


APPENDIX B

ALTERNATIVE 1 CALCULATIONS

APPENDIX B-1

LIVE LOAD DISTRIBUTION FACTORS

	Made by	CAM	Date	9/10/2013	Job Number
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Existing Girders

Live Load Distribution Factors

L=	90.00	ft	Span Length
t _s =	8.00	in	Deck Slab Thickness
S=	12.72	ft	Beam Spacing
S ₂ =	10.51	ft	Beam Spacing (between Existing and Widening)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

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A _{beam} =	1105.00	in ²	
I _{beam} =	935544.00	in ⁴	
y _i =	37.61	in	
e _g =	42.61	in	
d =	78.00	in	
K _y =	3435276.88	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 11.61 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.70	1.04	1.042

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.66	0.97	0.974

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

	1 design lane	2 design lane loaded:	g _{exterior,mom}
N _b >3 =>	1.03	1.17	1.170

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1


	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.87	1.13	1.128

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2.3a-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.82	1.06	1.058

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design lane loaded:	2 design lane loaded:	g _{exterior,shear}
N _b >3 =>	1.03	1.04	1.039

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Widening Girders

Live Load Distribution Factors

L=	90.00	ft	Span Length (Assume 1'-0" bearing offset at each pier)
t _s =	8.00	in	Deck Slab Thickness
S=	10.51	ft	Beam Spacing
S ₂ =	10.51	ft	Beam Spacing (between Interior and Exterior)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		
FIB-78			
A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	48.37	in	
d =	78.00	in	
K _y =	4062410.59	in ⁴	(LRFD eq. 4.6.2.2.1-1)

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2.2b-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{interior.mom}
N _b >3 =>	0.63	0.92	0.919

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2.2d-1

	1 design	2 design	
	lane	lane loaded:	g _{exterior.mom}
N _b >3 =>	1.00	1.03	1.032

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{interior.shear}
N _b >3 =>	0.78	0.99	0.986

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{exterior.shear}
N _b >3 =>	1.00	0.91	0.995

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Existing Girders

Live Load Distribution Factors

L=	118.00	ft	Span Length (Assume 1'-0" bearing offset at each pier; use shortest existing beam length)
t _s =	8.00	in	Deck Slab Thickness
S=	12.72	ft	Beam Spacing
S ₂ =	10.52	ft	Beam Spacing (between Existing and Widening)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

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A _{beam} =	1105.00	in ²	
I _{beam} =	935544.00	in ⁴	
y _i =	37.61	in	
e _g =	42.61	in	
d =	78.00	in	
K _y =	3435276.88	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 11.62 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.64	0.97	0.966

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.60	0.90	0.904

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

	1 design lane	2 design lane loaded:	g _{exterior,mom}
N _b >3 =>	1.03	1.08	1.085

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1


	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.87	1.13	1.128

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2.3a-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.82	1.06	1.058

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design lane loaded:	2 design lane loaded:	g _{exterior,shear}
N _b >3 =>	1.03	1.04	1.039

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Widening Girders

Live Load Distribution Factors

L=	118.00	ft	Span Length (Assume 1'-0" bearing offset at each pier; use shortest widening beam length)
t _s =	8.00	in	Deck Slab Thickness
S=	10.52	ft	Beam Spacing
S ₂ =	10.52	ft	Beam Spacing (between Interior and Exterior)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		
FIB-78			
A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	48.37	in	
d =	78.00	in	
K _g =	4062410.59	in ⁴	(LRFD eq. 4.6.2.2.1-1)

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2.2b-1

	1 design	2 design	g _{interior.mom}
	lane loaded:	lane loaded:	
N _b >3 =>	0.57	0.85	
			0.854

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2.2d-1


	1 design	2 design	g _{exterior.mom}
	lane	lane loaded:	
N _b >3 =>	1.00	0.96	
			0.996

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

	1 design	2 design	g _{interior.shear}
	lane loaded:	lane loaded:	
N _b >3 =>	0.78	0.99	
			0.986

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design	2 design	g _{exterior.shear}
	lane loaded:	lane loaded:	
N _b >3 =>	1.00	0.91	
			0.996

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Existing Girders

Live Load Distribution Factors

L=	129.08	ft	Span Length
t _s =	8.00	in	Deck Slab Thickness
Exterior S=	10.72	ft	Beam Spacing (assume average spacing for flared girder)
Interior S=	12.72	ft	Beam Spacing
S ₂ =	10.51	ft	Beam Spacing (between Existing and Widening)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

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A _{beam} =	1105.00	in ²	
I _{beam} =	935544.00	in ⁴	
y _i =	37.61	in	
e _g =	42.61	in	
d =	78.00	in	
K _g =	3435276.88	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 10.61 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.mom}
N _b >3 =>	0.62	0.94	0.943

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.mom}
N _b >3 =>	0.55	0.83	0.826

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

	1 design lane	2 design lane loaded:	g _{exterior.mom}
N _b >3 =>	1.00	1.06	1.058

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1


	1 design	2 design	$g_{\text{interior, shear}}$
	lane loaded:	lane loaded:	
$N_b > 3 \Rightarrow$	0.87	1.13	
			1.128

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2.3a-1

	1 design	2 design	$g_{\text{interior, shear}}$
	lane loaded:	lane loaded:	
$N_b > 3 \Rightarrow$	0.78	0.99	
			0.993

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design	2 design	$g_{\text{exterior, shear}}$
	lane loaded:	lane loaded:	
$N_b > 3 \Rightarrow$	1.00	1.04	
			1.039

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Widening Girders

Live Load Distribution Factors

L=	129.08	ft	Span Length (Assume 1'-0" bearing offset at each pier)
t _s =	8.00	in	Deck Slab Thickness
S=	10.51	ft	Beam Spacing
S ₂ =	10.51	ft	Beam Spacing (between Interior and Exterior)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

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A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	48.37	in	
d =	78.00	in	
K _y =	4062410.59	in ⁴	(LRFD eq. 4.6.2.2.1-1)

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2.2b-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{interior.mom}
N _b >3 =>	0.55	0.83	0.833

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2.2d-1

	1 design	2 design	
	lane	lane loaded:	g _{exterior.mom}
N _b >3 =>	1.00	0.93	0.995

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{interior.shear}
N _b >3 =>	0.78	0.99	0.986

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{exterior.shear}
N _b >3 =>	1.00	0.91	0.995

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Existing Girders

Live Load Distribution Factors

L=	129.08	ft	Span Length
t _s =	8.00	in	Deck Slab Thickness
Exterior S=	9.92	ft	Beam Spacing (assume average spacing for flared girder)
Interior S=	11.92	ft	Beam Spacing
S ₂ =	10.51	ft	Beam Spacing (between Existing and Widening)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

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A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	48.37	in	
d =	78.00	in	
K _g =	4062410.59	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 10.21 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.mom}
N _b >3 =>	0.60	0.91	0.913

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.mom}
N _b >3 =>	0.54	0.82	0.815

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

	1 design lane	2 design lane loaded:	g _{exterior.mom}
N _b >3 =>	0.98	1.02	1.025

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1


	1 design	2 design	$g_{\text{interior, shear}}$
	lane loaded:	lane loaded:	
$N_b > 3 \Rightarrow$	0.84	1.08	
			1.077

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2.3a-1

	1 design	2 design	$g_{\text{interior, shear}}$
	lane loaded:	lane loaded:	
$N_b > 3 \Rightarrow$	0.77	0.97	
			0.966

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design	2 design	$g_{\text{exterior, shear}}$
	lane loaded:	lane loaded:	
$N_b > 3 \Rightarrow$	0.98	0.99	
			0.992

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Widening Girders

Live Load Distribution Factors

L=	129.08	ft	Span Length (Assume 1'-0" bearing offset at each pier)
t _s =	8.00	in	Deck Slab Thickness
S=	10.51	ft	Beam Spacing
S ₂ =	10.51	ft	Beam Spacing (between Interior and Exterior)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

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A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	108.91	in	
d =	78.00	in	
K _y =	16300211.4	in ⁴	(LRFD eq. 4.6.2.2.1-1)

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{interior.mom}
N _b >3 =>	0.63	0.95	0.946

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

	1 design	2 design	
	lane	lane loaded:	g _{exterior.mom}
N _b >3 =>	1.00	1.06	1.061

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{interior.shear}
N _b >3 =>	0.78	0.99	0.986

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design	2 design	
	lane loaded:	lane loaded:	g _{exterior.shear}
N _b >3 =>	1.00	0.91	0.995

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Existing Girders - Span 11 (EB)

Live Load Distribution Factors

O=	29.79	ft	Offset from I4 CL to Shortest Beam		
L _{CL} =	121.17	ft	Span Length (I4 CL)		
Skew=	14.15	deg	Skew Angle		
L _{min} =	128.68	ft	Span Length (Shortest Beam)		
t _s =	8.00	in	Deck Slab Thickness	L _{min_int} =	130.52 ft
S=	9.25	ft	Beam Spacing	L _{adj} =	141.69 ft
S ₂ =	7.29	ft	Beam Spacing (adjacent to exterior)		Span Length (Shortest Interior Beam)
S ₃ =	10.50	ft	Beam Spacing (between Existing and Widening)		Span Length (Beam Adjacent to Widening)
	4.75	ft	Deck Overhang		
	1.54	ft	Curb Width		
d _e =	3.21	ft	(LRFD 4.6.2.2.1)		
h _{buildup} =	1.00	in			
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength		
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength		
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus		
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus		
n=	1.17				
BT-78					
A _{beam} =	1105.00	in ²			
I _{beam} =	935544.00	in ⁴			
y=	37.61	in			
e _g =	42.61	in			
d =	78.00	in			
K _g =	3,435,277	in ⁴	(LRFD eq. 4.6.2.2.1-1)		
S _{avg1} =	9.88	ft	Average Beam Spacing (for existing beam adjacent to widening)		
S _{avg2} =	8.27	ft	Average Beam Spacing (for beam w/variable beam spacing)		

Beam No.

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

11

	1 design lane	2 design lane loaded:	$g_{\text{exterior.mom}}$
N _b >3 =>	0.97	0.84	0.968

Distribution of Live Loads for Moment in Interior Beams (7'-3 1/2" Spacing): LRFD Table 4.6.2.2b-1

10

	1 design lane loaded:	2 design lane loaded:	$g_{\text{interior.mom}}$
N _b >3 =>	0.44	0.63	0.632

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2b-1

9

	1 design lane loaded:	2 design lane loaded:	$g_{\text{interior.mom}}$
N _b >3 =>	0.47	0.69	0.691

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

8/7/6

	1 design lane loaded:	2 design lane loaded:	$g_{\text{interior.mom}}$
N _b >3 =>	0.50	0.75	0.748

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing-Adj. to Widening): LRFD Table 4.6.2.2b-1

5

	1 design lane loaded:	2 design lane loaded:	$g_{\text{interior.mom}}$
N _b >3 =>	0.51	0.76	0.764

Beam No.**Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1**

11

	1 design	2 design	
	lane loaded:	lane loaded:	$g_{\text{exterior, shear}}$
$N_b > 3 \Rightarrow$	0.97	0.83	0.968

Distribution of Live Loads for Shear in Interior Beams (7'-3 1/2" Spacing): LRFD Table 4.6.2.2.2b-1

10

	1 design	2 design	
	lane loaded:	lane loaded:	$g_{\text{interior, shear}}$
$N_b > 3 \Rightarrow$	0.65	0.76	0.764

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2.3a-1

9

	1 design	2 design	
	lane loaded:	lane loaded:	$g_{\text{interior, shear}}$
$N_b > 3 \Rightarrow$	0.69	0.83	0.833

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

8/7/6

	1 design	2 design	
	lane loaded:	lane loaded:	$g_{\text{interior, shear}}$
$N_b > 3 \Rightarrow$	0.73	0.90	0.901

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing-Adj. to Widening): LRFD Table 4.6.2.2.2b-1

5

	1 design	2 design	
	lane loaded:	lane loaded:	$g_{\text{interior, shear}}$
$N_b > 3 \Rightarrow$	0.76	0.95	0.953

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Widening Girders - Span 11 (EB)

Live Load Distribution Factors

O=	29.21	ft	Offset from I4 CL to Shortest Beam
L _{CL} =	121.17	ft	Span Length (I4 CL)
Skew=	14.15	deg	Skew Angle
L _{min} =	128.53	ft	Span Length
t _s =	8.00	in	Deck Slab Thickness
S=	10.50	ft	Beam Spacing
S ₂ =	10.50	ft	Beam Spacing (between Interior and Exterior)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

FIB-78

A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	48.37	in	
d =	78.00	in	
K _y =	4062410.59	in ⁴	(LRFD eq. 4.6.2.2.1-1)

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.mom}
N _b >3 =>	0.56	0.83	0.833

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1


	1 design lane	2 design lane loaded:	g _{exterior.mom}
N _b >3 =>	1.00	0.94	0.995

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

	1 design	2 design	g _{interior,shear}
	lane loaded:	lane loaded:	
N _b >3 =>	0.78	0.99	
			0.985

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design	2 design	g _{exterior,shear}
	lane loaded:	lane loaded:	
N _b >3 =>	1.00	0.91	
			0.995

	Made by	CAM	Date	9/10/2013	Job Number
	Checked by		Date		Sheet Number
	Backchecked by		Date		

Existing Girders

Live Load Distribution Factors

L=	142.33	ft	Span Length (Assume 1'-0" bearing offset at each pier)
t _s =	8.00	in	Deck Slab Thickness
S=	10.32	ft	Beam Spacing
S ₂ =	10.50	ft	Beam Spacing (between Existing and Widening)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

BT-78

A _{beam} =	1105.00	in ²	
I _{beam} =	935544.00	in ⁴	
y _i =	37.61	in	
e _g =	42.61	in	
d =	78.00	in	
K _y =	3435276.88	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 10.41 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.mom}
N _b >3 =>	0.52	0.79	0.788

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.mom}
N _b >3 =>	0.52	0.79	0.793

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

	1 design lane	2 design lane loaded:	g _{exterior.mom}
N _b >3 =>	0.99	0.88	0.992

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1


	1 design lane loaded:	2 design lane loaded:	g _{interior.shear}
N _b >3 =>	0.77	0.97	0.973

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2.3a-1

	1 design lane loaded:	2 design lane loaded:	g _{interior.shear}
N _b >3 =>	0.78	0.98	0.979

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design lane loaded:	2 design lane loaded:	g _{exterior.shear}
N _b >3 =>	0.99	0.90	0.992

	Made by	CAM	Date	9/10/2013	Job Number
	Checked by		Date		Sheet Number
	Backchecked by		Date		

Widening Girders

Live Load Distribution Factors

L=	142.33	ft	Span Length (Assume 1'-0" bearing offset at each pier)
t _s =	8.00	in	Deck Slab Thickness
S=	10.50	ft	Beam Spacing
S ₂ =	10.50	ft	Beam Spacing (between Interior and Exterior)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

FIB-78

A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	48.37	in	
d =	78.00	in	
K _y =	4062410.59	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 10.50 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.54	0.81	0.810

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2.2d-1


	1 design lane	2 design lane loaded:	g _{exterior,mom}
N _b >3 =>	1.00	0.91	0.995

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.78	0.99	0.985

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design lane loaded:	2 design lane loaded:	g _{exterior,shear}
N _b >3 =>	1.00	0.91	0.995

	Made by	CAM	Date	9/10/2013	Job Number
	Checked by		Date		Sheet Number
	Backchecked by		Date		

Existing Girders

Live Load Distribution Factors

L=	136.00	ft	Span Length (Assume 1'-0" bearing offset at each pier)
t _s =	8.00	in	Deck Slab Thickness
S=	12.90	ft	Beam Spacing
S ₂ =	10.50	ft	Beam Spacing (between Existing and Widening)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

BT-78

A _{beam} =	1105.00	in ²	
I _{beam} =	935544.00	in ⁴	
y _i =	37.61	in	
e _g =	42.61	in	
d =	78.00	in	
K _y =	3435276.88	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 11.70 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.61	0.94	0.939

Distribution of Live Loads for Moment in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.57	0.87	0.874

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2d-1

	1 design lane	2 design lane loaded:	g _{exterior,mom}
N _b >3 =>	1.03	1.05	1.054

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1


	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.88	1.14	1.139

Distribution of Live Loads for Shear in Interior Beams (Unequal Spacing): LRFD Table 4.6.2.2.3a-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.83	1.06	1.063

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design lane loaded:	2 design lane loaded:	g _{exterior,shear}
N _b >3 =>	1.03	1.05	1.049

	Made by	CAM	Date	9/10/2013	Job Number
	Checked by		Date		Sheet Number
	Backchecked by		Date		

Widening Girders

Live Load Distribution Factors

L=	136.00	ft	Span Length (Assume 1'-0" bearing offset at each pier)
t _s =	8.00	in	Deck Slab Thickness
S=	10.50	ft	Beam Spacing
S ₂ =	10.50	ft	Beam Spacing (between Interior and Exterior)
	4.75	ft	Deck Overhang
	1.54	ft	Curb Width
d _e =	3.21	ft	(LRFD 4.6.2.2.1)
h _{buildup} =	1.00	in	
f' _{c,beam} =	7.50	ksi	Beam Concrete Strength
f' _{c,deck} =	5.50	ksi	Deck Concrete Strength
E _{c,beam} =	4490.96	ksi	Beam Elastic Modulus
E _{c,deck} =	3845.83	ksi	Deck Elastic Modulus
n=	1.17		

FIB-78

A _{beam} =	1100.58	in ²	
I _{beam} =	903861.00	in ⁴	
y _i =	43.37	in	
e _g =	48.37	in	
d =	78.00	in	
K _y =	4062410.59	in ⁴	(LRFD eq. 4.6.2.2.1-1)

S_{avg}= 10.50 ft Average Beam Spacing

Distribution of Live Loads for Moment in Interior Beams: LRFD Table 4.6.2.2.2b-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,mom}
N _b >3 =>	0.54	0.82	0.820

Distribution of Live Loads for Moment in Exterior Beams: LRFD Table 4.6.2.2.2d-1

	1 design lane	2 design lane loaded:	g _{exterior,mom}
N _b >3 =>	1.00	0.92	0.995

Distribution of Live Loads for Shear in Interior Beams: LRFD Table 4.6.2.2.3a-1

	1 design lane loaded:	2 design lane loaded:	g _{interior,shear}
N _b >3 =>	0.78	0.99	0.985

Distribution of Live Loads for Shear in Exterior Beams: LRFD Table 4.6.2.2.3b-1

	1 design lane loaded:	2 design lane loaded:	g _{exterior,shear}
N _b >3 =>	1.00	0.91	0.995

APPENDIX B-2

MISC. CALCULATIONS FOR ANALYSIS INPUT

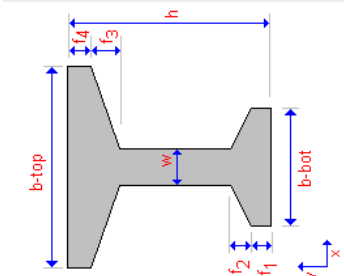
Misc. Calculations for CONSPAN Input:
Span 1 - Modified Spacing

Concrete Modulus of Elasticity **FIB-78**

$f'_c := 7.5\text{ksi}$	...Class VI (Special) Concrete (f'_{final})
$f'_{cl} := \min(0.8 \cdot f'_c, 6.0\text{ksi})$	...Class VI (Special) Concrete (Release) [LRFD 5.4.2.3, SDG 4.3.1C.4]
$f'_{c_deck} := 5.5\text{ksi}$	...Class IV Bridge Deck
$\gamma_c := 0.150\text{-kcf}$	...unit weight of concrete used for load calculation
$E_c := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_c}\text{ksi}$	...Class VI (Special) Concrete (f'_{final})
$E_{cl} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{cl}}\text{ksi}$	...Class VI (Special) Concrete (Release)
$E_{c_deck} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c_deck}}\text{ksi}$	...Class IV Bridge Deck
$n := \frac{E_c}{E_{c_deck}}$	...modular ratio
$n = 1.168$	

Section Geometry

$t_{\text{slab}} := 8.5\text{in}$	
$t_{\text{sacr}} := 0.5\text{in}$	
$h := 6\text{ft} + 6\text{in}$	
$w := 7\text{in}$	
$b_t := 4\text{ft} + 0\text{in}$	
$b_b := 3\text{ft} + 2\text{in}$	
$f_4 := 3.5\text{in}$	
$f_3 := 1.5\text{in}$	...ignore additional chamfer at top flange
$f_2 := 7.5\text{in}$	...ignore fillet at bottom flange
$f_1 := 7\text{in}$	



Span Geometry (Typical)

$N_{\text{BeamsE}} := 6$	...Number of beams (Existing)
$N_{\text{BeamsW}} := 4$	...Number of beams (Widening)
$\text{overhang_left} := 4.75\text{ft}$	
$\text{overhang_right} := 4.75\text{ft}$	
$\text{Width_Barrier_left} := 1\text{ft} + 6 \cdot \frac{1}{2} \cdot \text{in}$	
$\text{Width_Barrier_right} := 1\text{ft} + 6 \cdot \frac{1}{2} \cdot \text{in}$	
$S_e := 12\text{ft} + 8.625\text{in}$	...Beam Spacing (Existing)
$S_w := 10\text{ft} + 6.125\text{in}$	...Beam Spacing (Widening)
$S_a := 0\text{ft} + 0\text{in}$	...Beam Spacing (Additional Beam)
$\text{Width}_{\text{total}} := (N_{\text{BeamsE}} - 1) \cdot S_e + (N_{\text{BeamsW}}) \cdot S_w + \text{overhang_left} + \text{overhang_right}$	
$\text{Width}_{\text{total}} = 115.135\text{ft}$	...Edge to edge width of deck
$\text{Offset} := 30\text{ft} + 5.5\text{in}$	...Offset from CL 14 to original edge of ultimate section
$\text{Skew} := \left[90 - \left(\frac{20}{74} + \frac{40}{60} + \frac{40}{60} \right) \right] \cdot \text{deg}$	...Skew Angle
$L := 90\text{ft} + 0\text{in}$	...Span CL Pier - CL Pier (along CL 14)
$L_{s1} := L$	...Span CL Pier - CL Pier (along CL bridge)
$\text{beg_cl_brg} := 1\text{ft} + 5.5\text{in}$	...Beam cl bearing Length Span
$\text{end_cl_brg} := 1\text{ft} + 2.5\text{in}$	...Beam cl bearing Length Span
$L_{\text{design}_1} := L_{s1} - \frac{\text{beg_cl_brg} - \text{end_cl_brg}}{\cos(\text{Skew})} - \frac{\text{end_cl_brg}}{\cos(\text{Skew})}$	...Beam design Span Length
$J = 10\text{-in}$	...Beam overhang past CL bearing
$L_b := L_{\text{design}_1} + 2 \cdot \frac{J}{\cos(\text{Skew})}$	...Beam length Span 1
$d_e_{\text{left}} := \text{overhang_left} - \text{Width_Barrier_left}$	$d_e_{\text{left}} = 3.208\text{ft}$
$d_e_{\text{right}} := \text{overhang_right} - \text{Width_Barrier_right}$	$d_e_{\text{right}} = 3.208\text{ft}$

Dead Load Calculation - Area Loads

Build-up on beam

Assume 3" build-up (CONSPAN will include 1" of build-up)

$h_{bu} := 2in$

$h_{bu} = 0.167ft$

...Build-up height

$A_{bu} := h_{bu} \cdot b_t$

$A_{bu} = 0.667ft^2$

...Cross-sectional area of build-up

$w_{bu} := A_{bu} \cdot \gamma_c$

$w_{bu} = 0.1klf$

...Build-up line load

SIP Forms

Load on existing exterior

$p_{sip} := 0.02ksf$

$w_{sip_e_ex} := \frac{S_e - b_t}{2} \cdot p_{sip}$

$w_{sip_e_ex} = 0.087klf$

Load on existing interior

$w_{sip_e_in} := (S_e - b_t) \cdot p_{sip}$

$w_{sip_e_in} = 0.174klf$

Load on existing interior (adjacent to widening interior)

$w_{sip_e_in2} := \left(\frac{S_e}{2} + \frac{S_w}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_e_in2} = 0.152klf$

Load on widening interior

$w_{sip_w_in} := (S_w - b_t) \cdot p_{sip}$

$w_{sip_w_in} = 0.13klf$

Load on widening exterior

$w_{sip_w_in} := \left(\frac{S_w - b_t}{2} \right) \cdot p_{sip}$

$w_{sip_w_in} = 0.065klf$

Light pole pedestal weight (FDOT Index 21200)

No roadway lighting along SR 400 (1-4) Over St. John's River Bridge.

$w_{lpp} := 0 \frac{kip}{ft}$

$w_{lpp} = 0 \frac{kip}{ft}$

Thickened end slab

No thickened end slabs on SR 400 (1-4) Over St. John's River Bridge.

Sacrificial Deck

Load due to sacrificial deck thickness is computed within CONSPAN analysis

Dead Load Calculation - Diaphragm Loads

Intermediate Diaphragms

No intermediate diaphragms on SR 400 (1-4) Over St. John's River Bridge.

End Diaphragms

End diaphragm loads are computed within CONSPAN analysis

Dead Load Calculation - Drainage Conduit

Assume load due to drainage conduit is negligible.

Misc. Calculations for CONSPAN Input:
Span 2 WB - Modified Spacing

Concrete Modulus of Elasticity **FIB-78**

$f'_c := 7.5\text{ksi}$

$f'_c := 7.5\text{ksi}$...Class VI (Special) Concrete (f'final)

$f'_c := \min(0.8 \cdot f'_c, 6.0\text{ksi})$

$f'_c := 6\text{ksi}$ [LRFD 5.4.2.3, SDG 4.3.1C-4]
...Class VI (Special) Concrete (Release)

$f'_{c_deck} := 5.5\text{ksi}$

$f'_{c_deck} = 5.5\text{ksi}$...Class IV Bridge Deck

$\gamma_c := 0.150\text{-kcf}$

$\gamma_c = 0.15\text{-kcf}$...unit weight of concrete used for load calculation

$E_c := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_c} \text{ksi}$

$E_c = 4491\text{ksi}$...Class VI (Special) Concrete (f'final)

$E_{c1} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c1}} \text{ksi}$

$E_{c1} = 4016.8\text{ksi}$...Class VI (Special) Concrete (Release)

$E_{c_deck} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c_deck}} \text{ksi}$

$E_{c_deck} = 3845.8\text{ksi}$...Class IV Bridge Deck

$n := \frac{E_c}{E_{c_deck}}$

$n = 1.168$...modular ratio

Section Geometry

$t_{slab} := 8.5\text{in}$

$t_{sacr} := 0.5\text{in}$

$h := 6\text{ft} + 6\text{in}$

$w := 7\text{in}$

$b_t := 5\text{ft} + 0\text{in}$

$b_b := 2\text{ft} + 4\text{in}$

$t_4 := 3\text{in}$

$t_3 := 4\text{in}$

$t_2 := 10\text{in}$

$f_1 := 8\text{in}$

$h = 78\text{in}$

$w = 7\text{in}$

$b_t = 60\text{in}$

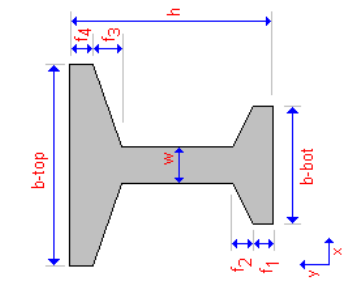
$b_b = 28\text{in}$

$t_4 = 3\text{in}$

$t_3 = 4\text{in}$

$t_2 = 10\text{in}$

$f_1 = 8\text{in}$



...Ignore additional chamfer at top flange

...Ignore fillet at bottom flange

Span Geometry (Typical)

$N_{beamsE} := 6$

...Number of beams (Existing)

$N_{beamsW} := 4$

...Number of beams (Widening)

$overhang_left := 4.75\text{ft}$

$overhang_right := 4.75\text{ft}$

$Width_Barrier_left := 1\text{ft} + 6 \cdot \frac{1}{2} \cdot \text{in}$

$Width_Barrier_right := 1\text{ft} + 6 \cdot \frac{1}{2} \cdot \text{in}$

$S_e := 12\text{ft} + 8.625\text{in}$

...Beam Spacing (Existing)

$S_w := 10\text{ft} + 6.125\text{in}$

...Beam Spacing (Widening)

$S_a := 0\text{ft} + 0\text{in}$

...Beam Spacing (Additional Beam)

$Width_{total} := (N_{beamsE} - 1) \cdot S_e + (N_{beamsW}) \cdot S_w + S_a + overhang_left + overhang_right$

$Width_{total} = 115.135\text{ft}$

...Edge to edge width of deck

$Offset := 30\text{ft} + 5.5\text{in}$

...Offset from CL I4 to original edge of ultimate section

$Skew := \left[90 - \left(\frac{20}{74} + \frac{40}{60 \cdot 60} \right) \right] \cdot \text{deg}$

$Skew = 15.656\text{-deg}$

...Skew Angle

$L := 118\text{ft} + 0\text{in}$

...Span CL Pier - CL Pier (along CL I4)

$L_{s1} := L$

...Span CL Pier - CL Pier (along CL bridge)

$beg_cl_brg := 1\text{ft} + 2.5\text{in}$

...Beam cl bearing Length Span

$end_cl_brg := 1\text{ft} + 2.5\text{in}$

...Beam cl bearing Length Span

$L_{design_1} := L_{s1} - \frac{beg_cl_brg}{\cos(Skew)} - \frac{end_cl_brg}{\cos(Skew)}$

...Beam design Span Length

$J := 10\text{-in}$

...Beam overhang past CL bearing

$L_b := L_{design_1} + 2 \cdot \frac{J}{\cos(Skew)}$

...Beam length Span 1

$d_{e_left} := overhang_left - Width_Barrier_left$

$d_{e_left} = 3.208\text{ft}$

$d_{e_right} := overhang_right - Width_Barrier_right$

$d_{e_right} = 3.208\text{ft}$

Dead Load Calculation - Area Loads

Build-up on beam

Assume 3" build-up (CONSPAN will include 1" of build-up)

$h_{bu} := 2in$

$h_{bu} = 0.167ft$...Build-up height

$A_{bu} := h_{bu} \cdot b_t$...Cross-sectional area of build-up

$w_{bu} := A_{bu} \cdot \gamma_c$...Build-up line load

SJP Forms

Load on existing exterior

$p_{sip} := 0.02 \cdot ksf$

$w_{sip_e_ex} := \frac{S_e - b_t}{2} \cdot p_{sip}$

$w_{sip_e_ex} = 0.077 \cdot klf$

Load on existing interior

$w_{sip_e_in} := (S_e - b_t) \cdot p_{sip}$

$w_{sip_e_in} = 0.154 \cdot klf$

Load on existing interior (adjacent to widening interior)

$w_{sip_e_in2} := \left(\frac{S_e}{2} + \frac{S_w}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_e_in2} = 0.132 \cdot klf$

Load on widening interior

$w_{sip_w_in} := (S_w - b_t) \cdot p_{sip}$

$w_{sip_w_in} = 0.11 \cdot klf$

Load on widening exterior

$w_{sip_w_in} := \left(\frac{S_w - b_t}{2} \right) \cdot p_{sip}$

$w_{sip_w_in} = 0.055 \cdot klf$

Light pole pedestal weight (FDOT Index 21200)

No roadway lighting along SR 400 (I-4) Over St. John's River Bridge

$w_{lpp} := 0 \frac{kip}{ft}$

$w_{lpp} = 0 \frac{kip}{ft}$

Thickened end slab

No thickened end slabs on SR 400 (I-4) Over St. John's River Bridge

Sacrificial Deck

Load due to sacrificial deck thickness is computed within CONSPAN analysis

Dead Load Calculation - Diaphragm Loads

Intermediate Diaphragms

No intermediate diaphragms on SR 400 (I-4) Over St. John's River Bridge.

End Diaphragms

End diaphragm loads are computed within CONSPAN analysis

Dead Load Calculation - Drainage Conduit

Assume load due to drainage conduit is negligible.

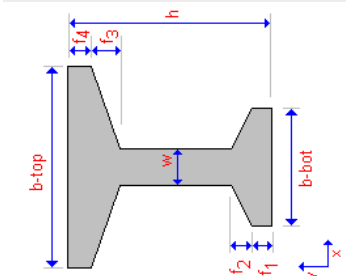
Misc. Calculations for CONSPAN Input:
Span 4 - Modified Spacing

Concrete Modulus of Elasticity **FI1B-78**

$f'_c := 7.5 \text{ ksi}$	...Class VI (Special) Concrete (f'final)
$f'_{cl} := \min(0.8 \cdot f'_c, 6.0 \text{ ksi})$	...Class VI (Special) Concrete (Release) [LRFD 5.4.2.3, SDG 4.3.1C.4]
$f'_{c_deck} := 5.5 \text{ ksi}$	...Class IV Bridge Deck
$\gamma_c := 0.150 \cdot kcf$	...unit weight of concrete used for load calculation
$E_c := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_c} \cdot \text{ksi}$	...Class VI (Special) Concrete (f'final)
$E_{cl} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{cl}} \cdot \text{ksi}$	...Class VI (Special) Concrete (Release)
$E_{c_deck} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c_deck}} \cdot \text{ksi}$	...Class IV Bridge Deck
$n := \frac{E_c}{E_{c_deck}}$	...modular ratio

Section Geometry

$t_{slab} := 8.5 \text{ in}$	
$t_{sacr} := 0.5 \text{ in}$	
$h := 6 \text{ ft} + 6 \text{ in}$	
$w := 7 \text{ in}$	
$b_t := 4 \text{ ft} + 0 \text{ in}$	
$b_b := 3 \text{ ft} + 2 \text{ in}$	
$t_4 := 3.5 \text{ in}$	
$t_3 := 1.5 \text{ in}$	...Ignore additional chamfer at top flange
$t_2 := 7.5 \text{ in}$	...Ignore fillet at bottom flange
$f_1 := 7 \text{ in}$	



Span Geometry (Typical)

$N_{beamsE} := 6$	...Number of beams (Existing)
$N_{beamsW} := 4$	...Number of beams (Widening)
$overhang_left := 4.75 \text{ ft}$	
$overhang_right := 4.75 \text{ ft}$	
$Width_Barrier_left := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$	
$Width_Barrier_right := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$	
$S_e := 12 \text{ ft} + 8.625 \text{ in}$	...Beam Spacing (Existing)
$S_w := 10 \text{ ft} + 6.125 \text{ in}$	...Beam Spacing (Widening)
$S_a := 10.72 \text{ ft}$	...Beam Spacing (Average for Flared Girder)
$Width_{total} := (N_{beamsE} - 2) \cdot S_e + S_a + (N_{beamsW}) \cdot S_w + overhang_left + overhang_right$	
$Offset := 30 \text{ ft} + 5.5 \text{ in}$	...Edge to edge width of deck (average between begin and end span widths)
$Skew := \left[90 - \left(90 + \frac{00}{60} + \frac{00}{60 \cdot 60} \right) \right] \cdot \text{deg}$	...Offset from CL I4 to original edge of ultimate section
$L := 129 \text{ ft} + 1 \text{ in}$	...Skew Angle
$L_{s1} := L$	...Span CL Pier - CL Pier (along CL I4)
$beg_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Span CL Pier - CL Pier (along CL bridge)
$end_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Beam cl bearing Length Span
$L_{design_1} := L_{s1} - \frac{beg_cl_brg}{\cos(Skew)} - \frac{end_cl_brg}{\cos(Skew)}$	...Beam cl bearing Length Span
$J := 10 \text{ in}$	...Beam design Span Length
$L_b := L_{design_1} + 2 \cdot \frac{J}{\cos(Skew)}$	...Beam overhang past CL bearing
$d_e_left := overhang_left - Width_Barrier_left$	...Beam length Span 1
$d_e_right := overhang_right - Width_Barrier_right$	

Dead Load Calculation - Area Loads

Build-up on beam

Assume 3" build-up (CONSPAN will include 1" of build-up)

$h_{bu} := 2in$

$h_{bu} = 0.167ft$

...Build-up height

$A_{bu} := h_{bu} \cdot b_t$

$A_{bu} = 0.667ft^2$

...Cross-sectional area of build-up

$w_{bu} := A_{bu} \cdot \gamma_c$

$w_{bu} = 0.1klf$

...Build-up line load

SIP Forms

Load on existing exterior (flared girder)

$p_{sip} := 0.02 \cdot ksf$

$w_{sip_e_ex} := \frac{S_a - b_t}{2} \cdot p_{sip}$

$w_{sip_e_ex} = 0.067 \cdot klf$

Load on existing 1st interior adjacent to exterior

$w_{sip_e_in} := \left(\frac{S_a}{2} + \frac{S_e}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_e_in} = 0.154 \cdot klf$

Load on existing interior

$w_{sip_e_in} := (S_e - b_t) \cdot p_{sip}$

$w_{sip_e_in} = 0.174 \cdot klf$

Load on existing interior (adjacent to widening interior)

$w_{sip_e_in2} := \left(\frac{S_e}{2} + \frac{S_w}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_e_in2} = 0.152 \cdot klf$

Load on widening interior

$w_{sip_w_in} := (S_w - b_t) \cdot p_{sip}$

$w_{sip_w_in} = 0.13 \cdot klf$

Load on widening exterior

$w_{sip_w_in} := \left(\frac{S_w - b_t}{2} \right) \cdot p_{sip}$

$w_{sip_w_in} = 0.065 \cdot klf$

Light pole pedestal weight (FDOT Index 21200)

No roadway lighting along SR 400 (1-4) Over St. John's River Bridge.

$w_{lpp} := 0 \frac{kip}{ft}$

$w_{lpp} = 0 \frac{kip}{ft}$

Thickened end slab

No thickened end slabs on SR 400 (1-4) Over St. John's River Bridge.

Sacrificial Deck

No thickened end slabs on SR 400 (1-4) Over St. John's River Bridge.

Dead Load Calculation - Diaphragm Loads

Intermediate Diaphragms

No intermediate diaphragms on SR 400 (1-4) Over St. John's River Bridge.

End Diaphragms

End diaphragm loads are computed within CONSPAN analysis

Dead Load Calculation - Drainage Conduit

Assume load due to drainage conduit is negligible.

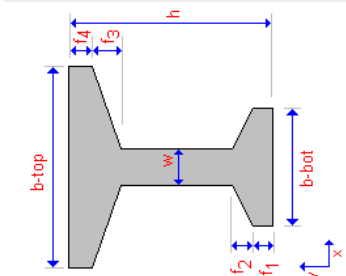
Misc. Calculations for CONSPAN Input:
Span 5 - Modified Spacing

Concrete Modulus of Elasticity **FIB-78**

$f'_c := 7.5 \text{ ksi}$	...Class VI (Special) Concrete (f'final)
$f'_{cl} := \min(0.8 \cdot f'_c, 6.0 \text{ ksi})$	...Class VI (Special) Concrete (Release) [LRFD 5.4.2.3, SDG 4.3.1C.4]
$f'_{c_deck} := 5.5 \text{ ksi}$	...Class IV Bridge Deck
$\gamma_c := 0.150 \cdot kcf$	...unit weight of concrete used for load calculation
$E_c := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_c} \cdot \text{ksi}$	...Class VI (Special) Concrete (f'final)
$E_{cl} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{cl}} \cdot \text{ksi}$	...Class VI (Special) Concrete (Release)
$E_{c_deck} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c_deck}} \cdot \text{ksi}$	...Class IV Bridge Deck
$n := \frac{E_c}{E_{c_deck}}$	...modular ratio

Section Geometry

$t_{slab} := 8.5 \text{ in}$	
$t_{sacr} := 0.5 \text{ in}$	
$h := 6 \text{ ft} + 6 \text{ in}$	$h = 78 \text{ in}$
$w := 7 \text{ in}$	$w = 7 \text{ in}$
$b_t := 4 \text{ ft} + 0 \text{ in}$	$b_t = 48 \text{ in}$
$b_b := 3 \text{ ft} + 2 \text{ in}$	$b_b = 38 \text{ in}$
$f_4 := 3.5 \text{ in}$	$f_4 = 3.5 \text{ in}$
$f_3 := 1.5 \text{ in}$	...Ignore additional chamfer at top flange
$f_2 := 7.5 \text{ in}$	...Ignore fillet at bottom flange
$f_1 := 7 \text{ in}$	$f_1 = 7 \text{ in}$



Span Geometry (Typical)

$N_{beamsE} := 6$	...Number of beams (Existing)
$N_{beamsW} := 4$	...Number of beams (Widening)
$overhang_left := 4.75 \text{ ft}$	
$overhang_right := 4.75 \text{ ft}$	
$Width_Barrier_left := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$	
$Width_Barrier_right := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$	
$S_e := 11 \text{ ft} + 1 \text{ in}$	...Beam Spacing (Existing)
$S_w := 10 \text{ ft} + 6.125 \text{ in}$	...Beam Spacing (Widening)
$S_a := 9.92 \text{ ft}$	...Beam Spacing (Average for Flared Girder)
$Width_{total} := (N_{beamsE} - 2) \cdot S_e + S_a + (N_{beamsW}) \cdot S_w + overhang_left + overhang_right$	
$Width_{total} = 109.128 \text{ ft}$	...Edge to edge width of deck
$Offset := 30 \text{ ft} + 5.5 \text{ in}$	...Offset from CL I4 to original edge of ultimate section
$Skew := \left[90 - \left(90 + \frac{00}{60} + \frac{00}{60 \cdot 60} \right) \right] \cdot \text{deg}$	...Skew Angle
$L := 129 \text{ ft} + 1 \text{ in}$	...Span CL Pier - CL Pier (along CL I4)
$L_{s1} := L$	...Span CL Pier - CL Pier (along CL bridge)
$beg_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Beam cl bearing Length Span
$end_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Beam cl bearing Length Span
$L_{design_1} := L_{s1} \cdot \frac{beg_cl_brg}{\cos(Skew)} - \frac{end_cl_brg}{\cos(Skew)}$	...Beam design Span Length
$J := 10 \text{ in}$	...Beam overhang past CL bearing
$L_b := L_{design_1} + 2 \cdot \frac{J}{\cos(Skew)}$	...Beam length Span 1
$d_{e_left} := overhang_left - Width_Barrier_left$	$d_{e_left} = 3.208 \text{ ft}$
$d_{e_right} := overhang_right - Width_Barrier_right$	$d_{e_right} = 3.208 \text{ ft}$

Dead Load Calculation - Area Loads

Build-up on beam

Assume 3" build-up (CONSPAN will include 1" of build-up)

$h_{bu} := 2in$

$A_{bu} := h_{bu} \cdot b_t$

$w_{bu} := A_{bu} \cdot \gamma_c$

...Build-up height

...Cross-sectional area of build-up

...Build-up line load

SIP Forms

Load on existing exterior (flared girder)

$p_{sip} := 0.02 \cdot ksf$

$w_{sip_e_ex} := \frac{S_a - b_t}{2} \cdot p_{sip}$

$w_{sip_e_ex} = 0.059 \cdot klf$

Load on existing 1st interior adjacent to exterior

$w_{sip_e_in} := \left(\frac{S_a}{2} + \frac{S_e}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_e_in} = 0.138 \cdot klf$

Load on existing interior

$w_{sip_e_in} := (S_e - b_t) \cdot p_{sip}$

$w_{sip_e_in} = 0.158 \cdot klf$

Load on existing interior (adjacent to widening interior)

$w_{sip_e_in2} := \left(\frac{S_e}{2} + \frac{S_w}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_e_in2} = 0.144 \cdot klf$

Load on widening interior

$w_{sip_w_in} := (S_w - b_t) \cdot p_{sip}$

$w_{sip_w_in} = 0.13 \cdot klf$

Load on widening exterior

$w_{sip_w_in} := \left(\frac{S_w - b_t}{2} \right) \cdot p_{sip}$

$w_{sip_w_in} = 0.065 \cdot klf$

Light pole pedestal weight (FDOT Index 21200)

No roadway lighting along SR 400 (1-4) Over St. John's River Bridge.

$w_{lpp} := 0 \frac{kip}{ft}$

$w_{lpp} = 0 \frac{kip}{ft}$

Thickened end slab

No thickened end slabs on SR 400 (1-4) Over St. John's River Bridge.

Sacrificial Deck

Load due to sacrificial deck thickness is computed within CONSPAN analysis

Dead Load Calculation - Diaphragm Loads

Intermediate Diaphragms

No intermediate diaphragms on SR 400 (1-4) Over St. John's River Bridge.

End Diaphragms

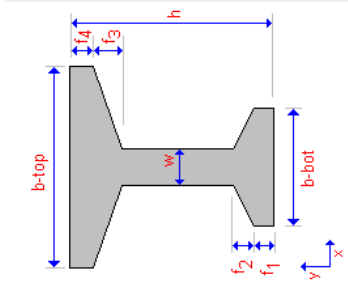
End diaphragm loads are computed within CONSPAN analysis

Dead Load Calculation - Drainage Conduit

Assume load due to drainage conduit is negligible.

Misc. Calculations for CONSPAN Input:
Span 11 - Original Spacing with Extra Beam

Concrete Modulus of Elasticity **FIB-78**

$f'_c := 7.5 \text{ ksi}$	...Class VI (Special) Concrete (Final)
$f'_{cl} := \min(0.8 \cdot f'_c, 6.0 \text{ ksi})$	...Class VI (Special) Concrete (Release) [LRFD 5.4.2.3, SDG 4.3.1.C.4]
$f'_{c_deck} := 5.5 \text{ ksi}$	...Class IV Bridge Deck
$\gamma_c := 0.150 \cdot kcf$	...unit weight of concrete used for load calculation
$E_c := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_c} \cdot \text{ksi}$	...Class VI (Special) Concrete (Final)
$E_{cl} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{cl}} \cdot \text{ksi}$	...Class VI (Special) Concrete (Release)
$E_{c_deck} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c_deck}} \cdot \text{ksi}$	...Class IV Bridge Deck
$n := \frac{E_c}{E_{c_deck}}$	...modular ratio
<div>Section Geometry</div> <div><div><div><div><div>$t_{slab} := 8.5 \text{ in}$</div><div>$t_{sacr} := 0.5 \text{ in}$</div></div><div><div>$h := 6 \text{ ft} + 6 \text{ in}$</div><div>$w := 7 \text{ in}$</div></div><div><div>$b_t := 4 \text{ ft} + 0 \text{ in}$</div><div>$b_b := 3 \text{ ft} + 2 \text{ in}$</div></div><div><div>$t_4 := 3.5 \text{ in}$</div><div>$t_3 := 1.5 \text{ in}$</div></div><div><div>$t_2 := 7.5 \text{ in}$</div><div>$t_1 := 7 \text{ in}$</div></div></div><div><div>...Ignore additional chamfer at top flange</div><div>...Ignore fillet at bottom flange</div></div></div><div></div></div>	

Span Geometry (Typical)

$N_{beamsE} := 7$	...Number of beams (Existing)
$N_{beamsW} := 4$	...Number of beams (Widening)
$overhang_left := 4.75 \text{ ft}$	
$overhang_right := 4.75 \text{ ft}$	
$Width_Barrier_left := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$	
$Width_Barrier_right := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$	
$S_e := 9 \text{ ft} + 3 \text{ in}$	...Beam Spacing (Existing)
$S_w := 10 \text{ ft} + 6 \text{ in}$	...Beam Spacing (Widening)
$S_a := 7 \text{ ft} + 3.5 \text{ in}$	...Beam Spacing (Adj. to Existing Exterior)
$Width_{total} := (N_{beamsE} - 3) \cdot S_e + (N_{beamsW}) \cdot S_w + 2S_a + overhang_left + overhang_right$	...Edge to edge width of deck
$Offset := 30 \text{ ft} + 5.5 \text{ in}$	...Offset from CL I4 to original edge of ultimate section
$Skew := \left[90 - \left(\frac{50}{75} + \frac{47}{60 \cdot 60} \right) \right] \cdot \text{deg}$	...Skew Angle
$L := 12 \text{ ft} + 2 \text{ in}$	...Span CL Pier - CL Pier (along CL I4)
$L_{sl} := L + \left(\frac{Width_{total}}{2} \right) \cdot \tan(Skew)$	...Span CL Pier - CL Pier (along CL bridge)
$beg_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Beam cl bearing Length Span
$end_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Beam cl bearing Length Span
$L_{design_1} := L_{sl} - \frac{beg_cl_brg}{1} - \frac{end_cl_brg}{\cos(Skew)}$	...Beam design Span Length
$J := 10 \text{ in}$	...Beam overhang past CL bearing
$L_b := L_{design_1} + J + \frac{J}{\cos(Skew)}$	...Beam length Span 1
$d_{e_left} := overhang_left - Width_Barrier_left$	$d_{e_left} = 3.208 \text{ ft}$
$d_{e_right} := overhang_right - Width_Barrier_right$	$d_{e_right} = 3.208 \text{ ft}$

Dead Load Calculation - Area Loads

Build-up on beam

Assume 3" build-up (CONSPAN will include 1" of build-up)

$h_{bu} := 2in$

$h_{bu} = 0.167ft$

...Build-up height

$A_{bu} := h_{bu} \cdot b_t$

$A_{bu} = 0.667ft^2$

...Cross-sectional area of build-up

$w_{bu} := A_{bu} \cdot \gamma_c$

$w_{bu} = 0.1klf$

...Build-up line load

SIP Forms

Load on existing exterior

$p_{sip} := 0.02 \cdot ksf$

$w_{sip_e_ex} := \frac{S_e - b_t}{2} \cdot p_{sip}$

$w_{sip_e_ex} = 0.053 \cdot klf$

Load on existing interior (adjacent to exterior)

$w_{sip_w_in2} := (S_a - b_t) \cdot p_{sip}$

$w_{sip_w_in2} = 0.066 \cdot klf$

Load on existing interior (adjacent to first interior beam)

$w_{sip_w_ex} := \left(\frac{S_e}{2} + \frac{S_a}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_w_ex} = 0.085 \cdot klf$

Load on existing interior

$w_{sip_e_in} := (S_e - b_t) \cdot p_{sip}$

$w_{sip_e_in} = 0.105 \cdot klf$

Load on existing interior (adjacent to widening interior)

$w_{sip_e_in2} := \left(\frac{S_e}{2} + \frac{S_w}{2} - b_t \right) \cdot p_{sip}$

$w_{sip_e_in2} = 0.118 \cdot klf$

Load on widening interior

$w_{sip_w_in} := (S_w - b_t) \cdot p_{sip}$

$w_{sip_w_in} = 0.13 \cdot klf$

Load on widening exterior

$w_{sip_w_in} := \left(\frac{S_w - b_t}{2} \right) \cdot p_{sip}$

$w_{sip_w_in} = 0.065 \cdot klf$

Light pole pedestal weight (FDOT index 21200)

No roadway lighting along SR 400 (1-4) Over St. John's River Bridge.

$w_{lpp} := 0 \frac{kip}{ft}$

$w_{lpp} = 0 \frac{kip}{ft}$

Thickened end slab

No thickened end slabs on SR 400 (1-4) Over St. John's River Bridge.

Sacrificial Deck

Load due to sacrificial deck thickness is computed within CONSPAN analysis

Dead Load Calculation - Diaphragm Loads

Intermediate Diaphragms

No intermediate diaphragms on SR 400 (1-4) Over St. John's River Bridge.

End Diaphragms

End diaphragm loads are computed within CONSPAN analysis

Dead Load Calculation - Drainage Conduit

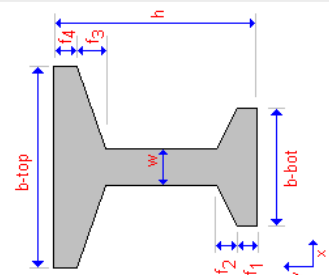
Assume load due to drainage conduit is negligible.

Misc. Calculations for CONSPAN Input:
Span 12 - Original Spacing with Extra Beam

Concrete Modulus of Elasticity **FIB-78**

$f'_c := 7.5 \text{ ksi}$	...Class VI (Special) Concrete (f'final)
$f'_{cl} := \min(0.8 \cdot f'_c, 6.0 \text{ ksi})$	...Class VI (Special) Concrete (Release) [LRFD 5.4.2.3, SDG 4.3.1C.4]
$f'_{c_deck} := 5.5 \text{ ksi}$	...Class IV Bridge Deck
$\gamma_c := 0.150 \cdot \text{kcf}$	...unit weight of concrete used for load calculation
$E_c := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_c} \cdot \text{ksi}$	...Class VI (Special) Concrete (f'final)
$E_{cl} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{cl}} \cdot \text{ksi}$	...Class VI (Special) Concrete (Release)
$E_{c_deck} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c_deck}} \cdot \text{ksi}$	...Class IV Bridge Deck
$n := \frac{E_c}{E_{c_deck}}$	...modular ratio

Section Geometry

$t_{slab} := 8.5 \text{ in}$	
$t_{sacr} := 0.5 \text{ in}$	
$h := 6 \text{ ft} + 6 \text{ in}$	
$w := 7 \text{ in}$	
$b_t := 4 \text{ ft} + 0 \text{ in}$	
$b_b := 3 \text{ ft} + 2 \text{ in}$	
$t_4 := 3.5 \text{ in}$	
$f_3 := 1.5 \text{ in}$	...Ignore additional chamfer at top flange
$f_2 := 7.5 \text{ in}$	...Ignore fillet at bottom flange
$f_1 := 7 \text{ in}$	

Span Geometry (Typical)

$N_{beamsE} := 6$	...Number of beams (Existing)
$N_{beamsW} := 4$	...Number of beams (Widening)
$overhang_left := 4.75 \text{ ft}$	
$overhang_right := 4.75 \text{ ft}$	
$Width_Barrier_left := 1 \text{ ft} + 6 \cdot \frac{1}{2} \cdot \text{in}$	
$Width_Barrier_right := 1 \text{ ft} + 6 \cdot \frac{1}{2} \cdot \text{in}$	
$S_e := 10 \text{ ft} + 3.825 \text{ in}$	...Beam Spacing (Existing)
$S_w := 10 \text{ ft} + 6 \text{ in}$	...Beam Spacing (Widening)
$S_g := 0 \text{ ft} + 0 \text{ in}$	...Beam Spacing (Additional Beam)
$Width_{total} := (N_{beamsE} - 1) \cdot S_e + (N_{beamsW}) \cdot S_w + S_g + overhang_left + overhang_right$	
$Width_{total} = 103.089 \text{ ft}$	...Edge to edge width of deck
$Offset := 30 \text{ ft} + 5.5 \text{ in}$	...Offset from CL I4 to original edge of ultimate section
$Skew := \left[90 - \left(\frac{50}{75} + \frac{47}{60 \cdot 60} \right) \right] \cdot \text{deg}$	...Skew Angle
$L := 142 \text{ ft} + 4 \text{ in}$	...Span CL Pier - CL Pier (along CL I4)
$L_{sl} := L$	...Span CL Pier - CL Pier (along CL bridge)
$beg_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Beam cl bearing Length Span
$end_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$	...Beam cl bearing Length Span
$L_{design_l} := L_{sl} - \frac{beg_cl_brg}{\cos(Skew)} - \frac{end_cl_brg}{\cos(Skew)}$	...Beam design Span Length
$J := 10 \text{ in}$	...Beam overhang past CL bearing
$L_b := L_{design_l} + 2 \cdot \frac{J}{\cos(Skew)}$	...Beam length Span 1
$d_e_left := overhang_left - Width_Barrier_left$	$d_e_left = 3.208 \text{ ft}$
$d_e_right := overhang_right - Width_Barrier_right$	$d_e_right = 3.208 \text{ ft}$

Dead Load Calculation - Area Loads

Build-up on beam
Assume 3" build-up (CONSPAN will include 1" of build-up)
 $h_{bu} := 2in$
 $h_{bu} = 0.167ft$...Build-up height
 $A_{bu} := h_{bu} \cdot b_t$...Cross-sectional area of build-up
 $w_{bu} := A_{bu} \cdot \gamma_c$...Build-up line load

SIP Forms

Load on existing exterior

$p_{sip} := 0.02 \cdot ksf$
 $w_{sip_e_ex} := \frac{S_e - b_t}{2} \cdot p_{sip}$
 $w_{sip_e_ex} = 0.063 \cdot klf$

Load on existing interior

$w_{sip_e_in} := (S_e - b_t) \cdot p_{sip}$
 $w_{sip_e_in} = 0.126 \cdot klf$

Load on existing interior (adjacent to widening interior)

$w_{sip_e_in2} := \left(\frac{S_e}{2} + \frac{S_w}{2} - b_t \right) \cdot p_{sip}$
 $w_{sip_e_in2} = 0.128 \cdot klf$

Load on widening interior

$w_{sip_w_in} := (S_w - b_t) \cdot p_{sip}$
 $w_{sip_w_in} = 0.13 \cdot klf$

Load on widening exterior

$w_{sip_w_in} := \left(\frac{S_w - b_t}{2} \right) \cdot p_{sip}$
 $w_{sip_w_in} = 0.065 \cdot klf$

Light pole pedestal weight (FDOT Index 21200)

No roadway lighting along SR 400 (1-4) Over St. John's River Bridge.

$w_{lpp} := 0 \frac{kip}{ft}$
 $w_{lpp} = 0 \frac{kip}{ft}$

Thickened end slab

No thickened end slabs on SR 400 (1-4) Over St. John's River Bridge.

Sacrificial Deck

Load due to sacrificial deck thickness is computed within CONSPAN analysis

Dead Load Calculation - Diaphragm Loads

Intermediate Diaphragms

No intermediate diaphragms on SR 400 (1-4) Over St. John's River Bridge.

End Diaphragms

End diaphragm loads are computed within CONSPAN analysis

Dead Load Calculation - Drainage Conduit

Assume load due to drainage conduit is negligible.

Misc. Calculations for CONSPAN Input:
Span 20 EB - Original Spacing with Extra Beam

Concrete Modulus of Elasticity BT-78

$f'_c := 7.5 \text{ ksi}$...Class VI (Special) Concrete (f'final)

$f'_{cl} := \min(0.8 \cdot f'_c, 6.0 \text{ ksi})$ [LRFD 5.4.2.3, SDG 4.3.1C-4]

$f'_{c_deck} := 5.5 \text{ ksi}$...Class VI (Special) Concrete (Release)

$\gamma_c := 0.150 \cdot kcf$...Class IV Bridge Deck

$\gamma_c := 0.15 \cdot kcf$...unit weight of concrete used for load calculation

$E_c := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_c} \cdot \text{ksi}$...Class VI (Special) Concrete (f'final)

$E_{cl} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{cl}} \cdot \text{ksi}$...Class VI (Special) Concrete (Release)

$E_{c_deck} := 0.9 \cdot 33000 \cdot 0.145^{1.5} \cdot \sqrt{f'_{c_deck}} \cdot \text{ksi}$...Class IV Bridge Deck

$E_{c_deck} = 3845.8 \text{ ksi}$

$n := \frac{E_c}{E_{c_deck}}$...modular ratio

$n = 1.168$

Section Geometry

$t_{slab} := 8.5 \text{ in}$

$t_{sacr} := 0.5 \text{ in}$

$h = 6 \text{ ft} + 6 \text{ in}$

$w = 7 \text{ in}$

$b_t := 4 \text{ ft} + 0 \text{ in}$

$b_b := 3 \text{ ft} + 2 \text{ in}$

$t_4 := 3.5 \text{ in}$

$t_3 := 1.5 \text{ in}$

$t_2 := 7.5 \text{ in}$

$t_1 := 7 \text{ in}$

$h = 78 \text{ in}$

$w = 7 \text{ in}$

$b_t = 48 \text{ in}$

$b_b = 38 \text{ in}$

$t_4 = 3.5 \text{ in}$

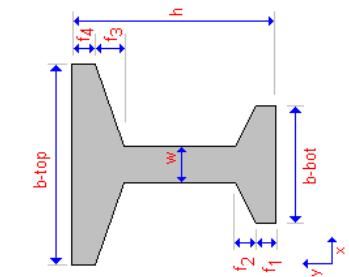
$t_3 = 1.5 \text{ in}$

$t_2 = 7.5 \text{ in}$

$t_1 = 7 \text{ in}$

...Ignore additional chamfer at top flange

...Ignore fillet at bottom flange



Span Geometry (Typical)

$N_{beamsE} := 5$...Number of beams (Existing)

$N_{beamsW} := 4$...Number of beams (Widening)

$overhang_left := 4.75 \text{ ft}$

$overhang_right := 4.75 \text{ ft}$

$Width_Barrier_left := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$

$Width_Barrier_right := 1 \text{ ft} + 6 \frac{1}{2} \text{ in}$

$S_e := 12 \text{ ft} + 10.75 \text{ in}$...Beam Spacing (Existing)

$S_w := 10 \text{ ft} + 6 \text{ in}$...Beam Spacing (Widening)

$S_a := 0 \text{ ft} + 0 \text{ in}$...Beam Spacing (Additional Beam)

$Width_{total} := (N_{beamsE} - 1) \cdot S_e + S_a + overhang_left + overhang_right$

$Width_{total} = 103.083 \text{ ft}$...Edge to edge width of deck

$Offset := 30 \text{ ft} + 5.5 \text{ in}$...Offset from CL I4 to original edge of ultimate section

$Skew := (90 - (90)) \cdot \text{deg}$...Skew Angle

$L := 136 \text{ ft} + 0 \text{ in}$...Span CL Pier - CL Pier (along CL I4)

$L_{s1} := L$...Span CL Pier - CL Pier (along CL bridge)

$beg_cl_brg := 1 \text{ ft} + 2.5 \text{ in}$...Beam cl bearing Length Span

$end_cl_brg := 1 \text{ ft} + 5.5 \text{ in}$...Beam cl bearing Length Span

$L_{design_1} := L_{s1} - \frac{beg_cl_brg - end_cl_brg}{\cos(Skew)}$...Beam design Span Length

$J := 10 \text{ in}$...Beam overhang past CL bearing

$L_b := L_{design_1} + 2 \cdot \frac{J}{\cos(Skew)}$...Beam length Span 1

$L_b = 135.000 \text{ ft}$

$d_{e_left} := overhang_left - Width_Barrier_left$ $d_{e_left} = 3.208 \text{ ft}$

$d_{e_right} := overhang_right - Width_Barrier_right$ $d_{e_right} = 3.208 \text{ ft}$

Dead Load Calculation - Area Loads

Build-up on beam

Assume 3" build-up (CONSPAN will include 1" of build-up)

$h_{bu} := 2in$

$h_{bu} = 0.167ft$

...Build-up height

$A_{bu} := h_{bu} \cdot b_t$

$A_{bu} = 0.667ft^2$

...Cross-sectional area of build-up

$w_{bu} := A_{bu} \cdot \gamma_c$

$w_{bu} = 0.1klf$

...Build-up line load

SIP Forms

Load on existing exterior

$p_{sip} := 0.02ksf$

$w_{sip_e_ex} := \frac{S_e - b_t}{2} \cdot p_{sip}$

$w_{sip_e_ex} = 0.089klf$

Load on existing interior

$w_{sip_e_in} := (S_e - b_t) \cdot p_{sip}$

$w_{sip_e_in} = 0.178klf$

Load on existing interior (adjacent to widening interior)

$w_{sip_e_in2} := \left(\frac{S_e}{2} + \frac{S_w}{2} - b_t\right) \cdot p_{sip}$

$w_{sip_e_in2} = 0.154klf$

Load on widening interior

$w_{sip_w_in} := (S_w - b_t) \cdot p_{sip}$

$w_{sip_w_in} = 0.13klf$

Load on widening exterior

$w_{sip_w_in} := \left(\frac{S_w - b_t}{2}\right) \cdot p_{sip}$

$w_{sip_w_in} = 0.065klf$

Light pole pedestal weight (FDOT Index 21200)

No roadway lighting along SR 400 (I-4) Over St. John's River Bridge.

$w_{lpp} := 0 \frac{kip}{ft}$

$w_{lpp} = 0 \frac{kip}{ft}$

Thickened end slab

No thickened end slabs on SR 400 (I-4) Over St. John's River Bridge.

Sacrificial Deck

Load due to sacrificial deck thickness is computed within CONSPAN analysis

Dead Load Calculation - Diaphragm Loads

Intermediate Diaphragms

No intermediate diaphragms on SR 400 (I-4) Over St. John's River Bridge.

End Diaphragms

End diaphragm loads are computed within CONSPAN analysis

Dead Load Calculation - Drainage Conduit

Assume load due to drainage conduit is negligible.

APPENDIX B-3

SUPERSTRUCTURE ANALYSIS

FOR:	I-4 PD&E St. Johns River Veterans Memorial Bridge	JOB NO.: 59219 SHEET NO.:
MADE BY: CAM	CHECKED BY:	BACKCHECKED BY:
DATE: 9/20/2013	DATE:	DATE:



Analysis Load Summary - Westbound Bridge

WB		Computed Live Load DF		CONSPAN Live Load DF		Traffic Barrier	Median Barrier	Future Wearing	S.I.P.	Add'l Build-Up
Span	Beam	Lane/Beam (Moment)	Lane/Beam (Shear)	Lane/Beam (Moment)	Lane/Beam (Shear)	(kip/ft)	(kip/ft)	(kip/ft)	(kip/ft)	(kip/ft)
1	1	1.17	1.04	1.18	1.10	0.042	0	0	0.077	0.125
	2	1.04	1.13	1.05	1.18	0.042	0	0	0.154	0.125
	3	1.04	1.13	1.05	1.18	0.042	0	0	0.154	0.125
	4	1.04	1.13	1.05	1.18	0.042	0	0	0.154	0.125
	5	1.04	1.13	1.05	1.18	0.042	0	0	0.154	0.125
	6	0.97	1.06	0.98	1.08	0.042	0	0	0.132	0.125
	7	0.92	0.99	0.91	1.03	0.042	0	0	0.110	0.125
	8	0.92	0.99	0.91	1.03	0.042	0	0	0.110	0.125
	9	0.92	0.99	0.91	1.03	0.042	0	0	0.110	0.125
	10	1.03	1.00	1.02	0.96	0.042	0	0	0.055	0.125
2	1	1.08	1.04	1.09	1.10	0.042	0	0	0.077	0.125
	2	0.97	1.13	0.98	1.19	0.042	0	0	0.154	0.125
	3	0.97	1.13	0.98	1.19	0.042	0	0	0.154	0.125
	4	0.97	1.13	0.98	1.19	0.042	0	0	0.154	0.125
	5	0.97	1.13	0.98	1.19	0.042	0	0	0.154	0.125
	6	0.90	1.06	0.91	1.12	0.042	0	0	0.132	0.125
	7	0.85	0.99	0.85	1.04	0.042	0	0	0.110	0.125
	8	0.85	0.99	0.85	1.04	0.042	0	0	0.110	0.125
	9	0.85	0.99	0.85	1.04	0.042	0	0	0.110	0.125
	10	1.00	1.00	0.98	1.02	0.042	0	0	0.055	0.125
4	1	1.06	1.04	1.00	1.00	0.042	0	0	0.057	0.125
	2	0.94	1.13	0.89	1.08	0.042	0	0	0.134	0.125
	3	0.94	1.13	0.95	1.15	0.042	0	0	0.154	0.125
	4	0.94	1.13	0.95	1.15	0.042	0	0	0.154	0.125
	5	0.94	1.13	0.95	1.15	0.042	0	0	0.154	0.125
	6	0.83	0.99	0.89	1.07	0.042	0	0	0.132	0.125
	7	0.83	0.99	0.82	1.00	0.042	0	0	0.110	0.125
	8	0.83	0.99	0.82	1.00	0.042	0	0	0.110	0.125
	9	0.83	0.99	0.82	1.00	0.042	0	0	0.110	0.125
	10	1.00	1.00	1.00	1.00	0.042	0	0	0.055	0.125
5	1	1.02	0.99	0.98	0.98	0.042	0	0	0.049	0.125
	2	0.91	1.08	0.85	1.03	0.042	0	0	0.118	0.125
	3	0.91	1.08	0.90	1.09	0.042	0	0	0.138	0.125
	4	0.91	1.08	0.90	1.09	0.042	0	0	0.138	0.125
	5	0.91	1.08	0.90	1.09	0.042	0	0	0.138	0.125
	6	0.82	0.97	0.86	1.05	0.042	0	0	0.124	0.125
	7	0.95	0.99	0.82	1.00	0.042	0	0	0.110	0.125
	8	0.95	0.99	0.82	1.00	0.042	0	0	0.110	0.125
	9	0.95	0.99	0.82	1.00	0.042	0	0	0.110	0.125
	10	1.06	1.00	0.82	1.00	0.042	0	0	0.055	0.125

Notes:

1. Flared exterior girders for Spans 4WB & 5 WB assumed average beam spacing between begin and end of spans for determining distribution factors
2. 0.5" sacrificial deck thickness load is accounted for within Conspan runs.
3. Proposed Median barrier contribution to individual pile load is considered negligible

FOR:	I-4 PD&E St. Johns River Veterans Memorial Bridge		JOB NO.: 59219
MADE BY:	CAM	CHECKED BY:	SHEET NO.:
DATE:	9/20/2013	DATE:	BACKCHECKED BY:
			DATE:




Analysis Load Summary - Eastbound Bridge

EB Span	Beam	Computed Live Load DF		CONSPAN Live Load DF		Traffic Barrier	Median Barrier	Future Wearing	S.I.P.	Add'l Build- Up
		Lane/Beam (Moment)	Lane/Beam (Shear)	Lane/Beam (Moment)	Lane/Beam (Shear)	(kip/ft)	(kip/ft)	(kip/ft)	(kip/ft)	(kip/ft)
11	1	1.00	1.00	1.00	1.00	0.038	0	0	0.055	0.125
	2	0.83	0.99	0.82	1.00	0.038	0	0	0.110	0.125
	3	0.83	0.99	0.82	1.00	0.038	0	0	0.110	0.125
	4	0.83	0.99	0.82	1.00	0.038	0	0	0.110	0.125
	5	0.76	0.95	0.77	0.96	0.038	0	0	0.098	0.125
	6	0.75	0.90	0.77	0.96	0.038	0	0	0.085	0.125
	7	0.75	0.90	0.77	0.96	0.038	0	0	0.085	0.125
	8	0.75	0.90	0.77	0.96	0.038	0	0	0.085	0.125
	9	0.69	0.83	0.77	0.96	0.038	0	0	0.065	0.125
	10	0.63	0.76	0.77	0.96	0.038	0	0	0.046	0.125
	11	0.97	0.97	0.91	0.91	0.038	0	0	0.043	0.125
12	1	1.00	1.00	0.78	0.81	0.042	0	0	0.055	0.125
	2	0.81	0.99	0.80	1.03	0.042	0	0	0.11	0.125
	3	0.81	0.99	0.80	1.03	0.042	0	0	0.11	0.125
	4	0.81	0.99	0.80	1.03	0.042	0	0	0.11	0.125
	5	0.79	0.98	0.80	1.03	0.042	0	0	0.108	0.125
	6	0.79	0.97	0.79	1.02	0.042	0	0	0.106	0.125
	7	0.79	0.97	0.79	1.02	0.042	0	0	0.106	0.125
	8	0.79	0.97	0.79	1.02	0.042	0	0	0.106	0.125
	9	0.79	0.97	0.79	1.02	0.042	0	0	0.106	0.125
	10	0.99	0.99	1.21	1.25	0.042	0	0	0.053	0.125
20	1	1.00	1.00	1.00	1.00	0.047	0	0	0.055	0.125
	2	0.82	0.99	0.83	1.00	0.047	0	0	0.110	0.125
	3	0.82	0.99	0.83	1.00	0.047	0	0	0.110	0.125
	4	0.82	0.99	0.83	1.00	0.047	0	0	0.11	0.125
	5	0.87	1.06	0.90	1.08	0.047	0	0	0.134	0.125
	6	0.94	1.14	0.96	1.16	0.047	0	0	0.158	0.125
	7	0.94	1.14	0.96	1.16	0.047	0	0	0.158	0.125
	8	0.94	1.14	0.96	1.16	0.047	0	0	0.158	0.125
	9	1.05	1.05	1.08	1.07	0.047	0	0	0.079	0.125


Notes:

1. Flared exterior girders for Spans 4WB & 5 WB assumed average beam spacing between begin and end of spans for determining distribution factors
2. 0.5" sacrificial deck thickness load is accounted for within Conspan runs.
3. Proposed Median barrier contribution to individual pile load is considered negligible

		Sheet # 1	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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www.bentley.com		Date	
File Name: Span01WB_ModifiedSpacing.csl			

PROJECT DATA

Project:	14 Widening Over St. John's
Designer:	KSM
Date:	Sept/9/2013
Checked By:	
Date Checked:	
User job number:	
State:	FL, State Job #:
State:	Florida
Specification:	
Design Code:	AASHTO LRFD - [6th Edition, 2012]
Units:	US
Span Type:	Simple Span
Flared Girder:	No
Comments:	Span 1 (WB) - Modified Spacing
File Name:	\\Lkmw001PMWORK3\jobs\59219 - 14 SAMRTECHPROD\43210012201\Segment 4\structleng_data\1-4 Over St. John's River\Alternative 1 - Interior Widening\1 - Superstructure\Span 1WB\Span01WB_ModifiedSpacing.csl

		Sheet # 2	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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File Name: Span01WB_ModifiedSpacing.csl			

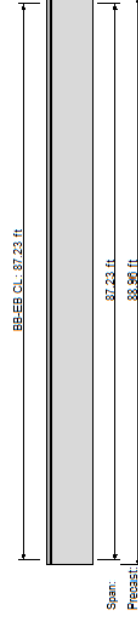
GEOMETRY DATA

BRIDGE LAYOUT

Overall Width (ft)	115.135
Left curb (ft)	1.542
Right curb (ft)	1.542
Curb-to-curb width (ft)	112.052
Number of spans	1
Number of lanes	9
Lane width (ft)	12.000
Eft Deck thick (in)	8.500
Sacrificial thick (in)	0.000
Haunch thickness (in)	1.000
Haunch width (in)	60.000
Bridge c/s MI (lxx) (in4)	21758232.00

SPAN DATA


Precast length,	ft = 88.961
Bearing-to-bearing,	ft = 87.231
Release span,	ft = 88.961



Bridge elevation

BEAM DATA

No	ID	Loc-prev ft	Area in ²	MI (lxx) in ⁴	Height in	Yb in	B-topg in	B-trib ft
1	FIB-78	4.750	1100.6	904567.0	78.00	34.60	48.00	11.109
2	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	12.719
3	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	12.719
4	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	12.719
5	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	12.719
6	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	11.615
7	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510
8	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510
9	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510



LEAPto CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span01WB_ModifiedSpacing.csl

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Sheet # 5

Job #

Designed KSM

Date Sept/9/2013

Checked

Date

Span	Beam	Load (kips)	Location (ft)
1	1	10.566	0.213
1	1	10.566	87.018
1	2	21.133	0.162
1	2	21.133	87.069
1	3	21.133	0.110
1	3	21.133	87.120
1	4	21.133	0.059
1	4	21.133	87.171
1	5	21.133	0.008
1	5	21.133	87.223
1	6	19.209	0.043
1	6	19.209	87.274
1	7	17.286	0.086
1	7	17.286	87.316
1	8	17.286	0.128
1	8	17.286	87.359
1	9	17.286	0.171
1	9	17.286	87.401
1	10	8.643	0.213
1	10	8.643	87.444

DEAD LOADS ON COMPOSITE

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf, Area: ksf, Width: ft)

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
1	DC	Line	0.420	0.000	0.420	87.231	Left Curb Weight
1	DC	Line	0.420	0.000	0.420	87.231	Right Curb Weight


TEMPERATURE LOADS - NONE

LIVE LOADS

Live load deflection: not included.

ID	Type
Design Lane	Design Lane
Design Tandem	Design Tandem
Design Truck	Design Truck

Pedestrian Load - NONE



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Sheet # 6

Job #

Designed KSM

Date Sept/9/2013

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Date

ANALYSIS DATA

ANALYSIS PARAMETERS DATA

Truck Impact:	1.330
Lane Impact:	1.000
Strength II Impact:	1.330
Fatigue Impact:	1.150

DISTRIBUTION FACTORS (Art. 4.6.2.2):


Is Span Post-tensioned:	NO
Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d):	YES
ADTT (Average Daily Truck Traffic) :	5000
Percent of the specified force effect :	1.00

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service II:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor:	1.00
Redundancy Factor:	1.00
Importance Factor:	1.00



Program: LEAP® CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span01WB_ModifiedSpacing.csl

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Date

PROJECT DESIGN PARAMETERS

Trans len multi:	Bonded 1.00
	Debonded 1.00
Dev len multi:	Bonded 1.60
	Debonded 2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed: AASHTO equations
Horizontal Shear, Beam and Slab effects in Vw: INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.93 ksi	
Center	70.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.59 ksi	


STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):



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PROJECT DESIGN PARAMETERS

Trans len multi:	Bonded 1.00
	Debonded 1.00
Dev len multi:	Bonded 1.60
	Debonded 2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed: AASHTO equations
Horizontal Shear, Beam and Slab effects in Vw: INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.93 ksi	
Center	70.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.59 ksi	

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRESTRESS LOSSES:

Time Dependent Losses, Approximate Method (Art.5.9.5.3)
Days to release = 0.75
Rel. Humid. (RH) = 75.0 %

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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE I
 Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	0.0	18.3	30.8	64.2	120.2	160.2	184.1
DC(Max)	V	8.8	8.4	8.1	7.2	5.4	3.6	1.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	112.9	189.4	395.3	739.5	985.4	1133.0
Haunch (Max)	V	54.2	51.6	49.7	44.2	33.2	22.1	11.1
Diaphragm :	M	0.0	0.8	1.3	2.3	2.3	2.3	2.3
(Max)	V	90.3	66.3	49.3	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	7.6	12.8	26.7	50.0	66.6	79.9
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	274.7	460.0	955.6	1767.1	2318.9	2647.1
	V	124.2	119.9	116.9	108.1	91.4	74.6	51.9
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	124.2	119.9	116.9	108.1	92.2	77.2	62.7
	Vmx	-0.0	282.4	469.8	955.6	1674.9	2137.7	2335.5
Total :	M+	0.0	518.5	869.0	1808.6	3361.2	4442.3	5088.2
	V	331.2	297.2	273.1	203.3	162.8	122.2	75.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	331.2	297.2	273.1	203.3	163.6	124.8	86.5
Total :	M	0.0	526.2	878.7	1808.6	3269.1	4261.1	4776.5
								4832.8

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
DL-Prec. :	M	184.1	160.2	120.2	64.2	30.8	18.3
DC(Max)	V	1.8	3.6	5.4	7.2	8.1	8.4
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1133.0	985.4	739.5	395.3	189.4	112.9
Haunch (Max)	V	11.1	22.1	33.2	44.2	49.7	51.6
Diaphragm :	M	2.3	2.3	2.3	2.3	1.3	0.8
(Max)	V	0.0	0.0	0.0	0.0	5.8	7.8
DL-Comp :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2647.1	2318.9	1767.1	955.6	460.0	274.7
							0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	51.9	74.6	91.4	108.1	116.9	119.9
	M-	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	62.7	77.2	92.2	108.1	116.9	119.9	124.2
Total :	M	2335.5	2137.7	1674.9	955.6	469.8	282.4
	M+	5088.2	4442.3	3361.2	1808.6	869.0	518.5
Total :	V	75.7	122.2	162.8	203.3	229.6	238.6
	M-	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	86.5	124.8	163.6	203.3	229.6	238.6	251.4
Total :	M	4776.5	4261.1	3269.1	1808.6	878.7	526.2
							0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	54.2	54.2
Diaphragm	90.3	10.6
DL-Prec.(DC)	8.8	8.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	0.0	0.0
Live	92.2	92.2
Pedestrian	0.0	0.0

Upward reactions are positive.
 Live Load reactions are per lane with no distribution factor and no impact.
 Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
 Non-composite load types are per beam.
 Composite and Pedestrian load types are per total bridge width.

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Sheet # 5

Job #

Composite Moment (SERVICE I)

Total length = 87.23 ft (Max: 79.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)

Location (ft)	Composite DC (M)	Composite DW (M)
0.0	0.0	0.0
8.7	17.4	17.4
17.4	34.9	34.9
26.2	52.3	52.3
34.9	69.8	69.8
43.6	79.9	79.9
52.3	69.8	69.8
61.1	52.3	52.3
69.8	34.9	34.9
78.5	17.4	17.4
87.2	0.0	0.0

Composite Moment, Span 1, Beam 1, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:00 P.M.

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Sheet # 6

Job #

Composite Shear (SERVICE I)

Total length = 87.23 ft (Max: 3.7 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite DW (V - Absolute)
0.0	3.7	3.7
8.7	3.2	3.2
17.4	2.7	2.7
26.2	2.2	2.2
34.9	1.7	1.7
43.6	1.2	1.2
52.3	0.7	0.7
61.1	0.2	0.2
69.8	0.0	0.0
78.5	0.0	0.0
87.2	0.0	0.0

Composite Shear, Span 1, Beam 1, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:00 P.M.

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Live Moment (SERVICE I)
Total length = 87.23 ft (Max: 2,731.0 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
8.7	300.0
17.4	1,200.0
25.2	2,100.0
34.9	2,400.0
43.6	2,731.0
52.3	2,400.0
61.1	2,100.0
69.8	1,200.0
78.5	300.0
87.2	0.0

Live Moment, Span 1, Beam 1, SERVICE I

Units: U.S. Units
Design Code: AASHTO LRFD
Printed on: October 18, 2013 @ 4:00 P.M.

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Live Shear (SERVICE I)
Total length = 87.23 ft (Max: 124.2 Kips, Min: 48.8 Kips)


Legend:
— LL + I (Vmk - Absolute)

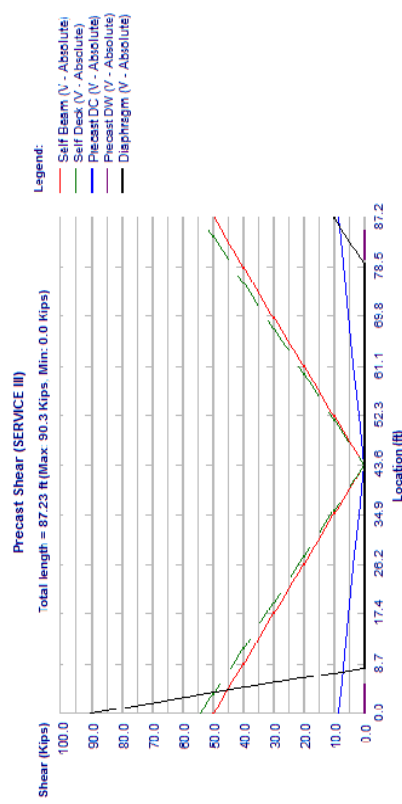
Location (ft)	Shear (Kips)
0.0	124.2
8.7	115.5
17.4	107.0
26.2	98.3
34.9	89.6
43.6	81.0
52.3	72.3
61.1	63.6
69.8	55.0
78.5	46.3
87.2	48.8

Live Shear, Span 1, Beam 1, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE III
Shears: kips, Moments: kft

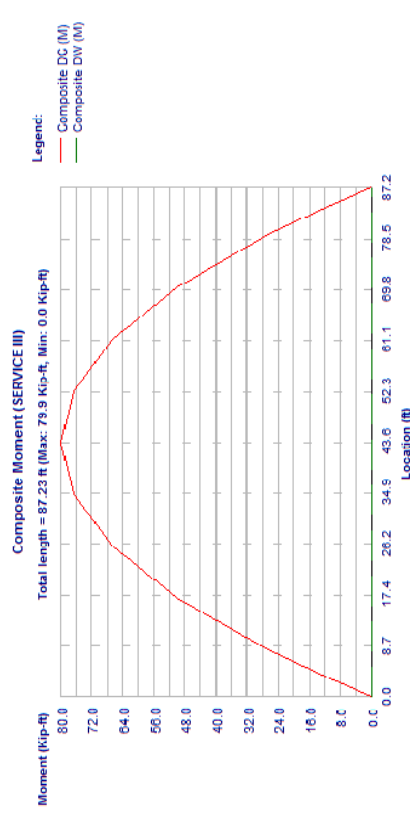
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Self wt. : M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1	1090.5
(Max) V	50.0	47.6	45.8	40.8	30.6	20.4	10.2	0.0
DL-Prec. : M	0.0	18.3	30.8	64.2	120.2	160.2	184.1	192.1
DC(Max) V	8.8	8.4	8.1	7.2	5.4	3.6	1.8	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	112.9	189.4	395.3	739.5	985.4	1133.0	1182.2
Haunch (Max) V	54.2	51.6	49.7	44.2	33.2	22.1	11.1	0.0
Diaphragm : M	0.0	0.8	1.3	2.3	2.3	2.3	2.3	2.3
(Max) V	90.3	66.3	49.3	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6	79.9
DC(Max) V	3.7	3.5	3.4	3.0	2.2	1.5	0.7	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	219.7	368.0	764.5	1413.6	1855.1	2117.7	2184.8

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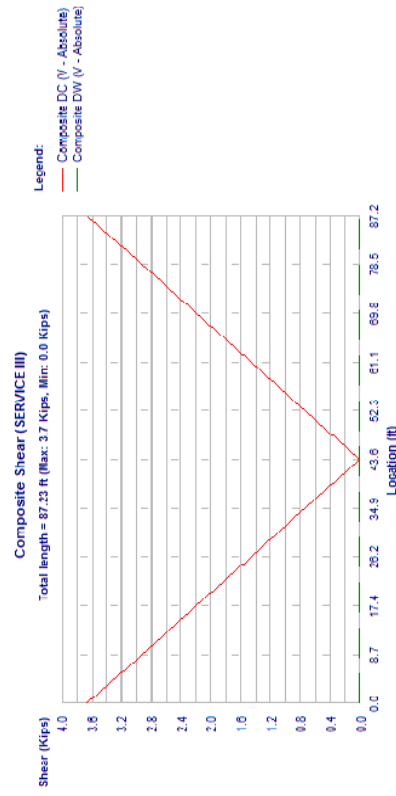
Precast Shear, Span 1, Beam 1, SERVICE III

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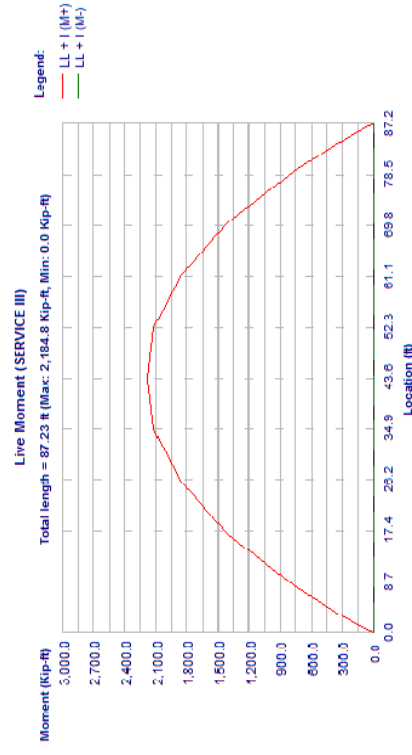
Composite Moment, Span 1, Beam 1, SERVICE III

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Composite Shear, Span 1, Beam 1, SERVICE III

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Live Moment, Span 1, Beam 1, SERVICE III



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4632.5	4058.0	3092.3	1672.3	805.1	480.7	0.0
LL + I :	90.8	130.6	159.9	189.1	204.5	209.8	217.3
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	109.7	135.0	161.4	189.1	204.5	209.8	217.3
Total :	4087.1	3740.9	2931.1	1672.3	822.2	494.1	0.0
Total :	7683.8	6712.3	5085.0	2738.6	1316.2	785.4	0.0
Total :	120.5	190.1	249.1	308.1	345.4	358.3	376.4
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	139.5	194.5	250.6	308.1	345.4	358.3	376.4
Total :	7138.4	6395.2	4923.8	2738.6	1333.3	798.9	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	67.8	67.8
Diaphragm	112.8	13.2
DL-Prec(DC)	11.0	11.0
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

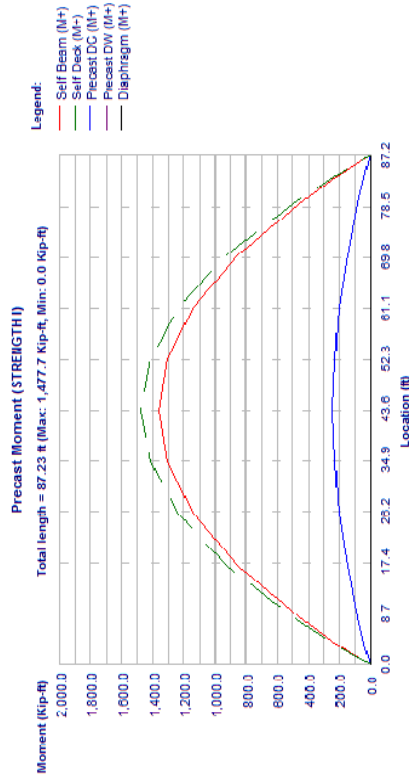


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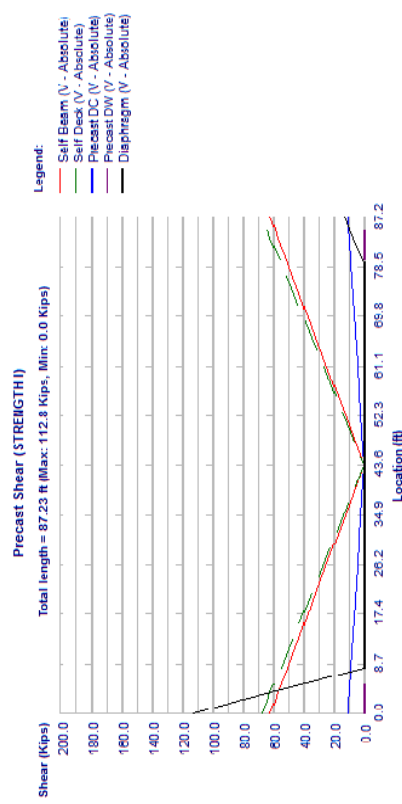
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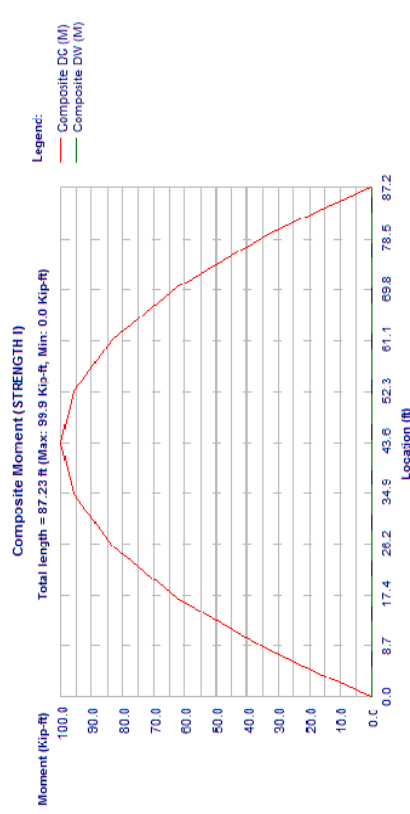
Precast Moment, Span 1, Beam 1, STRENGTH I

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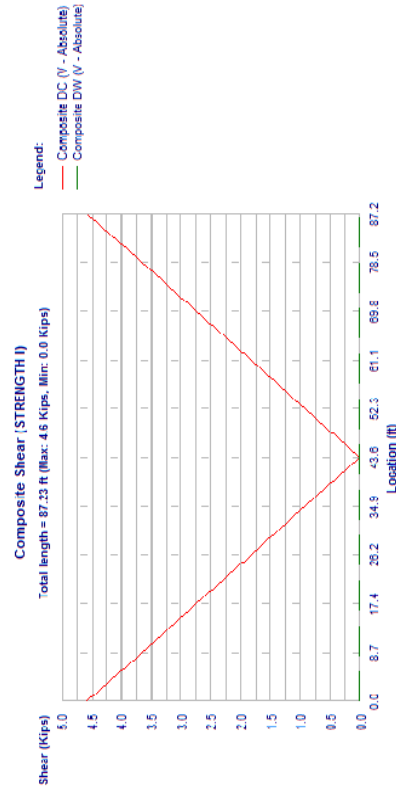
Precast Shear, Span 1, Beam 1, STRENGTH I

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		Date	




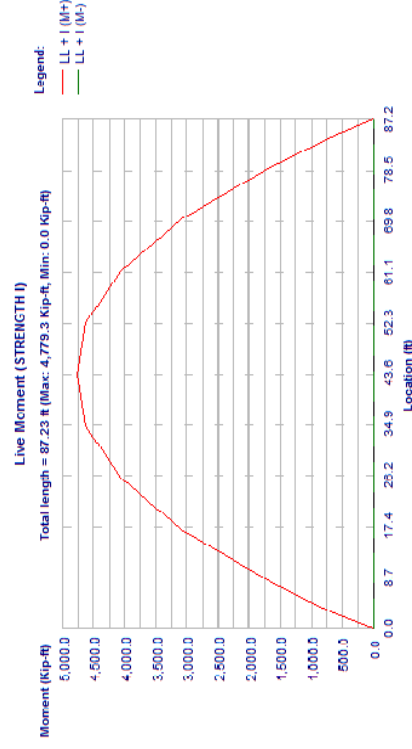
Composite Moment, Span 1, Beam 1, STRENGTH I

		Sheet #	21
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span01WB_ModifiedSpacing.csl		SE Client Licenses	
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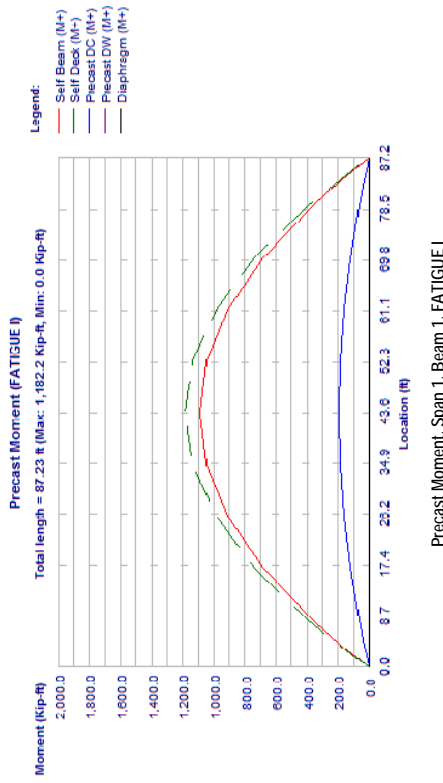
Composite Shear, Span 1, Beam 1, STRENGTH I

		Sheet #	22
		Job #	
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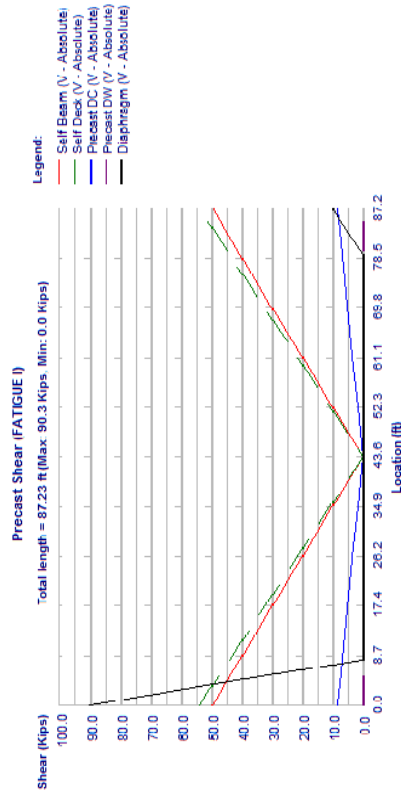
Live Moment, Span 1, Beam 1, STRENGTH I

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1557.7	1394.9	1075.6	596.0	289.7	173.5	0.0
	M	39.0	50.0	65.6	76.6	82.3	84.3	87.1
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	43.1	54.1	65.6	76.6	82.3	84.3	87.1
	M	1448.9	1353.2	1075.6	596.0	289.7	173.5	0.0
Total :	M+	3990.7	3518.3	2669.7	1449.1	698.7	417.3	0.0
	V	62.8	97.6	137.0	171.8	195.0	203.1	214.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	66.9	101.7	137.0	171.8	195.0	203.1	214.4
	M	3889.9	3476.6	2669.7	1449.1	698.7	417.3	0.0




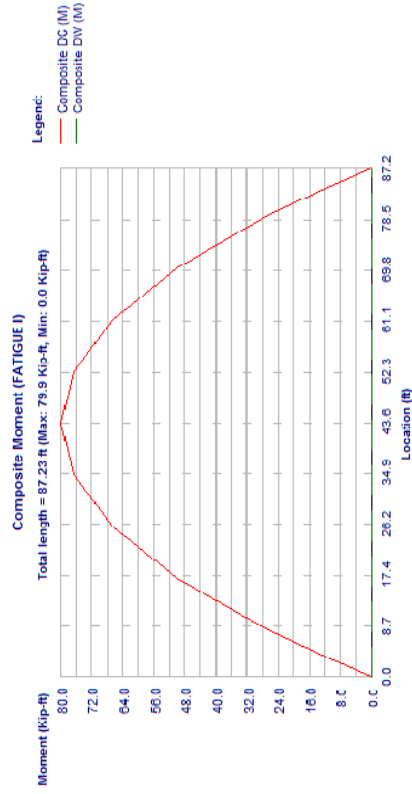
Precast Moment. Span 1. Beam 1. Fatigue I

						Sheet #	26
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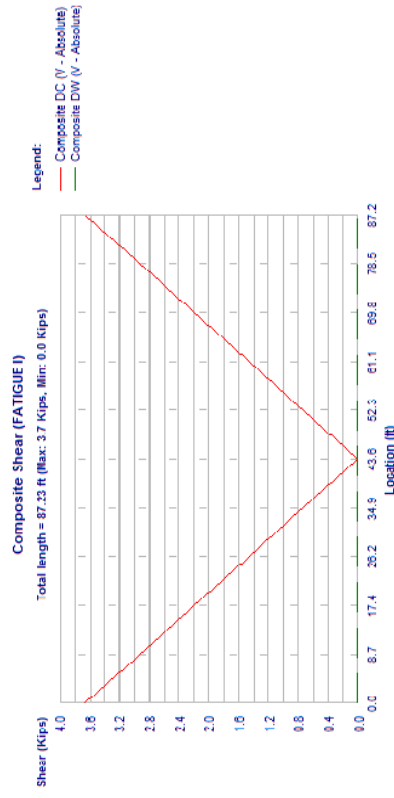
Precast Shear. Span 1. Beam 1. Fatigue I

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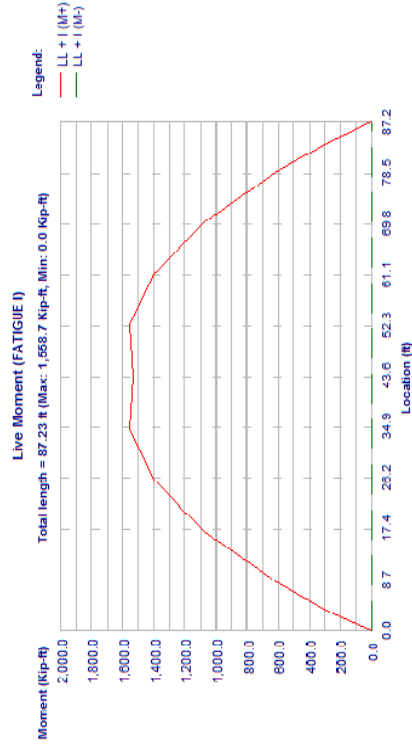
Composite Moment, Span 1, Beam 1, FATIGUE I

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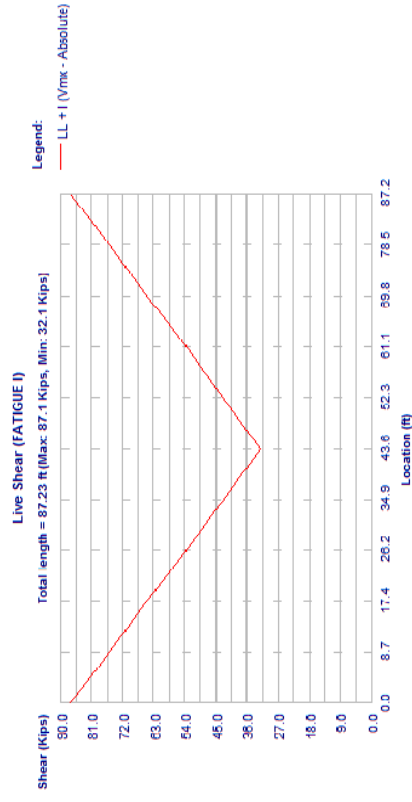
Composite Shear, Span 1, Beam 1, FATIGUE I

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Live Moment, Span 1, Beam 1, FATIGUE I

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Live Shear, Span 1, Beam 1, FATIGUE I



