10.75	882.25	0.00	82.07	-82.07
1	12.90	879.23	0.00	61.90	-102.24
1	15.05	789.49	0.00	41.74	-122.40
1	17.20	613.04	0.00	21.57	-142.57
1	19.35	349.88	0.00	10.08	-162.73
1	21.50	0.00	0.00	0.00	-182.90

Vehicle Name HL-93 (US)
Vehicle Type Tandem + Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	203.76	0.00
1	2.15	390.25	0.00	179.63	-10.29
1	4.30	684.81	0.00	155.92	-22.41
1	6.45	883.69	0.00	132.62	-43.62
1	8.60	986.88	0.00	109.75	-65.24
1	10.75	994.39	0.00	87.29	-87.29
1	12.90	986.88	0.00	65.24	-109.75
1	15.05	883.69	0.00	43.62	-132.62
1	17.20	684.81	0.00	22.41	-155.92
1	19.35	390.25	0.00	10.29	-179.63
1	21.50	0.00	0.00	0.00	-203.76

Vehicle Name HL-93 (US)
Vehicle Type Lane

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	20.86	0.00

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	2.15	40.37	0.00	16.90	-0.21
1	4.30	71.77	0.00	13.35	-0.83
1	6.45	94.20	0.00	10.22	-1.88
1	8.60	107.65	0.00	7.51	-3.34
1	10.75	112.14	0.00	5.22	-5.22
1	12.90	107.65	0.00	3.34	-7.51
1	15.05	94.20	0.00	1.88	-10.22
1	17.20	71.77	0.00	0.83	-13.35
1	19.35	40.37	0.00	0.21	-16.90
1	21.50	0.00	0.00	0.00	-20.86
Vehicle Name	MBE-PERMIT				
Vehicle Type	Axle Load				

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	215.46	0.00
1	2.15	392.45	0.00	182.54	-6.58
1	4.30	643.35	0.00	149.62	-14.09
1	6.45	859.29	0.00	119.19	-27.25
1	8.60	958.76	0.00	91.91	-42.26
1	10.75	998.18	0.00	65.62	-65.62
1	12.90	958.76	0.00	42.26	-91.91
1	15.05	859.29	0.00	27.25	-119.19
1	17.20	643.35	0.00	14.09	-149.62
1	19.35	392.45	0.00	6.58	-182.54
1	21.50	0.00	0.00	0.00	-215.46

Vehicle Name NRL
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	167.14	0.00
1	2.15	309.06	0.00	143.75	-6.86
1	4.30	525.28	0.00	120.36	-14.67
1	6.45	689.95	0.00	98.39	-28.38
1	8.60	773.40	0.00	78.22	-43.00
1	10.75	797.56	0.00	59.93	-59.93
1	12.90	773.40	0.00	43.00	-78.22
1	15.05	689.95	0.00	28.38	-98.39
1	17.20	525.28	0.00	14.67	-120.36
1	19.35	309.06	0.00	6.86	-143.75
1	21.50	0.00	0.00	0.00	-167.14

Vehicle Name SU4
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	152.51	0.00
1	2.15	281.07	0.00	130.73	-6.86
1	4.30	476.24	0.00	110.75	-14.67
1	6.45	605.10	0.00	93.81	-28.38
1	8.60	686.93	0.00	76.87	-43.00
1	10.75	708.83	0.00	59.93	-59.93
1	12.90	686.93	0.00	43.00	-76.87
1	15.05	605.10	0.00	28.38	-93.81

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	17.20	476.24	0.00	14.67	-110.75
1	19.35	281.07	0.00	6.86	-130.73
1	21.50	0.00	0.00	0.00	-152.51
Vehicle Name		SU5			
Vehicle Type		Axle Load			

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	158.89	0.00
1	2.15	298.25	0.00	138.72	-6.86
1	4.30	509.79	0.00	118.56	-14.67
1	6.45	634.62	0.00	98.39	-28.38
1	8.60	721.13	0.00	78.22	-43.00
1	10.75	753.19	0.00	59.93	-59.93
1	12.90	721.13	0.00	43.00	-78.22
1	15.05	634.62	0.00	28.38	-98.39
1	17.20	509.79	0.00	14.67	-118.56
1	19.35	298.25	0.00	6.86	-138.72
1	21.50	0.00	0.00	0.00	-158.89