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	-0.0	25.3	42.5	88.7	166.0	221.2	254.3
DC(Max)	V	12.2	11.6	11.2	9.9	7.4	5.0	2.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	128.4	215.4	449.6	841.3	1121.0	1288.9
Haunch (Max)	V	61.7	58.6	56.5	50.3	37.7	25.2	12.6
Diaphragm :	M	0.0	1.2	2.0	3.4	3.4	3.4	3.4
(Max)	V	21.1	15.5	11.5	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	245.4	411.0	853.8	1578.8	2071.8	2365.1
LL + I :	V	134.1	129.5	126.2	116.7	98.7	80.6	56.0
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	134.1	129.5	126.2	116.7	99.6	83.3	67.7
LL + I :	V	-0.0	252.3	419.8	853.8	1496.5	1909.9	2086.7
Total :	M+	0.0	512.2	858.4	1786.9	3321.6	4393.1	5033.4
Total :	V	282.8	266.3	254.6	220.7	176.7	132.6	82.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	282.8	266.3	254.6	220.7	177.6	135.3	93.7
Total :	M	0.0	519.0	867.1	1786.9	3239.3	4231.2	4755.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
DL-Prec. :	M	254.3	221.2	166.0	88.7	42.5	25.3
DC(Max)	V	2.5	5.0	7.4	9.9	11.2	11.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1288.9	1121.0	841.3	449.6	215.4	128.4
Haunch (Max)	V	12.6	25.2	37.7	50.3	56.5	58.6
Diaphragm :	M	3.4	3.4	3.4	3.4	2.0	1.2
(Max)	V	0.0	0.0	0.0	0.0	11.5	15.5
DL-Comp. :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2365.1	2071.8	1578.8	853.8	411.0	245.4



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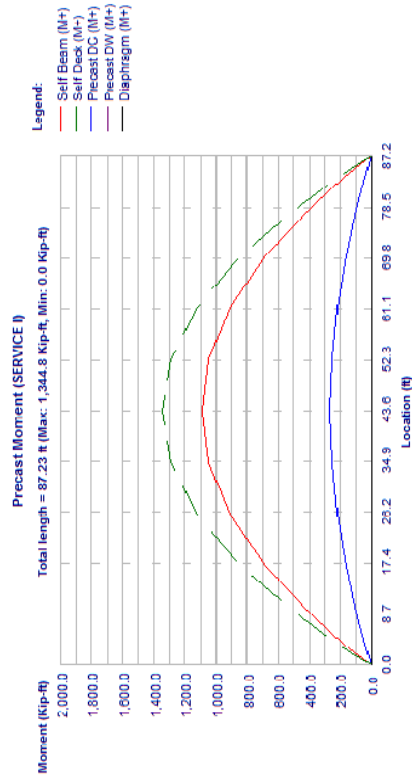
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	56.0	80.6	98.7	116.7	126.2	129.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	67.7	83.3	99.6	116.7	126.2	129.5
Total :	M	2086.7	1909.9	1496.5	853.8	419.8	252.3
Total :	M+	5033.4	4393.1	3321.6	1786.9	858.4	512.2
Total :	V	82.0	132.6	176.7	220.7	254.6	266.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	93.7	135.3	177.6	220.7	254.6	266.3
Total :	M	4755.0	4231.2	3239.3	1786.9	867.1	519.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	61.7	61.7
Diaphragm	21.1	21.1
DL-Prec.(DC)	12.2	12.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	0.0	0.0
Live	92.2	92.2
Pedestrian	0.0	0.0

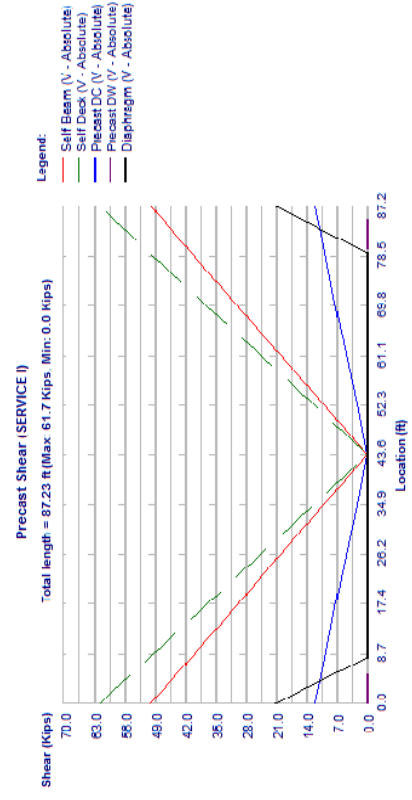
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

		Sheet #	3
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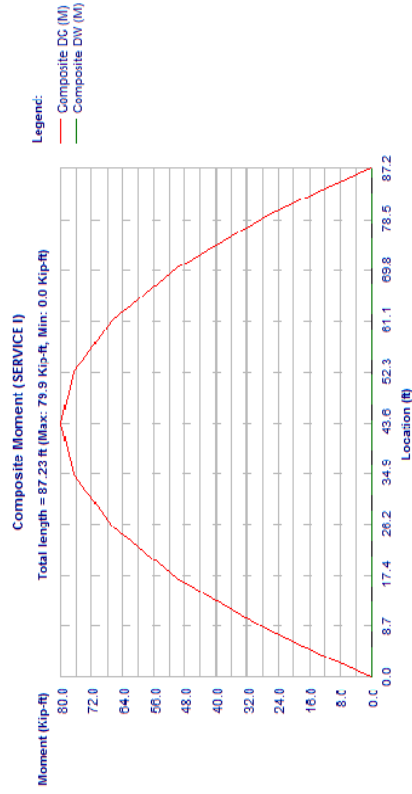
Precast Moment, Span 1, Beam 2, SERVICE I

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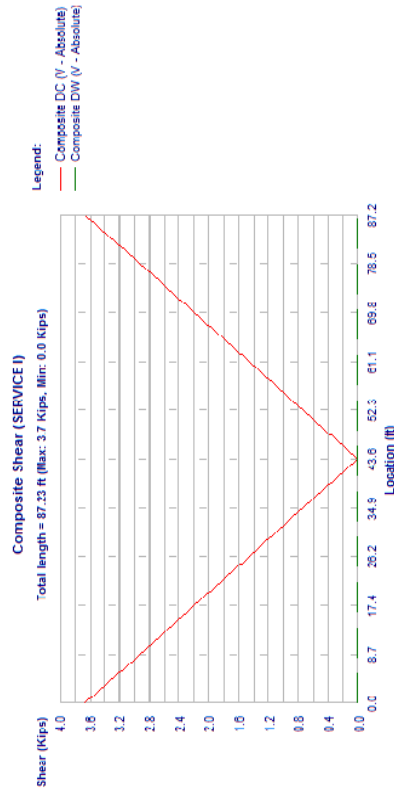
Precast Shear, Span 1, Beam 2, SERVICE I

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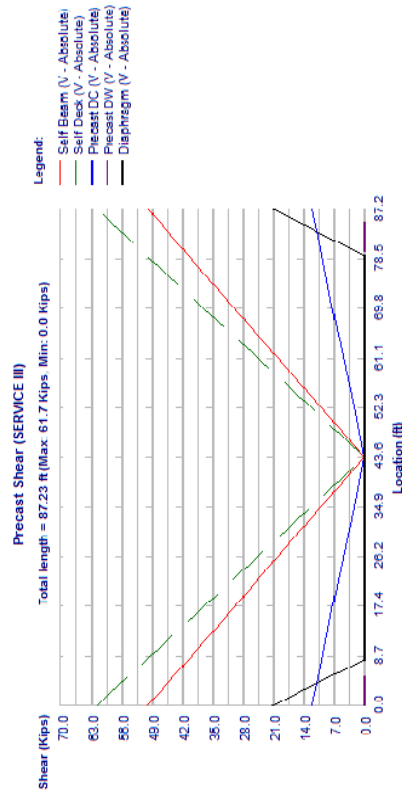
Composite Moment, Span 1, Beam 2, SERVICE I

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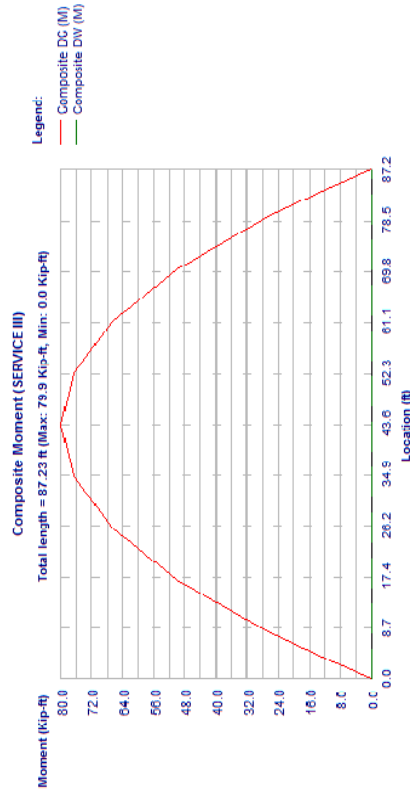
Composite Shear, Span 1, Beam 2, SERVICE I

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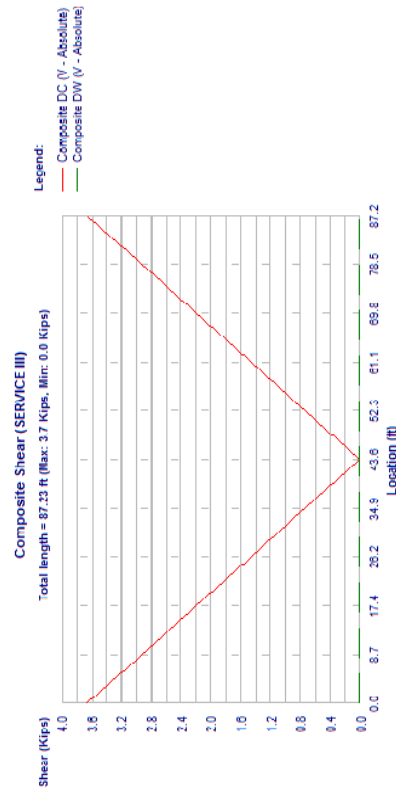
Precast Shear, Span 1, Beam 2, SERVICE III

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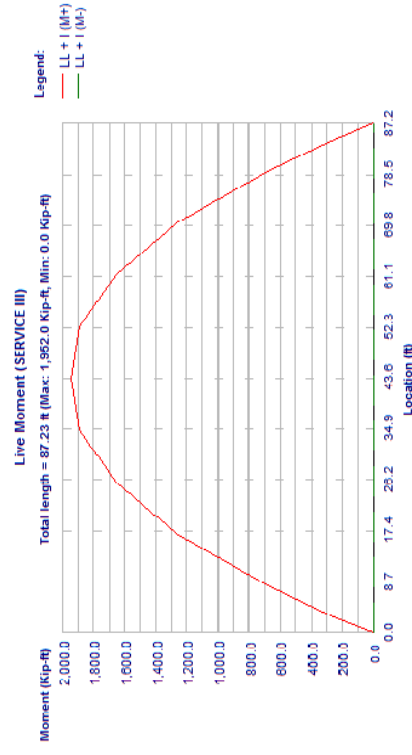
Composite Moment, Span 1, Beam 2, SERVICE III

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Composite Shear, Span 1, Beam 2, SERVICE III

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Live Moment, Span 1, Beam 2, SERVICE III



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4139.0	3625.7	2762.9	1494.1	719.3	429.5	0.0
LL + I :	98.1	141.1	172.7	204.3	220.9	226.6	234.7
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	118.5	145.8	174.3	204.3	220.9	226.6	234.7
M	3651.7	3342.4	2618.9	1494.1	734.6	441.5	0.0
Total :	7474.3	6527.2	4941.5	2660.5	1278.5	762.9	0.0
Total :	130.6	206.1	270.2	334.3	381.4	397.6	420.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	151.0	210.8	271.8	334.3	381.4	397.6	420.5
M	6987.0	6243.9	4797.4	2660.5	1293.8	774.9	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	77.1	77.1
Diaphragm	26.4	26.4
DL-Prec(DC)	15.2	15.2
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

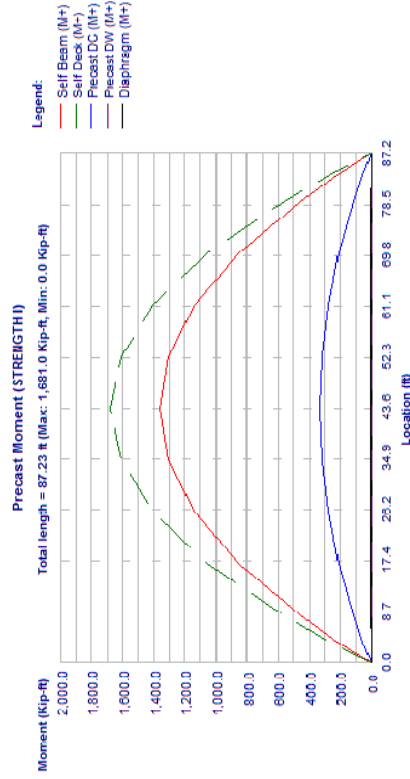


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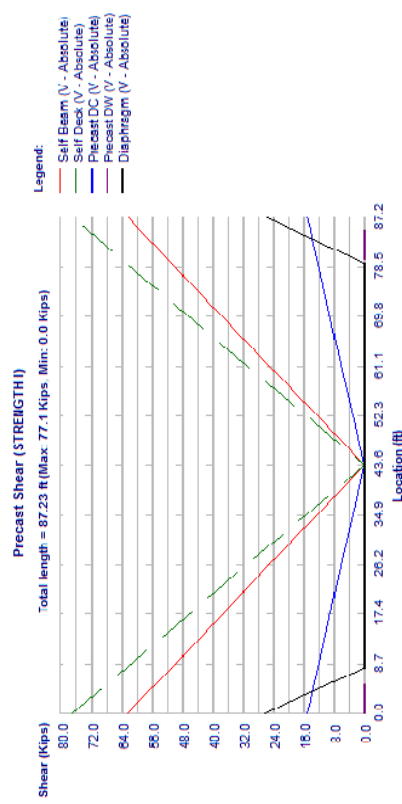
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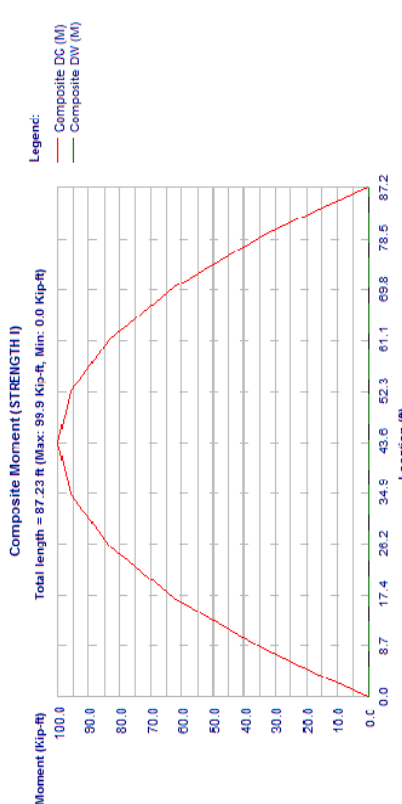
Precast Moment, Span 1, Beam 2, STRENGTH I

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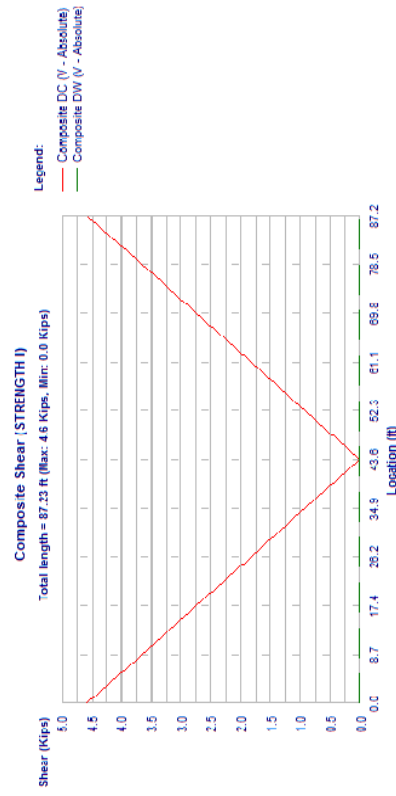
Precast Shear, Span 1, Beam 2, STRENGTH I

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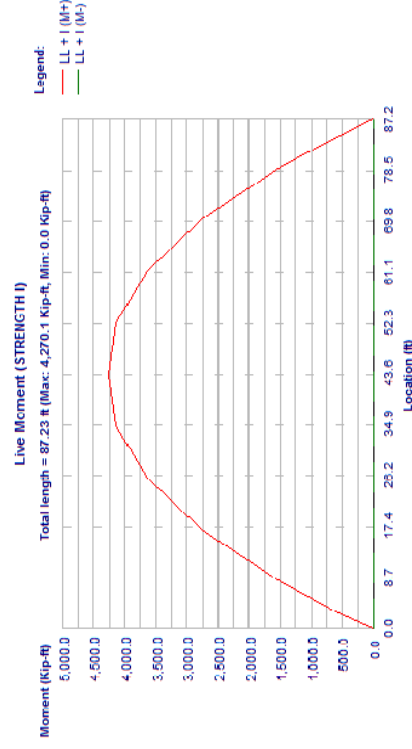
Composite Moment, Span 1, Beam 2, STRENGTH I

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		Date	Sept/9/2013
		Checked	
		Date	




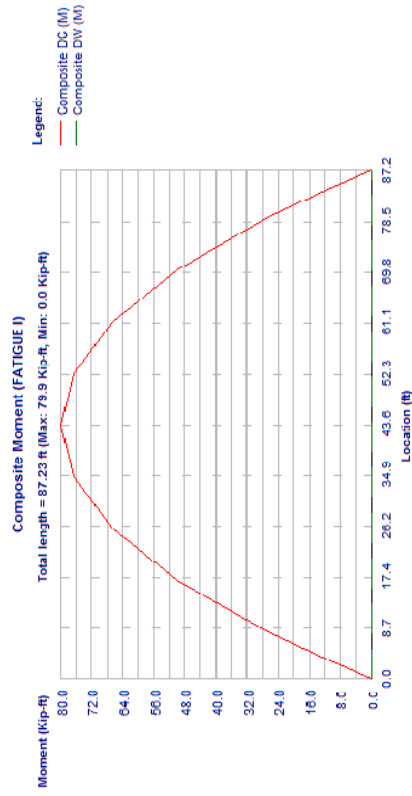
Composite Shear, Span 1, Beam 2, STRENGTH I

		Sheet #	22
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span01WB_ModifiedSpacing.csl		Designed	KSM
		Date	Sept/9/2013
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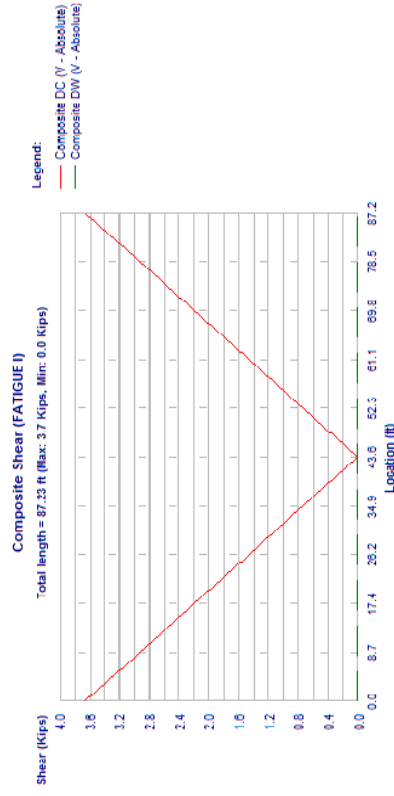
Live Moment, Span 1, Beam 2, STRENGTH I

		Sheet # 27
		Job #
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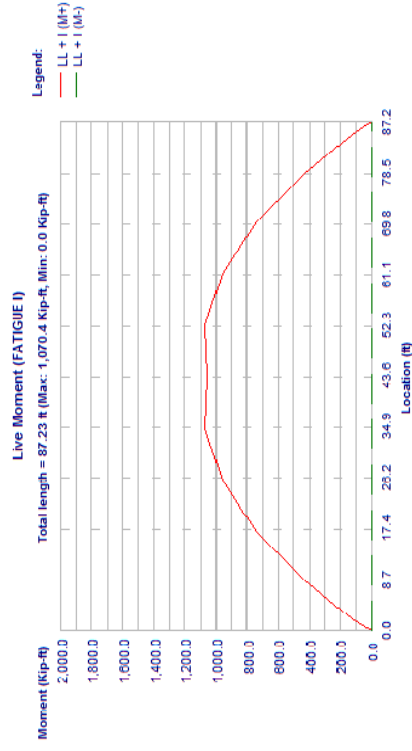
Composite Moment, Span 1, Beam 2, FATIGUE I

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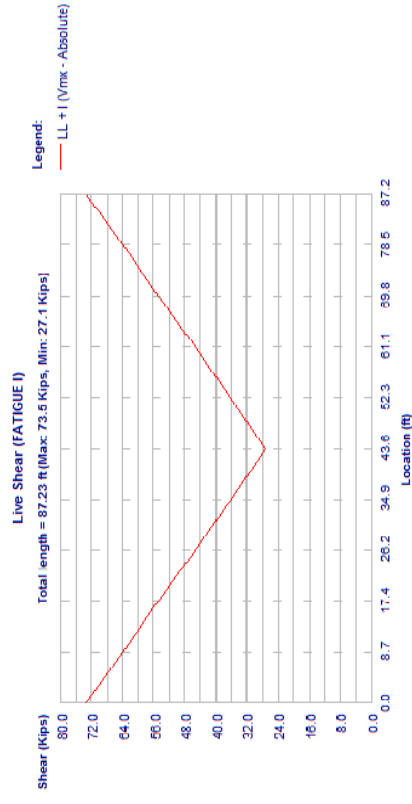
Composite Shear, Span 1, Beam 2, FATIGUE I

		Sheet #	29
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		Designed	KSM
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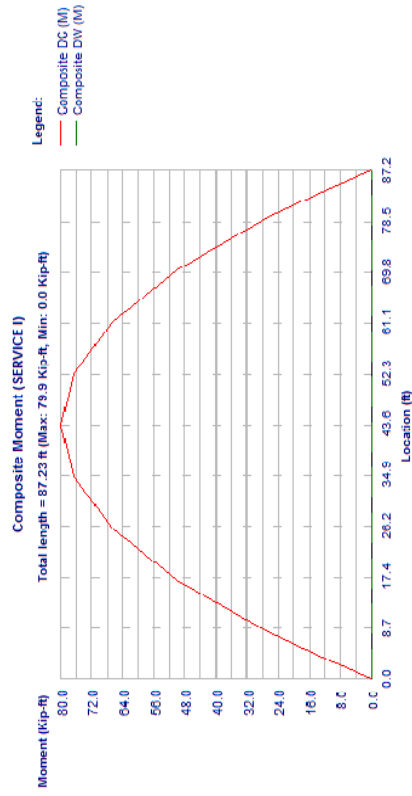
Live Moment, Span 1, Beam 2, FATIGUE I

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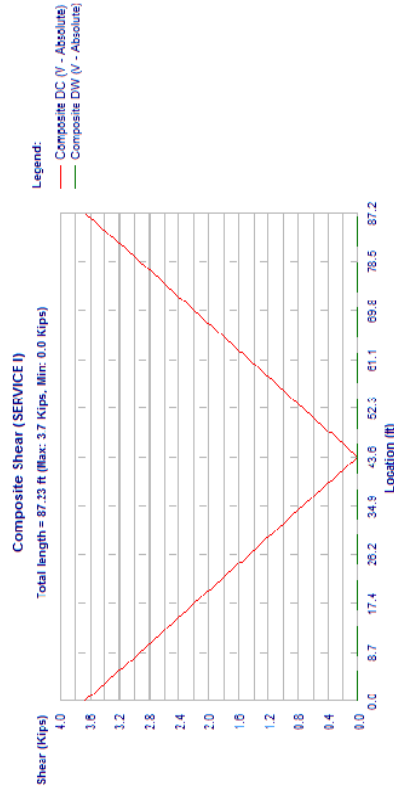
Live Shear, Span 1, Beam 2, FATIGUE I

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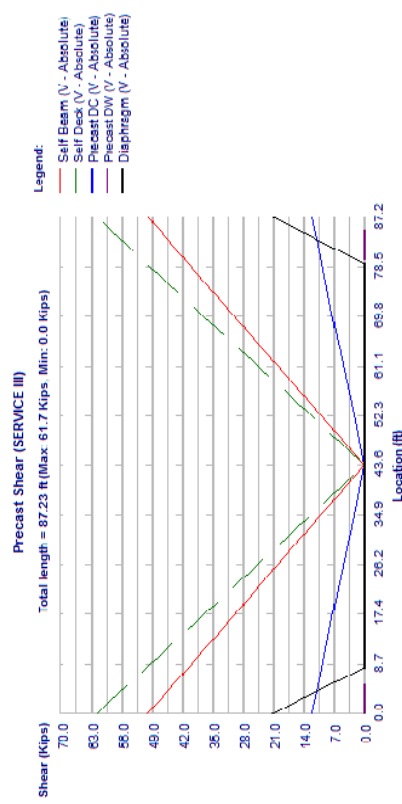
Composite Moment, Span 1, Beam 3, SERVICE I

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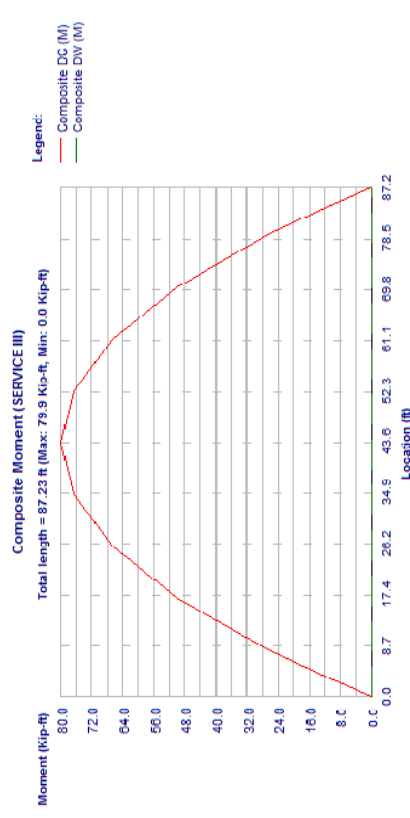
Composite Shear, Span 1, Beam 3, SERVICE I

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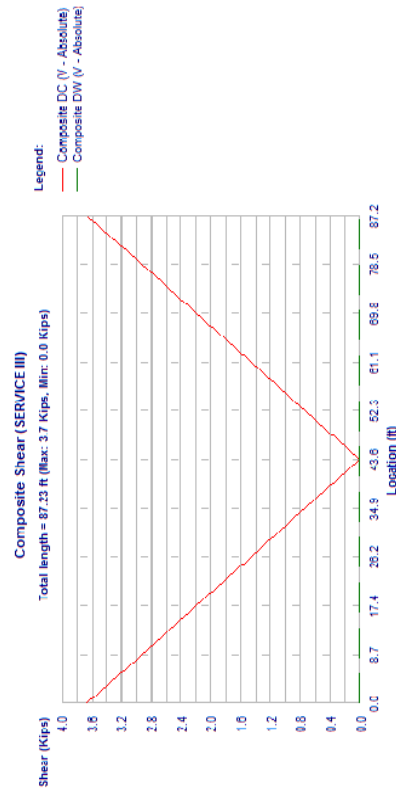
Precast Shear, Span 1, Beam 3, SERVICE III

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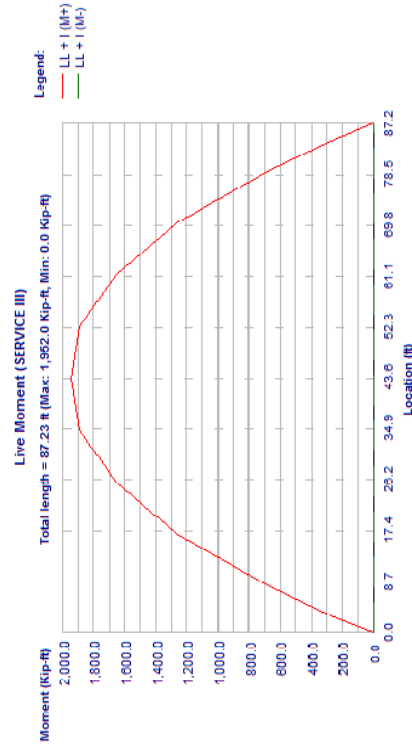
Composite Moment, Span 1, Beam 3, SERVICE III

		Sheet #	13
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Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span01WB_ModifiedSpacing.csl		Designed KSM	
		Date	Sept/9/2013
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		Date	




Composite Shear, Span 1, Beam 3, SERVICE III

		Sheet #	14
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span01WB_ModifiedSpacing.csl		Designed KSM	
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		Date	



Live Moment, Span 1, Beam 3, SERVICE III



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4139.0	3625.7	2762.9	1494.1	719.3	429.5	0.0
LL + I :	98.1	141.1	172.7	204.3	220.9	226.6	234.7
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	118.5	145.8	174.3	204.3	220.9	226.6	234.7
M	3651.7	3342.4	2618.9	1494.1	734.6	441.5	0.0
Total :	7472.9	6525.9	4940.1	2659.1	1277.7	762.4	0.0
V	130.6	206.1	270.2	334.3	381.4	397.6	420.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	151.0	210.8	271.8	334.3	381.4	397.6	420.5
M	6985.7	6242.6	4796.1	2659.1	1293.0	774.5	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	77.1	77.1
Diaphragm	26.4	26.4
DL-Prec(DC)	15.2	15.2
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

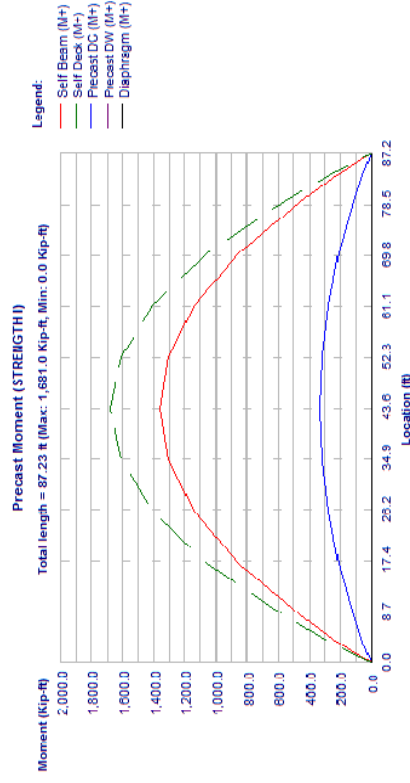


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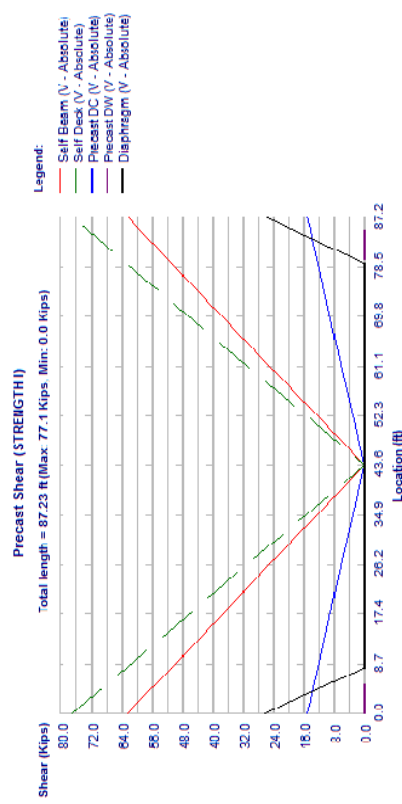
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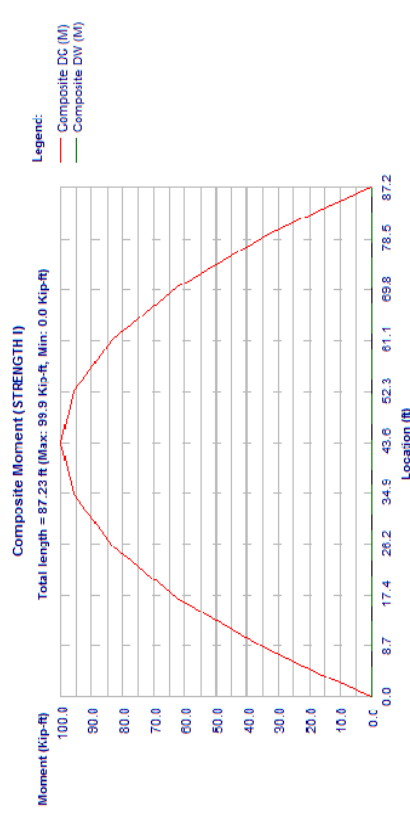
Precast Moment, Span 1, Beam 3, STRENGTH I

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		Job #	
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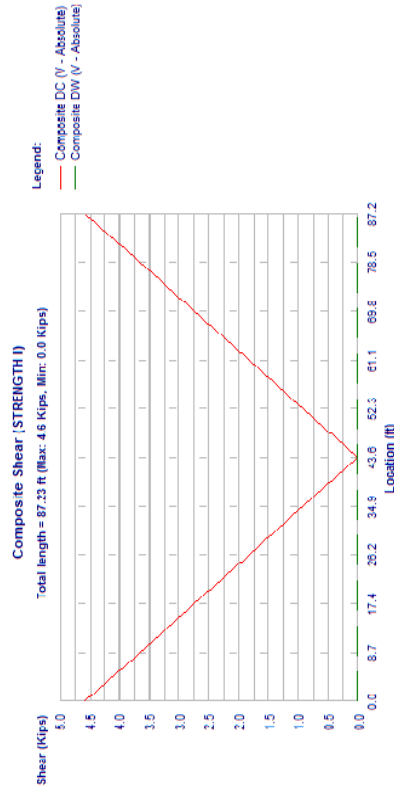
Precast Shear, Span 1, Beam 3, STRENGTH I

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		Job #	
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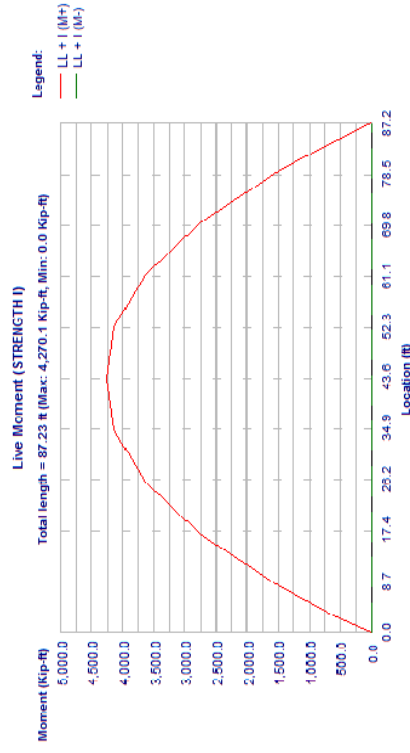
Composite Moment, Span 1, Beam 3, STRENGTH I

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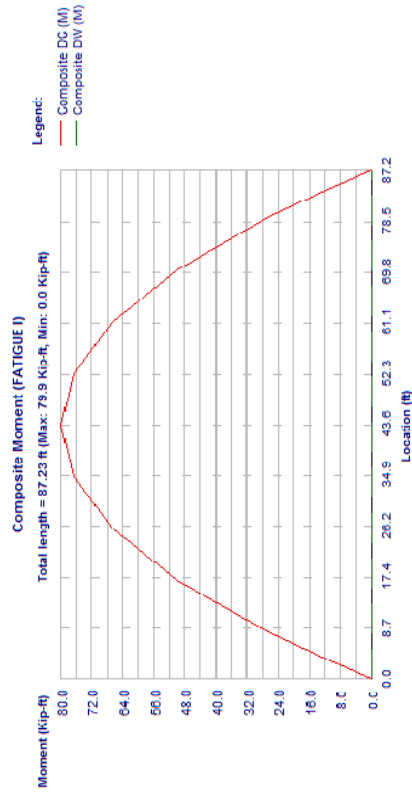
Composite Shear, Span 1, Beam 3, STRENGTH I

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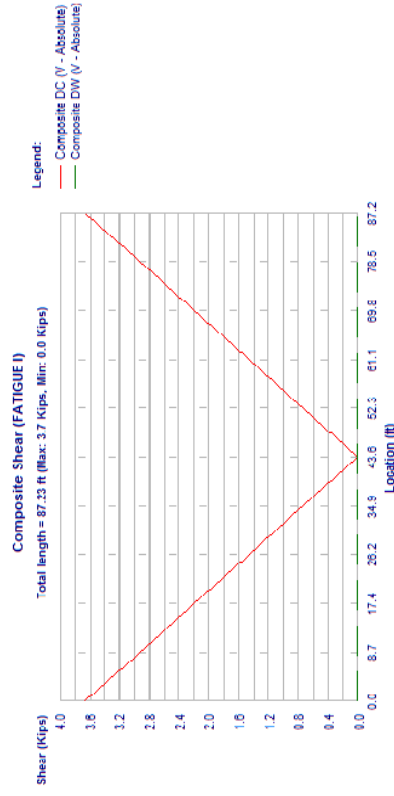
Live Moment, Span 1, Beam 3, STRENGTH I

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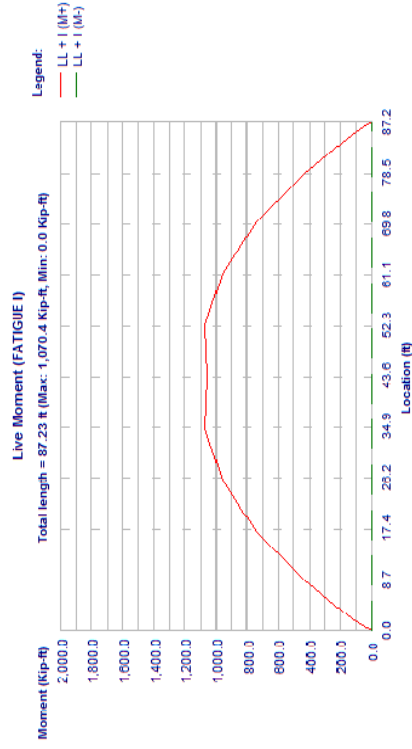
Composite Moment, Span 1, Beam 3, FATIGUE I

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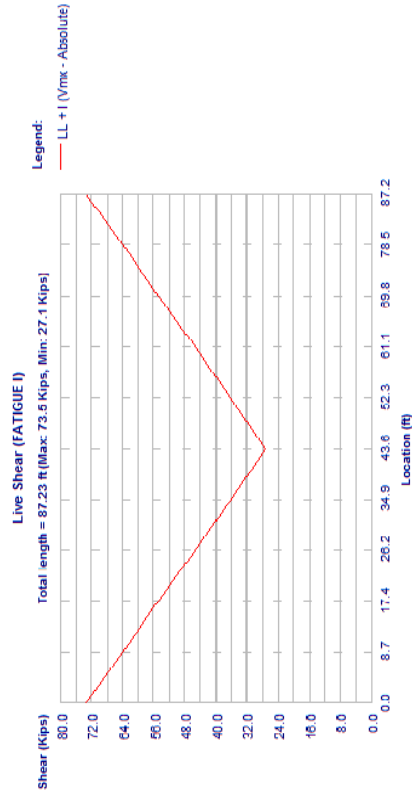
Composite Shear, Span 1, Beam 3, FATIGUE I

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Live Moment, Span 1, Beam 3, FATIGUE I

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Live Shear, Span 1, Beam 3, FATIGUE I



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	-0.0	25.3	42.5	88.7	166.0	221.2	254.3
DC(Max)	V	12.2	11.6	11.2	9.9	7.4	5.0	2.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	128.4	215.4	449.6	841.3	1121.0	1288.9
Haunch (Max)	V	61.7	58.6	56.5	50.3	37.7	25.2	12.6
Diaphragm :	M	0.0	0.4	0.7	1.2	1.2	1.2	1.2
(Max)	V	21.1	15.5	11.5	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	245.4	411.0	853.8	1578.8	2071.8	2365.1
LL + I :	V	134.1	129.5	126.2	116.7	98.7	80.6	56.0
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	134.1	129.5	126.2	116.7	99.6	83.3	67.7
LL + I :	V	-0.0	252.3	419.8	853.8	1496.5	1909.9	2086.7
Total :	M+	0.0	511.4	857.2	1784.7	3319.5	4390.9	5031.2
Total :	V	282.8	266.3	254.6	220.7	176.7	132.6	82.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	282.8	266.3	254.6	220.7	177.6	135.3	93.7
Total :	M	0.0	518.3	865.9	1784.7	3237.2	4229.0	4752.8

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
DL-Prec. :	M	254.3	221.2	166.0	88.7	42.5	25.3
DC(Max)	V	2.5	5.0	7.4	9.9	11.2	11.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1288.9	1121.0	841.3	449.6	215.4	128.4
Haunch (Max)	V	12.6	25.2	37.7	50.3	56.5	58.6
Diaphragm :	M	1.2	1.2	1.2	1.2	0.7	0.4
(Max)	V	0.0	0.0	0.0	0.0	11.5	15.5
DL-Comp. :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2365.1	2071.8	1578.8	853.8	411.0	245.4



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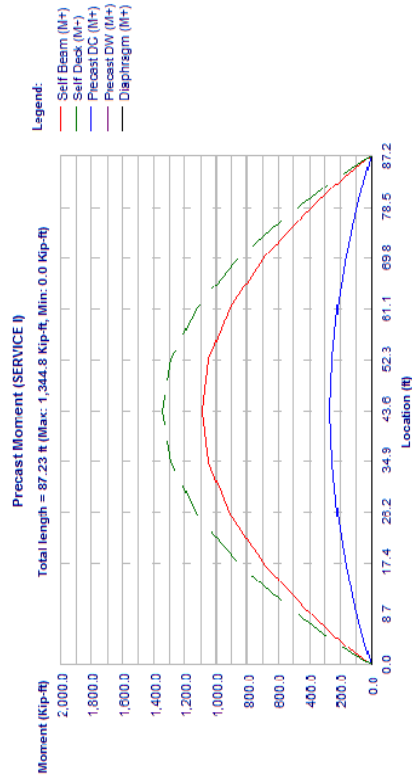
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	56.0	80.6	98.7	116.7	126.2	129.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	67.7	83.3	99.6	116.7	126.2	129.5
Total :	M	2086.7	1909.9	1496.5	853.8	419.8	252.3
Total :	M+	5031.2	4390.9	3319.5	1784.7	857.2	511.4
Total :	V	82.0	132.6	176.7	220.7	254.6	266.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	93.7	135.3	177.6	220.7	254.6	266.3
Total :	M	4752.8	4229.0	3237.2	1784.7	865.9	518.3

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	61.7	61.7
Diaphragm	21.1	21.1
DL-Prec.(DC)	12.2	12.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	0.0	0.0
Live	92.2	92.2
Pedestrian	0.0	0.0

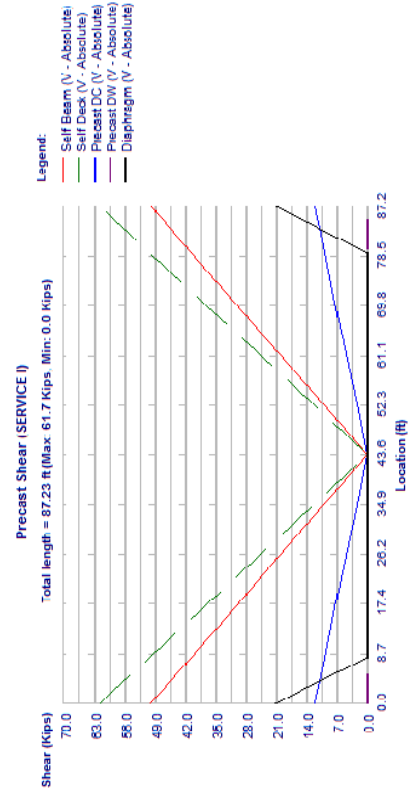
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

		Sheet #	3
		Job #	
		Designed	KSM
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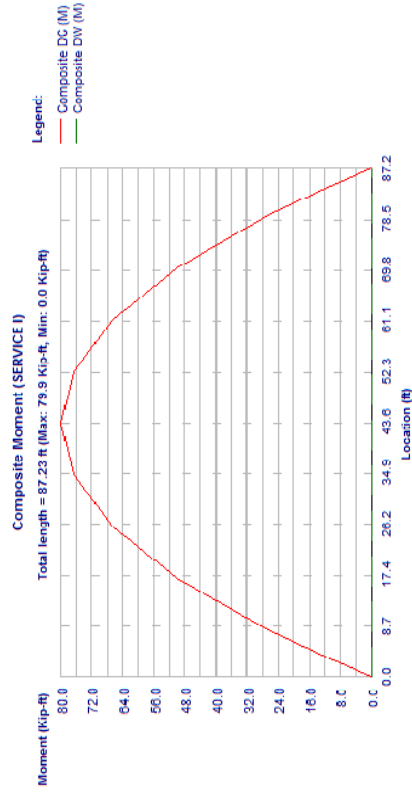
Precast Moment, Span 1, Beam 4, SERVICE I

		Sheet #	4
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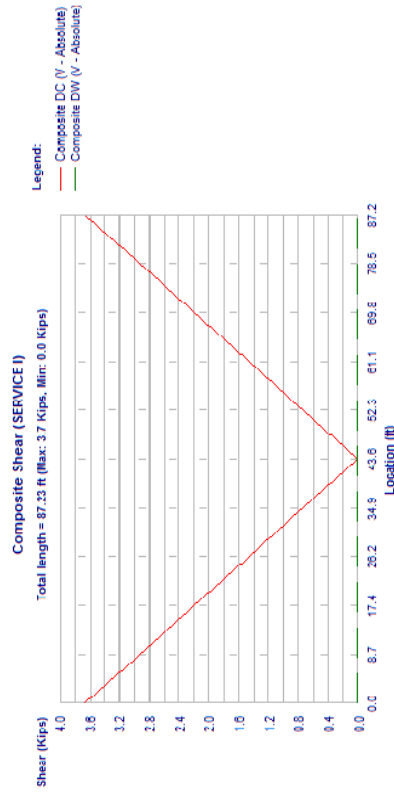
Precast Shear, Span 1, Beam 4, SERVICE I

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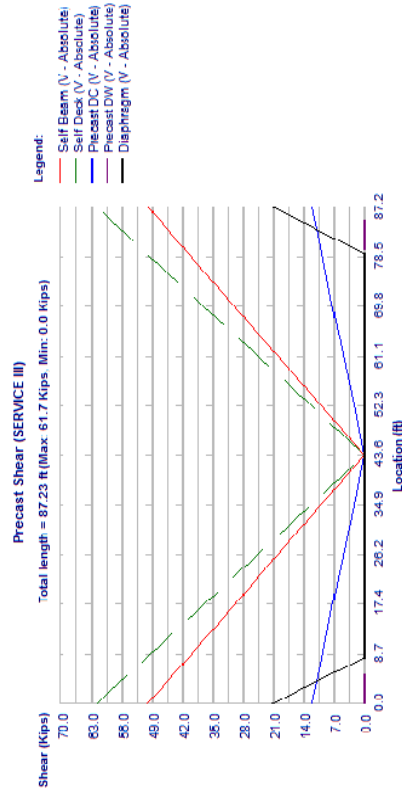
Composite Moment, Span 1, Beam 4, SERVICE I

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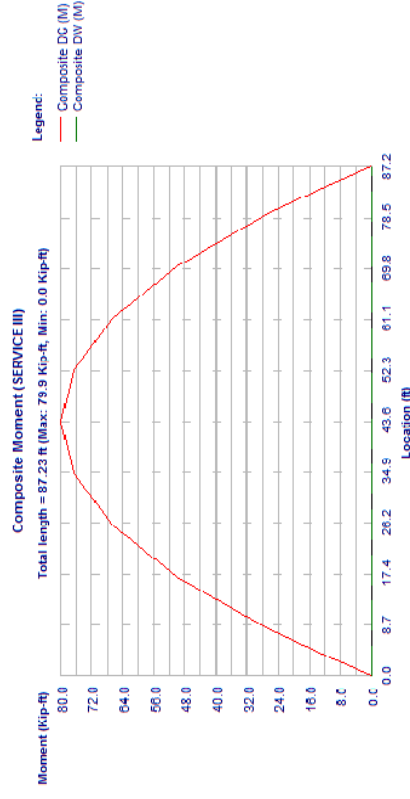
Composite Shear, Span 1, Beam 4, SERVICE I

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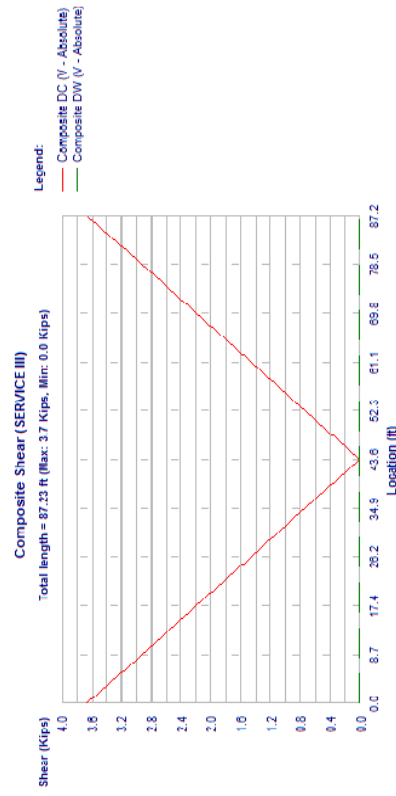
Precast Shear, Span 1, Beam 4, SERVICE III

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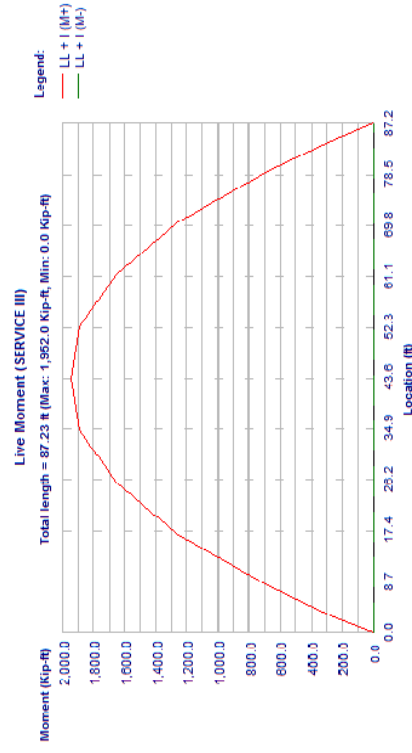
Composite Moment, Span 1, Beam 4, SERVICE III

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Composite Shear, Span 1, Beam 4, SERVICE III

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Live Moment, Span 1, Beam 4, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4139.0	3625.7	2762.9	1494.1	719.3	429.5	0.0
LL + I :	98.1	141.1	172.7	204.3	220.9	226.6	234.7
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	118.5	145.8	174.3	204.3	220.9	226.6	234.7
M	3651.7	3342.4	2618.9	1494.1	734.6	441.5	0.0
Total :	7471.6	6524.5	4938.7	2657.8	1277.0	761.9	0.0
V	130.6	206.1	270.2	334.3	381.4	397.6	420.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	151.0	210.8	271.8	334.3	381.4	397.6	420.5
M	6984.3	6241.2	4794.7	2657.8	1292.3	774.0	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	77.1	77.1
Diaphragm	26.4	26.4
DL-Prec(DC)	15.2	15.2
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:03 P.M.

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Precast Moment (STRENGTH I)

Total length = 87.23 ft (Max: 1,681.0 Kip-ft, Min: 0.0 Kip-ft)


Legend:

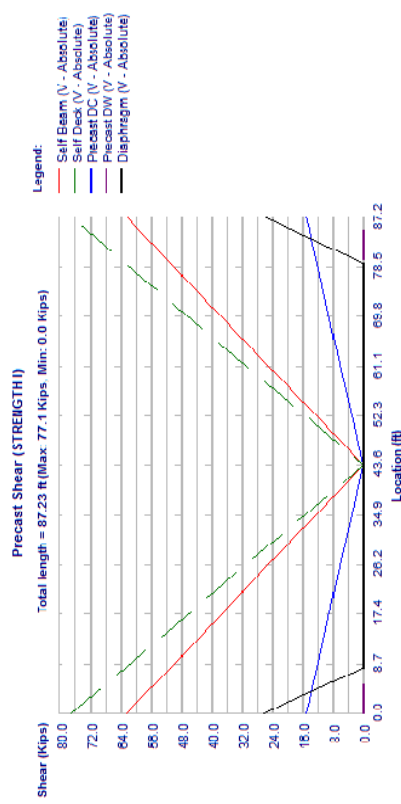
- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)


Precast Moment, Span 1, Beam 4, STRENGTH I

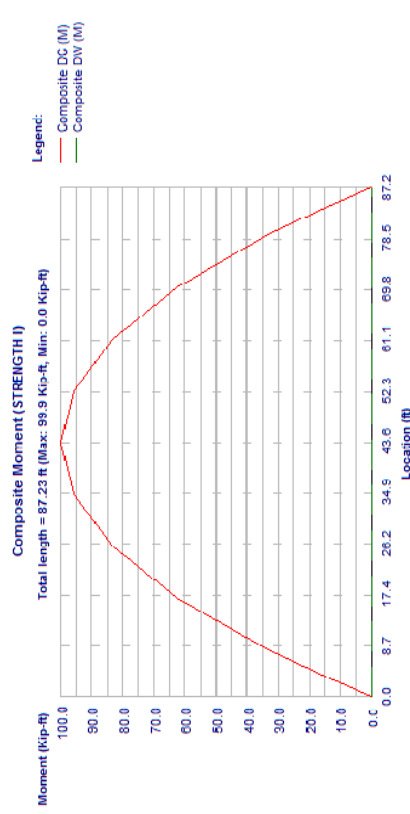
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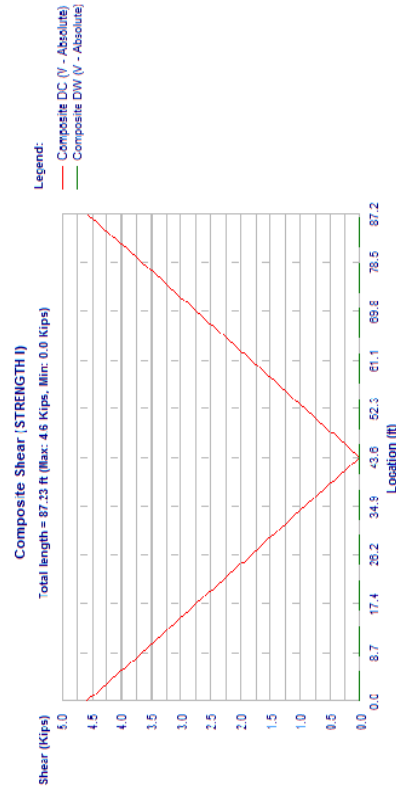
Precast Shear, Span 1, Beam 4, STRENGTH I

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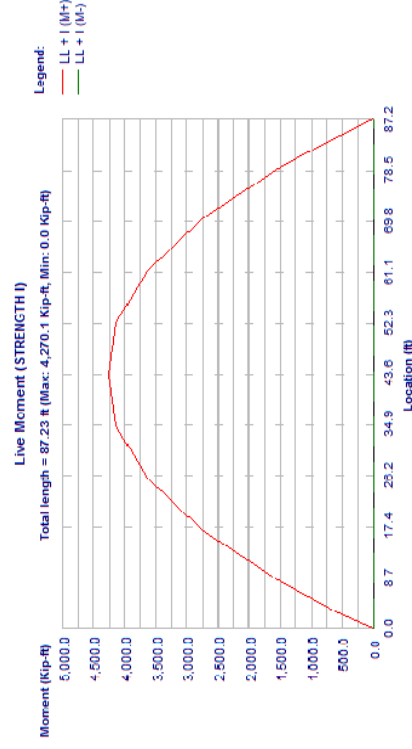
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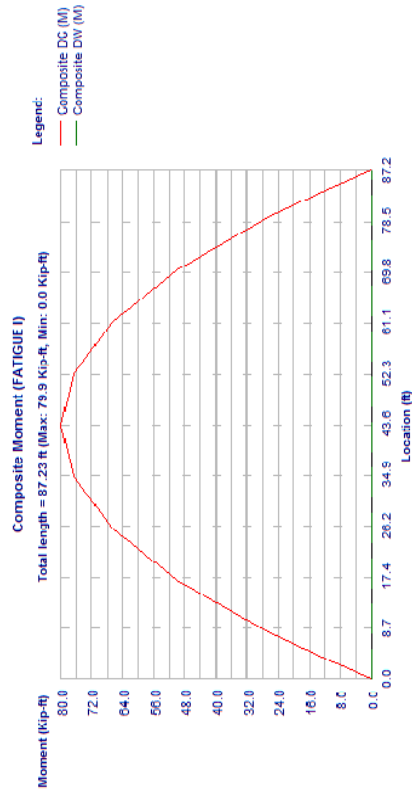
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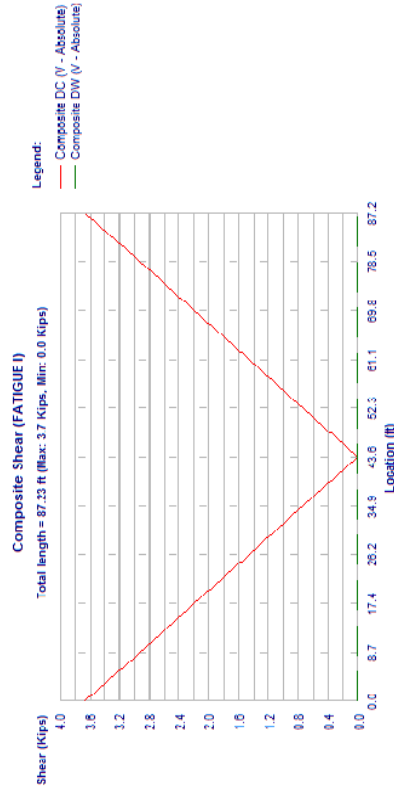
Live Moment, Span 1, Beam 4, STRENGTH I

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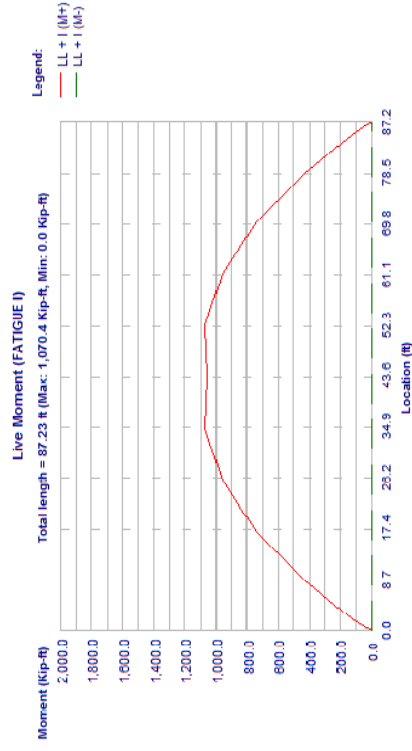
Composite Moment, Span 1, Beam 4, FATIGUE I

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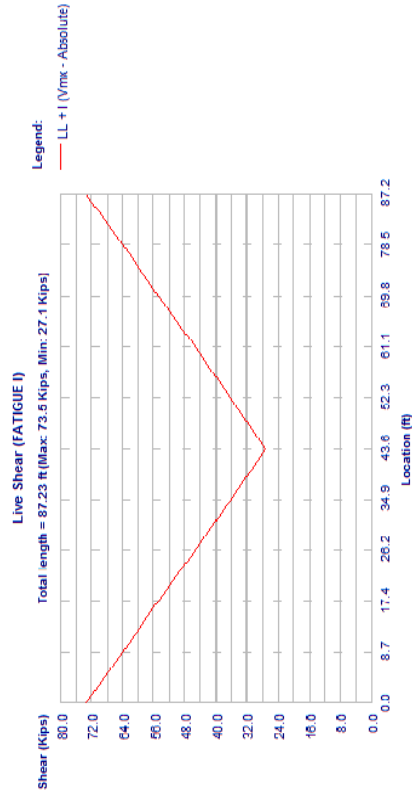
Composite Shear, Span 1, Beam 4, FATIGUE I

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Live Moment, Span 1, Beam 4, FATIGUE I

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Live Shear, Span 1, Beam 4, FATIGUE I



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	-0.0	25.3	42.5	88.7	166.0	221.2	254.3
DC(Max)	V	12.2	11.6	11.2	9.9	7.4	5.0	2.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	128.4	215.4	449.6	841.3	1121.0	1288.9
Haunch (Max)	V	61.7	58.6	56.5	50.3	37.7	25.2	12.6
Diaphragm :	M	0.0	0.1	0.1	0.2	0.2	0.2	0.2
(Max)	V	21.1	15.5	11.5	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	7.6	12.8	26.7	50.0	66.6	79.9
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	245.4	411.0	853.8	1578.8	2071.8	2365.1
LL + I :	V	134.1	129.5	126.2	116.7	98.7	80.6	56.0
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	134.1	129.5	126.2	116.7	99.6	83.3	67.7
LL + I :	V	-0.0	252.3	419.8	853.8	1496.5	1909.9	2086.7
Total :	M+	0.0	511.0	856.5	1783.6	3318.4	4389.8	5030.1
Total :	V	282.8	266.3	254.6	220.7	176.7	132.6	82.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	282.8	266.3	254.6	220.7	177.6	135.3	93.7
Total :	M	0.0	517.9	865.3	1783.6	3236.1	4227.9	4751.7

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
DL-Prec. :	M	254.3	221.2	166.0	88.7	42.5	25.3
DC(Max)	V	2.5	5.0	7.4	9.9	11.2	11.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1288.9	1121.0	841.3	449.6	215.4	128.4
Haunch (Max)	V	12.6	25.2	37.7	50.3	56.5	58.6
Diaphragm :	M	0.2	0.2	0.2	0.2	0.1	0.1
(Max)	V	0.0	0.0	0.0	0.0	11.5	15.5
DL-Comp. :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2365.1	2071.8	1578.8	853.8	411.0	245.4



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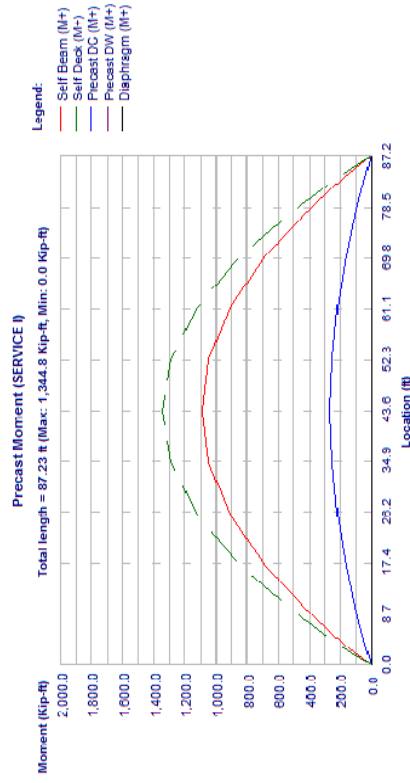
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LL + I :	V	56.0	80.6	98.7	116.7	126.2	129.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	67.7	83.3	99.6	116.7	126.2	129.5
Total :	M	2086.7	1909.9	1496.5	853.8	419.8	252.3
Total :	M+	5030.1	4389.8	3318.4	1783.6	856.5	511.0
Total :	V	82.0	132.6	176.7	220.7	254.6	266.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	93.7	135.3	177.6	220.7	254.6	266.3
Total :	M	4751.7	4227.9	3236.1	1783.6	865.3	517.9

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	61.7	61.7
Diaphragm	21.1	21.1
DL-Prec.(DC)	12.2	12.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	0.0	0.0
Live	92.2	92.2
Pedestrian	0.0	0.0

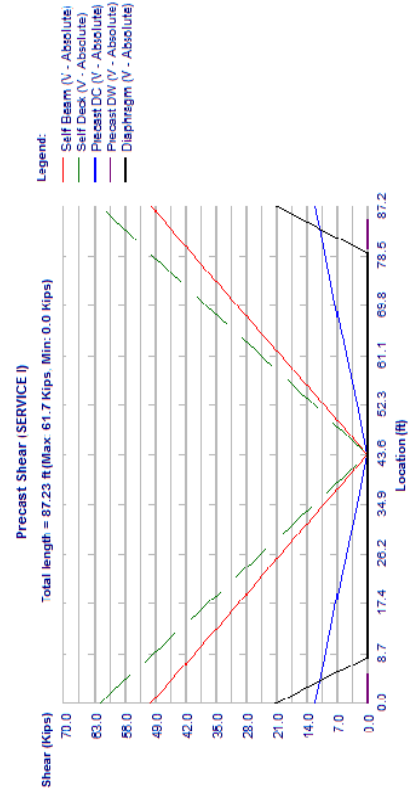
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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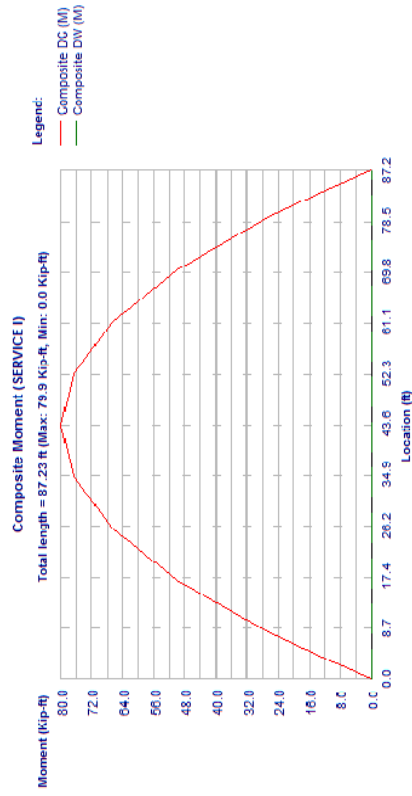
Precast Moment, Span 1, Beam 5, SERVICE I

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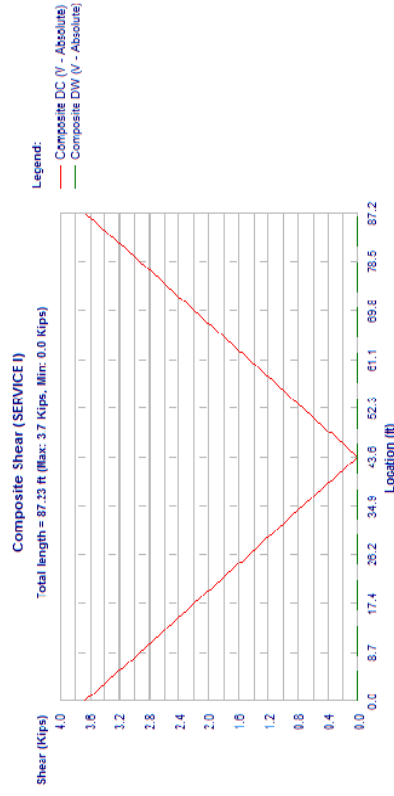
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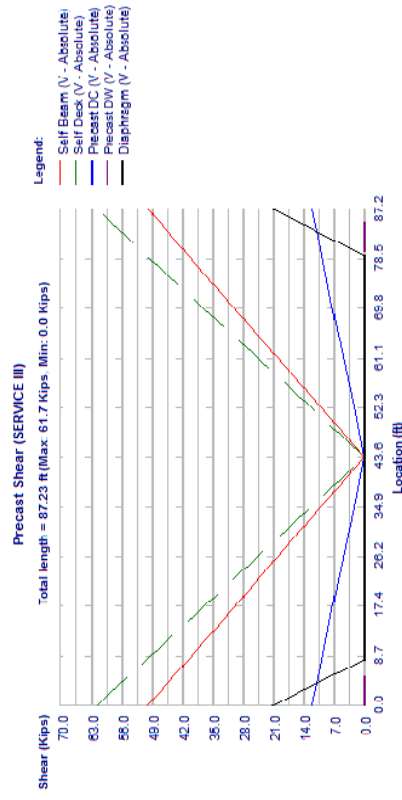
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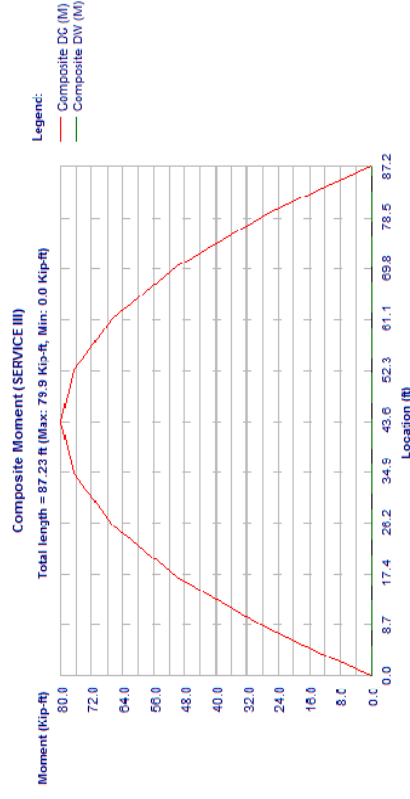
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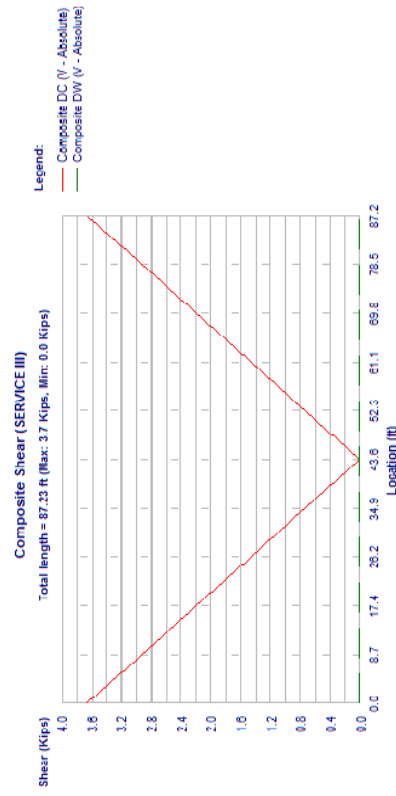
Precast Shear, Span 1, Beam 5, SERVICE III

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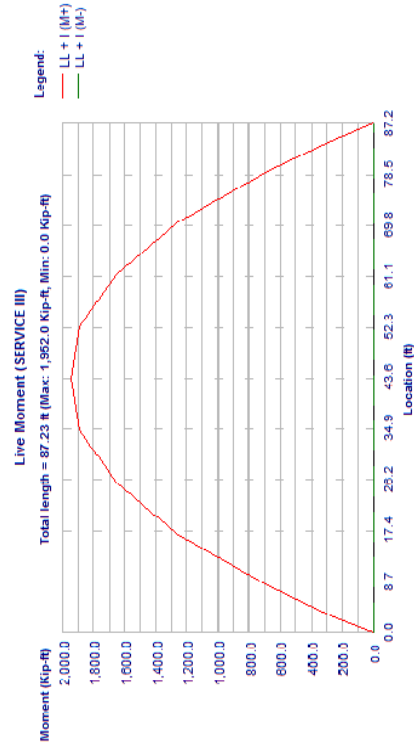
Composite Moment, Span 1, Beam 5, SERVICE III

		Sheet #	13
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57		Designed	KSM
		Date	Sept/9/2013
File Name: Span01WB_ModifiedSpacing.csl		Checked	
		Date	



Composite Shear, Span 1, Beam 5, SERVICE III

		Sheet #	14
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57		Designed	KSM
		Date	Sept/9/2013
File Name: Span01WB_ModifiedSpacing.csl		Checked	
		Date	



Live Moment, Span 1, Beam 5, SERVICE III

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Version: 12.01.00.57
File Name: Span01WB_ModifiedSpacing.csl

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Sheet # 17
Job #
Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4139.0	3625.7	2762.9	1494.1	719.3	429.5	0.0
LL + I :	98.1	141.1	172.7	204.3	220.9	226.6	234.7
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	118.5	145.8	174.3	204.3	220.9	226.6	234.7
M	3651.7	3342.4	2618.9	1494.1	734.6	441.5	0.0
Total :	7470.2	6523.2	4937.4	2656.4	1276.2	761.4	0.0
Total :	130.6	206.1	270.2	334.3	381.4	397.6	420.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	151.0	210.8	271.8	334.3	381.4	397.6	420.5
M	6983.0	6239.9	4793.4	2656.4	1291.5	773.5	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	77.1	77.1
Diaphragm	26.4	26.4
DL-Prec(DC)	15.2	15.2
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:03 P.M.

Bentley

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Version: 12.01.00.57
File Name: Span01WB_ModifiedSpacing.csl

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Sheet # 18
Job #
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Precast Moment (STRENGTH I)

Total length = 87.23 ft (Max: 1,681.0 Kip-ft, Min: 0.0 Kip-ft)


Legend:

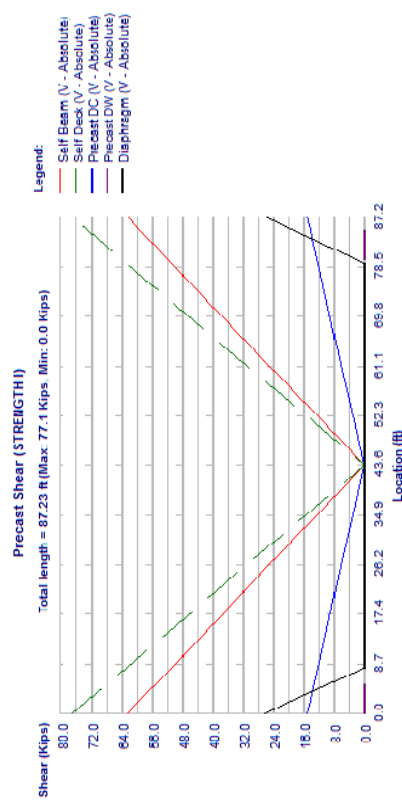
- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)


Precast Moment, Span 1, Beam 5, STRENGTH I

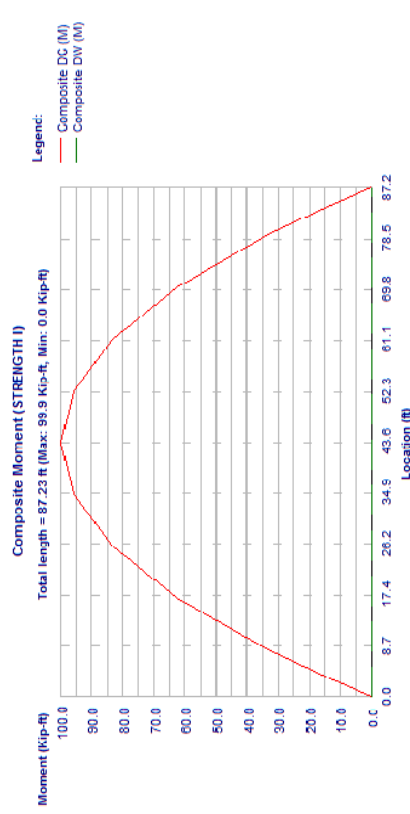
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:03 P.M.

		Sheet # 19	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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File Name: Span01WB_ModifiedSpacing.csl			




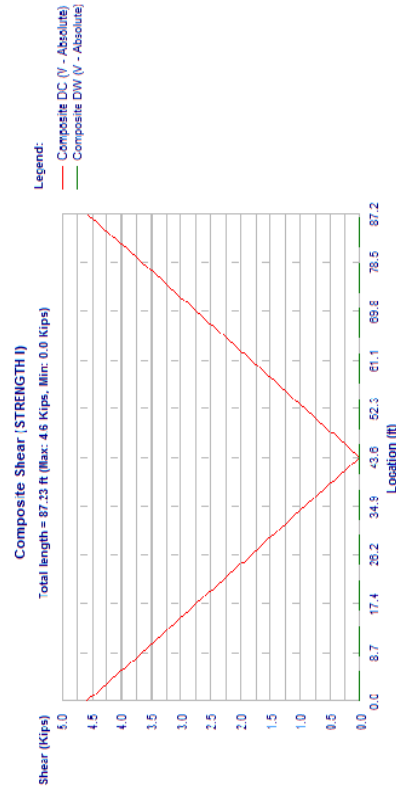
Precast Shear, Span 1, Beam 5, STRENGTH I

		Sheet # 20	
		Job #	
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File Name: Span01WB_ModifiedSpacing.csl			




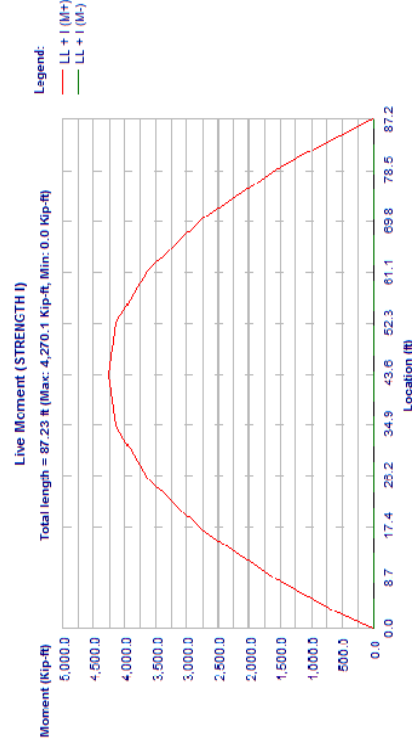
Composite Moment, Span 1, Beam 5, STRENGTH I

		Sheet #	21
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57		Designed	KSM
		Date	Sept/9/2013
File Name: Span01WB_ModifiedSpacing.csl		Checked	
		Date	




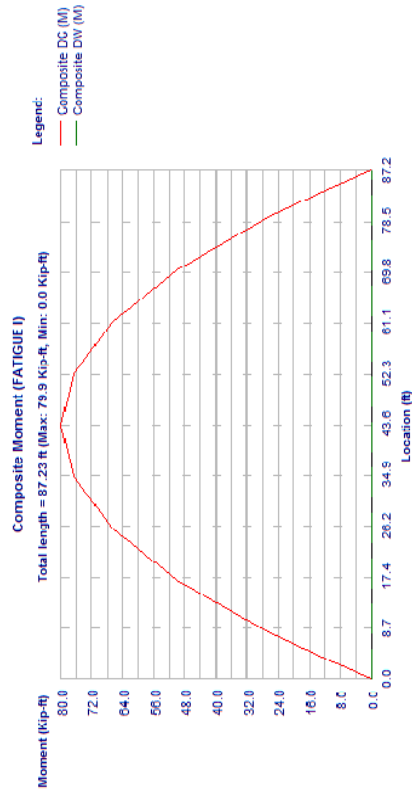
Composite Shear, Span 1, Beam 5, STRENGTH I

		Sheet #	22
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57		Designed	KSM
		Date	Sept/9/2013
File Name: Span01WB_ModifiedSpacing.csl		Checked	
		Date	




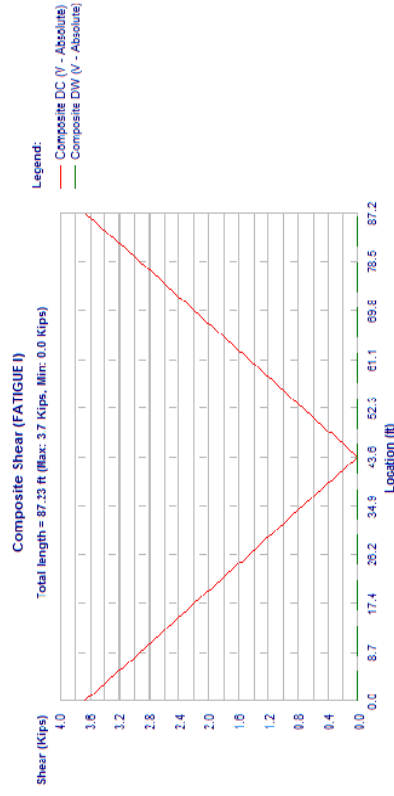
Live Moment, Span 1, Beam 5, STRENGTH I

		Sheet # 27	
		Job #	
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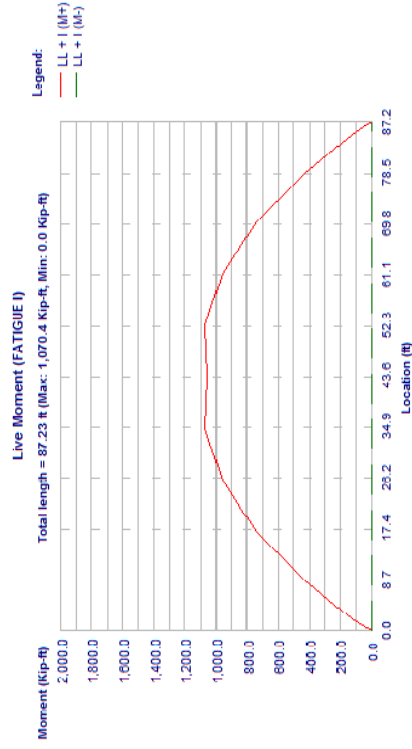
Composite Moment, Span 1, Beam 5, FATIGUE I

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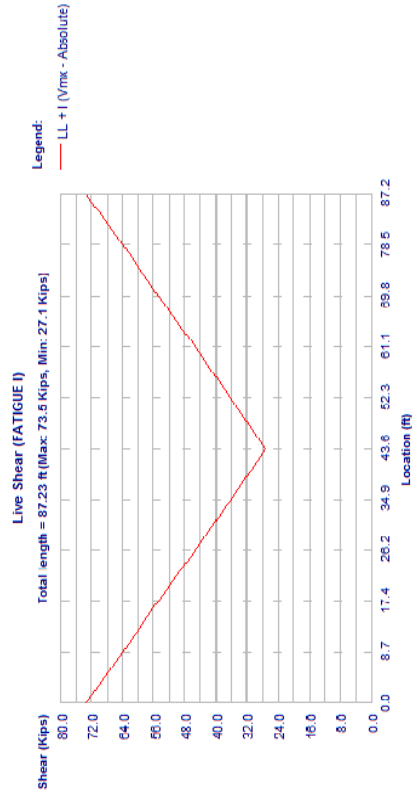
Composite Shear, Span 1, Beam 5, FATIGUE I

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		Job #	
		Designed	KSM
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		Date	




Live Moment, Span 1, Beam 5, FATIGUE I

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		Job #	
		Designed	KSM
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Live Shear, Span 1, Beam 5, FATIGUE I



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE I
 Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	0.0	23.3	39.2	81.7	152.9	203.8	234.3
DC(Max)	V	11.2	10.7	10.3	9.1	6.9	4.6	2.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	117.8	197.6	412.3	771.5	1028.0	1181.9
Haunch (Max)	V	56.5	53.8	51.8	46.1	34.6	23.1	11.5
Diaphragm :	M	0.0	0.3	0.4	0.8	0.7	0.6	0.5
(Max)	V	19.2	14.1	10.5	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	229.4	384.3	798.2	1476.0	1937.0	2211.2
LL + I :	V	125.7	121.4	118.3	109.4	92.5	75.6	52.5
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	125.7	121.4	118.3	109.4	93.4	78.1	63.5
Total :	M	-0.0	235.9	392.4	798.2	1399.1	1785.6	1950.9
Total :	V	0.0	482.6	808.9	1684.3	3133.2	4144.9	4749.5
Total :	M-	266.4	251.0	240.1	208.5	166.8	125.1	77.3
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	266.4	251.0	240.1	208.5	167.7	127.6	88.2
Total :	M	0.0	489.0	817.1	1684.3	3056.3	3993.5	4489.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
DL-Prec. :	M	234.3	203.8	152.9	81.7	39.2	23.3
DC(Max)	V	2.3	4.6	6.9	9.1	10.3	10.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1181.9	1028.0	771.5	412.3	197.6	117.8
Haunch (Max)	V	11.5	23.1	34.6	46.1	51.8	53.8
Diaphragm :	M	0.3	0.2	0.2	0.1	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2211.2	1937.0	1476.0	798.2	384.3	229.4



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	52.5	75.6	92.5	109.4	118.3	121.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	63.5	78.1	93.4	109.4	118.3	121.4
Total :	M	1950.9	1785.6	1399.1	798.2	392.4	235.9
Total :	M+	4749.3	4144.6	3132.7	1683.6	808.5	482.3
Total :	V	77.3	125.1	166.8	208.5	229.6	247.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	88.2	127.6	167.7	208.5	229.6	247.2
Total :	M	4489.0	3993.2	3055.8	1683.6	816.7	488.8

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	56.5	56.5
Diaphragm	19.2	0.0
DL-Prec.(DC)	11.2	11.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	0.0	0.0
Live	92.2	92.2
Pedestrian	0.0	0.0

Upward reactions are positive.
 Live Load reactions are per lane with no distribution factor and no impact.
 Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
 Non-composite load types are per beam.
 Composite and Pedestrian load types are per total bridge width.

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Sheet # 3

Job #

Moment (Kip-ft)

Precast Moment (SERVICE I)

Total length = 87.23 ft (Max: 1,233.2 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 6, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:04 P.M.

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Program: LEAP@ CONSPAN® V8i (SELECTseries 5)

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Sheet # 4

Job #

Shear (Kips)

Precast Shear (SERVICE I)

Total length = 87.23 ft (Max: 56.5 Kips, Min: 0.0 Kips)


Legend:

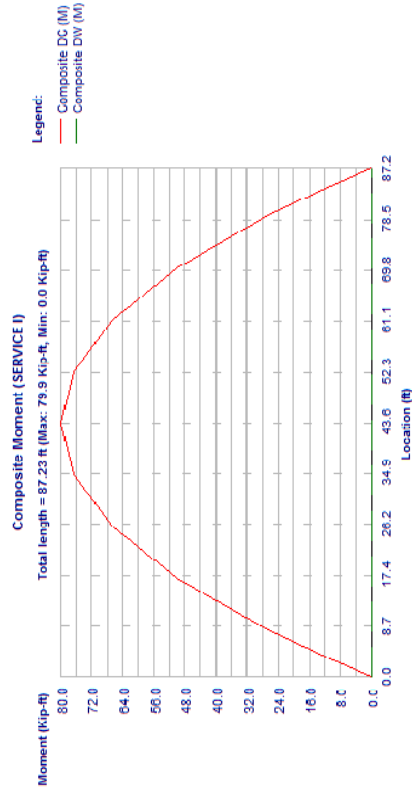
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 6, SERVICE I

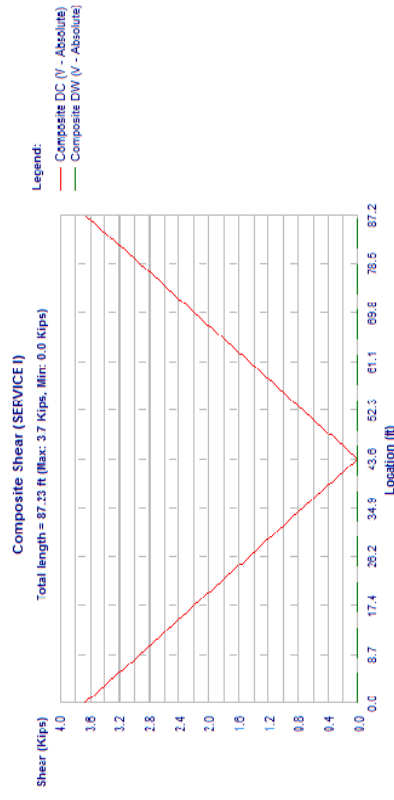
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:04 P.M.

		Sheet # 5	
		Job #	
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Composite Moment, Span 1, Beam 6, SERVICE I

		Sheet # 6	
		Job #	
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Composite Shear, Span 1, Beam 6, SERVICE I

Bentley

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Sheet # 7

Job #

Live Moment (SERVICE I)
Total length = 87.23 ft (Max: 2,281.2 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
8.7	17.4
17.4	25.2
25.2	34.9
34.9	43.6
43.6	52.3
52.3	61.1
61.1	69.8
69.8	78.5
78.5	87.2

Live Moment, Span 1, Beam 6, SERVICE I

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 18, 2013 @ 4:04 P.M.

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Date Sept/9/2013

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Date

Sheet # 8

Job #

Live Shear (SERVICE I)
Total length = 87.23 ft (Max: 126.7 Kips, Min: 49.4 Kips)

Legend:
— LL + I (Vmk - Absolute)

Location (ft)	Shear (Kips)
0.0	126.7
8.7	117.4
17.4	108.1
25.2	98.8
34.9	89.5
43.6	80.2
52.3	70.9
61.1	61.6
69.8	52.3
78.5	43.0
87.2	49.4

Live Shear, Span 1, Beam 6, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE III
Shears: kips, Moments: kft

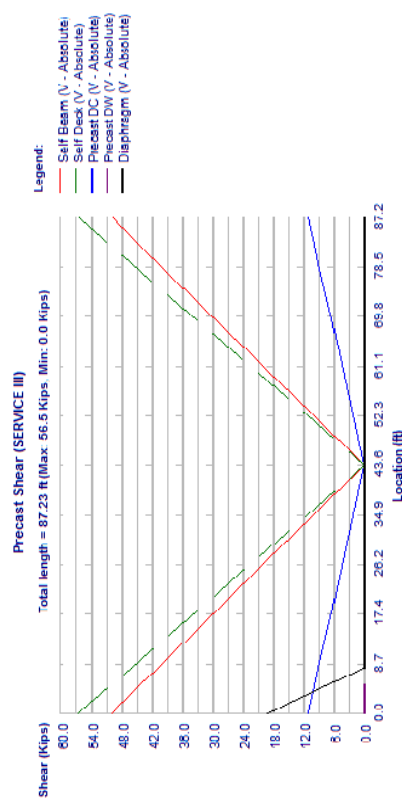
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Self wt. :	0.0	104.1	174.7	364.6	682.2	909.0	1045.1	1090.5
(Max)	50.0	47.6	45.8	40.8	30.6	20.4	10.2	0.0
DL-Prec. :	0.0	23.3	39.2	81.7	152.9	203.8	234.3	244.4
DC(Max)	11.2	10.7	10.3	9.1	6.9	4.6	2.3	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	117.8	197.6	412.3	771.5	1028.0	1181.9	1233.2
Haunch (Max)	56.5	53.8	51.8	46.1	34.6	23.1	11.5	0.0
Diaphragm :	0.0	0.3	0.4	0.8	0.7	0.6	0.5	0.4
(Max)	19.2	14.1	10.5	0.0	0.0	0.0	0.0	0.0
DL-Comp :	-0.0	7.6	12.8	26.7	50.0	66.6	76.6	79.9
DC(Max)	3.7	3.5	3.4	3.0	2.2	1.5	0.7	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	-0.0	183.5	307.4	638.6	1180.8	1549.6	1768.9	1825.0

Units: U.S. Units


Design Code: AASHTO LRFD

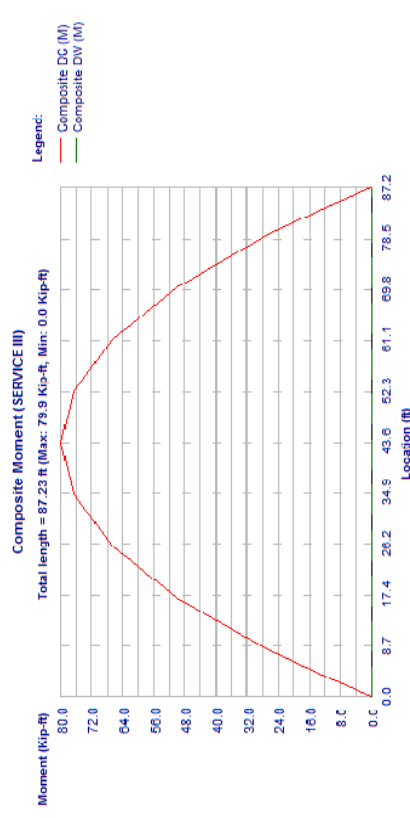
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		Job #	
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Version: 12.01.00.57		Date Sept/9/2013	
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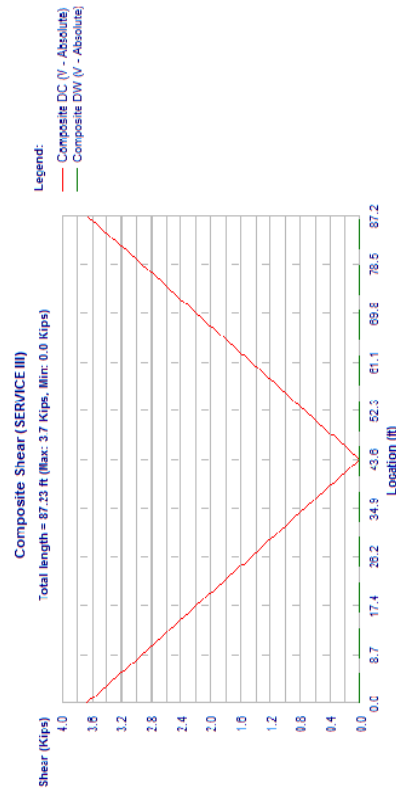
Precast Shear, Span 1, Beam 6, SERVICE III

		Sheet # 12	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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File Name: Span01WB_ModifiedSpacing.csl			




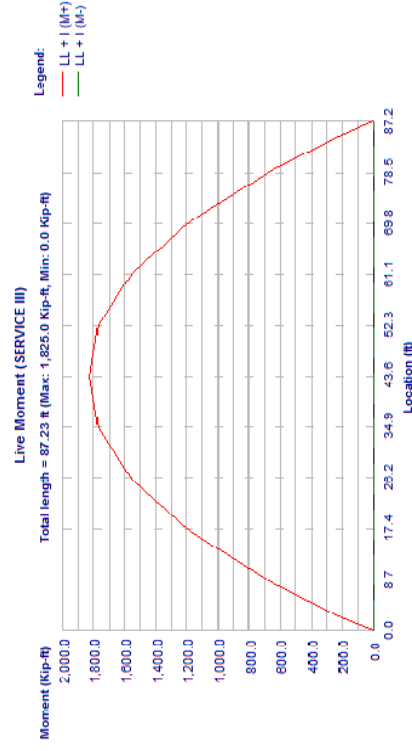
Composite Moment, Span 1, Beam 6, SERVICE III

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Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span01WB_ModifiedSpacing.csl		Designed KSM	
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		Date	




Composite Shear, Span 1, Beam 6, SERVICE III

		Sheet #	14
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span01WB_ModifiedSpacing.csl		Designed KSM	
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		Date	



Live Moment, Span 1, Beam 6, SERVICE III



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	3869.6	3389.7	2583.1	1396.8	672.5	401.5	0.0
LL + I :	91.9	132.2	161.9	191.5	207.1	212.4	220.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	111.1	136.7	163.4	191.5	207.1	212.4	220.0
LL + I :	3414.0	3124.8	2448.4	1396.8	686.8	412.8	0.0
Total :	7042.3	6149.2	4653.9	2503.7	1202.8	717.6	0.0
Total :	122.9	194.2	254.7	315.3	346.2	356.8	371.8
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	142.0	198.6	256.3	315.3	346.2	356.8	371.8
Total :	6586.7	5884.3	4519.3	2503.7	1217.1	728.9	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	70.7	70.7
Diaphragm	24.0	0.0
DL-Prec(DC)	14.0	14.0
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

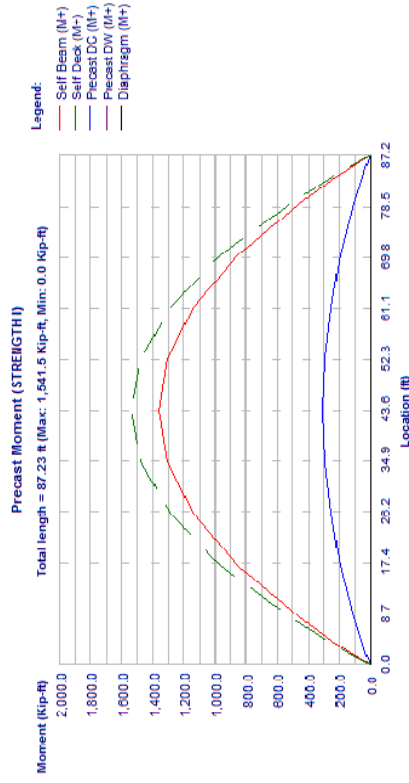


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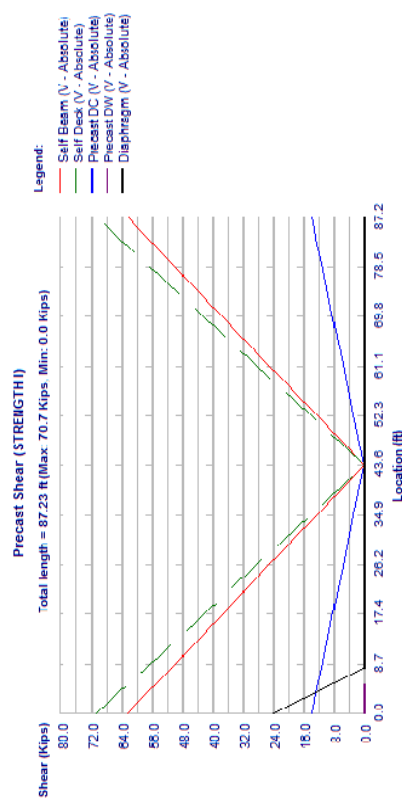
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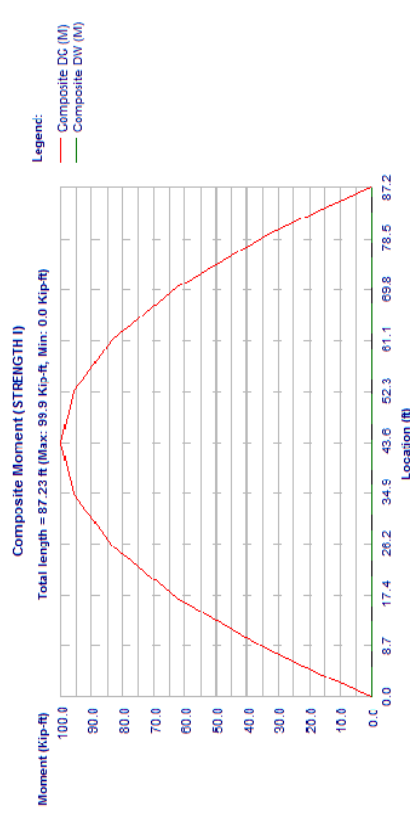
Precast Moment, Span 1, Beam 6, STRENGTH I

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		Job #	
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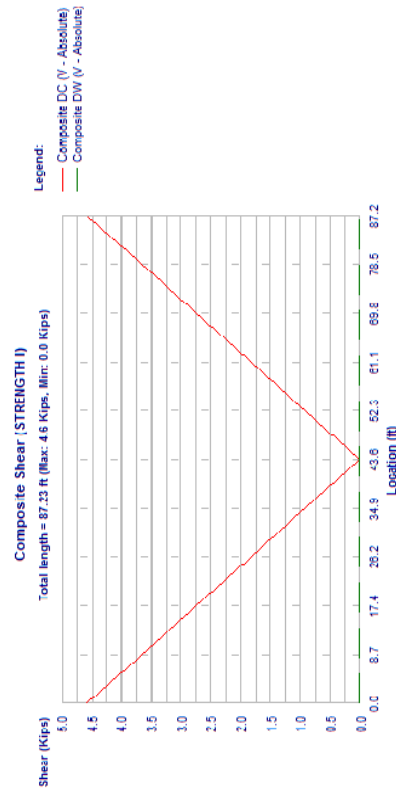
Precast Shear, Span 1, Beam 6, STRENGTH I

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		Job #	
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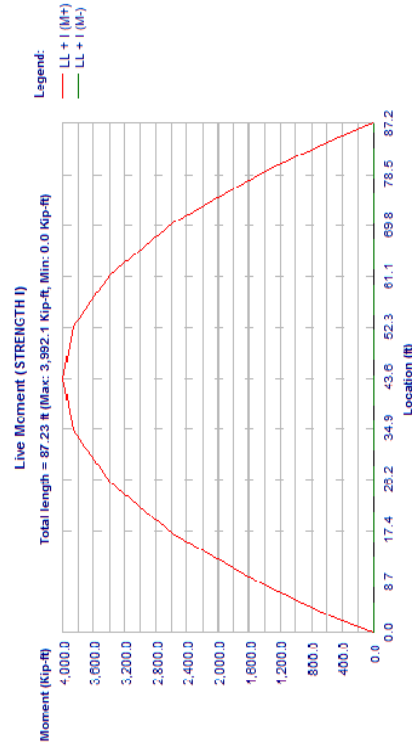
Composite Moment, Span 1, Beam 6, STRENGTH I

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		Job #	
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Composite Shear, Span 1, Beam 6, STRENGTH I

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		Job #	
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Live Moment, Span 1, Beam 6, STRENGTH I

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Sheet # 23

Job #

Live Shear (STRENGTH I)

Total length = 87.23 ft (Max: 220.0 Kips, Min: 86.5 Kips)

Legend: — LL + 1 (Vmx - Absolute)

Live Shear, Span 1, Beam 6, STRENGTH I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, FATIGUE I

Shears: Kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	23.3	39.2	81.7	152.9	203.8	234.3
DC(Max)	V	11.2	10.7	10.3	9.1	6.9	4.6	2.3
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	117.8	197.6	412.3	771.5	1028.0	1181.9
Haunch (Max)	V	56.5	53.8	51.8	46.1	34.6	23.1	11.5
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Job #

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.3	0.4	0.8	0.7	0.6	0.5
(Max)	V	19.2	14.1	10.5	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6
DC(Max)	V	3.7	3.5	3.0	2.2	1.5	0.7	0.0
DL-Comp :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	112.5	187.8	386.2	697.0	903.9	1010.1
LL + I :	V	69.8	67.5	66.0	61.4	52.5	40.0	31.2
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	69.8	67.5	66.0	61.4	52.5	43.3	34.5
LL + I :	M	0.0	112.5	187.8	386.2	697.0	876.9	938.9
Total :	M+	0.0	365.6	612.4	1272.4	2354.2	3111.8	3548.4
Total :	V	210.4	197.1	187.7	160.4	126.8	89.6	56.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	210.4	197.1	187.7	160.4	126.8	92.9	59.3
Total :	M	0.0	365.6	612.4	1272.4	2354.2	3084.8	3477.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	52.51	61.41	70.30	79.20	83.58	85.10	87.23
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	234.3	203.8	152.9	81.7	39.2	23.3
DC(Max)	V	2.3	4.6	6.9	9.1	10.3	11.2
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1181.9	1028.0	771.5	412.3	197.6	117.8
Haunch (Max)	V	11.5	23.1	34.6	46.1	51.8	53.8
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.3	0.2	0.2	0.1	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0

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Sheet # 27

Job #

Composite Moment (FATIGUE I)

Total length = 87.23 ft (Max: 79.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Composite DC (M)
- Composite DNV (M)

Location (ft)	Composite DC (M)	Composite DNV (M)
0.0	0.0	0.0
8.7	17.4	0.0
17.4	26.2	0.0
26.2	34.9	0.0
34.9	43.6	0.0
43.6	52.3	0.0
52.3	61.1	0.0
61.1	69.8	0.0
69.8	78.5	0.0
78.5	87.2	0.0

Composite Moment, Span 1, Beam 6, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:04 P.M.

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Sheet # 28

Job #

Composite Shear (FATIGUE I)

Total length = 87.23 ft (Max: 3.7 Kips, Min: 0.0 Kips)


Legend:

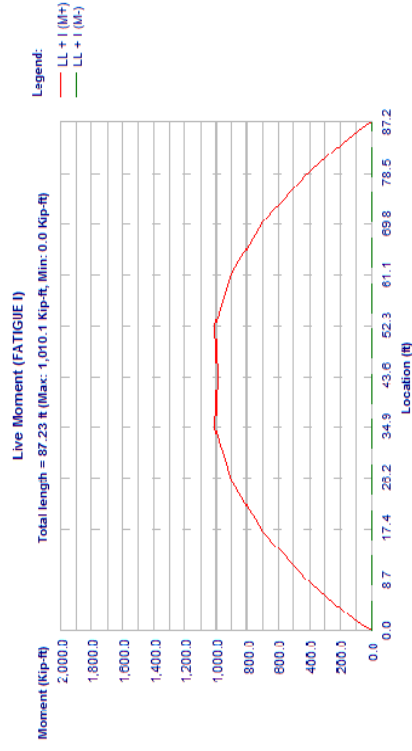
- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite DW (V - Absolute)
0.0	3.7	0.0
8.7	3.4	0.0
17.4	3.1	0.0
26.2	2.8	0.0
34.9	2.5	0.0
43.6	2.2	0.0
52.3	1.9	0.0
61.1	1.6	0.0
69.8	1.3	0.0
78.5	1.0	0.0
87.2	0.7	0.0


Composite Shear, Span 1, Beam 6, FATIGUE I

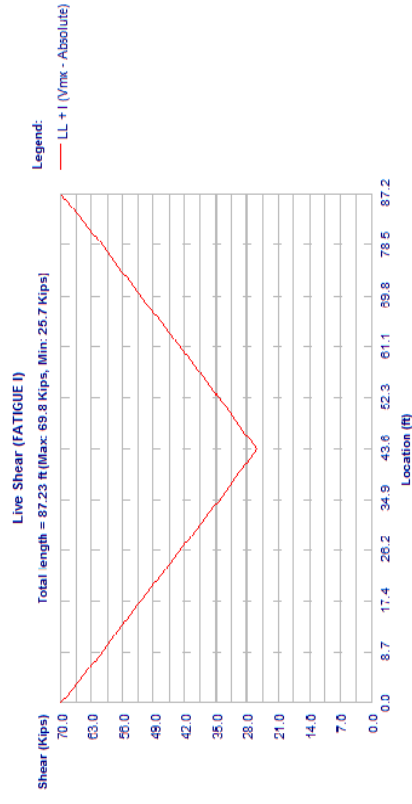
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Live Moment, Span 1, Beam 6, FATIGUE I

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Live Shear, Span 1, Beam 6, FATIGUE I



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Sheet # 1
Job #

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE I
Shears: kips, Moments: kft

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.0	2.13	3.65	8.03	16.93	25.82	34.72	43.62	
(Max)	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1	1090.5
DL-Prec. :	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2	0.0
DC(Max)	M	-0.0	21.3	35.8	74.7	139.8	186.3	214.2	223.5
DW(Max)	V	10.2	9.7	9.4	8.4	6.3	4.2	2.1	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	107.1	179.7	375.0	701.6	934.9	1074.9	1121.6
Haunch (Max)	V	51.4	48.9	47.1	42.0	31.5	21.0	10.5	0.0
Diaphragm :	M	0.0	0.5	0.8	1.3	1.2	1.0	0.9	0.7
(Max)	V	17.3	12.7	9.4	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6	79.9
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	213.1	357.0	741.6	1371.3	1799.5	2054.3	2119.4
LL + I :	V	117.1	113.1	110.2	101.9	86.1	70.4	48.9	33.2
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	117.1	113.1	110.2	101.9	87.0	72.7	59.1	46.1
Total :	M+	-0.0	219.1	364.6	741.6	1299.8	1658.9	1812.4	1774.0
Total :	V	0.0	453.9	760.7	1584.0	2946.1	3897.4	4466.0	4635.5
Total :	M-	249.7	235.4	225.3	196.0	156.7	117.5	72.5	33.2
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	249.7	235.4	225.3	196.0	157.6	119.8	82.7	46.1
	M	0.0	459.8	768.3	1584.0	2874.6	3756.8	4224.1	4290.2

Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	52.51	61.41	70.30	79.20	83.58	85.10	87.23
(Max)	V	1045.1	909.0	682.2	364.6	174.7	104.1	0.0
DL-Prec. :	M	214.2	186.3	139.8	74.7	35.8	21.3	-0.0
DC(Max)	V	2.1	4.2	6.3	8.4	9.4	9.7	10.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1074.9	934.9	701.6	375.0	179.7	107.1	0.0
Haunch (Max)	V	10.5	21.0	31.5	42.0	47.1	48.9	51.4
Diaphragm :	M	0.6	0.4	0.3	0.1	0.1	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	76.6	66.6	50.0	26.7	12.8	7.6	-0.0
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5	3.7
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2054.3	1799.5	1371.3	741.6	357.0	213.1	0.0



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Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	48.9	70.4	86.1	101.9	110.2	113.1	117.1
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	59.1	72.7	87.0	101.9	110.2	113.1	117.1
DC(Max)	V	1812.4	1658.9	1299.8	741.6	364.6	219.1	0.0
DL-Comp. :	M+	4465.7	3896.8	2945.2	1582.8	760.0	453.4	0.0
Total :	V	72.5	117.5	156.7	196.0	215.9	222.8	232.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	82.7	119.8	157.6	196.0	215.9	222.8	232.5
	M	4223.8	3756.2	2873.7	1582.8	767.6	459.4	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	51.4	51.4
Diaphragm	17.3	0.0
DL-Prec.(DC)	10.2	10.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	92.2	92.2
Live	92.2	0.0
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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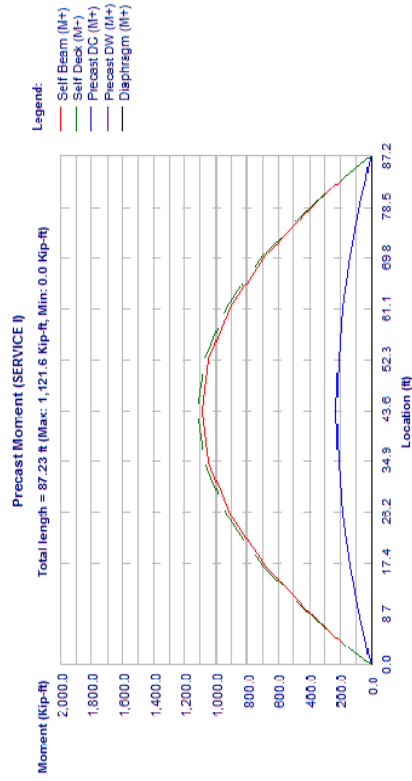
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Precast Moment, Span 1, Beam 7, SERVICE I



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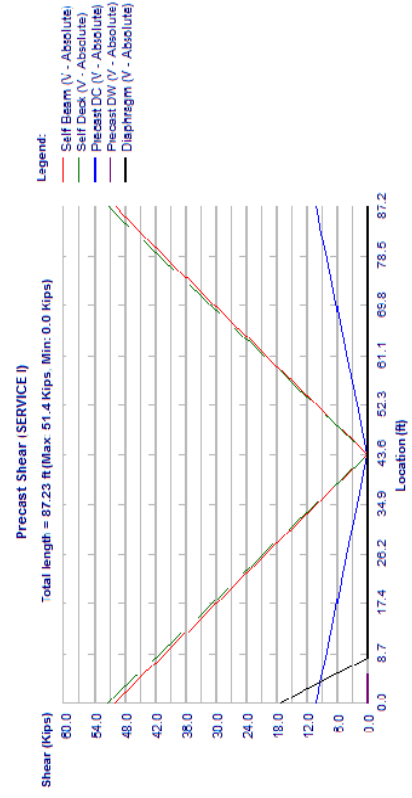
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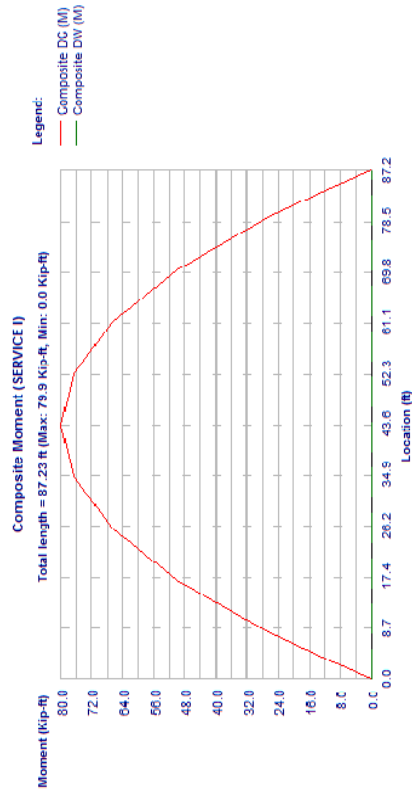
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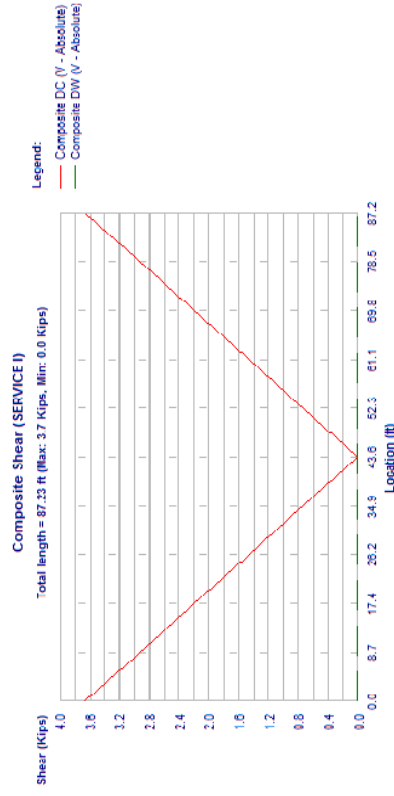
Precast Shear, Span 1, Beam 7, SERVICE I

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Composite Moment, Span 1, Beam 7, SERVICE I

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Composite Shear, Span 1, Beam 7, SERVICE I

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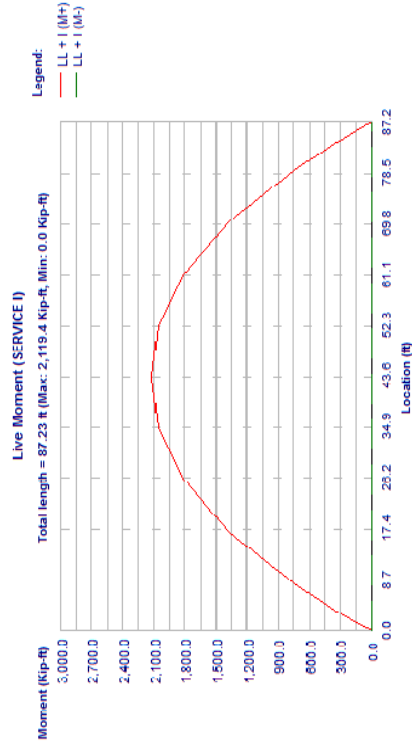
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Live Moment, Span 1, Beam 7, SERVICE I

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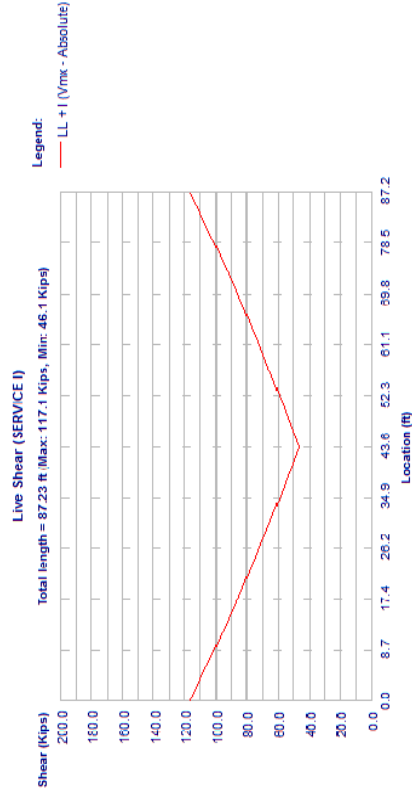
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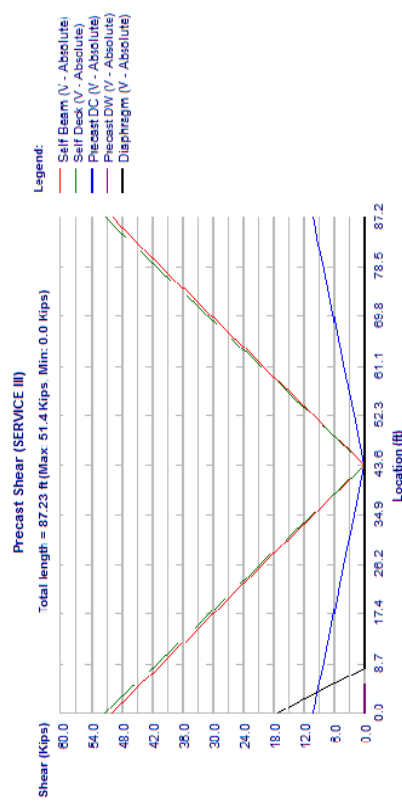


Live Shear, Span 1, Beam 7, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE III
Shears: kips, Moments: kft

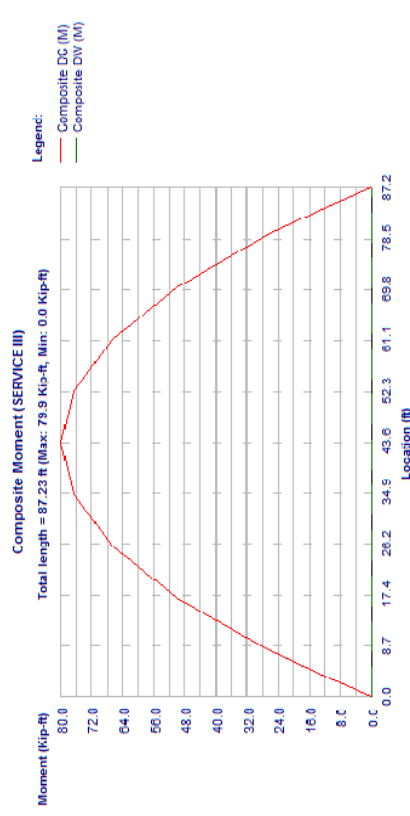
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Self wt. : M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1	1090.5
(Max) V	50.0	47.6	45.8	40.8	30.6	20.4	10.2	0.0
DL-Prec. : M	-0.0	21.3	35.8	74.7	139.8	186.3	214.2	223.5
DC(Max) V	10.2	9.7	9.4	8.4	6.3	4.2	2.1	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	107.1	179.7	375.0	701.6	934.9	1074.9	1121.6
Haunch (Max) V	51.4	48.9	47.1	42.0	31.5	21.0	10.5	0.0
Diaphragm : M	0.0	0.5	0.8	1.3	1.2	1.0	0.9	0.7
(Max) V	17.3	12.7	9.4	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6	79.9
DC(Max) V	3.7	3.5	3.4	3.0	2.2	1.5	0.7	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	170.5	285.6	593.2	1097.0	1439.6	1643.4	1695.5

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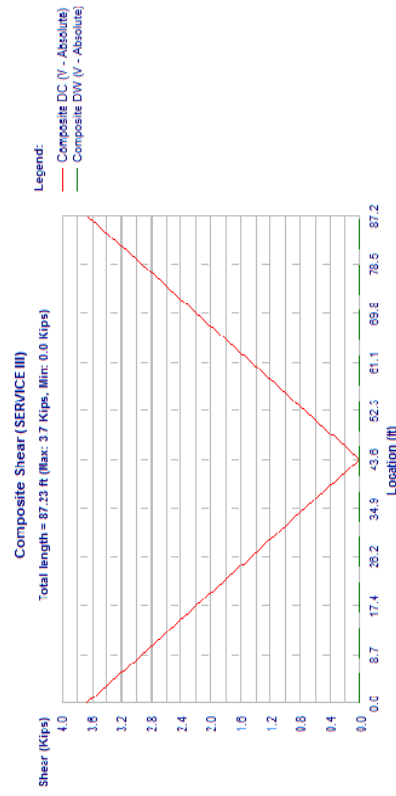
Precast Shear, Span 1, Beam 7, SERVICE III

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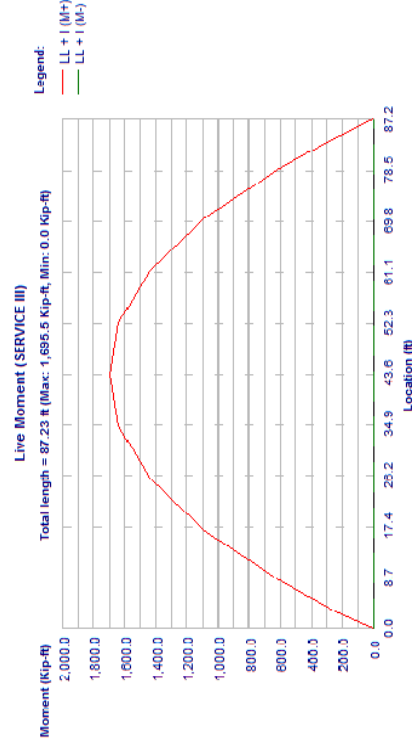
Composite Moment, Span 1, Beam 7, SERVICE III

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Composite Shear, Span 1, Beam 7, SERVICE III

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Live Moment, Span 1, Beam 7, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3595.0	3149.2	2399.8	1297.7	624.8	373.0
LL + I :	V	85.6	123.2	150.8	178.3	192.9	197.9
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	103.4	127.3	152.2	178.3	192.9	197.9
LL + I :	M	3171.8	2903.1	2274.7	1297.7	638.0	383.5
Total :	M+	6609.2	5770.8	4367.1	2349.2	1128.5	673.3
Total :	V	115.0	182.0	239.0	296.0	325.0	335.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	132.9	186.1	240.4	296.0	325.0	335.0
Total :	M	6186.0	5524.7	4242.0	2349.2	1141.8	683.8

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	64.3	64.3
Diaphragm	21.6	0.0
DL-Prec(DC)	12.8	12.8
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Precast Moment (STRENGTH I)

Total length = 87.23 ft (Max: 1,402.0 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

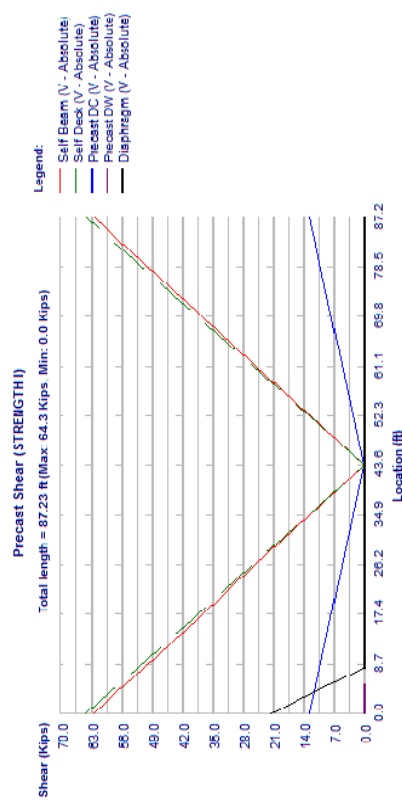
Precast Moment, Span 1, Beam 7, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

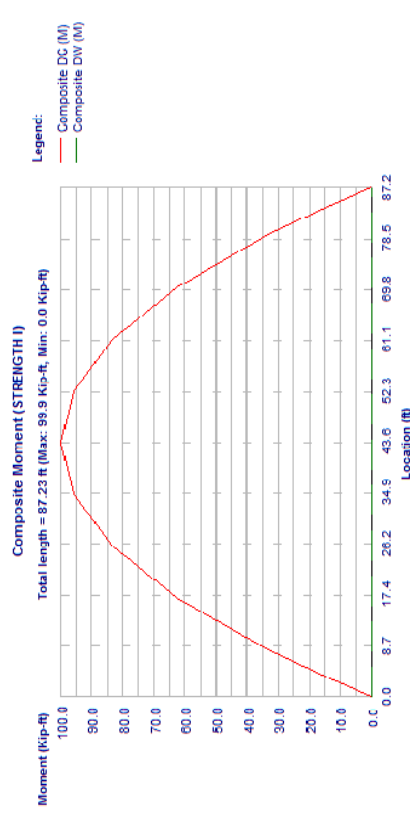
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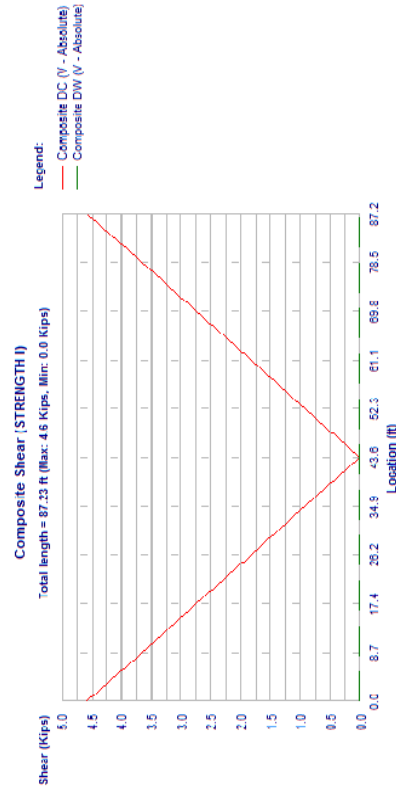
Precast Shear, Span 1, Beam 7, STRENGTH I

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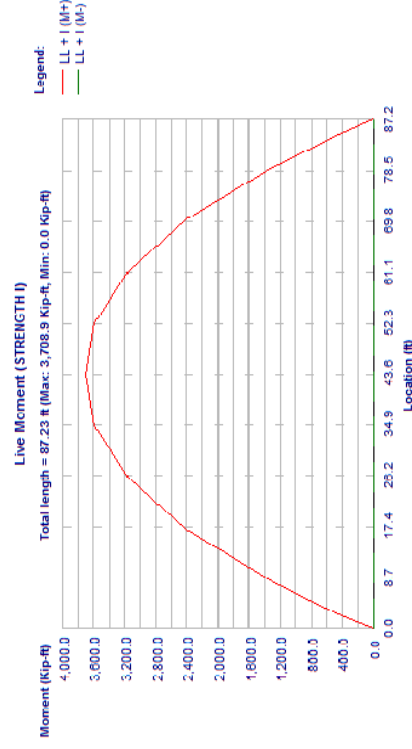
Composite Moment, Span 1, Beam 7, STRENGTH I

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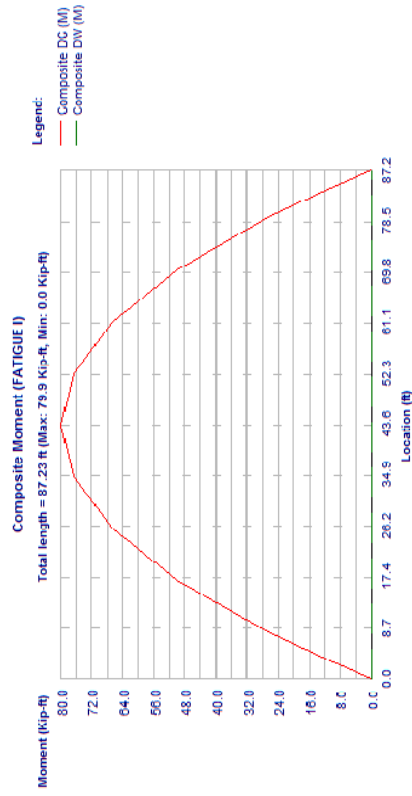
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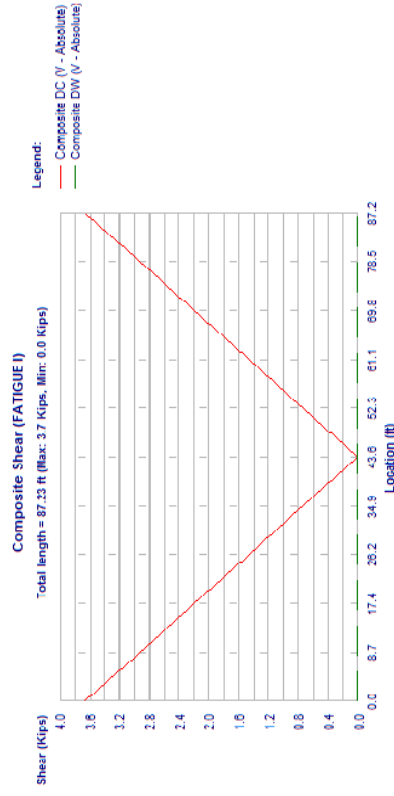
Live Moment, Span 1, Beam 7, STRENGTH I

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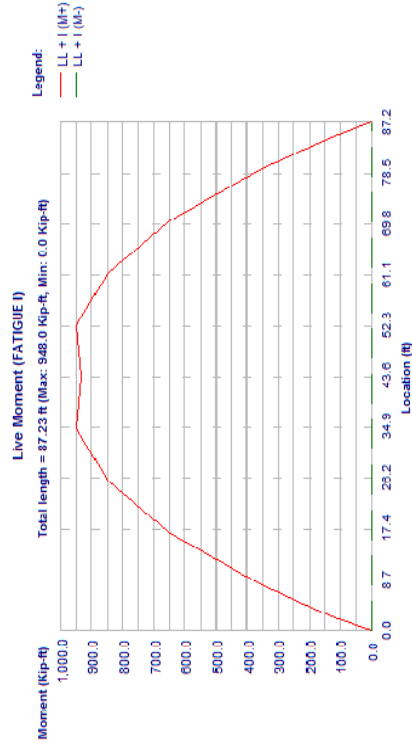
Composite Moment, Span 1, Beam 7, FATIGUE I

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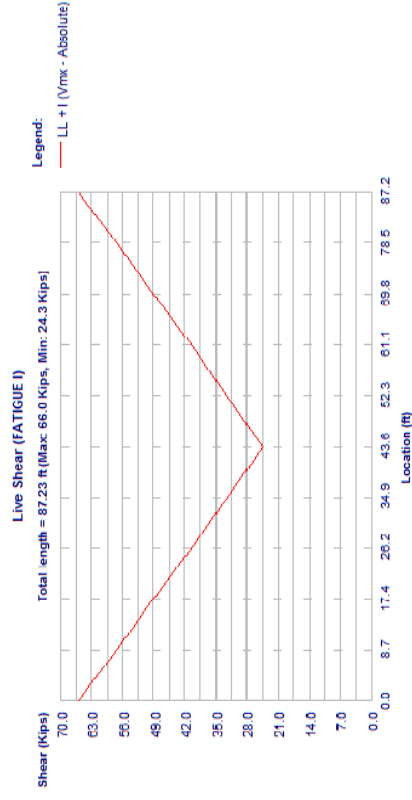
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Live Moment, Span 1, Beam 7, FATIGUE I

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Live Shear, Span 1, Beam 7, FATIGUE I

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Sheet # 1
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PROPERTIES

Span:1, Beam:8
PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

GENERAL BRIDGE DATA:

Bridge Width	115.14 ft
Curb-to-curb	112.05 ft
Beam Spac. LL/RT	10.51/ 10.51 ft
Lane width	12.00 ft
Number of lanes	9
Interior/Exterior	Interior
Start Skew Angle	-15.66 degrees
End Skew Angle	-15.66 degrees

TOPPING DATA:

Deck Thickness	8.500 in
Haunch: Thickness	1.000 in
Width	60.000 in
Effective width	126.120 in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:
DEAD LOADS ON PRECAST
UNITS: (Point: kips, Localon: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.110	0.000	0.110	87.231	SIP
DC	Line	0.125	0.000	0.125	87.231	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag	Loc
17.29	0.13

Units: U.S. Units

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PROPERTIES

Span:1, Beam:8
PRECAST DATA:

Overall length	88.961 ft
Release length	88.961 ft
Design length	87.231 ft

KERN POINTS:

Upper	58.35 in
Lower	15.66 in

DISTRIBUTION FACTORS (Art. 4.6.2.2):
Type k, with deck

Live Moment (2+ lanes loaded)	0.912 (Calculated)
Live Moment (1 lane loaded)	0.627 (Calculated)
Live Shear (2+ lanes loaded)	1.032 (Calculated)
Live Shear (1 lane loaded)	0.807 (Calculated)

Pedestrian	0.100 (Calculated)
Comp. DC	0.100 (Calculated)
Comp. DW	0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90


SECTION PROPERTIES:

Area	PRECAST	In2	COMPOSITE	In2	#
	1100.6		2070.0		

Units: U.S. Units

Design Code: AASHTO LRFD

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		Sheet # 3	
		Job #	
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PRECAST		COMPOSITE	
Total Height	78.00 in	87.50 in	
Mom. of Inertia (Ixx)	904567 in ⁴	2118516 in ⁴	#
Ht. of c.g.	34.60 in	57.27 in	#
Density	150.00 pcf	150.00 pcf	
Self-weight	1146.5 plf	2325.6 plf	
Mom. of Inertia (Iyy)	82367.0 in ⁴		
Poisson's Ratio	0.2		
Thermal Coeff.	0.000006000 1/F		

(#) Of Total Section using $E_c/E_c = 0.8563$
 Use transformed strand and rebar: Strand Only


Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using $E_c = 4016.8$ ksi)		0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Area, in ²	1107.8	1125.7	1125.7	1125.7	1125.7	1125.7	1125.7	1125.7	1125.7
Yb, in	34.41	33.95	33.95	33.95	33.94	33.93	33.91	33.90	33.90
M(Ixx), in ⁴	910591	925338	925492	925492	925941	926866	927811	928775	928775
Composite: (At Final, using $E_c = 4491.0$ ksi)		2092.0	2092.0	2092.0	2092.0	2092.0	2092.0	2092.0	2092.0
Area, in ²	2076.4	56.72	56.72	56.72	56.72	56.71	56.70	56.70	56.70
Yb, in	57.11	2177147	2176905	2177147	2177853	2179299	2180762	2182242	2182242
M(Ixx), in ⁴	2135383								

Span:1, Beam:8
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00*	
Elasticity	ksi	ksi
Max comp	4016.8	5500
Outer	3.60	5.50
Max tens	15.00 %	15.00 %
Max tens, w/reinf	-0.23	-0.23
Center	-0.93	-0.93
Max tens	70.00 %	70.00 %
Max tens, w/reinf	-0.23	-0.23

* FDOT section 4.3.1. C4 requires that concrete strength at release be less than 0.8 * f'_c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	5.50
Elasticity	ksi	ksi
Max comp	4490.96	3845.83

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	3.30
	ksi	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38	2.47
	ksi	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00	
	ksi	ksi

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52	-0.45
	ksi	ksi

Span:1, Beam:8
 PRESTRESSED STEEL:
 19 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (35.58 ft from member end)

END PATTERN (Ycg = 5.74 in):

14 @ 3.000 in	1 @ 5.000 in	3 @ 15.000 in	1 @ 17.000 in
---------------	--------------	---------------	---------------

MID PATTERN (Ycg = 3.21 in):


(A) Draped:

3 @ 3.000 in	1 @ 5.000 in	1 @ 5.000 in	1 @ 5.000 in
--------------	--------------	--------------	--------------

(B) Straight:

14 @ 3.000 in	1 @ 5.000 in	1 @ 5.000 in	1 @ 5.000 in
---------------	--------------	--------------	--------------

Strand Diameter	0.600 in
Strand Area	0.217 in ²
Total Strand Area	4.123 in ²
Trans. Len. bonded	3.000 ft
Trans. Len. debonded	3.000 ft
Dev. Len. bonded	11.465 ft
Dev. Len. debonded	14.331 ft



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	-0.0	21.3	35.8	74.7	139.8	186.3	214.2
DC(Max)	V	10.2	9.7	9.4	8.4	6.3	4.2	2.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	107.1	179.7	375.0	701.6	934.9	1074.9
Haunch (Max)	V	51.4	48.9	47.1	42.0	31.5	21.0	10.5
Diaphragm :	M	0.0	0.7	1.2	2.0	1.8	1.6	1.3
(Max)	V	17.3	12.7	9.4	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	213.1	357.0	741.6	1371.3	1799.5	2054.3
LL + :	V	117.1	113.1	110.2	101.9	86.1	70.4	48.9
LL + :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	117.1	113.1	110.2	101.9	87.0	72.7	59.1
Total :	M	-0.0	219.1	364.6	741.6	1299.8	1658.9	1812.4
Total :	V	0.0	454.1	761.1	1584.6	2946.7	3897.9	4466.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	249.7	235.4	225.3	196.0	157.6	119.8	82.7
Total :	M	0.0	460.1	768.7	1584.6	2875.2	3757.3	4224.6

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	214.2	20.4	30.6	40.8	45.8	47.6
DL-Prec. :	M	214.2	186.3	139.8	74.7	35.8	21.3
DC(Max)	V	2.1	4.2	6.3	8.4	9.4	9.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1074.9	934.9	701.6	375.0	179.7	107.1
Haunch (Max)	V	10.5	21.0	31.5	42.0	47.1	48.9
Diaphragm :	M	0.9	0.7	0.4	0.2	0.1	0.1
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	2054.3	1799.5	1371.3	741.6	357.0	213.1



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	48.9	70.4	86.1	101.9	110.2	113.1
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	59.1	72.7	87.0	101.9	110.2	113.1
DC(Max)	V	1812.4	1658.9	1299.8	741.6	364.6	219.1
DL-Prec. :	M	4466.0	3897.0	2945.3	1582.8	760.1	453.4
DW(Max)	V	72.5	117.5	156.8	196.0	215.9	222.8
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	82.7	119.8	157.6	196.0	215.9	222.8
(Max)	V	4224.1	3756.4	2873.8	1582.8	767.6	459.4
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0


REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	51.4	51.4
Diaphragm	17.3	17.3
DL-Prec.(DC)	10.2	10.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	0.0	0.0
Live	92.2	92.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	-0.0	21.3	35.8	74.7	139.8	186.3	214.2
DC(Max)	V	10.2	9.7	9.4	8.4	6.3	4.2	2.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	107.1	179.7	375.0	701.6	934.9	1074.9
Haunch (Max)	V	51.4	48.9	47.1	42.0	31.5	21.0	10.5
Diaphragm :	M	0.0	0.7	1.2	2.0	1.8	1.6	1.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	9.2	18.4	27.5	36.7	41.2	42.8	45.0
DL-Prec :	267.8	232.9	174.8	93.4	44.8	26.7	-0.0
DC(Max)	2.6	5.2	7.8	10.5	11.7	12.2	12.8
DL-Prec :	192.8	167.7	125.8	67.3	32.2	19.2	-0.0
DC(Min)	1.9	3.8	5.6	7.5	8.5	8.8	9.2
DL-Prec :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	1343.7	1168.7	877.0	468.8	224.6	133.9	0.0
Haunch (Max)	13.1	26.2	39.3	52.5	58.9	61.1	64.3
Deck + :	967.4	841.4	631.5	337.5	161.7	96.4	0.0
Haunch (Min)	9.4	18.9	28.3	37.8	42.4	44.0	46.3
Diaphragm :	1.1	0.8	0.5	0.3	0.1	0.1	0.0
(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	0.8	0.6	0.4	0.2	0.1	0.0	0.0
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	95.7	83.3	62.5	33.4	16.0	9.5	-0.0
DC(Max)	0.9	1.9	2.8	3.7	4.2	4.4	4.6
DL-Comp :	68.9	59.9	45.0	24.0	11.5	6.9	-0.0
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	3595.0	3149.2	2399.8	1297.7	624.8	373.0	0.0
M+	85.6	123.2	150.8	178.3	192.9	197.9	204.9
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	103.4	127.3	152.2	178.3	192.9	197.9	204.9
M	3171.8	2903.1	2274.7	1297.7	638.0	383.5	0.0
Total :	6609.6	5771.1	4367.3	2349.3	1128.6	673.3	0.0
V	115.1	182.0	239.0	296.0	325.0	335.0	349.1
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	132.9	186.2	240.4	296.0	325.0	335.0	349.1
M	6186.4	5525.0	4242.2	2349.3	1141.9	683.8	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	64.3	64.3
Diaphragm	21.6	0.0
DL-Prec (DC)	12.8	12.8
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	45.8	45.8
DL-Comp (DW)	0.0	0.0
Live	161.4	161.4



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, FATIGUE I
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Self wt. :	0.0	104.1	174.7	364.6	682.2	909.0	1045.1	1090.5
(Max)	50.0	47.6	45.8	40.8	30.6	20.4	10.2	0.0
Self wt. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	-0.0	21.3	35.8	74.7	139.8	186.3	214.2	223.5
DC(Max)	10.2	9.7	9.4	8.4	6.3	4.2	2.1	0.0
DL-Prec :	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	107.1	179.7	375.0	701.6	934.9	1074.9	1121.6
Haunch (Max)	51.4	48.9	47.1	42.0	31.5	21.0	10.5	0.0
Deck + :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	0.0	0.7	1.2	2.0	1.8	1.6	1.3	1.1
(Max)	17.3	12.7	9.4	0.0	0.0	0.0	0.0	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	-0.0	7.6	12.8	26.7	50.0	66.6	76.6	79.9
DC(Max)	3.7	3.5	3.4	3.0	2.2	1.5	0.7	0.0
DL-Comp :	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	105.5	176.2	362.5	654.2	848.3	948.0	932.1
V	66.0	63.9	62.4	58.1	49.7	37.9	29.5	21.2
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	66.0	63.9	62.4	58.1	49.7	41.0	32.7	24.3
LL + I :	0.0	105.5	176.2	362.5	654.2	823.0	881.2	825.3

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		Date	

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	346.5	580.4	1205.5	2229.5	2946.8	3360.1
	V	198.7	186.3	177.6	152.2	120.3	85.0	53.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	198.7	186.3	177.6	152.2	120.3	85.1	56.2
	M	0.0	346.5	580.4	1205.5	2229.5	2921.4	3293.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	214.2	186.3	139.8	74.7	35.8	21.3
DC(Max)	V	2.1	4.2	6.3	8.4	9.4	9.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1074.9	934.9	701.6	375.0	179.7	107.1
Haunch (Max)	V	10.5	21.0	31.5	42.0	47.1	48.9
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.9	0.7	0.4	0.2	0.1	0.1
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	948.0	848.3	654.2	362.5	176.2	105.5
LL + :	M+	29.5	37.9	49.7	58.1	62.4	63.9
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	32.7	41.0	49.7	58.1	62.4	63.9
Total :	M+	881.2	823.0	654.2	362.5	176.2	105.5
Total :	M-	3359.6	2945.8	2228.2	1203.7	579.3	345.8
Total :	V	53.1	85.0	120.3	152.2	168.2	173.7
Total :	Vmx	56.2	88.1	120.3	152.2	168.2	173.7
Total :	M	3292.9	2920.5	2228.2	1203.7	579.3	345.8

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Sheet # 1
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
(Max)	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
DL-Prec. :	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DC(Max)	M	-0.0	21.3	35.8	74.7	139.8	186.3	214.2
DW(Max)	V	10.2	9.7	9.4	8.4	6.3	4.2	2.1
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	51.4	48.9	47.1	42.0	31.5	21.0	10.5
Diaphragm :	M	0.0	1.0	1.6	2.7	2.4	2.1	1.8
(Max)	V	17.3	12.7	9.4	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	7.6	12.8	26.7	50.0	66.6	79.9
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	213.1	357.0	741.6	1371.3	1799.5	2054.3
LL + I :	V	117.1	113.1	110.2	101.9	86.1	70.4	48.9
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	117.1	113.1	110.2	101.9	87.0	72.7	59.1
Total :	M+	-0.0	219.1	364.6	741.6	1299.8	1658.9	1812.4
Total :	V	0.0	454.3	761.5	1585.3	2947.3	3898.5	4636.3
Total :	M-	249.7	235.4	225.3	196.0	156.8	117.5	72.5
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	249.7	235.4	225.3	196.0	157.6	119.8	82.7
Total :	M	0.0	460.3	769.1	1585.3	2875.8	3757.8	4225.0

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	52.51	61.41	70.30	79.20	83.58	85.10	87.23
(Max)	M	1045.1	909.0	682.2	364.6	174.7	104.1
DL-Prec. :	V	10.2	20.4	30.6	40.8	45.8	47.6
DC(Max)	M	214.2	186.3	139.8	74.7	35.8	21.3
DL-Prec. :	V	2.1	4.2	6.3	8.4	9.4	9.7
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	V	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	M	1074.9	934.9	701.6	375.0	179.7	107.1
Diaphragm :	V	10.5	21.0	31.5	42.0	47.1	48.9
(Max)	M	1.2	0.9	0.6	0.3	0.1	0.1
DL-Comp. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	76.6	66.6	50.0	26.7	12.8	7.6
DL-Comp. :	V	0.7	1.5	2.2	3.0	3.4	3.5
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2054.3	1799.5	1371.3	741.6	357.0	213.1
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0



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Sheet # 2
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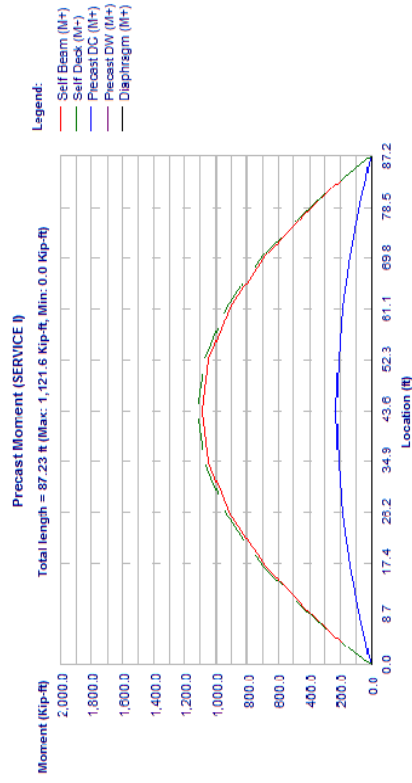
Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	48.9	70.4	86.1	101.9	110.2	113.1	117.1
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	59.1	72.7	87.0	101.9	110.2	117.1
DW(Max)	V	1812.4	1658.9	1299.8	741.6	364.6	219.1
Deck + :	M	4466.3	3897.3	2945.5	1582.9	760.1	453.4
Haunch (Max)	V	72.5	117.5	156.8	196.0	215.9	222.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	82.7	119.8	157.6	196.0	215.9	222.8
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	4224.4	3756.6	2874.0	1582.9	761.7	459.4
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	51.4	51.4
Diaphragm	17.3	17.3
DL-Prec.(DC)	10.2	10.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	92.2	92.2
Live	92.2	92.2
Pedestrian	0.0	0.0

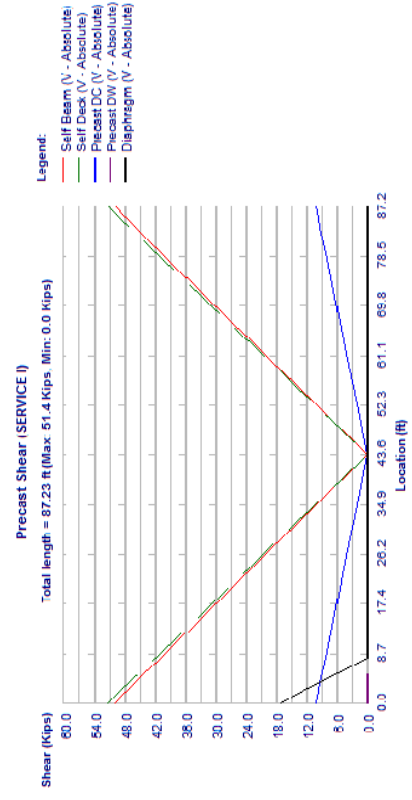
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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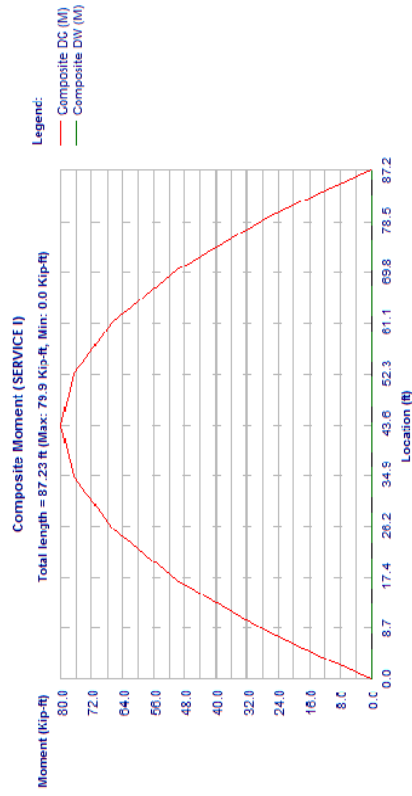
Precast Moment, Span 1, Beam 9, SERVICE I

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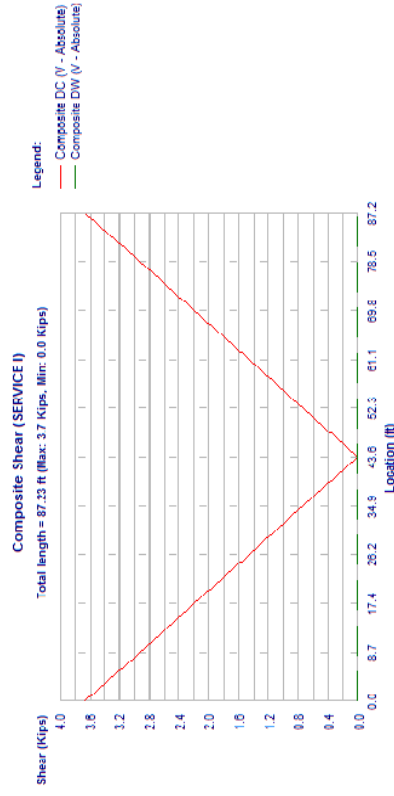
Precast Shear, Span 1, Beam 9, SERVICE I

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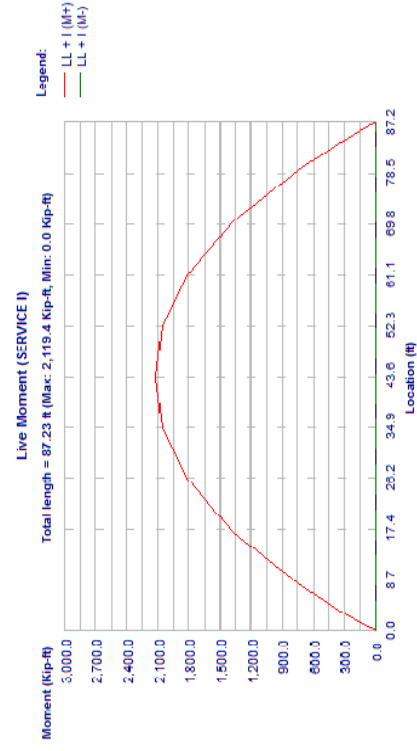
Composite Moment, Span 1, Beam 9, SERVICE I

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Composite Shear, Span 1, Beam 9, SERVICE I

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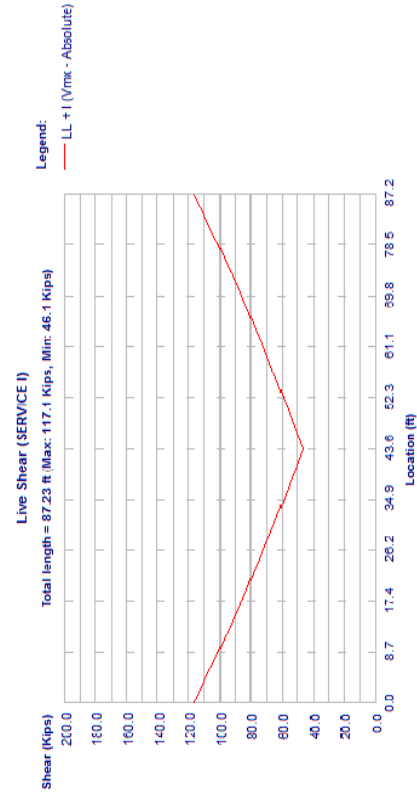
Live Moment, Span 1, Beam 9, SERVICE I

	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.13	3.65	8.03	16.93	34.72	50.00	34.72	43.62
Self wt.,	M	0.00	104.1	174.7	364.6	682.2	909.0	1045.1	1090.5
(Max)	M	50.0	47.6	45.8	40.8	30.6	20.4	10.2	0.0
DL-Prec.	M	0.00	21.3	35.8	74.7	139.8	186.3	214.2	223.5
DC(Max)	V	10.2	9.7	9.4	8.4	6.3	4.2	2.1	0.0
DL-Prec.	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.00	107.1	179.7	375.0	701.6	934.9	1074.9	1121.6
Haunch (Max)	V	51.4	48.9	47.1	42.0	31.5	21.0	10.5	0.0
Diaphragm :	M	0.00	1.0	1.6	2.7	2.4	2.1	1.8	1.5
(Max)	V	17.3	12.7	9.4	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6	79.9
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7	0.0
DL-Comp :	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	M+	-0.0	170.5	285.6	593.2	1097.0	1439.6	1643.4	1695.5


SHEAR AND MOMENT ENVELOPE : Span : 1. Beam : 9. SERVICE III

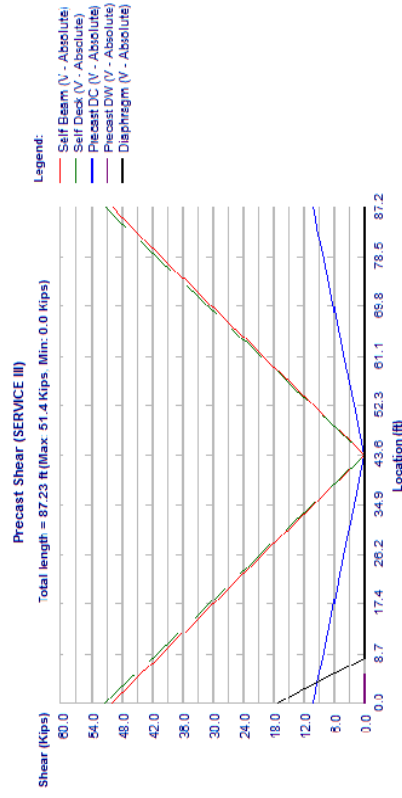
Shears: kips, Moments: kft

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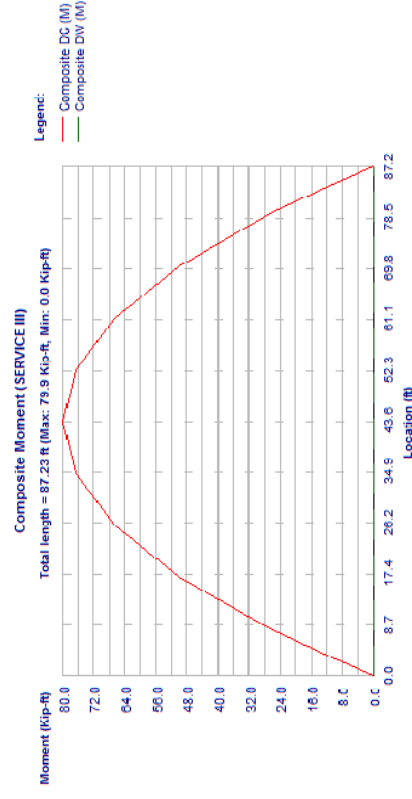
Live Shear. Span 1. Beam 9. SERVICE I

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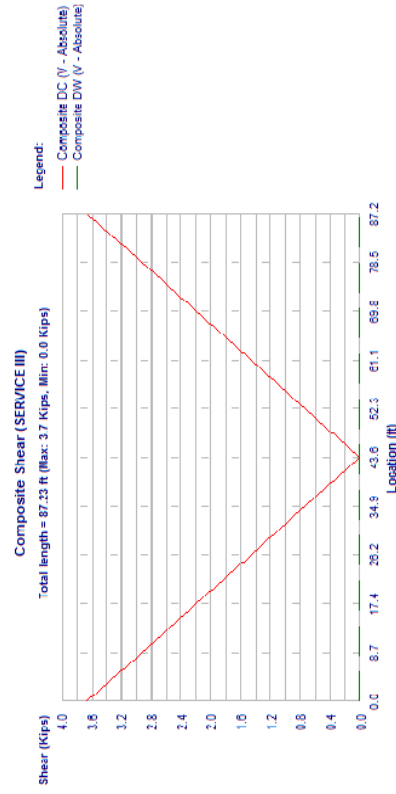
Precast Shear, Span 1, Beam 9, SERVICE III

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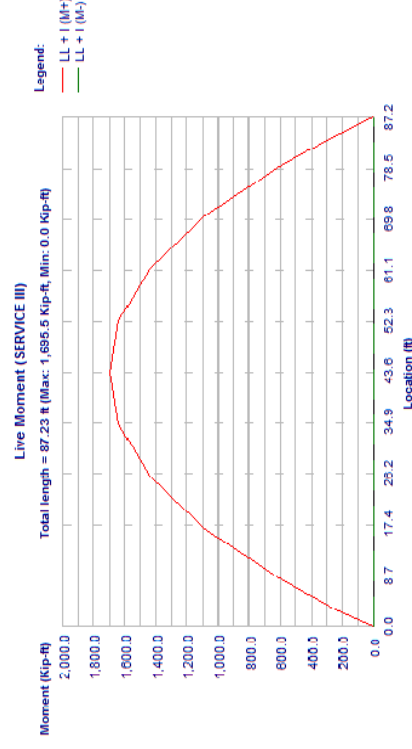
Composite Moment, Span 1, Beam 9, SERVICE III

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Composite Shear, Span 1, Beam 9, SERVICE III

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Live Moment, Span 1, Beam 9, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	3595.0	3149.2	2399.8	1297.7	624.8	373.0	0.0
LL + I :	85.6	123.2	150.8	178.3	192.9	197.9	204.9
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	103.4	127.3	152.2	178.3	192.9	197.9	204.9
Total :	3171.8	2903.1	2274.7	1297.7	638.0	383.5	0.0
Total :	6610.0	5771.3	4367.5	2349.4	1128.6	673.4	0.0
Total :	115.1	182.0	239.0	296.0	325.0	335.0	349.2
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	132.9	186.2	240.4	296.0	325.0	335.0	349.2
Total :	6186.7	5525.3	4242.4	2349.4	1141.9	683.8	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	64.3	64.3
Diaphragm	21.6	0.0
DL-Prec(DC)	12.8	12.8
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	45.8	45.8
DL-Comp(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:06 P.M.

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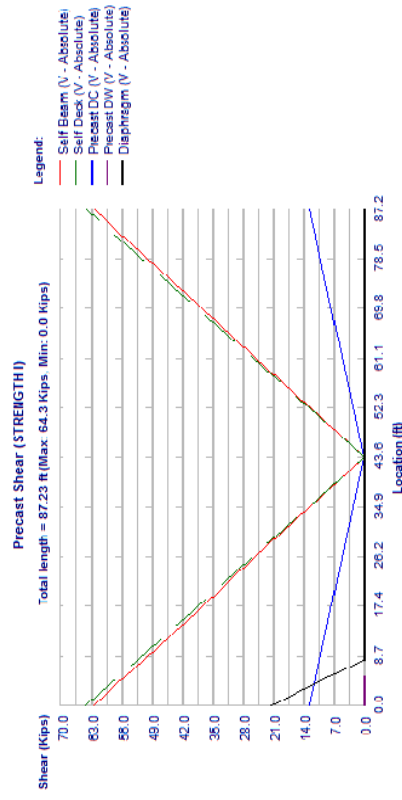
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Precast Moment, Span 1, Beam 9, STRENGTH I

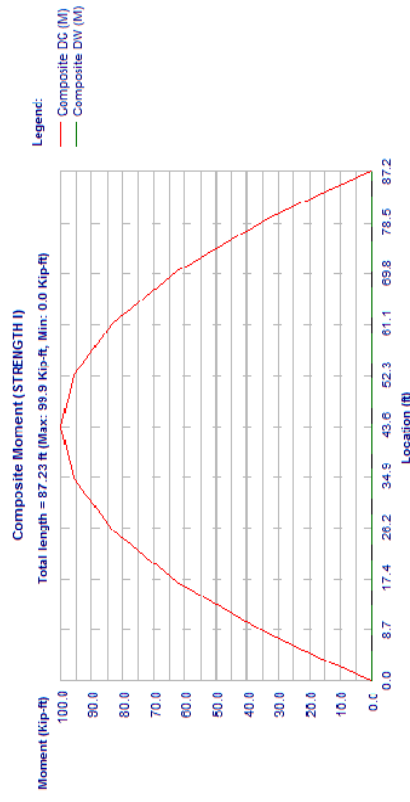
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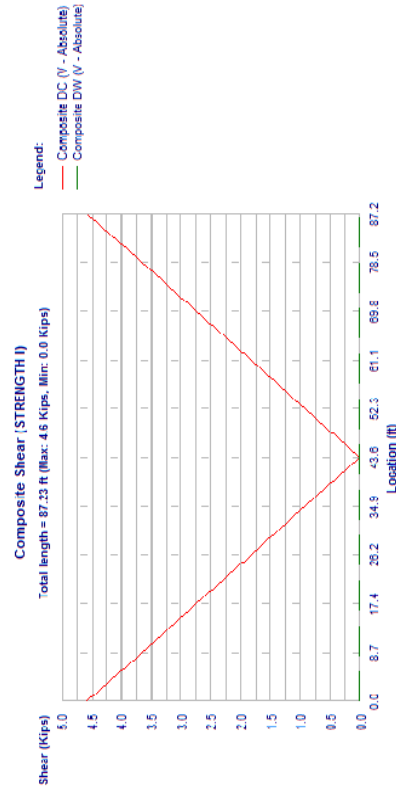
Precast Shear, Span 1, Beam 9, STRENGTH I

		Sheet #	20
		Job #	
		Designed	KSM
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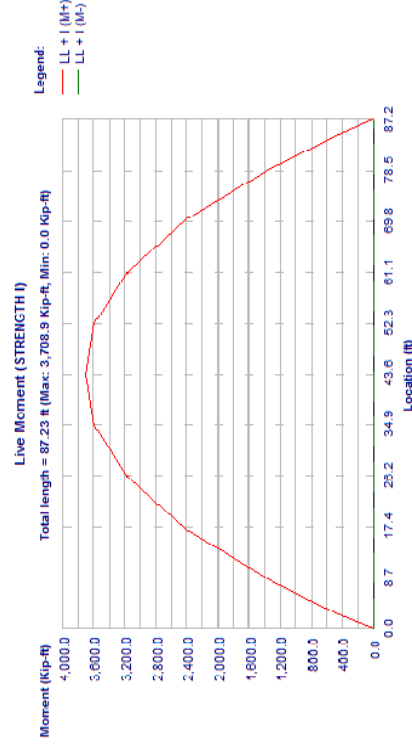
Composite Moment, Span 1, Beam 9, STRENGTH I

		Sheet # 21	
		Job #	
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Composite Shear, Span 1, Beam 9, STRENGTH I

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		Job #	
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Live Moment, Span 1, Beam 9, STRENGTH I



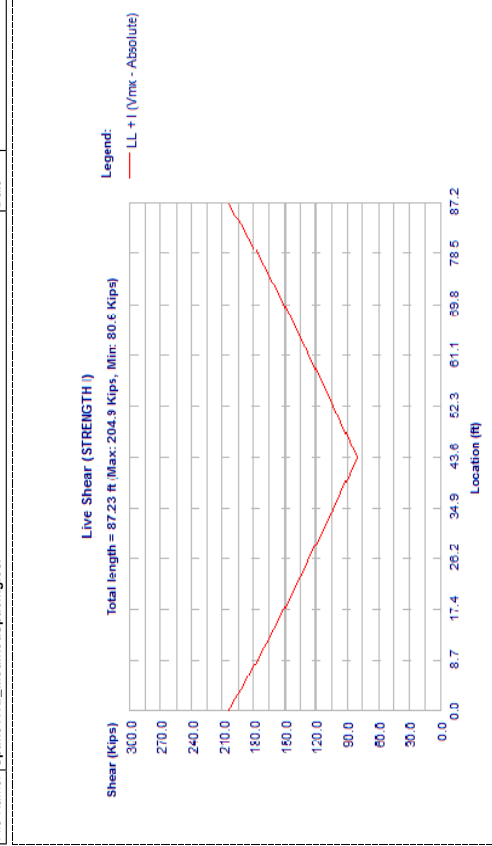
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Sheet # 23
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Live Shear, Span 1, Beam 9, STRENGTH I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, FATIGUE I

Shears: Kips, Moments: kt

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	21.3	35.8	74.7	139.8	214.2	223.5
DC(Max)	V	10.2	9.7	9.4	8.4	6.3	4.2	2.1
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	107.1	179.7	375.0	701.6	934.9	1074.9
Haunch (Max)	V	51.4	48.9	47.1	42.0	31.5	21.0	10.5
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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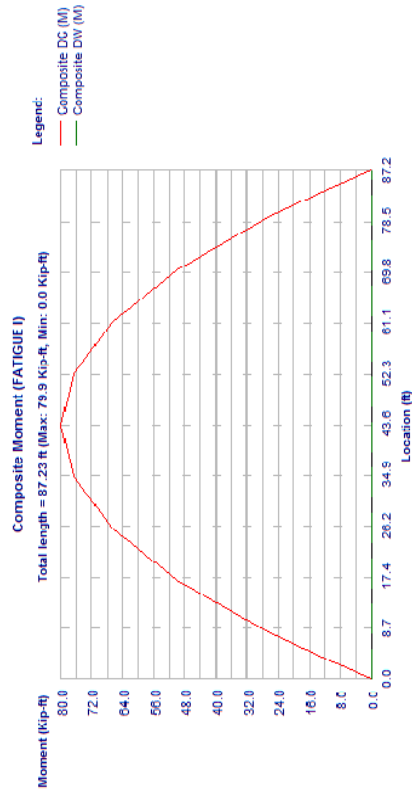
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Sheet # 24
Job #


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	17.3	12.7	9.4	2.7	2.4	2.1	1.8
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	-0.0	7.6	12.8	26.7	50.0	66.6	76.6
DL-Comp :	M	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DC(Max)	V	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	105.5	176.2	362.5	654.2	848.3	932.1
LL + I :	V	66.0	63.9	62.4	58.1	49.7	37.9	29.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	66.0	63.9	62.4	58.1	49.7	41.0	32.7
LL + I :	M	0.0	105.5	176.2	362.5	654.2	823.0	881.2
Total :	M+	0.0	346.7	580.7	1206.2	2230.1	2947.3	3360.5
Total :	V	198.6	186.3	177.6	152.2	120.3	85.0	53.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	198.6	186.3	177.6	152.2	120.3	88.1	56.2
Total :	M	0.0	346.7	580.7	1206.2	2230.1	2921.9	3293.8

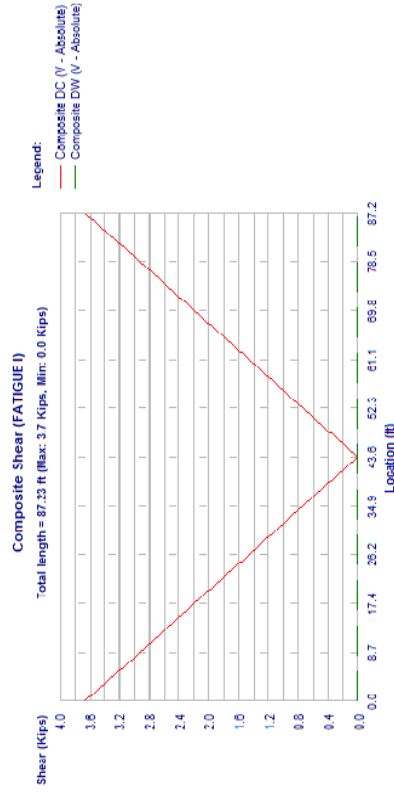
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	52.51	61.41	70.30	79.20	83.58	85.10	87.23
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	214.2	186.3	139.8	74.7	35.8	21.3
DC(Max)	V	2.1	4.2	6.3	8.4	9.7	10.2
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1074.9	934.9	701.6	375.0	179.7	107.1
Haunch (Max)	V	10.5	21.0	31.5	42.0	47.1	48.9
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	1.2	0.9	0.6	0.3	0.1	0.1
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0

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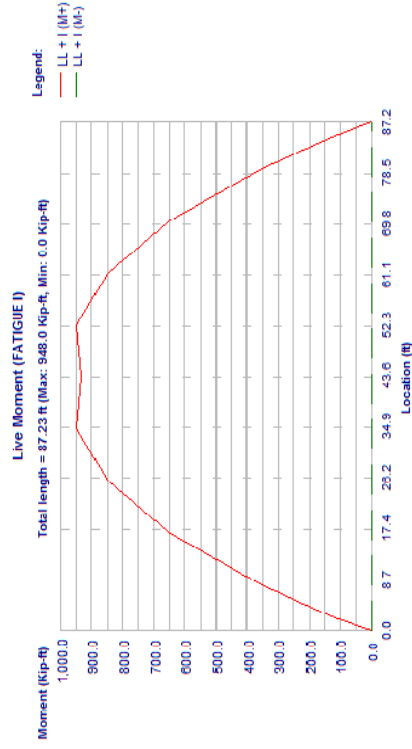
Composite Moment, Span 1, Beam 9, FATIGUE I

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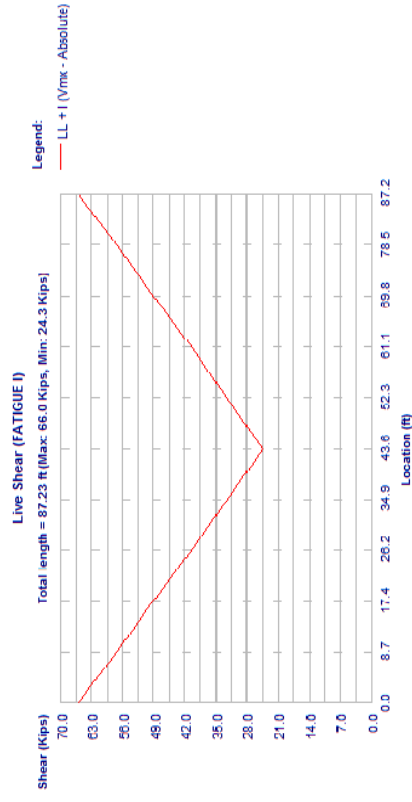
Composite Shear, Span 1, Beam 9, FATIGUE I

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Live Moment, Span 1, Beam 9, FATIGUE I

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		Job #	
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Live Shear, Span 1, Beam 9, FATIGUE I



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Sheet # 1


Job #

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE I
 Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72
Self wt. :	M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1
(Max)	V	50.0	47.6	45.8	40.8	30.6	20.4	10.2
DL-Prec. :	M	0.0	16.3	27.4	57.2	107.1	142.7	164.1
DC(Max)	V	7.9	7.5	7.2	6.4	4.8	3.2	1.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	102.2	171.5	357.9	669.7	892.4	1026.0
Haunch (Max)	V	49.1	46.7	45.0	40.1	30.0	20.0	10.0
Diaphragm :	M	0.0	0.6	1.0	1.7	1.5	1.3	1.1
(Max)	V	8.6	6.3	4.7	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6
DC(Max)	V	3.7	3.5	3.4	3.0	2.2	1.5	0.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	238.6	399.6	830.0	1534.8	2014.1	2299.2
	V	116.5	112.5	109.7	101.4	85.7	70.0	48.7
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	116.5	112.5	109.7	101.4	86.5	72.4	58.8
	Vmx	-0.0	245.3	408.1	830.0	1454.8	1856.7	2028.6
Total :	M+	0.0	469.5	787.0	1638.2	3045.3	4026.1	4612.1
	V	235.8	224.1	215.8	191.7	153.4	115.2	71.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	235.8	224.1	215.8	191.7	154.2	117.5	81.4
Total :	M	0.0	476.2	795.5	1638.2	2965.2	3868.7	4341.4
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	52.51	61.41	70.30	79.20	83.58	85.10
Self wt. :	M	1045.1	909.0	682.2	364.6	174.7	104.1
(Max)	V	10.2	20.4	30.6	40.8	45.8	47.6
DL-Prec. :	M	164.1	142.7	107.1	57.2	27.4	16.3
DC(Max)	V	1.6	3.2	4.8	6.4	7.2	7.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1026.0	892.4	669.7	357.9	171.5	102.2
Haunch (Max)	V	10.0	20.0	30.0	40.1	45.0	46.7
Diaphragm :	M	0.7	0.5	0.4	0.2	0.1	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	76.6	66.6	50.0	26.7	12.8	7.6
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2299.2	2014.1	1534.8	830.0	399.6	238.6
	M	0.0	0.0	0.0	0.0	0.0	0.0



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Sheet # 2


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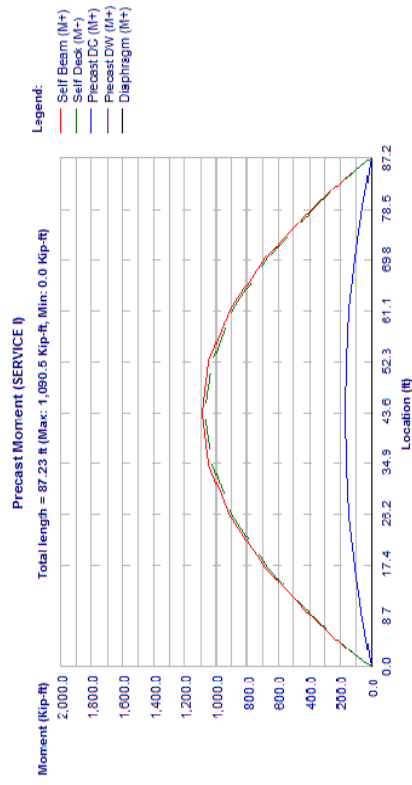
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	48.7	70.0	85.7	101.4	109.7	112.5
	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	58.8	72.4	86.5	101.4	109.7	112.5
	M	2028.6	1856.7	1454.8	830.0	408.1	245.3
Total :	M+	4611.7	4025.4	3044.1	1636.7	786.1	469.0
	V	71.3	115.2	153.4	191.7	211.1	217.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	81.4	117.5	154.2	191.7	211.1	217.7
Total :	M	4341.1	3868.0	2964.1	1636.7	794.6	475.6
	M	0.0	0.0	0.0	0.0	0.0	0.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	50.0	50.0
Deck+Haunch	49.1	49.1
Diaphragm	8.6	0.0
DL-Prec.(DC)	7.9	7.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	36.6	36.6
DL-Comp.(DW)	0.0	0.0
Live	92.2	92.2
Pedestrian	0.0	0.0

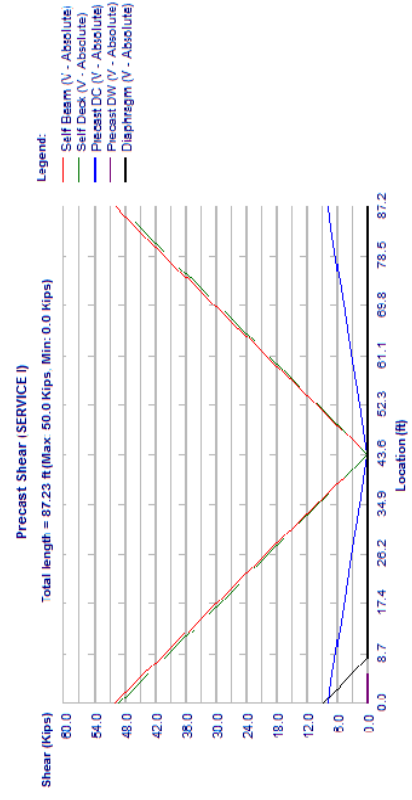
Upward reactions are positive.
 Live Load reactions are per lane with no distribution factor and no impact.
 Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
 Non-composite load types are per beam.
 Composite and Pedestrian load types are per total bridge width.

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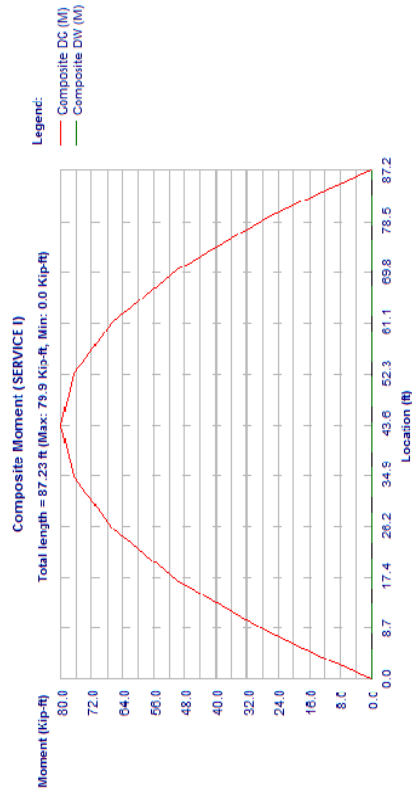
Precast Moment, Span 1, Beam 10, SERVICE I

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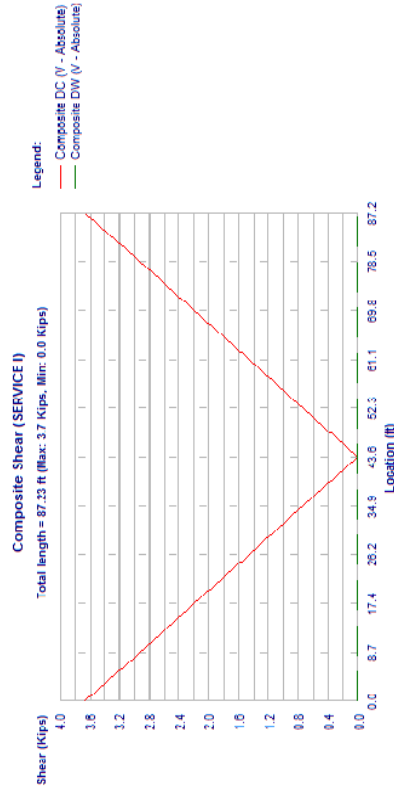
Precast Shear, Span 1, Beam 10, SERVICE I

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Composite Moment, Span 1, Beam 10, SERVICE I

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Composite Shear, Span 1, Beam 10, SERVICE I

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Sheet # 7
Job #
Date
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Live Moment (SERVICE I)
Total length = 87.23 ft (Max: 2,372.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
8.7	17.4
17.4	25.2
25.2	34.9
34.9	43.6
43.6	52.3
52.3	61.1
61.1	69.8
69.8	78.5
78.5	87.2

Live Moment, Span 1, Beam 10, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:07 P.M.

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Sheet # 8
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Live Shear (SERVICE I)
Total length = 87.23 ft (Max: 116.5 Kips, Min: 45.8 Kips)

Legend:
— LL + I (Vmk - Absolute)

Location (ft)	Shear (Kips)
0.0	116.5
8.7	107.8
17.4	99.1
25.2	90.4
34.9	81.7
43.6	73.0
52.3	64.3
61.1	55.6
69.8	46.9
78.5	38.2
87.2	29.5

Live Shear, Span 1, Beam 10, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	2.13	3.65	8.03	16.93	25.82	34.72	43.62
Self wt. : M	0.0	104.1	174.7	364.6	682.2	909.0	1045.1	1090.5
(Max) V	50.0	47.6	45.8	40.8	30.6	20.4	10.2	0.0
DL-Prec. : M	0.0	16.3	27.4	57.2	107.1	142.7	164.1	171.2
DC(Max) V	7.9	7.5	7.2	6.4	4.8	3.2	1.6	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	102.2	171.5	357.9	669.7	892.4	1026.0	1070.5
Haunch (Max) V	49.1	46.7	45.0	40.1	30.0	20.0	10.0	0.0
Diaphragm : M	0.0	0.6	1.0	1.7	1.5	1.3	1.1	0.9
(Max) V	8.6	6.3	4.7	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	-0.0	7.6	12.8	26.7	50.0	66.6	76.6	79.9
DC(Max) V	3.7	3.5	3.4	3.0	2.2	1.5	0.7	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	190.9	319.7	664.0	1227.9	1611.3	1839.4	1897.7

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:07 P.M.



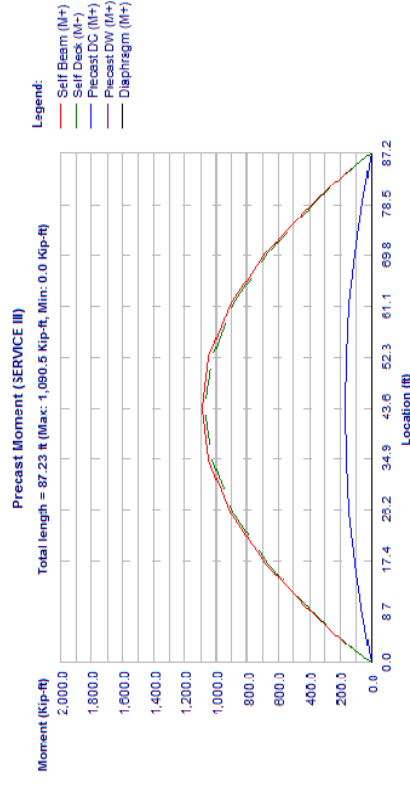
Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	SF Client Licenses	Designed	KSM
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File Name: Span01WB ModifiedSpacing.csl

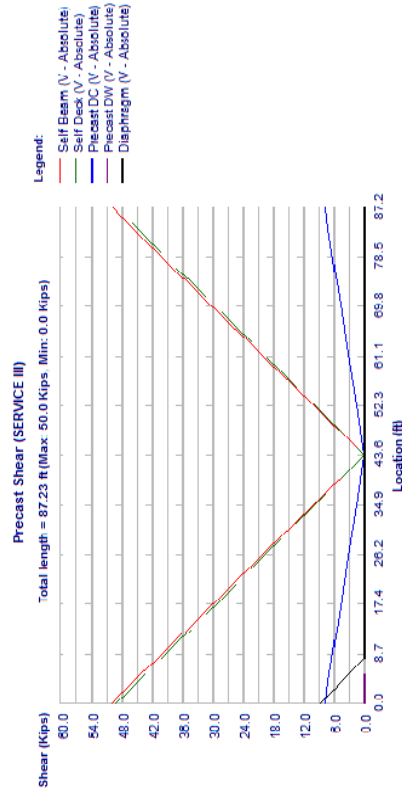
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
V	93.2	90.0	87.7	81.1	68.6	56.0	38.9	26.4
LL + I:	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
V	93.2	90.0	87.7	81.1	69.2	57.9	47.1	36.7
Vmx	93.2	90.0	87.7	81.1	69.2	57.9	47.1	36.7
M	-0.0	196.2	326.5	664.0	1163.8	1485.4	1622.9	1588.4
M+	0.0	421.8	707.0	1472.2	2738.3	3623.3	4152.3	4310.7
V	212.5	201.5	193.8	171.4	136.3	101.2	61.5	26.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	212.5	201.5	193.8	171.4	136.9	103.1	69.6	36.7
Vmx	212.5	201.5	193.8	171.4	136.9	103.1	69.6	36.7
M	0.0	427.2	713.8	1472.2	2674.3	3497.4	3935.7	4001.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	52.51	61.01	70.30	79.20	83.58	85.10	87.23
Self wt., 1045.1	909.1	919.4	909.2	364.6	174.7	104.1	0.0
(Max)	10.2	20.4	30.6	40.8	45.8	47.6	50.0
DL-Prec.: M	164.1	142.7	107.1	57.2	27.4	16.3	-0.0
DC(Max)	V	1.6	3.2	4.8	6.4	7.2	7.5
DL-Prec.: M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck +: M	1026.0	892.4	669.7	357.9	171.5	102.2	0.0
Haunch (Max)	V	10.0	20.0	30.0	40.1	45.0	46.7
Diaphragm: M	0.7	0.5	0.4	0.2	0.1	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp: M	76.6	66.6	50.0	26.7	12.8	7.6	-0.0
DC(Max)	V	0.7	1.5	2.2	3.0	3.4	3.5
DL-Comp: M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I: M+	1839.4	1611.3	1227.9	664.0	319.7	190.9	0.0
LL + I: V	38.9	56.0	68.6	81.1	87.7	90.0	93.2
LL + I: M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I: Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I: M	47.1	57.9	69.2	81.1	87.7	90.0	93.2
LL + I: Vmx	1622.9	1485.4	1163.8	664.0	326.5	196.2	0.0
Total: M+	4151.9	3622.5	2737.2	1470.7	706.1	421.2	0.0
Total: V	61.5	101.2	136.3	171.4	189.1	195.2	203.9
Total: M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total: Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total: M	69.6	103.1	136.9	171.4	189.1	195.2	203.9
Total: Vmx	3935.3	3496.6	2673.2	1470.7	712.9	426.6	0.0




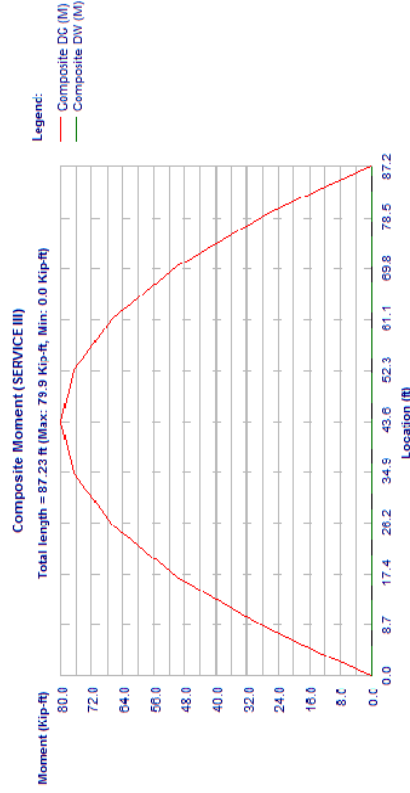
Precast Moment. Span 1. Beam 10. SERVICE III

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			Date			Date
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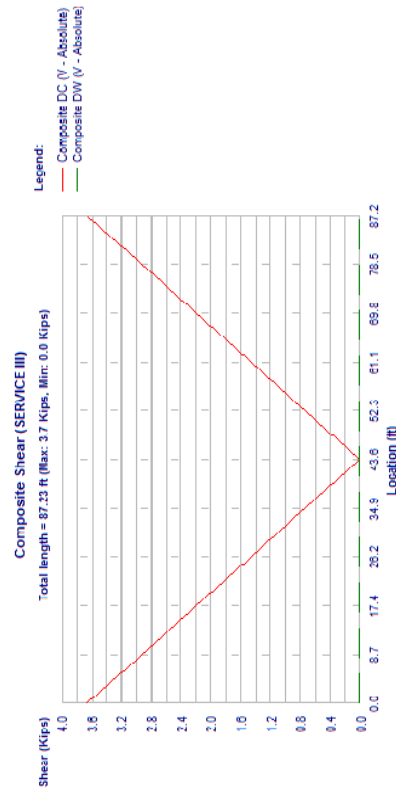
Precast Shear, Span 1, Beam 10, SERVICE III

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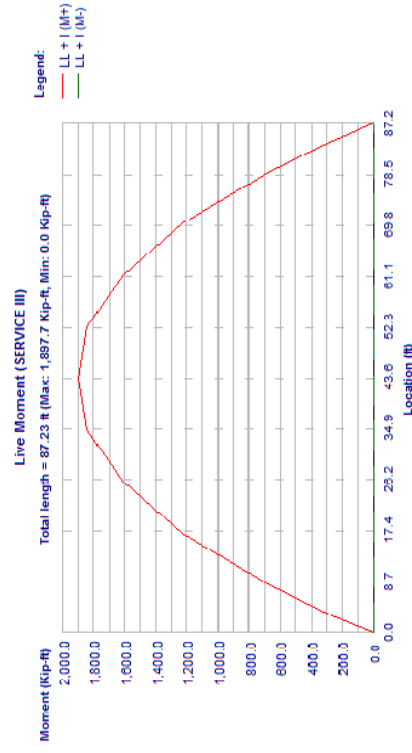
Composite Moment, Span 1, Beam 10, SERVICE III

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Composite Shear, Span 1, Beam 10, SERVICE III

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Live Moment, Span 1, Beam 10, SERVICE III



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Job #


Span01WB_ModifiedSpacing.csl

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.7	1.3	2.0	2.7	3.0	3.1	3.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4023.7	3524.7	2685.9	1452.5	699.3	417.5	0.0
LL + I :	85.2	122.6	150.0	177.5	191.9	196.9	203.9
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	103.0	126.7	151.4	177.5	191.9	196.9	203.9
Total :	3550.0	3249.3	2545.9	1452.5	714.1	429.2	0.0
Total :	6914.3	6038.8	4572.6	2460.8	1182.4	705.5	0.0
Total :	113.4	179.0	234.7	290.3	318.7	328.4	342.2
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	131.2	183.1	236.1	290.3	318.7	328.4	342.2
Total :	6440.6	5763.4	4432.6	2460.8	1197.2	717.2	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	62.5	62.5
Deck+Haunch	61.4	61.4
Diaphragm	10.8	0.0
DL-Prec.(DC)	9.8	9.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	45.8	45.8
DL-Comp.(DW)	0.0	0.0
Live	161.4	161.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



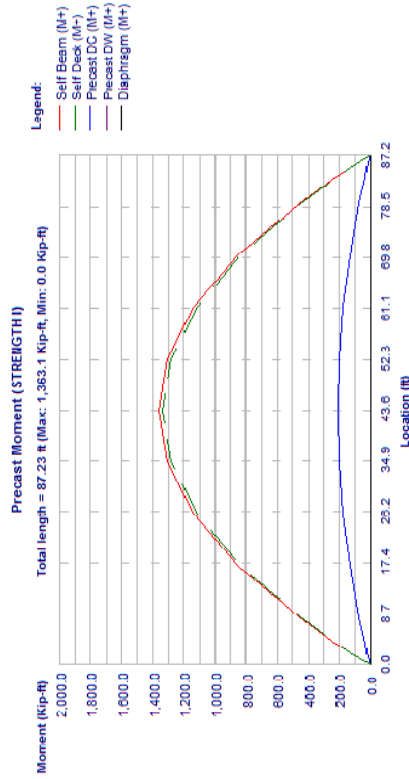
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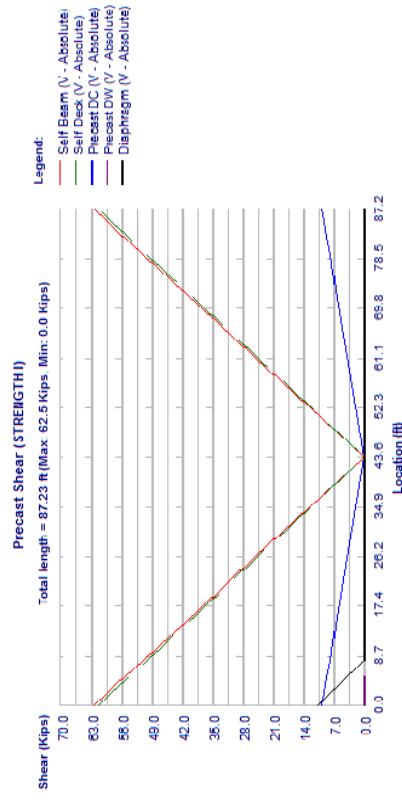
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Span01WB_ModifiedSpacing.csl




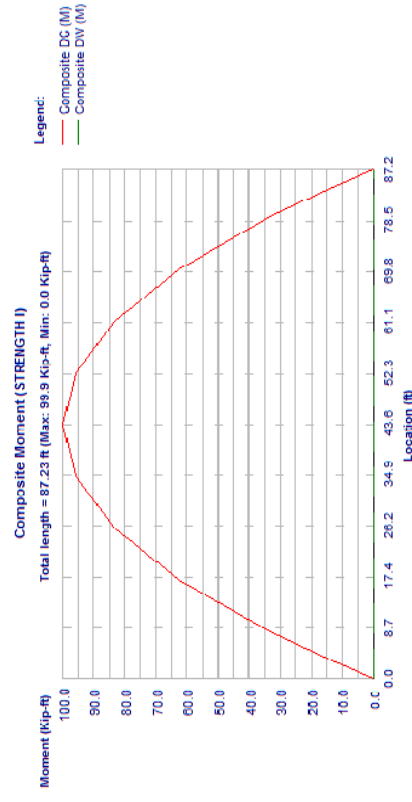
Precast Moment, Span 1, Beam 10, STRENGTH I

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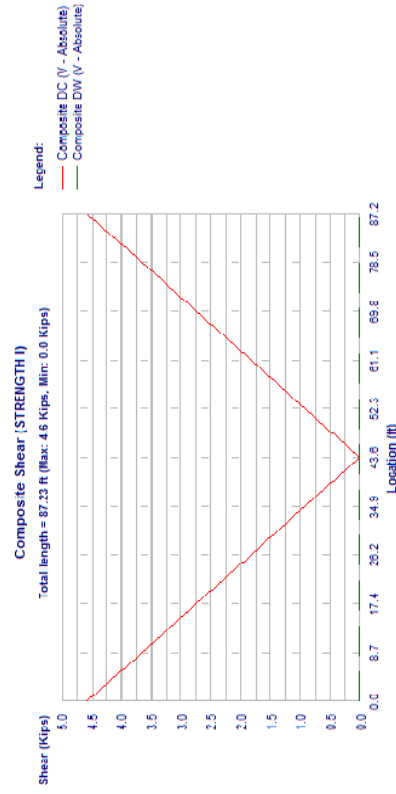
Precast Shear, Span 1, Beam 10, STRENGTH I

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		Date	




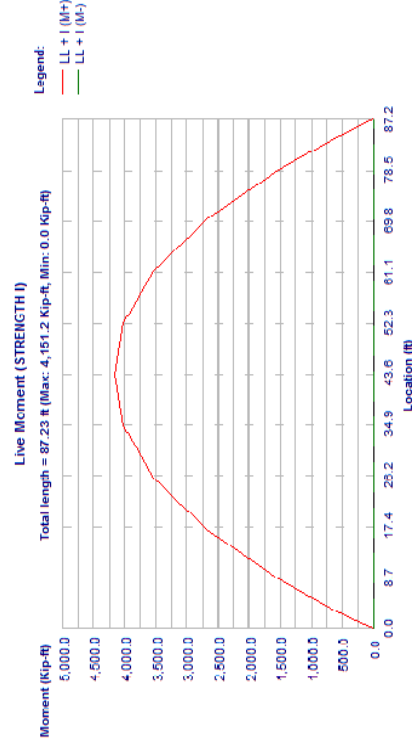
Composite Moment, Span 1, Beam 10, STRENGTH I

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File Name: Span01WB_ModifiedSpacing.csl			



Composite Shear, Span 1, Beam 10, STRENGTH I

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		Job #	
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Live Moment, Span 1, Beam 10, STRENGTH I

Bentley

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Version: 12.01.00.57

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Designed KSM

Date Sept/9/2013

Checked

Date

Sheet # 25

Job #

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1505.0	1346.8	1038.5	575.5	279.8	167.6
	V	37.6	48.3	63.3	74.0	79.5	81.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	41.6	52.2	63.3	74.0	79.5	81.4
	M	1399.0	1306.6	1038.5	575.5	279.8	167.6
Total :	M+	3817.4	3358.1	2547.8	1382.1	666.2	397.9
	V	60.2	93.4	131.0	164.2	180.9	186.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	3711.5	3317.8	2547.8	1382.1	666.2	397.9

Precast Moment (FATIGUE I)

Total length = 87.23 ft (Max: 1.090.5 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 10, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:07 P.M.

Bentley

Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span01WB_ModifiedSpacing.csl

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Sheet # 26

Job #

Precast Shear (FATIGUE I)


Total length = 87.23 ft (Max: 50.0 Kips, Min: 0.0 Kips)

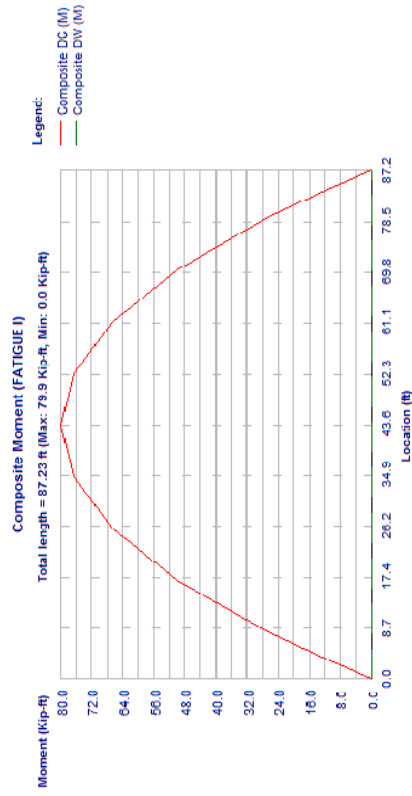
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 10, FATIGUE I

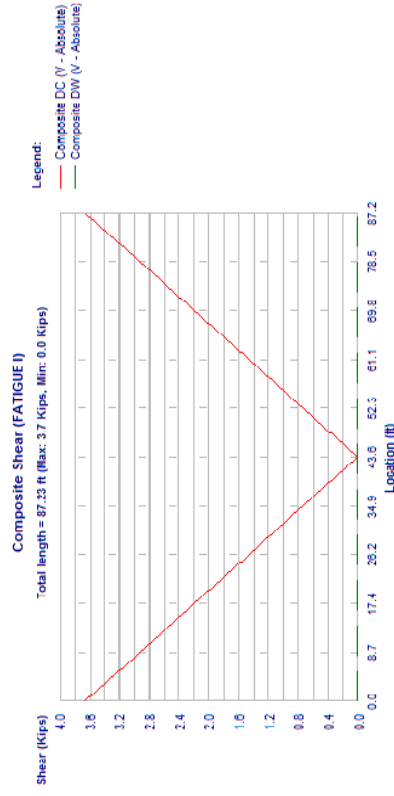
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:07 P.M.

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Phone: 1-800-778-4277		
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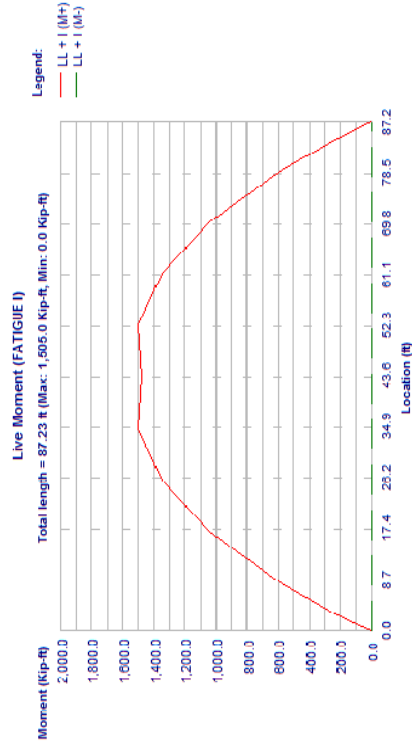
Composite Moment, Span 1, Beam 10, FATIGUE I

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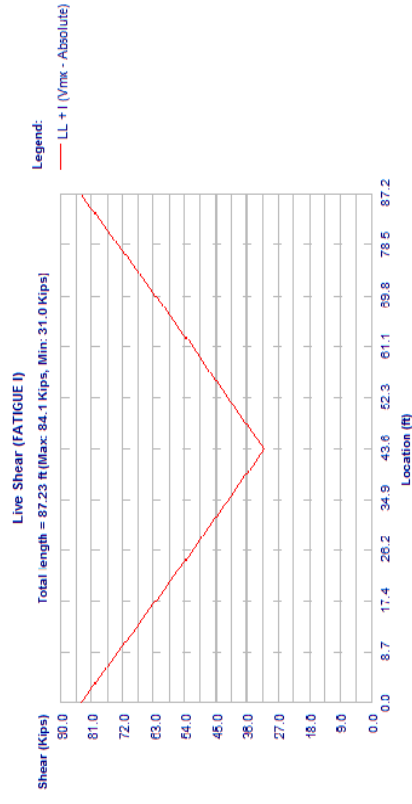
Composite Shear, Span 1, Beam 10, FATIGUE I

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Live Moment, Span 1, Beam 10, FATIGUE I

		Sheet #	30
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Live Shear, Span 1, Beam 10, FATIGUE I



Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

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Date

Sheet # 1

Job #

PROJECT DATA

Project: 14 Widening Over St. John's

Designer: KSM

Date: Sep/10/2013

Checked By:

Date Checked:

User job number:

State: FL, State Job #:

State: Florida

Specification: AASHTO LRFD - (6th Edition, 2012)

Design Code: US


Units: No

Span Type: Simple Span

Flared Girder:

Comments: Span 2 (WB) - Modified Spacing
\\Lknw001\PM\WORK\3\Jobs\59219 - 14 SAMRTECH\PROD\432100112201\Segment 4\struct\eng_data\1-4 Over St. John's River\Alternative 1 - Interior Widening\1 - Superstructure\Span 2WB\Span02WB_ModifiedSpacing_CAM.csl

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Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span02WB_ModifiedSpacing_CAM.csl

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Designed KSM

Date Sept/10/2013

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Date

Sheet # 2

Job #

GEOMETRY DATA

BRIDGE LAYOUT

Overall Width (ft)	115.135
Left curb (ft)	1.542
Right curb (ft)	1.542
Curb-to-curb width (ft)	112.052
Number of spans	1
Number of lanes	9
Lane width (ft)	12.000
Eft Deck thick (in)	8.500
Sacrificial thick (in)	0.000
Haunch thickness (in)	1.000
Haunch width (in)	60.000
Bridge c/s.Ml(lxx) (in4)	21758232.00

SPAN DATA

Precast length,	ft = 115.490
Bearing-to-bearing,	ft = 114.282
Release span,	ft = 115.490

BEAM DATA


No	ID	Loc-prev ft	Area in2	M(lxx) in4	Height in	Yb in	B-topg in	B-trib ft
1	FIB-78	4.750	1100.6	904567.0	78.00	34.60	48.00	11.117
2	FIB-78	12.733	1100.6	904567.0	78.00	34.60	48.00	12.733
3	FIB-78	12.733	1100.6	904567.0	78.00	34.60	48.00	12.733
4	FIB-78	12.733	1100.6	904567.0	78.00	34.60	48.00	12.733
5	FIB-78	12.733	1100.6	904567.0	78.00	34.60	48.00	12.733
6	FIB-78	12.733	1100.6	904567.0	78.00	34.60	48.00	11.628
7	FIB-78	10.522	1100.6	904567.0	78.00	34.60	48.00	10.522
8	FIB-78	10.522	1100.6	904567.0	78.00	34.60	48.00	10.522
9	FIB-78	10.522	1100.6	904567.0	78.00	34.60	48.00	10.522
10	FIB-78	10.522	1100.6	904567.0	78.00	34.60	48.00	9.892

MATERIAL DATA - Project Level

As defined in Material Tab. For beam level properties look at Beam Specific output.