Vehicle Name SU6
Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	158.89	0.00
1	2.15	298.25	0.00	138.72	-4.64
1	4.30	517.54	0.00	118.11	-9.28
1	6.45	689.95	0.00	94.71	-17.49
1	8.60	761.78	0.00	71.32	-29.64
1	10.75	797.56	0.00	49.80	-49.80
1	12.90	761.78	0.00	29.64	-71.32
1	15.05	689.95	0.00	17.49	-94.71
1	17.20	517.54	0.00	9.28	-118.11
1	19.35	298.25	0.00	4.64	-138.72
1	21.50	0.00	0.00	0.00	-158.89

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

Vehicle Name SU7
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	158.89	0.00
1	2.15	298.25	0.00	138.72	-4.64
1	4.30	517.54	0.00	118.11	-9.28
1	6.45	689.95	0.00	94.71	-13.91
1	8.60	773.40	0.00	70.42	-22.29
1	10.75	797.56	0.00	45.68	-45.68
1	12.90	773.40	0.00	22.29	-70.42
1	15.05	689.95	0.00	13.91	-94.71
1	17.20	517.54	0.00	9.28	-118.11
1	19.35	298.25	0.00	4.64	-138.72
1	21.50	0.00	0.00	0.00	-158.89

Vehicle Name Type 3
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	131.88	0.00
1	2.15	240.17	0.00	111.71	-6.86
1	4.30	416.87	0.00	96.95	-14.67
1	6.45	536.85	0.00	83.23	-28.38
1	8.60	597.88	0.00	69.52	-42.09
1	10.75	599.93	0.00	55.81	-55.81
1	12.90	597.88	0.00	42.09	-69.52
1	15.05	536.85	0.00	28.38	-83.23
1	17.20	416.87	0.00	14.67	-96.95
1	19.35	240.17	0.00	6.86	-111.71
1	21.50	0.00	0.00	0.00	-131.88

Vehicle Name Type 3-3
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	106.93	0.00
1	2.15	195.93	0.00	91.13	-5.65
1	4.30	343.30	0.00	79.84	-12.08
1	6.45	442.12	0.00	68.55	-23.37
1	8.60	492.37	0.00	57.25	-34.67
1	10.75	494.06	0.00	45.96	-45.96
1	12.90	492.37	0.00	34.67	-57.25
1	15.05	442.12	0.00	23.37	-68.55
1	17.20	343.30	0.00	12.08	-79.84
1	19.35	195.93	0.00	5.65	-91.13
1	21.50	0.00	0.00	0.00	-106.93

Vehicle Name Type 3S2
 Vehicle Type Axle Load

Span	Distance (ft)	Pos Moment (kip-ft)	Neg Moment (kip-ft)	Pos Shear (kip)	Neg Shear (kip)
1	0.00	0.00	0.00	125.59	0.00
1	2.15	234.47	0.00	109.05	-6.25
1	4.30	397.83	0.00	92.52	-13.38

RC9 – Rating of the MBE Example A7 using BrDR Software Version 7.5.0

1	6.45	490.09	0.00	75.98	-25.88
1	8.60	545.12	0.00	63.39	-38.38
1	10.75	547.00	0.00	50.88	-50.88
1	12.90	545.12	0.00	38.38	-63.39
1	15.05	490.09	0.00	25.88	-75.98
1	17.20	397.83	0.00	13.38	-92.52
1	19.35	234.47	0.00	6.25	-109.05
1	21.50	0.00	0.00	0.00	-125.59

Rating Summary

Vehicle	Vehicle Type	Design Method	Inv RatingFactor	Opr RatingFactor	Legal RatingFactor	Permit RatingFactor
HL-93 (US)	Truck + Lane	LRFR	.783	1.015		
HL-93 (US)	Tandem + Lane	LRFR	.635	.823		
MBE-PERMIT	Axle Load	LRFR				.922
NRL	Axle Load	LRFR			.955	
SU4	Axle Load	LRFR			1.075	
SU5	Axle Load	LRFR			1.012	
SU6	Axle Load	LRFR			.955	
SU7	Axle Load	LRFR			.955	
Type 3	Axle Load	LRFR			1.27	
Type 3-3	Axle Load	LRFR			1.542	
Type 3S2	Axle Load	LRFR			1.393	

Slab Member

Name S3
 Description
 Creation Timestamp
 Last Modified Timestamp
 Pedestrian Live Load Force lb/ft
 Member Alternative Name-Current
 Member Alternative Name-Existing

Supports

General

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