CONCRETE PROPERTIES

	Precast Release	Precast Final	C.I.P
f'c (ksi)	6,000	7,500	5,500
Wc (pcf)	150.000	150.000	150.000
Ec (ksi)	4016.840	4490.960	3845.830
K1	0.900	0.900	0.900
Thermal coeff. (1/F)	0.00000600		



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STRAND AND REBAR PROPERTIES

PRESTRESSED STEEL:
6/10-270K-LI, Low relaxation strands
Depressed at 0.40I
Strand Diameter = 0.600 in
Tensile Strength(f_{pu}) = 270.0 ksi
Use transformed strand and rebar: Strand Only

REINFORCING STEEL:
Tension/Shear steel: f_y = 60.0 ksi E_s = 29000 ksi f_s = 24.0 ksi



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LOADS DATA

Loads generated using Permanent Load Wizard: YES

Left Barrier Weight, klf	0.000
Right Barrier Weight, klf	0.000
Left Curb Weight, klf	0.420
Right Curb Weight, klf	0.420
Left Sidewalk, klf	0.000
Right Sidewalk, klf	0.000
Future Wearing Surface, ksf	0.000
Sacrificial Wearing Surface, in	0.000
Slay in Place Deck Forms, klf	0.000


DEAD LOADS ON PRECAST

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

Span	Beam	DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
1	1	DC	Line	0.077	0.000	0.077	114.282	SIP
1	1	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	2	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	2	DC	Line	0.154	0.000	0.154	114.282	SIP
1	3	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	3	DC	Line	0.154	0.000	0.154	114.282	SIP
1	4	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	4	DC	Line	0.154	0.000	0.154	114.282	SIP
1	5	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	5	DC	Line	0.154	0.000	0.154	114.282	SIP
1	6	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	6	DC	Line	0.132	0.000	0.132	114.282	SIP
1	7	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	7	DC	Line	0.110	0.000	0.110	114.282	SIP
1	8	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	8	DC	Line	0.110	0.000	0.110	114.282	SIP
1	9	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	9	DC	Line	0.110	0.000	0.110	114.282	SIP
1	10	DC	Line	0.125	0.000	0.125	114.282	Haunch
1	10	DC	Line	0.055	0.000	0.055	114.282	SIP

DIAPHRAGM LOADS - using Wizard

Span	Magnitude (glf)	Location (ft)	Skew (deg)
1	1675.000	0.000	-15.656
1	1675.000	114.282	-15.656



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Span	Beam	Load (kips)	Location (ft)
1	1	10.568	0.000
1	1	10.568	114.282
1	2	21.135	0.000
1	2	21.135	114.282
1	3	21.135	0.000
1	3	21.135	114.282
1	4	21.135	0.000
1	4	21.135	114.282
1	5	21.135	0.000
1	5	21.135	114.282
1	6	19.212	0.000
1	6	19.212	114.282
1	7	17.288	0.000
1	7	17.288	114.282
1	8	17.288	0.000
1	8	17.288	114.282
1	9	17.288	0.000
1	9	17.288	114.282
1	10	8.644	0.000
1	10	8.644	114.282

DEAD LOADS ON COMPOSITE

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf, Area: ksf, Width: ft)

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
1	DC	Line	0.420	0.000	0.420	114.282	Left Curb Weight
1	DC	Line	0.420	0.000	0.420	114.282	Right Curb Weight


TEMPERATURE LOADS - NONE

LIVE LOADS

Live load deflection: not included.

ID	Type
Design Lane	Design Lane
Design Tandem	Design Tandem
Design Truck	Design Truck

Pedestrian Load - NONE



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ANALYSIS DATA

ANALYSIS PARAMETERS DATA

Truck Impact: 1.330
Lane Impact: 1.000
Strength II Impact: 1.330
Fatigue Impact: 1.150

DISTRIBUTION FACTORS (Art. 4.6.2.2):


Is Span Post-tensioned: NO
Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES
ADTT (Average Daily Truck Traffic): 5000
Percent of the specified force effect: 1.00

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service II:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor: 1.00
Redundancy Factor: 1.00
Importance Factor: 1.00



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MULTIPLIERS:

Trans len multi:	Bonded	1.00
	Debonded	1.00
Dev len multi:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed:	AASHTO equations
Horizontal Shear, Beam and Slab effects in V _u :	INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00	%
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi


STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):



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PROJECT DESIGN PARAMETERS

	PRECAST	DECK
Max comp	3.38	ksi
Max tens	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00	ksi
Max tens	-	ksi

SERVICE III (Tension):


	PRECAST	DECK
Max tens	-0.52	ksi
Max comp	-0.45	ksi

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRESTRESS LOSSES:

Time Dependent Losses, Approximate Method (Art.5.9.5.3)
Days to release = 0.75
Rel. Humid. (RH) = 75.0 %



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	10.6	8.3	7.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	137.1
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	253.5	381.2	1064.3	1926.8	2521.8	2974.3
LL + I :	M-	0.0	109.4	106.2	104.6	94.9	79.9	65.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	109.4	106.3	104.6	94.9	81.0	67.8	55.2
Total :	M	0.0	250.2	375.3	1031.4	1809.7	2291.4	2498.6
Total :	M+	0.0	612.2	920.9	2577.7	4689.5	6176.8	7066.4
Total :	M-	0.0	272.9	261.0	254.8	218.5	172.7	126.8
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	272.9	261.0	254.8	218.5	173.7	129.6	86.1
Total :	M	0.0	608.9	915.0	2544.8	4572.3	5946.4	6889.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec :	M	316.3	275.9	208.5	114.2	40.7	27.1
DC(Max)	V	2.3	4.7	7.0	9.3	10.8	11.1
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1947.4	1698.6	1283.9	703.3	250.8	166.7
Haunch (Max)	V	14.4	28.7	43.1	57.5	66.5	68.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2876.0	2521.8	1926.8	1064.3	381.2	253.5
LL + I :	V	44.2	65.0	79.9	94.9	104.6	106.2
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	55.2	67.8	81.0	94.9	104.6	106.3
Total :	M	2498.6	2291.4	1809.7	1031.4	375.3	250.2
Total :	M+	7066.4	6176.8	4689.5	2577.7	920.9	612.2
Total :	M-	75.1	126.8	172.7	218.5	254.8	261.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	86.1	129.6	173.7	218.5	254.8	261.0
Total :	M	6689.0	5946.4	4572.3	2544.8	915.0	608.9



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	2.40	3.65	10.94	22.49	34.04	45.59	57.14
Self wt. :	M	0.0	192.1	289.0	810.4	1479.4	1957.3	2244.0
(Max)	V	81.9	78.5	76.7	66.2	49.7	33.1	16.6
DL-Prec :	M	0.0	138.3	208.1	583.5	1065.2	1409.2	1684.5
DC(Max)	V	59.0	56.5	55.2	47.7	35.7	23.8	11.9
DL-Prec :	M	0.0	33.8	50.9	142.8	260.7	344.9	395.4
DL-Comp :	V	14.4	13.8	13.5	11.7	8.7	5.8	2.9
DL-Prec :	M	0.0	24.4	36.7	102.8	187.7	248.3	296.8
DC(Min)	V	10.4	10.0	9.7	8.4	6.3	4.2	2.1
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	208.4	313.5	879.1	1604.8	2123.2	2434.2
Haunch (Max)	V	88.8	85.1	83.2	71.8	53.9	35.9	18.0
Deck + :	M	0.0	150.0	225.7	633.0	1155.5	1528.7	1752.6
Haunch (Min)	V	64.0	61.3	59.9	51.7	38.8	25.9	12.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	13.2	10.3	8.8	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	9.5	7.4	6.3	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	14.1	21.2	59.4	108.4	143.4	171.4
DC(Max)	V	6.0	5.7	5.6	4.9	3.6	2.4	1.2
DL-Comp :	M	0.0	10.1	15.2	42.8	78.0	103.3	118.4
DC(Min)	V	4.3	4.1	4.0	3.5	2.6	1.7	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	554.6	833.9	2328.2	4214.9	5516.5	6291.3
LL + I :	V	239.4	232.4	228.8	207.5	174.9	142.3	96.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	239.4	232.4	228.8	207.6	177.3	148.3	120.7
Total :	M	0.0	547.4	821.0	2256.2	3958.7	5012.4	5465.7
Total :	M+	0.0	1003.0	1508.5	4219.9	7668.2	10085.2	11529.3
Total :	M-	443.7	425.9	416.5	362.0	290.8	219.5	135.3
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	443.7	425.9	416.6	362.2	293.2	225.6	159.4
Total :	M	0.0	995.8	1495.7	4147.9	7412.0	9581.1	10703.7

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	2244.0	1957.3	1479.4	810.4	289.0	192.1
(Max)	V	16.6	33.1	49.7	66.2	76.7	78.5
Self wt. :	M	1615.7	1409.2	1065.2	583.5	208.1	138.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	11.9	23.8	35.7	47.7	55.2	56.5	59.0
DL-Prec :	395.4	344.9	260.7	142.8	33.8	0.0	0.0
DC(Max)	2.9	5.8	8.7	11.7	13.5	13.8	14.4
DL-Prec :	284.7	248.3	187.7	102.8	36.7	24.4	0.0
DC(Min)	2.1	4.2	6.3	8.4	9.7	10.0	10.4
DL-Prec :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	2434.2	2123.2	1604.8	879.1	313.5	208.4	0.0
Haunch (Max)	18.0	35.9	53.9	71.8	83.2	85.1	88.8
Deck + :	1752.6	1528.7	1155.5	633.0	225.7	150.0	0.0
Haunch (Min)	12.9	25.9	38.8	51.7	59.9	61.3	64.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	0.0	0.0	0.0	0.0	0.0	8.8	10.3
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	0.0	0.0	0.0	0.0	0.0	6.3	7.4
DL-Comp :	164.4	143.4	108.4	59.4	21.2	14.1	0.0
DC(Max)	1.2	2.4	3.6	4.9	5.6	5.7	6.0
DL-Comp :	118.4	103.3	78.0	42.8	15.2	10.1	0.0
DC(Min)	0.9	1.7	2.6	3.5	4.0	4.1	4.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	6291.3	5516.5	4214.9	2328.2	833.9	554.6	-0.0
LL + I :	96.7	142.3	174.9	207.5	228.8	232.4	239.4
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	120.7	148.3	177.3	207.6	228.8	232.4	239.4
Total :	5465.7	5012.4	3958.7	2256.2	821.0	547.4	0.0
Total :	11529.3	10085.2	7648.2	4219.9	1508.5	1003.0	0.0
Total :	135.3	219.5	290.8	362.0	416.5	425.9	443.7
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	159.4	225.6	293.2	362.2	416.6	425.9	443.7
Total :	10703.7	9581.1	7412.0	4147.9	1495.7	995.8	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	88.8	88.8
Diaphragm	13.2	13.2
DL-Prec (DC)	14.4	14.4
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	60.0	60.0
DL-Comp (DW)	0.0	0.0
Live	179.7	179.7



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, FATIGUE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.40	3.65	10.94	22.49	34.04	45.59	57.14
Self Wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
Self Wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	27.1	40.7	114.2	208.5	275.9	316.3
DC(Max)	V	11.5	11.1	10.8	9.3	7.0	4.7	2.3
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	166.7	250.8	703.3	1283.9	1698.6	1947.4
Haunch (Max)	V	71.1	68.1	66.5	57.5	43.1	28.7	14.4
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	10.6	8.3	7.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	208.3	312.7	865.0	1537.7	2005.7	2253.4
LL + I :	V	92.8	90.4	89.2	81.8	70.7	53.7	42.6
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	92.8	90.4	89.2	81.8	70.7	59.7	48.7
LL + I :	M	0.0	208.3	312.7	865.0	1537.7	1963.9	2143.6



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	567.0	852.5	2378.4	4300.4	5660.7	6443.8
	V	256.3	245.2	239.4	205.4	163.5	115.5	73.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	256.3	245.2	239.4	205.4	163.5	121.5	79.6
	M	0.0	567.0	852.5	2378.4	4300.4	5618.9	6445.7

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	316.3	275.9	208.5	114.2	40.7	27.1
DC(Max)	V	2.3	4.7	7.0	9.3	10.8	11.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1947.4	1698.6	1283.9	703.3	250.8	166.7
Haunch (Max)	V	14.4	28.7	43.1	57.5	66.5	68.1
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	7.0	8.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2253.4	2005.7	1537.7	865.0	312.7	208.3
	V	42.6	53.7	70.7	81.8	89.2	90.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	48.7	59.7	70.7	81.8	89.2	90.4
	V	2143.6	1963.9	1537.7	865.0	312.7	208.3
Total :	M+	6443.8	5660.7	4300.4	2378.4	852.5	567.0
	V	73.5	115.5	163.5	205.4	239.4	245.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	79.6	121.5	163.5	205.4	239.4	245.2
	M	6334.0	5618.9	4300.4	2378.4	852.5	567.0




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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	1183.5	1183.5	1565.8	1795.2	1871.6
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	21.1	16.5	14.1	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	283.1	425.7	1188.6	2151.9	2816.4	3212.0
LL + I :	V	147.7	143.4	141.2	128.1	107.9	87.8	59.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	147.7	143.4	141.2	128.1	109.4	91.5	58.4
Total :	M	0.0	279.5	419.2	1151.9	2021.1	2559.1	2790.5
Total :	V	0.0	675.2	1015.6	2842.7	5171.4	6811.2	7791.9
Total :	M-	0.0	320.1	311.7	263.2	209.3	155.4	93.5
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	336.0	320.1	311.8	263.2	210.7	159.1	108.3
Total :	M	0.0	671.5	1009.1	2805.9	5040.6	6553.8	7370.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3212.0	2816.4	2151.9	1188.6	425.7	283.1



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	59.7	87.8	107.9	128.1	141.2	143.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	74.5	91.5	109.4	128.1	141.2	143.4
Total :	M	2790.5	2559.1	2021.1	1151.9	419.2	279.5
Total :	M+	7791.9	6811.2	5171.4	2842.7	1015.6	675.2
Total :	V	93.5	155.4	209.3	263.2	311.7	320.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	108.3	159.1	210.7	263.2	311.8	320.1
Total :	M	7370.4	6553.8	5040.6	2805.9	1009.1	671.5

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	80.9	80.9
Diaphragm	21.1	21.1
DL-Prec.(DC)	15.9	15.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.


Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	1183.5	1183.5	1565.8	1795.2	1871.6
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	21.1	16.5	14.1	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	226.5	340.6	950.9	1721.5	2253.1	2569.6
LL + I :	M-	118.2	114.7	112.9	102.4	86.3	70.2	47.7
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	118.2	114.8	113.0	102.5	87.5	73.2	59.6
Total :	M	0.0	223.6	335.3	921.5	1616.9	2047.2	2332.4
Total :	M+	0.0	618.6	930.5	2605.0	4741.0	6247.9	7149.5
Total :	M-	306.5	291.4	283.5	237.6	187.7	137.8	81.5
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	306.5	291.4	283.5	237.6	188.8	140.8	93.4
Total :	M	0.0	615.6	925.2	2575.6	4636.3	6042.0	6812.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2569.6	2253.1	1721.5	950.9	340.6	226.5
LL + I :	V	47.7	70.2	86.3	102.4	112.9	114.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	59.6	73.2	87.5	102.5	113.0	114.8
Total :	M	2232.4	2047.2	1616.9	921.5	335.3	223.6
Total :	M+	7149.5	6247.9	4741.0	2605.0	930.5	618.6
Total :	M-	81.5	137.8	187.7	237.6	283.5	291.4
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	93.4	140.8	188.8	237.6	283.5	291.4
Total :	M	6812.3	6042.0	4636.3	2575.6	925.2	615.6



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	45.59
Self wt. :	M	0.0	192.1	289.0	810.4	1479.4	1957.3	2244.0
(Max)	V	81.9	78.5	76.7	66.2	49.7	33.1	16.6
Self wt. :	M	0.0	138.3	208.1	583.5	1065.2	1409.2	1615.7
(Min)	V	59.0	56.5	55.2	47.7	35.7	23.8	11.9
DL-Prec :	M	-0.0	46.7	70.3	197.2	360.0	476.3	546.1
DC(Max)	V	19.9	19.1	18.7	16.1	12.1	8.1	4.0
DL-Prec :	M	-0.0	33.7	50.6	142.0	259.2	342.9	393.2
DC(Min)	V	14.3	13.7	13.4	11.6	8.7	5.8	2.9
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	237.2	356.8	1000.5	1826.5	2416.5	2770.4
Haunch (Max)	V	101.1	96.9	94.6	81.7	61.3	40.9	20.4
Deck + :	M	0.0	170.8	256.9	720.4	1315.1	1739.8	1994.7
Haunch (Min)	V	72.8	69.7	68.1	58.8	44.1	29.4	14.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	26.4	20.6	17.6	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	19.0	14.9	12.7	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	14.1	21.2	59.4	108.4	143.4	164.4
DC(Max)	V	6.0	5.7	5.6	4.9	3.6	2.4	1.2
DL-Comp :	M	0.0	10.1	15.2	42.8	78.0	103.3	118.4
DC(Min)	V	4.3	4.1	4.0	3.5	2.6	1.7	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	258.5	251.0	247.1	224.1	188.9	153.6	104.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	258.5	251.0	247.1	224.2	191.4	160.2	130.4
Total :	M	0.0	489.1	733.5	2015.8	3536.9	4478.3	4883.3
Total :	M+	0.0	985.6	1482.4	4147.7	7540.2	9922.2	11345.9
Total :	M-	493.9	471.8	460.3	393.0	315.5	238.1	146.7
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	493.9	471.8	460.3	393.1	318.1	244.6	172.6
Total :	M	0.0	979.1	1470.9	4083.3	7311.2	9471.8	10608.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	111.89	114.28
Self wt. :	M	2244.0	1957.3	1479.4	810.4	289.0	192.1
(Max)	V	16.6	33.1	49.7	66.2	76.7	78.5
Self wt. :	M	1615.7	1409.2	1065.2	583.5	208.1	138.3



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total : M+	0.0	521.8	784.6	2192.7	3977.0	5243.7	5983.2	6179.0
Total : M-	266.7	253.0	245.8	204.2	161.1	112.9	69.8	26.7
Total : Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total : M	266.7	253.0	245.8	204.2	161.1	118.0	74.9	31.8
Total : M	0.0	521.8	784.6	2192.7	3977.0	5217.7	5914.8	6068.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	68.69	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. : M	1795.2	1565.8	1183.5	648.3	231.2	153.7	0.0
(Max) V	13.2	26.5	39.7	53.0	61.3	62.8	65.5
Self wt. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. : M	436.9	381.1	288.0	157.8	56.3	37.4	0.0
DC(Max) V	3.2	6.4	9.7	12.9	14.9	15.3	15.9
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2216.3	1933.2	1461.2	800.4	285.5	189.7	0.0
Haunch (Max) V	16.3	32.7	49.0	65.4	75.7	77.5	80.9
Deck + : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max) V	0.0	0.0	0.0	0.0	14.1	16.5	21.1
Diaphragm : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	131.5	114.7	86.7	47.5	16.9	11.3	0.0
DC(Max) V	1.0	1.9	2.9	3.9	4.5	4.6	4.8
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) V	1403.2	1248.9	957.6	538.7	194.7	129.7	0.0
LL + : V	36.0	45.3	59.7	69.1	75.3	76.3	78.4
LL + : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + : V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + : M	41.1	50.4	59.7	69.1	75.3	76.3	78.4
Vmx	1334.9	1223.0	957.6	538.7	194.7	129.7	0.0
Total : M+	5983.2	5243.7	3977.0	2192.7	784.6	521.8	0.0
Total : V	69.8	112.9	161.1	204.2	245.8	253.0	266.7
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total : V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total : Vmx	74.9	118.0	161.1	204.2	245.8	253.0	266.7
Total : M	5914.8	5217.7	3977.0	2192.7	784.6	521.8	0.0




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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	MidsSpan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	1183.5	1183.5	1565.8	1795.2	1871.6
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	21.1	16.5	14.1	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	283.1	425.7	1188.6	2151.9	2816.4	3212.0
LL + I :	V	147.7	143.4	141.2	128.1	107.9	87.8	59.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	147.7	143.4	141.2	128.1	109.4	91.5	58.4
Total :	M+	0.0	279.5	419.2	1151.9	2021.1	2559.1	2790.5
Total :	V	0.0	675.2	1015.6	2842.7	5171.4	6811.2	7791.9
Total :	M-	0.0	320.1	311.7	263.2	209.3	155.4	93.5
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	336.0	320.1	311.8	263.2	210.7	159.1	108.3
Total :	M	0.0	671.5	1009.1	2805.9	5040.6	6553.8	7370.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3212.0	2816.4	2151.9	1188.6	425.7	283.1



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	59.7	87.8	107.9	128.1	141.2	143.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	74.5	91.5	109.4	128.1	141.2	143.4
Total :	M	2790.5	2559.1	2021.1	1151.9	419.2	279.5
Total :	M+	7791.9	6811.2	5171.4	2842.7	1015.6	675.2
Total :	V	93.5	155.4	209.3	263.2	311.7	320.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	108.3	159.1	210.7	263.2	311.8	320.1
Total :	M	7370.4	6553.8	5040.6	2805.9	1009.1	671.5


REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	80.9	80.9
Diaphragm	21.1	21.1
DL-Prec.(DC)	15.9	15.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	MidsSpan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	21.1	16.5	14.1	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	226.5	340.6	950.9	1721.5	2253.1	2569.6
LL + I :	V	118.2	114.7	112.9	102.4	86.3	70.2	47.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	118.2	114.8	113.0	102.5	87.5	73.2	59.6
Total :	M	0.0	223.6	335.3	921.5	1616.9	2047.2	2332.4
Total :	M+	0.0	618.6	930.5	2605.0	4741.0	6247.9	7149.5
Total :	V	306.5	291.4	283.5	237.6	187.7	137.8	81.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	306.5	291.4	283.5	237.6	188.8	140.8	93.4
Total :	M	0.0	615.6	925.2	2575.6	4636.3	6042.0	6812.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2569.6	2253.1	1721.5	950.9	340.6	226.5
LL + I :	V	47.7	70.2	86.3	102.4	112.9	114.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	59.6	73.2	87.5	102.5	113.0	114.8
Total :	M	2232.4	2047.2	1616.9	921.5	335.3	223.6
Total :	M+	7149.5	6247.9	4741.0	2605.0	930.5	618.6
Total :	V	81.5	137.8	187.7	237.6	283.5	291.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	93.4	140.8	188.8	237.6	283.5	291.4
Total :	M	6812.3	6042.0	4636.3	2575.6	925.2	615.6



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	45.59
Self wt. :	M	0.0	192.1	289.0	810.4	1479.4	1957.3	2244.0
(Max)	V	81.9	78.5	76.7	66.2	49.7	33.1	16.6
Self wt. :	M	0.0	138.3	208.1	583.5	1065.2	1409.2	1615.7
(Min)	V	59.0	56.5	55.2	47.7	35.7	23.8	11.9
DL-Prec :	M	-0.0	46.7	70.3	197.2	360.0	476.3	546.1
DC(Max)	V	19.9	19.1	18.7	16.1	12.1	8.1	4.0
DL-Prec :	M	-0.0	33.7	50.6	142.0	259.2	342.9	393.2
DC(Min)	V	14.3	13.7	13.4	11.6	8.7	5.8	2.9
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	237.2	356.8	1000.5	1826.5	2416.5	2770.4
Haunch (Max)	V	101.1	96.9	94.6	81.7	61.3	40.9	20.4
Deck + :	M	0.0	170.8	256.9	720.4	1315.1	1739.8	1994.7
Haunch (Min)	V	72.8	69.7	68.1	58.8	44.1	29.4	14.7
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	26.4	20.6	17.6	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	19.0	14.9	12.7	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	14.1	21.2	59.4	108.4	143.4	164.4
DC(Max)	V	6.0	5.7	5.6	4.9	3.6	2.4	1.2
DL-Comp :	M	0.0	10.1	15.2	42.8	78.0	103.3	118.4
DC(Min)	V	4.3	4.1	4.0	3.5	2.6	1.7	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	495.5	745.1	2080.1	3765.8	4928.7	5621.0
LL + I :	V	258.5	251.0	247.1	224.1	188.9	153.6	104.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	258.5	251.0	247.1	224.2	191.4	160.2	130.4
Total :	M	0.0	489.1	733.5	2015.8	3536.9	4478.3	4883.3
Total :	M+	0.0	985.6	1482.4	4147.7	7540.2	9922.2	11345.9
Total :	V	493.9	471.8	460.3	393.0	315.5	238.1	146.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	493.9	471.8	460.3	393.1	318.1	244.6	172.6
Total :	M	0.0	979.1	1470.9	4083.3	7311.2	9471.8	10608.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	111.89	114.28
Self wt. :	M	2244.0	1957.3	1479.4	810.4	289.0	192.1
(Max)	V	16.6	33.1	49.7	66.2	76.7	78.5
Self wt. :	M	1615.7	1409.2	1065.2	583.5	208.1	138.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	11.9	23.8	35.7	47.7	55.2	59.0
DL-Prec :	M	546.1	476.3	360.0	197.2	70.3	46.7
DC(Max)	M	4.0	8.1	12.1	16.1	19.1	19.9
DL-Prec :	M	393.2	342.9	259.2	142.0	50.6	33.7
DC(Min)	V	2.9	5.8	8.7	11.6	13.4	13.7
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2770.4	2416.5	1826.5	1000.5	356.8	237.2
Haunch (Max)	V	20.4	40.9	61.3	81.7	94.6	96.9
Deck + :	M	1994.7	1739.8	1315.1	720.4	256.9	170.8
Haunch (Min)	V	14.7	29.4	44.1	58.8	68.1	69.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	17.6	20.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	12.7	14.9
DL-Comp :	M	164.4	143.4	108.4	59.4	21.2	14.1
DC(Max)	V	1.2	2.4	3.6	4.9	5.6	5.7
DL-Comp :	M	118.4	103.3	78.0	42.8	15.2	10.1
DC(Min)	V	0.9	1.7	2.6	3.5	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5621.0	4928.7	3765.8	2080.1	745.1	495.5
LL + I :	V	104.4	153.6	188.9	224.1	247.1	251.0
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	130.4	160.2	191.4	224.2	247.1	251.0
Total :	M	4883.3	4478.3	3536.9	2015.8	733.5	489.1
Total :	V	11345.9	9922.2	7540.2	4147.7	1482.4	985.6
Total :	M-	146.7	238.1	315.5	393.0	460.3	471.8
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	172.6	244.6	318.1	393.1	460.3	471.8
Total :	V	10608.3	9471.8	7311.2	4083.3	1470.9	979.1
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	101.1	101.1
Diaphragm	26.4	26.4
DL-Prec (DC)	19.9	19.9
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	60.0	60.0
DL-Comp (DW)	0.0	0.0
Live	179.7	179.7



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, FATIGUE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.0	2.40	10.94	22.49	34.04	45.59	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	21.1	16.5	14.1	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	129.7	194.7	538.7	957.6	1248.9	1403.2
LL + I :	V	78.4	76.3	75.3	69.1	59.7	45.3	36.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	78.4	76.3	75.3	69.1	59.7	50.4	41.1
LL + I :	V	0.0	129.7	194.7	538.7	957.6	1223.0	1334.9
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	521.8	784.6	2192.7	3977.0	5243.7	5983.2
	V	266.7	253.0	245.8	204.2	161.1	112.9	69.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	266.7	253.0	245.8	204.2	161.1	118.0	74.9
	M	0.0	521.8	784.6	2192.7	3977.0	5217.7	5914.8
	M							6068.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	14.1	16.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	1403.2	1248.9	957.6	538.7	194.7	129.7
LL + I :	M+	36.0	45.3	59.7	69.1	75.3	76.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	41.1	50.4	59.7	69.1	75.3	76.3
Vmx	M	1334.9	1223.0	957.6	538.7	194.7	129.7
Total :	M+	5983.2	5243.7	3977.0	2192.7	784.6	521.8
Total :	M-	69.8	112.9	161.1	204.2	245.8	253.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	74.9	118.0	161.1	204.2	245.8	253.0
Total :	M	5914.8	5217.7	3977.0	2192.7	784.6	521.8




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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	1183.5	1183.5	1565.8	1795.2	1871.6
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	21.1	16.5	14.1	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	283.1	425.7	1188.6	2151.9	2816.4	3212.0
LL + I :	V	147.7	143.4	141.2	128.1	107.9	87.8	59.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	147.7	143.4	141.2	128.1	109.4	91.5	58.4
Total :	M	0.0	279.5	419.2	1151.9	2021.1	2559.1	2790.5
Total :	V	0.0	675.2	1015.6	2842.7	5171.4	6811.2	7791.9
Total :	M-	0.0	320.1	311.7	263.2	209.3	155.4	93.5
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	336.0	320.1	311.8	263.2	210.7	159.1	108.3
Total :	M	0.0	671.5	1009.1	2805.9	5040.6	6553.8	7370.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3212.0	2816.4	2151.9	1188.6	425.7	283.1
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	59.7	87.8	107.9	128.1	141.2	143.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	74.5	91.5	109.4	128.1	141.2	143.4
Total :	M	2790.5	2559.1	2021.1	1151.9	419.2	279.5
Total :	M+	7791.9	6811.2	5171.4	2842.7	1015.6	675.2
Total :	V	93.5	155.4	209.3	263.2	311.7	320.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	108.3	159.1	210.7	263.2	311.8	320.1
Total :	M	7370.4	6553.8	5040.6	2805.9	1009.1	671.5

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	80.9	80.9
Diaphragm	21.1	21.1
DL-Prec.(DC)	15.9	15.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.


Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	21.1	16.5	14.1	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	226.5	340.6	950.9	1721.5	2253.1	2569.6
LL + I :	V	118.2	114.7	112.9	102.4	86.3	70.2	47.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	118.2	114.8	113.0	102.5	87.5	73.2	59.6
Total :	M	0.0	223.6	335.3	921.5	1616.9	2047.2	2332.4
Total :	M+	0.0	618.6	930.5	2605.0	4741.0	6247.9	7149.5
Total :	V	306.5	291.4	283.5	237.6	187.7	137.8	81.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	306.5	291.4	283.5	237.6	188.8	140.8	93.4
Total :	Vmx	0.0	615.6	925.2	2575.6	4636.3	6042.0	6812.3
Total :	M	0.0	615.6	925.2	2575.6	4636.3	6042.0	6812.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2569.6	2253.1	1721.5	950.9	340.6	226.5
LL + I :	V	47.7	70.2	86.3	102.4	112.9	114.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	59.6	73.2	87.5	102.5	113.0	114.8
Total :	M	2232.4	2047.2	1616.9	921.5	335.3	223.6
Total :	M+	7149.5	6247.9	4741.0	2605.0	930.5	618.6
Total :	V	81.5	137.8	187.7	237.6	283.5	291.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	93.4	140.8	188.8	237.6	283.5	291.4
Total :	Vmx	0.0	6812.3	6042.0	4636.3	2575.6	615.6
Total :	M	0.0	6812.3	6042.0	4636.3	2575.6	615.6



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	45.59
Self wt. :	M	0.0	192.1	289.0	810.4	1479.4	1957.3	2244.0
(Max)	V	81.9	78.5	76.7	66.2	49.7	33.1	16.6
Self wt. :	M	0.0	138.3	208.1	583.5	1065.2	1409.2	1615.7
(Min)	V	59.0	56.5	55.2	47.7	35.7	23.8	11.9
DL-Prec :	M	-0.0	46.7	70.3	197.2	360.0	476.3	546.1
DC(Max)	V	19.9	19.1	18.7	16.1	12.1	8.1	4.0
DL-Prec :	M	-0.0	33.7	50.6	142.0	259.2	342.9	393.2
DC(Min)	V	14.3	13.7	13.4	11.6	8.7	5.8	2.9
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	237.2	356.8	1000.5	1826.5	2416.5	2770.4
Haunch (Max)	V	101.1	96.9	94.6	81.7	61.3	40.9	20.4
Deck + :	M	0.0	170.8	256.9	720.4	1315.1	1739.8	1994.7
Haunch (Min)	V	72.8	69.7	68.1	58.8	44.1	29.4	14.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	26.4	20.6	17.6	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	19.0	14.9	12.7	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	14.1	21.2	59.4	108.4	143.4	164.4
DC(Max)	V	6.0	5.7	5.6	4.9	3.6	2.4	1.2
DL-Comp :	M	0.0	10.1	15.2	42.8	78.0	103.3	118.4
DC(Min)	V	4.3	4.1	4.0	3.5	2.6	1.7	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	495.5	745.1	2080.1	3765.8	4928.7	5621.0
LL + I :	V	258.5	251.0	247.1	224.1	188.9	153.6	104.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	258.5	251.0	247.1	224.2	191.4	160.2	130.4
Total :	M	0.0	489.1	733.5	2015.8	3536.9	4478.3	4883.3
Total :	M+	0.0	985.6	1482.4	4147.7	7540.2	9922.2	11345.9
Total :	V	493.9	471.8	460.3	393.0	315.5	238.1	146.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	493.9	471.8	460.3	393.1	318.1	244.6	172.6
Total :	Vmx	0.0	979.1	1470.9	4083.3	7311.2	9471.8	10608.3
Total :	M	0.0	979.1	1470.9	4083.3	7311.2	9471.8	10608.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	111.89	114.28
Self wt. :	M	2244.0	1957.3	1479.4	810.4	289.0	192.1
(Max)	V	16.6	33.1	49.7	66.2	76.7	78.5
Self wt. :	M	1615.7	1409.2	1065.2	583.5	208.1	138.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	11.9	23.8	35.7	47.7	55.2	59.0
DL-Prec :	M	546.1	476.3	360.0	197.2	70.3	46.7
DC(Max)	M	4.0	8.1	12.1	16.1	19.1	19.9
DL-Prec :	M	393.2	342.9	259.2	142.0	50.6	33.7
DC(Min)	V	2.9	5.8	8.7	11.6	13.4	13.7
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2770.4	2416.5	1826.5	1000.5	356.8	237.2
Haunch (Max)	V	20.4	40.9	61.3	81.7	94.6	96.9
Deck + :	M	1994.7	1739.8	1315.1	720.4	256.9	170.8
Haunch (Min)	V	14.7	29.4	44.1	58.8	68.1	69.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	17.6	20.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	12.7	14.9
DL-Comp :	M	164.4	143.4	108.4	59.4	21.2	14.1
DC(Max)	V	1.2	2.4	3.6	4.9	5.6	5.7
DL-Comp :	M	118.4	103.3	78.0	42.8	15.2	10.1
DC(Min)	V	0.9	1.7	2.6	3.5	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5621.0	4928.7	3765.8	2080.1	745.1	495.5
LL + I :	V	104.4	153.6	188.9	224.1	247.1	251.0
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	130.4	160.2	191.4	224.2	247.1	251.0
Total :	M	4883.3	4478.3	3536.9	2015.8	733.5	489.1
Total :	V	11345.9	9922.2	7540.2	4147.7	1482.4	985.6
Total :	M+	146.7	238.1	315.5	393.0	460.3	471.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	172.6	244.6	318.1	393.1	460.3	471.8
Total :	M	10608.3	9471.8	7311.2	4083.3	1470.9	979.1

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	101.1	101.1
Diaphragm	26.4	26.4
DL-Prec (DC)	19.9	19.9
DL-Comp (DW)	0.0	0.0
DL-Comp (DC)	60.0	60.0
DL-Comp (DW)	0.0	0.0
Live	179.7	179.7



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, FATIGUE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.0	2.40	10.94	22.49	34.04	45.59	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	21.1	16.5	14.1	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	129.7	194.7	538.7	957.6	1248.9	1403.2
LL + I :	V	78.4	76.3	75.3	69.1	59.7	45.3	36.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	78.4	76.3	75.3	69.1	59.7	50.4	41.1
LL + I :	M	0.0	129.7	194.7	538.7	957.6	1223.0	1334.9



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	521.8	784.6	2192.7	3977.0	5243.7	5983.2
	V	266.7	253.0	245.8	204.2	161.1	112.9	69.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	266.7	253.0	245.8	204.2	161.1	118.0	74.9
	M	0.0	521.8	784.6	2192.7	3977.0	5217.7	5914.8
	M							6068.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	14.1	16.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	1403.2	1248.9	957.6	538.7	194.7	129.7
LL + I :	M+	36.0	45.3	59.7	69.1	75.3	76.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	41.1	50.4	59.7	69.1	75.3	76.3
Vmx	M	1334.9	1223.0	957.6	538.7	194.7	129.7
Total :	M+	5983.2	5243.7	3977.0	2192.7	784.6	521.8
Total :	M-	69.8	112.9	161.1	204.2	245.8	253.0
Total :	Vmx	74.9	118.0	161.1	204.2	245.8	253.0
Total :	M	5914.8	5217.7	3977.0	2192.7	784.6	521.8




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Sheet # 1
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	21.1	16.5	14.1	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	283.1	425.7	1188.6	2151.9	2816.4	3212.0
LL + I :	V	147.7	143.4	141.2	128.1	107.9	87.8	59.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	147.7	143.4	141.2	128.1	109.4	91.5	58.4
Total :	M	0.0	279.5	419.2	1151.9	2021.1	2559.1	2790.5
Total :	M+	0.0	675.2	1015.6	2842.7	5171.4	6811.2	7791.9
Total :	V	336.0	320.1	311.7	263.2	209.3	155.4	93.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	336.0	320.1	311.8	263.2	210.7	159.1	108.3
Total :	M	0.0	671.5	1009.1	2805.9	5040.6	6553.8	7370.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3212.0	2816.4	2151.9	1188.6	425.7	283.1



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	59.7	87.8	107.9	128.1	141.2	143.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	74.5	91.5	109.4	128.1	141.2	143.4
Total :	M	2790.5	2559.1	2021.1	1151.9	419.2	279.5
Total :	M+	7791.9	6811.2	5171.4	2842.7	1015.6	675.2
Total :	V	93.5	155.4	209.3	263.2	311.7	320.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	108.3	159.1	210.7	263.2	311.8	320.1
Total :	M	7370.4	6553.8	5040.6	2805.9	1009.1	671.5


REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	80.9	80.9
Diaphragm	21.1	21.1
DL-Prec.(DC)	15.9	15.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	21.1	16.5	14.1	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	226.5	340.6	950.9	1721.5	2253.1	2569.6
LL + I :	M-	118.2	114.7	112.9	102.4	86.3	70.2	47.7
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	118.2	114.8	113.0	102.5	87.5	73.2	59.6
Total :	M	0.0	223.6	335.3	921.5	1616.9	2047.2	2332.4
Total :	M+	0.0	618.6	930.5	2605.0	4741.0	6247.9	7149.5
Total :	M-	306.5	291.4	283.5	237.6	187.7	137.8	81.5
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	306.5	291.4	283.5	237.6	188.8	140.8	93.4
Total :	M	0.0	615.6	925.2	2575.6	4636.3	6042.0	6812.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec :	M	436.9	381.1	288.0	157.8	56.3	37.4
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2569.6	2253.1	1721.5	950.9	340.6	226.5
LL + I :	V	47.7	70.2	86.3	102.4	112.9	114.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	59.6	73.2	87.5	102.5	113.0	114.8
Total :	M	2232.4	2047.2	1616.9	921.5	335.3	223.6
Total :	M+	7149.5	6247.9	4741.0	2605.0	930.5	618.6
Total :	M-	81.5	137.8	187.7	237.6	283.5	291.4
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	93.4	140.8	188.8	237.6	283.5	291.4
Total :	M	6812.3	6042.0	4636.3	2575.6	925.2	615.6



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SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, STRENGTH I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	45.59
Self wt. :	M	0.0	192.1	289.0	810.4	1479.4	1957.3	2244.0
(Max)	V	81.9	78.5	76.7	66.2	49.7	33.1	16.6
Self wt. :	M	0.0	138.3	208.1	583.5	1065.2	1409.2	1615.7
(Min)	V	59.0	56.5	55.2	47.7	35.7	23.8	11.9
DL-Prec :	M	-0.0	46.7	70.3	197.2	360.0	476.3	546.1
DC(Max)	V	19.9	19.1	18.7	16.1	12.1	8.1	4.0
DL-Prec :	M	-0.0	33.7	50.6	142.0	259.2	342.9	393.2
DC(Min)	V	14.3	13.7	13.4	11.6	8.7	5.8	2.9
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	237.2	356.8	1000.5	1826.5	2416.5	2770.4
Haunch (Max)	V	101.1	96.9	94.6	81.7	61.3	40.9	20.4
Deck + :	M	0.0	170.8	256.9	720.4	1315.1	1739.8	1994.7
Haunch (Min)	V	72.8	69.7	68.1	58.8	44.1	29.4	14.7
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	26.4	20.6	17.6	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	19.0	14.9	12.7	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	14.1	21.2	59.4	108.4	143.4	164.4
DC(Max)	V	6.0	5.7	5.6	4.9	3.6	2.4	1.2
DL-Comp :	M	0.0	10.1	15.2	42.8	78.0	103.3	118.4
DC(Min)	V	4.3	4.1	4.0	3.5	2.6	1.7	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	495.5	745.1	2080.1	3765.8	4928.7	5621.0
LL + I :	V	258.5	251.0	247.1	224.1	188.9	153.6	104.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	258.5	251.0	247.1	224.2	191.4	160.2	130.4
Total :	M	0.0	489.1	733.5	2015.8	3536.9	4478.3	4883.3
Total :	M+	0.0	985.6	1482.4	4147.7	7540.2	9922.2	11345.9
Total :	M-	493.9	471.8	460.3	393.0	315.5	238.1	146.7
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	493.9	471.8	460.3	393.1	318.1	244.6	172.6
Total :	M	0.0	979.1	1470.9	4083.3	7311.2	9471.8	10608.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	114.28
Self wt. :	M	2244.0	1957.3	1479.4	810.4	289.0	192.1
(Max)	V	16.6	33.1	49.7	66.2	76.7	78.5
Self wt. :	M	1615.7	1409.2	1065.2	583.5	208.1	138.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	11.9	23.8	35.7	47.7	55.2	59.0
DL-Prec :	M	546.1	476.3	360.0	197.2	70.3	46.7
DC(Max)	M	4.0	8.1	12.1	16.1	19.1	19.9
DL-Prec :	M	393.2	342.9	259.2	142.0	50.6	33.7
DC(Min)	V	2.9	5.8	8.7	11.6	13.4	14.3
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2770.4	2416.5	1826.5	1000.5	356.8	237.2
Haunch (Max)	V	20.4	40.9	61.3	81.7	94.6	96.9
Deck + :	M	1994.7	1739.8	1315.1	720.4	256.9	170.8
Haunch (Min)	V	14.7	29.4	44.1	58.8	68.1	69.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	17.6	20.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	12.7	14.9
DL-Comp :	M	164.4	143.4	108.4	59.4	21.2	14.1
DC(Max)	V	1.2	2.4	3.6	4.9	5.6	5.7
DL-Comp :	M	118.4	103.3	78.0	42.8	15.2	10.1
DC(Min)	V	0.9	1.7	2.6	3.5	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5621.0	4928.7	3765.8	2080.1	745.1	495.5
LL + I :	V	104.4	153.6	188.9	224.1	247.1	251.0
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	130.4	160.2	191.4	224.2	247.1	251.0
Total :	M	4883.3	4478.3	3536.9	2015.8	733.5	489.1
Total :	V	11345.9	9922.2	7540.2	4147.7	1482.4	985.6
Total :	M-	146.7	238.1	315.5	393.0	460.3	471.8
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	172.6	244.6	318.1	393.1	460.3	471.8
Total :	V	10608.3	9471.8	7311.2	4083.3	1470.9	979.1

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	101.1	101.1
Diaphragm	26.4	26.4
DL-Prec (DC)	19.9	19.9
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	60.0	60.0
DL-Comp (DW)	0.0	0.0
Live	179.7	179.7



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, FATIGUE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft							
Self wt. :	M	0.0	2.40	10.94	22.49	34.04	45.59	57.14
(Max)	V	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
Self wt. :	M	65.5	62.8	61.3	53.0	39.7	26.5	13.2
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	37.4	56.3	157.8	288.0	381.1	436.9
DC(Max)	V	15.9	15.3	14.9	12.9	9.7	6.4	3.2
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	189.7	285.5	800.4	1461.2	1933.2	2216.3
Haunch (Max)	V	80.9	77.5	75.7	65.4	49.0	32.7	16.3
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	21.1	16.5	14.1	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	129.7	194.7	538.7	957.6	1248.9	1403.2
LL + I :	V	78.4	76.3	75.3	69.1	59.7	45.3	36.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	78.4	76.3	75.3	69.1	59.7	50.4	41.1
LL + I :	V	0.0	129.7	194.7	538.7	957.6	1223.0	1334.9



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		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	521.8	784.6	2192.7	3977.0	5243.7	5983.2	6179.0
	V	266.7	253.0	245.8	204.2	161.1	112.9	69.8	26.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	266.7	253.0	245.8	204.2	161.1	118.0	74.9	31.8
	M	0.0	521.8	784.6	2192.7	3977.0	5217.7	5914.8	6068.2

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7	0.0
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8	65.5
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	436.9	381.1	288.0	157.8	56.3	37.4	0.0
DC(Max)	V	3.2	6.4	9.7	12.9	14.9	15.3	15.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2216.3	1933.2	1461.2	800.4	285.5	189.7	0.0
Haunch (Max)	V	16.3	32.7	49.0	65.4	75.7	77.5	80.9
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Max)	V	0.0	0.0	0.0	0.0	14.1	16.5	21.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3	0.0
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6	4.8
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	1403.2	1248.9	957.6	538.7	194.7	129.7	0.0
LL + I :	M+	36.0	45.3	59.7	69.1	75.3	76.3	78.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	41.1	50.4	59.7	69.1	75.3	76.3	78.4
Total :	M	1334.9	1223.0	957.6	538.7	194.7	129.7	0.0
Total :	M+	5983.2	5243.7	3977.0	2192.7	784.6	521.8	0.0
Total :	M-	69.8	112.9	161.1	204.2	245.8	253.0	266.7
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	74.9	118.0	161.1	204.2	245.8	253.0	266.7
	M	5914.8	5217.7	3977.0	2192.7	784.6	521.8	0.0




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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	34.4	51.8	145.3	265.3	351.0	402.4
DC(Max)	V	14.7	14.1	13.7	11.9	8.9	5.9	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	174.0	261.8	734.0	1339.9	1772.7	2032.4
Haunch (Max)	V	74.2	71.1	69.4	60.0	45.0	30.0	15.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	19.2	15.0	12.8	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	264.8	398.2	1111.7	2012.7	2634.2	3004.2
LL + I :	V	138.5	134.4	132.3	120.0	101.2	82.3	55.9
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	138.5	134.5	132.4	120.1	102.5	85.8	69.8
Total :	M	0.0	261.4	392.0	1077.3	1890.3	2393.5	2609.9
Total :	M+	0.0	638.2	960.0	2686.9	4888.1	6438.4	7365.7
Total :	V	316.9	301.9	294.2	248.7	197.7	146.6	88.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	316.9	302.0	294.2	248.8	199.0	150.1	102.0
Total :	M	0.0	634.7	953.8	2652.5	4765.8	6197.7	7110.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	402.4	351.0	265.3	145.3	34.4	0.0
DC(Max)	V	3.0	5.9	8.9	11.9	13.7	14.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2032.4	1772.7	1339.9	734.0	261.8	174.0
Haunch (Max)	V	15.0	30.0	45.0	60.0	69.4	71.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3004.2	2634.2	2012.7	1111.7	398.2	264.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	V	55.9	82.3	101.2	120.0	132.3	134.4
Self wt. :	M-	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	69.8	85.8	102.5	120.1	132.4	134.5
DC(Max)	V	2609.9	2393.5	1890.3	1077.3	392.0	261.4
DL-Prec. :	M+	7365.7	6438.4	4888.1	2686.9	960.0	638.2
DW(Max)	V	88.1	146.6	197.7	248.7	294.2	301.9
Deck + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	102.0	150.1	199.0	248.8	294.2	302.0
(Max)	V	6971.4	6197.7	4765.8	2652.5	953.8	634.7
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	6971.4	6197.7	4765.8	2652.5	953.8	634.7
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	6971.4	6197.7	4765.8	2652.5	953.8	634.7


REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	74.2	74.2
Diaphragm	19.2	19.2
DL-Prec.(DC)	14.7	14.7
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	34.4	51.8	145.3	265.3	351.0	402.4
DC(Max)	V	14.7	14.1	13.7	11.9	8.9	5.9	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	174.0	261.8	734.0	1339.9	1772.7	2032.4
Haunch (Max)	V	74.2	71.1	69.4	60.0	45.0	30.0	15.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(ft)	19.2	15.0	12.8	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	137.1
DC(Max) :	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	211.9	318.6	889.4	1610.1	2107.3	2403.3
LL + I :	V	110.8	107.6	105.9	96.0	80.9	65.8	44.8
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	110.8	107.6	105.9	96.1	82.0	68.6	55.9
Total :	M	0.0	209.1	313.6	861.9	1512.2	1914.8	2087.9
Total :	M+	0.0	585.2	880.3	2464.5	4485.6	5911.6	6764.8
Total :	V	289.2	275.0	267.7	224.7	177.4	130.2	76.9
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	289.2	275.1	267.7	224.8	178.5	133.0	88.0
Total :	M	0.0	582.5	875.4	2437.0	4387.7	5719.0	6449.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max) :	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec :	M	402.4	351.0	265.3	145.3	51.8	34.4
DC(Max) :	V	3.0	5.9	8.9	11.9	13.7	14.1
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) :	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2032.4	1772.7	1339.9	734.0	261.8	174.0
Haunch (Max) :	V	15.0	30.0	45.0	60.0	69.4	71.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max) :	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max) :	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2403.3	2107.3	1610.1	889.4	318.6	211.9
LL + I :	V	44.8	65.8	80.9	96.0	105.9	107.6
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	55.9	68.6	82.0	96.1	105.9	107.6
Total :	M	2087.9	1914.8	1512.2	861.9	313.6	209.1
Total :	M+	6764.8	5911.6	4485.6	2464.5	880.3	585.2
Total :	V	76.9	130.2	177.4	224.7	267.7	275.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	88.0	133.0	178.5	224.8	267.7	275.1
Total :	M	6449.4	5719.0	4387.7	2437.0	875.4	582.5



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	45.59
Self wt. :	M	0.0	192.1	289.0	810.4	1479.4	1957.3	2244.0
(Max) :	V	81.9	78.5	76.7	66.2	49.7	33.1	16.6
Self wt. :	M	0.0	138.3	208.1	583.5	1065.2	1409.2	1615.7
(Min) :	V	59.0	56.5	55.2	47.7	35.7	23.8	11.9
DL-Prec :	M	-0.0	43.1	64.8	181.7	331.6	438.8	503.0
DC(Max) :	V	18.4	17.6	17.2	14.8	11.1	7.4	3.7
DL-Prec :	M	-0.0	31.0	46.6	130.8	238.8	315.9	362.2
DC(Min) :	V	13.2	12.7	12.4	10.7	8.0	5.3	2.7
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	217.5	327.2	917.5	1674.9	2215.9	2540.5
Haunch (Max) :	V	92.7	88.8	86.8	74.9	56.2	37.5	18.7
Deck + :	M	0.0	156.6	235.6	660.6	1205.9	1595.4	1829.1
Haunch (Min) :	V	66.7	63.9	62.5	54.0	40.5	27.0	13.5
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max) :	V	24.0	18.8	16.0	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min) :	V	17.3	13.5	11.5	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	14.1	21.2	59.4	108.4	143.4	164.4
DC(Max) :	V	6.0	5.7	5.6	4.9	3.6	2.4	1.2
DL-Comp :	M	0.0	10.1	15.2	42.8	78.0	103.3	118.4
DC(Min) :	V	4.3	4.1	4.0	3.5	2.6	1.7	0.9
DW(Max) :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	242.3	235.3	231.6	210.1	177.0	144.0	97.9
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	242.3	235.3	231.6	210.2	179.4	150.1	122.2
Total :	M	0.0	457.4	686.1	1885.3	3308.0	4188.6	4567.3
Total :	M+	0.0	930.1	1399.0	3914.5	7116.5	9365.1	10709.2
Total :	V	465.3	444.6	433.9	370.9	297.7	224.4	138.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	465.3	444.7	433.9	371.0	300.1	230.5	162.4
Total :	M	0.0	924.1	1388.3	3854.3	6902.4	8943.9	10019.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	111.89	114.28
Self wt. :	M	2244.0	1957.3	1479.4	810.4	289.0	192.1
(Max) :	V	16.6	33.1	49.7	66.2	76.7	81.9
Self wt. :	M	1615.7	1409.2	1065.2	583.5	208.1	138.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	11.9	23.8	35.7	47.7	55.2	59.0
DL-Prec :	M	503.0	438.8	331.6	181.7	64.8	43.1
DC(Max)	M	3.7	7.4	11.1	14.8	17.2	18.4
DL-Prec :	M	362.2	315.9	238.8	130.8	46.6	31.0
DC(Min)	V	2.7	5.3	8.0	10.7	12.4	13.2
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2540.5	2215.9	1674.9	917.5	327.2	217.5
Haunch (Max)	V	18.7	37.5	56.2	74.9	88.8	92.7
Deck + :	M	1829.1	1595.4	1205.9	660.6	235.6	156.6
Haunch (Min)	V	13.5	27.0	40.5	54.0	62.5	66.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	16.0	18.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	11.5	13.5
DL-Comp :	M	164.4	143.4	108.4	59.4	21.2	14.1
DC(Max)	V	1.2	2.4	3.6	4.9	5.6	5.7
DL-Comp :	M	118.4	103.3	78.0	42.8	15.2	10.1
DC(Min)	V	0.9	1.7	2.6	3.5	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5257.3	4609.8	3522.2	1945.5	696.8	463.4
LL + I :	V	97.9	144.0	177.0	210.1	231.6	235.3
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	122.2	150.1	179.4	210.2	231.6	235.3
Total :	M	4567.3	4188.6	3308.0	1885.3	686.1	457.4
Total :	V	10709.2	9265.1	7116.5	3914.5	1399.0	930.1
Total :	M-	138.1	224.4	297.7	370.9	433.9	444.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	162.4	230.5	300.1	371.0	433.9	444.7
Total :	V	10019.2	8943.9	6902.4	3854.3	1388.3	924.1
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	92.7	92.7
Diaphragm	24.0	24.0
DL-Prec (DC)	18.4	18.4
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	60.0	60.0
DL-Comp (DW)	0.0	0.0
Live	179.7	179.7



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, FATIGUE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.0	2.40	10.94	22.49	34.04	45.59	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	34.4	51.8	145.3	265.3	351.0	402.4
DC(Max)	V	14.7	14.1	13.7	11.9	8.9	5.9	3.0
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	174.0	261.8	734.0	1339.9	1772.7	2032.4
Haunch (Max)	V	74.2	71.1	69.4	60.0	45.0	30.0	15.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	19.2	15.0	12.8	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	122.5	183.9	508.6	904.1	1179.2	1324.8
LL + I :	V	74.4	72.5	71.4	65.5	56.7	43.0	34.1
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	74.4	72.5	71.4	65.5	56.7	43.0	34.1
LL + I :	Vmx	0.0	122.5	183.9	508.6	904.1	1154.6	1260.3
LL + I :	M	0.0	122.5	183.9	508.6	904.1	1154.6	1260.3



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	495.8	745.6	2083.7	3779.5	4983.4	5872.8
	V	252.8	239.9	233.3	194.2	153.2	107.3	25.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	252.8	239.9	233.3	194.2	153.2	112.2	30.1
	M	0.0	495.8	745.6	2083.7	3779.5	4958.9	5768.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	402.4	351.0	265.3	145.3	51.8	34.4
DC(Max)	V	3.0	5.9	8.9	11.9	13.7	14.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2032.4	1772.7	1339.9	734.0	261.8	174.0
Haunch (Max)	V	15.0	30.0	45.0	60.0	69.4	71.1
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	12.8	15.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1324.8	1179.2	904.1	508.6	183.9	122.5
	V	34.1	43.0	56.7	65.5	71.4	72.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	39.0	47.8	56.7	65.5	71.4	72.5
	M	1260.3	1154.6	904.1	508.6	183.9	122.5
Total :	M+	5686.4	4983.4	3779.5	2083.7	745.6	495.8
	V	66.3	107.3	153.2	194.2	233.3	239.9
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	71.2	112.2	153.2	194.2	233.3	239.9
	M	5621.8	4958.9	3779.5	2083.7	745.6	495.8




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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	31.5	47.4	132.9	242.6	321.0	368.0
DC(Max)	V	13.4	12.9	12.6	10.9	8.1	5.4	2.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4
Haunch (Max)	V	67.5	64.6	63.1	54.5	40.9	27.3	13.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	17.3	13.5	11.5	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	246.2	370.1	1033.3	1870.7	2448.4	2792.3
LL + I :	V	129.0	125.2	123.3	111.8	94.2	76.7	52.1
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	129.0	125.2	123.3	111.9	95.5	79.9	65.1
Total :	M+	0.0	600.8	903.7	2529.6	4602.2	6062.2	6935.4
Total :	V	297.5	283.6	276.3	234.0	185.9	137.8	82.7
Total :	M	297.5	283.6	276.3	234.1	187.2	141.0	95.6
Total :	M	0.0	597.6	898.0	2497.7	4488.5	6569.0	6701.6

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	368.0	321.0	242.6	132.9	47.4	31.5
DC(Max)	V	2.7	5.4	8.1	10.9	12.6	12.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1848.4	1612.2	1218.6	667.5	238.1	158.2
Haunch (Max)	V	13.6	27.3	40.9	54.5	63.1	64.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	11.5	13.5
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2792.3	2448.4	1870.7	1033.3	370.1	246.2



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	52.1	76.7	94.2	111.8	123.3	125.2
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	65.1	79.9	95.5	111.9	123.3	125.2
Total :	M	2425.9	2224.7	1757.0	1001.4	364.4	242.9
Total :	M+	6935.4	6062.2	4602.2	2529.6	903.7	600.8
Total :	V	82.7	137.8	185.9	234.0	276.3	283.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	6569.0	5838.4	4488.5	2497.7	898.0	597.6

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	67.5	67.5
Diaphragm	17.3	17.3
DL-Prec.(DC)	13.4	13.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.


Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	31.5	47.4	132.9	242.6	321.0	368.0
DC(Max)	V	13.4	12.9	12.6	10.9	8.1	5.4	2.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4
Haunch (Max)	V	67.5	64.6	63.1	54.5	40.9	27.3	13.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	11.9	23.8	35.7	47.7	55.2	59.0
DL-Prec :	M	460.0	401.2	303.2	166.1	59.2	-0.0
DC(Max)	V	3.4	6.8	10.2	13.6	15.7	16.8
DL-Prec :	M	331.2	288.9	218.3	119.6	42.7	28.3
DC(Min)	V	2.4	4.9	7.3	9.8	11.3	12.1
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2310.5	2015.3	1523.3	834.4	297.6	197.8
Haunch (Max)	V	17.0	34.1	51.1	68.2	78.9	80.8
Deck + :	M	1663.5	1451.0	1096.7	600.8	214.3	142.4
Haunch (Min)	V	12.3	24.5	36.8	49.1	56.8	60.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	14.4	16.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	10.4	12.2
DL-Comp :	M	164.4	143.4	108.4	59.4	21.2	14.1
DC(Max)	V	1.2	2.4	3.6	4.9	5.6	5.7
DL-Comp :	M	118.4	103.3	78.0	42.8	15.2	10.1
DC(Min)	V	0.9	1.7	2.6	3.5	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	4886.6	4284.8	3273.8	1808.3	647.7	430.8
LL + I :	V	91.2	134.1	164.9	195.7	215.7	225.7
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	113.8	139.8	167.1	195.8	215.7	225.7
Total :	M	4245.3	3893.2	3074.8	1752.4	637.7	425.2
Total :	V	10065.4	8801.9	6688.1	3678.7	1314.7	874.1
Total :	M-	129.4	210.5	279.5	348.4	407.0	417.1
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	152.0	216.2	281.7	348.5	407.1	417.1
Total :	V	9424.1	8410.4	6489.1	3622.8	1304.7	868.5

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	84.3	84.3
Diaphragm	21.6	21.6
DL-Prec (DC)	16.8	16.8
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	60.0	60.0
DL-Comp (DW)	0.0	0.0
Live	179.7	179.7



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, FATIGUE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.0	2.40	10.94	22.49	34.04	45.59	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	31.5	47.4	132.9	242.6	321.0	368.0
DC(Max)	V	13.4	12.9	12.6	10.9	8.1	5.4	2.7
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4
Haunch (Max)	V	67.5	64.6	63.1	54.5	40.9	27.3	13.6
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	17.3	13.5	11.5	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	115.0	172.7	477.6	849.0	1107.4	1244.2
LL + I :	V	70.4	68.6	67.6	62.0	53.7	40.7	32.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	70.4	68.6	67.6	62.0	53.7	45.3	36.9
LL + I :	V	0.0	115.0	172.7	477.6	849.0	1084.4	1183.6



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	469.7	706.3	1973.9	3580.5	4721.1	5387.3
	V	238.9	226.9	220.7	184.3	145.3	101.8	62.9
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	238.9	226.9	220.7	184.3	145.3	106.4	67.5
	M	0.0	469.7	706.3	1973.9	3580.5	4698.1	5466.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	368.0	321.0	242.6	132.9	47.4	31.5
DC(Max)	V	2.7	5.4	8.1	10.9	12.6	12.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1848.4	1612.2	1218.6	667.5	238.1	158.2
Haunch (Max)	V	13.6	27.3	40.9	54.5	63.1	64.6
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	1244.2	1107.4	849.0	477.6	172.7	115.0
LL + :	M-	32.3	40.7	53.7	62.0	67.6	68.6
LL + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	36.9	45.3	53.7	62.0	67.6	68.6
Total :	M	1183.6	1084.4	849.0	477.6	172.7	115.0
Total :	M+	5387.3	4721.1	3580.5	1973.9	706.3	469.7
Total :	M-	62.9	101.8	145.3	184.3	220.7	226.9
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	67.5	106.4	145.3	184.3	220.7	226.9
Total :	M	5326.6	4698.1	3580.5	1973.9	706.3	469.7



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE I

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.40	3.65	10.94	22.49	34.04	45.59	57.14
Self wt. :	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2	1871.6
(Max)	65.5	62.8	61.3	53.0	39.7	26.5	13.2	0.0
DL-Prec. :	-0.0	31.5	47.4	132.9	242.6	321.0	368.0	383.6
DC(Max)	13.4	12.9	12.6	10.9	8.1	5.4	2.7	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4	1927.1
Haunch (Max)	67.5	64.6	63.1	54.5	40.9	27.3	13.6	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	17.3	13.5	11.5	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	11.3	16.9	47.5	86.7	114.7	131.5	137.1
DC(Max)	4.8	4.6	4.5	3.9	2.9	1.9	1.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	246.2	370.1	1033.3	1870.7	2448.4	2792.3	2887.7
	129.0	125.2	123.3	111.8	94.2	76.7	52.1	34.5
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	129.0	125.2	123.3	111.9	95.5	79.9	65.1	51.0
	0.0	242.9	364.4	1001.4	1757.0	2224.7	2425.9	2382.0
Total :	0.0	600.8	903.7	2529.6	4602.2	6062.2	6935.4	7207.3
	297.5	283.6	276.3	234.0	185.9	137.8	82.7	34.5
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	297.5	283.6	276.3	234.1	187.2	141.0	95.6	51.0
	0.0	597.6	898.0	2497.7	4488.5	5838.4	6569.0	6701.6

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	68.69	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	1795.2	1565.8	1183.5	648.3	231.2	153.7	0.0
(Max)	13.2	26.5	39.7	53.0	61.3	62.8	65.5
DL-Prec. :	368.0	321.0	242.6	132.9	47.4	31.5	-0.0
DC(Max)	2.7	5.4	8.1	10.9	12.6	12.9	13.4
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	1848.4	1612.2	1218.6	667.5	238.1	158.2	0.0
Haunch (Max)	13.6	27.3	40.9	54.5	63.1	64.6	67.5
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Max)	0.0	0.0	0.0	0.0	11.5	13.5	17.3
DL-Comp :	131.5	114.7	86.7	47.5	16.9	11.3	0.0
DC(Max)	1.0	1.9	2.9	3.9	4.5	4.6	4.8
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	2792.3	2448.4	1870.7	1033.3	370.1	246.2	-0.0

		Sheet # 2	
		Job #	
Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	SE Client Licenses	
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012	Designed KSM
		www.bentley.com	Date Sept/10/2013
File Name:	Span02WB_ModifiedSpacing_CAM.csi		Checked
		Phone: 1-800-778-4277	Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
V	52.1	76.7	94.2	111.8	123.3	125.2	129.0
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	65.1	79.9	95.5	111.9	123.3	125.2	129.0
M	2425.9	2224.7	1757.0	1001.4	364.4	242.9	0.0
M+	6935.4	6062.2	4602.2	2529.6	903.7	600.8	0.0
V	82.7	137.8	185.9	234.0	276.3	283.6	297.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	95.6	141.0	187.2	234.1	276.3	283.6	297.5
M	6569.0	5838.4	4488.5	2497.7	898.0	597.6	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	67.5	67.5
Diaphragm	17.3	17.3
DL-Prec.(DC)	13.4	13.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.


Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE III

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft							
Self wt. :	0.00	2.40	3.65	10.94	22.49	34.04	45.59	57.14
(Max)	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2	1871.6
DL-Prec. :	65.5	62.8	61.3	53.0	39.7	26.5	13.2	0.0
DC(Max)	-0.0	31.5	47.4	132.9	242.6	321.0	368.0	383.6
DL-Prec. :	13.4	12.9	12.6	10.9	8.1	5.4	2.7	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4	1927.1
Diaphragm :	67.5	64.6	63.1	54.5	40.9	27.3	13.6	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



						Sheet #	3
						Job #	
Program:	LEAP@ CONSPAN® V8i (SELECTseries 5)	SE Client Licenses				Designed	KSM
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012				Date	Sept/10/2013
		www.bentley.com		Phone: 1-800-778-4277		Checked	
File Name:	Span02WB_ModifiedSpacing_CAM.csl					Date	

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	17.3	13.5	11.5	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	11.3	16.9	47.5	86.7	114.7	131.5	137.1
DC(Max)	4.8	4.6	4.5	3.9	2.9	1.9	1.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	196.9	296.1	826.7	1496.6	1958.7	2233.9	2310.2
V	103.2	100.2	98.6	89.4	75.4	61.3	41.7	27.6
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	103.2	100.2	98.6	89.5	76.4	63.9	52.0	40.8
Vmx	0.0	194.4	291.5	801.1	1405.6	1779.8	1940.7	1905.6
Total :	0.0	551.6	829.7	2322.9	4228.0	5572.5	6376.9	6629.7
V	271.7	258.5	251.7	211.7	167.1	122.4	72.2	27.6
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	271.7	258.5	251.7	211.7	168.1	125.0	82.6	40.8
Total :	0.0	549.0	825.1	2297.4	4137.1	5393.5	6083.8	6225.1

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft						
Self wt. :	68.69	80.24	91.79	103.34	110.64	111.89	114.28
(Max)	1795.2	1565.8	1183.5	648.3	231.2	153.7	0.0
DL-Prec. :	13.2	26.5	39.7	53.0	61.3	62.8	65.5
DC(Max)	368.0	321.0	242.6	132.9	47.4	31.5	-0.0
V	2.7	5.4	8.1	10.9	12.6	12.9	13.4
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	1848.4	1612.2	1218.6	667.5	238.1	158.2	0.0
Haunch (Max)	13.6	27.3	40.9	54.5	63.1	64.6	67.5
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Max)	0.0	0.0	0.0	0.0	11.5	13.5	17.3
DL-Comp :	131.5	114.7	86.7	47.5	16.9	11.3	0.0
DC(Max)	1.0	1.9	2.9	3.9	4.5	4.6	4.8
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	2233.9	1958.7	1496.6	826.7	296.1	196.9	-0.0
V	41.7	61.3	75.4	89.4	98.6	100.2	103.2
LL + I :	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	52.0	63.9	76.4	89.5	98.6	100.2	103.2
Vmx	1940.7	1779.8	1405.6	801.1	291.5	194.4	0.0
Total :	6376.9	5572.5	4228.0	2322.9	829.7	551.6	0.0
V	72.2	122.4	167.1	211.7	251.7	258.5	271.7
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	82.6	125.0	168.1	211.7	251.7	258.5	271.7
Total :	6083.8	5393.5	4137.1	2297.4	825.1	549.0	0.0



Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses		Sheet #	4
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012		Job #	
File Name: Span02WB_ModifiedSpacing_CAM.csl		www.bentley.com Phone: 1-800-778-4277		Designed	KSM
				Date	Sept/10/2013
				Checked	
				Date	

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, STRENGTH I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.40	3.65	10.94	22.49	34.04	45.59	57.14
Self wt. :	0.0	192.1	289.0	810.4	1479.4	1957.3	2244.0	2339.6
(Max)	81.9	78.5	76.7	66.2	49.7	33.1	16.6	0.0
Self wt. :	0.0	138.3	208.1	583.5	1065.2	1409.2	1615.7	1684.5
(Min)	59.0	56.5	55.2	47.7	35.7	23.8	11.9	0.0
DL-Prec. :	-0.0	39.4	59.2	166.1	303.2	401.2	460.0	479.6
DC(Max)	16.8	16.1	15.7	13.6	10.2	6.8	3.4	0.0
DL-Prec. :	-0.0	28.3	42.7	119.6	218.3	288.9	331.2	345.3
DC(Min)	12.1	11.6	11.3	9.8	7.3	4.9	2.4	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	197.8	297.6	834.4	1523.3	2015.3	2310.5	2408.9
Haunch (Max)	84.3	80.8	78.9	68.2	51.1	34.1	17.0	0.0
Deck + :	0.0	142.4	214.3	600.8	1096.7	1451.0	1663.5	1734.4
Haunch (Min)	60.7	58.2	56.8	49.1	36.8	24.5	12.3	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	21.6	16.9	14.4	0.0	0.0	0.0	0.0	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	15.6	12.2	10.4	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	14.1	21.2	59.4	108.4	143.4	164.4	171.4
DC(Max)	6.0	5.7	5.6	4.9	3.6	2.4	1.2	0.0
DL-Comp :	0.0	10.1	15.2	42.8	78.0	103.3	118.4	123.4
DC(Min)	4.3	4.1	4.0	3.5	2.6	1.7	0.9	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	430.8	647.7	1808.3	3273.8	4284.8	4886.6	5053.5
LL + I :	225.7	219.1	215.7	195.7	164.9	134.1	91.2	60.4
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	225.7	219.2	215.7	195.8	167.1	139.8	113.8	89.2
Total :	0.0	425.2	637.7	1752.4	3074.8	3893.2	4245.3	4168.5
Total :	0.0	874.1	1314.7	3678.7	6688.1	8801.9	10065.4	10453.0
Total :	436.3	417.1	407.0	348.4	279.5	210.5	129.4	60.4
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	436.3	417.1	407.1	348.5	281.7	216.2	152.0	89.2
Total :	0.0	868.5	1304.7	3622.7	6489.1	8410.4	9424.1	9567.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	68.69	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	2244.0	1957.3	1479.4	810.4	289.0	192.1	0.0
(Max)	16.6	33.1	49.7	66.2	76.7	78.5	81.9
Self wt. :	1615.7	1409.2	1065.2	583.5	208.1	138.3	0.0




Sheet # 5	
Job #	
Designed	KSM
Date	Sept/10/2013
Checked	
Date	
SE Client Licenses	
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Program:	LEAP® CONSPAN® V8i (SELECTseries 5)
Version:	12.01.00.57
File Name:	Span02WB_ModifiedSpacing_CAM.csi

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V 11.9	23.8	35.7	47.7	55.2	56.5	59.0
DL-Prec. :	M 460.0	401.2	303.2	166.1	59.2	39.4	-0.0
DC(Max)	V 3.4	6.8	10.2	13.6	15.7	16.1	16.8
DL-Prec. :	M 331.2	288.9	218.3	119.6	42.7	28.3	-0.0
DC(Min)	V 2.4	4.9	7.3	9.8	11.3	11.6	12.1
DL-Prec. :	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M 2310.5	2015.3	1523.3	834.4	297.6	197.8	0.0
Haunch (Max)	V 17.0	34.1	51.1	68.2	78.9	80.8	84.3
Deck + :	M 1663.5	1451.0	1096.7	600.8	214.3	142.4	0.0
Haunch (Min)	V 12.3	24.5	36.8	49.1	56.8	58.2	60.7
Diaphragm :	M 0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Max)	V 0.0	0.0	0.0	0.0	14.4	16.9	21.6
Diaphragm :	M 0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Min)	V 0.0	0.0	0.0	0.0	10.4	12.2	15.6
DL-Comp :	M 164.4	143.4	108.4	59.4	21.2	14.1	0.0
DC(Max)	V 1.2	2.4	3.6	4.9	5.6	5.7	6.0
DL-Comp :	M 118.4	103.3	78.0	42.8	15.2	10.1	0.0
DC(Min)	V 0.9	1.7	2.6	3.5	4.0	4.1	4.3
DL-Comp :	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+ 4886.6	4284.8	3273.8	1808.3	647.7	430.8	-0.0
LL + I :	V 91.2	134.1	164.9	195.7	215.7	219.1	225.7
LL + I :	M- 0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
LL + I :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx 113.8	139.8	167.1	195.8	215.7	219.2	225.7
Total :	M 4245.3	3893.2	3074.8	1752.4	637.7	425.2	0.0
Total :	V 10065.4	8801.9	6688.1	3678.7	1314.7	874.1	0.0
Total :	M- 129.4	210.5	279.5	348.4	407.0	417.1	436.3
Total :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx 152.0	216.2	281.7	348.5	407.1	417.1	436.3
Total :	M 9424.1	8410.4	6489.1	3622.8	1304.7	868.5	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	84.3	84.3
Diaphragm	21.6	21.6
DL-Prec.(DC)	16.8	16.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	60.0	60.0
DL-Comp.(DW)	0.0	0.0
Live	179.7	179.7

				Sheet # 6	
				Job #	
Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	SE Client Licenses		Designed	KSM
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012		Date	Sept/10/2013
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File Name: Span02WB_ModifiedSpacing_CAM.csl		Phone: 1-800-778-4277		Date	

Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, FATIGUE I

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.40	3.65	10.94	22.49	34.04	45.59	57.14
Self wt. :	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2	1871.6
(Max)	65.5	62.8	61.3	53.0	39.7	26.5	13.2	0.0
Self wt. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	-0.0	31.5	47.4	132.9	242.6	321.0	368.0	383.6
DC(Max)	13.4	12.9	12.6	10.9	8.1	5.4	2.7	0.0
DL-Prec. :	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4	1927.1
Haunch (Max)	67.5	64.6	63.1	54.5	40.9	27.3	13.6	0.0
Deck + :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	17.3	13.5	11.5	0.0	0.0	0.0	0.0	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	11.3	16.9	47.5	86.7	114.7	131.5	137.1
DC(Max)	4.8	4.6	4.5	3.9	2.9	1.9	1.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	115.0	172.7	477.6	849.0	1107.4	1244.2	1244.9
LL + I :	70.4	68.6	67.6	62.0	53.7	40.7	32.3	23.9
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	70.4	68.6	67.6	62.0	53.7	45.3	36.9	28.5
M	0.0	115.0	172.7	477.6	849.0	1084.4	1183.6	1146.7



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Total :	M+ 0.0	469.7	706.3	1973.9	3580.5	4721.1	5387.3	5564.4
	V 238.9	226.9	220.7	184.3	145.3	101.8	62.9	23.9
Total :	M- 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx 238.9	226.9	220.7	184.3	145.3	106.4	67.5	28.5
	M 0.0	469.7	706.3	1973.9	3580.5	4698.1	5326.6	5466.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft						
Self wt. :	68.69	80.24	91.79	103.34	110.64	111.89	114.28
(Max)	M 1795.2	1565.8	1183.5	648.3	231.2	153.7	0.0
Self wt. :	V 13.2	26.5	39.7	53.0	61.3	62.8	65.5
(Min)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M 368.0	321.0	242.6	132.9	47.4	31.5	-0.0
DL-Prec. :	V 2.7	5.4	8.1	10.9	12.6	12.9	13.4
DC(Min)	M 0.0	0.0	0.0	0.0	0.0	0.0	-0.0
DL-Prec. :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	V 1848.4	1612.2	1218.6	667.5	238.1	158.2	0.0
Haunch (Max)	M 13.6	27.3	40.9	54.5	63.1	64.6	67.5
Deck + :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	V 0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Max)	M 0.0	0.0	0.0	0.0	11.5	13.5	17.3
Diaphragm :	V 0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Min)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V 131.5	114.7	86.7	47.5	16.9	11.3	0.0
DC(Max)	M 1.0	1.9	2.9	3.9	4.5	4.6	4.8
DL-Comp :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M 0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V 1244.2	1107.4	849.0	477.6	172.7	115.0	0.0
	M+ 32.3	40.7	53.7	62.0	67.6	68.6	70.4
LL + I :	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M- 0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V 36.9	45.3	53.7	62.0	67.6	68.6	70.4
	M 1183.6	1084.4	849.0	477.6	172.7	115.0	0.0
Total :	M+ 5387.3	4721.1	3580.5	1973.9	706.3	469.7	0.0
	V 62.9	101.8	145.3	184.3	220.7	226.9	238.9
Total :	M- 0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx 67.5	106.4	145.3	184.3	220.7	226.9	238.9
	M 5326.6	4698.1	3580.5	1973.9	706.3	469.7	0.0




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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	31.5	47.4	132.9	242.6	321.0	368.0
DC(Max)	V	13.4	12.9	12.6	10.9	8.1	5.4	2.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4
Haunch (Max)	V	67.5	64.6	63.1	54.5	40.9	27.3	13.6
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	17.3	13.5	11.5	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	246.2	370.1	1033.3	1870.7	2448.4	2792.3
LL + I :	V	129.0	125.2	123.3	111.8	94.2	76.7	52.1
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	129.0	125.2	123.3	111.9	95.5	79.9	65.1
Total :	M+	0.0	600.8	903.7	2529.6	4602.2	6062.2	6935.4
Total :	V	297.5	283.6	276.3	234.0	185.9	137.8	82.7
Total :	M	297.5	283.6	276.3	234.1	187.2	141.0	95.6
Total :	M	0.0	597.6	898.0	2497.7	4488.5	6569.0	6701.6

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	111.89
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	368.0	321.0	242.6	132.9	47.4	31.5
DC(Max)	V	2.7	5.4	8.1	10.9	12.6	12.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1848.4	1612.2	1218.6	667.5	238.1	158.2
Haunch (Max)	V	13.6	27.3	40.9	54.5	63.1	64.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	11.3	13.5
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2792.3	2448.4	1870.7	1033.3	370.1	246.2



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	52.1	76.7	94.2	111.8	123.3	125.2
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	65.1	79.9	95.5	111.9	123.3	125.2
Total :	M	2425.9	2224.7	1757.0	1001.4	364.4	242.9
Total :	M+	6935.4	6062.2	4602.2	2529.6	903.7	600.8
Total :	V	82.7	137.8	185.9	234.0	276.3	283.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	6569.0	5838.4	4488.5	2497.7	898.0	597.6


REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	67.5	67.5
Diaphragm	17.3	17.3
DL-Prec.(DC)	13.4	13.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	31.5	47.4	132.9	242.6	321.0	368.0
DC(Max)	V	13.4	12.9	12.6	10.9	8.1	5.4	2.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4
Haunch (Max)	V	67.5	64.6	63.1	54.5	40.9	27.3	13.6
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	11.9	23.8	35.7	55.2	56.5	59.0
DL-Prec :	M	460.0	401.2	303.2	166.1	59.2	-0.0
DC(Max)	V	3.4	6.8	10.2	13.6	15.7	16.8
DL-Prec :	M	331.2	288.9	218.3	119.6	42.7	28.3
DC(Min)	V	2.4	4.9	7.3	9.8	11.3	12.1
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2310.5	2015.3	1523.3	834.4	297.6	197.8
Haunch (Max)	V	17.0	34.1	51.1	68.2	78.9	80.8
Deck + :	M	1663.5	1451.0	1096.7	600.8	214.3	142.4
Haunch (Min)	V	12.3	24.5	36.8	49.1	56.8	60.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	14.4	16.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	10.4	12.2
DL-Comp :	M	164.4	143.4	108.4	59.4	21.2	14.1
DC(Max)	V	1.2	2.4	3.6	4.9	5.6	5.7
DL-Comp :	M	118.4	103.3	78.0	42.8	15.2	10.1
DC(Min)	V	0.9	1.7	2.6	3.5	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	4886.6	4284.8	3273.8	1808.3	647.7	430.8
LL + I :	V	91.2	134.1	164.9	195.7	215.7	225.7
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	113.8	139.8	167.1	195.8	215.7	225.7
Total :	M	4245.3	3893.2	3074.8	1752.4	637.7	425.2
Total :	V	10065.4	8801.9	6688.1	3678.7	1314.7	874.1
Total :	M-	129.4	210.5	279.5	348.4	407.0	417.1
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	152.0	216.2	281.7	348.5	407.1	417.1
Total :	V	9424.1	8410.4	6489.1	3622.8	1304.7	868.5

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	84.3	84.3
Diaphragm	21.6	21.6
DL-Prec (DC)	16.8	16.8
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	60.0	60.0
DL-Comp (DW)	0.0	0.0
Live	179.7	179.7



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Load Type	Left Support	Right Support
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, FATIGUE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.0	2.40	10.94	22.49	34.04	45.59	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	31.5	47.4	132.9	242.6	321.0	368.0
DC(Max)	V	13.4	12.9	12.6	10.9	8.1	5.4	2.7
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	238.1	667.5	1218.6	1612.2	1848.4
Haunch (Max)	V	67.5	64.6	63.1	54.5	40.9	27.3	13.6
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	17.3	13.5	11.5	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	115.0	172.7	477.6	849.0	1107.4	1244.2
LL + I :	V	70.4	68.6	67.6	62.0	53.7	40.7	32.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	70.4	68.6	67.6	62.0	53.7	45.3	36.9
LL + I :	V	0.0	115.0	172.7	477.6	849.0	1084.4	1183.6



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	469.7	706.3	1973.9	3580.5	4721.1	5387.3
	V	238.9	226.9	220.7	184.3	145.3	101.8	62.9
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	238.9	226.9	220.7	184.3	145.3	106.4	67.5
	M	0.0	469.7	706.3	1973.9	3580.5	4698.1	5466.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	368.0	321.0	242.6	132.9	47.4	31.5
DC(Max)	V	2.7	5.4	8.1	10.9	12.6	12.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1848.4	1612.2	1218.6	667.5	238.1	158.2
Haunch (Max)	V	13.6	27.3	40.9	54.5	63.1	64.6
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1244.2	1107.4	849.0	477.6	172.7	115.0
LL + I :	M-	32.3	40.7	53.7	62.0	67.6	68.6
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	36.9	45.3	53.7	62.0	67.6	68.6
Total :	M	1183.6	1084.4	849.0	477.6	172.7	115.0
Total :	M+	5387.3	4721.1	3580.5	1973.9	706.3	469.7
Total :	M-	62.9	101.8	145.3	184.3	220.7	226.9
Total :	M	67.5	106.4	145.3	184.3	220.7	226.9
Total :	M	5326.6	4698.1	3580.5	1973.9	706.3	469.7




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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	24.1	36.3	101.8	185.8	245.8	281.9
DC(Max)	V	10.3	9.9	9.6	8.3	6.2	4.2	2.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	149.3	224.6	629.7	1149.6	1520.9	1743.6
Haunch (Max)	V	63.6	61.0	59.6	51.4	38.6	25.7	12.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	8.6	6.8	5.8	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	11.3	16.9	47.5	86.7	114.7	131.5
DC(Max)	V	4.8	4.6	4.5	3.9	2.9	1.9	1.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	285.3	429.0	1197.8	2168.5	2838.2	3236.8
LL + :	V	126.5	122.9	120.9	109.7	92.4	75.2	51.1
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	126.5	122.9	121.0	109.8	93.7	78.4	63.8
Total :	M+	0.0	281.6	422.4	1160.8	2036.7	2578.8	2812.0
Total :	V	279.4	267.8	261.7	226.3	179.9	133.5	80.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	279.4	267.8	261.7	226.4	181.1	136.7	93.0
Total :	M	0.0	619.9	931.4	2588.1	4642.3	6026.1	6764.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	68.69	80.24	91.79	103.34	110.64	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
DL-Prec. :	M	281.9	245.8	185.8	101.8	36.3	24.1
DC(Max)	V	2.1	4.2	6.2	8.3	9.6	10.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1743.6	1520.9	1149.6	629.7	224.6	149.3
Haunch (Max)	V	12.9	25.7	38.6	51.4	59.6	61.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.8
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3236.8	2838.2	2168.5	1197.8	429.0	285.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + :	V	51.1	75.2	92.4	109.7	120.9	122.9
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	M	63.8	78.4	93.7	109.8	121.0	122.9
Total :	M	2812.0	2578.8	2036.7	1160.8	422.4	281.6
Total :	M+	1189.0	6285.4	4774.1	2625.2	938.1	623.6
Total :	V	80.3	133.5	179.9	226.3	261.7	267.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	93.0	136.7	181.1	226.4	261.7	267.8
Total :	M	6764.2	6026.1	4642.3	2588.1	931.4	619.9

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	65.5	65.5
Deck+Haunch	63.6	63.6
Diaphragm	8.6	8.6
DL-Prec.(DC)	10.3	10.3
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	48.0	48.0
DL-Comp.(DW)	0.0	0.0
Live	102.7	102.7
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE III

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	0.00	2.40	3.65	10.94	22.49	34.04	57.14
Self wt. :	M	0.0	153.7	231.2	648.3	1183.5	1565.8	1795.2
(Max)	V	65.5	62.8	61.3	53.0	39.7	26.5	13.2
DL-Prec. :	M	-0.0	24.1	36.3	101.8	185.8	245.8	281.9
DC(Max)	V	10.3	9.9	9.6	8.3	6.2	4.2	2.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	149.3	224.6	629.7	1149.6	1520.9	1743.6
Haunch (Max)	V	63.6	61.0	59.6	51.4	38.6	25.7	12.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Total :	M+	0.0	536.7	806.9	2251.2	4070.2	5357.5	6098.5
	V	241.3	231.0	225.7	194.5	154.8	109.4	69.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	241.3	231.0	225.7	194.5	154.8	115.2	75.5
	M	0.0	536.7	806.9	2251.2	4070.2	5317.8	5993.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	80.24	91.79	103.34	110.64	111.89	114.28
Self wt. :	M	1795.2	1565.8	1183.5	648.3	231.2	153.7
(Max)	V	13.2	26.5	39.7	53.0	61.3	62.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	281.9	245.8	185.8	101.8	36.3	24.1
DC(Max)	V	2.1	4.2	6.2	8.3	9.6	9.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	1743.6	1520.9	1149.6	629.7	224.6	149.3
Haunch (Max)	V	12.9	25.7	38.6	51.4	59.6	61.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	131.5	114.7	86.7	47.5	16.9	11.3
DC(Max)	V	1.0	1.9	2.9	3.9	4.5	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	2146.3	1910.3	1464.6	823.9	297.9	198.4
	V	40.6	51.1	67.4	77.9	84.9	86.1
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	Vmx	46.3	56.9	67.4	77.9	84.9	86.1
	M	2041.7	1870.5	1464.6	823.9	297.9	198.4
Total :	M+	6098.5	5357.5	4070.2	2251.3	806.9	536.7
	V	69.7	109.4	154.8	194.5	225.7	231.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	75.5	115.2	154.8	194.5	225.7	231.0
	M	5993.9	5317.8	4070.2	2251.3	806.9	536.7




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PROJECT DATA

Project:	14 Widening Over St. John's
Designer:	KSM
Date:	Sep/9/2013
Checked By:	
Date Checked:	
User job	
number:	
State:	FL, State Job #:
State:	Florida
Specification:	AASHTO LRFD - [6th Edition, 2012]
Design Code:	US
Units:	Simple Span
Span Type:	No
Flared Girder:	Span 4 (WB) - Modified Spacing
Comments:	\\Lkmw001PMWORK3\Jobs\59219 - 14 SAMRTECHPROD\43210012201\Segment 4\structleng_data\1-4 Over St. John's River\Alternative 1 - Interior Widening\1 - Superstructure\Span 4WB\Span04WB_ModifiedSpacing.csl
File Name:	

		Sheet # 2	
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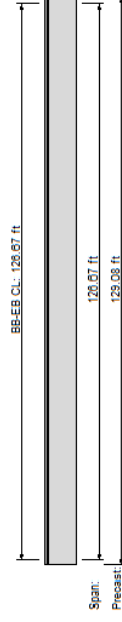
GEOMETRY DATA

BRIDGE LAYOUT

Overall Width (ft)	113.137
Left curb (ft)	1.542
Right curb (ft)	1.542
Curb-to-curb width (ft)	110.054
Number of spans	1
Number of lanes	9
Lane width (ft)	12.000
Eft Deck thick (in)	8.500
Sacrificial thick (in)	0.000
Haunch thickness (in)	1.000
Haunch width (in)	60.000
Bridge c/s MI (lxx) (in4)	21306782.00

SPAN DATA


Precast length,	ft = 129.083
Bearing-to-bearing,	ft = 126.667
Release span,	ft = 129.083



Bridge elevation

BEAM DATA

No	ID	Loc-prev ft	Area in2	MI (lxx) in4	Height in	Yb in	B-topg in	B-trib ft
1	FIB-78	4.750	1100.6	904567.0	78.00	34.60	48.00	10.110
2	FIB-78	10.720	1100.6	904567.0	78.00	34.60	48.00	11.719
3	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	12.719
4	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	12.719
5	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	12.719
6	FIB-78	12.719	1100.6	904567.0	78.00	34.60	48.00	11.615
7	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510
8	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510
9	FIB-72	10.510	1058.6	740895.0	72.00	31.91	48.00	10.510



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Span	Beam	Load (kips)	Location (ft)
1	1	8.489	0.000
1	1	8.489	126.667
1	2	18.653	0.000
1	2	18.653	126.667
1	3	20.327	0.000
1	3	20.327	126.667
1	4	20.327	0.000
1	4	20.327	126.667
1	5	20.327	0.000
1	5	20.327	126.667
1	6	18.477	0.000
1	6	18.477	126.667
1	7	16.627	0.000
1	7	16.627	126.667
1	8	16.627	0.000
1	8	16.627	126.667
1	9	16.627	0.000
1	9	16.627	126.667
1	10	8.314	0.000
1	10	8.314	126.667

DEAD LOADS ON COMPOSITE
UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf, Area: ksf, Width: ft)

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
1	DC	Line	0.420	0.000	0.420	126.667	Left Curb Weight
1	DC	Line	0.420	0.000	0.420	126.667	Right Curb Weight


TEMPERATURE LOADS - NONE

LIVE LOADS

Live load deflection: not included.

ID	Type
Design Lane	Design Lane
Design Tandem	Design Tandem
Design Truck	Design Truck

Pedestrian Load - NONE



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ANALYSIS DATA
ANALYSIS PARAMETERS DATA

Truck Impact:	1.330
Lane Impact:	1.000
Strength II Impact:	1.330
Fatigue Impact:	1.150

DISTRIBUTION FACTORS (Art. 4.6.2.2):


Is Span Post-tensioned:	NO
Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d):	YES
ADTT (Average Daily Truck Traffic) :	5000
Percent of the specified force effect :	1.00

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service II:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor:	1.00
Redundancy Factor:	1.00
Importance Factor:	1.00



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PROJECT DESIGN PARAMETERS

Trans len mult:	Bonded	1.00
	Debonded	1.00
Dev len mult:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed:	AASHTO equations
Horizontal Shear, Beam and Slab effects in Vw:	INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00	%
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi


STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):



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PROJECT DESIGN PARAMETERS

Trans len mult:	Bonded	1.00
	Debonded	1.00
Dev len mult:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed:	AASHTO equations
Horizontal Shear, Beam and Slab effects in Vw:	INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00	%
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi


STRESS LIMITS AT FINAL AFTER LOSSES:

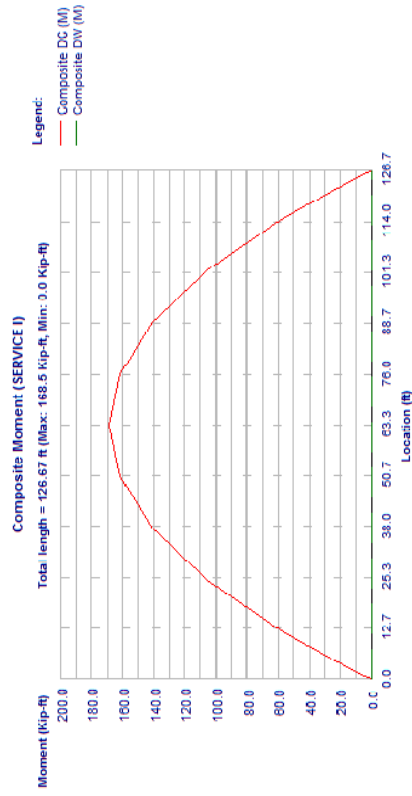
	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):


	PRECAST	DECK
Max comp	4.50	ksi
Max tens	3.30	ksi

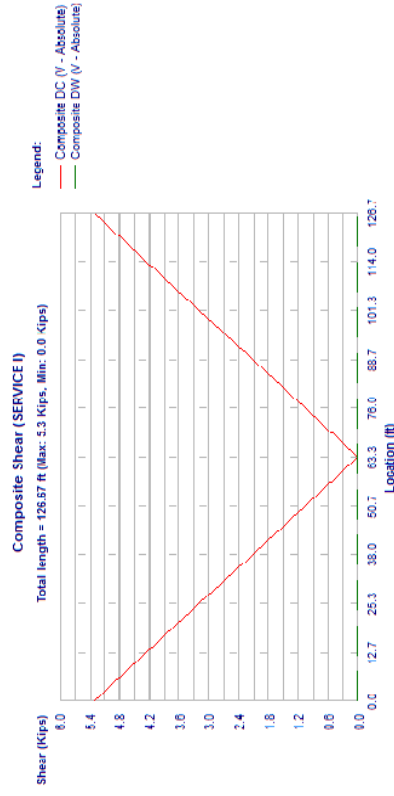
STRESS LIMITS AT FINAL 2 (P/S + DL):

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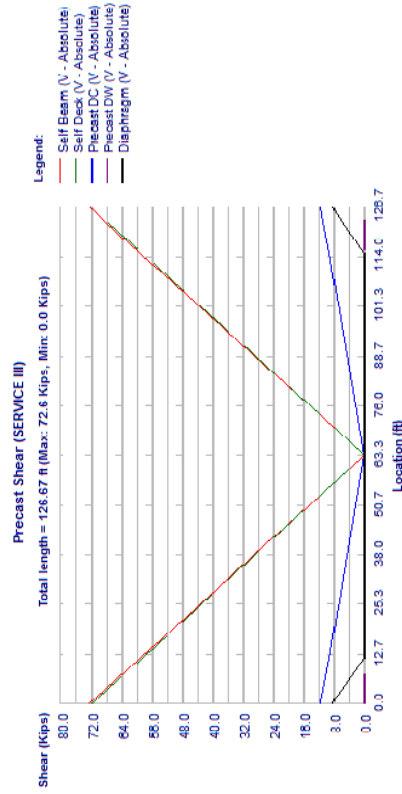
Composite Moment, Span 1, Beam 1, SERVICE I

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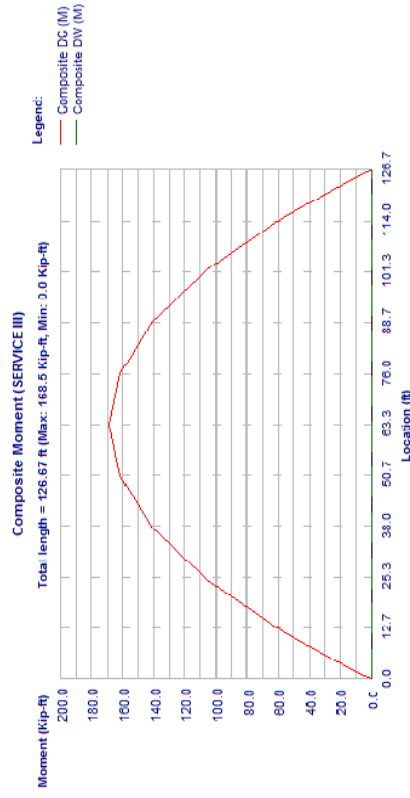
Composite Shear, Span 1, Beam 1, SERVICE I

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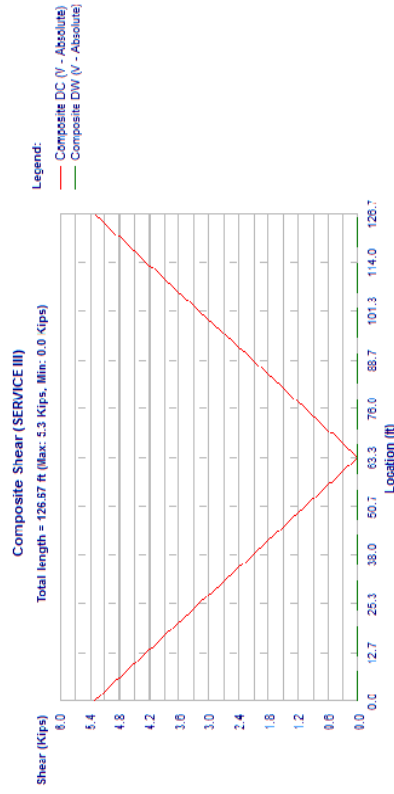
Precast Shear, Span 1, Beam 1, SERVICE III

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		Job #	
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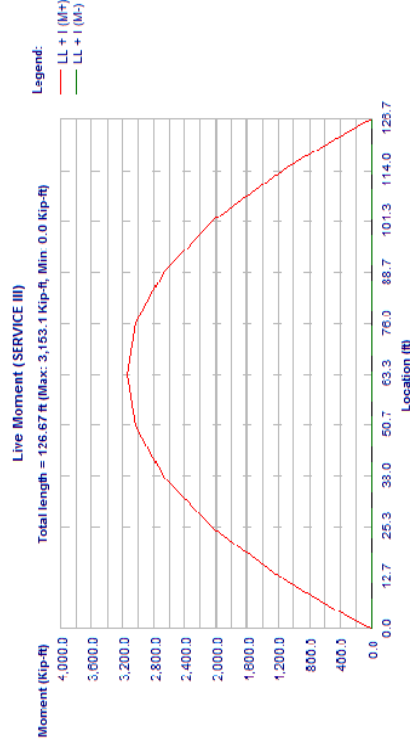
Composite Moment, Span 1, Beam 1, SERVICE III

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Composite Shear, Span 1, Beam 1, SERVICE III

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Live Moment, Span 1, Beam 1, SERVICE III

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Job #

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.0	2.0	2.9	3.9	4.5	4.7
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	665.18	5810.3	4399.2	2372.1	793.7	396.3
LL + I :	V	90.2	61.1	165.0	196.2	216.7	221.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	113.7	139.6	167.0	196.2	216.7	221.5
LL + I :	M	5731.9	5238.7	4110.1	2372.1	820.4	412.4
Total :	M+	12776.9	11139.0	8400.6	4515.2	1508.3	752.8
Total :	V	131.3	143.4	288.4	360.7	414.2	426.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	11857.1	10567.5	8111.5	4515.2	1535.0	769.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	90.0	90.0
Diaphragm	10.6	10.6
DL-Prec (DC)	14.4	14.4
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 18, 2013 @ 4:32 P.M.

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 2,874.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Moment (Kip-ft)


Location (ft)

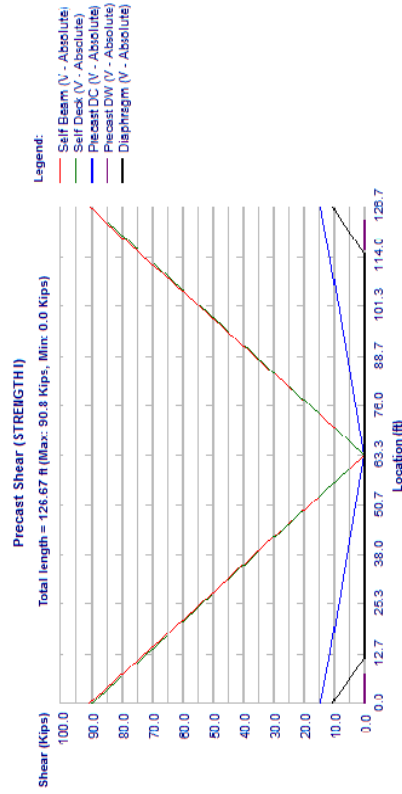
Precast Moment, Span 1, Beam 1, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

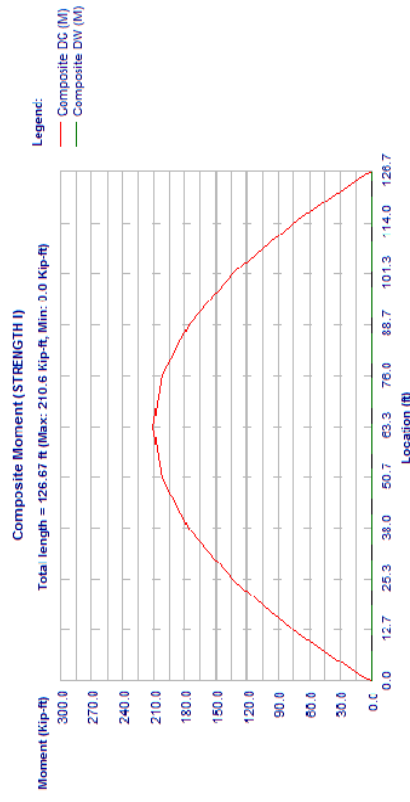
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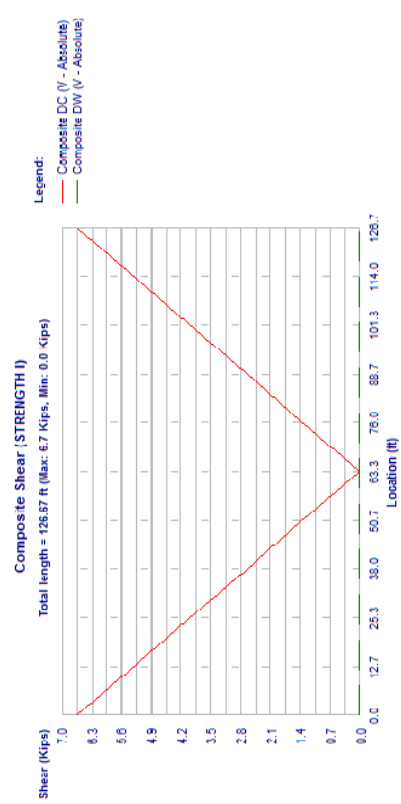
Precast Shear, Span 1, Beam 1, STRENGTH I

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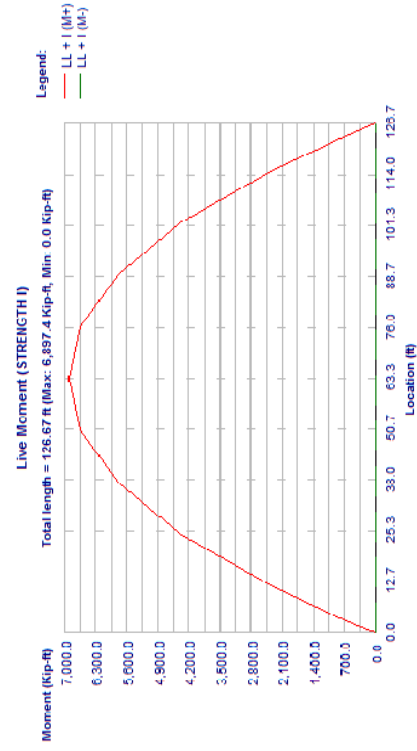
Composite Moment, Span 1, Beam 1, STRENGTH I

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Composite Shear, Span 1, Beam 1, STRENGTH I

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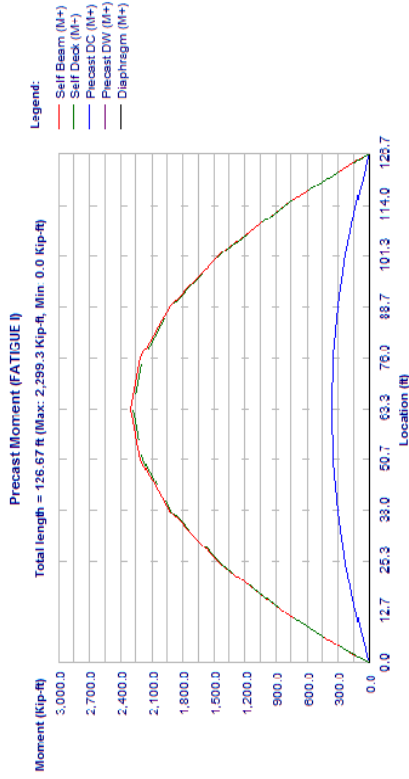


Live Moment, Span 1, Beam 1, STRENGTH I



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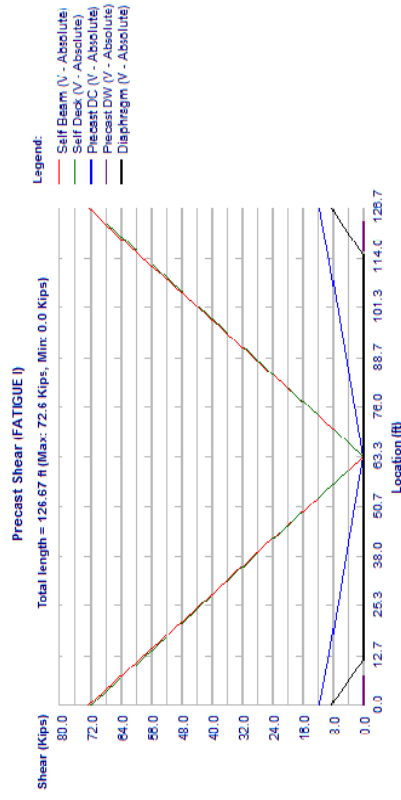
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	2486.5	2200.4	1670.2	915.2	308.7	154.4	0.0
LL + I :	41.0	51.3	67.9	78.2	85.3	87.0	88.6
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	47.2	57.5	67.9	78.2	85.3	87.0	88.6
M	2379.3	2158.3	1670.2	915.2	308.7	154.4	0.0
Total :	7386.6	6463.3	4871.3	2629.6	880.4	439.6	0.0
Total :	73.9	117.1	166.6	209.8	243.3	251.0	258.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	80.1	123.3	166.6	209.8	243.3	251.0	258.5
M	7279.4	6421.3	4871.3	2629.6	880.4	439.6	0.0




Precast Moment, Span 1, Beam 1, FATIGUE I

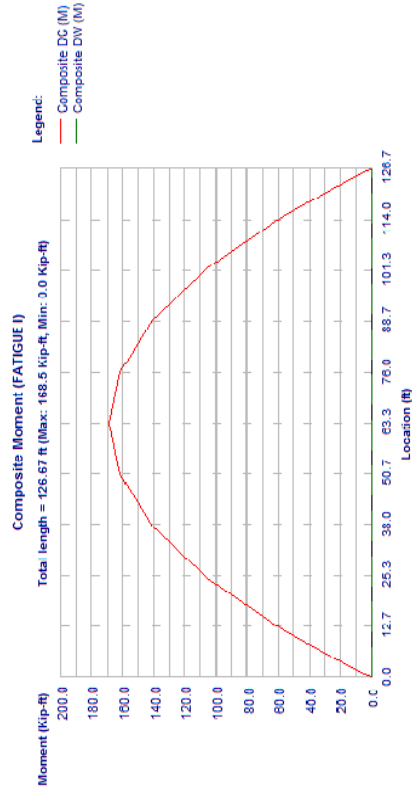


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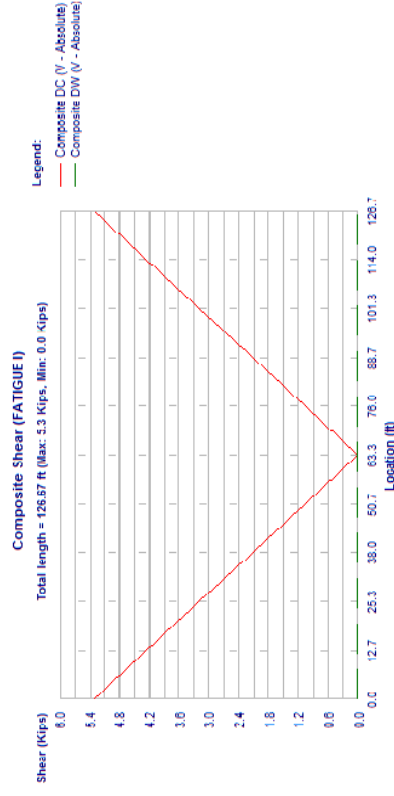
Precast Shear, Span 1, Beam 1, FATIGUE I

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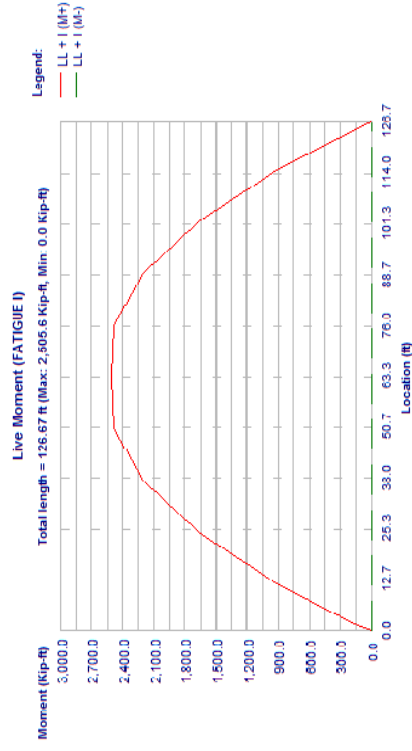
Composite Moment, Span 1, Beam 1, FATIGUE I

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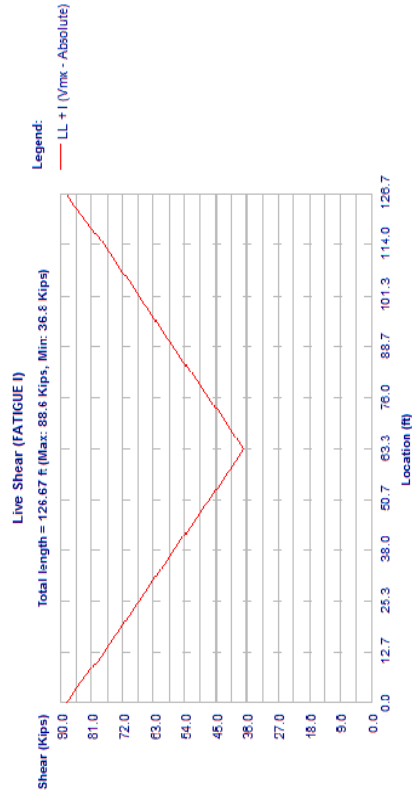
Composite Shear, Span 1, Beam 1, FATIGUE I

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Live Moment, Span 1, Beam 1, FATIGUE I

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Live Shear, Span 1, Beam 1, FATIGUE I



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Sheet # 1
Job #

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DC(Max)	M	0.0	29.0	58.1	174.2	325.2	433.1	497.9
DL-Prec. :	V	16.4	15.9	15.5	13.4	10.0	6.7	3.3
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	146.3	293.3	879.5	1642.2	2186.9	2513.7
Haunch (Max)	V	82.8	80.5	78.1	67.5	50.6	33.8	16.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	18.7	15.8	12.8	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	201.9	404.4	1208.8	2241.7	2960.7	3389.5
LL + :	V	139.7	136.9	133.9	121.2	102.0	37.8	55.7
LL + :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	139.7	136.9	133.9	121.2	103.2	86.3	70.2
Total :	M+	-0.0	514.9	1031.7	3090.0	5754.2	7638.4	8766.4
Total :	V	335.5	324.8	313.7	265.7	210.3	110.0	91.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	335.5	324.8	313.7	265.7	211.5	158.5	106.4
Total :	M	0.0	523.1	1045.3	3090.0	5606.9	7347.2	8297.6

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6
DC(Max)	M	497.9	433.1	325.2	174.2	58.1	29.0
DL-Prec. :	V	3.3	6.7	10.0	13.4	15.5	15.9
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2513.7	2186.9	1642.2	879.5	293.3	146.3
Haunch (Max)	V	16.9	33.8	50.6	67.5	78.1	80.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	18.8	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3389.5	2960.7	2241.7	1208.7	404.4	201.9



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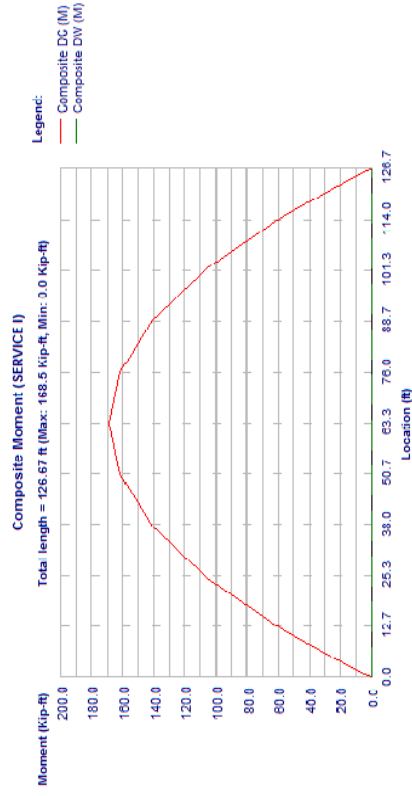
Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	55.7	37.8	102.0	121.2	133.9	136.9	139.7
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	70.2	86.3	103.2	121.2	133.9	136.9
DL-Prec. :	V	2920.8	2669.5	2094.4	1208.7	418.1	210.2
DC(Max)	M	8766.4	7638.4	5754.2	3090.0	1031.7	514.9
DL-Prec. :	V	91.8	110.0	210.3	265.7	313.7	324.8
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	106.3	158.5	211.5	265.7	313.7	324.8
Haunch (Max)	V	8297.6	7347.2	5606.9	3090.0	1045.3	523.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	8297.6	7347.2	5606.9	3090.0	1045.3	523.1

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	82.8	82.8
Diaphragm	18.7	18.7
DL-Prec.(DC)	16.4	16.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

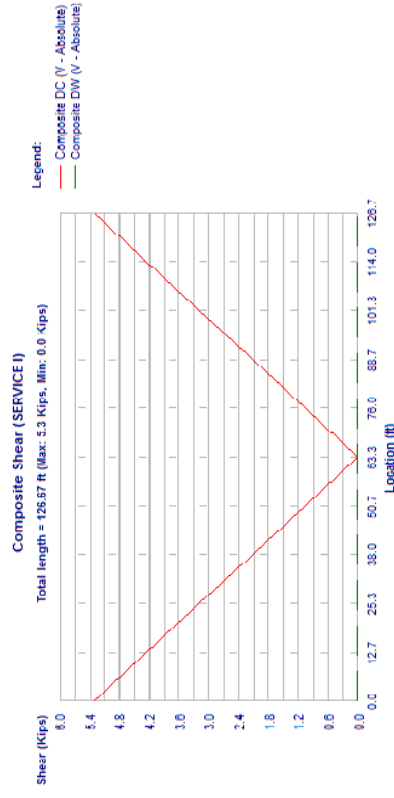
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Composite Moment, Span 1, Beam 2, SERVICE I

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Composite Shear, Span 1, Beam 2, SERVICE I

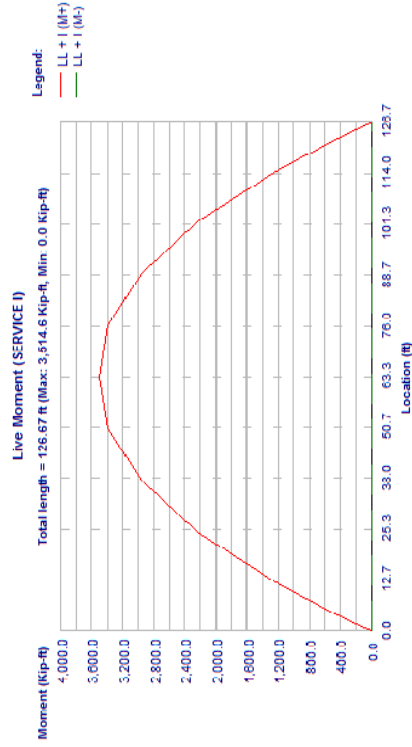


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Live Moment, Span 1, Beam 2, SERVICE I

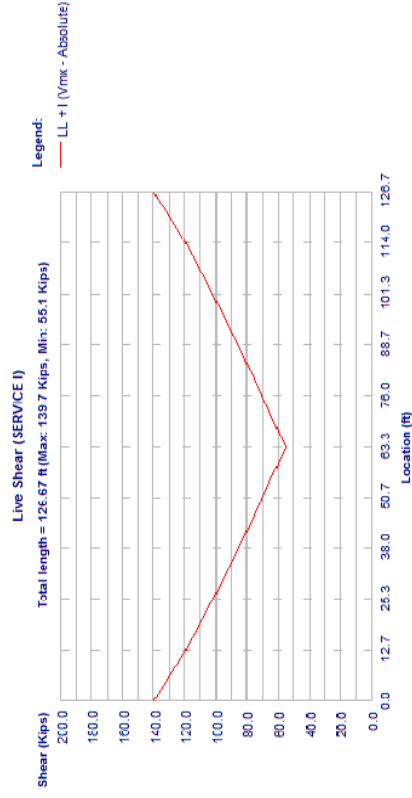


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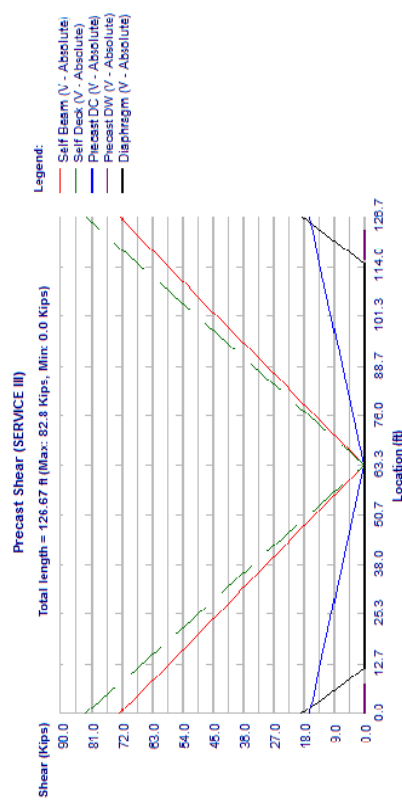


Live Shear, Span 1, Beam 2, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE III
Shears: kips, Moments: kft

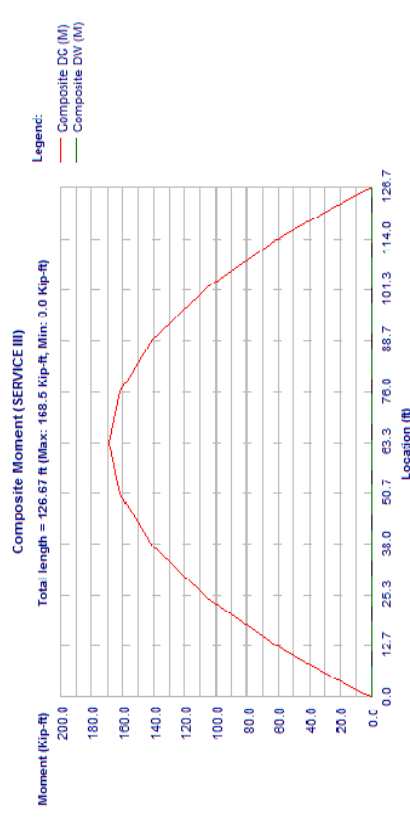
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	0.0	29.0	58.1	174.2	325.2	433.1	497.9
DC(Max)	V	16.4	15.9	15.5	13.4	10.0	6.7	3.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	146.3	293.3	879.5	1642.2	2186.9	2513.7
Haunch (Max)	V	82.8	80.5	78.1	67.5	50.6	33.8	16.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	18.7	15.8	12.8	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	161.5	323.6	967.0	1793.3	2368.6	2711.6
								2811.7

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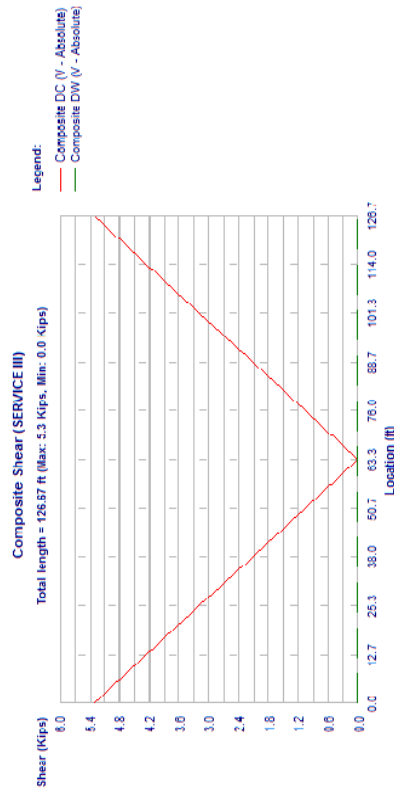
Precast Shear, Span 1, Beam 2, SERVICE III

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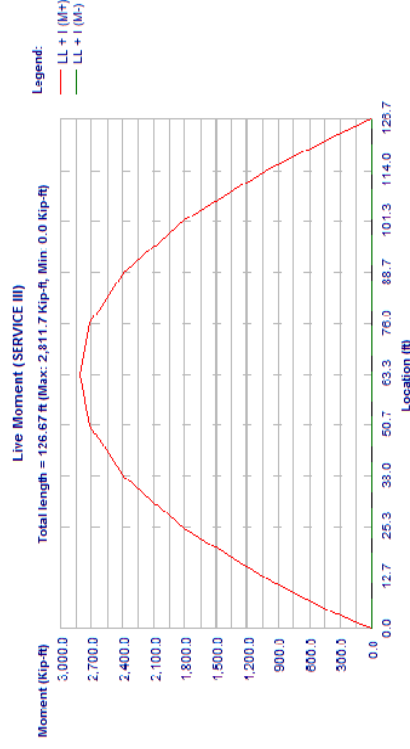
Composite Moment, Span 1, Beam 2, SERVICE III

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Composite Shear, Span 1, Beam 2, SERVICE III

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Live Moment, Span 1, Beam 2, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5931.7	5181.2	3922.9	2115.3	707.8	353.4
	V	97.5	66.1	178.4	212.2	234.4	239.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	122.9	151.0	180.6	212.2	234.4	239.5
	M	5111.4	4671.6	3665.1	2115.3	731.6	367.8
Total :	M+	12652.7	11028.4	8313.6	4466.9	1491.9	744.6
	V	142.6	156.4	313.8	392.7	459.1	474.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	168.1	241.3	316.0	392.7	459.1	474.4
	M	11832.4	10518.7	8055.8	4466.9	1515.7	759.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	103.5	103.5
Diaphragm	23.3	23.3
DL-Prec (DC)	20.5	20.5
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units
Design Code: AASHTO LRFD
Printed on: October 18, 2013 @ 4:33 P.M.

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 3,278.3 Kip-ft, Min: 0.0 Kip-ft)


Legend:

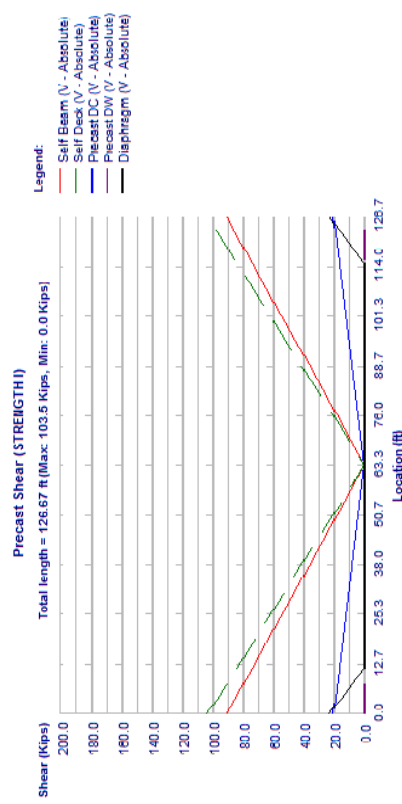
- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)


Precast Moment, Span 1, Beam 2, STRENGTH I

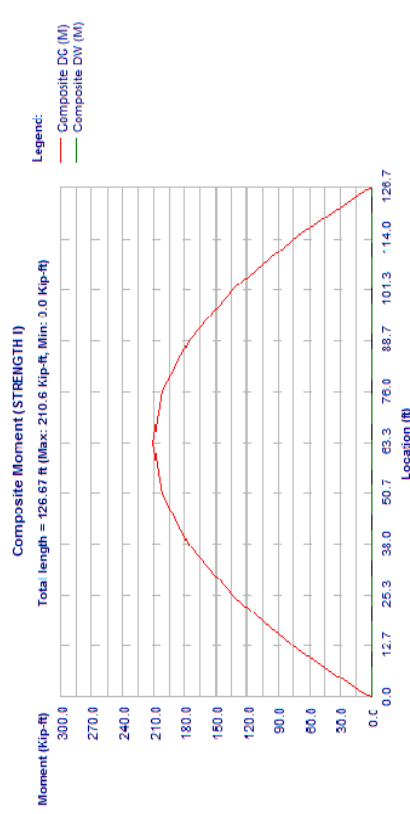
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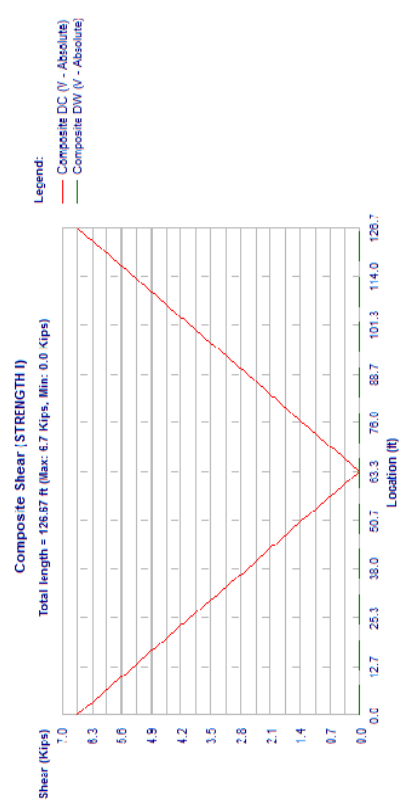
Precast Shear, Span 1, Beam 2, STRENGTH I

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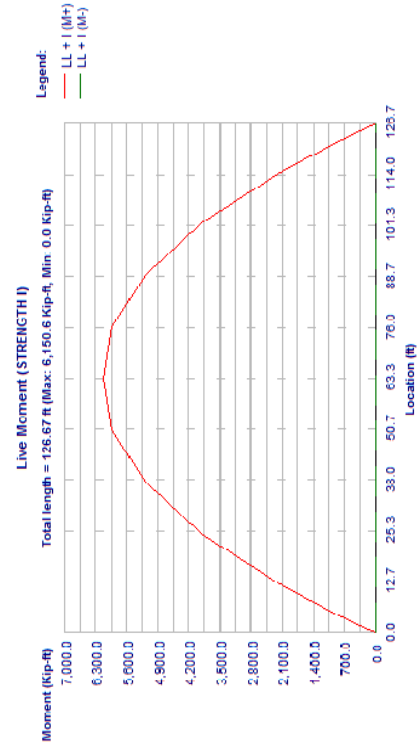
Composite Moment, Span 1, Beam 2, STRENGTH I

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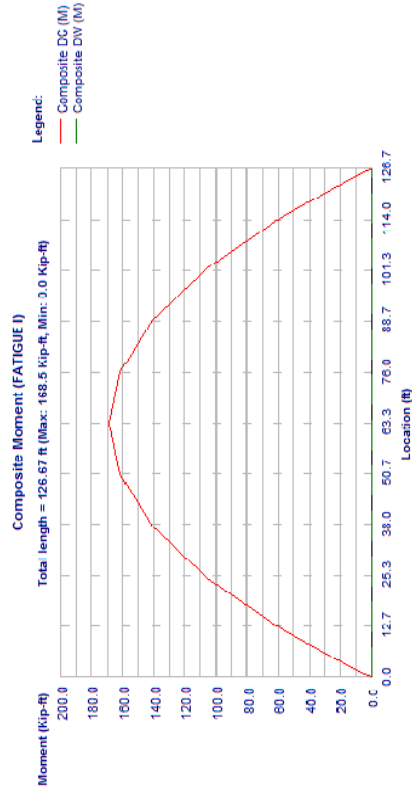
Composite Shear, Span 1, Beam 2, STRENGTH I

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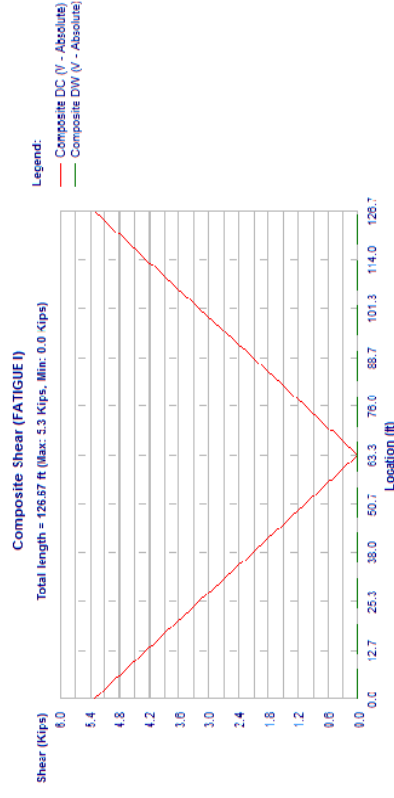
Live Moment, Span 1, Beam 2, STRENGTH I

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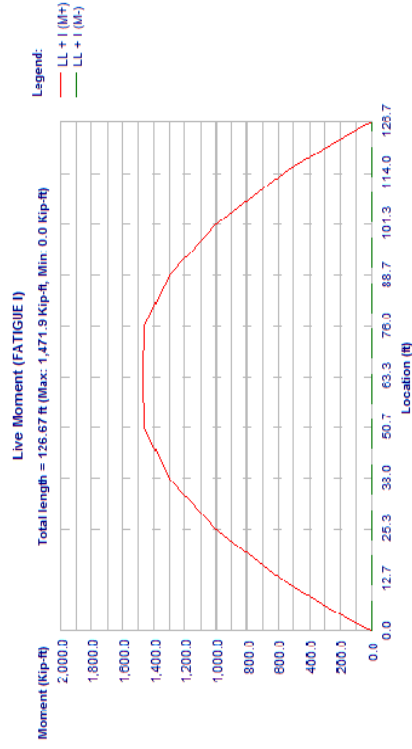
Composite Moment, Span 1, Beam 2, FATIGUE I

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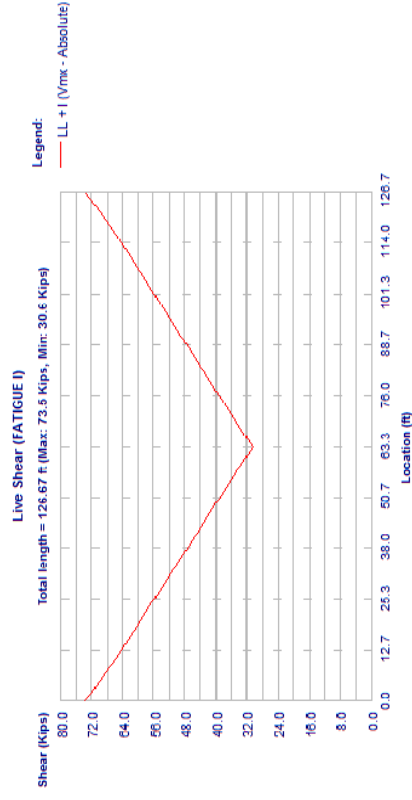
Composite Shear, Span 1, Beam 2, FATIGUE I

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Live Moment, Span 1, Beam 2, FATIGUE I

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Live Shear, Span 1, Beam 2, FATIGUE I



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Sheet # 1
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DC(Max)	M	-0.0	31.2	62.6	187.6	350.4	466.6	536.3
DL-Prec. :	V	17.7	17.2	16.7	14.4	10.8	7.2	3.6
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	317.1	950.9	1775.5	2364.5	2717.9
Haunch (Max)	V	89.5	87.0	84.4	73.0	54.8	36.5	18.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	20.3	17.2	14.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	214.4	429.5	1283.7	2380.6	3144.2	3599.6
LL + :	V	148.1	145.1	142.0	128.5	108.1	40.0	59.1
LL + :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	148.1	145.1	142.0	128.5	109.4	91.5	74.5
Total :	M+	-0.0	223.2	444.0	1283.7	2224.2	2834.9	3101.8
Total :	V	0.0	541.5	1085.1	3249.8	6051.6	8033.0	9219.0
Total :	M-	353.5	342.2	330.4	279.4	221.3	115.5	96.8
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	353.5	342.2	330.4	279.4	222.6	166.9	112.2
Total :	M	-0.0	550.3	1099.5	2723.7	5895.2	7723.7	8721.2

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6
DC(Max)	M	536.3	466.6	350.4	187.6	62.6	31.2
DL-Prec. :	V	3.6	7.2	10.8	14.4	16.7	17.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2717.9	2364.5	1775.5	950.9	317.1	158.2
Haunch (Max)	V	18.3	36.5	54.8	73.0	84.4	87.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	18.8	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3599.6	3144.2	2380.6	1283.7	429.5	214.4



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Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	59.1	40.0	108.1	128.5	142.0	145.1	148.1
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	74.5	91.5	109.4	128.5	142.0	145.1
DL-Prec. :	V	3101.8	2834.9	2224.1	1283.7	444.0	232.2
DL-Comp :	M+	9219.0	8033.0	6051.6	3249.8	1085.1	541.5
DL-Prec. :	V	96.8	115.5	221.3	279.4	330.4	342.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	112.2	166.9	222.6	279.4	330.4	342.2
Haunch (Max)	V	8721.2	7723.7	5895.2	3249.8	1099.5	550.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	8721.2	7723.7	5895.2	3249.8	1099.5	550.3

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	89.5	89.5
Diaphragm	20.3	20.3
DL-Prec.(DC)	17.7	17.7
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.

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Sheet # 3
Job #

Moment (Kip-ft)

Precast Moment (SERVICE I)

Total length = 126.67 ft (Max: 2,395.7 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 3, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:34 P.M.

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Sheet # 4
Job #

Shear (Kips)

Precast Shear (SERVICE I)

Total length = 126.67 ft (Max: 89.5 Kips, Min: 0.0 Kips)


Legend:

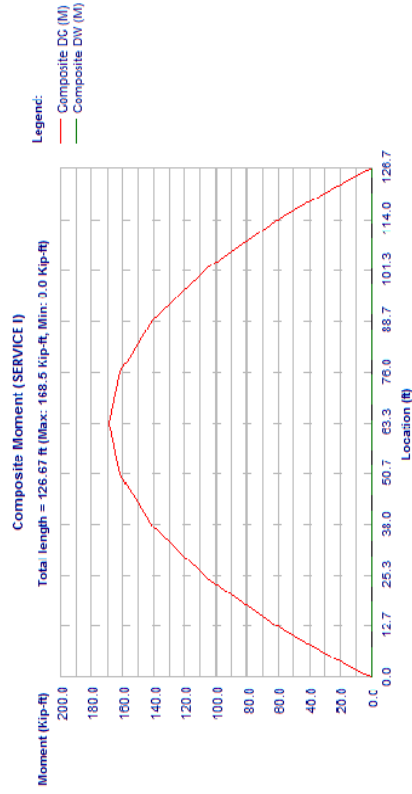
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 3, SERVICE I

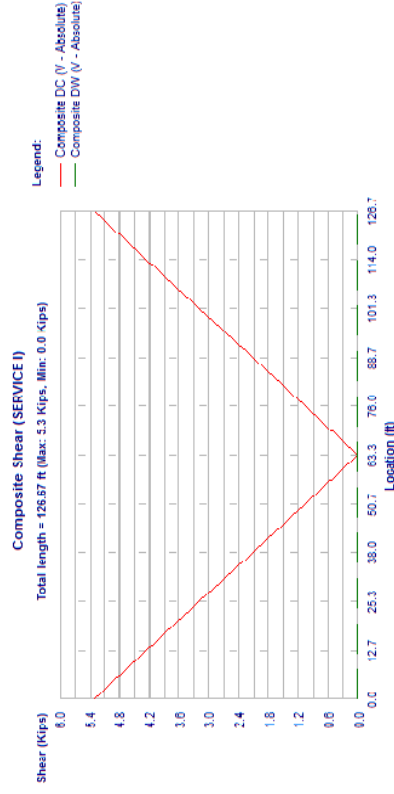
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:34 P.M.

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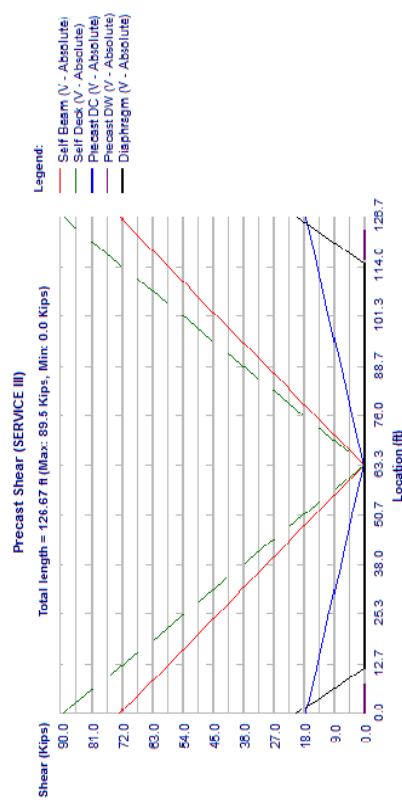
Composite Moment, Span 1, Beam 3, SERVICE I

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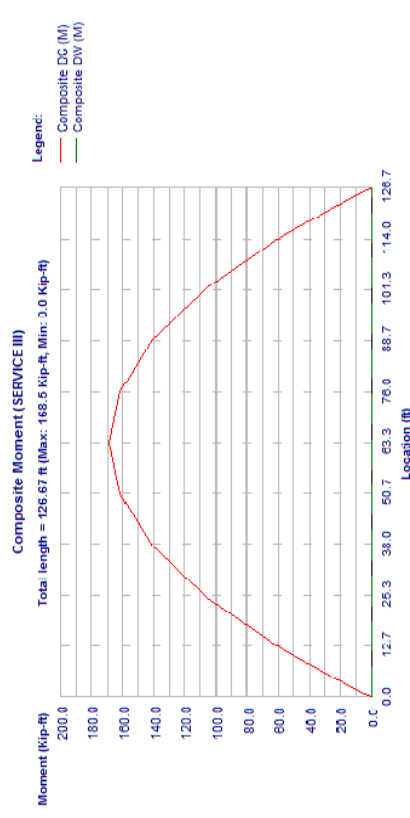
Composite Shear, Span 1, Beam 3, SERVICE I

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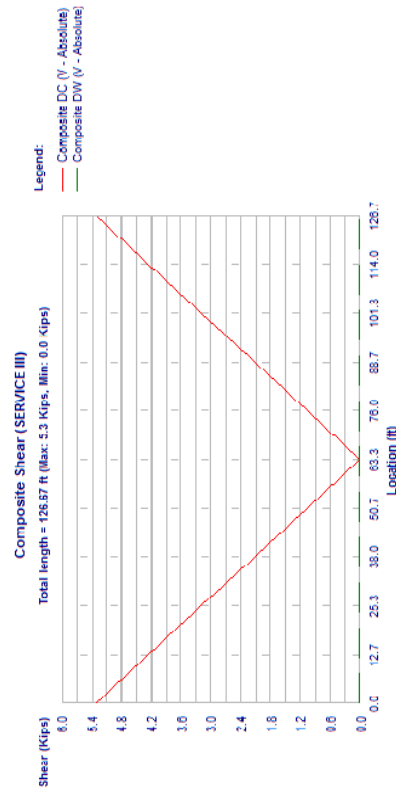
Precast Shear, Span 1, Beam 3, SERVICE III

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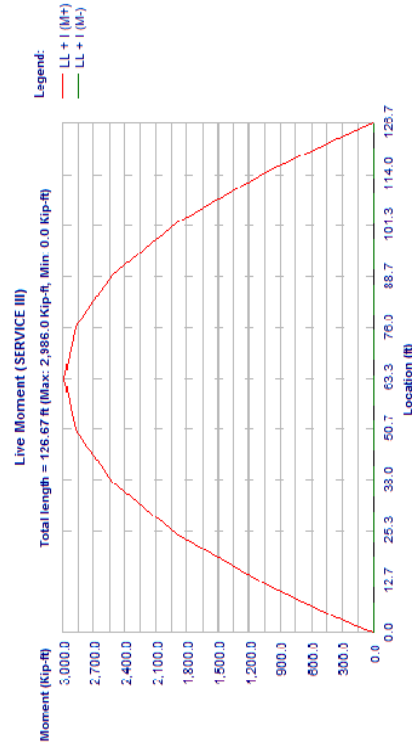
Composite Moment, Span 1, Beam 3, SERVICE III

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Composite Shear, Span 1, Beam 3, SERVICE III

		Sheet #	14
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Live Moment, Span 1, Beam 3, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6299.2	5502.3	4166.1	2246.4	751.6	375.3
LL + I :	M-	103.3	70.1	189.1	224.9	248.4	253.9
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	130.3	160.1	191.4	224.9	248.4	253.9
LL + I :	M	5428.1	4961.1	3892.3	2246.4	776.9	390.6
Total :	M+	13323.5	11613.3	8754.8	4704.1	1571.1	784.1
Total :	V	150.5	164.4	330.6	413.6	484.0	500.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	177.5	254.4	333.0	413.6	484.0	500.3
Total :	M	12452.4	11072.0	8481.0	4704.1	1596.4	799.4

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	111.9	111.9
Diaphragm	25.4	25.4
DL-Prec (DC)	22.1	22.1
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 3,544.6 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

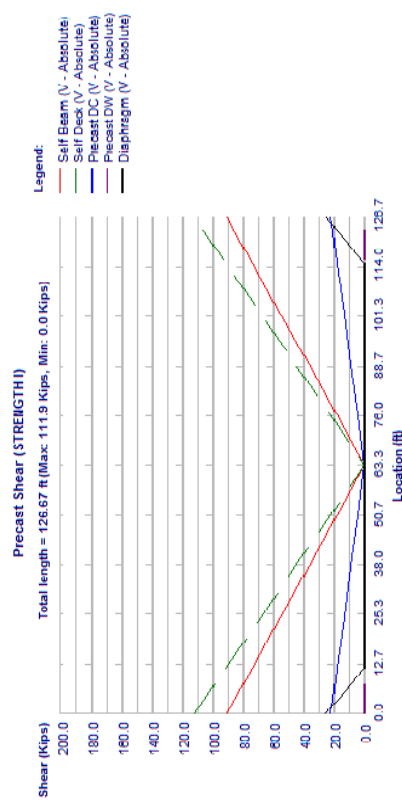
Precast Moment, Span 1, Beam 3, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

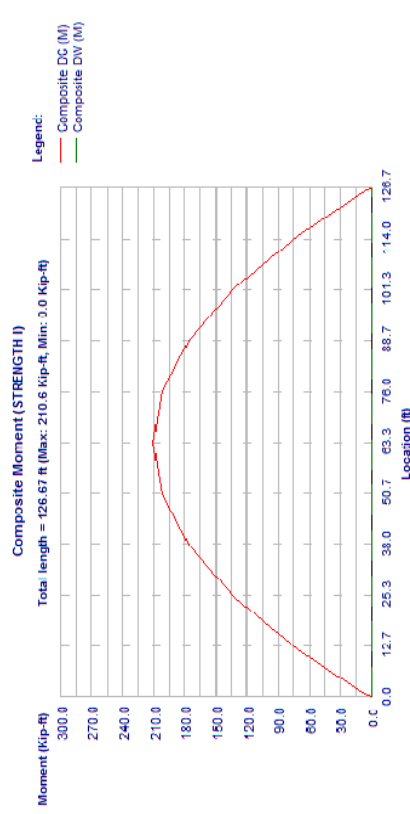
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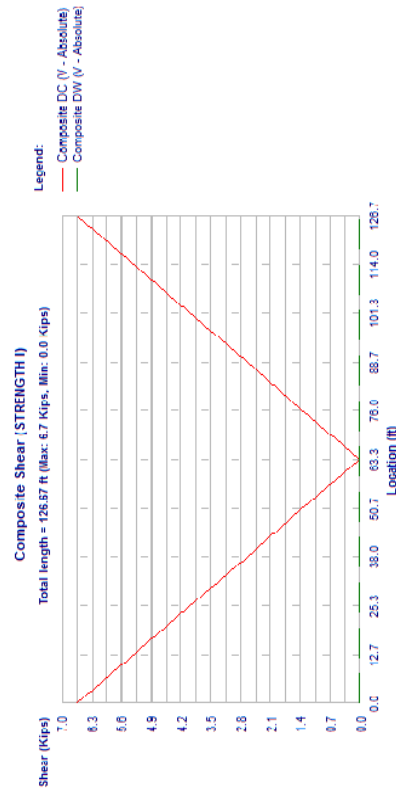
Precast Shear, Span 1, Beam 3, STRENGTH I

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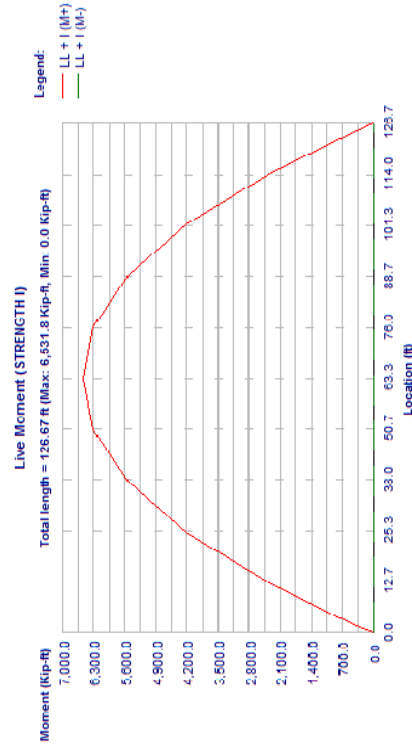
Composite Moment, Span 1, Beam 3, STRENGTH I

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Composite Shear, Span 1, Beam 3, STRENGTH I

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Live Moment, Span 1, Beam 3, STRENGTH I

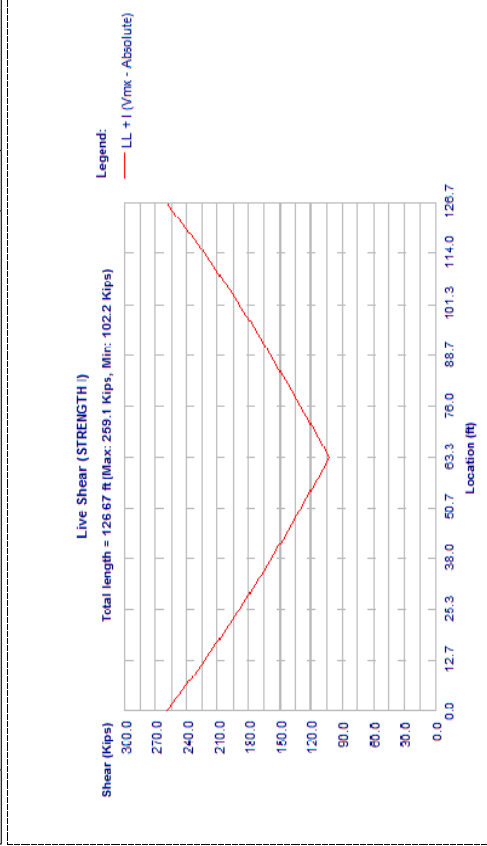


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Live Shear, Span 1, Beam 3, STRENGTH I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, FATIGUE I

Shears: Kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	-0.0	31.2	62.6	187.6	350.4	466.6	536.3
DC(Max)	V	17.7	17.2	16.7	14.4	10.8	7.2	3.6
DL-Prec :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	317.1	950.9	1775.5	2364.5	2717.9
Haunch (Max)	V	89.5	87.0	84.4	73.0	54.8	36.5	18.3
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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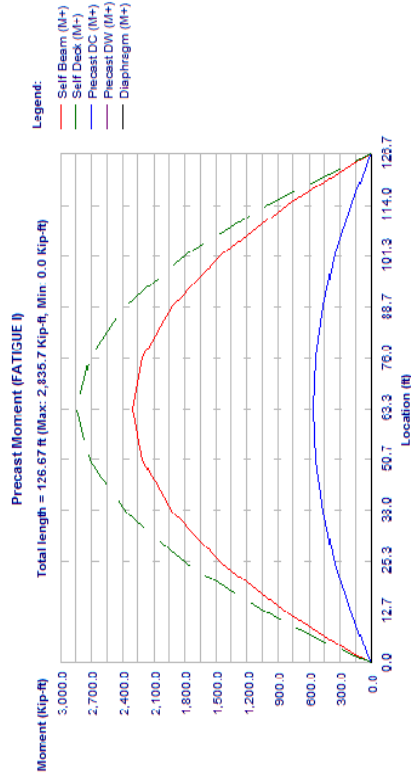
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	20.3	17.2	14.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	95.5	190.9	566.1	1033.1	1361.0	1538.0
LL + I :	V	77.1	75.7	74.3	68.1	59.1	44.7	35.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	95.5	190.9	566.1	1033.1	1335.0	1471.7
Total :	M+	0.0	422.6	846.5	2532.2	4704.1	6249.8	7157.4
Total :	V	282.6	272.8	262.8	219.0	172.3	120.1	73.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	0.0	422.6	846.5	2532.2	4704.1	6223.8	7091.1
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	76.24	89.15	102.06	114.97	123.02	124.87	126.67
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	536.3	466.6	350.4	187.6	62.6	31.2
DC(Max)	V	3.6	7.2	10.8	14.4	16.7	17.2
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2717.9	2364.5	1775.5	950.9	317.1	158.2
Haunch (Max)	V	18.3	36.5	54.8	73.0	84.4	87.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	18.8	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0



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File Name:	Span04WB_ModifiedSpacing.csl	www.bentley.com	Designed KSM	
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			Date	

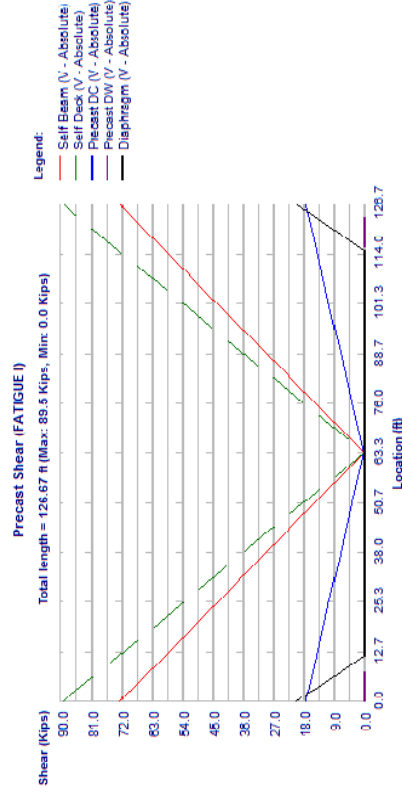
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1538.0	1361.0	1033.1	566.1	190.9	95.5
LL + I :	M-	35.7	44.7	59.1	68.1	74.3	75.7
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	41.1	50.1	59.1	68.1	74.3	75.7
LL + I :	M	1471.7	1335.0	1033.1	566.1	190.9	95.5
Total :	M+	7157.4	6249.8	4704.1	2532.2	846.5	422.6
Total :	M-	73.4	120.1	172.3	219.0	262.8	272.8
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	78.8	125.6	172.3	219.0	262.8	272.8
Total :	M	7091.1	6223.8	4704.1	2532.2	846.5	422.6




Precast Moment, Span 1, Beam 3, FATIGUE I

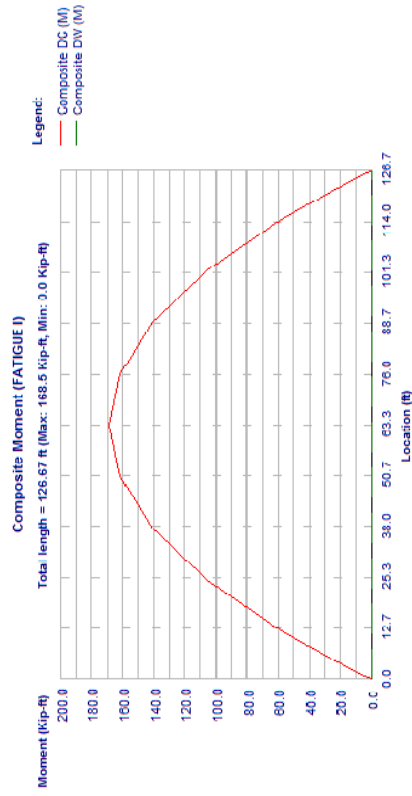


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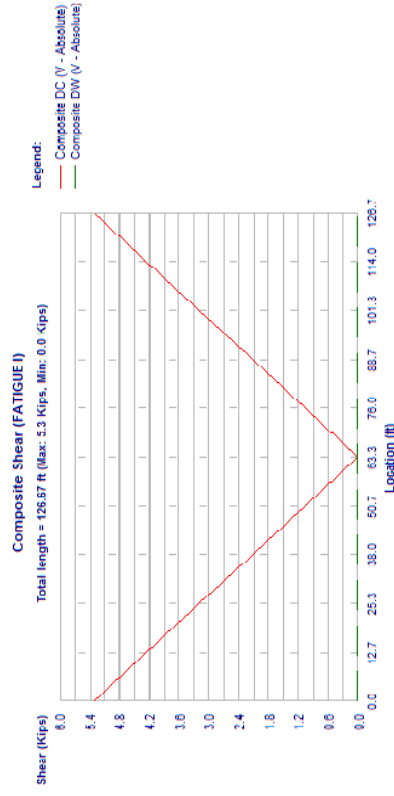
Precast Shear, Span 1, Beam 3, FATIGUE I

		Sheet # 27
		Job #
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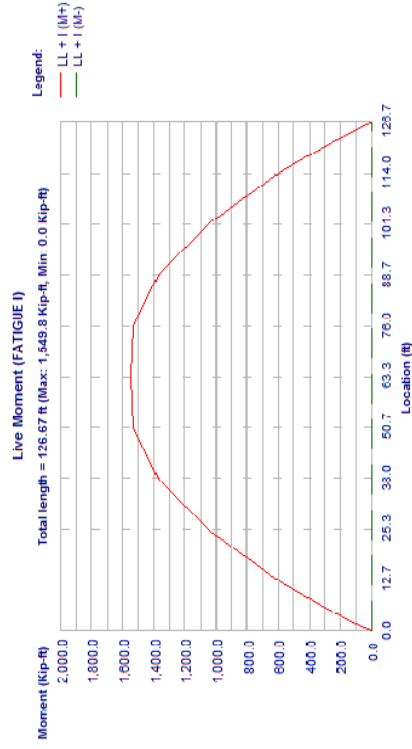
Composite Moment, Span 1, Beam 3, FATIGUE I

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		Job #
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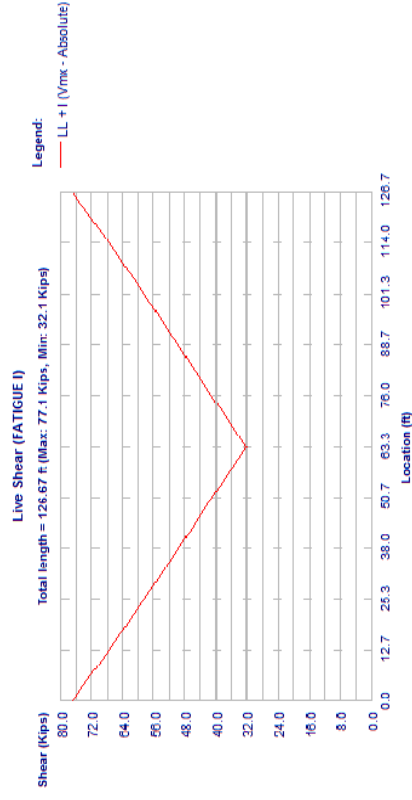
Composite Shear, Span 1, Beam 3, FATIGUE I

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		Job #	
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Live Moment, Span 1, Beam 3, FATIGUE I

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Live Shear, Span 1, Beam 3, FATIGUE I



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Sheet # 1
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: kips, Moments: kft

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33	
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DC(Max)	M	-0.0	31.2	62.6	187.6	350.4	466.6	536.3	559.6
DL-Prec. :	V	17.7	17.2	16.7	14.4	10.8	7.2	3.6	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	317.1	950.9	1775.5	2364.5	2717.9	2835.7
Haunch (Max)	V	89.5	87.0	84.4	73.0	54.8	36.5	18.3	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	20.3	17.2	14.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	214.4	429.5	1283.7	2380.6	3144.2	3599.6	3732.4
LL + I :	V	148.1	145.1	142.0	128.5	108.1	40.0	59.1	38.6
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	148.1	145.1	142.0	128.5	109.4	91.5	74.5	58.4
Total :	M+	-0.0	223.2	444.0	1283.7	2224.2	2834.9	3101.8	3054.5
Total :	V	0.0	541.5	1085.1	3249.8	6051.6	8033.0	9219.0	9595.4
Total :	M-	353.5	342.2	330.4	279.4	221.3	115.5	96.8	38.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	353.5	342.2	330.4	279.4	222.6	166.9	112.2	58.4
Total :	M	-0.0	550.3	1099.5	2723.7	5895.2	7723.7	8721.2	8917.5

Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67	
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6	72.6
DC(Max)	M	536.3	466.6	350.4	187.6	62.6	31.2	0.0
DL-Prec. :	V	3.6	7.2	10.8	14.4	16.7	17.2	17.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2717.9	2364.5	1775.5	950.9	317.1	158.2	0.0
Haunch (Max)	V	18.3	36.5	54.8	73.0	84.4	87.0	89.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	18.8	9.4	0.0
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3599.6	3144.2	2380.6	1283.7	429.5	214.4	0.0



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Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	59.1	40.0	108.1	128.5	142.0	145.1	148.1	
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	74.5	91.5	109.4	128.5	142.0	145.1	148.1
DL-Prec. :	V	3101.8	2834.9	2224.1	1283.7	444.0	232.2	0.0
DL-Comp. :	M+	9219.0	8033.0	6051.6	3249.8	1085.1	541.5	0.0
Total :	V	96.8	115.5	221.3	279.4	330.4	342.2	353.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	112.2	166.9	222.6	279.4	330.4	342.2	353.5
Total :	M	8721.2	7723.7	5895.2	3249.8	1099.5	550.3	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	89.5	89.5
Diaphragm	20.3	20.3
DL-Prec.(DC)	17.7	17.7
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0



Upward reactions are positive.

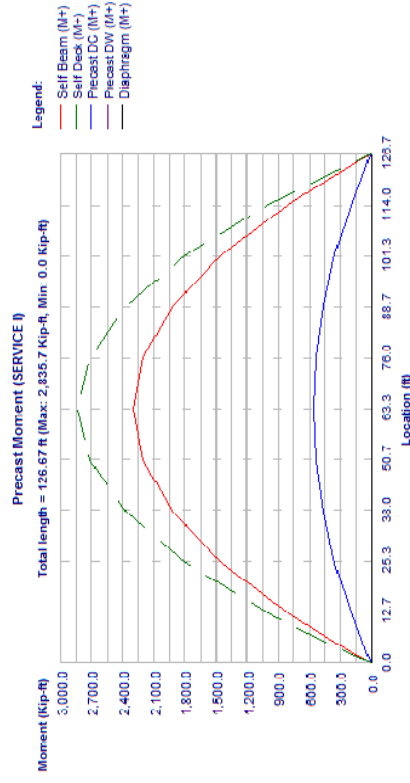
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).



Non-composite load types are per beam.

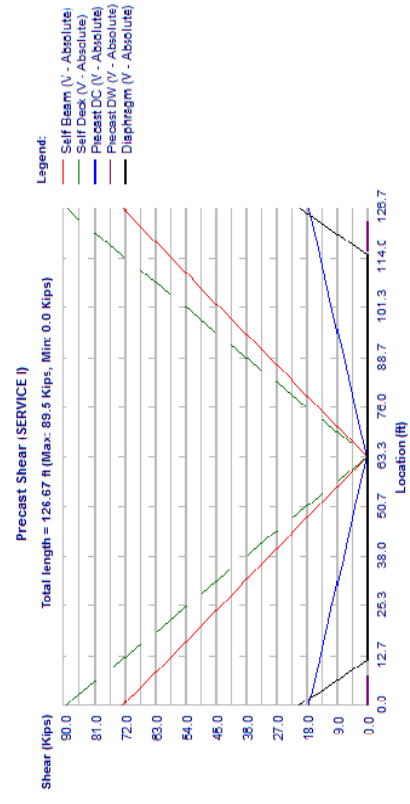
Composite and Pedestrian load types are per total bridge width.

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			Job #		
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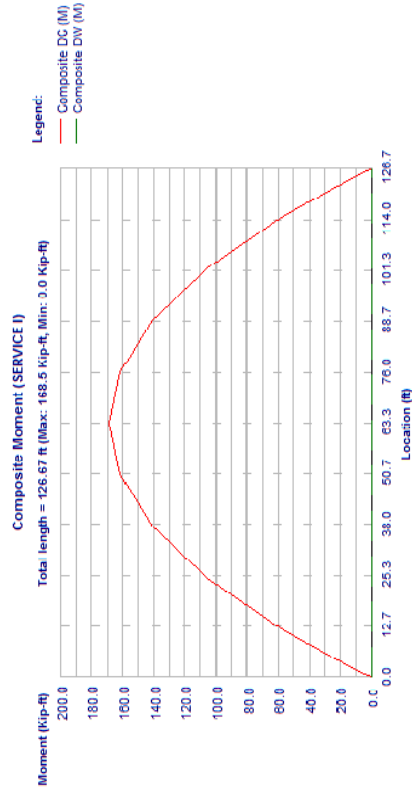
Precast Moment, Span 1, Beam 4, SERVICE I

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		Job #	
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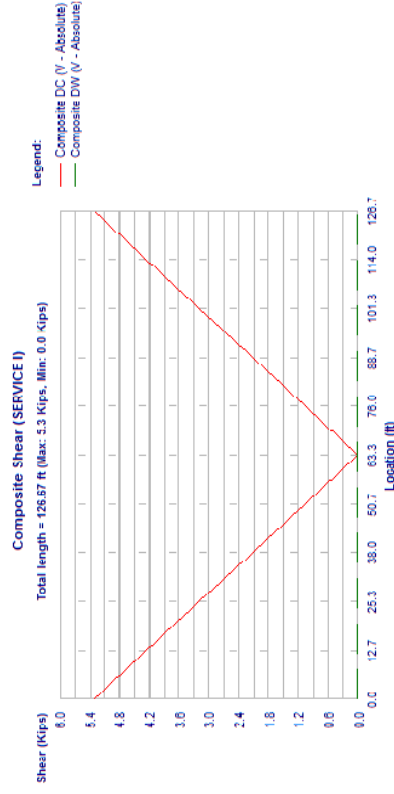
Precast Shear, Span 1, Beam 4, SERVICE I

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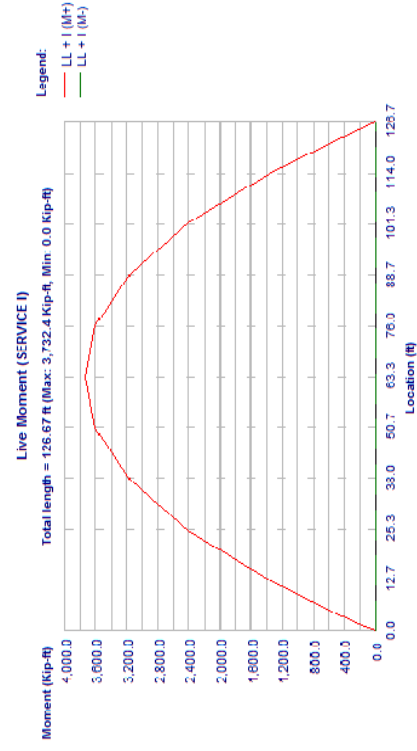
Composite Moment, Span 1, Beam 4, SERVICE I

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		Job #	
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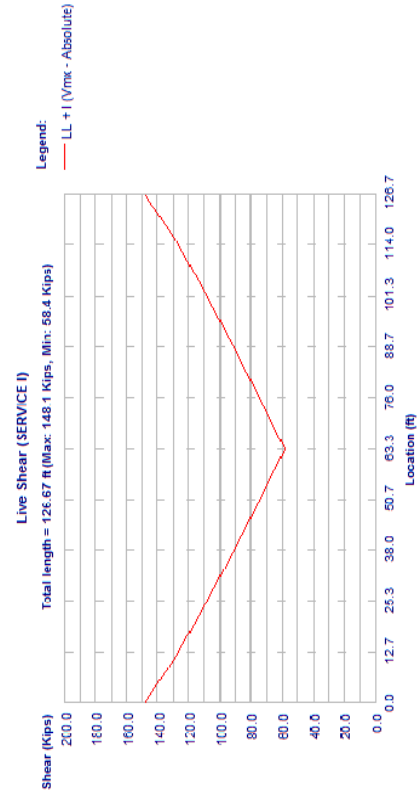
Composite Shear, Span 1, Beam 4, SERVICE I

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Live Moment, Span 1, Beam 4, SERVICE I

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Live Shear. Span 1. Beam 4. SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE III
Shears: kips, Moments: kft

	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	M	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt.:	M	0.00	128.3	257.1	1743.7	1917.2	2203.8	2299.3	2299.3
(Max)	M	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DL-Prec:	M	0.00	31.2	62.6	187.6	350.4	466.6	536.3	559.6
DC(Max)	V	17.7	17.2	16.7	14.4	10.8	7.2	3.6	0.0
DL-Prec:	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.00	158.2	317.1	950.9	1775.5	2364.5	2717.9	2835.7
Haunch (Max)	V	89.5	87.0	84.4	73.0	54.8	36.5	18.3	0.0
Diaphragm:	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	M	20.3	17.2	14.0	0.0	0.0	0.0	0.0	0.0
DL-Comp:	M	0.00	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp:	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	M+	-0.00	177.6	343.6	1026.9	1904.5	2515.3	2879.7	2986.0

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Sheet # 9

Job #

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
LL + I :	V	118.4	116.0	113.6	102.8	86.5	32.0	47.2
M- :	M-	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
V :	V	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	V	118.4	116.0	113.6	102.8	87.5	73.2	59.6
LL + I :	M	-0.0	178.6	355.2	1026.9	1779.3	2267.9	2481.4
Total :	M+	0.0	498.6	999.2	2993.1	5575.5	7404.1	8499.1
Total :	V	323.9	313.2	302.1	253.7	199.7	107.5	85.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	323.9	313.2	302.1	253.7	200.7	148.6	97.3
Total :	M	-0.0	505.6	1010.8	2993.1	5450.3	7156.7	8100.9
								8306.6

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	124.87
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
DL-Prec :	V	14.8	29.6	44.4	59.2	68.4	70.6
DC(Max)	M	536.3	466.6	350.4	187.6	62.6	31.2
DL-Prec :	V	3.6	7.2	10.8	14.4	16.7	17.2
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	V	183	36.5	54.8	73.0	84.4	87.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	18.8	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	2879.7	2515.3	1904.5	1026.9	343.6	171.6
LL + I :	M+	47.2	32.0	86.5	102.8	113.6	116.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	59.6	73.2	87.5	102.8	113.6	116.0
Total :	M	2481.4	2267.9	1779.3	1026.9	355.2	178.6
Total :	V	8499.1	7404.1	5575.5	2993.1	999.2	498.6
Total :	M-	85.0	107.5	199.7	253.7	302.1	313.2
Total :	Vmx	97.3	148.6	200.7	253.7	302.1	313.2
Total :	M	8100.9	7156.7	5450.3	2993.1	1010.8	505.6

Program: LEAPb CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span04WB_ModifiedSpacing.csl

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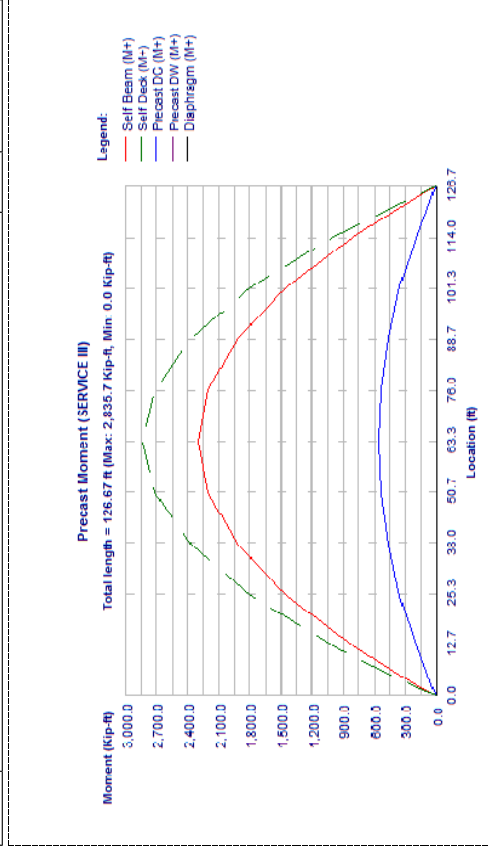
Date Sept/9/2013

Checked


Date

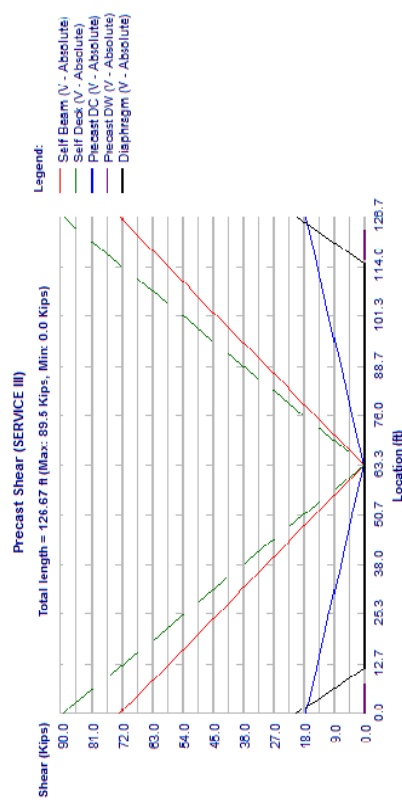
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Job #




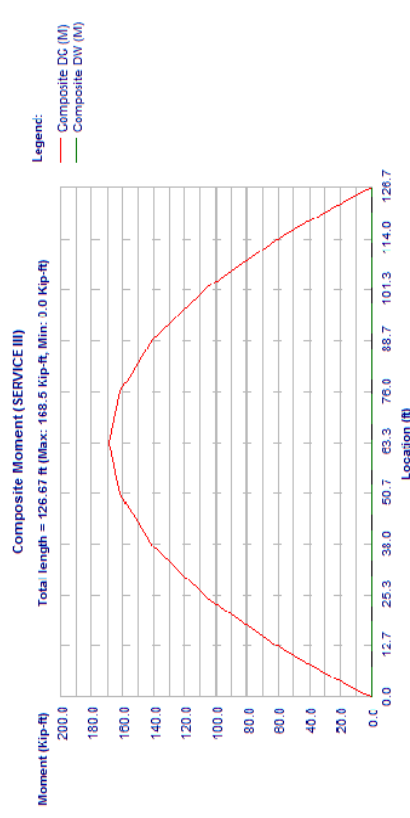
Precast Moment, Span 1, Beam 4, SERVICE III

		Sheet # 11	
		Job #	
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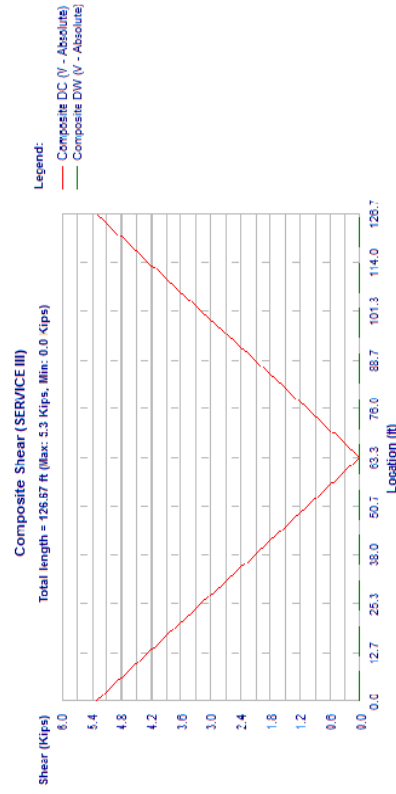
Precast Shear, Span 1, Beam 4, SERVICE III

		Sheet # 12	
		Job #	
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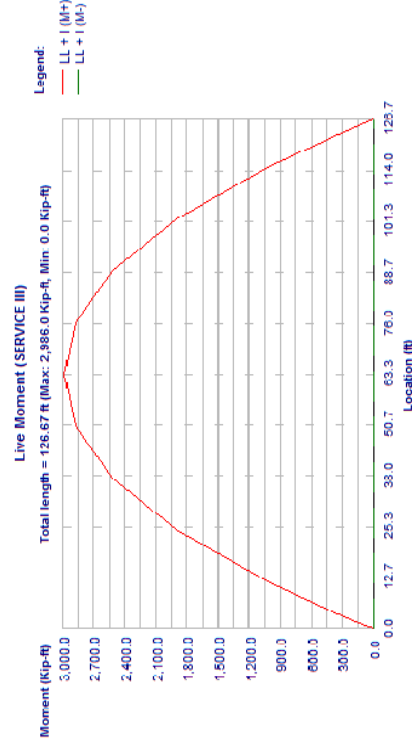
Composite Moment, Span 1, Beam 4, SERVICE III

		Sheet #	13
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span04WB_ModifiedSpacing.csl		SE Client Licenses	
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Composite Shear, Span 1, Beam 4, SERVICE III

		Sheet #	14
		Job #	
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Live Moment, Span 1, Beam 4, SERVICE III

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Sheet # 17
Job #

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.0	2.0	2.9	3.9	4.5	4.7
DC(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6299.2	5502.3	4166.1	2246.4	751.6	375.3
LL + I :	M-	103.3	70.1	189.1	224.9	248.4	253.9
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	130.3	160.1	191.4	224.9	248.4	253.9
LL + I :	M	5428.1	4961.1	3892.3	2246.4	776.9	390.6
Total :	M+	13323.5	11613.3	8754.8	4704.1	1571.1	784.1
Total :	V	150.5	164.4	330.6	413.6	484.0	500.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	177.5	254.4	333.0	413.6	484.0	500.3
Total :	M	12452.4	11072.0	8481.0	4704.1	1596.4	799.4

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	111.9	111.9
Diaphragm	25.4	25.4
DL-Prec(DC)	22.1	22.1
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	66.5	66.5
DL-Comp(DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Sheet # 18
Job #

Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 3,544.6 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

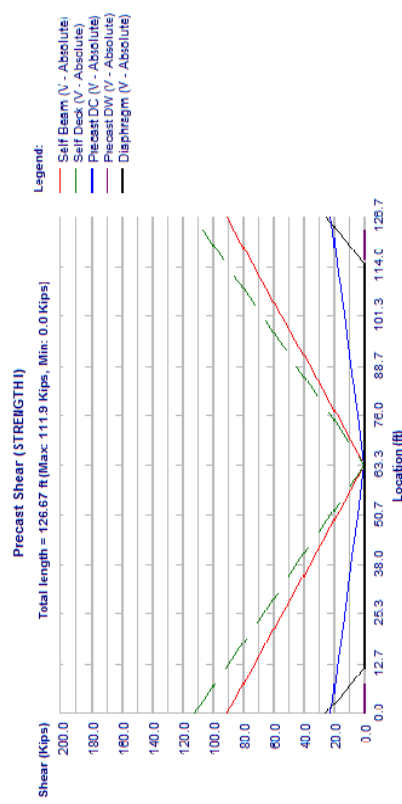
Precast Moment, Span 1, Beam 4, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

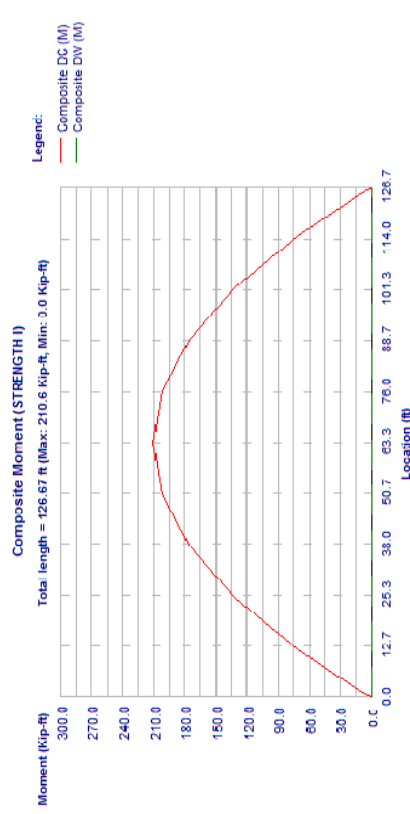
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Precast Shear, Span 1, Beam 4, STRENGTH I

		Sheet # 20	
		Job #	
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Composite Moment, Span 1, Beam 4, STRENGTH I

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Sheet # 21
Job #

Composite Shear (STRENGTH I)

Total length = 126.67 ft (Max: 6.7 Kips, Min: 0.0 Kips)

Legend:
Composite DC (V - Absolute)
Composite DW (V - Absolute)

Location (ft)	Shear (Kips)
0.0	6.7
12.7	5.8
25.3	4.9
38.0	4.0
50.7	3.1
63.3	2.2
76.0	1.3
88.7	0.4
101.3	0.0
114.0	0.0
126.7	0.0

Composite Shear, Span 1, Beam 4, STRENGTH I

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 18, 2013 @ 4:34 P.M.

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Sheet # 22
Job #

Live Moment (STRENGTH I)

Total length = 126.67 ft (Max: 6,531.8 Kip-ft, Min: 0.0 Kip-ft)

Legend:
LL + I (M+)
LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
12.7	1,000.0
25.3	3,500.0
38.0	5,500.0
50.7	6,531.8
63.3	6,531.8
76.0	5,500.0
88.7	3,500.0
101.3	1,000.0
114.0	0.0
126.7	0.0

Live Moment, Span 1, Beam 4, STRENGTH I

Units: U.S. Units

Design Code: AASHTO LRFD

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File Name: Span04WB_ModifiedSpacing.csl		Phone: 1-800-778-4277		Date	

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Win)	V	0.0	0.0	0.0	0.0	0.0	0.0
DLComp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1538.0	1361.0	1033.1	566.1	190.9	95.5
	V	35.7	44.7	59.1	68.1	74.3	75.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	41.1	50.1	59.1	68.1	74.3	75.7
	M	1471.7	1335.0	1033.1	566.1	190.9	95.5
Total :	V	7157.4	6249.8	4704.1	2532.2	846.5	422.6
	M	73.4	120.1	172.3	219.0	262.8	272.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	78.8	125.6	172.3	219.0	262.8	272.8
	M	7091.1	6223.8	4704.1	2532.2	846.5	422.6


Precast Moment (FATIGUE I)

Total length = 125.57 ft (Max: 2,835.7 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M-)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

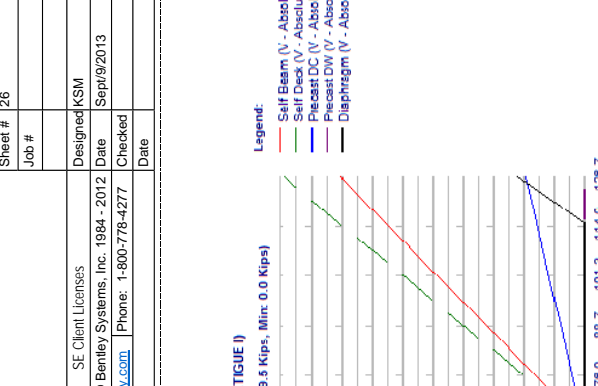
Precast Moment, Span 1, Beam 4, FATIGUE I



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Sheet # 26 Job #	Designed KSM Date Sept/9/2013
File Name: Span04WB ModifiedSpacing.csl	Checked Date

Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 89.5 Kips, Min: 0.0 Kips)



Location (ft)

Shear (Kips)

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 4, FATIGUE I

Bentley

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Version: 12.01.00.57

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Date Sept/9/2013

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Date

Sheet # 27

Job #

Composite Moment (FATIGUE I)

Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 Kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)

Location (ft)	Composite DC (M) / Composite DW (M) (Kip-ft)
0.0	0.0
12.7	20.0
25.3	60.0
38.0	100.0
50.7	140.0
63.3	168.5
76.0	140.0
88.7	100.0
101.3	60.0
114.0	20.0
126.7	0.0

Composite Moment, Span 1, Beam 4, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:34 P.M.

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Sheet # 28

Job #

Composite Shear (FATIGUE I)

Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)


Legend:

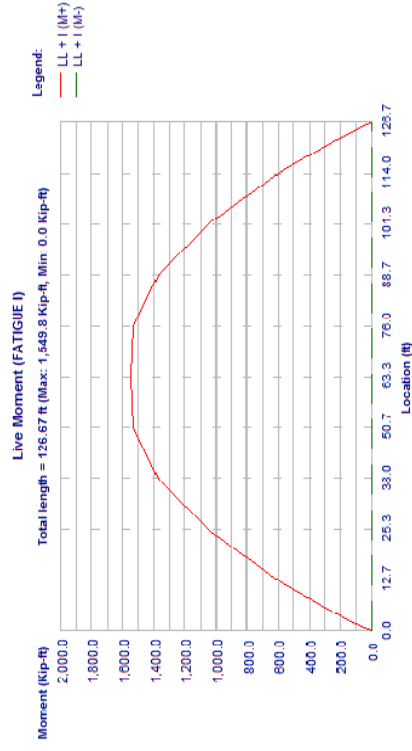
- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute) / Composite DW (V - Absolute) (Kips)
0.0	0.0
12.7	0.8
25.3	1.6
38.0	2.4
50.7	3.2
63.3	5.3
76.0	5.3
88.7	5.3
101.3	5.3
114.0	5.3
126.7	5.3


Composite Shear, Span 1, Beam 4, FATIGUE I

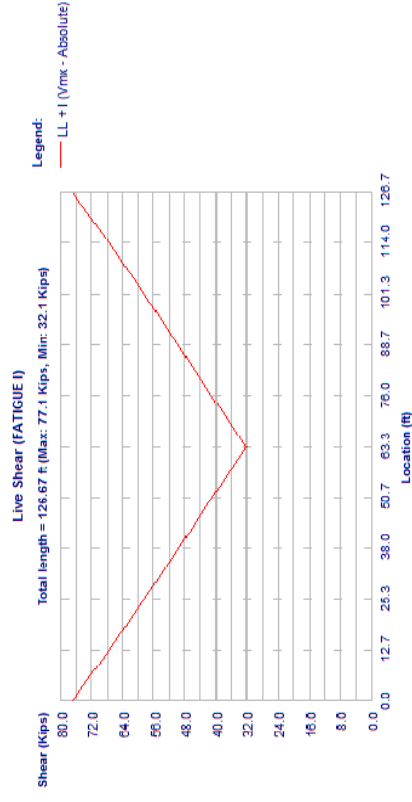
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Live Moment, Span 1, Beam 4, FATIGUE I

		Sheet #	30
		Job #	
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Live Shear, Span 1, Beam 4, FATIGUE I



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Sheet # 1
Job #

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE I
Shears: kips, Moments: kft

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33	
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DC(Max)	M	-0.0	31.2	62.6	187.6	350.4	466.6	536.3	559.6
DL-Prec. :	V	17.7	17.2	16.7	14.4	10.8	7.2	3.6	0.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.2	317.1	950.9	1775.5	2364.5	2717.9	2835.7
Haunch (Max)	V	89.5	87.0	84.4	73.0	54.8	36.5	18.3	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	20.3	17.2	14.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	214.4	429.5	1283.7	2380.6	3144.2	3599.6	3732.4
LL + I :	V	148.1	145.1	142.0	128.5	108.1	40.0	59.1	38.6
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	148.1	145.1	142.0	128.5	109.4	91.5	74.5	58.4
Total :	M+	-0.0	223.2	444.0	1283.7	2224.2	2834.9	3101.8	3054.5
Total :	V	0.0	541.5	1085.1	3249.8	6051.6	8033.0	9219.0	9595.4
Total :	M-	353.5	342.2	330.4	279.4	221.3	115.5	96.8	38.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	353.5	342.2	330.4	279.4	222.6	166.9	112.2	58.4
Total :	M	-0.0	550.3	1099.5	2723.7	5895.2	7723.7	8721.2	8917.5

Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67	
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6	72.6
DC(Max)	M	536.3	466.6	350.4	187.6	62.6	31.2	0.0
DL-Prec. :	V	3.6	7.2	10.8	14.4	16.7	17.2	17.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2717.9	2364.5	1775.5	950.9	317.1	158.2	0.0
Haunch (Max)	V	18.3	36.5	54.8	73.0	84.4	87.0	89.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	18.8	9.4	0.0
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3599.6	3144.2	2380.6	1283.7	429.5	214.4	0.0



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Sheet # 2
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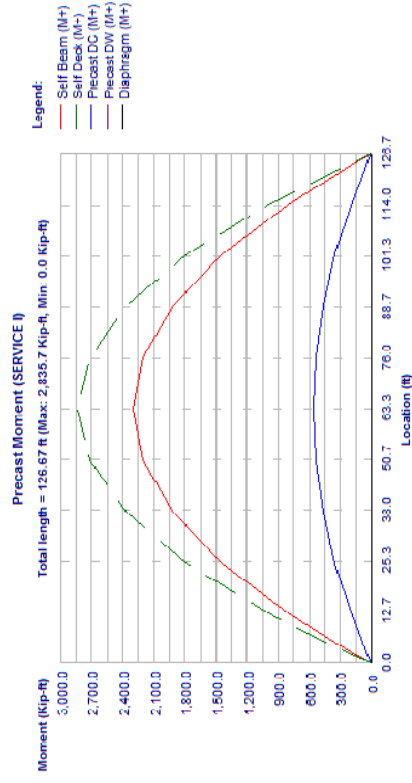
Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67	
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6	72.6
DC(Max)	M	536.3	466.6	350.4	187.6	62.6	31.2	0.0
DL-Prec. :	V	3.6	7.2	10.8	14.4	16.7	17.2	17.7
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2717.9	2364.5	1775.5	950.9	317.1	158.2	0.0
Haunch (Max)	V	18.3	36.5	54.8	73.0	84.4	87.0	89.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	18.8	9.4	0.0
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3599.6	3144.2	2380.6	1283.7	429.5	214.4	0.0

REACTIONS (kips), SERVICE I



Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	89.5	89.5
Diaphragm	20.3	20.3
DL-Prec.(DC)	17.7	17.7
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

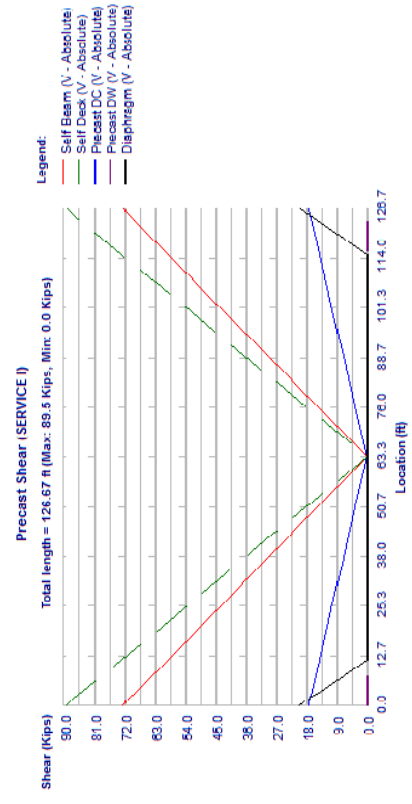
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

		Sheet # 3	
		Job #	
		Designed KSM	
		Date Sep/9/2013	
		Checked	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	
File Name: Span04WB_ModifiedSpacing.csl		www.bentley.com Phone: 1-800-778-4277	
		Date	




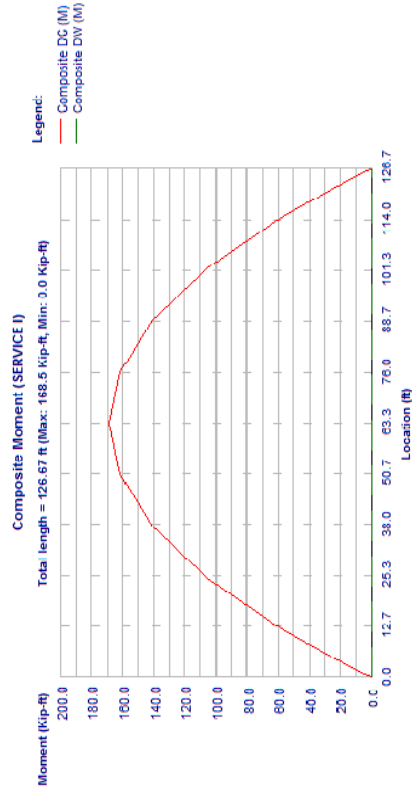
Precast Moment, Span 1, Beam 5, SERVICE I

		Sheet # 4	
		Job #	
		Designed KSM	
		Date Sept/9/2013	
		Checked	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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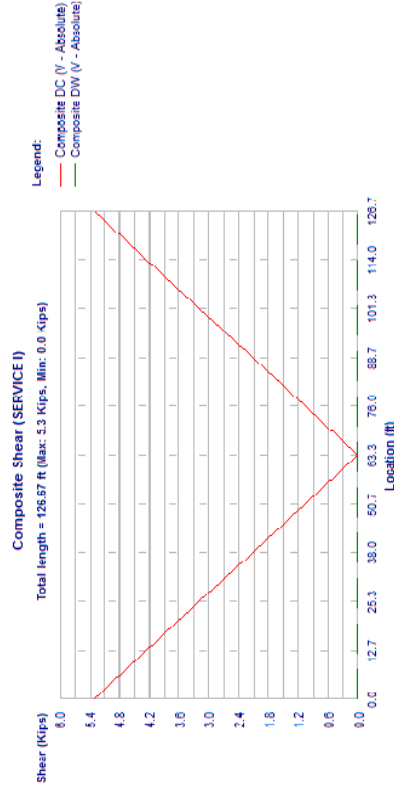
Precast Shear, Span 1, Beam 5, SERVICE I

		Sheet # 5	
		Job #	
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		Date	




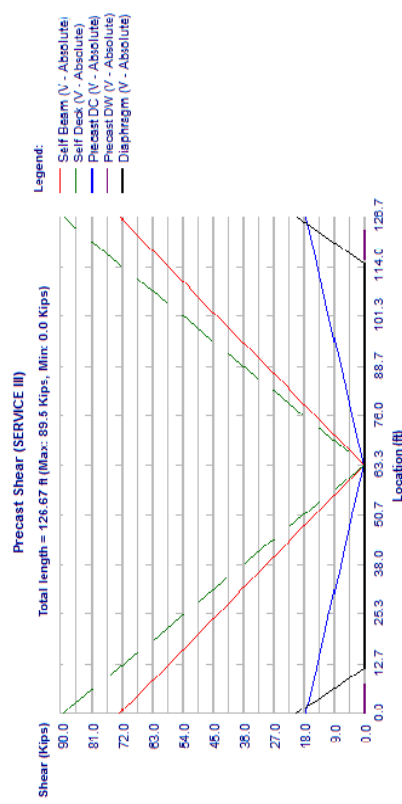
Composite Moment, Span 1, Beam 5, SERVICE I

		Sheet # 6	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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		Designed KSM	
		Date Sept/9/2013	
		Checked	
		Date	




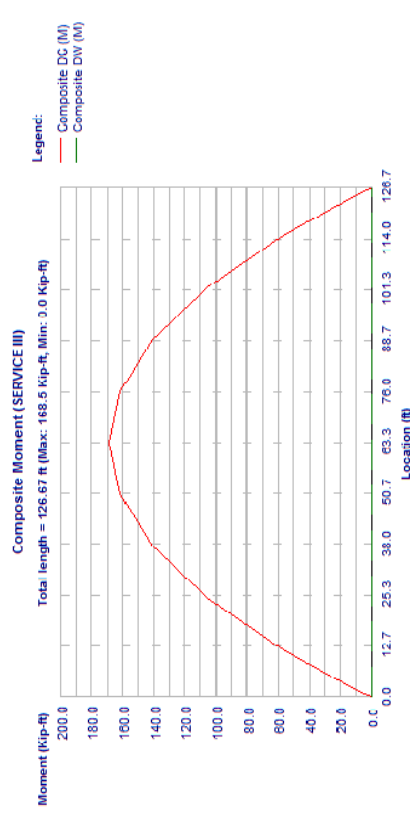
Composite Shear, Span 1, Beam 5, SERVICE I

		Sheet # 11	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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Phone: 1-800-778-4277			
File Name: Span04WB_ModifiedSpacing.csl			




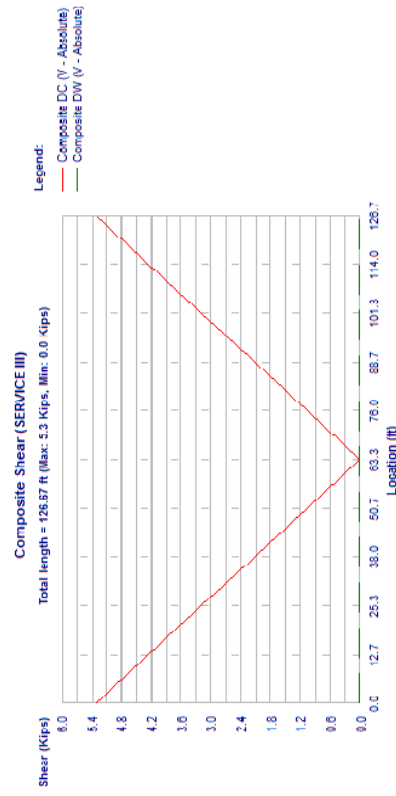
Precast Shear, Span 1, Beam 5, SERVICE III

		Sheet # 12	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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File Name: Span04WB_ModifiedSpacing.csl			




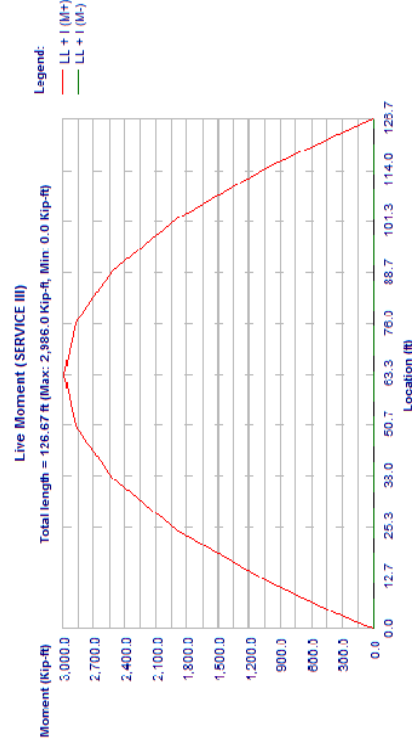
Composite Moment, Span 1, Beam 5, SERVICE III

		Sheet #	13
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span04WB_ModifiedSpacing.csl		Designed KSM	
		Date	Sept/9/2013
		Checked	
		Date	



Composite Shear, Span 1, Beam 5, SERVICE III

		Sheet #	14
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span04WB_ModifiedSpacing.csl		Designed KSM	
		Date	Sept/9/2013
		Checked	
		Date	



Live Moment, Span 1, Beam 5, SERVICE III

Bentley

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Version: 12.01.00.57
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Sheet # 17
Job #
Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6299.2	5502.3	4166.1	2246.4	751.6	375.3
LL + I :	M-	103.3	70.1	189.1	224.9	248.4	253.9
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	130.3	160.1	191.4	224.9	248.4	253.9
LL + I :	M	5428.1	4961.1	3892.3	2246.4	776.9	390.6
Total :	M+	13323.5	11613.3	8754.8	4704.1	1571.1	784.1
Total :	V	150.5	164.4	330.6	413.6	484.0	500.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	177.5	254.4	333.0	413.6	484.0	500.3
Total :	M	12452.4	11072.0	8481.0	4704.1	1596.4	799.4

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	111.9	111.9
Diaphragm	25.4	25.4
DL-Prec (DC)	22.1	22.1
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:35 P.M.

Bentley

Program: LEAPb CONSPAN® V8i (SELECTseries 5)
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Sheet # 18
Job #
Date

Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 3,544.6 Kip-ft, Min: 0.0 Kip-ft)


Legend:

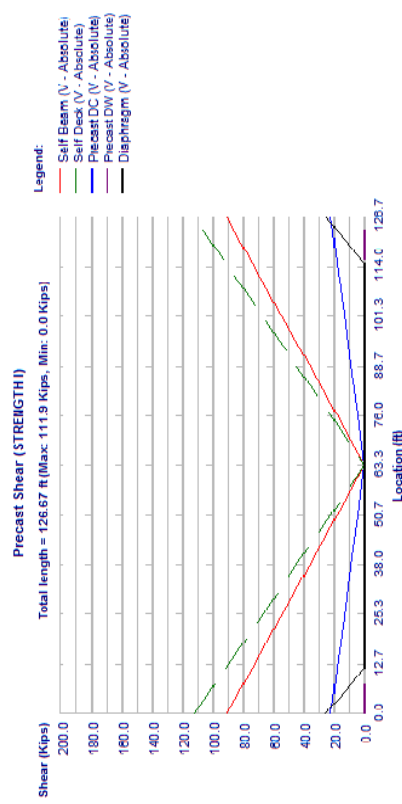
- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)


Precast Moment, Span 1, Beam 5, STRENGTH I

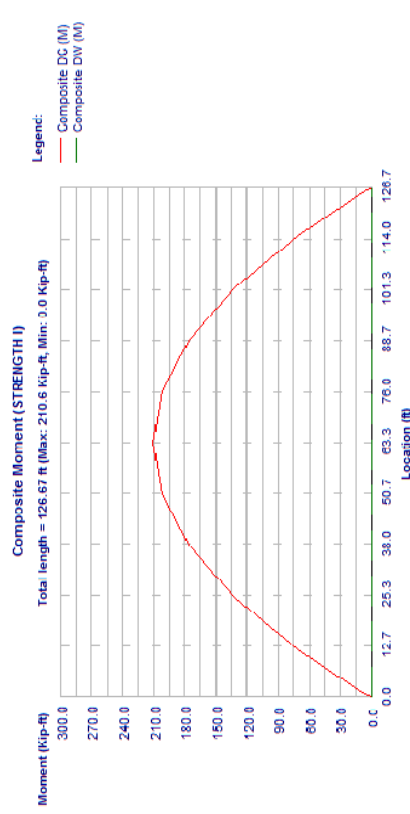
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:35 P.M.

		Sheet # 19	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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File Name: Span04WB_ModifiedSpacing.csl			




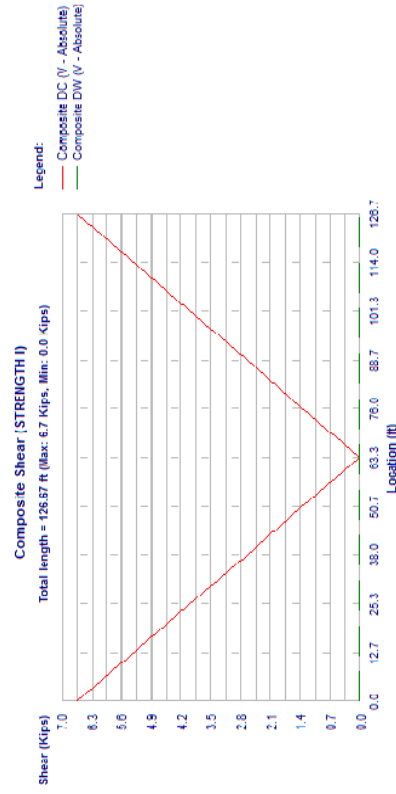
Precast Shear, Span 1, Beam 5, STRENGTH I

		Sheet # 20	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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File Name: Span04WB_ModifiedSpacing.csl			




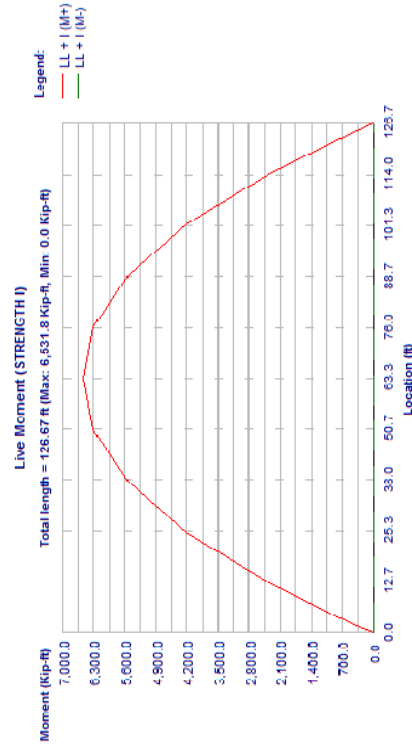
Composite Moment, Span 1, Beam 5, STRENGTH I

		Sheet #	21
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed	KSM
Version: 12.01.00.57		Date	Sept/9/2013
File Name: Span04WB_ModifiedSpacing.csl		Checked	
		Date	




Composite Shear, Span 1, Beam 5, STRENGTH I

		Sheet #	22
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed	KSM
Version: 12.01.00.57		Date	Sept/9/2013
File Name: Span04WB_ModifiedSpacing.csl		Checked	
		Date	



Live Moment, Span 1, Beam 5, STRENGTH I



Sheet # 25

Job #

Program: LEAP@ CONSPAN® V8i (SELECTseries 5)

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Designed KSM

Date Sep/9/2013

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Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1538.0	1361.0	1033.1	566.1	190.9	95.5
	V	35.7	44.7	59.1	68.1	74.3	75.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	41.1	50.1	59.1	68.1	74.3	75.7
	M	1471.7	1335.0	1033.1	566.1	190.9	95.5
Total :	M+	7157.4	6249.8	4704.1	2532.2	846.5	422.6
	M	73.4	120.1	172.3	219.0	262.8	272.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	78.8	125.6	172.3	219.0	262.8	272.8
	M	7091.1	6233.8	4704.1	2532.2	846.5	422.6

Legend:

Self Beam (N+)

Self Deck (M+)


Precast DC (M+)

Precast DW (M+)

Diaphragm (M+)

Precast Moment (FATIGUE I)

Total length = 126.57 ft (Max: 2,835.7 Kip-ft, Min: 0.0 Kip-ft)



Moment (Kip-ft)

5,000.0

2,700.0

2,400.0

2,100.0

1,800.0

1,500.0

1,200.0

900.0

600.0

300.0

0.0

Location (ft)

0.0

12.7

25.3

38.0

50.7

63.3

76.0


88.7

101.3

114.0

126.7

Precast Moment, Span 1, Beam 5, FATIGUE I



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File Name: Span04WB_ModifiedSpacing.cs1

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Sheet # 26

Job #

Designed KSM

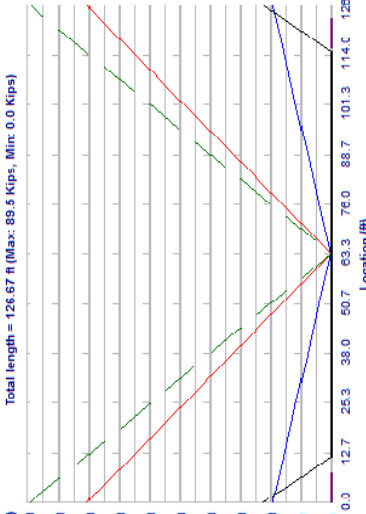
Date Sept/9/2013

Checked

Date

Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 89.5 Kips, Min: 0.0 Kips)




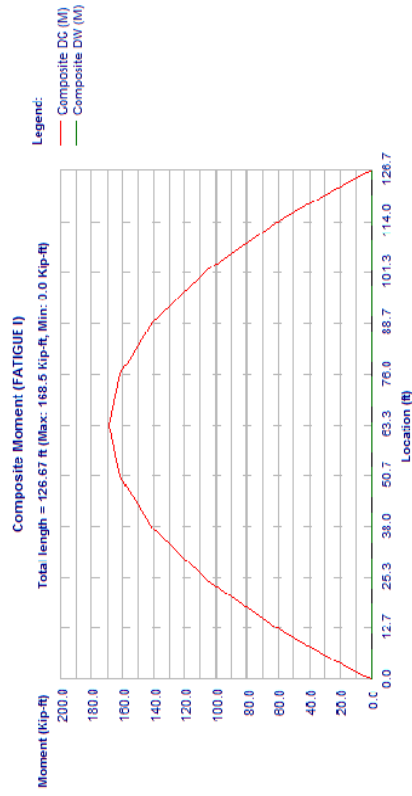
Location (ft)

Legend:


- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

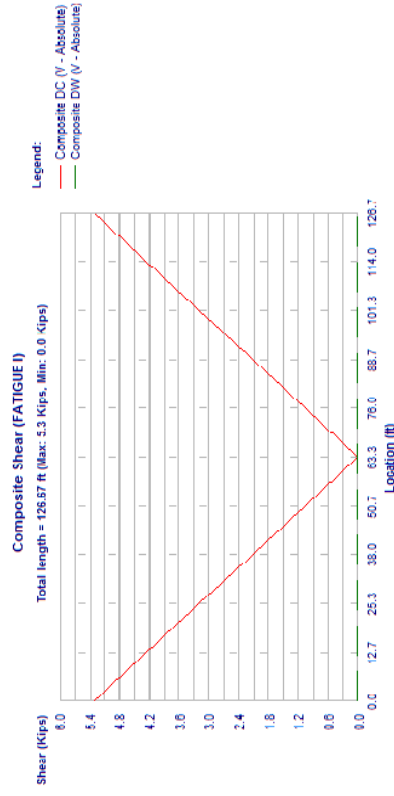
Precast Shear, Span 1, Beam 5, FATIGUE I

		Sheet # 27
		Job #
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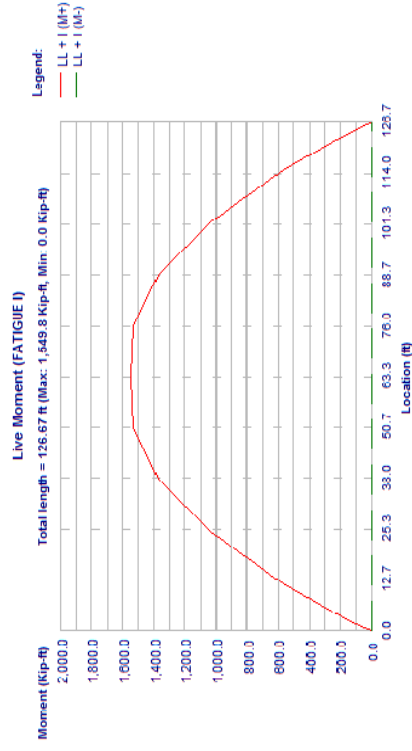
Composite Moment, Span 1, Beam 5, FATIGUE I

		Sheet # 28
		Job #
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM
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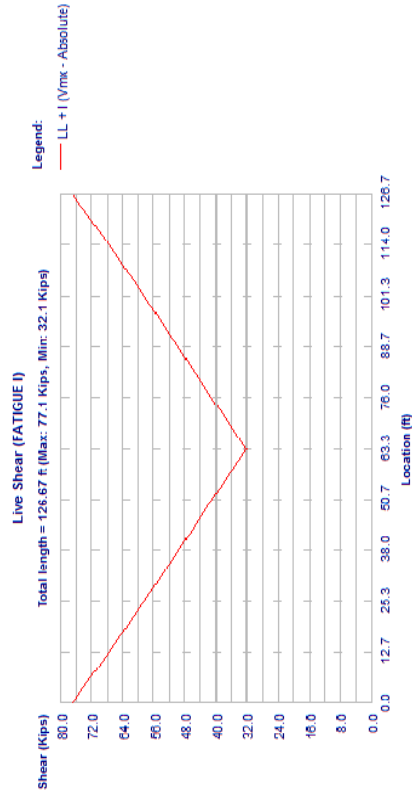
Composite Shear, Span 1, Beam 5, FATIGUE I

		Sheet #	29
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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			Date



Live Moment, Span 1, Beam 5, FATIGUE I

		Sheet #	30
		Job #	
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			Date



Live Shear, Span 1, Beam 5, FATIGUE I



Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses		Sheet #	1
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File Name: Span04WB_ModifiedSpacing.csl		www.bentley.com Phone: 1-800-778-4277			
				Designed	KSM
				Date	Sept/9/2013
				Checked	
				Date	

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE I

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	1439.7	1917.2	2203.8	2299.3
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	0.0	28.8	57.6	172.9	322.7	429.8	515.4
DC(Max)	V	16.3	15.8	15.3	13.3	10.0	6.6	3.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	145.1	290.8	872.0	1628.1	2492.3	2600.3
Haunch (Max)	V	82.1	79.8	77.4	66.9	50.2	33.5	16.7
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	18.5	15.6	12.7	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	200.6	401.8	1200.8	2227.0	2941.3	3367.3
	V	138.8	136.0	133.1	120.5	101.3	37.5	55.4
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	138.8	136.0	133.1	120.5	102.6	85.7	69.8
	M	-0.0	208.8	415.3	1200.8	2080.6	2651.9	2901.6
Total :	M+	0.0	512.1	1026.1	3073.3	5723.0	7597.0	8718.8
	V	333.6	323.0	312.0	264.2	209.1	109.4	91.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	333.6	323.0	312.0	264.2	210.4	157.6	105.7
	M	0.0	520.3	1039.6	3073.3	5576.6	7307.7	8253.1
								8440.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	76.24	89.15	102.06	114.97	123.02	124.87	126.67
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
DL-Prec. :	M	494.0	429.8	322.7	172.9	57.6	28.8
DC(Max)	V	3.3	6.6	10.0	13.3	15.3	15.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2492.3	2168.2	1628.1	872.0	290.8	145.1
Haunch (Max)	V	16.7	33.5	50.2	66.9	77.4	79.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	-0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	18.8	15.6
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	9.4
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	5.2
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3367.2	2941.3	2227.0	1200.8	401.8	200.6
							0.0



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<div></div>		Job #	
<div></div>			
Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	SE Client Licenses	Designed KSM
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com	Date Sept/9/2013
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			Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 55.4	37.5	101.3	120.5	133.1	136.0	138.8
	M- 0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx 69.8	85.7	102.6	120.5	133.1	136.0	138.8
Total :	M 2901.6	2651.9	2080.6	1200.8	415.3	208.8	0.0
	M+ 8718.8	7597.0	5723.0	3073.2	1026.1	512.1	0.0
	V 91.3	109.4	209.1	264.2	312.0	323.0	333.6
Total :	M- 0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx 105.7	157.6	210.4	264.2	312.0	323.0	333.6
	M 8253.1	7307.7	5576.6	3073.2	1039.6	520.3	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	82.1	82.1
Diaphragm	18.5	18.5
DL-Prec.(DC)	16.3	16.3
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.

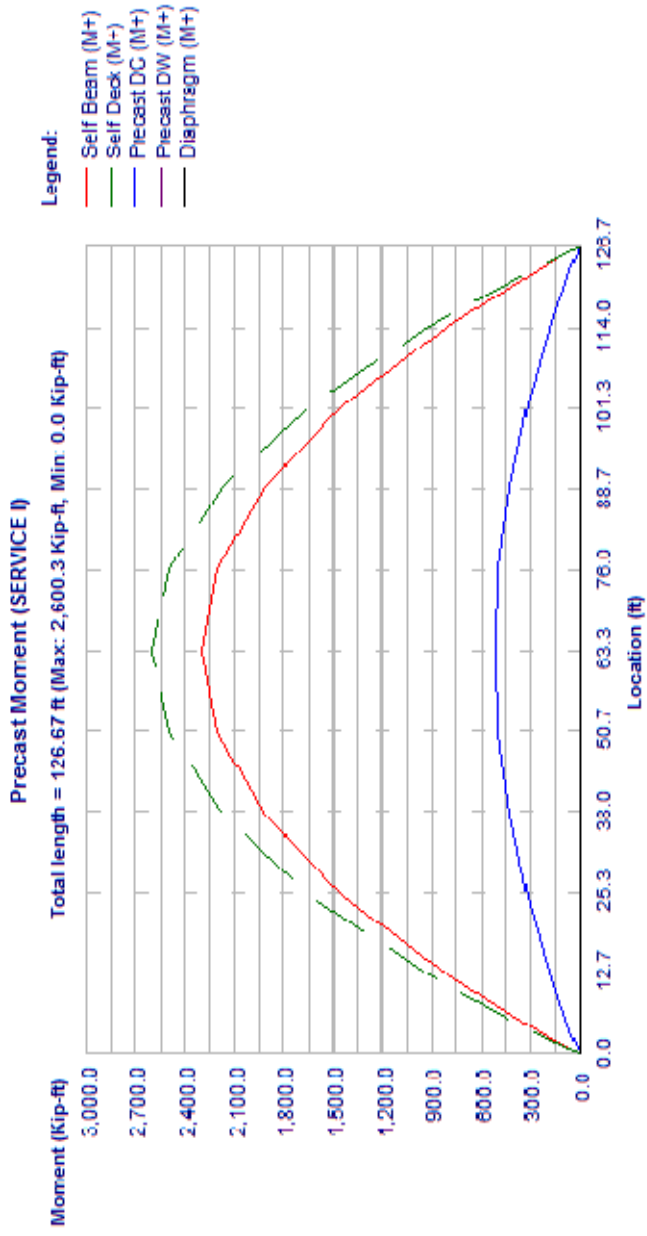
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.



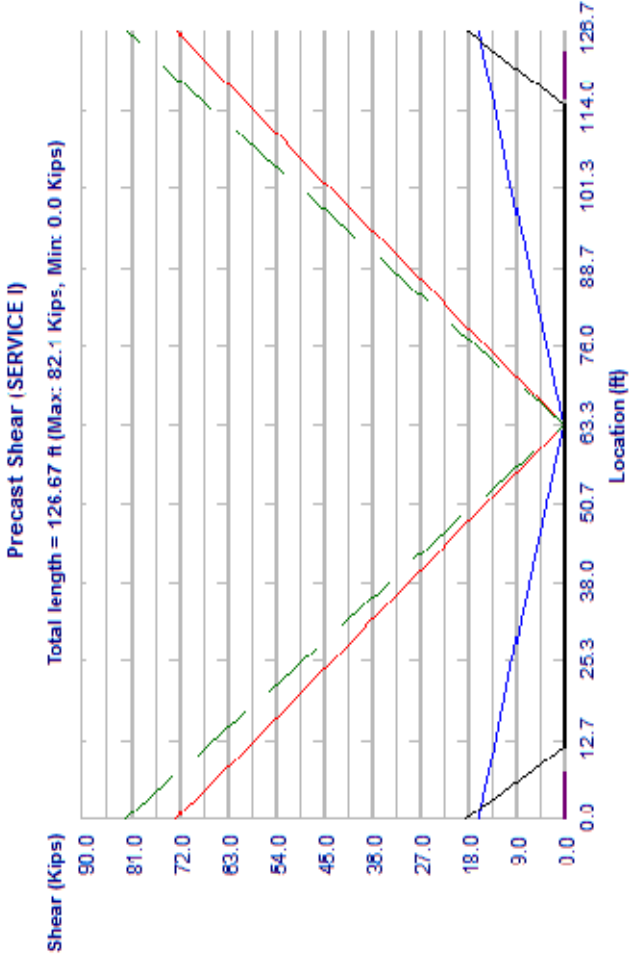
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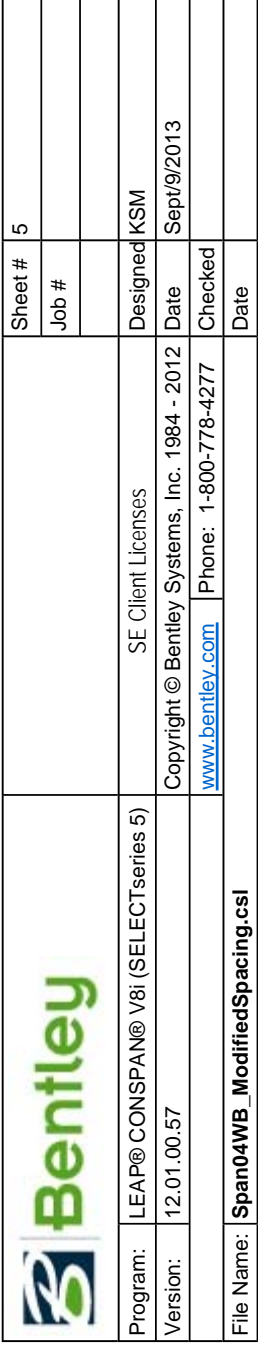
Precast Moment, Span 1, Beam 6, SERVICE I



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Job #		Date			
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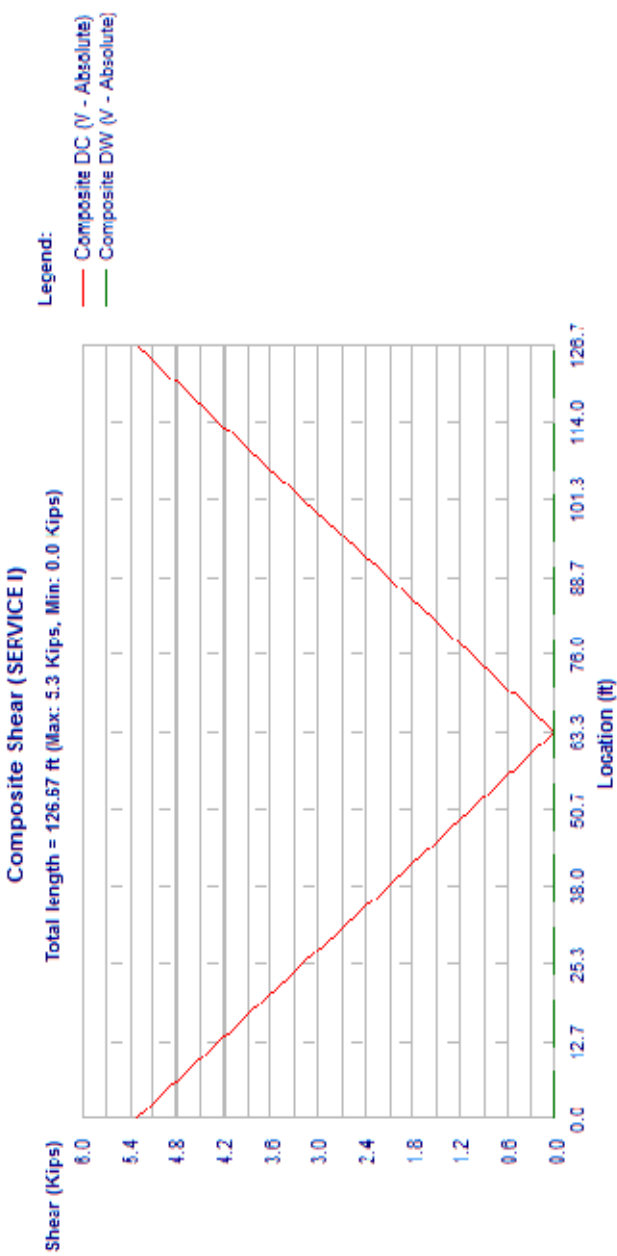


Precast Shear, Span 1, Beam 6, SERVICE I





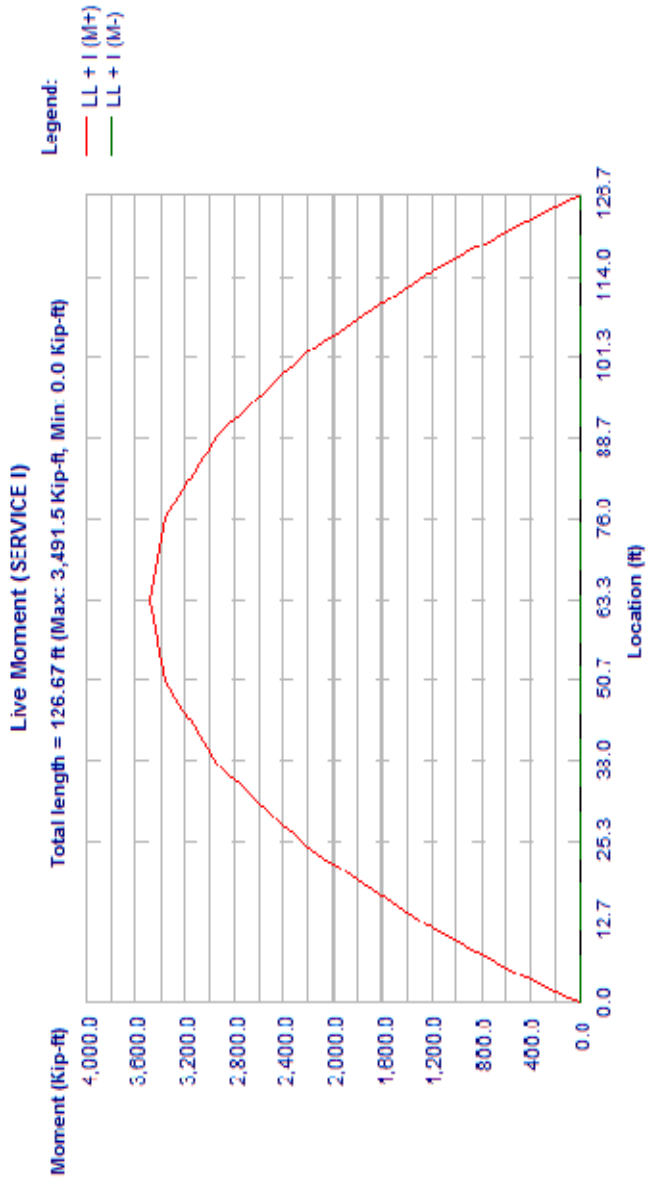
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File Name:	Span04WB_ModifiedSpacing.csl				
				Date	




Composite Shear, Span 1, Beam 6, SERVICE I



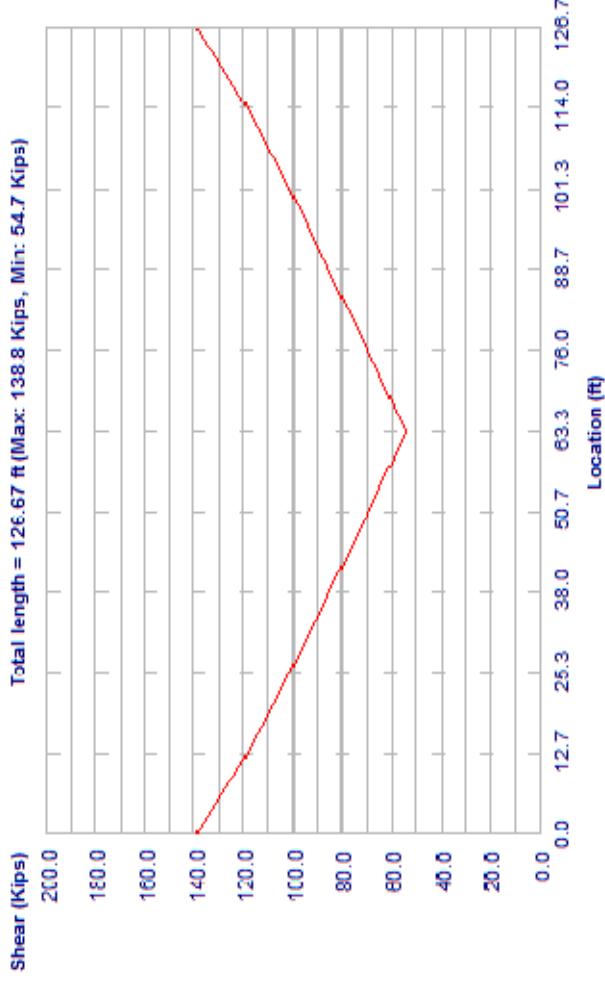
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Live Moment, Span 1, Beam 6, SERVICE I

				Sheet # 8	
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Live Shear (SERVICE I)



Live Shear, Span 1, Beam 6, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE III

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	0.0	28.8	57.6	172.9	322.7	429.8	494.0
DC(Max)	V	16.3	15.8	15.3	13.3	10.0	6.6	3.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	145.1	290.8	872.0	1628.1	2168.2	2492.3
Haunch (Max)	V	82.1	79.8	77.4	66.9	50.2	33.5	16.7
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	18.5	15.6	12.7	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	160.5	321.4	960.6	1781.6	2353.0	2693.8
								2793.2




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		Date		Sept/9/2013	
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		Date			

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
V	111.0	108.8	106.5	96.4	81.0	30.0	44.3	29.0
M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	111.0	108.8	106.5	96.4	82.0	68.6	55.8	43.8
M	-0.0	167.0	332.2	960.6	1664.5	2121.5	2321.3	2285.9
Total :	0.0	472.0	945.8	2833.1	5277.6	7008.7	8045.4	8376.7
V	305.8	295.8	285.4	240.1	188.9	101.9	80.2	29.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	305.8	295.8	285.4	240.1	189.9	140.5	91.8	43.8
Total :	0.0	478.5	956.6	2833.1	5160.5	6777.3	7672.8	7869.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft						
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
DL-Prec. :	14.8	29.6	44.4	59.2	68.4	70.6	72.6
DC(Max)	494.0	429.8	322.7	172.9	57.6	28.8	0.0
DL-Prec. :	3.3	6.6	10.0	13.3	15.3	15.8	16.3
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	2492.3	2168.2	1628.1	872.0	290.8	145.1	0.0
Diaphragm :	16.7	33.5	50.2	66.9	77.4	79.8	82.1
(Max)	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
DL-Comp :	0.0	0.0	0.0	0.0	12.7	15.6	18.5
DC(Max)	161.5	140.5	105.5	56.5	18.8	9.4	0.0
DL-Comp :	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M+	2693.8	2353.0	1781.6	960.6	321.4	160.5	0.0
V	44.3	30.0	81.0	96.4	106.5	108.8	111.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	55.8	68.6	82.0	96.4	106.5	108.8	111.0
M	2321.3	2121.5	1664.5	960.6	332.2	167.0	0.0
Total :	8045.4	7008.7	5277.6	2833.1	945.8	472.0	0.0
V	80.2	101.9	188.9	240.1	285.4	295.8	305.8
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	91.8	140.5	189.9	240.1	285.4	295.8	305.8
Total :	7672.8	6777.3	5160.5	2833.1	956.6	478.5	0.0

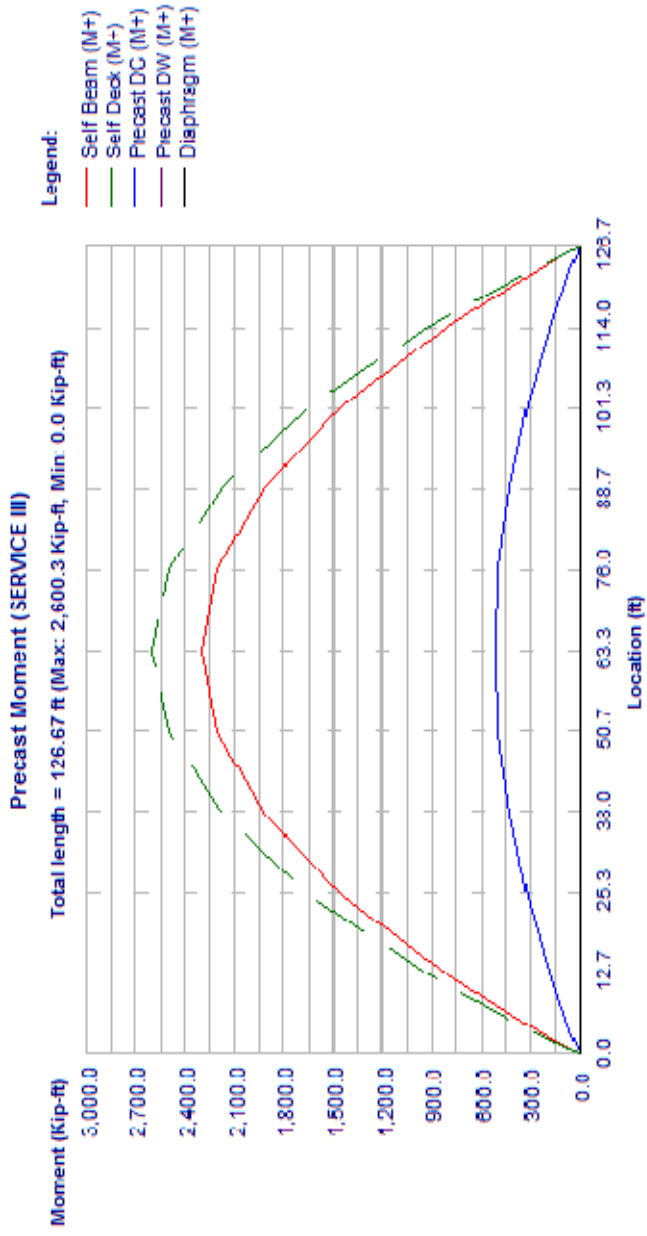


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Program: LEAP® CONSPAN® V8i (SELECTseries 5)


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File Name: Span04WB_ModifiedSpacing.csl



Precast Moment, Span 1, Beam 6, SERVICE III

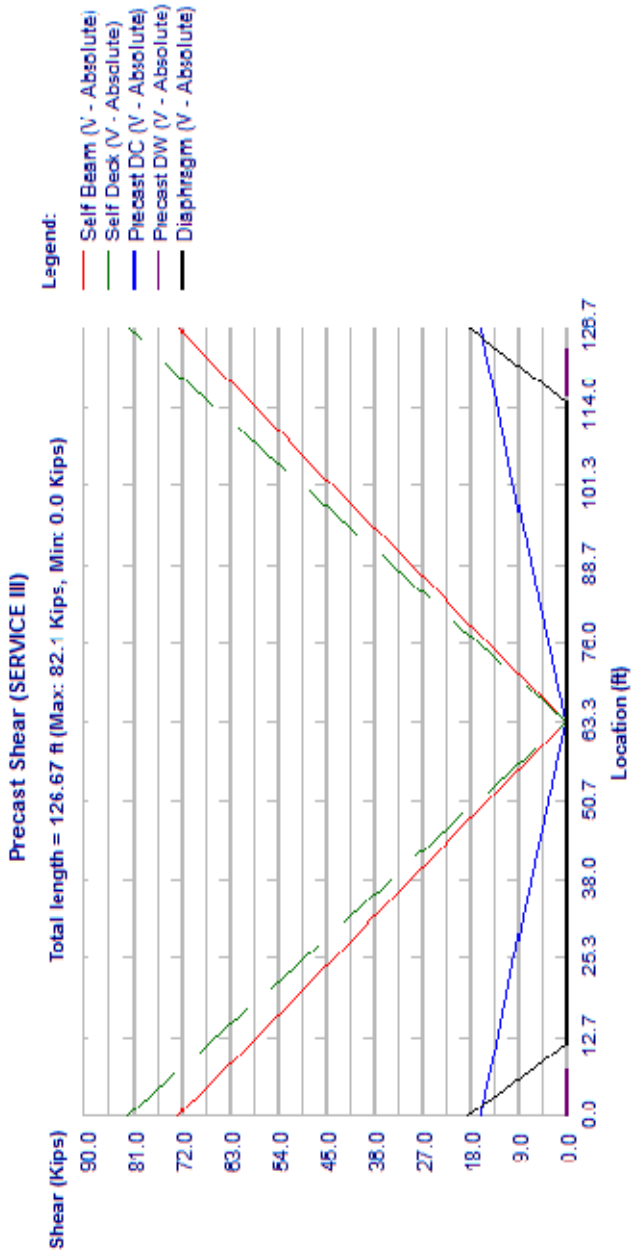


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Version: 12.01.00.57

File Name: Span04WB_ModifiedSpacing.csl



Precast Shear, Span 1, Beam 6, SERVICE III

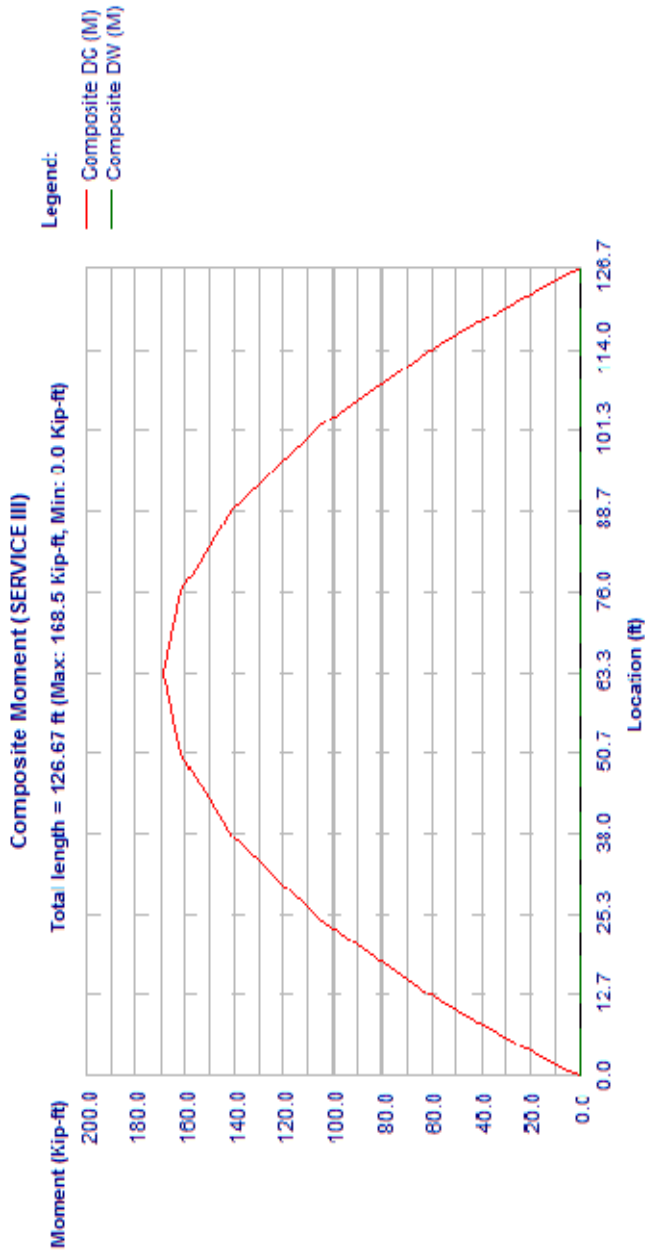


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Version:		12.00.057		Copyright © Bentley Systems, Inc. 1984 - 2012		Date	Sept/9/2013
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Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span04WB_ModifiedSpacing.csl



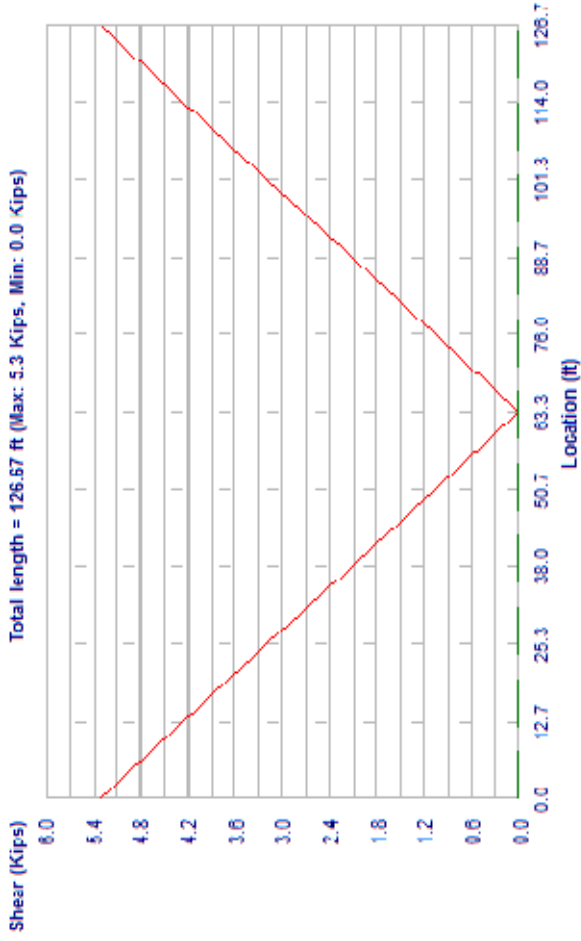
Composite Moment, Span 1, Beam 6, SERVICE III



				Sheet #	13
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File Name:	Span04WB_ModifiedSpacing.csl			Date	


Composite Shear (SERVICE III)

Total length = 126.67 ft (Max: 5.3 Kips, Min: 0.0 Kips)



Composite Shear, Span 1, Beam 6, SERVICE III

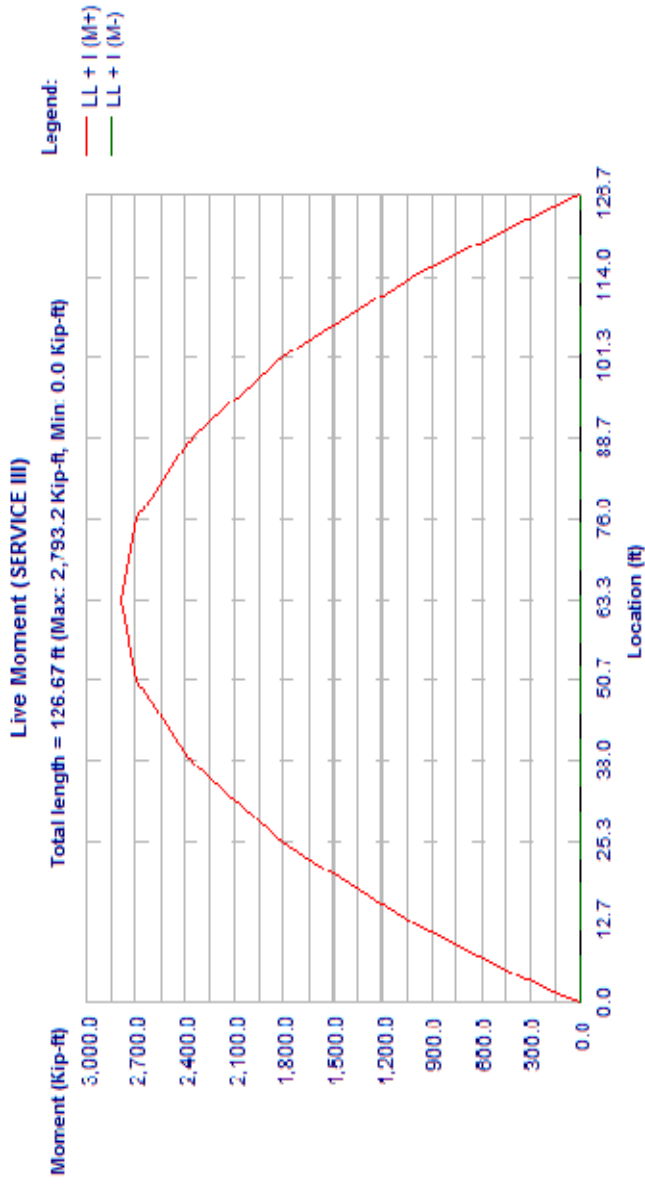


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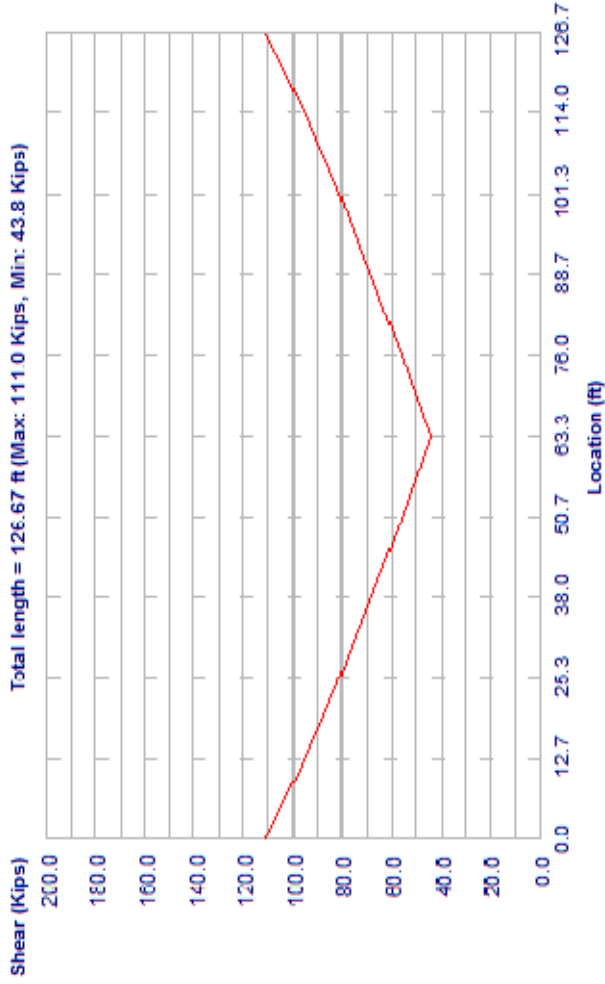
Live Moment, Span 1, Beam 6, SERVICE III



Sheet #		15
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File Name: Span04WB_ModifiedSpacing.csl		

Live Shear (SERVICE III)

Total length = 126.67 ft (Max: 111.0 Kips, Min: 43.8 Kips)



Live Shear, Span 1, Beam 6, SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, STRENGTH I

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft							
Self wt. :	M	0.0	1.79	11.70	24.61	37.52	50.43	63.33
(Max)	V	90.8	88.2	321.4	1799.6	2396.6	2754.7	2874.1
Self wt. :	M	0.0	88.2	74.0	55.5	37.0	18.5	0.0
(Min)	V	0.0	115.4	231.4	1295.7	1725.5	1983.4	2069.4
DL-Prec. :	M	65.3	63.5	53.3	40.0	26.6	13.3	0.0
DC(Max)	V	0.0	35.9	72.0	403.4	537.2	617.5	644.3
DL-Prec. :	M	20.3	19.8	16.6	12.4	8.3	4.1	0.0
DC(Min)	V	0.0	25.9	155.6	290.5	386.8	444.6	463.9
DL-Prec. :	M	14.6	14.2	13.8	9.0	6.0	3.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	181.3	1090.0	2035.2	2710.3	3115.4	3250.4
Haunch (Max)	V	102.6	99.7	83.7	62.8	41.8	20.9	0.0
Deck + :	M	0.0	130.6	784.8	1465.3	1951.4	2243.1	2340.3



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		Checked		Date	Sept/9/2013
		Date			

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	73.9	71.8	69.6	60.3	45.2	30.1	15.1
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	23.1	19.6	15.9	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	16.6	14.1	11.4	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	11.7	23.5	70.6	131.9	175.6	201.8
DC(Max)	V	6.7	6.5	6.3	5.4	4.1	2.7	1.4
DL-Comp :	M	-0.0	8.5	17.0	50.8	94.9	126.4	145.3
DC(Min)	V	4.8	4.7	4.5	3.9	2.9	2.0	1.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	351.1	703.1	2101.4	3897.2	5147.2	5892.7
LL + I :	V	242.9	238.0	232.9	210.8	177.3	65.7	96.9
LL + I :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	242.9	238.0	232.9	210.8	179.5	150.0	122.1
Total :	M	-0.0	365.4	726.8	2101.4	3641.0	4640.9	5077.8
Total :	M+	0.0	740.4	1483.5	4442.0	8267.2	10966.9	12582.1
Total :	V	486.4	471.7	456.5	390.5	312.1	155.5	141.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	486.4	471.7	456.5	390.5	314.2	239.9	167.1
Total :	M	0.0	754.7	1507.2	4442.0	8011.1	10460.5	11979.8

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft						
Self wt. :	M	76.24	89.15	102.06	114.97	123.02	124.87
(Max)	V	2754.7	2396.6	1799.6	963.8	321.4	160.3
Self wt. :	M	18.5	37.0	55.5	74.0	85.5	88.2
(Min)	V	1983.4	1725.5	1295.7	694.0	231.4	115.4
DL-Prec. :	M	13.3	26.6	40.0	53.3	61.6	63.5
DC(Max)	V	617.5	537.2	403.4	216.1	72.0	35.9
DL-Prec. :	M	4.1	8.3	12.4	16.6	19.2	19.8
DC(Min)	V	444.6	386.8	290.5	155.6	51.9	25.9
DL-Prec. :	M	3.0	6.0	9.0	11.9	13.8	14.2
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3115.4	2710.3	2035.2	1090.0	363.4	181.3
Haunch (Max)	V	20.9	41.8	62.8	83.7	96.7	99.7
Deck + :	M	2243.1	1951.4	1465.3	784.8	261.7	130.6
Haunch (Min)	V	15.1	30.1	45.2	60.3	69.6	71.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	15.9	19.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	11.4	14.1
DL-Comp :	M	201.8	175.6	131.9	70.6	23.5	11.7
DC(Max)	V	1.4	2.7	4.1	5.4	6.3	6.5
DL-Comp :	M	145.3	126.4	94.9	50.8	17.0	8.5



Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses		Sheet #	17
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012		Job #	
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				Checked	
				Date	

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.0	2.0	2.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5892.7	5147.2	3897.2	2101.4	351.1	0.0
	V	96.9	65.7	177.3	210.8	232.9	242.9
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	122.1	150.0	179.5	232.9	238.0	242.9
	M	5077.8	4640.9	3641.0	2101.4	365.4	0.0
Total :	M+	12582.1	10966.9	8267.2	4442.0	1483.5	0.0
	V	141.8	155.5	312.1	390.5	456.5	486.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	167.1	239.9	314.2	390.5	456.5	471.7
	M	11767.2	10460.5	8011.1	4442.0	1507.2	754.8

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	102.6	102.6
Diaphragm	23.1	23.1
DL-Prec.(DC)	20.3	20.3
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	66.5	66.5
DL-Comp.(DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.

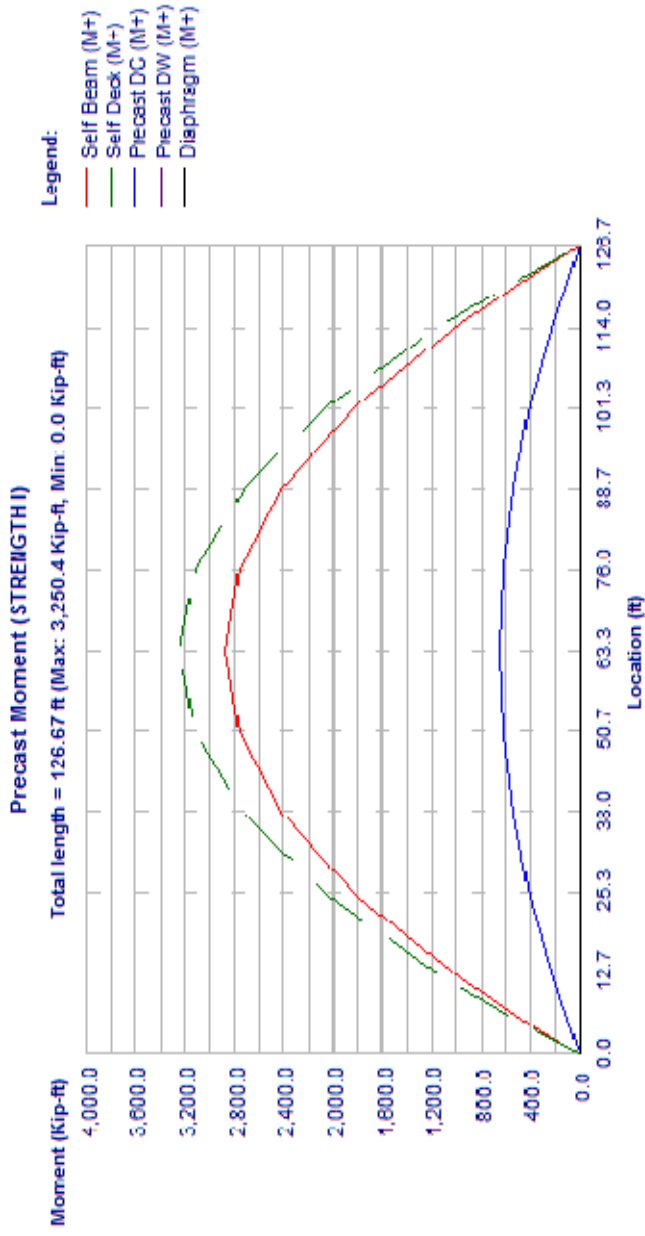
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.




				Sheet #	18
				Job #	
Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	SE Client Licenses		Designed	KSM
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File Name:	Span04WB_ModifiedSpacing.csl				
				Date	



Precast Moment, Span 1, Beam 6, STRENGTH I



						Sheet #		19	
						Job #			
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File Name:		Span04WB_ModifiedSpacing.csl		Phone: 1-800-778-4277		Date			

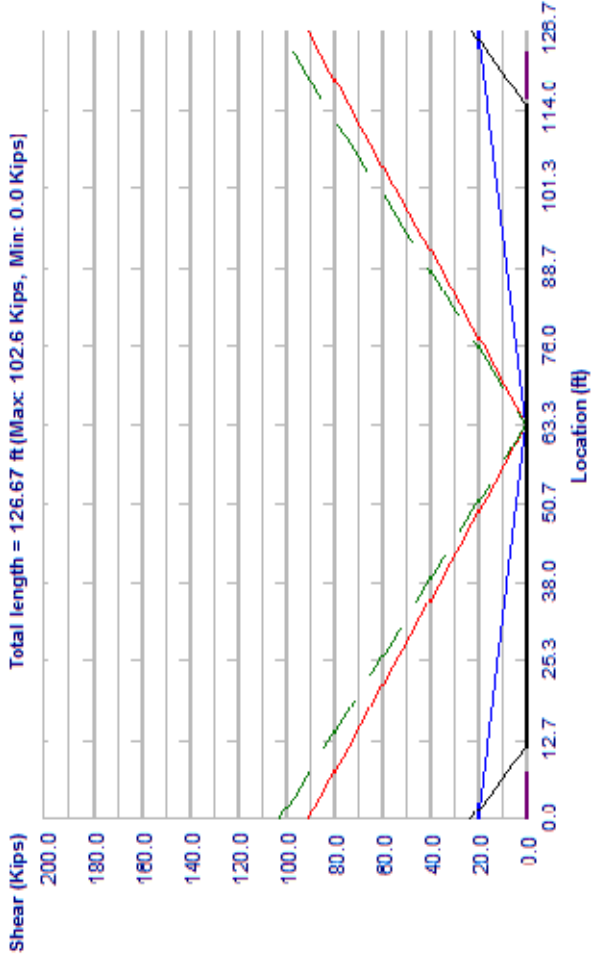
Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span04WB_ModifiedSpacing.csl

Precast Shear (STRENGTH I)

Total length = 126.67 ft (Max: 102.6 Kips, Min: 0.0 Kips)



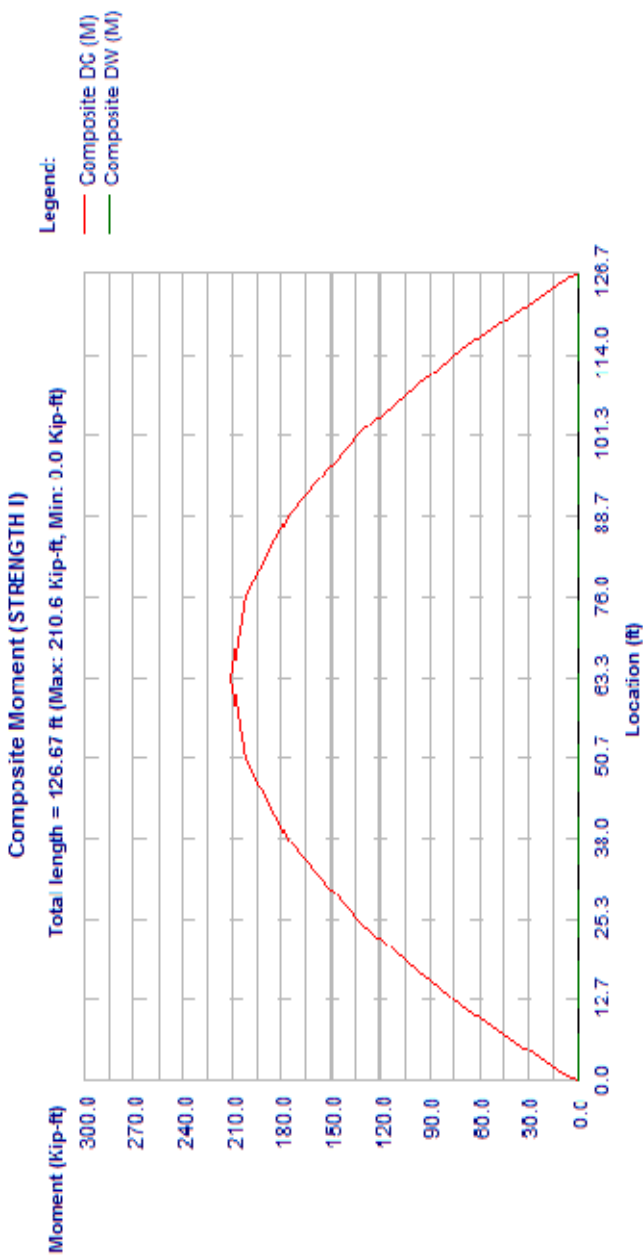
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 6, STRENGTH I



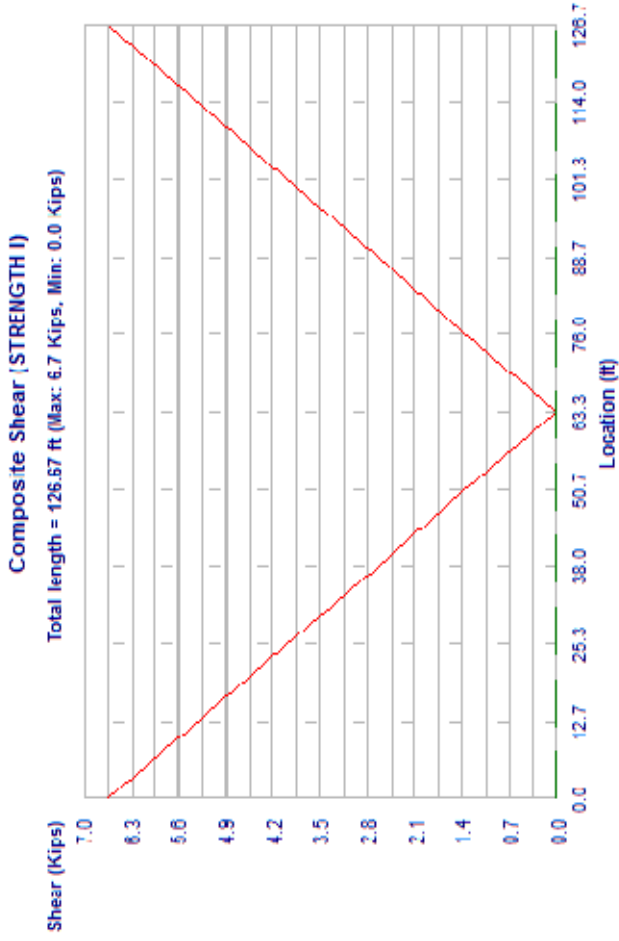
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Version:	12.01.00.57	Date	Sept/9/2013
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Composite Moment, Span 1, Beam 6, STRENGTH I



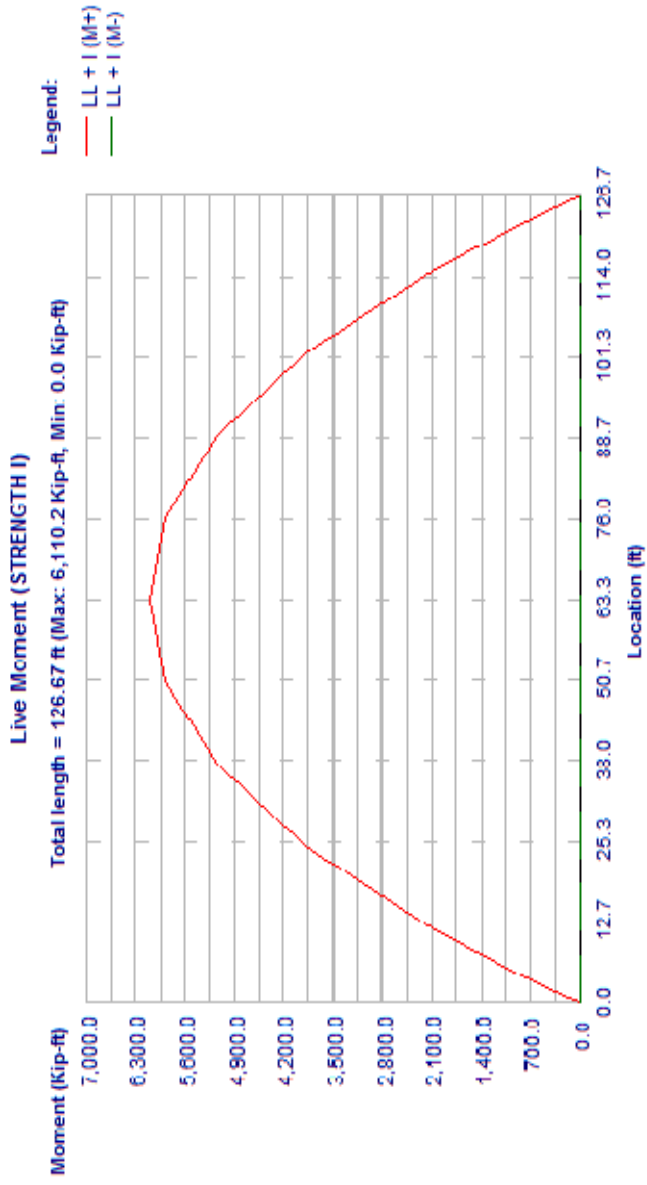
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File Name:		Span04WB_ModifiedSpacing.csl		Date	




Composite Shear, Span 1, Beam 6, STRENGTH I

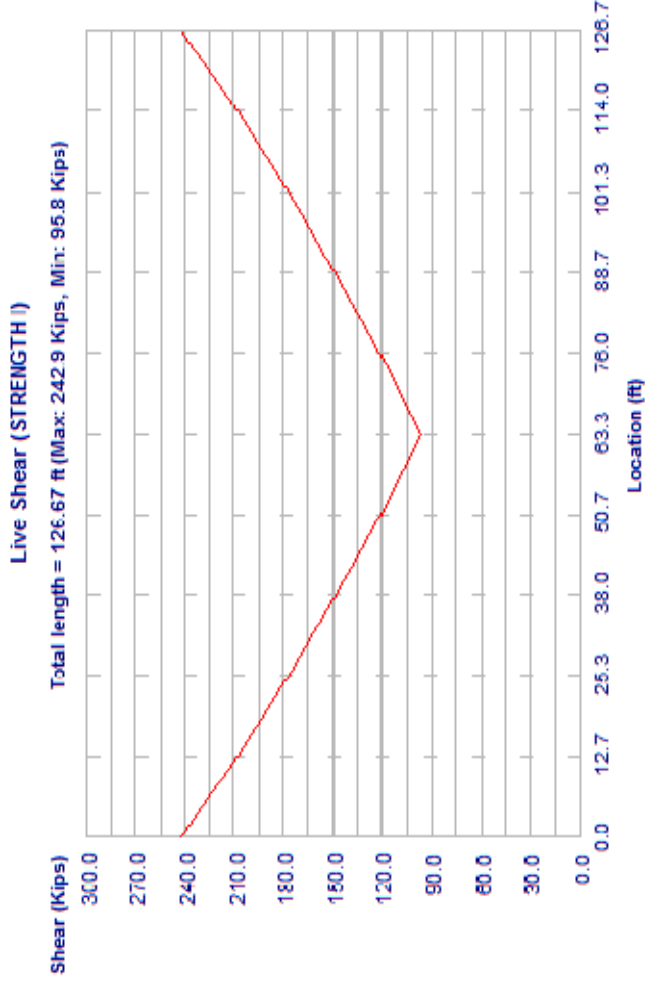


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Designed KSM		Date Sept/9/2013	
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Live Moment, Span 1, Beam 6, STRENGTH I

				Sheet #	23
				Job #	
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File Name:	Span04WB_ModifiedSpacing.csl				Date



Live Shear, Span 1, Beam 6, STRENGTH I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, FATIGUE I

Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	28.8	57.6	172.9	322.7	429.8	515.4
DC(Max)	V	16.3	15.8	15.3	13.3	10.0	6.6	3.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	145.1	290.8	872.0	1628.1	2168.2	2600.3
Haunch (Max)	V	82.1	79.8	77.4	66.9	50.2	33.5	16.7
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses		Sheet #	24
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File Name: Span04WB_ModifiedSpacing.csl		www.bentley.com Phone: 1-800-778-4277			
		Designed		KSM	
		Date		Sept/9/2013	
		Checked			
		Date			

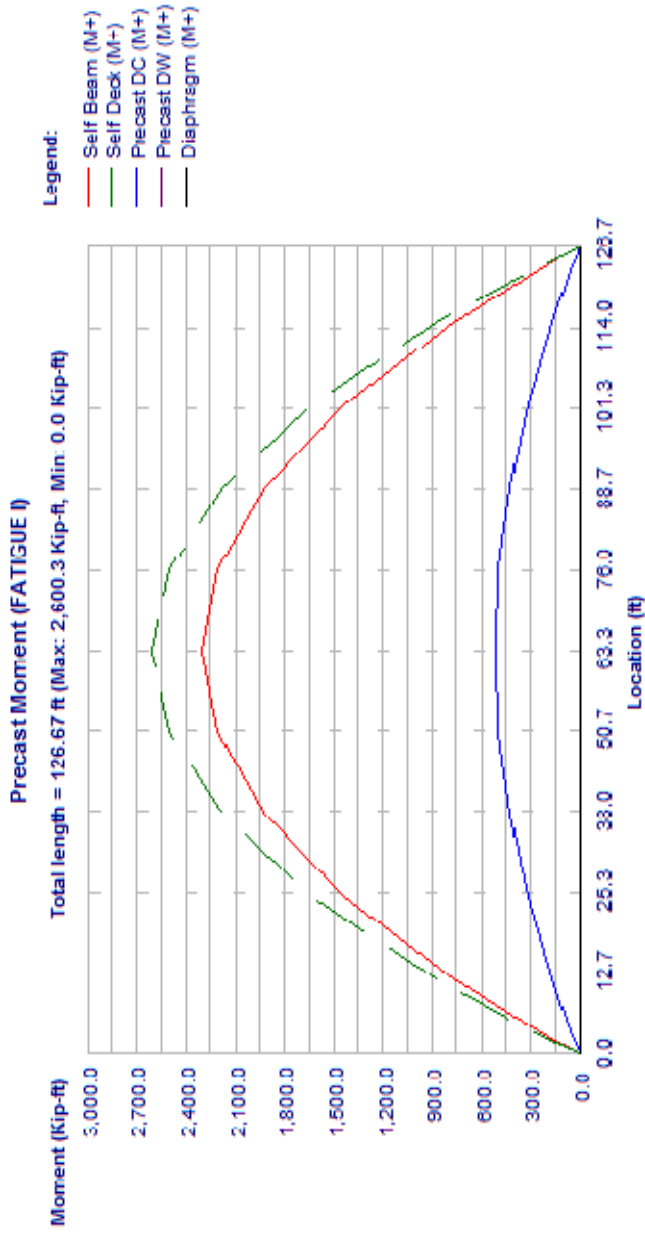
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	18.5	15.6	12.7	0.0	0.0	0.0	0.0	0.0
Diaphragm :	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp :	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	90.2	180.3	534.6	975.6	1285.3	1452.5	1463.6
	73.2	71.9	70.5	64.6	56.1	42.4	33.8	25.3
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	73.2	71.9	70.5	64.6	56.1	47.5	39.0	30.4
Total :	0.0	90.2	180.3	534.6	975.6	1260.7	1389.8	1362.9
	0.0	401.7	804.7	2407.0	4471.7	5941.0	6804.0	7047.1
Total :	268.0	258.8	249.4	208.4	163.9	114.3	69.8	25.3
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	268.0	258.8	249.4	208.4	163.9	119.4	74.9	30.4
Total :	0.0	401.7	804.7	2407.0	4471.7	5916.5	6741.4	6946.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft						
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
Self wt. :	14.8	29.6	44.4	59.2	68.4	70.6	72.6
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	494.0	429.8	322.7	172.9	57.6	28.8	0.0
DL-Prec. :	3.3	6.6	10.0	13.3	15.3	15.8	16.3
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	2492.3	2168.2	1628.1	872.0	290.8	145.1	0.0
Haunch (Max)	16.7	33.5	50.2	66.9	77.4	79.8	82.1
Deck + :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Max)	0.0	0.0	0.0	0.0	0.0	0.0	18.5
Diaphragm :	0.0	0.0	0.0	0.0	12.7	15.6	-0.0
(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	161.5	140.5	105.5	56.5	18.8	9.4	0.0
DC(Max)	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0




Sheet # 25		Job #		Designed KSM	
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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1452.5	1285.3	975.6	534.6	180.3	0.0
	V	33.8	42.4	56.1	64.6	70.5	73.2
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	39.0	47.5	56.1	64.6	70.5	73.2
	M	1389.8	1260.7	975.6	534.6	180.3	0.0
Total :	M+	6804.0	5941.0	4471.7	2407.0	804.7	401.7
	V	69.8	114.3	163.9	208.4	249.4	258.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	74.9	119.4	163.9	208.4	249.4	258.8
	M	6741.4	5916.5	4471.7	2407.0	804.7	401.7



Precast Moment, Span 1, Beam 6, FATIGUE I



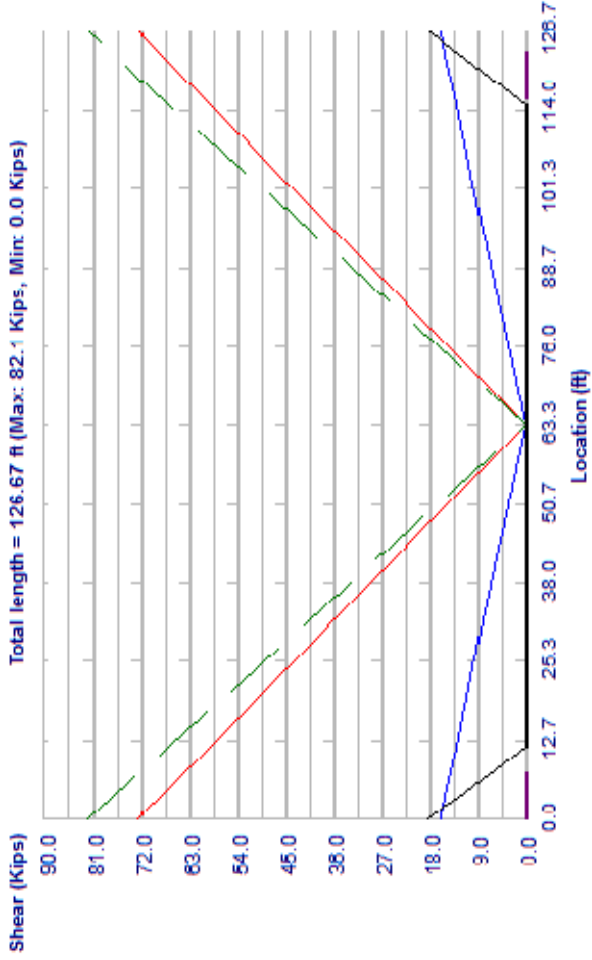
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Version:		12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012		Date		Sept/9/2013	
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File Name:		Span04WB_ModifiedSpacing.csl		Phone: 1-800-778-4277		Date			

Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

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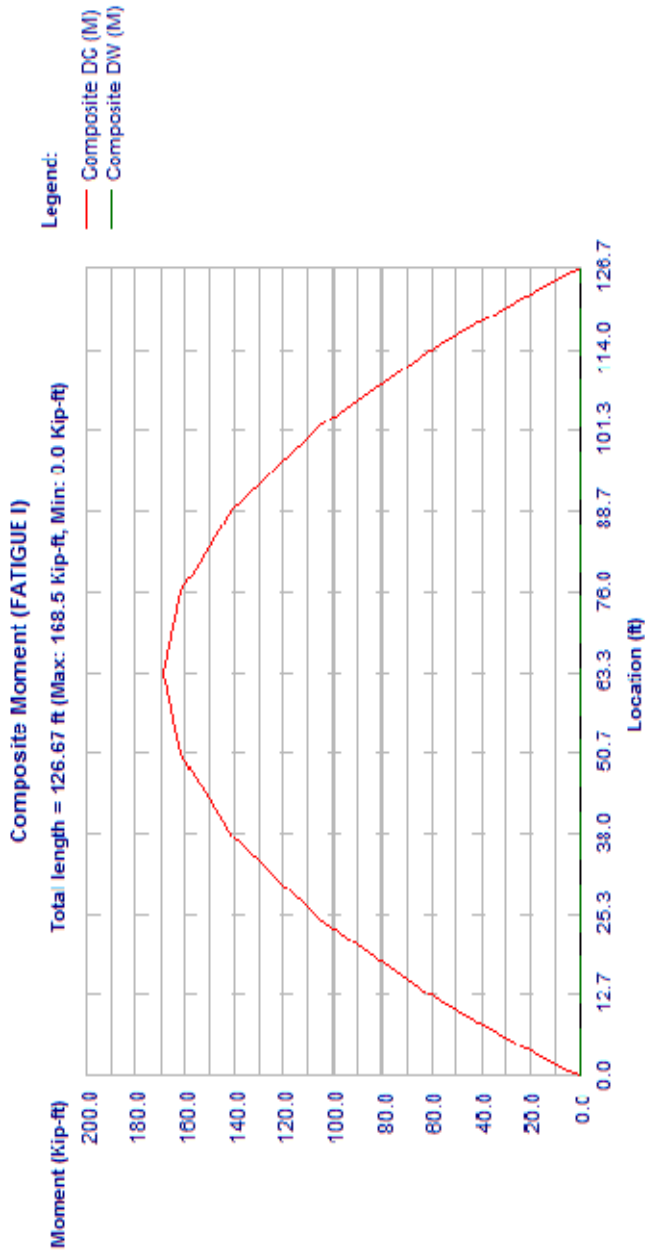
Precast Shear (FATIGUE I)
Total length = 126.67 ft (Max: 82.1 Kips, Min: 0.0 Kips)




Precast Shear, Span 1, Beam 6, FATIGUE I

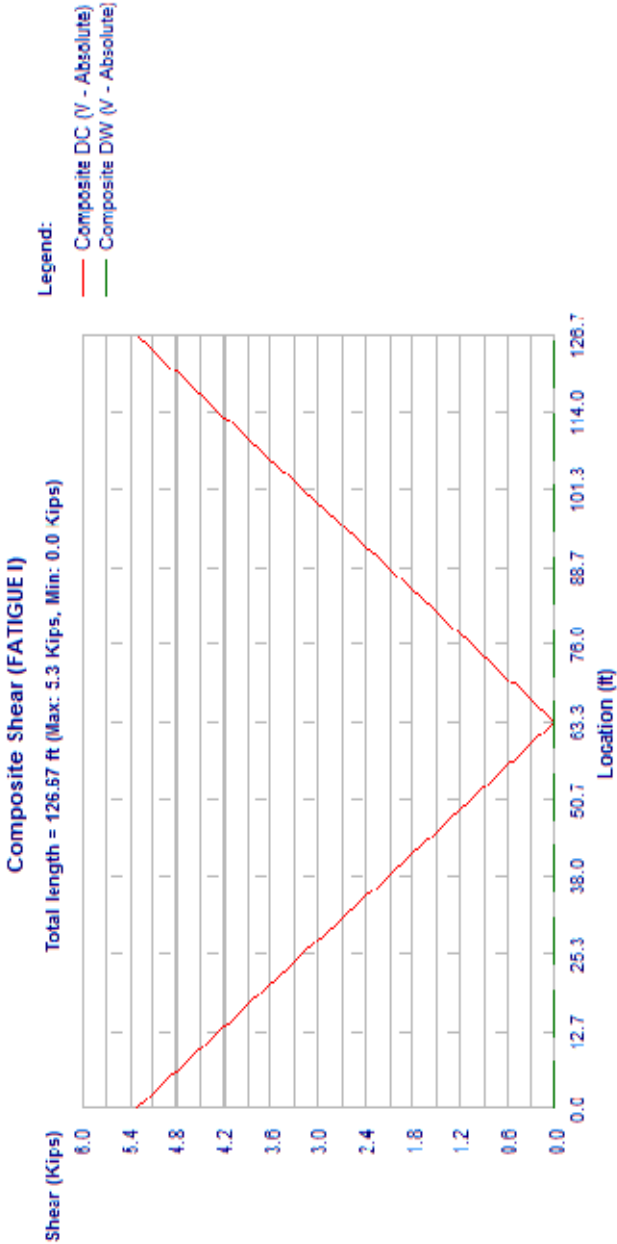


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Composite Moment, Span 1, Beam 6, FATIGUE I

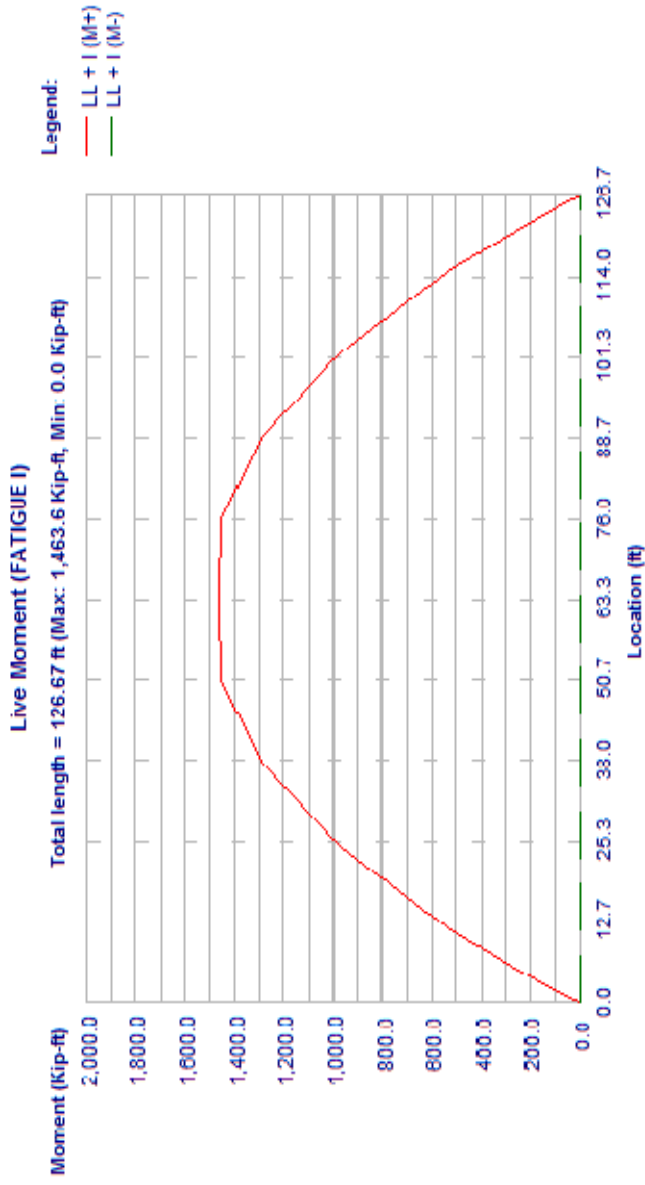
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Composite Shear, Span 1, Beam 6, FATIGUE I



				Sheet #	29
				Job #	
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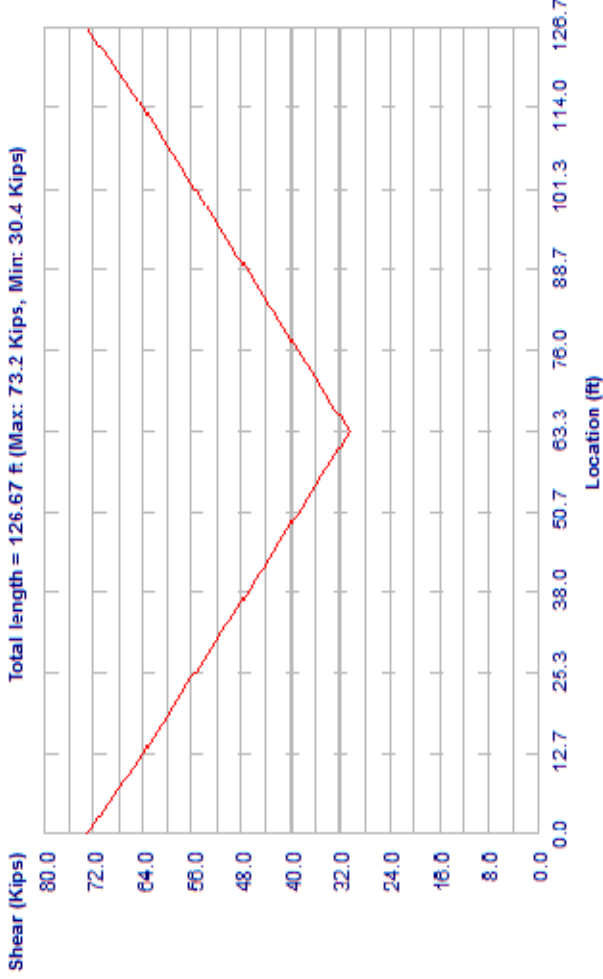


Live Moment, Span 1, Beam 6, FATIGUE I




				Sheet #	30
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File Name:		Span04WB_ModifiedSpacing.csl		Date	

Live Shear (FATIGUE I)



Live Shear, Span 1, Beam 6, FATIGUE I



Program: LEAPb CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span04WB_ModifiedSpacing.csl

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Date


Sheet # 1
Job #
Date
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Date

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	-0.0	26.3	52.7	158.1	295.1	393.0	451.7
DC(Max)	V	14.9	14.5	14.0	12.1	9.1	6.1	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	131.9	264.4	793.1	1480.8	1972.0	2266.7
Haunch (Max)	V	74.7	72.6	70.4	60.9	45.7	30.4	15.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	16.6	14.1	11.4	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	186.5	373.5	1116.4	2070.4	3130.5	3246.0
LL + :	V	129.3	126.7	123.9	112.2	94.4	35.0	33.7
LL + :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	129.3	126.7	123.9	112.2	95.5	79.9	65.0
Total :	M+	-0.0	482.4	966.6	2895.1	5391.4	7157.1	8550.0
Total :	V	313.4	303.5	293.2	248.7	197.9	148.1	99.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	313.4	303.5	293.2	248.7	197.9	148.1	99.1
Total :	M	-0.0	490.0	979.2	2895.1	5255.3	6888.1	7781.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	124.87
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
DL-Prec. :	M	451.7	393.0	295.1	158.1	52.7	26.3
DC(Max)	V	3.0	6.1	9.1	12.1	14.0	14.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2266.7	1972.0	1480.8	793.1	264.4	131.9
Haunch (Max)	V	15.2	30.4	45.7	60.9	70.4	72.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	11.4	14.1
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3130.5	2734.4	2070.4	1116.4	373.5	186.5



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	51.6	35.0	94.4	112.2	123.9	126.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	65.0	79.9	95.5	112.2	123.9	126.7
Total :	M	2697.5	2465.4	1934.3	1116.4	386.1	194.1
Total :	M+	8214.1	7157.1	5391.4	2895.1	966.6	482.4
Total :	V	85.7	103.2	196.8	248.7	293.2	303.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	7781.2	6888.1	5255.3	2895.1	979.2	490.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	74.7	74.7
Diaphragm	16.6	16.6
DL-Prec.(DC)	14.9	14.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0



Upward reactions are positive.

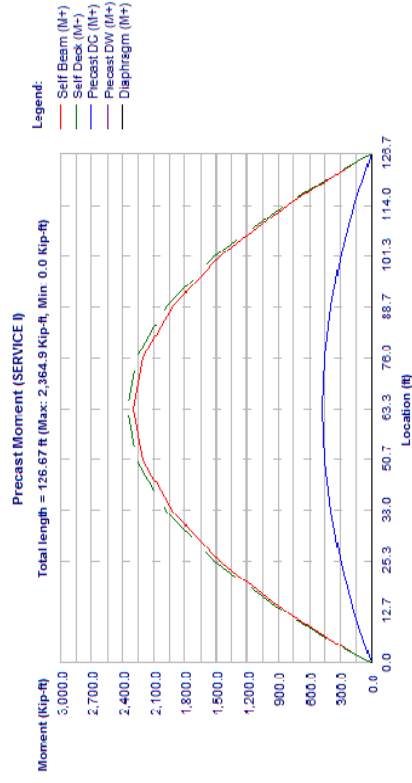
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

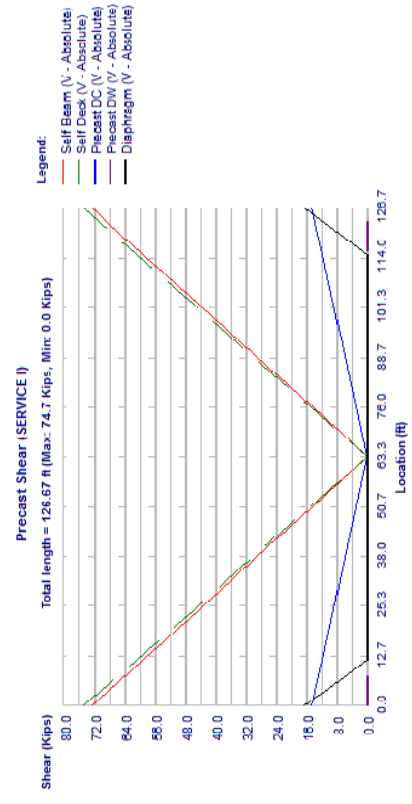
Composite and Pedestrian load types are per total bridge width.

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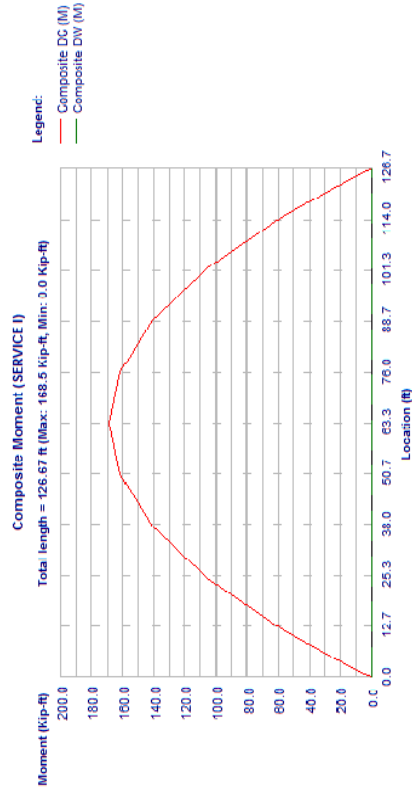
Precast Moment, Span 1, Beam 7, SERVICE I

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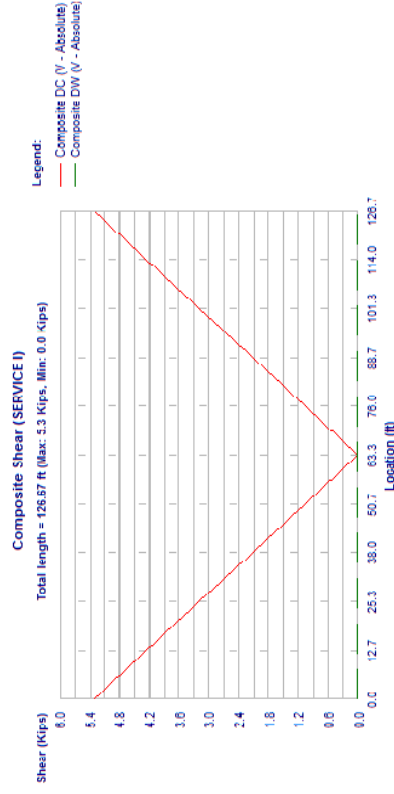
Precast Shear, Span 1, Beam 7, SERVICE I

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Composite Moment, Span 1, Beam 7, SERVICE I

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Composite Shear, Span 1, Beam 7, SERVICE I

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Sheet # 7
Job #

Live Moment (SERVICE I)
Total length = 126.67 ft (Max: 3,246.0 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
12.7	1,200.0
25.3	2,400.0
38.0	3,246.0
50.7	3,246.0
63.3	3,246.0
76.0	2,400.0
88.7	1,200.0
101.3	0.0
114.0	0.0
126.7	0.0

Live Moment, Span 1, Beam 7, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:36 P.M.

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Sheet # 8
Job #

Live Shear (SERVICE I)
Total length = 126.67 ft (Max: 129.3 Kips, Min: 51.0 Kips)

Legend:
— LL + I (Vmk - Absolute)


Location (ft)	Shear (Kips)
0.0	129.3
12.7	117.6
25.3	105.9
38.0	94.2
50.7	82.5
63.3	70.8
76.0	59.1
88.7	47.4
101.3	35.7
114.0	24.0
126.7	12.3

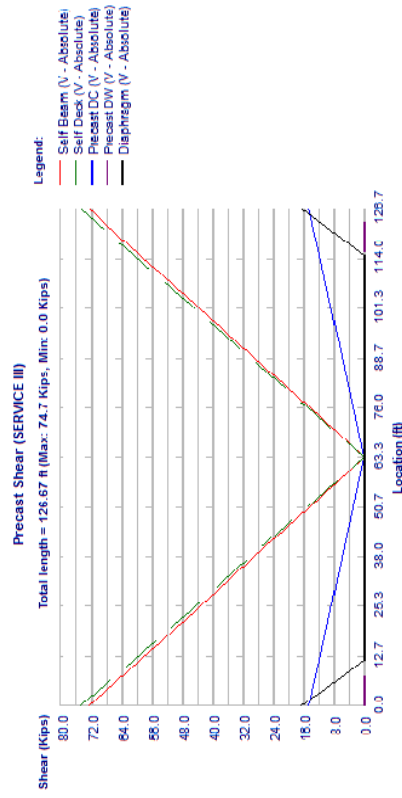
Live Shear, Span 1, Beam 7, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE III
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft							
Self wt. :	M	0.00	1.79	3.65	11.70	24.61	37.52	63.33
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	-0.0	26.3	52.7	158.1	295.1	393.0	451.7
DC(Max)	V	14.9	14.5	14.0	12.1	9.1	6.1	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	131.9	264.4	793.1	1480.8	1972.0	2266.7
Haunch (Max)	V	74.7	72.6	70.4	60.9	45.7	30.4	15.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	16.6	14.1	11.4	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	149.2	298.8	893.1	1656.3	2187.5	2504.4

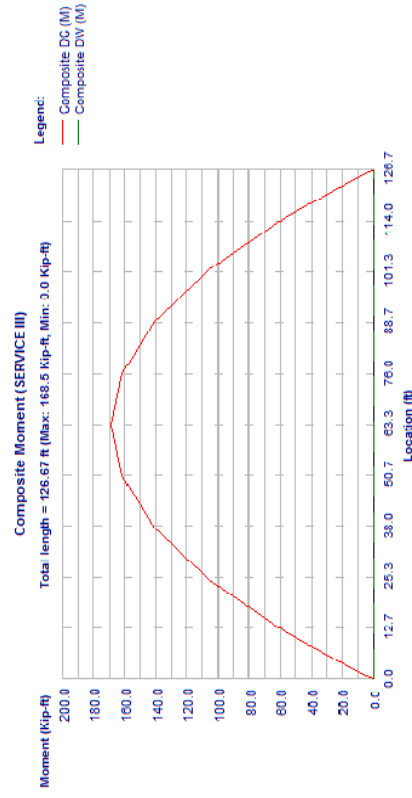
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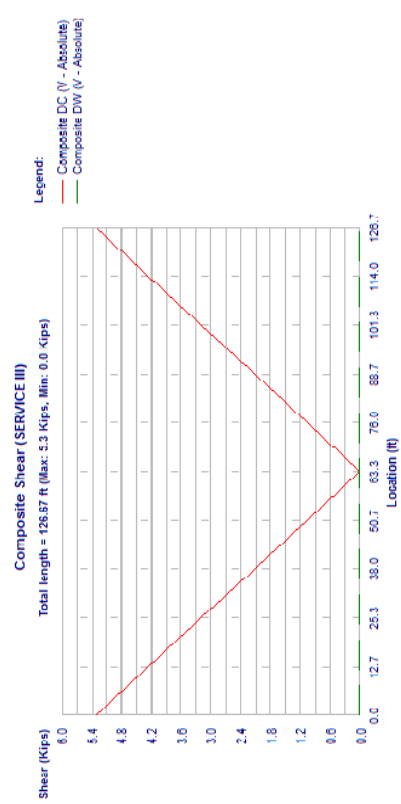
Precast Shear, Span 1, Beam 7, SERVICE III

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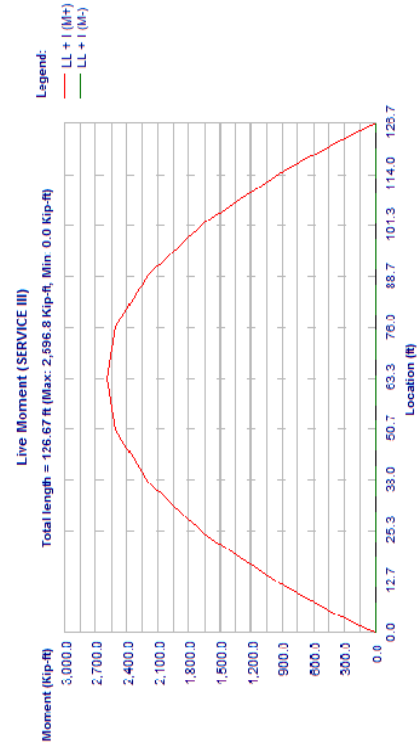
Composite Moment, Span 1, Beam 7, SERVICE III

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Composite Shear, Span 1, Beam 7, SERVICE III

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Live Moment, Span 1, Beam 7, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5478.3	4785.2	3623.1	1953.6	653.7	326.4
LL + I :	M-	90.2	61.2	165.1	196.3	216.9	221.6
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	113.8	139.7	167.1	196.3	216.9	221.6
LL + I :	M	4720.7	4314.5	3385.0	1953.6	675.7	339.7
Total :	M+	11832.9	10313.6	7774.4	4177.0	1395.0	696.3
Total :	V	132.9	146.5	293.1	367.0	428.5	442.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	156.4	225.1	295.2	367.0	428.5	442.7
Total :	M	11075.3	9842.9	7536.3	4177.0	1417.0	709.6

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	93.4	93.4
Diaphragm	20.8	20.8
DL-Prec (DC)	18.6	18.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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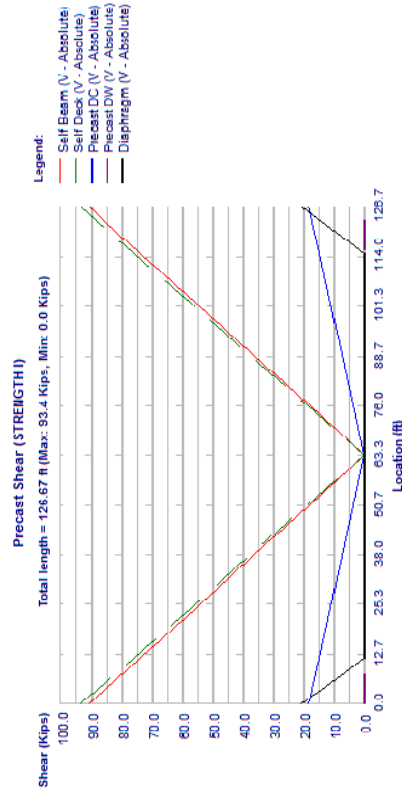
Precast Moment, Span 1, Beam 7, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

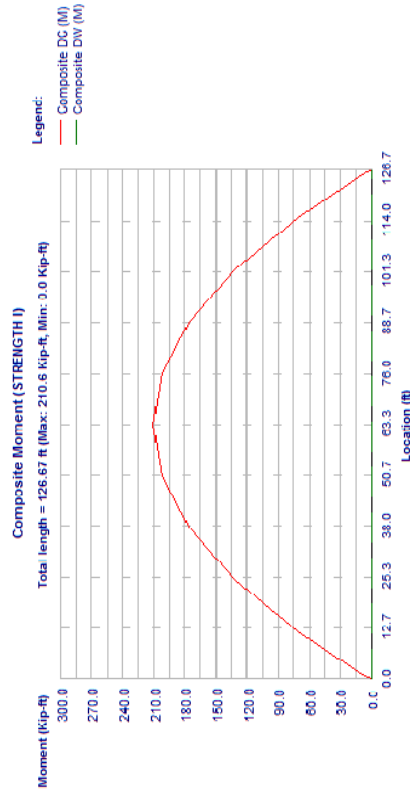
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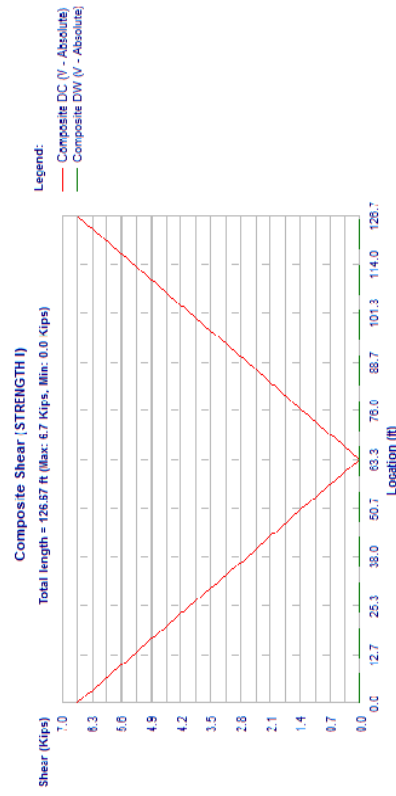
Precast Shear, Span 1, Beam 7, STRENGTH I

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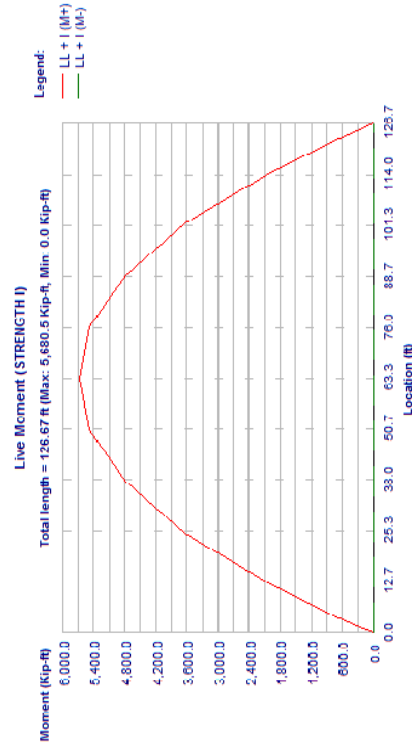
Composite Moment, Span 1, Beam 7, STRENGTH I

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Composite Shear, Span 1, Beam 7, STRENGTH I

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Live Moment, Span 1, Beam 7, STRENGTH I

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Sheet # 25

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1364.4	1207.4	916.5	502.2	169.4	84.7	0.0
M+	32.0	40.1	53.1	61.2	66.7	68.0	69.2
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	36.9	45.0	53.1	61.2	66.7	68.0	69.2
M	1305.6	1184.3	916.5	502.2	169.4	84.7	0.0
M+	6448.1	5630.1	4237.5	2280.9	762.5	380.6	0.0
V	66.2	108.4	155.5	197.7	236.0	244.8	253.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	71.0	113.3	155.5	197.7	236.0	244.8	253.4
M	6389.2	5607.0	4237.5	2280.9	762.5	380.6	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,364.9 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Precast Moment, Span 1, Beam 7, FATIGUE I

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Sheet # 26

Job #

Shear (Kips)


Precast Shear (FATIGUE I)

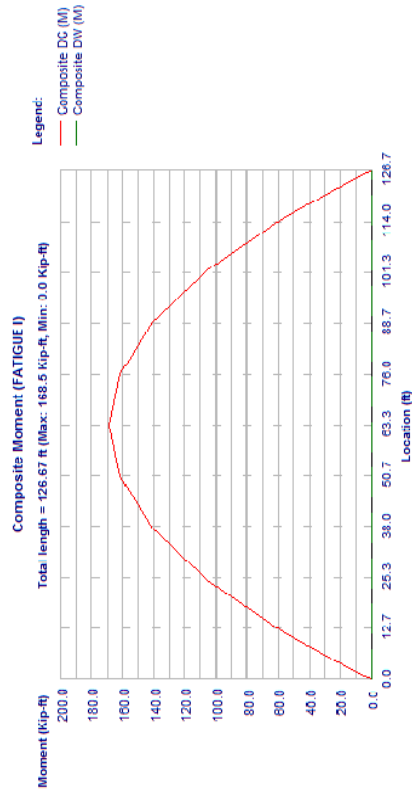
Total length = 126.67 ft (Max: 74.7 Kips, Min: 0.0 Kips)

Location (ft)


Precast Shear, Span 1, Beam 7, FATIGUE I

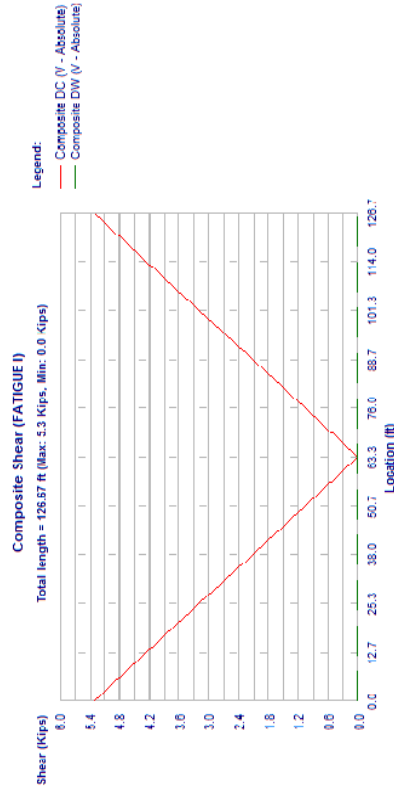
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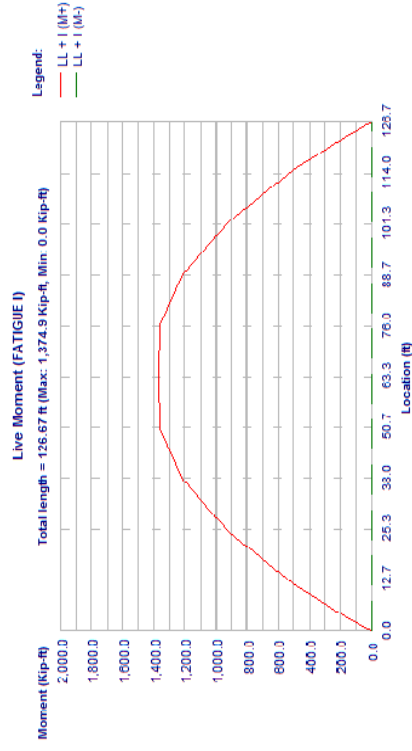
Composite Moment, Span 1, Beam 7, FATIGUE I

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		Job #
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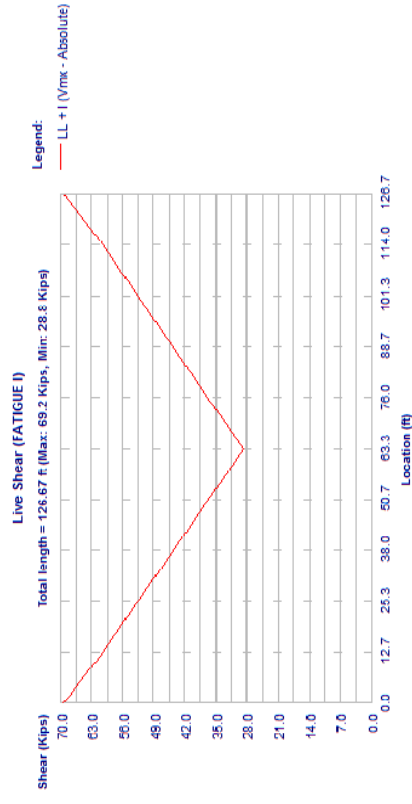
Composite Shear, Span 1, Beam 7, FATIGUE I

		Sheet #	29
		Job #	
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Live Moment, Span 1, Beam 7, FATIGUE I

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Live Shear, Span 1, Beam 7, FATIGUE I



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Sheet # 1
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	-0.0	26.3	52.7	158.1	295.1	393.0	451.7
DC(Max)	V	14.9	14.5	14.0	12.1	9.1	6.1	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	131.9	264.4	793.1	1480.8	1972.0	2266.7
Haunch (Max)	V	74.7	72.6	70.4	60.9	45.7	30.4	15.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	16.6	14.1	11.4	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	186.5	373.5	1116.4	2070.4	3130.5	3246.0
LL + :	V	129.3	126.7	123.9	112.2	94.4	35.0	33.7
LL + :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	129.3	126.7	123.9	112.2	95.5	79.9	65.0
Total :	M+	-0.0	482.4	966.6	2895.1	5391.4	7157.1	8550.0
Total :	V	313.4	303.5	293.2	248.7	197.9	148.1	99.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	313.4	303.5	293.2	248.7	197.9	148.1	99.1
Total :	M	-0.0	490.0	979.2	2895.1	5255.3	6888.1	7781.2
Total :	M	-0.0	490.0	979.2	2895.1	5255.3	6888.1	7781.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	124.87
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
DL-Prec. :	M	451.7	393.0	295.1	158.1	52.7	26.3
DC(Max)	V	3.0	6.1	9.1	12.1	14.0	14.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2266.7	1972.0	1480.8	793.1	264.4	131.9
Haunch (Max)	V	15.2	30.4	45.7	60.9	70.4	72.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	11.4	14.1
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3130.5	2734.4	2070.4	1116.4	373.5	186.5
LL + :	M	-0.0	490.0	979.2	2895.1	5255.3	6888.1



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Sheet # 2
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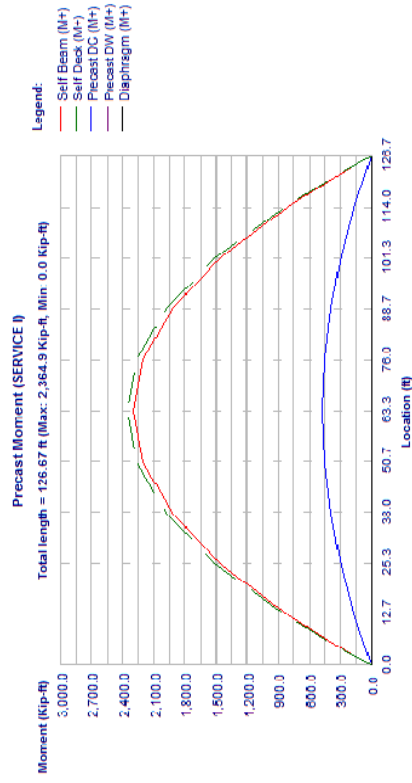
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + :	V	51.6	35.0	94.4	112.2	123.9	126.7
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	65.0	79.9	95.5	112.2	123.9	126.7
Total :	M	2697.5	2465.4	1934.3	1116.4	386.1	194.1
Total :	M+	8214.1	7157.1	5391.4	2895.1	966.6	482.4
Total :	V	85.7	103.2	196.8	248.7	293.2	303.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	99.1	148.1	197.9	248.7	293.2	303.5
Total :	M	7781.2	6888.1	5255.3	2895.1	979.2	490.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	74.7	74.7
Diaphragm	16.6	16.6
DL-Prec.(DC)	14.9	14.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

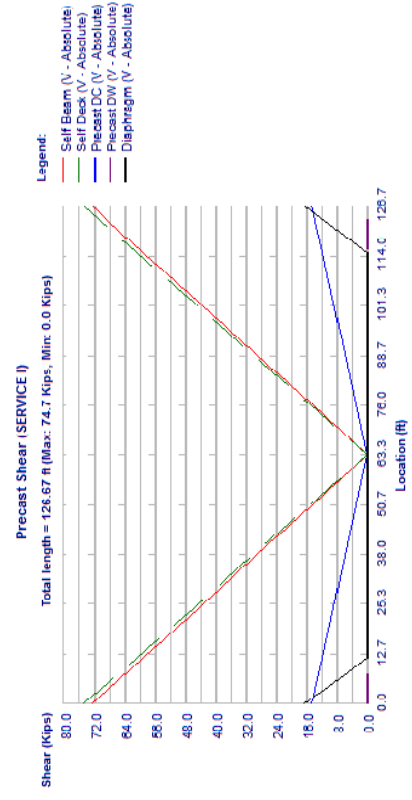
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Precast Moment, Span 1, Beam 8, SERVICE I

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Precast Shear, Span 1, Beam 8, SERVICE I

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Sheet # 5

Job #

Composite Moment (SERVICE I)
Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 kip-ft)

Legend:
— Composite DC (M)
— Composite D/W (M)

Composite Moment, Span 1, Beam 8, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:37 P.M.

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Program: LEAP® CONSPAN® V8i (SELECTseries 5)

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Sheet # 6


Job #

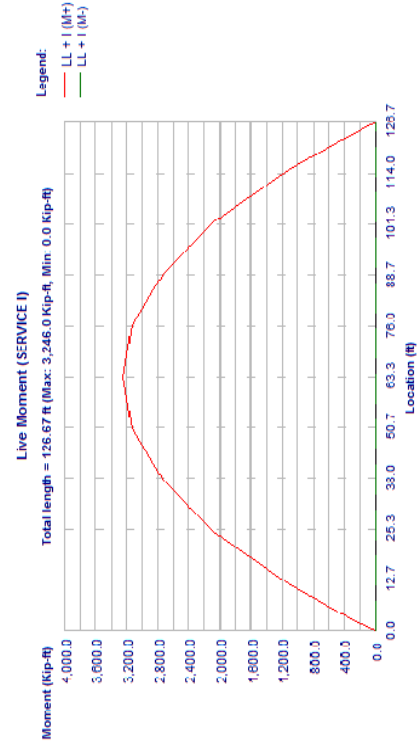
Composite Shear (SERVICE I)
Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)

Legend:
— Composite DC (V - Absolute)
— Composite D/W (V - Absolute)

Composite Shear, Span 1, Beam 8, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:37 P.M.


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				Job #
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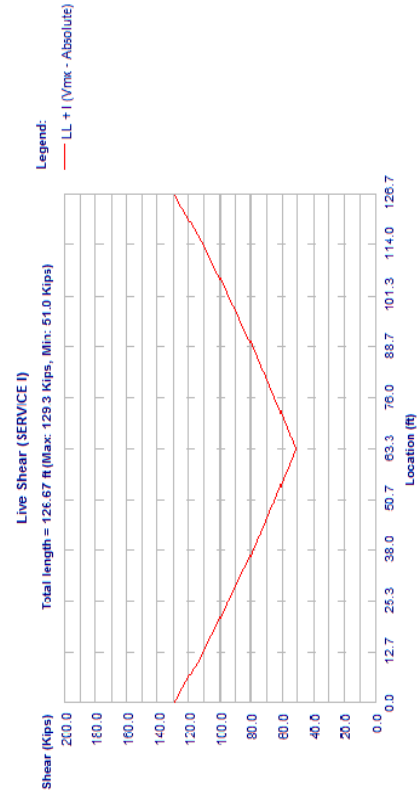


Live Moment, Span 1, Beam 8, SERVICE I


	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,									
Self wt.:	M	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
(Max)	M	0.00	128.3	257.1	771.1	1439.7	1971.2	2203.8	2299.3
DL-Prec:	M	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DL(Max)	M	0.00	26.3	52.7	158.1	295.1	393.0	451.7	471.3
DC(Prec)	V	14.9	14.5	14.0	12.1	9.1	6.1	3.0	0.0
DL-Prec:	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.00	131.9	264.4	793.1	1480.8	1972.0	2266.7	2364.9
Haunch (Max)	V	74.7	72.6	70.4	60.9	45.7	30.4	15.2	0.0
Diaphragm:	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	M	16.6	14.1	11.4	0.0	0.0	0.0	0.0	0.0
DL-Comp:	M	0.00	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp:	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	M+	-0.0	149.2	298.8	893.1	1656.3	2187.5	2504.4	2596.8

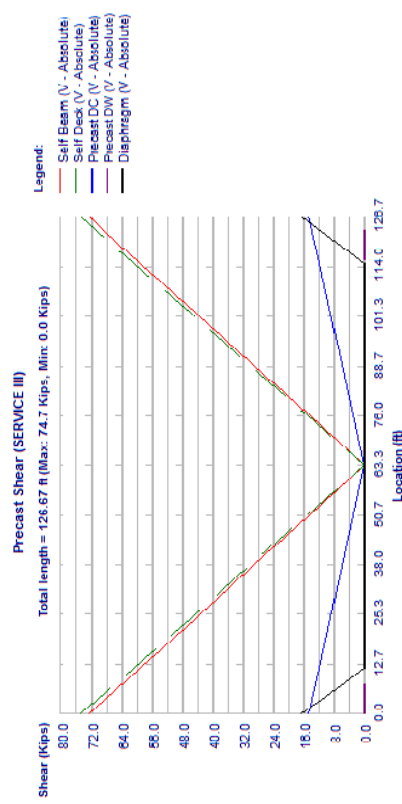
SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE III
Shears: kips, Moments: kft

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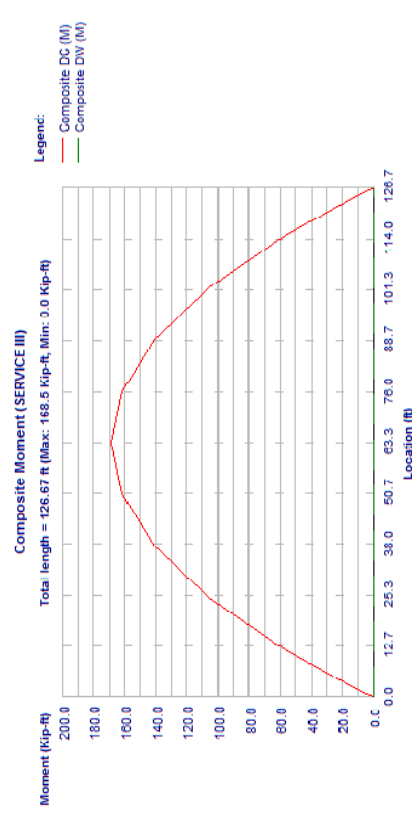
Live Shear. Span 1. Beam 8. SERVICE I

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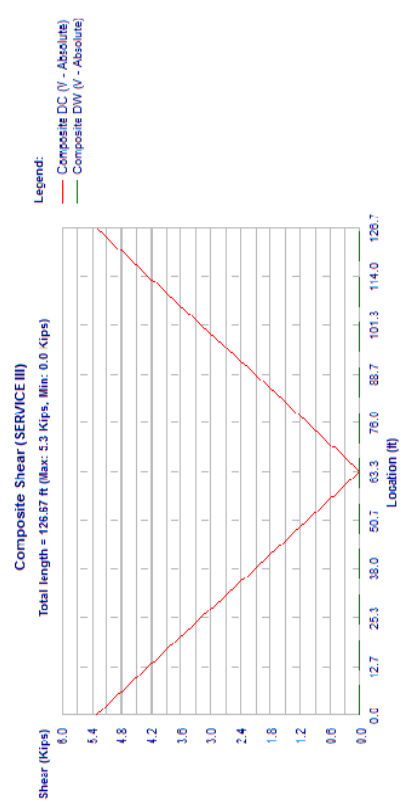
Precast Shear, Span 1, Beam 8, SERVICE III

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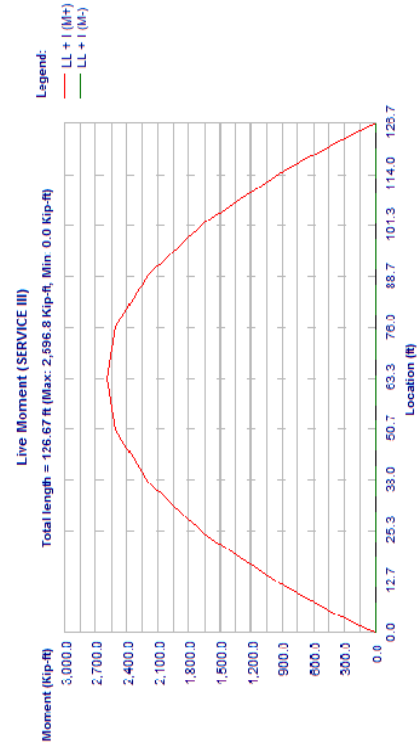
Composite Moment, Span 1, Beam 8, SERVICE III

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Composite Shear, Span 1, Beam 8, SERVICE III

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Live Moment, Span 1, Beam 8, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5478.3	4785.2	3623.1	1953.6	653.7	326.4
LL + I :	V	90.2	61.2	165.1	196.3	216.9	221.6
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	113.8	139.7	167.1	196.3	216.9	221.6
LL + I :	M	4720.7	4314.5	3385.0	1953.6	675.7	339.7
Total :	M+	11832.9	10313.6	7774.4	4177.0	1395.0	696.3
Total :	V	132.9	146.5	293.1	367.0	428.5	442.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	156.4	225.1	295.2	367.0	428.5	442.7
Total :	Mmx	11075.3	9842.9	7536.3	4177.0	1417.0	709.6
Total :	M						456.4

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	93.4	93.4
Diaphragm	20.8	20.8
DL-Prec (DC)	18.6	18.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 2,956.2 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

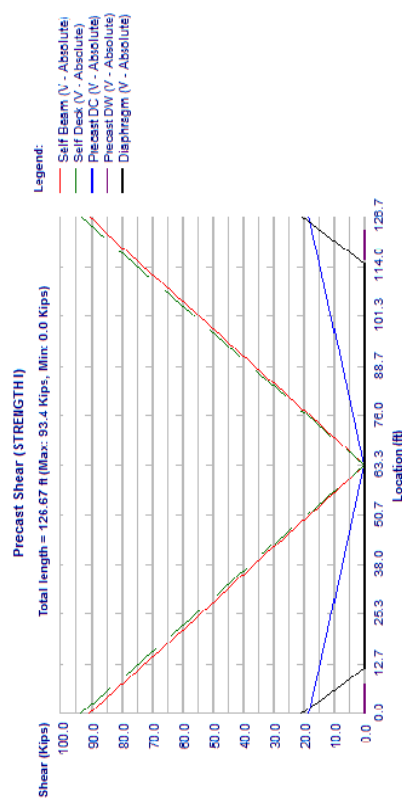
Precast Moment, Span 1, Beam 8, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

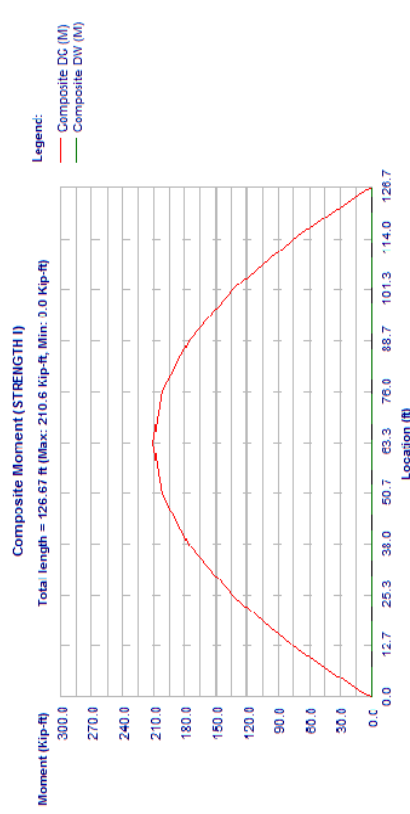
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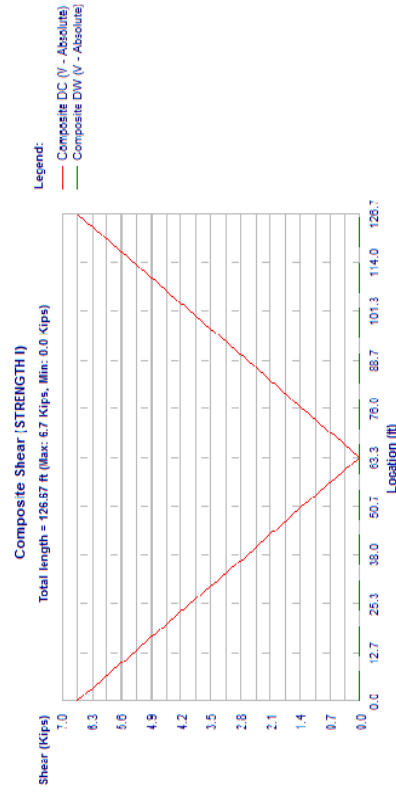
Precast Shear, Span 1, Beam 8, STRENGTH I

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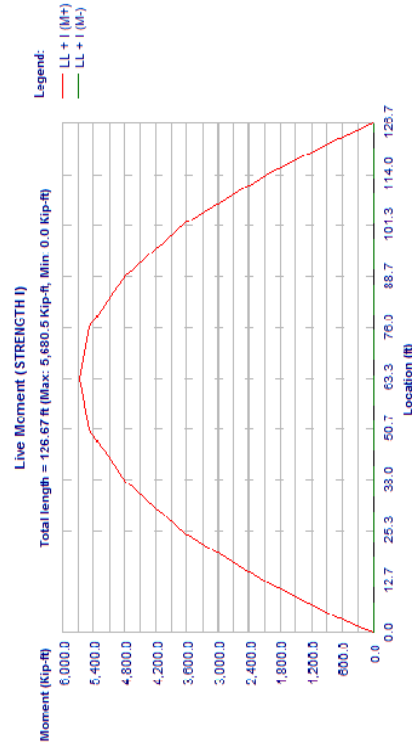
Composite Moment, Span 1, Beam 8, STRENGTH I

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Composite Shear, Span 1, Beam 8, STRENGTH I

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		Job #	
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Live Moment, Span 1, Beam 8, STRENGTH I

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Job #

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Date Sept/9/2013

Checked

Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1364.4	1207.4	916.5	502.2	169.4	84.7	0.0
M+	32.0	40.1	53.1	61.2	66.7	68.0	69.2
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	36.9	45.0	53.1	61.2	66.7	68.0	69.2
M	1305.6	1184.3	916.5	502.2	169.4	84.7	0.0
M+	6448.1	5630.1	4237.5	2280.9	762.5	380.6	0.0
V	66.2	108.4	155.5	197.7	236.0	244.8	253.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	71.0	113.3	155.5	197.7	236.0	244.8	253.4
M	6389.2	5607.0	4237.5	2280.9	762.5	380.6	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,364.9 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Precast Moment, Span 1, Beam 8, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:37 P.M.

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Sheet # 26

Job #

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 74.7 Kips, Min: 0.0 Kips)

Location (ft)

Precast Shear, Span 1, Beam 8, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:37 P.M.

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Date Sept/9/2013

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Sheet # 27

Job #

Composite Moment (FATIGUE I)

Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 Kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)

Location (ft)	Composite DC (M)	Composite DW (M)
0.0	0.0	0.0
12.7	20.0	20.0
25.3	60.0	60.0
38.0	100.0	100.0
50.7	140.0	140.0
63.3	168.5	168.5
76.0	140.0	140.0
88.7	100.0	100.0
101.3	60.0	60.0
114.0	20.0	20.0
126.7	0.0	0.0

Composite Moment, Span 1, Beam 8, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:37 P.M.

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Sheet # 28

Job #

Composite Shear (FATIGUE I)

Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)


Legend:

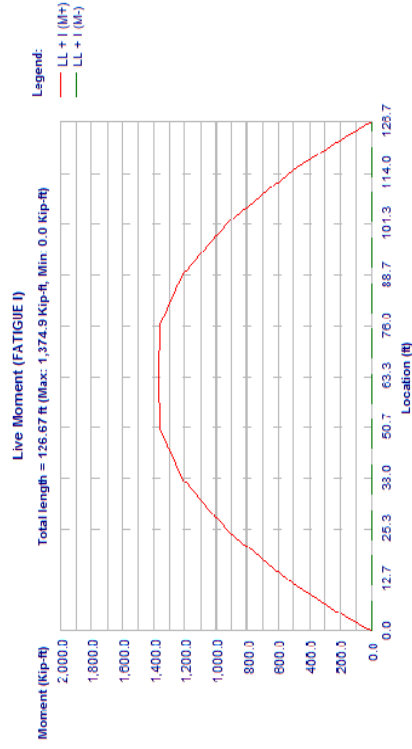
- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite DW (V - Absolute)
0.0	5.3	5.3
12.7	4.8	4.8
25.3	4.3	4.3
38.0	3.8	3.8
50.7	3.3	3.3
63.3	2.8	2.8
76.0	2.3	2.3
88.7	1.8	1.8
101.3	1.3	1.3
114.0	0.8	0.8
126.7	0.0	0.0


Composite Shear, Span 1, Beam 8, FATIGUE I

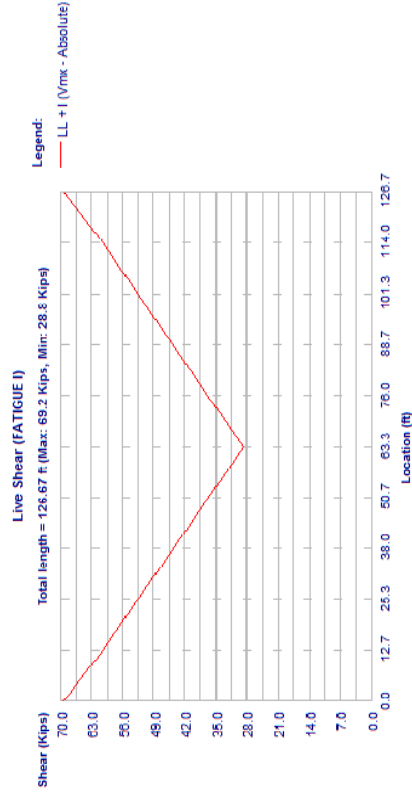
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		Job #	
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Live Moment, Span 1, Beam 8, FATIGUE I

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Live Shear, Span 1, Beam 8, FATIGUE I



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Sheet # 1
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE I
Shears: Kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.40	11.70	24.61	37.52	63.33
Self wt. :	M	0.0	123.4	230.8	741.7	1384.7	1844.1	2211.6
(Max)	V	69.8	67.9	66.1	56.9	42.7	28.5	14.2
DL-Prec. :	M	0.0	26.3	49.2	158.1	295.1	393.0	451.7
DC(Max)	V	14.9	14.5	14.1	12.1	9.1	6.1	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	131.9	246.8	793.1	1480.8	1972.0	2266.7
Haunch (Max)	V	74.7	72.6	70.7	60.9	45.7	30.4	15.2
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	16.6	14.1	11.8	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	17.6	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	183.4	342.9	1097.8	2035.9	2688.9	3078.3
LL + :	V	129.3	126.7	124.3	112.2	94.4	35.0	33.7
LL + :	M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	129.3	126.7	124.3	112.2	95.5	79.9	65.0
Total :	M+	-0.0	474.4	887.2	2847.1	5302.0	7038.4	8077.9
Total :	V	310.6	300.8	292.0	246.5	195.1	102.1	85.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	310.6	300.8	292.0	246.5	196.2	147.0	98.6
	M	0.0	481.9	899.1	2847.1	5168.2	6773.9	7652.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.27	124.87
Self wt. :	M	2119.7	1844.1	1384.7	741.7	230.8	123.4
(Max)	V	14.2	28.5	42.7	56.9	66.1	67.9
DL-Prec. :	M	451.7	393.0	295.1	158.1	49.2	26.3
DC(Max)	V	3.0	6.1	9.1	12.1	14.1	14.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2266.7	1972.0	1480.8	793.1	246.8	131.9
Haunch (Max)	V	15.2	30.4	45.7	60.9	70.7	72.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	17.6	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3078.3	2688.9	2035.9	1097.8	342.9	183.4



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Sheet # 2
Job #
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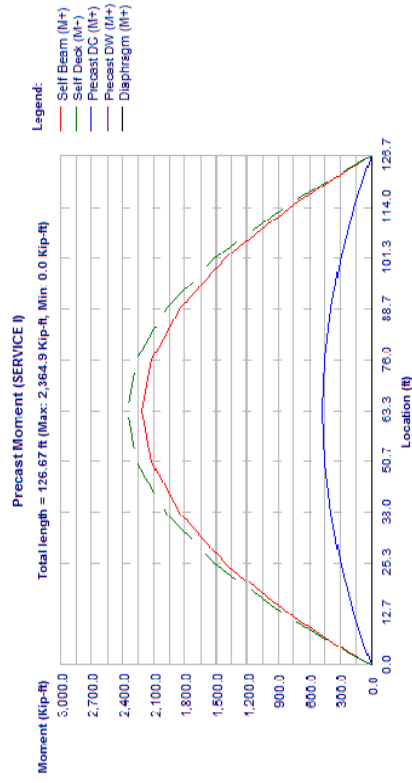
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + :	V	51.6	35.0	94.4	112.2	124.3	126.7
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	65.0	79.9	95.5	112.2	124.3	126.7
Total :	M+	2652.6	2424.4	1902.1	1097.8	354.7	190.9
Total :	V	85.1	102.1	195.1	246.5	292.0	300.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	98.6	147.0	196.2	246.5	292.0	300.8
	M	7652.2	6773.9	5168.2	2847.1	899.1	481.9

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	69.8	69.8
Deck+Haunch	74.7	74.7
Diaphragm	16.6	16.6
DL-Prec.(DC)	14.9	14.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

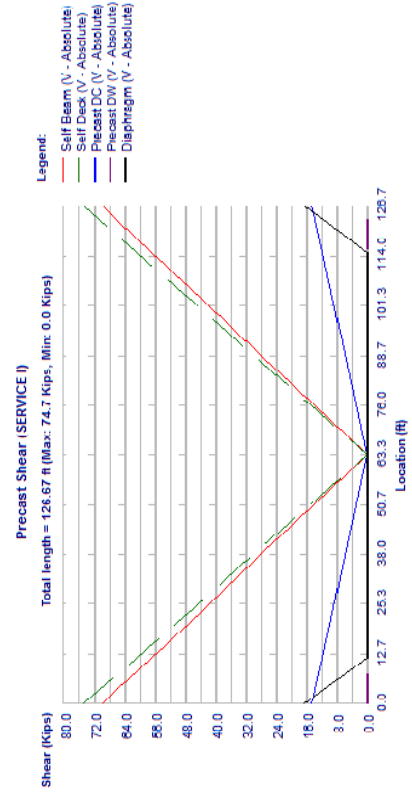
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

		Sheet # 3	
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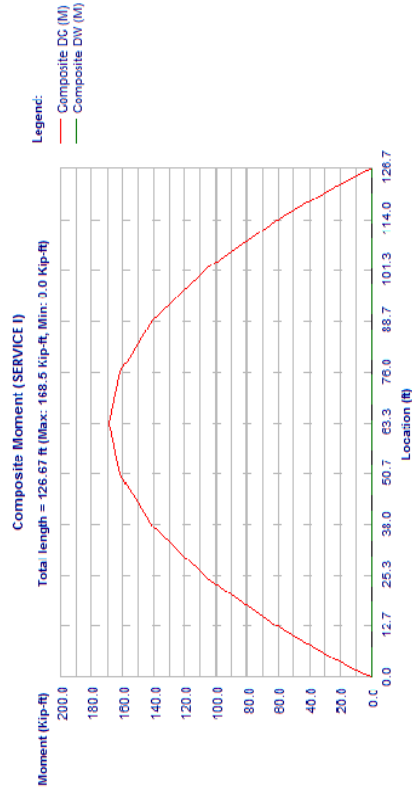
Precast Moment, Span 1, Beam 9, SERVICE I

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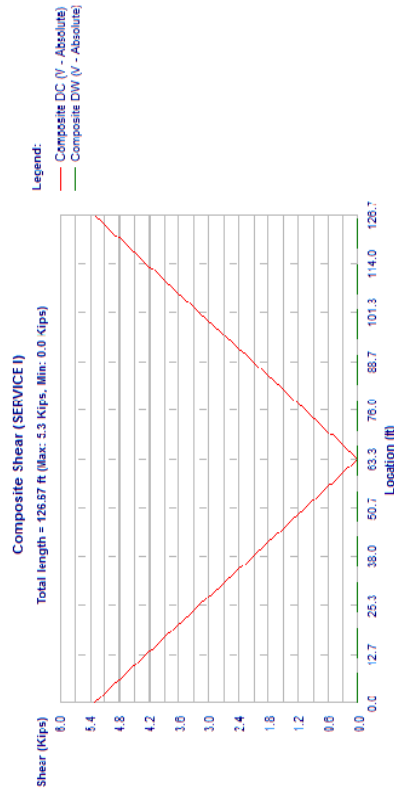
Precast Shear, Span 1, Beam 9, SERVICE I

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		Job #	
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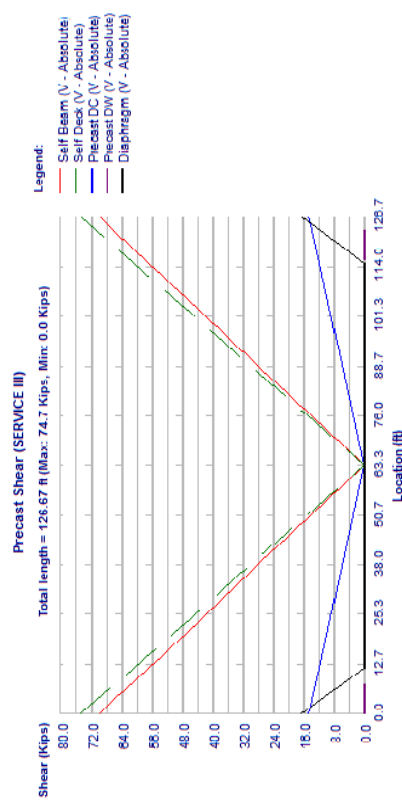
Composite Moment, Span 1, Beam 9, SERVICE I

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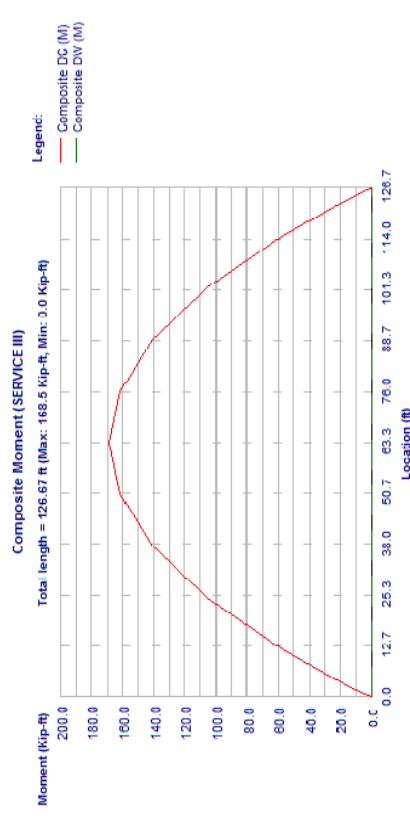
Composite Shear, Span 1, Beam 9, SERVICE I

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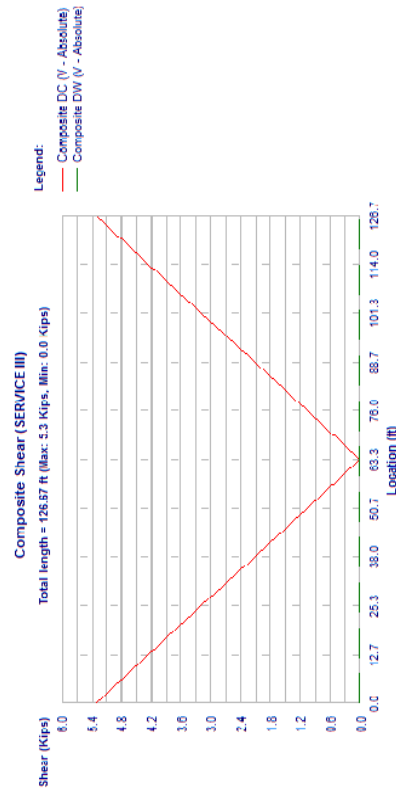
Precast Shear, Span 1, Beam 9, SERVICE III

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		Job #	
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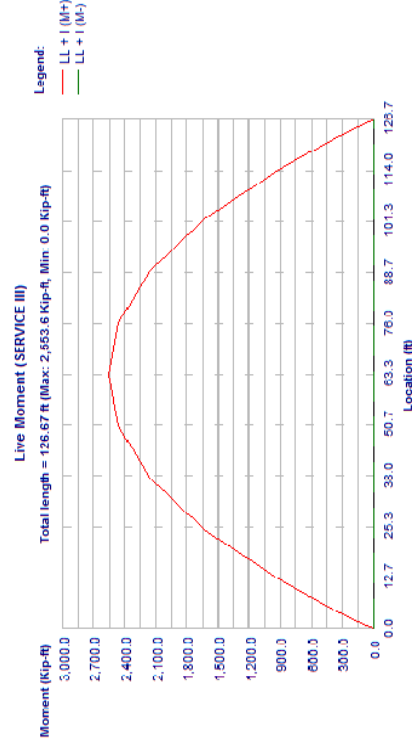
Composite Moment, Span 1, Beam 9, SERVICE III

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		Date	



Composite Shear, Span 1, Beam 9, SERVICE III

		Sheet #	14
		Job #	
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Live Moment, Span 1, Beam 9, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5387.1	4705.6	3562.8	1921.1	600.0	320.9
LL + I :	M-	90.2	61.2	165.1	196.3	217.5	221.6
LL + I :	M	113.8	139.7	167.1	196.3	217.5	221.6
Total :	M	4642.1	4242.7	3328.6	1921.1	620.8	334.0
Total :	M+	11636.6	10142.5	7645.4	4107.7	1280.5	684.7
Total :	M-	132.2	145.1	291.0	364.2	427.2	439.3
Total :	M	155.7	223.7	293.0	364.2	427.2	439.3
Total :	M	10891.6	9679.6	7411.3	4107.7	1301.2	697.8

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	87.3	87.3
Deck+Haunch	93.4	93.4
Diaphragm	20.8	20.8
DL-Prec (DC)	18.6	18.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:38 P.M.

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Sheet # 18
Job #
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Precast Moment (STRENGTH I)


Total length = 126.67 ft (Max: 2,956.2 Kip-ft, Min: 0.0 Kip-ft)

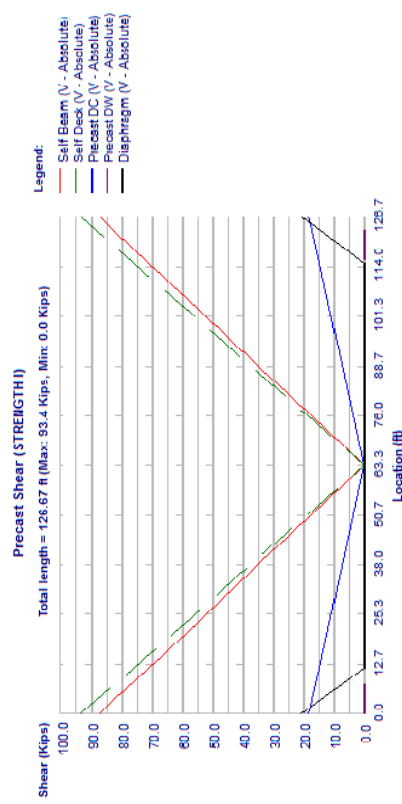
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 9, STRENGTH I

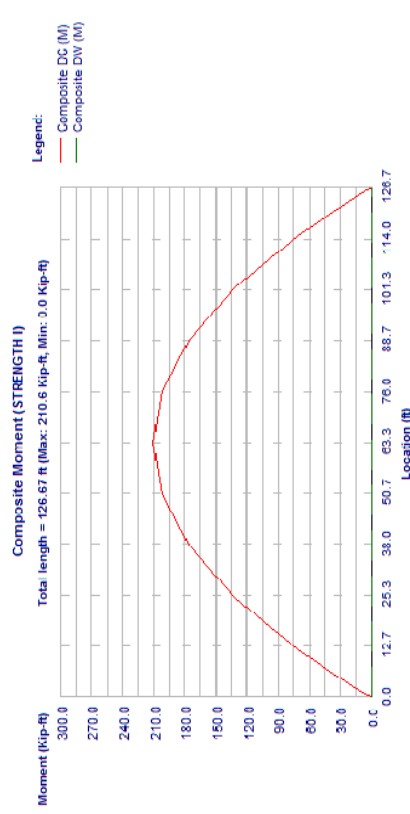
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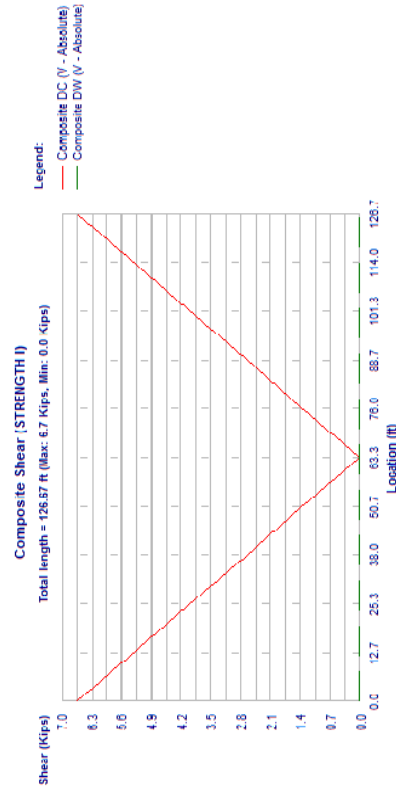
Precast Shear, Span 1, Beam 9, STRENGTH I

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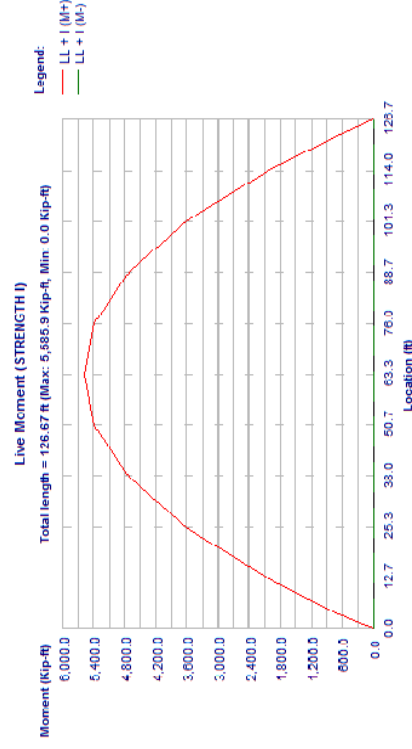
Composite Moment, Span 1, Beam 9, STRENGTH I

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Composite Shear, Span 1, Beam 9, STRENGTH I

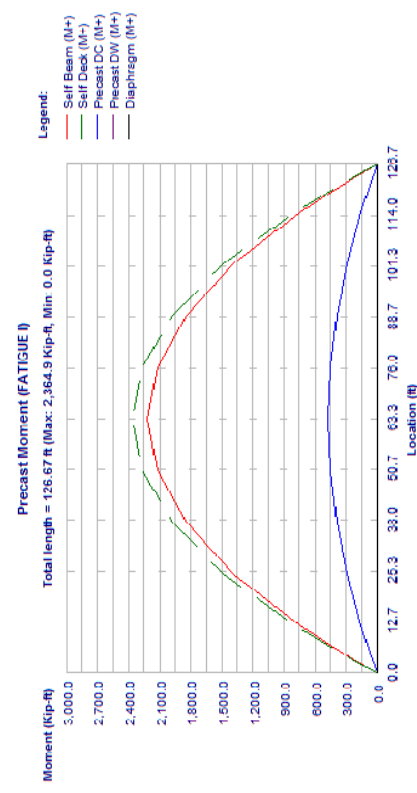
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Live Moment, Span 1, Beam 9, STRENGTH I

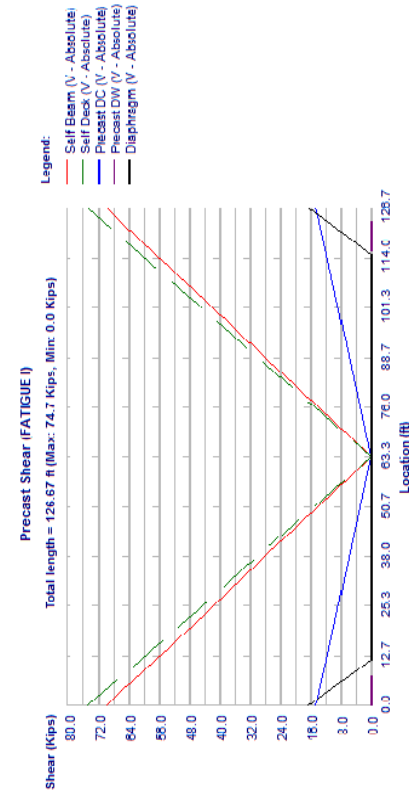
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Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57	SE Client Licenses Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com	Designed KSM Date Sep/09/2013 Checked Date
File Name: Span40WB_ModifiedSpacing.csl		

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1342.2	1187.7	901.6	494.0	155.6	83.3	0.0
	V	320.0	401.1	531.1	612.1	66.9	68.0	69.2
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	36.9	45.0	53.1	61.2	66.9	68.0	69.2
LL + I :	M	1284.3	1165.0	901.6	494.0	155.6	83.3	0.0
Total :	M+	6341.7	5537.2	4167.6	2243.3	699.9	374.3	0.0
	V	65.6	107.3	153.8	195.5	234.6	242.2	250.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	70.5	112.1	153.8	195.5	234.6	242.2	250.6
Total :	Mx	6283.8	5514.5	4167.6	2243.3	699.9	374.3	0.0




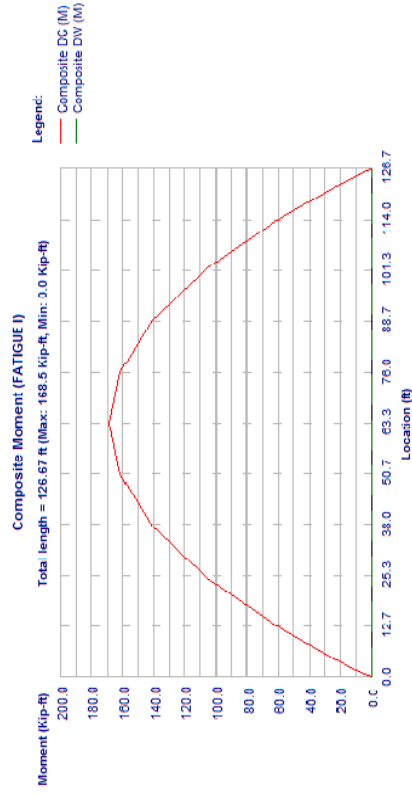
Precast Moment, Span 1, Beam 9, Fatigue I

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	Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012	Date	Job #	
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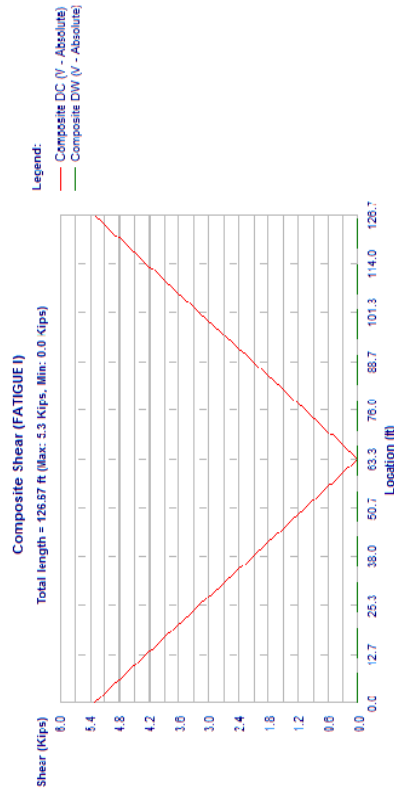
Precast Shear. Span 1. Beam 9. FATIGUE I

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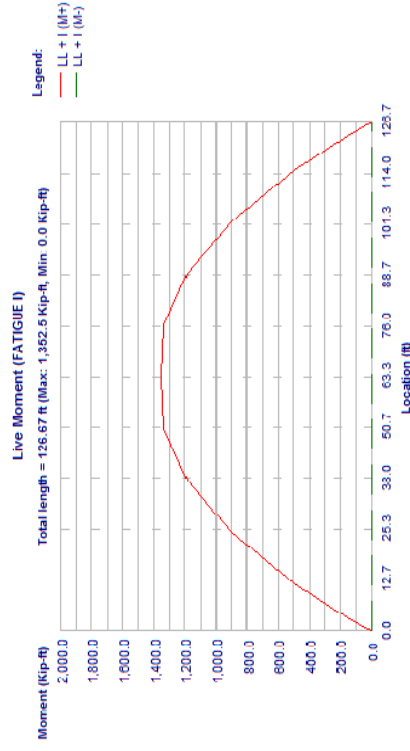
Composite Moment, Span 1, Beam 9, FATIGUE I

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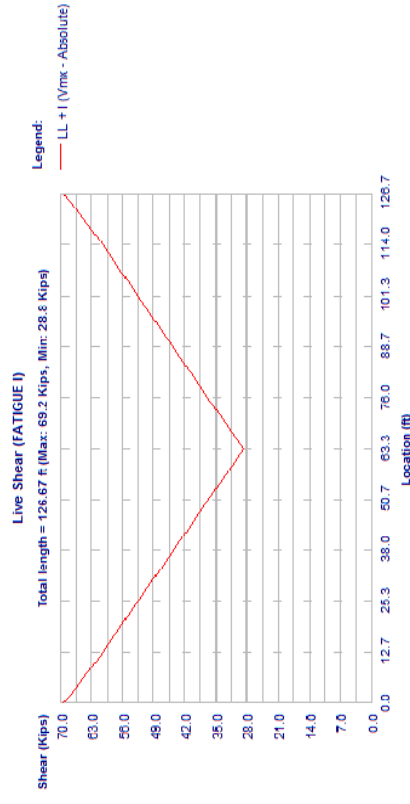
Composite Shear, Span 1, Beam 9, FATIGUE I

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Live Moment, Span 1, Beam 9, FATIGUE I

		Sheet #	30
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Live Shear, Span 1, Beam 9, FATIGUE I



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Sheet # 1
Job #

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.65	11.70	24.61	37.52	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	0.0	20.1	40.4	121.1	226.0	301.0	346.0
DC(Max)	V	11.4	11.1	10.7	9.3	7.0	4.6	2.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	125.9	252.4	757.1	1413.5	1882.4	2163.8
Haunch (Max)	V	71.3	69.3	67.2	58.1	43.6	29.1	14.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	8.3	7.0	5.7	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	-0.0	225.6	451.8	1350.2	2504.1	3307.2	3786.2
LL + I :	V	128.7	126.1	123.4	111.7	93.9	34.8	51.3
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	Vmx	128.7	126.1	123.4	111.7	93.9	34.8	51.3
Total :	M+	-0.0	509.3	1020.5	3055.9	5688.8	7548.4	8661.3
Total :	V	297.6	289.2	280.5	242.6	192.1	100.3	84.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	297.6	289.2	280.5	242.6	193.3	145.0	97.4
Total :	M	-0.0	518.5	1035.7	3055.9	5524.2	7223.1	8137.6

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	124.87
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
DL-Prec. :	M	346.0	301.0	226.0	121.1	40.4	20.1
DC(Max)	V	2.3	4.6	7.0	9.3	10.7	11.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2163.8	1882.4	1413.5	757.1	252.4	125.9
Haunch (Max)	V	14.5	29.1	43.6	58.1	67.2	69.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	18.8	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3786.2	3307.2	2504.0	1350.2	451.8	225.6



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	51.3	34.8	93.9	111.7	123.4	126.1
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	64.7	79.5	95.1	111.7	123.4	126.1
Total :	M	3262.6	2981.9	2339.5	1350.2	467.0	234.8
Total :	M+	8661.2	7548.4	5688.8	3055.9	1020.5	509.3
Total :	V	84.1	100.3	192.1	242.6	280.5	289.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	97.4	145.0	193.3	242.6	280.5	289.2
Total :	M	8137.6	7223.1	5524.2	3055.9	1035.7	518.5

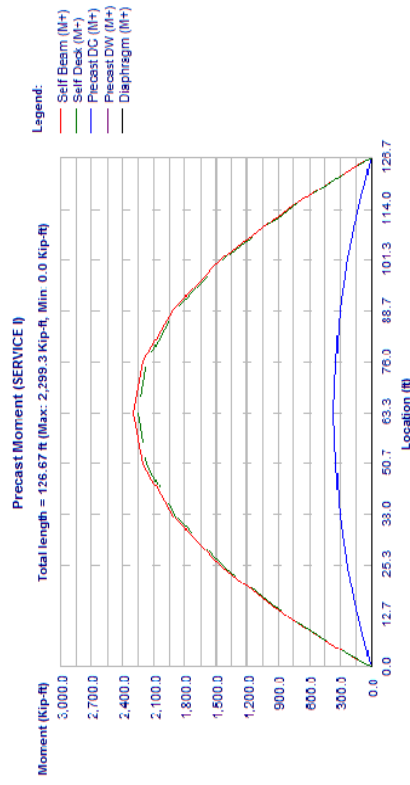
REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	71.3	71.3
Diaphragm	8.3	8.3
DL-Prec.(DC)	11.4	11.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



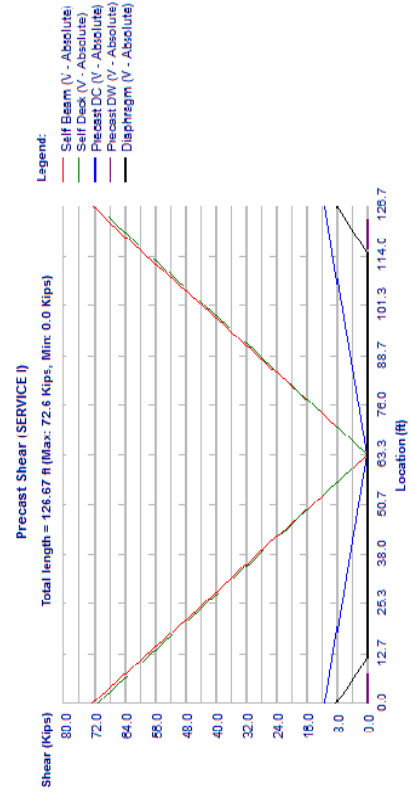
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Precast Moment, Span 1, Beam 10, SERVICE I

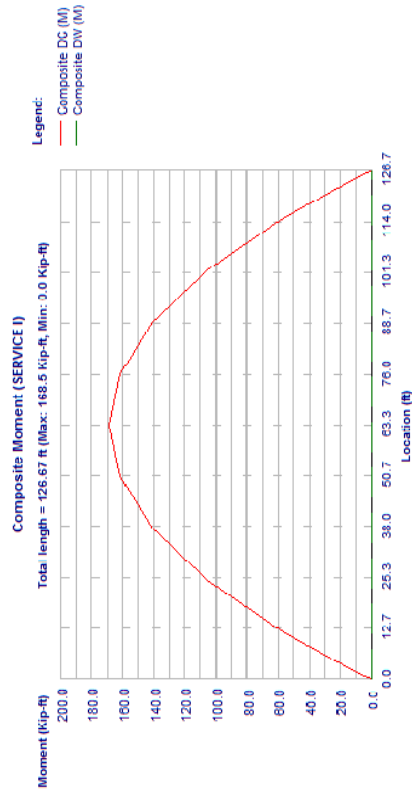


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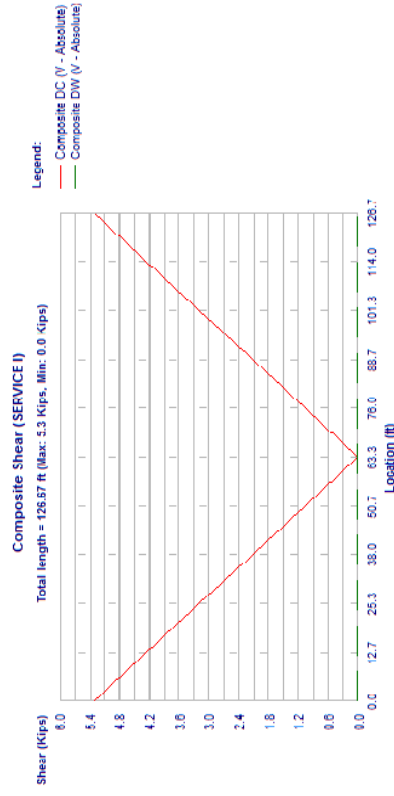
Precast Shear, Span 1, Beam 10, SERVICE I

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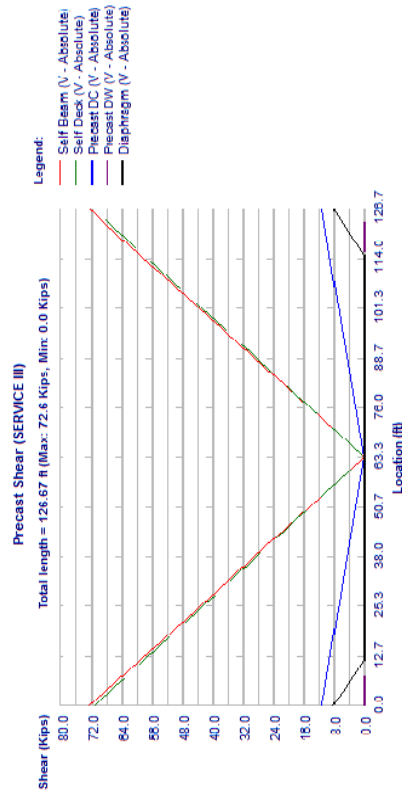
Composite Moment, Span 1, Beam 10, SERVICE I

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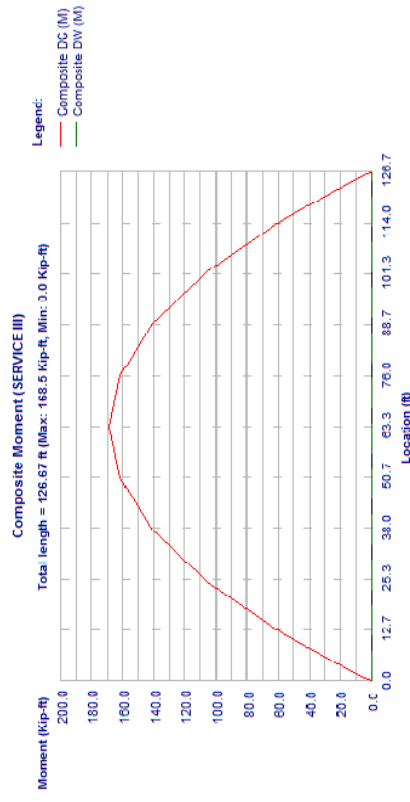
Composite Shear, Span 1, Beam 10, SERVICE I

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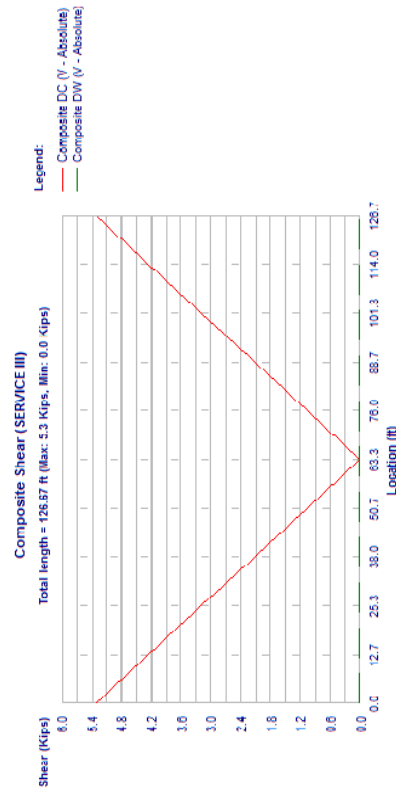
Precast Shear, Span 1, Beam 10, SERVICE III

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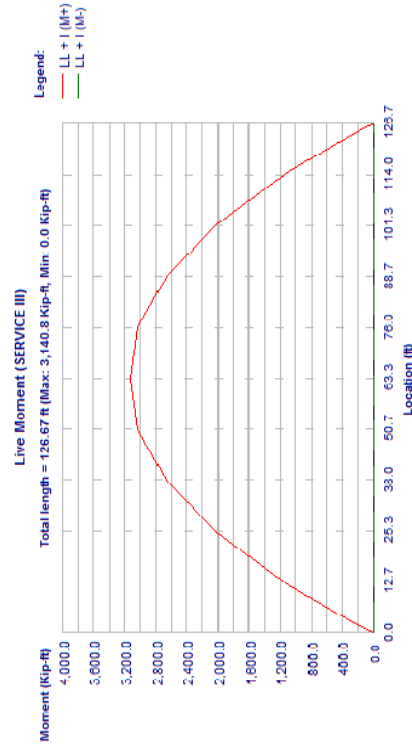
Composite Moment, Span 1, Beam 10, SERVICE III

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Composite Shear, Span 1, Beam 10, SERVICE III

		Sheet #	14
		Job #	
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		Date	



Live Moment, Span 1, Beam 10, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6625.9	5787.6	4382.1	2362.9	790.6	394.7
	V	89.8	60.9	164.4	195.4	215.9	220.6
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	113.2	139.1	166.4	195.4	215.9	220.6
	M	5709.6	5218.3	4094.1	2362.9	817.2	410.8
Total :	M+	12719.7	11089.1	8363.0	4495.0	1501.5	749.4
	V	130.7	142.7	287.1	359.1	412.3	424.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	154.1	220.9	289.1	359.1	412.3	424.5
	M	11803.4	10519.8	8075.0	4495.0	1528.1	765.5

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	89.1	89.1
Diaphragm	10.4	10.4
DL-Prec (DC)	14.3	14.3
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 18, 2013 @ 4:39 P.M.

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 2,874.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

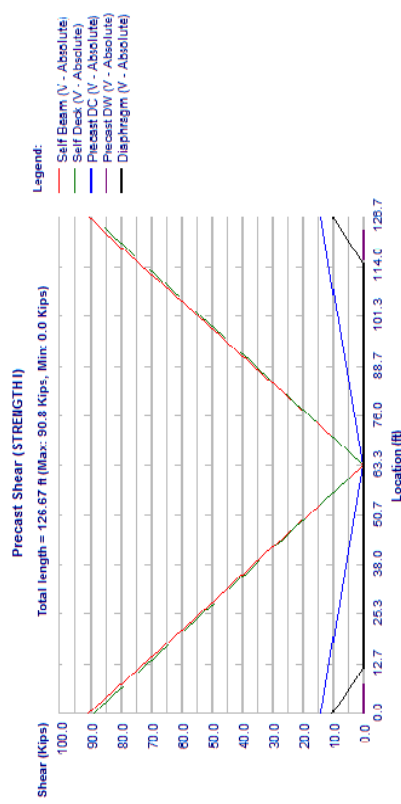
Precast Moment, Span 1, Beam 10, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

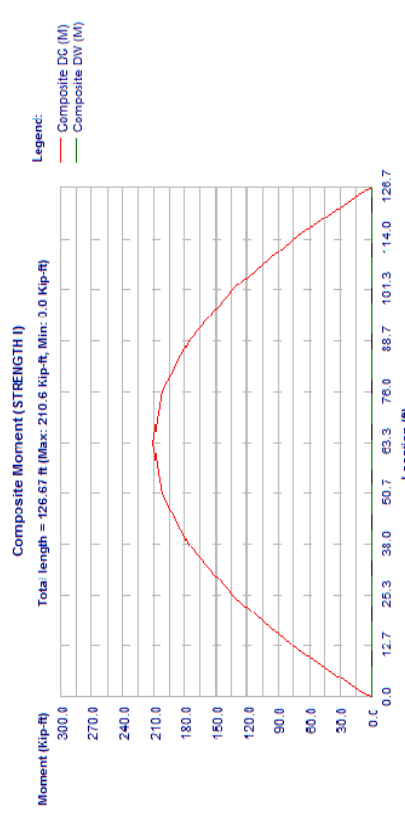
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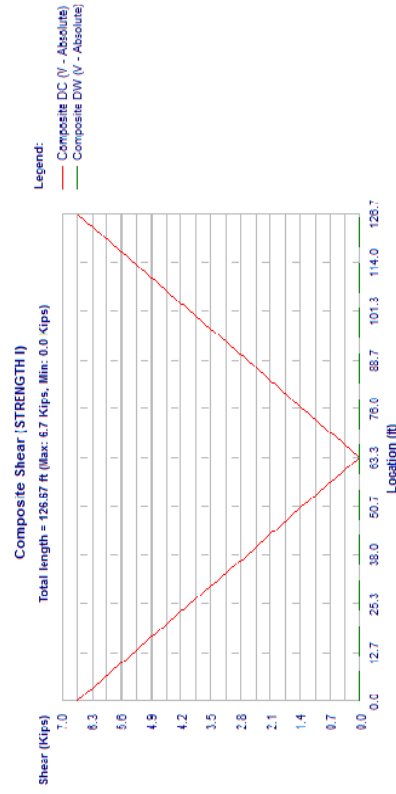
Precast Shear, Span 1, Beam 10, STRENGTH I

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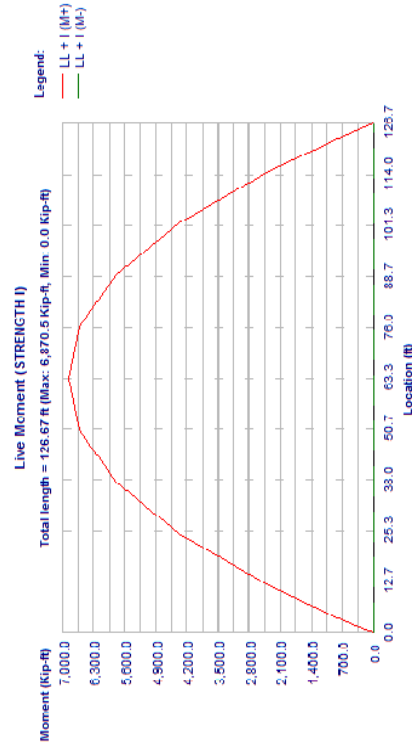
Composite Moment, Span 1, Beam 10, STRENGTH I

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Composite Shear, Span 1, Beam 10, STRENGTH I

		Sheet #	22
		Job #	
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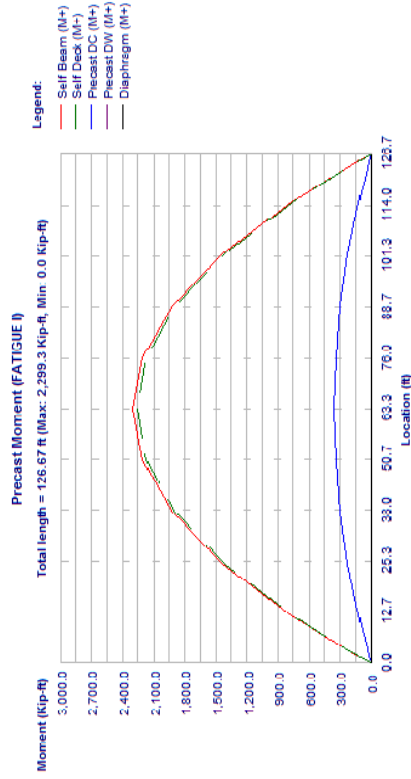


Live Moment, Span 1, Beam 10, STRENGTH I



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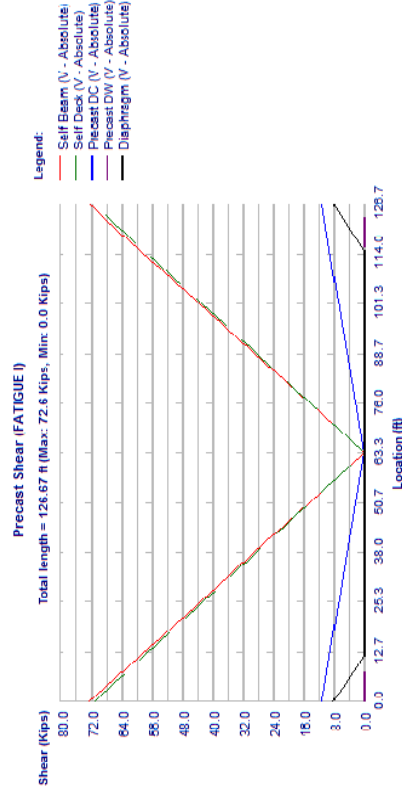
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DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	2476.8	2191.8	1663.7	911.6	307.5	153.8	0.0
LL + I :	40.8	51.1	67.6	77.9	85.0	86.6	88.2
LL + I :	47.0	57.3	67.6	77.9	85.0	86.6	88.2
M	2370.0	2149.9	1663.7	911.6	307.5	153.8	0.0
Total :	7351.8	6432.9	4848.5	2617.3	876.2	437.6	0.0
Total :	73.5	116.6	165.8	208.9	242.1	249.8	257.1
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	79.7	122.8	165.8	208.9	242.1	249.8	257.1
M	7245.0	6391.0	4848.5	2617.3	876.2	437.6	0.0




Precast Moment, Span 1, Beam 10, FATIGUE I

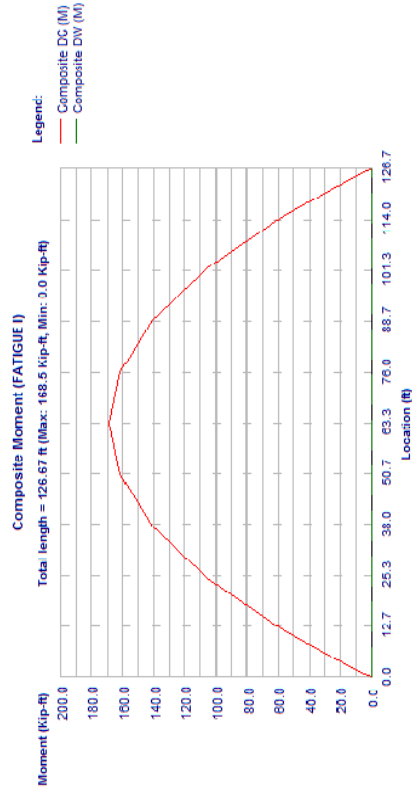


Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	SE Client Licenses	Designed	KSM
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012	Date	Sept/9/2013
File Name:	Span04WB_ModifiedSpacing.csl	www.bentley.com	Checked	
		Phone: 1-800-778-4277	Date	




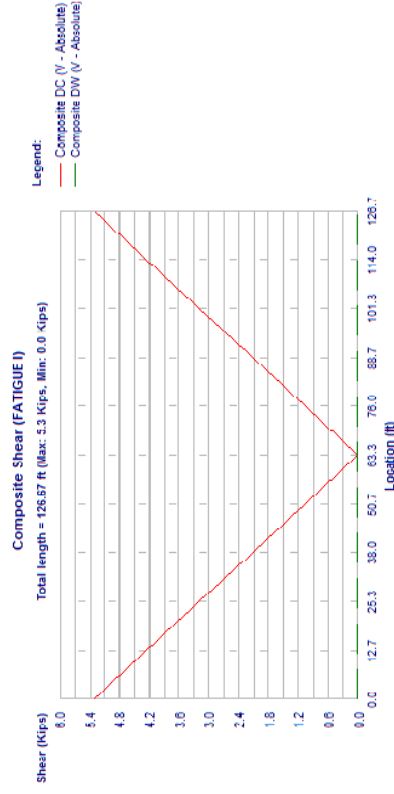
Precast Shear, Span 1, Beam 10, FATIGUE I

		Sheet # 27
		Job #
		Designed KSM
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File Name: Span04WB_ModifiedSpacing.csl		Date




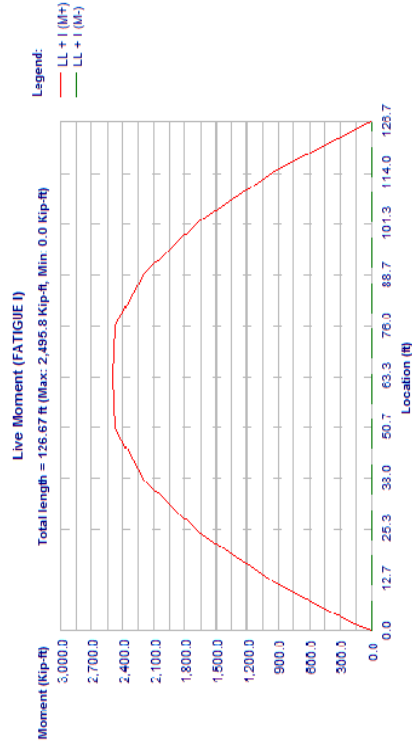
Composite Moment, Span 1, Beam 10, FATIGUE I

		Sheet # 28
		Job #
		Designed KSM
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		Checked
File Name: Span04WB_ModifiedSpacing.csl		Date




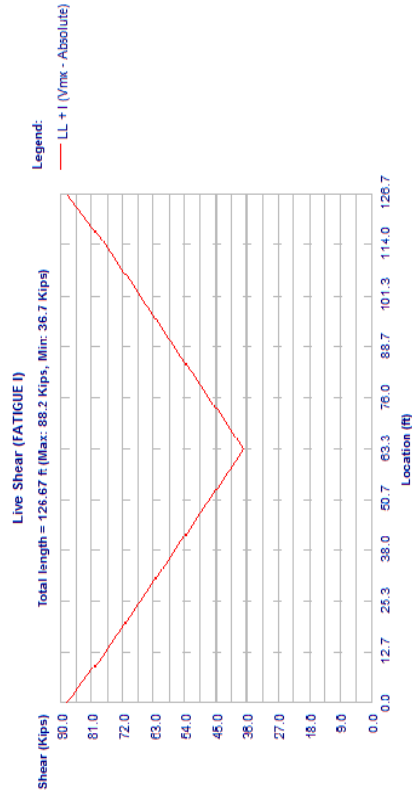
Composite Shear, Span 1, Beam 10, FATIGUE I

		Sheet #	29
		Job #	
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		Designed	KSM
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		Checked	
		Date	




Live Moment, Span 1, Beam 10, FATIGUE I

		Sheet #	30
		Job #	
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		Designed	KSM
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		Date	




Live Shear, Span 1, Beam 10, FATIGUE I

		Sheet # 1	
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PROJECT DATA

Project:	14 Widening Over St. John's
Designer:	CAM
Date:	Sep/9/2013
Checked By:	
Date Checked:	
User job	
number:	
State:	FL, State Job #:
State:	Florida
Specification:	AASHTO LRFD - [6th Edition, 2012]
Design Code:	US
Units:	Simple Span
Span Type:	No
Flared Girder:	Span 5 (WB) - Modified Spacing
Comments:	\\Lkmw001PMWORK3\jobs\59219 - 14 SAMRTECHPROD\43210012201\Segment 4\structleng_data\1-4 Over St. John's River\Alternative 1 - Interior Widening\1 - Superstructure\Span 5WB\Span05WB_ModifiedSpacing.csl
File Name:	

		Sheet # 2	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Job #	
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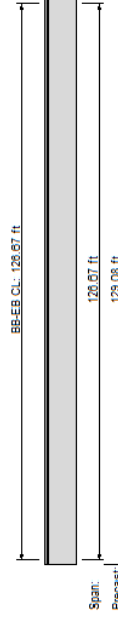
GEOMETRY DATA

BRIDGE LAYOUT

Overall Width (ft)	109.128
Left curb (ft)	1.542
Right curb (ft)	1.542
Curb-to-curb width (ft)	106.045
Number of spans	1
Number of lanes	8
Lane width (ft)	12.000
Eft Deck thick (in)	8.500
Sacrificial thick (in)	0.000
Haunch thickness (in)	1.000
Haunch width (in)	60.000
Bridge c/s MI (lxx) (in4)	21420868.00

SPAN DATA

Precast length,	ft = 129.083
Bearing-to-bearing,	ft = 126.667
Release span,	ft = 129.083



Bridge elevation

BEAM DATA

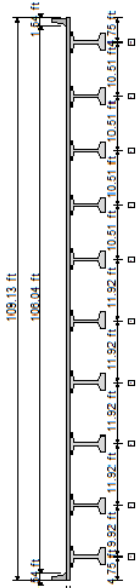
No	ID	Loc-prev ft	Area in2	MI (lxx) in4	Height in	Yb in	B-topg in	B-trib ft
1	FIB-78	4.750	1100.6	904567.0	78.00	34.60	48.00	9.710
2	FIB-78	9.920	1100.6	904567.0	78.00	34.60	48.00	10.918
3	FIB-78	11.917	1100.6	904567.0	78.00	34.60	48.00	11.917
4	FIB-78	11.917	1100.6	904567.0	78.00	34.60	48.00	11.917
5	FIB-78	11.917	1100.6	904567.0	78.00	34.60	48.00	11.917
6	FIB-78	11.917	1100.6	904567.0	78.00	34.60	48.00	11.214
7	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510
8	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510
9	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.510



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No	ID	Loc- prev ft	Area in ²	MI(lxx) in ⁴	Height in	Yb in	B-topg in	B-trib ft
10	FIB-78	10.510	1100.6	904567.0	78.00	34.60	48.00	10.005



Bridge cross section

MATERIAL DATA - Project Level

As defined in Material Tab. For beam level properties look at Beam Specific output.

CONCRETE PROPERTIES

	Precast Release	Precast Final	C.I.P
f'c (ksi)	6,000	7,500	5,500
Wc (pcf)	150,000	150,000	150,000
Ec (ksi)	4016,840	4490,960	3845,830
K1	0.900	0.900	0.900
Thermal coeff. (1/°F)	0.00000600		

STRAND AND REBAR PROPERTIES

PRESTRESSED STEEL:

6/10-270K-LL, Low relaxation strands
Depressed at 0.40L

1000

Tensile Strength(fou) = 270.0 ksi

Use transformed strand and rebar: Strand Only

REINFORCING STEEL:

Tension/Shear steel: $f_y = 60.0 \text{ ksi}$ $E_s = 29000 \text{ ksi}$ $f_s = 24.0 \text{ ksi}$



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LOADS DATA

Loads generated using Permanent Load Wizard: YES

Left Barrier Weight, klf	0.000
Right Barrier Weight, klf	0.000
Left Curb Weight, klf	0.420
Right Curb Weight, klf	0.420
Left Sidewalk, klf	0.000
Right Sidewalk, klf	0.000
Future Wearing Surface, ksf	0.000
Sacrificial Wearing Surface, in	0.000
Stay in Place Deck Forms, klf	0.000

DEAD LOADS ON PRECAST

UNITS: (Point: kips. Location: ft. Line: klf. Trapez: klf)

Span	Beam	DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
1	1	DC	Line	0.049	0.000	0.049	126.667	SIP
1	1	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	1	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	2	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	2	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	3	DC	Line	0.118	0.000	0.118	126.667	SIP
1	3	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	3	DC	Line	0.138	0.000	0.138	126.667	SIP
1	4	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	4	DC	Line	0.138	0.000	0.138	126.667	SIP
1	5	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	5	DC	Line	0.138	0.000	0.138	126.667	SIP
1	6	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	6	DC	Line	0.124	0.000	0.124	126.667	SIP
1	7	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	7	DC	Line	0.110	0.000	0.110	126.667	SIP
1	8	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	8	DC	Line	0.110	0.000	0.110	126.667	SIP
1	9	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	9	DC	Line	0.110	0.000	0.110	126.667	SIP
1	10	DC	Line	0.125	0.000	0.125	126.667	Haunch
1	10	DC	Line	0.055	0.000	0.055	126.667	SIP

DIAPHRAGM LOADS - using Wizard


Span	Magnitude (plf)	Location (ft)	Skew (deg)
1	1675.000	0.000	0.000
1	1675.000	126.667	0.000

Units: U.S. Units

Design Code: AASHTO LRFD

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Printed on: October 18, 2013 @ 4:40 P.M.



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Date

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Span	Beam	Load	Location
		(kips)	(ft)
1	1	7.819	0.000
1	1	7.819	126.667
1	2	17.311	0.000
1	2	17.311	126.667
1	3	18.984	0.000
1	3	18.984	126.667
1	4	18.984	0.000
1	4	18.984	126.667
1	5	18.984	0.000
1	5	18.984	126.667
1	6	17.806	0.000
1	6	17.806	126.667
1	7	16.627	0.000
1	7	16.627	126.667
1	8	16.627	0.000
1	8	16.627	126.667
1	9	16.627	0.000
1	9	16.627	126.667
1	10	8.314	0.000
1	10	8.314	126.667

DEAD LOADS ON COMPOSITE

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf, Area: ksf, Width: ft)

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
1	DC	Line	0.420	0.000	0.420	126.667	Left Curb Weight
1	DC	Line	0.420	0.000	0.420	126.667	Right Curb Weight


TEMPERATURE LOADS - NONE

LIVE LOADS

Live load deflection: not included.

ID	Type
Design Lane	Design Lane
Design Tandem	Design Tandem
Design Truck	Design Truck

Pedestrian Load - NONE



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Sheet # 6
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File Name: **Span05WB_ModifiedSpacing.csl**

ANALYSIS DATA

ANALYSIS PARAMETERS DATA

Truck Impact:	1.330
Lane Impact:	1.000
Strength II Impact:	1.330
Fatigue Impact:	1.150

DISTRIBUTION FACTORS (Art. 4.6.2.2):


Is Span Post-tensioned:	NO
Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d):	YES
ADTT (Average Daily Truck Traffic) :	5000
Percent of the specified force effect :	1.00

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service II:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor:	1.00
Redundancy Factor:	1.00
Importance Factor:	1.00



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Sheet # 7

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PROJECT DESIGN PARAMETERS

MULTIPLIERS:

Trans len mult:	Bonded	1.00
	Debonded	1.00
Dev len mult:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed:	AASHTO equations
Horizontal Shear, Beam and Slab effects in V _u :	INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.93 ksi	
Center	70.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.59 ksi	


STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):



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PROJECT DESIGN PARAMETERS

MULTIPLIERS:

Trans len mult:	Bonded	1.00
	Debonded	1.00
Dev len mult:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	PRECAST	DECK
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed:	AASHTO equations
Horizontal Shear, Beam and Slab effects in V _u :	INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.93 ksi	
Center	70.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.59 ksi	

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

SERVICE III (Tension):


	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRESTRESS LOSSES:

Time Dependent Losses, Approximate Method (Art.5.9.5.3)
Days to release = 0.75
Rel. Humid. (RH) = 75.0 %



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Sheet # 1
Job #

PROPERTIES

Span:1, Beam:1
PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in Bottom 3,000 in	Top 38,000 in Bottom 7,000 in		
Stems	Top No 1 Bottom 7,000 in			
Shear width	Top 7,000 in Bottom 7,000 in			

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

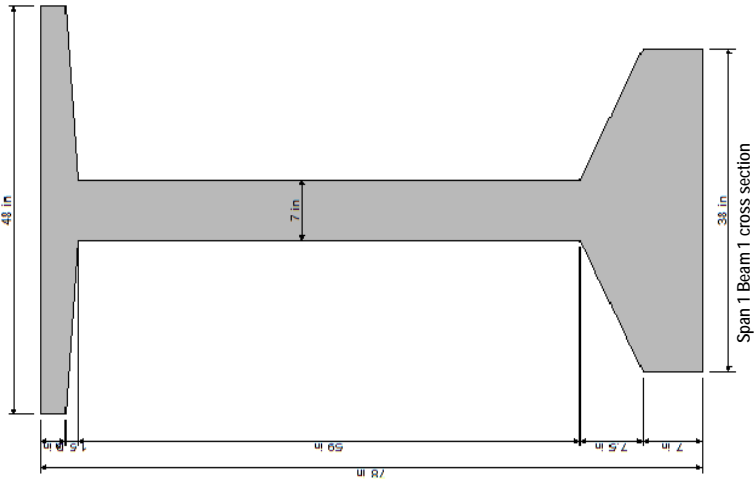


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Sheet # 2
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Span 1 Beam 1 cross section

GENERAL BRIDGE DATA:

Bridge Width	109.13 ft
Curb-to-curb	106.04 ft
Beam Spac. LL/RT	4.75/9.92 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Exterior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees

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Sheet # 3
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TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in
Effective	width	116.520	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.049	0.000	0.049	126.667	SIP
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.125	0.000	0.125	126.667	Haunch

Diaphragm loads - using Wizard:

(kips, ft)

Mag.	Loc.
7.82	0.00
7.82	126.67

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment	(2+ lanes loaded)	0.883	(Calculated)
Live Moment	(1 lane loaded)	0.983	(Calculated)
Live Shear	(2+ lanes loaded)	0.889	(Calculated)
Live Shear	(1 lane loaded)	0.983	(Calculated)

(#) Lever rule (C4.6.2.2.1)

Units: U.S. Units Design Code: AASHTO LRFD

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Sheet # 4
Job #

Pedestrian	0.100	(Calculated)
Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

SECTION PROPERTIES:

	PRECAST		COMPOSITE	
Area	1100.6	in ²	2000.1	in ²
Total Height	78.00	in	87.50	in
Mom. of Inertia (Ixx)	904567	in ⁴	2069265	in ⁴
Ht. of c.g.	34.60	in	56.36	in
Density	150.00	pcf	150.00	pcf
Self-weight	1146.5	plf	2240.6	plf
Mom. of Inertia (Iyy)	82367.0	in ⁴		
Poisson's Ratio	0.2			
Thermal Coeff.	0.000006000	1/°F		


(#) Of Total Section using Ecl/Ec = 0.8563
Use transformed strand and rebar: Strand Only

Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast (At Release, using Ec = 4016.8ksi)	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Area, Yb, M(Ixx), Composite: (At Final, using Ec = 4491.0ksi)	in ² 1120.3 in 34.11 in ⁴ 919724	in ² 1149.5 in 33.41 in ⁴ 941473	in 1149.5 in 33.40 in ⁴ 941703	in 1149.5 in 33.39 in ⁴ 942711	in 1149.5 in 33.36 in ⁴ 944354	in 1149.5 in 33.33 in ⁴ 946032	in 1149.5 in 33.31 in ⁴ 947745	in 1149.5 in 33.31 in ⁴ 947745

Design Code: AASHTO LRFD

Units: U.S. Units

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Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Yb,	ft	1.79	3.65	11.70	24.61	37.52	50.43	63.33
in	in	55.31	55.31	55.30	55.29	55.28	55.26	55.26
Ml(XX),	in4	2111668	2173578	2173944	2175542	2178128	2180745	2183392
								2183392

Span:1, Beam:1
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST
Strength	ksi
Elasticity	ksi
Max comp	4016.8
Outer	3.60
Max tens	-0.23
Center	-0.93
Max tens	-0.23
Max tens	-0.59

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_{cr} or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	5.50
Elasticity	4490.96	3945.83

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	3.30

STRESS LIMITS AT FINAL 2 (P/S + DL):


	PRECAST	DECK
Max comp	3.38	2.47

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52	-0.45

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Span:1, Beam:1
 PRESTRESSED STEEL:
 37 strands, 6/10-270K-LL, Low relaxation strands
 Depressed at 0.40L (51.63 ft from member end)

END PATTERN (Ycg = 6.68 in):

12 @ 3.000 in	14 @ 5.000 in	2 @ 7.000 in	5 @ 13.000 in
3 @ 15.000 in	1 @ 17.000 in		

MID PATTERN (Ycg = 4.24 in):

(A) Draped:

5 @ 3.000 in	3 @ 5.000 in	1 @ 7.000 in
--------------	--------------	--------------

(B) Straight:

12 @ 3.000 in	14 @ 5.000 in	2 @ 7.000 in
---------------	---------------	--------------

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	8.029	in ²
Trans. Len bonded	3.000	ft
Trans. Len debonded	3.000	ft
Dev. Len bonded	11.534	ft
Dev. Len debonded	14.417	ft
Holddown Force	6.382	kips
Tensile Strength (pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1625.9	kips
Beam Shrink (P/AE)	0.545	in

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ENDS

MIDSPAN

61"

3"

17

15

13

5

3

1

Number

Dist. from bottom(in)

17

15

13

5

3

1

Number

Dist. from bottom(in)

17

15

13

5

3

1

Number

Dist. from bottom(in)

17

15

13

5

3

1

Strand Pattern, Span 1, Beam 1

Strands

Stirrups

Concrete

Beam

Longitudinal Bars

(linear ft)

(lb/1000ft)

(lb)

Vol(C.Y.)

(lb)

4776.192

740

3534.382

36.540

147988.594

1056.044

0.000

Span 1, Beam 1

ESTIMATED QUANTITIES

Tension steel:

fy

E_s

f_s

60.0

29000

24.0

ksi

ksi

ksi

Stirrups:

legs

Size

fy

Area

Spacing

Start

End

Extends

2

US#5(M16)

60.0

0.62

3.00

0.0000

1.3425

No

into Deck

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legs

Size

fy

Area

Spacing

Start

End

Extends

2

US#5(M16)

60.0

0.62

6.00

1.3425

2.9633

No

2

US#5(M16)

60.0

0.62

24.00

2.9633

126.1198

No

2

US#5(M16)

60.0

0.62

6.00

126.1198

127.7405

No

2

US#5(M16)

60.0

0.62

3.00

127.7405

129.0830

No

into Deck

LOSSES

Note: Values are calculated at Midspan

Str. area

Ycg

P_init

Ecc

Days to release

Rel. Humid (RH)

E_s

E_{ci}

8.0290

4.24

1625.9

30.36

0.75

75.0

28500.0

4017

in2

in

kips

in

%

%

ksi

ksi

AASHTO LOSSES

Elastic Shortening ** 13.00 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.832 ksi)

Elastic Gains

due to Precast Loads

due to Composite Loads

due to Live Loads

Gains

Adjustment

-6.53

-0.30

-5.52

0.00

0.00

0.00

ksi

ksi

ksi

ksi

ksi

ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

Initial

Final

Steel relaxation

Concrete shrinkage

Concrete creep

Sub-total

Total Prestress Losses

0.00

0.00

13.00

8.22

21.22

ksi

ksi

ksi

ksi

ksi

(Eq 5.9.5.3-1)

(Eq 5.9.5.3-1)

(Eq 5.9.5.3-1)

(6.42 %)

(4.06 %)

(10.48 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

Initial fpi = 202.5 ksi < 0.75 fpu, OK

Initial fpe = 181.3 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:41 P.M.

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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE I
Shears: kips, Moments: kft

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.0	1.79	3.65	11.70	24.61	37.52	50.43	63.33	
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DC(Max)	M	-0.0	33.5	67.1	201.1	375.5	500.0	574.8	599.7
DL-Prec. :	V	18.9	18.4	17.8	15.4	11.6	7.7	3.9	0.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	122.4	245.4	735.9	1374.0	1829.8	2103.3	2194.5
Haunch (Max)	V	69.3	67.3	65.3	56.5	42.4	28.2	14.1	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	7.8	6.6	5.4	4.4	3.3	2.2	1.1	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	222.8	446.2	1333.6	2473.2	3266.4	3739.5	3877.6
LL + :	V	127.1	124.5	121.8	110.3	92.8	34.4	50.7	33.1
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	127.1	124.5	121.8	110.3	93.9	78.5	63.9	50.1
Total :	M+	0.0	231.9	461.2	1333.6	2310.6	2945.1	3222.4	3173.3
Total :	V	0.0	516.3	1034.6	3098.2	5767.8	7654.0	8782.8	9139.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	301.1	292.6	283.8	245.8	194.4	102.1	84.6	33.1
Total :	M	301.1	292.6	283.8	245.8	195.5	146.2	97.8	50.1
Total :	M	0.0	525.4	1049.6	3098.2	5605.3	7332.7	8265.7	8435.2

Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	0.0	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6	72.6
DC(Max)	M	574.8	500.0	375.5	201.1	67.1	33.5	0.0
DL-Prec. :	V	3.9	7.7	11.6	15.4	17.8	18.4	18.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2103.3	1829.8	1374.0	735.9	245.4	122.4	0.0
Haunch (Max)	V	14.1	28.2	42.4	56.5	65.3	67.3	69.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	18.8	9.4	0.0
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3739.5	3266.4	2473.2	1333.6	446.2	222.8	-0.0

Units: U.S. Units

Design Code: AASHTO LRFD

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LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
V	50.7	34.4	92.8	110.3	121.8	124.5	127.1
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	63.9	78.5	93.9	110.3	121.8	124.5	127.1
Total :	M	3222.4	2945.1	2310.6	1333.6	461.2	231.9
Total :	M+	8782.8	7654.0	5767.8	3098.2	1034.6	516.3
Total :	V	84.6	102.1	194.4	245.8	283.8	292.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	8265.7	7332.7	5605.3	3098.2	1049.6	525.4

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	69.3	69.3
Diaphragm	7.8	7.8
DL-Prec.(DC)	18.9	18.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

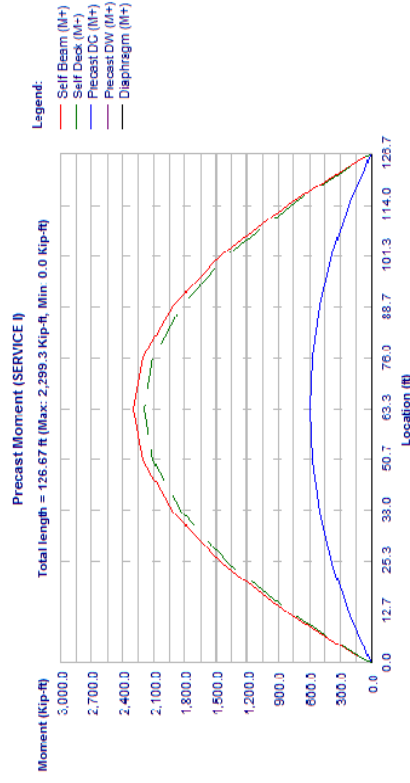
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units


Design Code: AASHTO LRFD

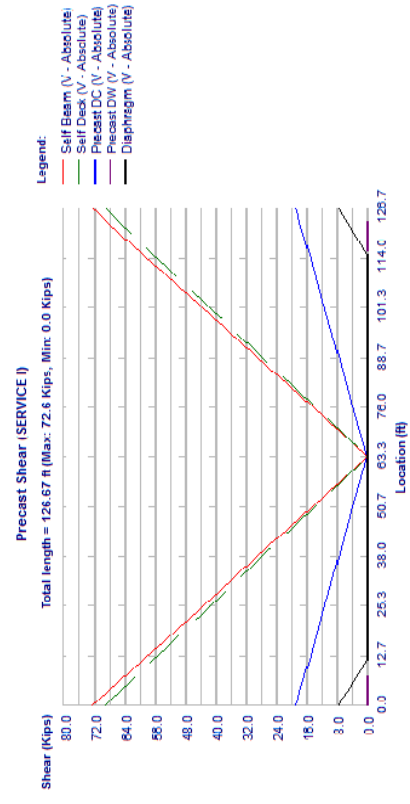
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Precast Moment, Span 1, Beam 1, SERVICE I

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Precast Shear, Span 1, Beam 1, SERVICE I

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Sheet # 13

Job #

Composite Moment (SERVICE I)
Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 Kip-ft)

Legend:
— Composite DC (M)
— Composite D/W (M)

Composite Moment, Span 1, Beam 1, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:41 P.M.

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Sheet # 14

Job #

Composite Shear (SERVICE I)
Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)

Legend:
— Composite DC (V - Absolute)
— Composite D/W (V - Absolute)

Composite Shear, Span 1, Beam 1, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:41 P.M.

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Sheet # 15
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Live Moment (SERVICE I)
Total length = 125.57 ft (Max: 3,877.5 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
12.7	1,000.0
25.3	2,000.0
38.0	3,000.0
50.7	3,877.5
62.785	3,877.5
75.0	3,000.0
87.7	2,000.0
101.3	1,000.0
114.0	0.0
125.7	0.0

Live Moment, Span 1, Beam 1, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:41 P.M.

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Sheet # 16
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Live Shear (SERVICE I)
Total length = 125.57 ft (Max: 127.1 Kips, Min: 50.1 Kips)


Legend:
— LL + I (Vmk - Absolute)

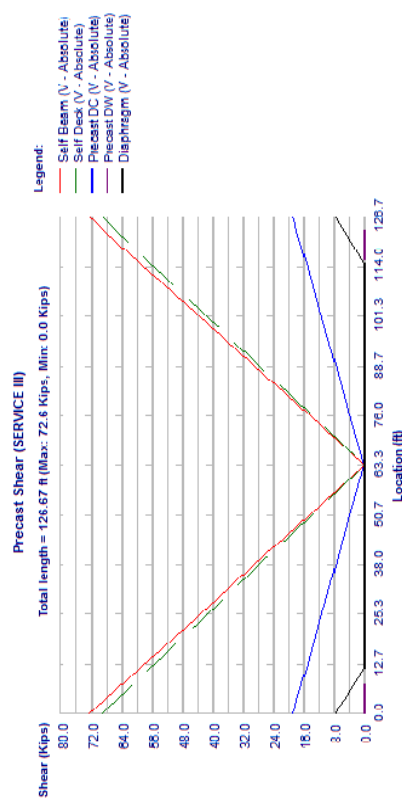
Location (ft)	Shear (Kips)
0.0	127.1
12.7	114.4
25.3	101.7
38.0	89.0
50.7	76.3
62.785	50.1
75.0	50.1
87.7	50.1
101.3	50.1
114.0	50.1
125.7	50.1

Live Shear, Span 1, Beam 1, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE III
Shears: kips, Moments: kft

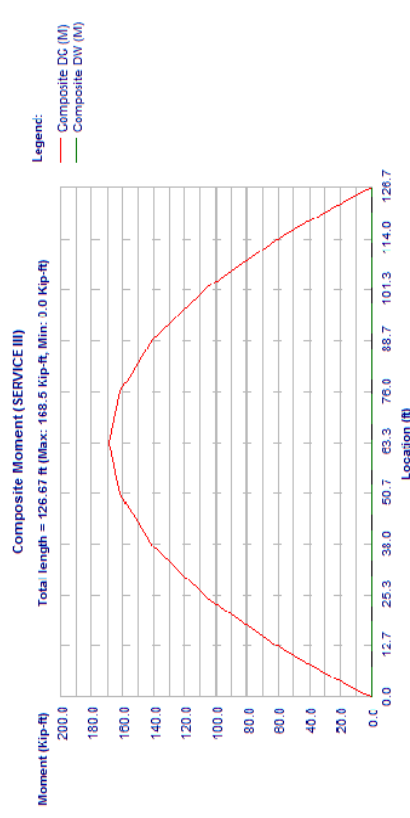
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
(Max)	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DL-Prec. :	-0.0	33.5	67.1	201.1	375.5	500.0	574.8	599.7
DC(Max)	18.9	18.4	17.8	15.4	11.6	7.7	3.9	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	122.4	245.4	735.9	1374.0	1829.8	2103.3	2194.5
Haunch (Max)	69.3	67.3	65.3	56.5	42.4	28.2	14.1	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	7.8	6.6	5.4	0.0	0.0	0.0	0.0	0.0
DL-Comp :	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	178.2	357.0	1066.9	1978.5	2613.1	2991.6	3102.0

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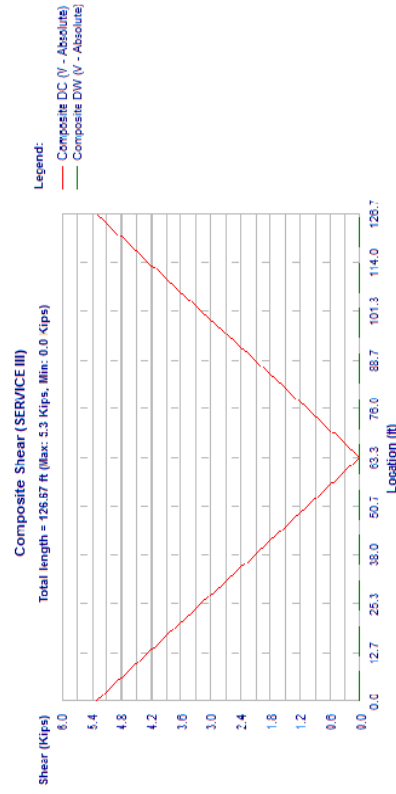
Precast Shear, Span 1, Beam 1, SERVICE III

		Sheet # 20	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
Version: 12.01.00.57		Date Sept/9/2013	
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Phone: 1-800-778-4277			
File Name: Span05WB_ModifiedSpacing.csl			




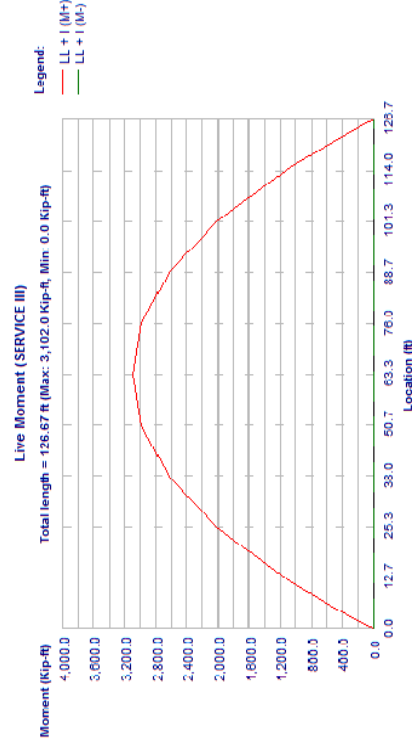
Composite Moment, Span 1, Beam 1, SERVICE III

		Sheet # 21	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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		Date	



Composite Shear, Span 1, Beam 1, SERVICE III

		Sheet # 22	
		Job #	
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Live Moment, Span 1, Beam 1, SERVICE III

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Sheet # 25
Job #
Designed CAM
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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6544.2	5716.2	4328.0	2333.7	780.9	389.9
LL + I :	V	88.7	60.1	162.3	193.0	213.2	217.9
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	111.8	137.4	164.3	193.0	213.2	217.9
LL + I :	M	5639.2	5153.9	4043.6	2333.7	807.1	405.8
Total :	M+	12848.3	11200.7	8446.4	4539.5	1516.3	756.8
Total :	V	131.0	144.8	289.3	362.4	415.7	428.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	154.2	222.0	291.3	362.4	415.7	428.0
Total :	M	11943.3	10638.4	8161.9	4539.5	1542.6	772.7

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	86.6	86.6
Diaphragm	9.8	9.8
DL-Prec (DC)	23.7	23.7
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 18, 2013 @ 4:41 P.M.

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Sheet # 26
Job #
Designed CAM
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Date

Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 2,874.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

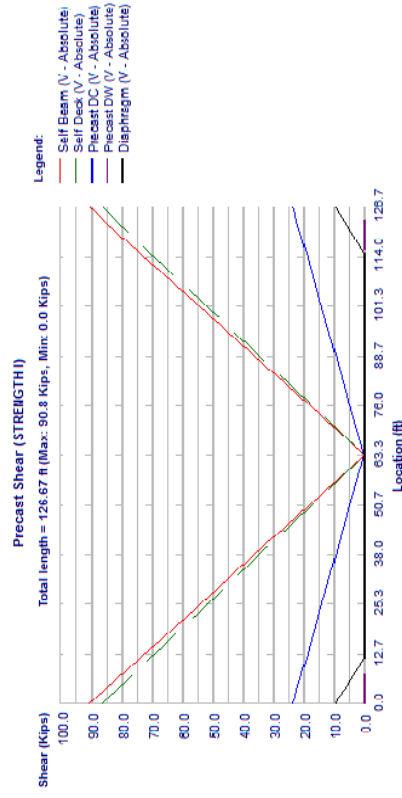
Precast Moment, Span 1, Beam 1, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

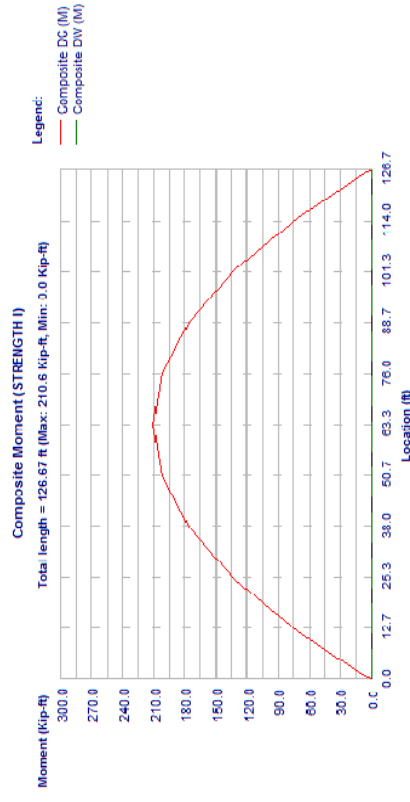
Printed on: October 18, 2013 @ 4:41 P.M.

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		Job #	
		Designed CAM	
		Date	Sept/9/2013
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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		Checked	
		Date	




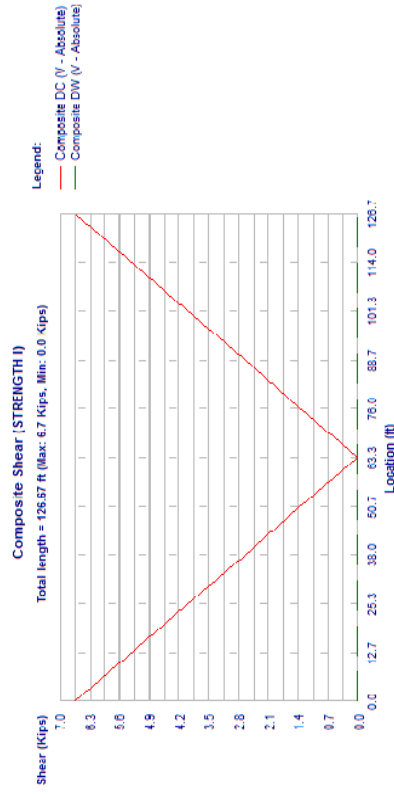
Precast Shear, Span 1, Beam 1, STRENGTH I

		Sheet #	28
		Job #	
		Designed CAM	
		Date	Sept/9/2013
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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		Checked	
		Date	




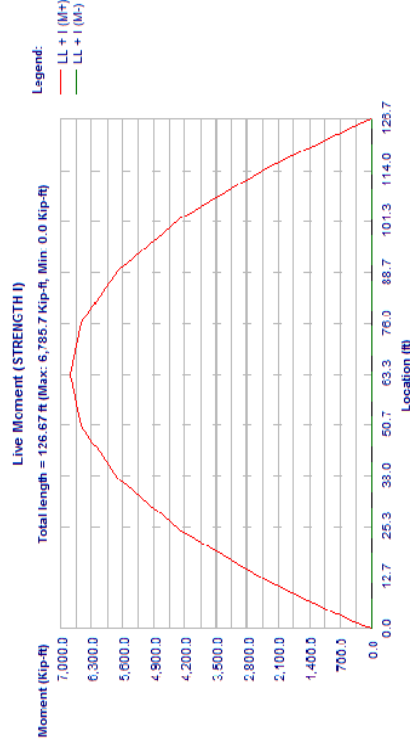
Composite Moment, Span 1, Beam 1, STRENGTH I

		Sheet # 29	
		Job #	
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		Checked	
		Date	



Composite Shear, Span 1, Beam 1, STRENGTH I

		Sheet # 30	
		Job #	
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Live Moment, Span 1, Beam 1, STRENGTH I

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Sheet # 33
Job #

Designed CAM
Date Sept/9/2013
Checked
Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	2446.3	2164.8	1643.2	900.3	303.7	151.9	0.0
M+	40.3	50.5	66.8	77.0	84.0	85.6	87.1
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	46.4	56.6	66.8	77.0	84.0	85.6	87.1
M	2340.8	2123.3	1643.2	900.3	303.7	151.9	0.0
M+	7489.6	6552.3	4937.9	2664.9	892.1	445.4	0.0
V	74.2	118.2	168.4	212.4	245.9	253.7	261.1
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	80.3	124.3	168.4	212.4	245.9	253.7	261.1
M	7384.1	6510.9	4937.9	2664.9	892.1	445.4	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,299.3 Kip-ft, Min 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 1, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:41 P.M.

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Sheet # 34
Job #

Designed CAM
Date Sept/9/2013
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Shear (Kips)

Precast Shear (FATIGUE I)


Total length = 126.67 ft (Max: 72.6 Kips, Min: 0.0 Kips)

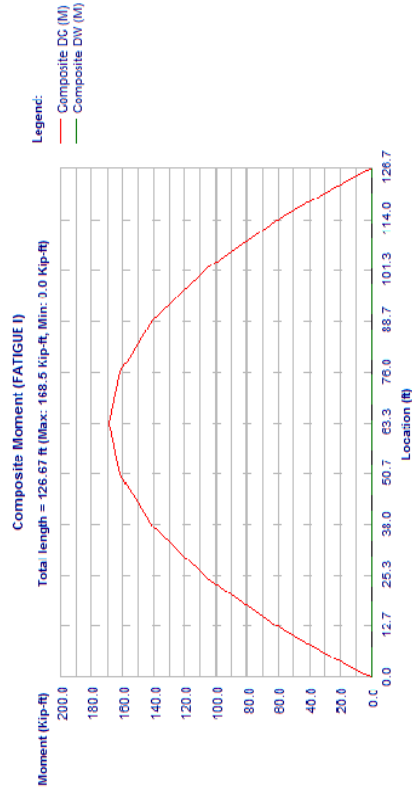
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 1, FATIGUE I

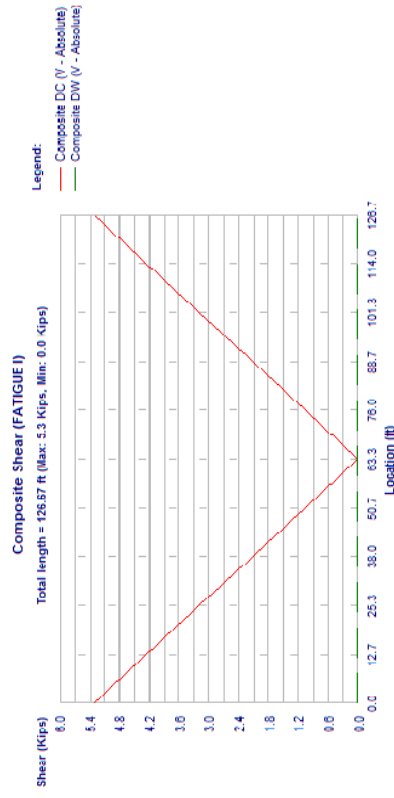
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:41 P.M.

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		Job #	
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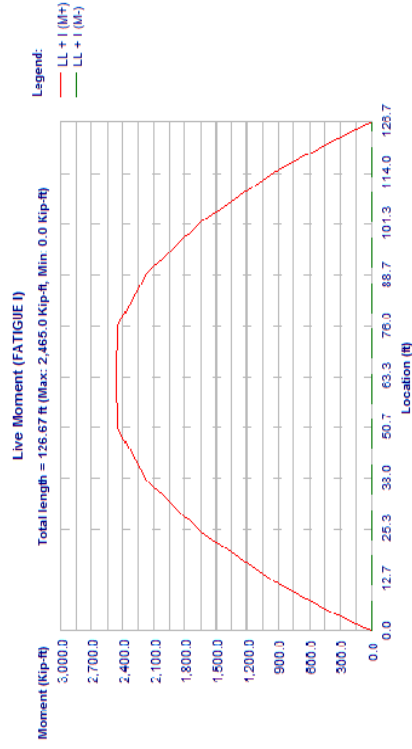
Composite Moment, Span 1, Beam 1, FATIGUE I

		Sheet # 36	
		Job #	
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		Date	




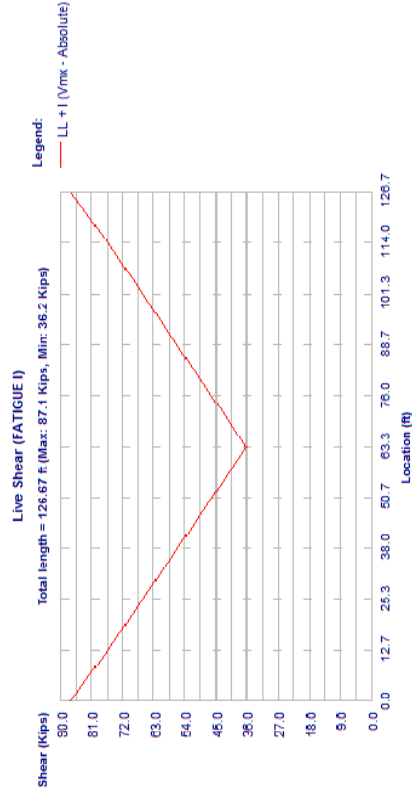
Composite Shear, Span 1, Beam 1, FATIGUE I

		Sheet # 37	
		Job #	
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Live Moment, Span 1, Beam 1, FATIGUE I

		Sheet # 38	
		Job #	
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		Date	



Live Shear, Span 1, Beam 1, FATIGUE I



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Version: 12.01.00.57

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Designed CAM

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Date

Sheet # 3

Job #

TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in
Effective	width	131.022	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.118	0.000	0.118	126.667	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
17.31	0.00
17.31	126.67

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment	(2+ lanes loaded)	0.846	(Calculated)
Live Moment	(1 lane loaded)	0.562	(Calculated)
Live Shear	(2+ lanes loaded)	1.028	(Calculated)
Live Shear	(1 lane loaded)	0.798	(Calculated)

Pedestrian	0.100	(Calculated)
------------	-------	--------------



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Sheet # 4

Job #

COMP. DATA:

Comp. DC 0.100 (Calculated)

Comp. DW 0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90


SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	2105.7
Total Height	78.00	87.50
Mom. of Inertia (xx)	904567	2142415
Ht. of c.g.	34.60	57.71
Density	150.00	150.00
Self-weight	1146.5	2369.0
Mom. of Inertia (yy)	82367.0	
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	17°F

(#) Of Total Section using Ecl/Ec = 0.8563

Use transformed strand and rebar: Strand Only

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Area,								
Yb,	in2	1119.8	1148.2	1148.2	1148.2	1148.2	1148.2	1148.2
Mi(1xx),	in	34.12	33.44	33.42	33.39	33.36	33.34	33.34
	in4	919333	940550	941790	943438	945120	946839	946839
Composite: (At Final, using Ec = 4491.0ksi)								
Area,	in2	2122.5	2147.4	2147.4	2147.4	2147.4	2147.4	2147.4
Yb,	in	57.30	56.71	56.70	56.69	56.68	56.66	56.66
Mi(1xx),	in4	2185975	2249701	2251721	2254382	2257075	2259799	2259799



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Date

Sheet # 5

Job #

Span:1 Beam:2

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.00*	ksi
Max comp	4016.8	ksi
Outer	3.60	ksi
Max tens	15.00 %	ksi
Max tens, wireinf	-0.23	ksi
Center	-0.93	ksi
Max tens, 70.00 %	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	7.50	5.50
	ksi	ksi
	4490.96	3845.83

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	4.50	3.30
	ksi	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	3.38	2.47
	ksi	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art. 5.5.3.1):

Max comp	PRECAST	DECK
	3.00	-
	ksi	ksi

SERVICE III (Tension):


Max tens	PRECAST	DECK
	-0.52	-0.45
	ksi	ksi

Span:1 Beam:2

PRESTRESSED STEEL:

36 strands, 6/10-270K-LL, Low relaxation strands

Depressed at 0.40L (51.63 ft from member end)



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Date

Sheet # 6

Job #

END PATTERN (Vcg = 6.67 in):

12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		

MID PATTERN (Vcg = 4.17 in):

(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:

12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	7.812	in ²
Trans. Len. bonded	3,000	ft
Trans. Len. debonded	3,000	ft
Dev. Len. bonded	11,568	ft
Dev. Len. debonded	14,460	ft
Holddown Force	6,382	kips
Tensile Strength(pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1581.9	kips
Beam Shring (PL/AE)	0.531	in

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Sheet # 7
Job #
Date
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Date

ENDS

MIDSPAN

Number	Dist. from bottom(in)
5	13
3	15
1	17

Number	Dist. from bottom(in)
12	3
14	5
1	7

Number	Dist. from bottom(in)
17	3
17	5
2	7

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
4647.109	740	3438.861	147988.594	1028.615	0.000

fy	ksi
60.0	ksi

ES	ksi
29000	ksi

fs	ksi
24.0	ksi

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.4869	No

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 18, 2013 @ 4:44 P.M.

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Sheet # 8
Job #
Date
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legs

Size

fy (ksi)

Area (in2)

Start (ft)

End (ft)

Extends into Deck

2	US#5(M16)	60.0	0.62	1.4869	2.8681	No
2	US#5(M16)	60.0	0.62	18.00	2.8681	No
2	US#5(M16)	60.0	0.62	24.00	4.7546	No
2	US#5(M16)	60.0	0.62	18.00	124.3284	No
2	US#5(M16)	60.0	0.62	6.00	126.2149	No
2	US#5(M16)	60.0	0.62	3.00	127.5961	No

LOSSES

Note: Values are calculated at Midspan

Str. area	Ycg	P_init	Ecc	Days to release	Rel. Humid (RH)	ES	Ecl
7.8120 in2	4.17 in	1581.9 kips	30.43 in	0.75	75.0 %	28500.0 ksi	4017 ksi

Elastic Shortening

** 12.59 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.774 ksi)

Elastic Gains	Gains	Adjustment
due to Precast Loads	-6.90 ksi	0.00 ksi
due to Composite Loads	-0.30 ksi	0.00 ksi
due to Live Loads	-4.72 ksi	0.00 ksi

Time Dependent Losses (Approximate Method (Art 5.9.5.3))

	Initial	Final
Steel relaxation	0.00 ksi	2.40 ksi
Concrete shrinkage	0.00 ksi	8.14 ksi
Concrete creep	0.00 ksi	9.75 ksi
Sub-total	12.59 ksi	8.38 ksi
Total Prestress Losses		20.97 ksi

Prestressing Stress Limit Check (Table 5.9.3.1)

initial fpi = 202.5 ksi < 0.75 fpu, OK


initial fpe = 181.5 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units

Design Code: AASHTO LRFD

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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE I
Shears: kips, Moments: kft

Location, Self wt. : (Max) DL-Prec. : DC(Max) DL-Prec. : DW(Max) Deck + : Haunch (Max) Diaphragm : (Max) DL-Comp : DC(Max) DL-Comp : DW(Max) LL + I : LL + I : LL + I : Total : Total : Total :	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
V	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
M	-0.0	27.2	54.5	163.4	305.1	406.4	467.1	487.4
V	15.4	15.0	14.5	12.5	9.4	6.3	3.1	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	136.8	274.2	822.3	1535.3	2044.6	2350.1	2452.0
V	77.4	75.2	73.0	63.1	47.3	31.6	15.8	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	17.3	14.7	11.9	0.0	0.0	0.0	0.0	0.0
M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M+	0.0	191.8	384.0	1147.8	2128.6	2811.4	3218.6	3337.4
V	132.8	130.1	127.4	115.3	96.9	35.9	53.0	34.6
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	132.8	130.1	127.4	115.3	98.1	82.0	66.8	52.4
M	0.0	199.6	397.0	1147.8	1988.7	2534.8	2773.5	2731.2
M+	0.0	493.4	988.7	2961.1	5514.2	7320.0	8401.1	8744.5
V	320.9	310.7	300.2	254.5	201.4	105.5	87.8	34.6
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	320.9	310.7	300.2	254.5	202.5	151.7	101.6	52.4
M	0.0	501.2	1001.6	2961.1	6374.3	7043.5	7956.0	8138.3



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
V	53.0	35.9	96.9	115.3	127.4	130.1	132.8
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	66.8	82.0	98.1	115.3	127.4	130.1	132.8
Total :	7703.5	2534.8	1988.7	1147.8	397.0	199.6	0.0
M+	8401.1	7320.0	5514.2	2961.1	988.7	493.4	0.0
V	87.8	105.5	201.4	254.5	300.2	310.7	320.9
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	101.6	151.7	202.5	254.5	300.2	310.7	320.9
Total :	7956.0	7043.5	6374.3	2961.1	1001.6	501.2	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	77.4	77.4
Diaphragm	17.3	17.3
DL-Prec.(DC)	15.4	15.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Sheet # 13
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Composite Moment (SERVICE I)

Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 Kip-ft)

Legend:

- Composite DC (M)
- Composite D/W (M)

Location (ft)	Composite DC (M)	Composite D/W (M)
0.0	0.0	0.0
12.7	20.0	0.0
25.3	80.0	0.0
38.0	120.0	0.0
50.7	140.0	0.0
63.3	168.5	0.0
76.0	140.0	0.0
88.7	120.0	0.0
101.3	80.0	0.0
114.0	20.0	0.0
126.7	0.0	0.0

Composite Moment, Span 1, Beam 2, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:44 P.M.

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Sheet # 14
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Composite Shear (SERVICE I)

Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite D/W (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite D/W (V - Absolute)
0.0	5.3	0.0
12.7	4.8	0.0
25.3	4.3	0.0
38.0	3.8	0.0
50.7	3.3	0.0
63.3	2.8	0.0
76.0	2.3	0.0
88.7	1.8	0.0
101.3	1.3	0.0
114.0	0.8	0.0
126.7	0.3	0.0

Composite Shear, Span 1, Beam 2, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:44 P.M.

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Live Moment (SERVICE I)
Total length = 126.67 ft (Max: 3,337.4 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
12.7	1,000.0
25.3	2,000.0
38.0	3,000.0
50.7	3,337.4
63.3	3,337.4
76.0	3,000.0
88.7	2,000.0
101.3	1,000.0
114.0	0.0
126.7	0.0

Live Moment, Span 1, Beam 2, SERVICE I

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Live Shear (SERVICE I)
Total length = 126.67 ft (Max: 132.8 Kips, Min: -52.4 Kips)

Legend:
— LL + I (Vmk - Absolute)


Location (ft)	Shear (Kips)
0.0	0.0
12.7	40.0
25.3	80.0
38.0	120.0
50.7	132.8
63.3	132.8
76.0	120.0
88.7	80.0
101.3	40.0
114.0	0.0
126.7	0.0

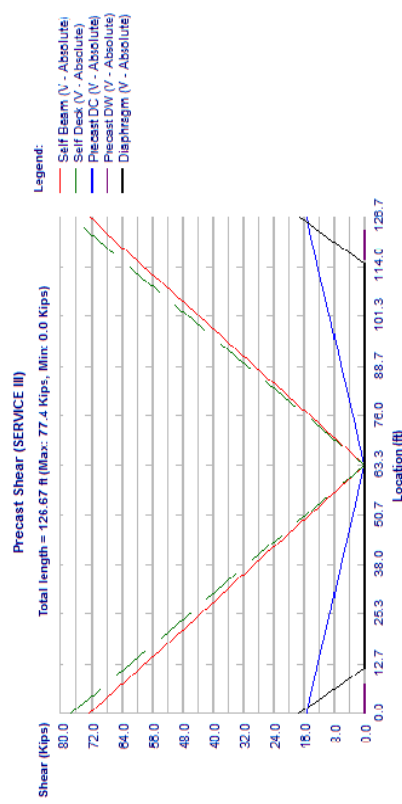
Live Shear, Span 1, Beam 2, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE III
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft							
Self wt. :	M	0.0	1.79	3.65	11.70	24.61	37.52	63.33
(Max)	V	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
DL-Prec. :	M	-0.0	72.6	68.4	59.2	44.4	29.6	14.8
DC(Max)	V	15.4	27.2	54.5	163.4	305.1	406.4	467.1
DL-Prec. :	M	0.0	15.0	14.5	12.5	9.4	6.3	3.1
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	77.4	75.2	73.0	63.1	47.3	31.6	15.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	17.3	14.7	11.9	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	153.4	307.2	918.2	1702.9	2249.1	2574.9
								2669.9

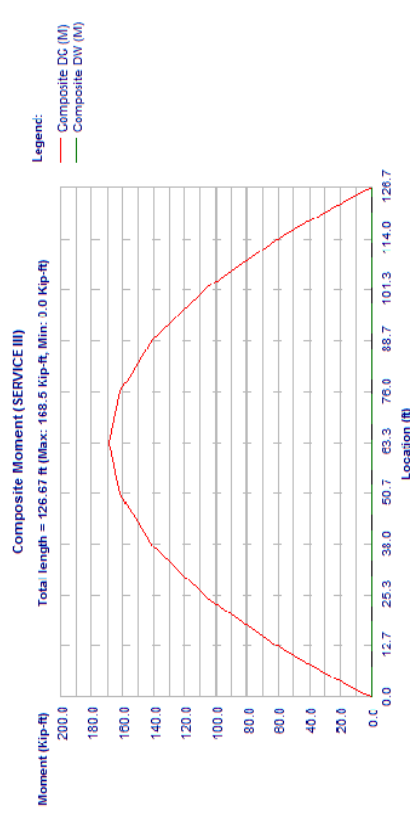
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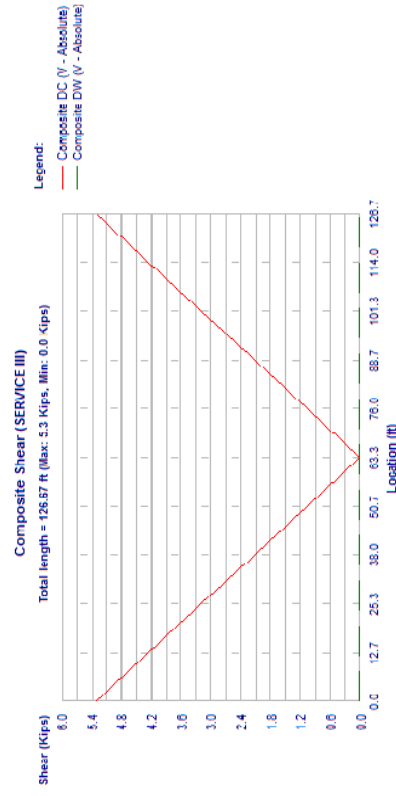
Precast Shear, Span 1, Beam 2, SERVICE III

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		Job #	
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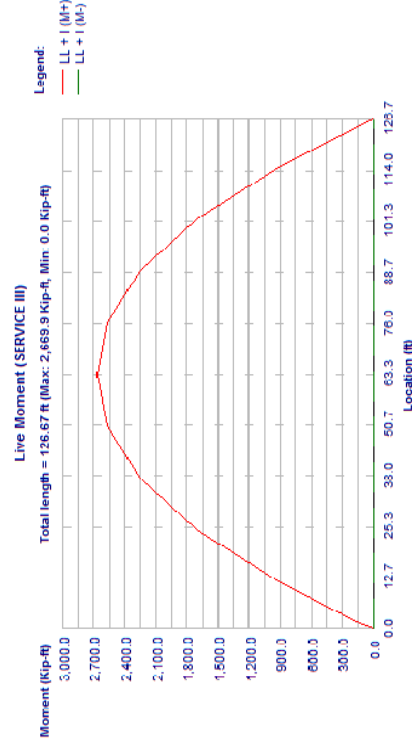
Composite Moment, Span 1, Beam 2, SERVICE III

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Composite Shear, Span 1, Beam 2, SERVICE III

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Live Moment, Span 1, Beam 2, SERVICE III

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Job #
Job #

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5632.5	4919.9	3725.1	2008.6	672.1	335.6
LL + I :	V	92.7	62.9	169.7	201.7	222.9	227.7
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	116.9	143.6	171.7	201.7	222.9	227.7
LL + I :	M	4853.6	4436.0	3480.3	2008.6	694.7	349.2
Total :	M+	12110.6	10555.8	7957.1	4275.2	1427.8	712.6
Total :	V	136.2	149.9	300.2	375.7	438.9	453.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	160.4	230.6	302.2	375.7	438.9	453.5
Total :	M	11331.7	10071.8	7712.3	4275.2	1450.5	726.3

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	96.8	96.8
Diaphragm	21.6	21.6
DL-Prec(DC)	19.2	19.2
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	66.5	66.5
DL-Comp(DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Design Code: AASHTO LRFD
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Sheet # 26
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Precast Moment (STRENGTH I)


Total length = 126.67 ft (Max: 3,065.0 Kip-ft, Min: 0.0 Kip-ft)

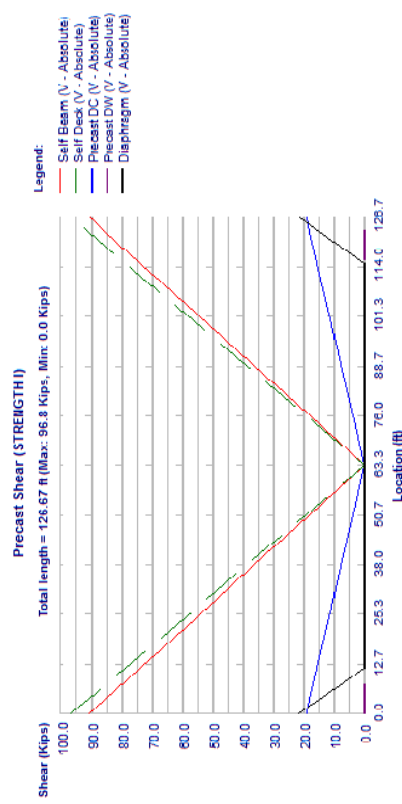
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 2, STRENGTH I

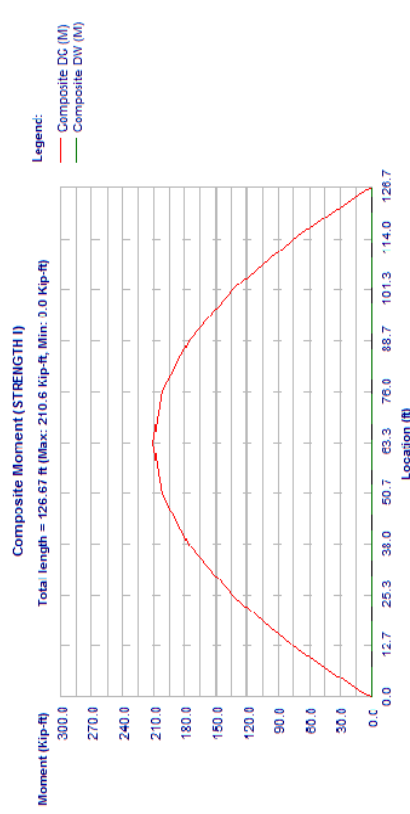
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Precast Shear, Span 1, Beam 2, STRENGTH I

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Composite Moment, Span 1, Beam 2, STRENGTH I

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Sheet # 33
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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1397.3	1236.5	938.6	514.3	173.5	86.8	0.0
LL + I :	32.7	41.0	54.2	62.4	68.1	69.4	70.7
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	37.7	45.9	54.2	62.4	68.1	69.4	70.7
LL + I :	1337.0	1212.8	938.6	514.3	173.5	86.8	0.0
Total :	6579.8	5745.1	4324.2	2327.6	778.1	388.4	0.0
Total :	67.5	110.6	158.6	201.6	241.0	250.0	258.8
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	72.5	115.5	158.6	201.6	241.0	250.0	258.8
Total :	6519.5	5721.5	4324.2	2327.6	778.1	388.4	0.0

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,452.0 Kip-ft, Min 0.0 Kip-ft)

Moment (Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 2, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:44 P.M.

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Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 77.4 Kips, Min: 0.0 Kips)

Shear (Kips)


Location (ft)

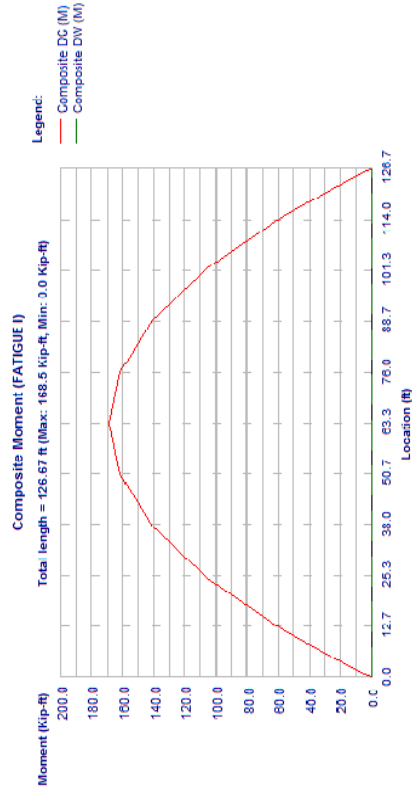
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 2, FATIGUE I

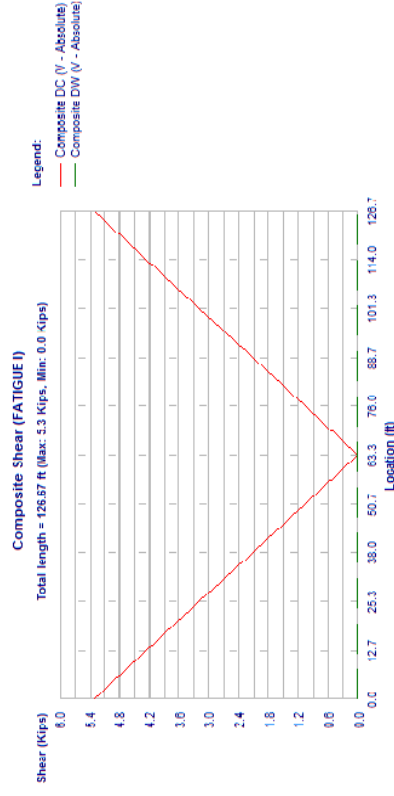
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:44 P.M.

		Sheet # 35	
		Job #	
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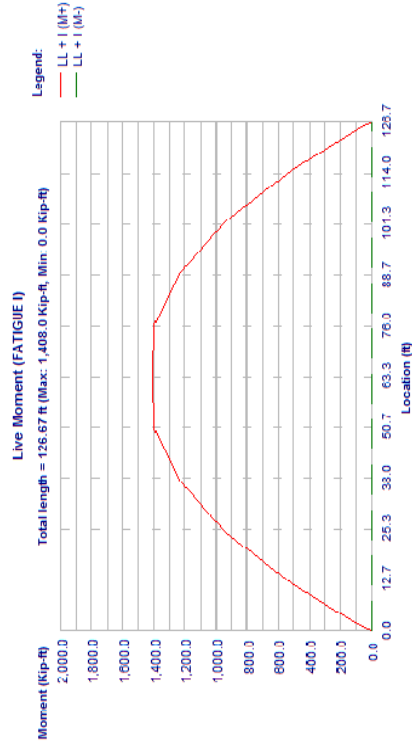
Composite Moment, Span 1, Beam 2, FATIGUE I

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		Job #	
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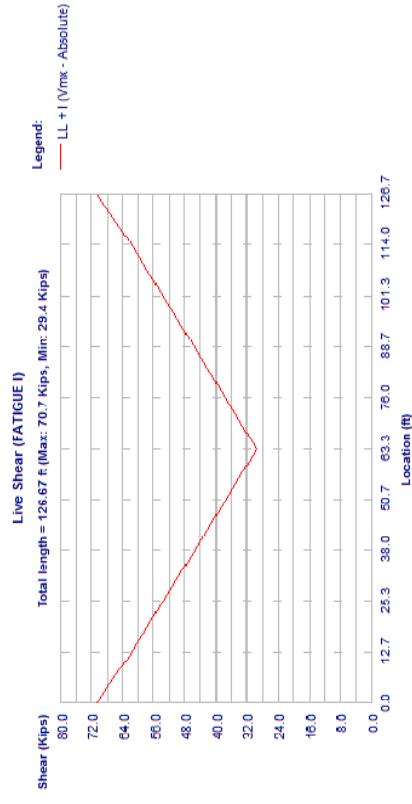
Composite Shear, Span 1, Beam 2, FATIGUE I

			Sheet #	37
			Job #	
			Designed CAM	
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Live Moment, Span 1, Beam 2, FATIGUE I

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			Job #	
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Live Shear, Span 1, Beam 2, FATIGUE I



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Sheet # 1
Job #


PROPERTIES

Span:1, Beam:3

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

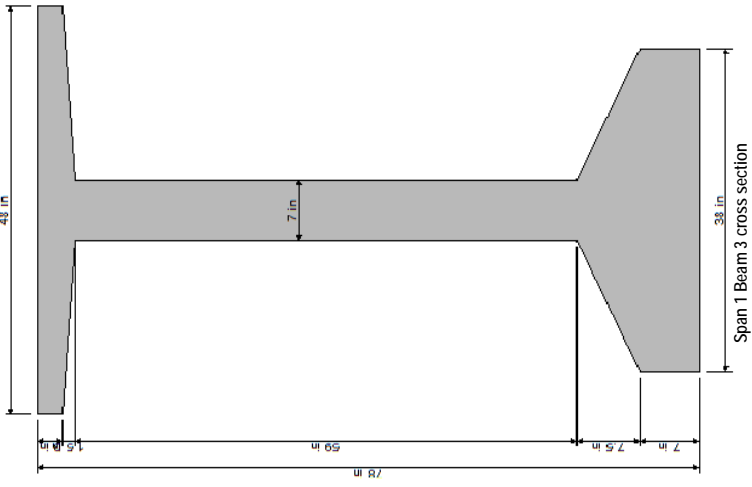


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Span 1 Beam 3 cross section

GENERAL BRIDGE DATA:

Bridge Width	109.13 ft
Curb-to-curb	106.04 ft
Beam Spac. LL/RT	11.92/11.92 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees

Units: U.S. Units

Design Code: AASHTO LRFD

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TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in
Effective	width	143.004	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.138	0.000	0.138	126.667	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
18.98	0.00
18.98	126.67

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Live Moment	(2+ lanes loaded)	0.902	(Calculated)
Live Moment	(1 lane loaded)	0.593	(Calculated)
Live Shear	(2+ lanes loaded)	1.094	(Calculated)
Live Shear	(1 lane loaded)	0.838	(Calculated)

Pedestrian	0.100	(Calculated)
------------	-------	--------------

Units: U.S. Units

Design Code: AASHTO LRFD

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TOPPING DATA:

Comp. DC	0.100 (Calculated)
Comp. DW	0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

DEAD LOADS AND RESISTANT LOAD DISTRIBUTION FACTORS (ART. 5.5.4.2).

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	
Shear	0.90

SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6 in ²	in ²
Total Height	78.00 in	87.50 in
Mom. of Inertia (xxx)	904567 in ⁴	2197587 in ⁴
Ht. of c.g.	34.60 in	58.72 in
Density	150.00 pcf	150.00 pcf
Self-weight	1146.5 plf	2475.1 plf
Mom. of Inertia (yyy)	82367.0 in ⁴	
Poisson's Ratio	0.2	
Thermal Coeff.	0.000060/°F	

(#) Of Total Section using $F_{ct}/F_c = 0.8563$


(#) Of Total section using LVL = 0.0303
Use transformed strand and rebar: Strand Only

Location.	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast:(At Release, using	E = 4016.8ksi)								
Area,	In2	1121.4	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2
Yb,	In	34.08	33.34	33.34	33.32	33.30	33.27	33.25	33.25
Mil(10x),	In4	920506	943313	943542	944546	946182	947851	949552	949552
Composite:(At Final, using	E = 4491.0ksi)								
Area,	In2	2211.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1
Yb,	In	58.29	57.67	57.67	57.66	57.65	57.63	57.62	57.62
Mil(10x),	In4	2246599	2318207	2318591	2320264	2322970	2325705	2328469	2328469

Units: U.S. Units

Design Code: AASHTO LRFD

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Sheet # 5

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Span:1 Beam:3

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.00*	ksi
Max comp	4016.8	ksi
Outer	3.60	ksi
Max tens	15.00 %	ksi
Max tens, wireinf	-0.23	ksi
Center	-0.93	ksi
Max tens, 70.00 %	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK	ksi
Elasticity	7.50	5.50	ksi
Max comp	4490.96	3845.83	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK	ksi
	4.50	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK	ksi
	3.38	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK	ksi
	3.00	-	ksi

SERVICE III (Tension):


Max tens	PRECAST	DECK	ksi
	-0.52	-0.45	ksi

Span:1 Beam:3

PRESTRESSED STEEL:

39 strands, 6/10-270K-LL, Low relaxation strands

Depressed at 0.40L (51.63 ft from member end)



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END PATTERN (Vcg = 6.69 in):

12 @ 3,000 in	14 @ 5,000 in	4 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		

MID PATTERN (Vcg = 4.38 in):

(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:

12 @ 3,000 in	14 @ 5,000 in	4 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	8.463	in2
Trans. Len.bonded	3,000	ft
Trans. Len.debonded	3,000	ft
Dev. Len. bonded	11.613	ft
Dev. Len. debonded	14.516	ft
Holddown Force	6.382	kips
Tensile Strength(pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1713.8	kips
Beam Shring (PL/AE)	0.574	in

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Sheet # 7
Job #

ENDS

MIDSPAN

Number	Dist. from bottom(in)
5	13
3	15
1	17

Number	Dist. from bottom(in)
12	3
14	5
4	7

Number	Dist. from bottom(in)
17	3
17	5
5	7

Span 1, Beam 3

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	(LB)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
5034.358	740	3725.425	36.540	147988.594	1056.044	0.000

Span 1, Beam 3

REINFORCING STEEL:

Tension steel:	fy	fs
60.0	60.0	29000
ksi	ksi	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.6181	No

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Sheet # 8
Job #

ENDS

MIDSPAN

Number	Dist. from bottom(in)
5	13
3	15
1	17

Number	Dist. from bottom(in)
12	3
14	5
4	7

Number	Dist. from bottom(in)
17	3
17	5
5	7

Span 1, Beam 3

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	(LB)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
5034.358	740	3725.425	36.540	147988.594	1056.044	0.000

Span 1, Beam 3

REINFORCING STEEL:

Tension steel:	fy	fs
60.0	60.0	29000
ksi	ksi	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.6181	No

* The stirrups spacing for vertical shear is bigger than the maximum spacing allowed.

LOSSES

Note: Values are calculated at Midspan

Str. area	8.4630	in2
Ycg	4.38	in
P_init	1713.8	kips
Ecc	30.22	in
Days to release	0.75	
Rel. Humid. (RH)	75.0	%
Es	285000.0	ksi
Eci	4017	ksi

AASHTO LOSSES

Elastic Shortening ** 13.82 ksi (Eq 5.9.5.2.3a-1). (fcgp = 1.947 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-7.39	ksi	0.00
due to Composite Loads	-0.29	ksi	0.00
due to Live Loads	-4.96	ksi	0.00

Time Dependent Losses (Approximate Method (Art 5.9.5.3))

	Initial	Final
Steel relaxation	0.00	ksi
Concrete shrinkage	0.00	ksi
Concrete creep	0.00	ksi
Sub-total	13.82	ksi
Total Prestress Losses		(6.82 %)
		(4.18 %)
		(11.01 %)


Prestressing Stress Limit Check (Table 5.9.3.1)

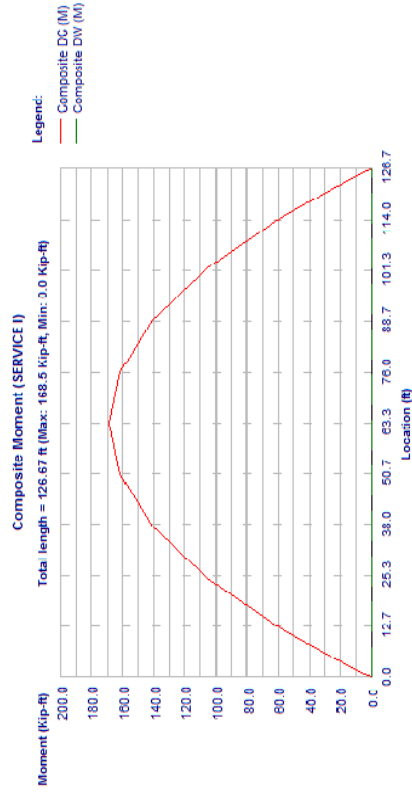
Initial fpi = 202.5 ksi < 0.75 fpu, OK

Initial fpe = 180.2 ksi < 0.80 fpy, OK


** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

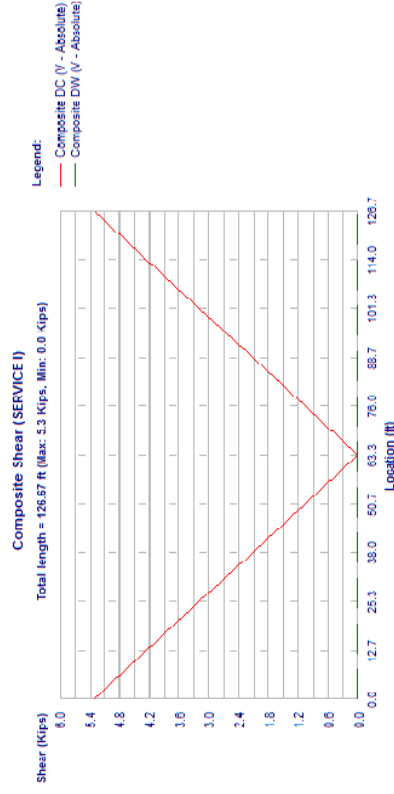
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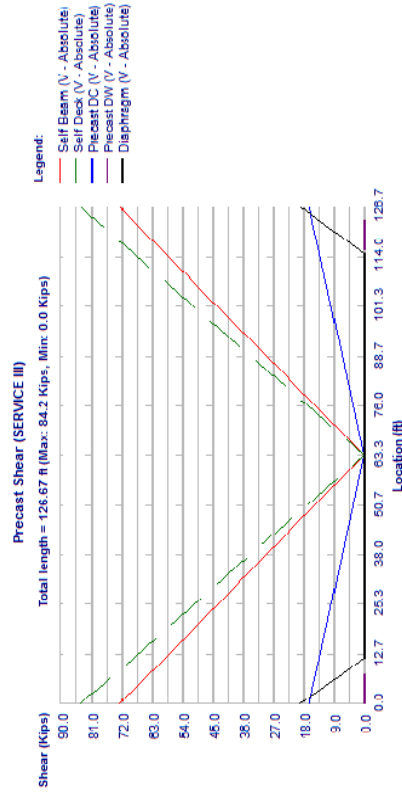
Composite Moment, Span 1, Beam 3, SERVICE I

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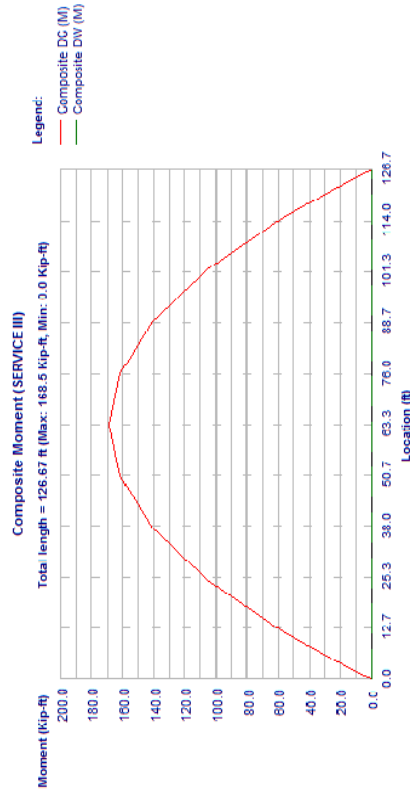
Composite Shear, Span 1, Beam 3, SERVICE I

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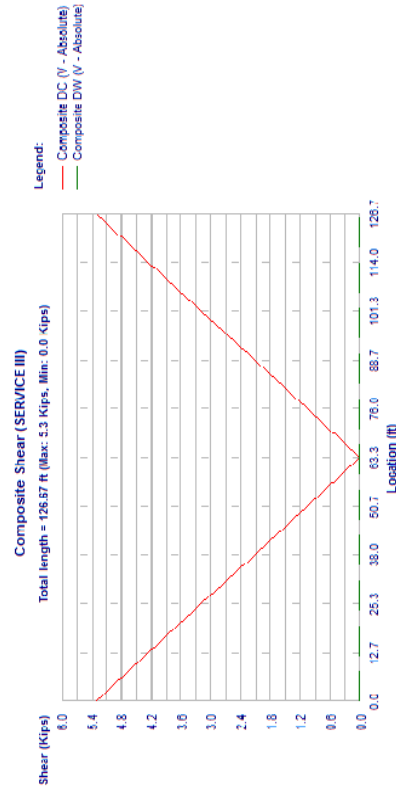
Precast Shear, Span 1, Beam 3, SERVICE III

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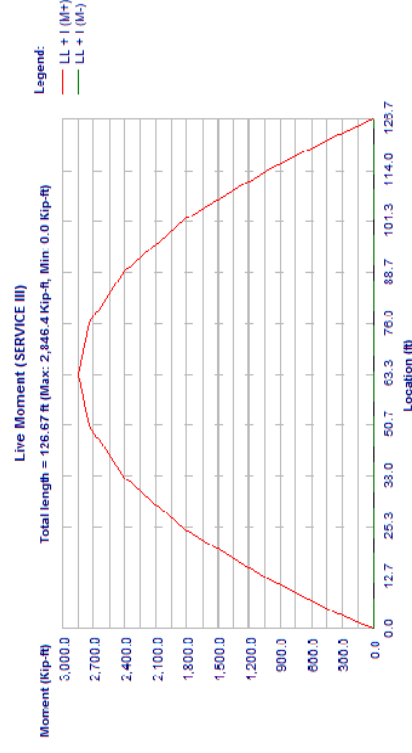
Composite Moment, Span 1, Beam 3, SERVICE III

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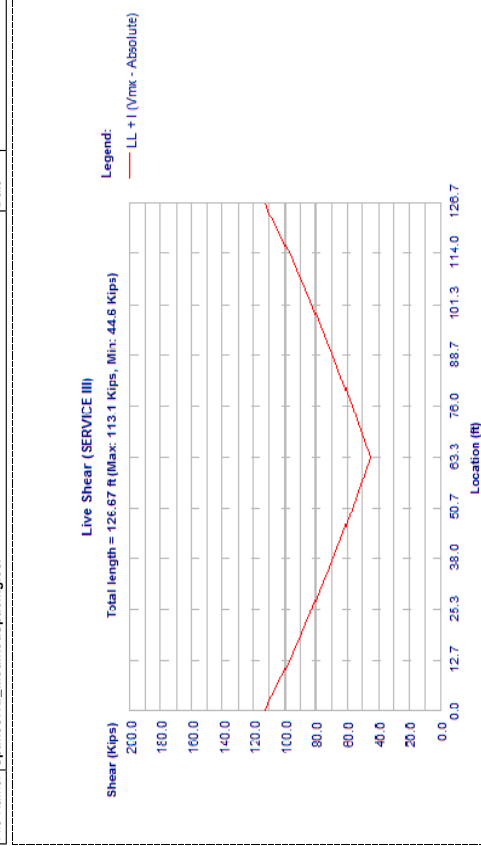
Composite Shear, Span 1, Beam 3, SERVICE III

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Live Moment, Span 1, Beam 3, SERVICE III


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Live Shear Span 1 Beam 3 SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, STRENGTH I
Shears: kips. Moments: kft

		Bearing	Trans	H/2	1.0L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0	160.3	321.4	963.8	1799.6	2396.6	2754.7	2874.1
Max. :	V	90.8	88.2	85.4	83.1	55.5	37.0	18.5	0.0
Self wt. :	M	0	115.4	231.4	694.0	1295.7	1725.5	1983.4	2069.4
(Min)	V	65.3	63.5	61.6	53.3	40.8	26.6	13.3	0.0
DL-Prec. :	M	0	36.8	73.7	221.1	412.8	549.8	631.9	659.3
DC(Max)	V	20.8	20.2	19.6	17.0	12.7	8.5	4.2	0.0
DL-Prec. :	M	0	26.5	53.1	159.2	297.2	395.8	455.0	474.7
DC(Min)	V	15.0	14.6	14.1	12.2	9.2	6.1	3.1	0.0
DL-Prec. :	M	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0	185.8	372.5	1117.0	2085.6	2777.5	3192.6	3330.9
Haunch (Max)	V	105.2	102.2	99.1	85.8	64.3	42.9	21.4	0.0
Deck + :	M	0	133.8	268.2	804.3	1501.7	1999.8	2288.7	2398.3

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	Beating	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	75.7	73.6	71.4	61.7	46.3	30.9	15.4	0.0
Diaphragm : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm : V	23.7	20.1	16.3	0.0	0.0	0.0	0.0	0.0
Diaphragm : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm : V	17.1	14.5	11.8	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	-0.0	11.7	23.5	70.6	131.9	175.6	201.8	210.6
DL-Comp : V	6.7	6.5	6.3	5.4	4.1	2.7	1.4	0.0
DC(Max)	M	-0.0	8.5	17.0	50.8	94.9	126.4	151.6
DL-Comp : M	4.8	4.7	4.5	3.9	2.9	2.0	1.0	0.0
DC(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp : V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp : V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M+	0.0	357.7	716.5	2141.4	3971.3	5245.1	6226.4
LL + I :	V	247.4	242.4	237.2	214.7	180.6	66.9	98.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	247.4	242.4	237.2	214.7	182.8	152.8	124.4
LL + I :	Vmx	0.0	372.3	740.6	2141.4	3710.3	4729.2	5174.4
LL + I :	M	0.0	752.4	1507.6	4514.0	8401.2	11144.5	12785.9
Total :	M+	0.0	752.4	1507.6	4514.0	8401.2	11144.5	12785.9
Total :	V	494.5	479.6	464.1	396.8	317.2	158.0	144.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	494.5	479.6	464.1	396.8	319.4	243.9	169.9
Total :	M	0.0	767.0	1531.7	4514.0	8140.2	10628.5	12170.5

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	76.24	89.15	102.06	114.97	123.02	124.87	126.67
Self wt., M	2754.7	2396.6	1799.6	963.8	321.4	160.3	0.0
(Max) V	18.5	37.0	55.5	74.0	85.5	88.2	90.8
Self wt., V	1983.4	1725.5	1295.7	694.0	231.4	115.4	0.0
(Min) V	13.3	26.6	40.0	53.1	61.6	63.5	65.3
DL-Prec., M	631.9	549.8	412.8	221.1	73.7	36.8	0.0
DC(Max) V	4.2	8.5	12.7	17.0	19.6	20.2	20.8
DL-Prec., M	455.0	395.8	297.2	159.2	53.1	26.5	0.0
DC(Min) V	3.1	6.1	9.2	12.2	14.1	14.6	15.0
DL-Prec., M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec., M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + M	3192.6	2777.5	2085.6	1117.0	372.5	185.8	0.0
Haunch (Max) V	21.4	42.9	64.3	85.8	99.1	102.2	105.2
Deck + M	2298.7	1999.8	1501.7	804.3	268.2	133.8	0.0
Haunch (Min) V	15.4	30.9	46.3	61.7	71.4	73.6	75.7
Diaphragm: M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm: M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp: M	201.8	175.6	131.9	70.6	23.5	11.7	0.0
DC(Max) V	1.4	2.7	4.1	5.4	6.3	6.5	6.7
DL-Comp: M	145.3	126.4	94.9	50.8	17.0	8.5	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6004.8	5245.1	3971.3	2141.4	716.5	357.7
LL + I :	M-	V	98.7	66.9	180.6	214.7	237.2
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	124.4	152.8	182.8	214.7	237.2	242.4
LL + I :	M	5174.4	4729.1	3710.3	2141.4	740.6	372.3
Total :	M+	12785.9	11144.5	8401.2	4514.0	1507.6	752.4
Total :	M-	V	144.2	158.0	317.2	396.8	464.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	169.9	243.9	319.4	396.8	464.1	479.6
Total :	Vmx	11955.5	10628.5	8140.2	4514.0	1531.7	767.0
Total :	M						0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	105.2	105.2
Diaphragm	23.7	23.7
DL-Prec(DC)	20.8	20.8
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	66.5	66.5
DL-Comp(DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:45 P.M.

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Job #
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Precast Moment (STRENGTH I)


Total length = 126.67 ft (Max: 3,330.9 Kip-ft, Min: 0.0 Kip-ft)

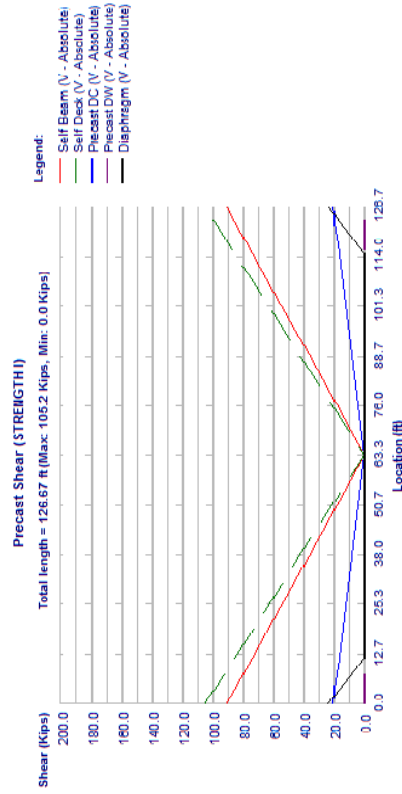
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 3, STRENGTH I

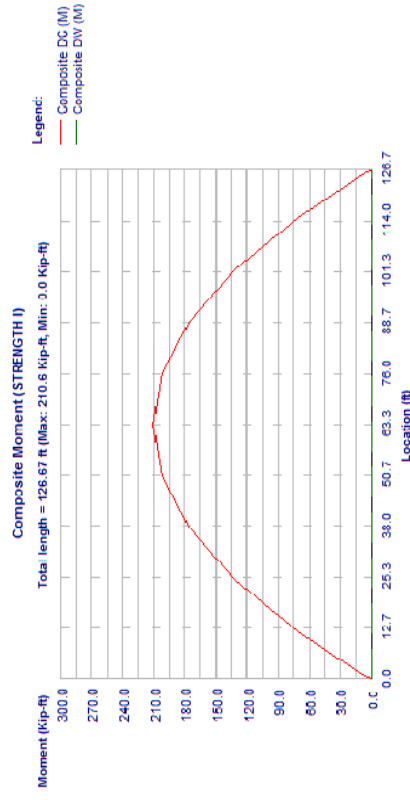
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:45 P.M.

		Sheet # 27	
		Job #	
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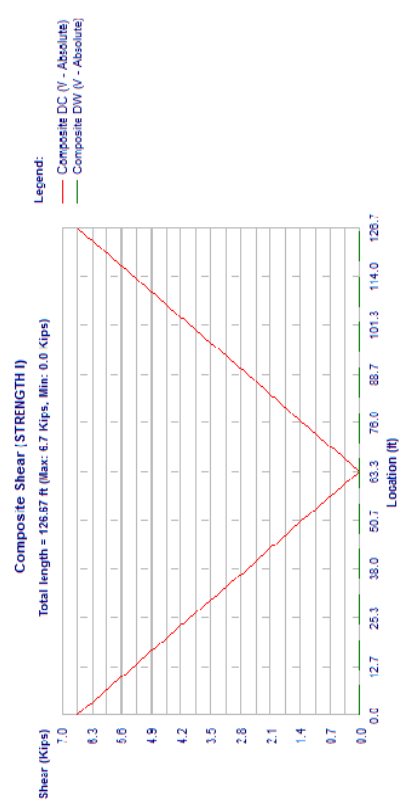
Precast Shear, Span 1, Beam 3, STRENGTH I

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		Job #	
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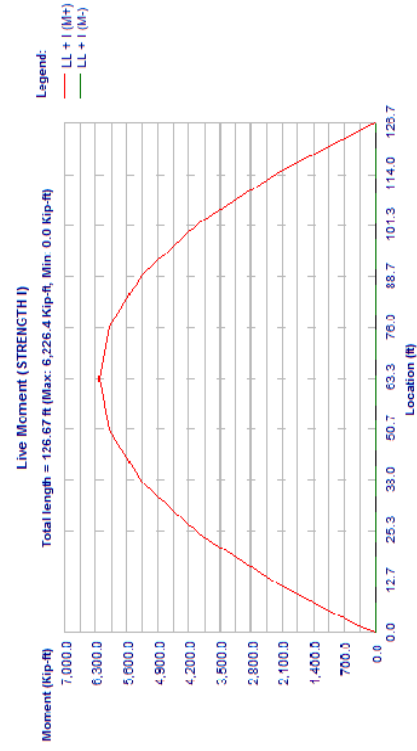
Composite Moment, Span 1, Beam 3, STRENGTH I

		Sheet # 29	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
Version: 12.01.00.57		Date Sept/9/2013	
File Name: Span05WB_ModifiedSpacing.csl		Checked	
		Date	




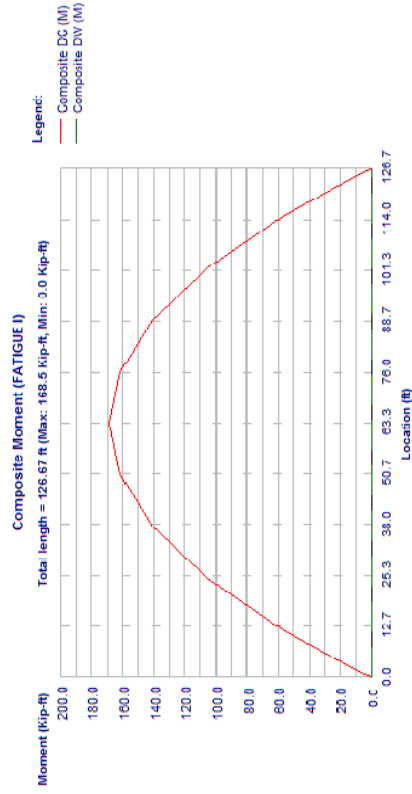
Composite Shear, Span 1, Beam 3, STRENGTH I

		Sheet # 30	
		Job #	
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		Date	




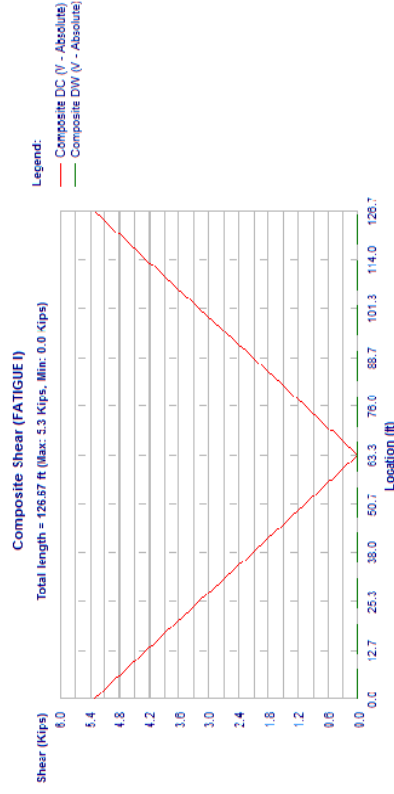
Live Moment, Span 1, Beam 3, STRENGTH I

		Sheet # 35	
		Job #	
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		Date	




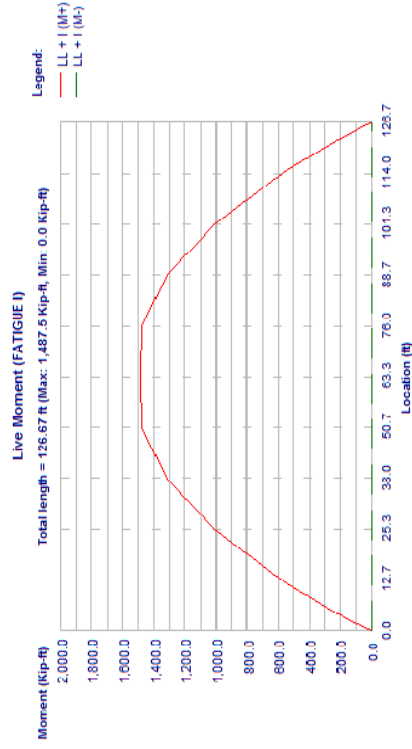
Composite Moment, Span 1, Beam 3, FATIGUE I

		Sheet # 36	
		Job #	
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		Date	




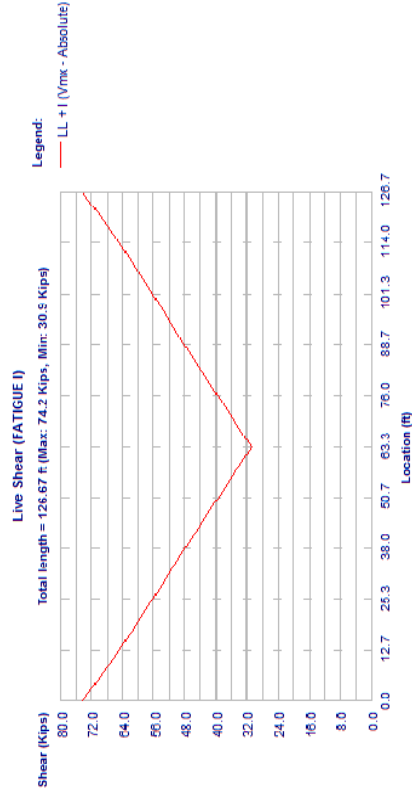
Composite Shear, Span 1, Beam 3, FATIGUE I

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		Job #	
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Live Moment, Span 1, Beam 3, FATIGUE I

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		Date	



Live Shear, Span 1, Beam 3, FATIGUE I



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File Name:	Span05WB ModifiedSpacing.csl		Checked	
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TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in
Effective	width	143.004	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.138	0.000	0.138	126.667	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
18.98	0.00
18.98	126.67

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Live Moment	(2+ lanes loaded)	0.902	(Calculated)
Live Moment	(1 lane loaded)	0.593	(Calculated)
Live Shear	(2+ lanes loaded)	1.094	(Calculated)
Live Shear	(1 lane loaded)	0.838	(Calculated)

Pedestrian	0.100	(Calculated)
------------	-------	--------------

Units: U.S. Units

Design Code: AASHTO LRFD

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TOPPING DATA:

Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	in2
Total Height	78.00	in
Mom. of Inertia (xx)	904567	in4
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-mom.	1146.5	plf
Mom. of Inertia (yy)	82367.0	in4
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/°F

(#) Of Total Section using $E_{ct}/E_c = 0.8563$


(11) Of Total Section Using L_{av}/L_c = 0.6363
Use transformed strand and rebar: Strand Only

Location.	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast:(At Release, using	E = 4016.8ksi)								
Area,	In2	1121.4	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2
Yb,	In	34.08	33.34	33.34	33.32	33.30	33.27	33.25	33.25
Ml(10x),	In4	920506	943313	943542	944546	946182	947851	949552	949552
Composite:(At Final, using	E = 4491.0ksi)								
Area,	In2	2211.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1
Yb,	In	58.29	57.67	57.67	57.66	57.65	57.63	57.62	57.62
Ml(10x),	In4	2246599	2318207	2318591	2320264	2322970	2325705	2328469	2328469

Units: U.S. Units

Design Code: AASHTO LRFD

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Span:1 Beam:4

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength		PRECAST	
Elasticity	4016.8	ksi	6.00*
Max comp	3.60	ksi	
Outer	15.00 %		
Max tens	-0.23	ksi	
Max tens, Center	-0.93	ksi	
Max tens	70.00 %		
Max tens, wireinf	-0.23	ksi	
Max tens, wireinf	-0.59	ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	7.50	ksi	DECK	5.50	ksi
Elasticity	4490.96	ksi		3845.83	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	4.50	ksi	DECK	3.30	ksi
----------	------	-----	------	------	-----

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	3.38	ksi	DECK	2.47	ksi
----------	------	-----	------	------	-----

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	3.00	ksi	DECK	-	ksi
----------	------	-----	------	---	-----

SERVICE III (Tension):

Max tens	-0.52	ksi	DECK	-0.45	ksi
----------	-------	-----	------	-------	-----

Span:1 Beam:4

PRESTRESSED STEEL:


39 strands, 6/10-270K-LL, Low relaxation strands

Depressed at 0.40L (51.63 ft from member end)

Units: U.S. Units

Design Code: AASHTO LRFD

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END PATTERN (Vcg = 6.69 in):

12 @ 3,000 in	14 @ 5,000 in	4 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		

MID PATTERN (Vcg = 4.38 in):

(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:

12 @ 3,000 in	14 @ 5,000 in	4 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	8.463	in ²
Trans. Len.bonded	3.000	ft
Trans. Len.debonded	3.000	ft
Dev. Len. bonded	11.613	ft
Dev. Len. debonded	14.516	ft
Holddown Force	6.382	kips
Tensile Strength(pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1713.8	kips
Beam Shring (PL/AE)	0.574	in

Units: U.S. Units

Design Code: AASHTO LRFD

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ENDS

MIDSPAN

61"

3"

Number

Dist. from bottom(in)

5

13

3

15

1

17

Number

Dist. from bottom(in)

12

3

17

3

4

7

Number

Dist. from bottom(in)

17

3

17

5

5

7

Span 1, Beam 4

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
5034.358	740	3725.425	147988.594	1056.044	0.000

Span 1, Beam 4
REINFORCING STEEL:

Tension steel:

fy

60.0

ksi

ES

29000

ksi

fs

24.0

ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.6181	No

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legs

Size

fy (ksi)

Area (in2)

Spacing (in)

Start (ft)

End (ft)

Extends into Deck

2

US#5(M16)

60.0

0.62

6.00

1.6181

2.9304

No

2

US#5(M16)

60.0

0.62

18.00

2.9304

7.3530

No

2

US#5(M16)

60.0

0.62

24.00

7.3530

121.7300

No

2

US#5(M16)

60.0

0.62

18.00

121.7300

126.1526

No

2

US#5(M16)

60.0

0.62

6.00

126.1526

127.4649

No

2

US#5(M16)

60.0

0.62

3.00

127.4649

129.0830

No

* The stirrups spacing for vertical shear is bigger than the maximum spacing allowed.

LOSSES

Note: Values are calculated at Midspan

Str. area

8.4630

in2

Ycg

4.38

in

P_init

1713.8

kips

Ecc

30.22

in

Days to release

0.75

%

Rel. Humid. (RH)

75.0

%

ES

28500.0

ksi

Ecl

4017

ksi

AASHTO LOSSES

Elastic Shortening ** 13.82 ksi (Eq 5.9.5.2.3a-1). (fcgp = 1.947 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-7.39	ksi	0.00
due to Composite Loads	-0.29	ksi	0.00
due to Live Loads	-4.96	ksi	0.00

Time Dependent Losses (Approximate Method (Art 5.9.5.3))


	Initial	Final
Steel relaxation	0.00	ksi
Concrete shrinkage	0.00	ksi
Concrete creep	0.00	ksi
Sub-total	13.82	ksi
Total Prestress Losses		(6.82 %)

Prestressing Stress Limit Check (Table 5.9.3.1)
Initial fpi = 202.5 ksi < 0.75 fpu, OK
Initial fpe = 180.2 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:49 P.M.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:49 P.M.



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DC(Max)	M	0.0	29.4	59.0	176.9	330.3	439.8	505.6
DW(Max)	V	16.7	16.2	15.7	13.6	10.2	6.8	3.4
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	148.7	298.0	893.6	1668.5	2222.0	2554.1
Haunch (Max)	V	84.2	81.8	79.3	68.6	51.5	34.3	17.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	19.0	16.1	13.1	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	204.4	409.4	1223.7	2269.3	2997.2	3431.3
LL + :	V	141.4	138.5	135.5	122.7	103.2	38.2	56.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	141.4	138.5	135.5	122.7	104.4	87.3	71.1
Total :	M+	0.0	212.8	423.2	1223.7	2120.2	2702.4	2956.8
Total :	V	0.0	520.2	1042.3	3121.7	5813.2	7716.7	8856.2
Total :	M-	339.1	328.2	317.1	268.4	212.5	111.1	92.8
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	339.1	328.2	317.1	268.4	213.7	160.2	107.2
Total :	M	0.0	528.5	1056.1	3121.7	5664.1	7421.9	8381.7

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6
DC(Max)	M	505.6	439.8	330.3	176.9	59.0	29.4
DW(Max)	V	3.4	6.8	10.2	13.6	15.7	16.2
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2554.1	2222.0	1668.5	893.6	298.0	148.7
Haunch (Max)	V	17.2	34.3	51.5	68.6	79.3	81.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	13.1	16.1
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3431.3	2997.2	2269.3	1223.6	409.4	204.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	56.4	38.2	103.2	122.7	135.5	138.5	141.4
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	71.1	87.3	104.4	122.7	135.5	141.4
DW(Max)	V	2956.8	2702.4	2120.2	1223.6	423.2	212.8
Deck + :	M	8856.2	7716.7	5813.2	3121.7	1042.3	520.2
DL-Prec. :	V	92.8	111.1	212.5	268.4	317.1	328.2
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	107.5	160.2	213.7	268.4	317.1	328.2
Haunch (Max)	V	8381.7	7421.9	5664.1	3121.7	1056.1	528.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	0.0	0.0	0.0	0.0	0.0	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	84.2	84.2
Diaphragm	19.0	19.0
DL-Prec.(DC)	16.7	16.7
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Moment (Kip-ft)

Precast Moment (SERVICE I)

Total length = 125.67 ft (Max: 2,664.8 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 4, SERVICE I

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Sheet # 12
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Shear (Kips)

Precast Shear (SERVICE I)

Total length = 125.67 ft (Max: 84.2 Kips, Min: 0.0 Kips)

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)

Precast Shear, Span 1, Beam 4, SERVICE I

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Composite Moment (SERVICE I)

Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 Kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)

Location (ft)	Composite DC (M)	Composite DW (M)
0.0	0.0	0.0
12.7	20.0	0.0
25.3	80.0	0.0
38.0	120.0	0.0
50.7	140.0	0.0
63.3	168.5	0.0
76.0	140.0	0.0
88.7	120.0	0.0
101.3	80.0	0.0
114.0	20.0	0.0
126.7	0.0	0.0

Composite Moment, Span 1, Beam 4, SERVICE I

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Composite Shear (SERVICE I)

Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite DW (V - Absolute)
0.0	5.3	0.0
12.7	4.8	0.0
25.3	4.2	0.0
38.0	3.6	0.0
50.7	3.0	0.0
63.3	2.4	0.0
76.0	1.8	0.0
88.7	1.2	0.0
101.3	0.6	0.0
114.0	0.0	0.0
126.7	0.0	0.0

Composite Shear, Span 1, Beam 4, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:49 P.M.

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Sheet # 15
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Live Moment (SERVICE I)
Total length = 126.67 ft (Max: 3,568.0 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
12.7	1000.0
25.3	2000.0
38.0	3000.0
50.7	3500.0
63.3	3568.0
76.0	3000.0
88.7	2000.0
101.3	1000.0
114.0	0.0
126.7	0.0

Live Moment, Span 1, Beam 4, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 18, 2013 @ 4:49 P.M.

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Sheet # 16
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Live Shear (SERVICE I)
Total length = 126.67 ft (Max: 141.4 Kips, Min: 55.7 Kips)


Legend:
— LL + I (Vmk - Absolute)

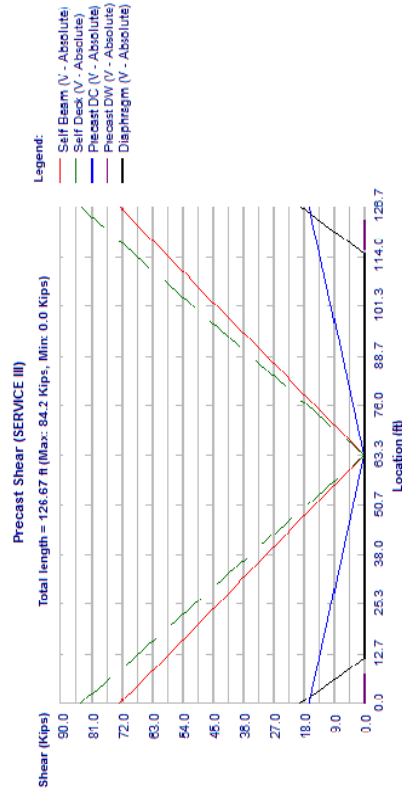
Location (ft)	Shear (Kips)
0.0	141.4
12.7	120.0
25.3	98.6
38.0	77.2
50.7	55.7
63.3	55.7
76.0	77.2
88.7	98.6
101.3	120.0
114.0	141.4
126.7	141.4

Live Shear, Span 1, Beam 4, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE III
Shears: kips, Moments: kft

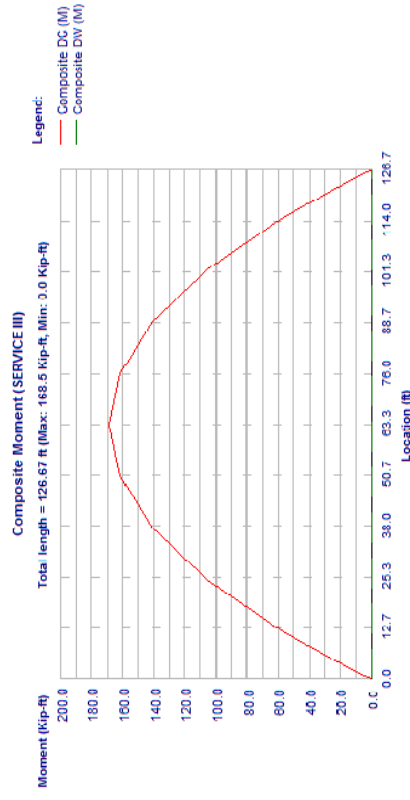
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. : M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
(Max) V	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DL-Prec. : M	0.0	29.4	59.0	176.9	330.3	439.8	505.6	527.5
DC(Max) V	16.7	16.2	15.7	13.6	10.2	6.8	3.4	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	148.7	298.0	893.6	1668.5	2222.0	2554.1	2664.8
Haunch (Max) V	84.2	81.8	79.3	68.6	51.3	34.3	17.2	0.0
Diaphragm : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max) V	19.0	16.1	13.1	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max) V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	0.0	163.5	327.5	978.9	1815.5	2397.8	2745.0	2846.4

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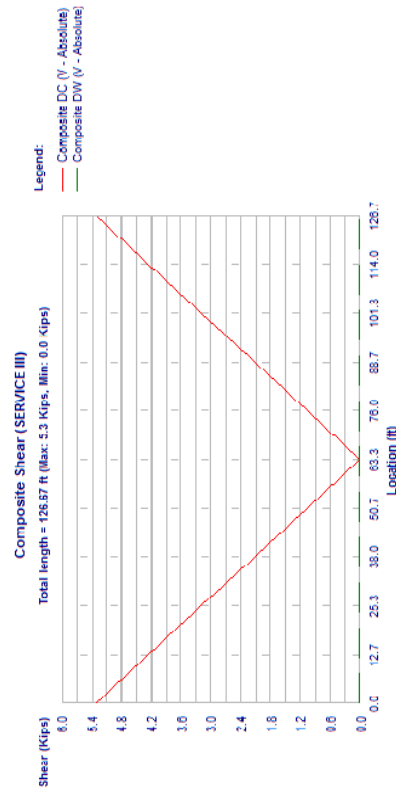
Precast Shear, Span 1, Beam 4, SERVICE III

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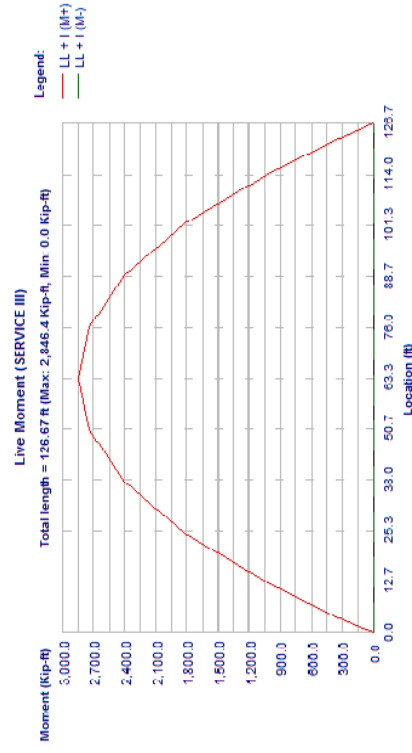
Composite Moment, Span 1, Beam 4, SERVICE III

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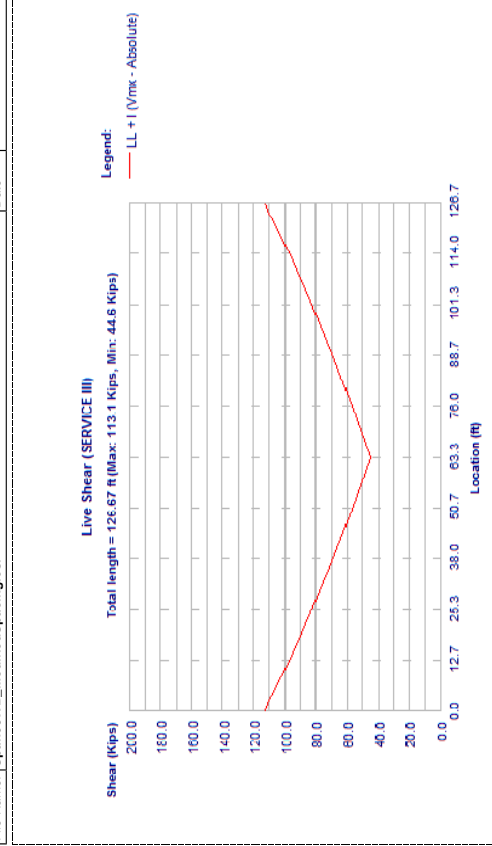
Composite Shear, Span 1, Beam 4, SERVICE III

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Live Moment, Span 1, Beam 4, SERVICE III


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Live Shear. Span 1. Beam 4. SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt.,	M	0.0	160.3	321.4	963.8	1799.6	2396.6	2754.7	2874.1
Self wt.,	M	90.8	88.2	85.4	74.0	55.5	37.0	18.5	0.0
Self wt.,	M	0.0	115.4	231.4	694.0	1295.7	1725.5	1983.4	2069.4
DL-Pre-c.	V	65.3	63.5	61.6	53.3	40.0	26.6	13.3	0.0
DL-Pre-c.	V	0.0	36.8	73.7	221.1	412.8	549.8	631.9	659.3
DC(Max)	V	20.8	20.2	19.6	17.0	12.7	8.5	4.2	0.0
DL-Pre-c.	V	0.0	26.5	53.1	159.2	297.2	395.8	455.0	474.7
DC(Min)	V	15.0	14.6	14.1	12.2	9.2	6.1	3.1	0.0
DL-Pre-c.	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Pre-c.	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + ,	M	0.0	185.8	372.5	1117.0	2085.6	2777.5	3192.6	3330.9
Deck + (Max)	M	105.2	102.2	99.1	85.8	64.3	42.9	21.4	0.0
Deck +	M	0.0	133.8	268.2	804.3	1501.7	1999.8	2288.7	2398.3

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		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	V	75.7	73.6	71.4	61.7	46.3	30.9	15.4	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Diaphragm :								
	(Max)	23.7	20.1	16.3	0.0	0.0	0.0	0.0	0.0
	Diaphragm :								
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(Min)	17.1	14.5	11.8	0.0	0.0	0.0	0.0	0.0
	M	-0.0	11.7	23.5	70.6	131.9	175.6	201.8	210.6
	DL-Comp :								
	DC(Max)	6.7	6.5	6.3	5.4	4.1	2.7	1.4	0.0
	DL-Comp :								
	M	-0.0	8.5	17.0	50.8	94.9	126.4	145.3	151.6
	DC(Min)	4.8	4.7	4.5	3.9	2.9	2.0	1.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	DL-Comp :								
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	DL-Comp :								
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	DW(Min)	0.0	0.0						
	M+	0.0	35.7	71.6	214.1	397.1	524.5	600.8	622.6
	LL + I :	24.7	24.2	23.2	21.7	180.6	66.9	98.7	64.5
	M-	0.0	0.0						
	LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	24.7	24.2	23.2	21.7	182.8	152.8	124.4	97.5
	M	0.0	37.3	74.0	214.1	370.3	472.9	517.4	509.5
	Total :	0.0	75.2	150.7	451.0	840.1	1114.5	1278.5	1330.1
	M+	V	49.5	47.6	46.1	396.8	317.2	158.0	144.2
	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	49.5	47.6	46.1	396.8	319.4	243.9	169.9	97.5
	M	0.0	76.7	153.7	451.0	814.0	1062.8	1195.5	1217.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft		76.24	89.15	102.06	114.97	123.02	124.87	126.67
Self wt., M		2754.7	2396.6	1799.6	963.8	321.4	160.3	0.0
(Max)		18.5	37.0	55.5	74.0	85.5	88.2	90.8
Self wt., V		1983.4	1725.5	1295.7	694.0	231.4	115.4	0.0
(Min)		13.3	26.6	40.0	53.3	61.6	63.5	65.3
DL-Prec., M		631.9	549.8	412.8	221.1	73.7	36.8	0.0
DC(Max)		4.2	8.5	12.7	17.0	19.6	20.2	20.8
DL-Prec., V		455.0	395.8	297.2	159.2	53.1	26.5	0.0
DC(Min)		3.1	6.1	9.2	12.2	14.1	14.6	15.0
DL-Prec., V		0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec., V		0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck +		3192.6	2777.5	2085.6	1117.0	372.5	185.8	0.0
Haunch (Max)		21.4	42.9	64.3	85.8	99.1	102.2	105.2
Deck +		2298.7	1999.8	1501.7	804.3	268.2	133.8	0.0
Haunch (Min)		15.4	30.9	46.3	61.7	71.4	73.6	75.7
Diaphragm:		M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)		V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm:		M	0.0	0.0	0.0	16.3	20.1	23.7
(Min)		V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp:		V	0.0	0.0	0.0	11.8	14.5	17.1
DC(Max)		M	201.8	175.6	131.9	70.6	23.5	11.7
DL-Comp:		V	1.4	2.7	4.1	5.4	6.3	6.5
DC(Max)		M	145.3	126.4	94.9	50.8	17.0	8.5
DL-Comp:		M						0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6004.8	5245.1	3971.3	2141.4	716.5	357.7
	V	98.7	66.9	180.6	214.7	237.2	242.4
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	124.4	152.8	182.8	214.7	237.2	242.4
	M	5174.4	4729.1	3710.3	2141.4	740.6	372.3
Total :	M+	12785.9	11144.5	8401.2	4514.0	1507.6	752.4
	V	144.2	158.0	317.2	396.8	464.1	479.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	169.9	243.9	319.4	396.8	464.1	479.6
	M	11955.5	10628.5	8140.2	4514.0	1531.7	767.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	105.2	105.2
Diaphragm	23.7	23.7
DL-Prec(DC)	20.8	20.8
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	66.5	66.5
DL-Comp(DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 3,330.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

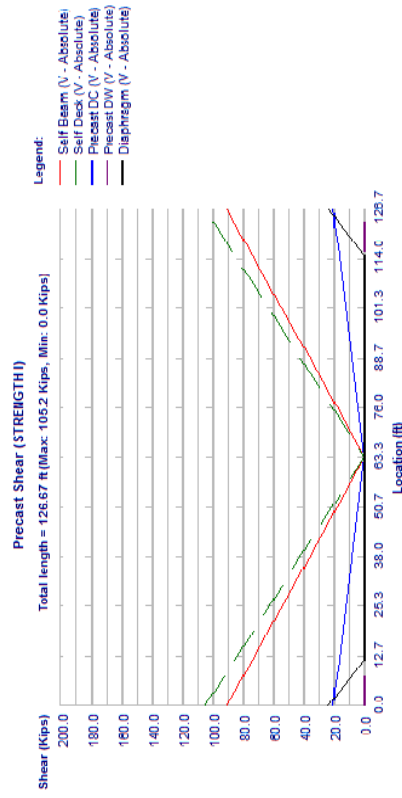
Precast Moment, Span 1, Beam 4, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

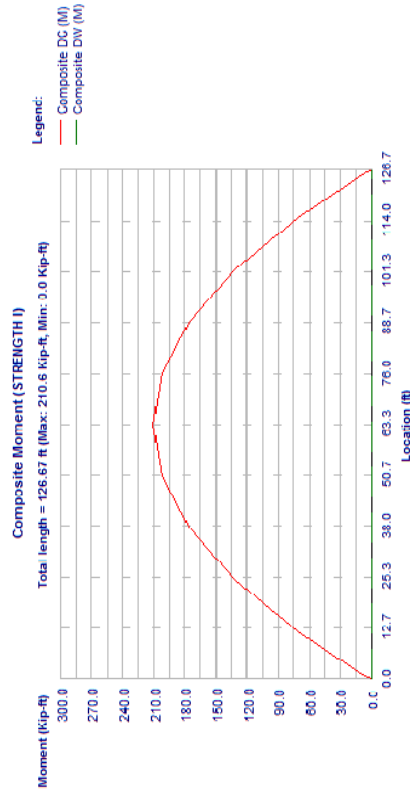
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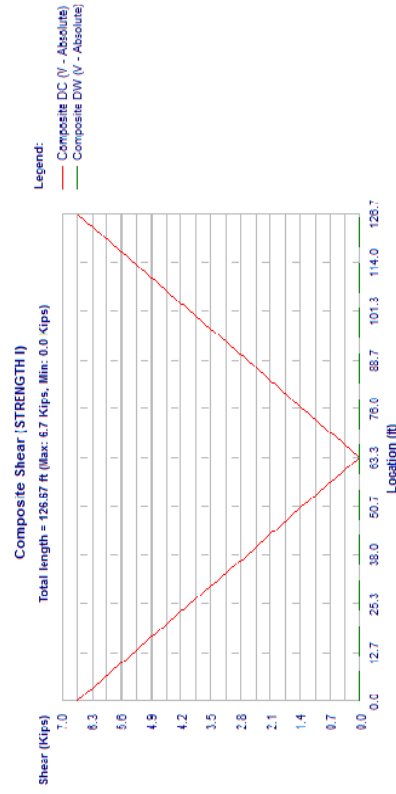
Precast Shear, Span 1, Beam 4, STRENGTH I

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		Job #	
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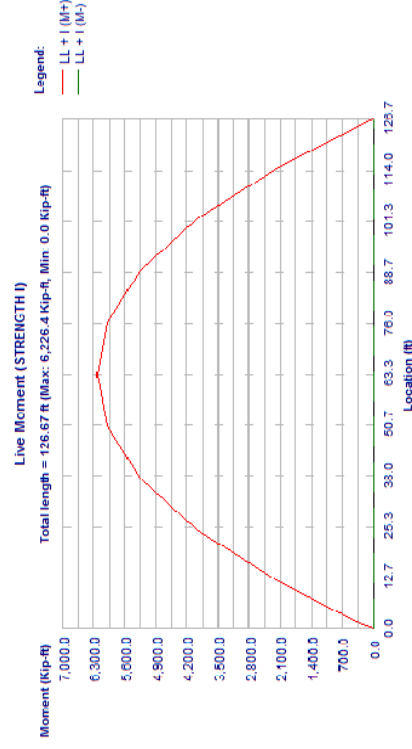
Composite Moment, Span 1, Beam 4, STRENGTH I

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Composite Shear, Span 1, Beam 4, STRENGTH I

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Live Moment, Span 1, Beam 4, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1476.1	1306.3	991.5	543.3	183.3	91.7	0.0
LL + I :	34.3	43.0	56.9	65.6	71.5	72.9	74.2
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	39.6	48.2	56.9	65.6	71.5	72.9	74.2
M	1412.5	1281.3	991.5	543.3	183.3	91.7	0.0
Total :	6901.0	6025.8	4535.5	2441.4	816.1	407.4	0.0
V	70.8	115.9	166.2	211.3	253.1	262.7	272.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	76.0	121.1	166.2	211.3	253.1	262.7	272.0
M	6837.3	6000.8	4535.5	2441.4	816.1	407.4	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,664.8 Kip-ft, Min 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Units: U.S. Units

Design Code: AASHTO LRFD

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 84.2 Kips, Min 0.0 Kips)


Legend:

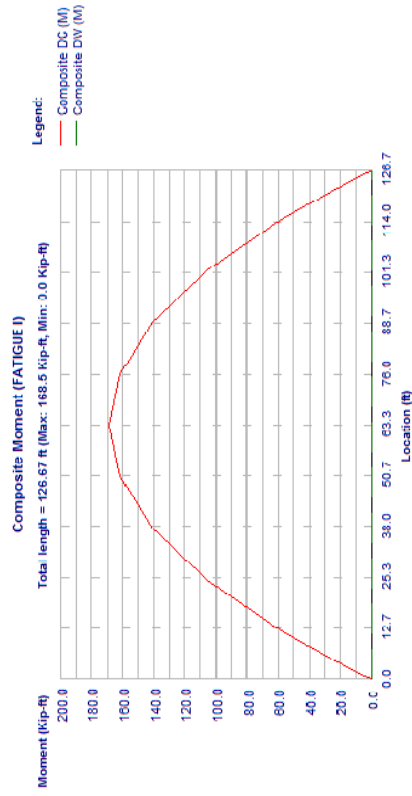
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Units: U.S. Units


Design Code: AASHTO LRFD

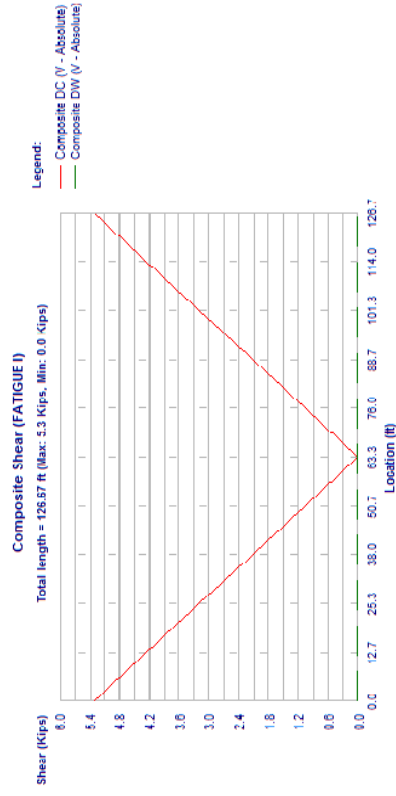
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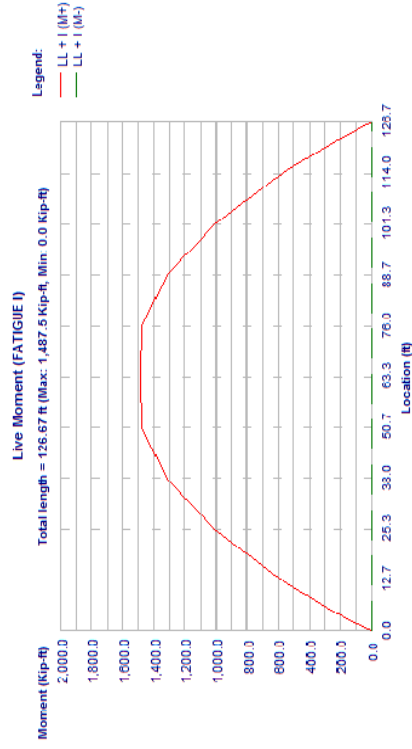
Composite Moment, Span 1, Beam 4, FATIGUE I

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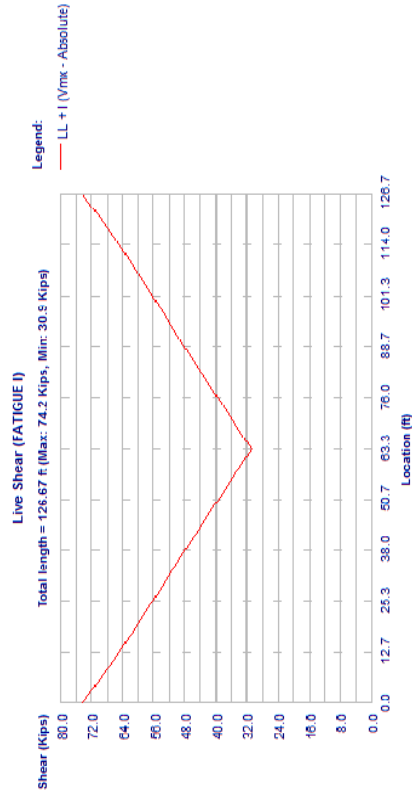
Composite Shear, Span 1, Beam 4, FATIGUE I

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		Job #	
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Live Moment, Span 1, Beam 4, FATIGUE I

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Live Shear, Span 1, Beam 4, FATIGUE I

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Sheet # 3
Job #

TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in
Effective	width	143.004	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.138	0.000	0.138	126.667	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
18.98	0.00
18.98	126.67

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment	(2+ lanes loaded)	0.902	(Calculated)
Live Moment	(1 lane loaded)	0.593	(Calculated)
Live Shear	(2+ lanes loaded)	1.094	(Calculated)
Live Shear	(1 lane loaded)	0.838	(Calculated)

Pedestrian	0.100	(Calculated)
------------	-------	--------------

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 7:56 A.M.

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COMP. DATA:

Comp. DC 0.100 (Calculated)

Comp. DW 0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90


SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	2192.9
Total Height	78.00	87.50
Mom. of Inertia (xx)	904567	2197587
Ht. of c.g.	34.60	58.72
Density	150.00	150.00
Self-weight	1146.5	2475.1
Mom. of Inertia (yy)	82367.0	
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	17°F

(#) Of Total Section using Ecl/Ec = 0.8563
Use transformed strand and rebar: Strand Only

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Area,								
Yb,	in2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2
Mi(1xx),	in	1121.4	1121.4	1121.4	1121.4	1121.4	1121.4	1121.4
	in	34.08	33.34	33.32	33.30	33.27	33.25	33.25
	in4	920506	943313	944546	946182	947851	949552	949552
Composite: (At Final, using Ec = 4491.0ksi)								
Area,	in2	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1
Yb,	in	58.29	57.67	57.66	57.65	57.63	57.62	57.62
Mi(1xx),	in4	2246599	2318207	2320264	2322970	2325705	2328469	2328469

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 7:56 A.M.



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Span:1 Beam:5

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.00*	ksi
Max comp	4016.8	ksi
Outer	3.60	ksi
Max tens	15.00 %	
Max tens, wireinf	-0.23	ksi
Center	-0.93	ksi
Max tens, 70.00 %		
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK	ksi
Elasticity	7.50	5.50	ksi
Max comp	4490.96	3845.83	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK	ksi
	4.50	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK	ksi
	3.38	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK	ksi
	3.00	-	ksi

SERVICE III (Tension):

Max tens	PRECAST	DECK	ksi
	-0.52	-0.45	ksi

Span:1 Beam:5

PRESTRESSED STEEL:


39 strands, 6/10-270K-LL, Low relaxation strands

Depressed at 0.40L (51.63 ft from member end)

Units: U.S. Units

Design Code: AASHTO LRFD

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END PATTERN (Vcg = 6.69 in):

12 @ 3,000 in	14 @ 5,000 in	4 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		

MID PATTERN (Vcg = 4.38 in):

(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:


12 @ 3,000 in	14 @ 5,000 in	4 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	8.463	in ²
Trans. Len.bonded	3,000	ft
Trans. Len.debonded	3,000	ft
Dev. Len. bonded	11.613	ft
Dev. Len. debonded	14.516	ft
Holddown Force	6.382	kips
Tensile Strength(pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1713.8	kips
Beam Shring (PL/AE)	0.574	in

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 7:56 A.M.



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Sheet # 9
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DC(Max)	M	0.0	29.4	59.0	176.9	330.3	439.8	505.6
DW(Max)	V	16.7	16.2	15.7	13.6	10.2	6.8	3.4
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	148.7	298.0	893.6	1668.5	2222.0	2554.1
Haunch (Max)	V	84.2	81.8	79.3	68.6	51.5	34.3	17.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	19.0	16.1	13.1	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	204.4	409.4	1223.7	2269.3	2997.2	3431.3
LL + I :	V	141.4	138.5	135.5	122.7	103.2	82.2	66.9
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	141.4	138.5	135.5	122.7	104.4	87.3	71.1
Total :	M+	0.0	212.8	423.2	1223.7	2120.2	2702.4	2956.8
Total :	V	0.0	520.2	1042.3	3121.7	5813.2	7716.7	8856.2
Total :	M-	339.1	328.2	317.1	268.4	212.5	111.1	92.8
Total :	Vmx	339.1	328.2	317.1	268.4	213.7	160.2	107.2
Total :	M	0.0	528.5	1056.1	3121.7	5664.1	7421.9	8381.7

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6
DC(Max)	M	505.6	439.8	330.3	176.9	59.0	29.4
DL-Prec. :	V	3.4	6.8	10.2	13.6	15.7	16.2
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	V	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	M	2554.1	2222.0	1668.5	893.6	298.0	148.7
Diaphragm :	V	17.2	34.3	51.5	68.6	79.3	81.8
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	161.5	140.5	105.5	56.5	13.1	16.1
DL-Comp. :	V	1.1	2.2	3.3	4.3	5.0	5.2
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3431.3	2997.2	2269.3	1223.6	409.4	204.4



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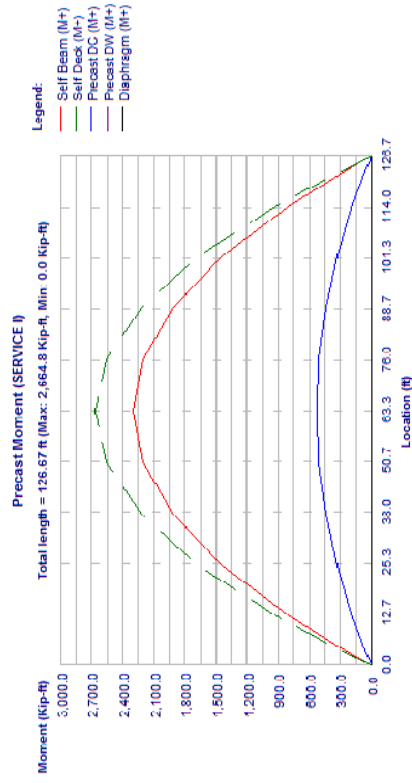
Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	56.4	38.2	103.2	122.7	135.5	138.5	141.4
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	71.1	87.3	104.4	122.7	135.5	141.4
DW(Max)	V	2956.8	2702.4	2120.2	1223.6	423.2	212.8
Deck + :	M	8856.2	7716.7	5813.2	3121.7	1042.3	520.2
DL-Prec. :	V	92.8	111.1	212.5	268.4	317.1	328.2
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	107.5	160.2	213.7	268.4	317.1	328.2
Diaphragm :	M	8381.7	7421.9	5664.1	3121.7	1056.1	528.5

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	84.2	84.2
Diaphragm	19.0	19.0
DL-Prec.(DC)	16.7	16.7
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

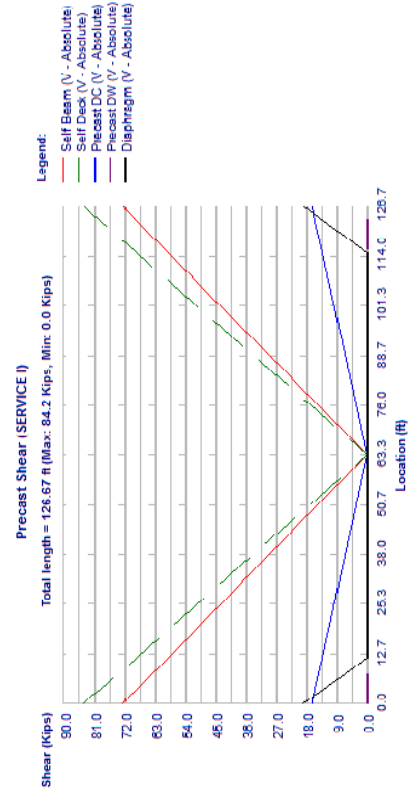
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Precast Moment, Span 1, Beam 5, SERVICE I

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Precast Shear, Span 1, Beam 5, SERVICE I

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Sheet # 13
Job #

Composite Moment (SERVICE I)
Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 Kip-ft)

Legend:
— Composite DC (M)
— Composite D/W (M)

Location (ft)	Composite DC (M) (Kip-ft)	Composite D/W (M) (Kip-ft)
0.0	0.0	0.0
12.7	20.0	0.0
25.3	60.0	0.0
38.0	100.0	0.0
50.7	140.0	0.0
63.3	168.5	0.0
76.0	140.0	0.0
88.7	100.0	0.0
101.3	60.0	0.0
114.0	20.0	0.0
126.7	0.0	0.0

Composite Moment, Span 1, Beam 5, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 7:56 A.M.

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Sheet # 14
Job #


Composite Shear (SERVICE I)
Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)

Legend:
— Composite DC (V - Absolute)
— Composite D/W (V - Absolute)

Location (ft)	Composite DC (V - Absolute) (Kips)	Composite D/W (V - Absolute) (Kips)
0.0	5.3	0.0
12.7	4.8	0.0
25.3	4.3	0.0
38.0	3.8	0.0
50.7	3.3	0.0
63.3	2.8	0.0
76.0	2.3	0.0
88.7	1.8	0.0
101.3	1.3	0.0
114.0	0.8	0.0
126.7	0.3	0.0

Composite Shear, Span 1, Beam 5, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 7:56 A.M.



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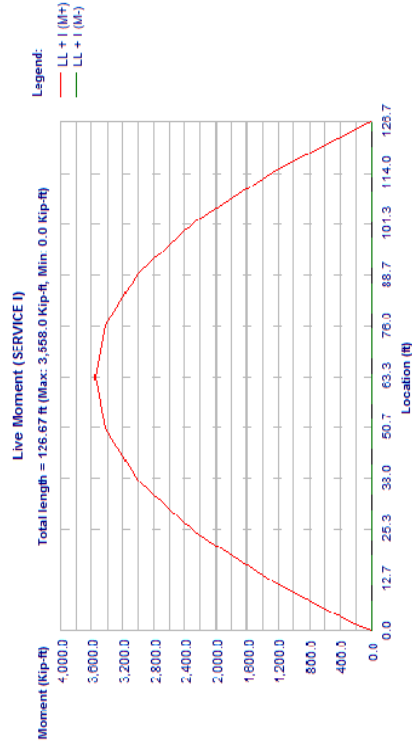
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Sheet # 15

Job #



Live Moment, Span 1, Beam 5, SERVICE I



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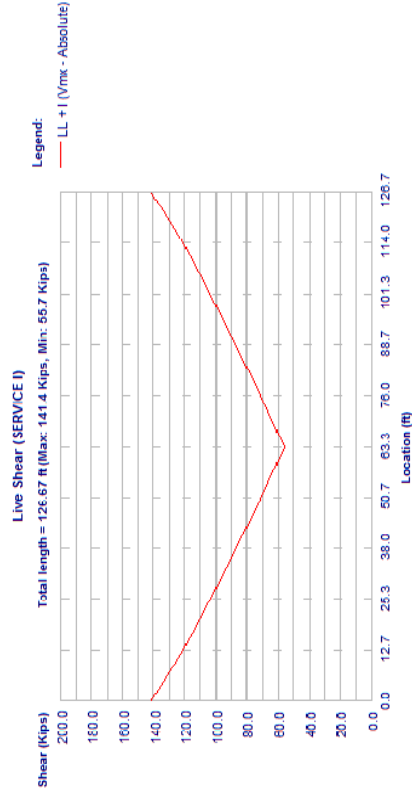
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Sheet # 16


Job #



Live Shear, Span 1, Beam 5, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE III
Shears: kips, Moments: kft

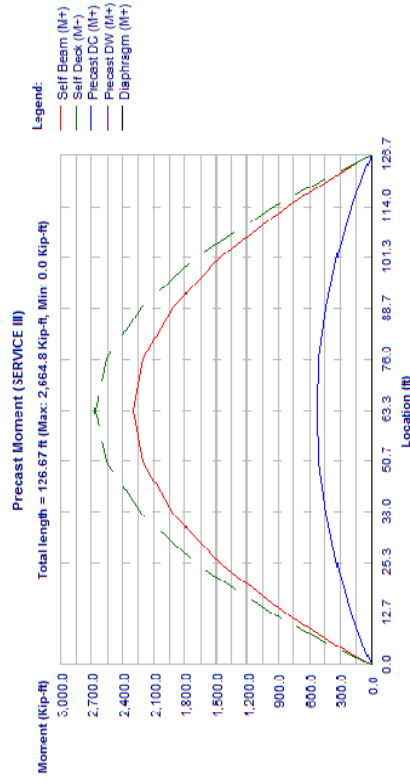
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
(Max)	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DL-Prec. :	0.0	29.4	59.0	176.9	330.3	439.8	505.6	527.5
DC(Max)	16.7	16.2	15.7	13.6	10.2	6.8	3.4	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	148.7	298.0	893.6	1668.5	2222.0	2554.1	2664.8
Haunch (Max)	84.2	81.8	79.3	68.6	51.3	34.3	17.2	0.0
Diaphragm :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	19.0	16.1	13.1	0.0	0.0	0.0	0.0	0.0
DL-Comp :	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	163.5	327.5	978.9	1815.5	2397.8	2745.0	2846.4

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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
LL + I :	V	113.1	110.8	108.4	98.2	82.5	30.6	45.1
M- :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	113.1	110.8	108.4	98.2	83.6	69.9	56.9
LL + I :	M	0.0	170.2	338.6	978.9	1696.1	2161.9	2365.4
Total :	M+	0.0	479.3	960.4	2877.0	5359.4	7117.3	8169.9
V :	V	310.8	300.5	289.9	243.9	191.8	103.4	81.5
M- :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	310.8	300.5	289.9	243.9	192.8	142.7	93.3
M :	M	0.0	486.0	971.5	2877.0	5240.1	6881.4	7790.3
Total :								7989.4

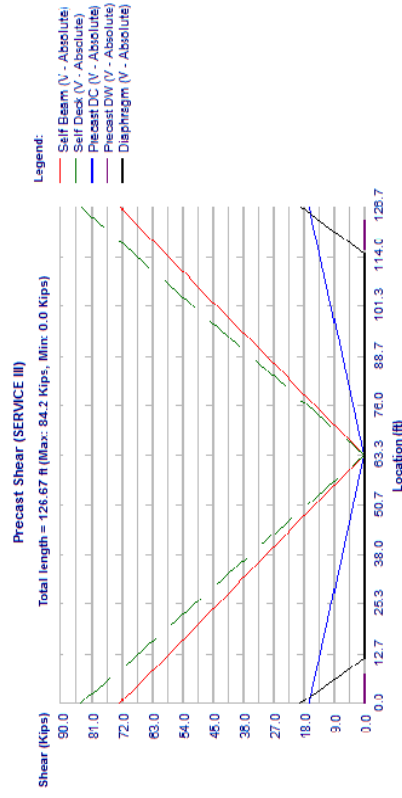
	0.60L	0.80L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	124.87	126.67
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
DL-Prec :	V	14.8	29.6	44.4	59.2	68.4	70.6	72.6
DC(Max) :	M	505.6	439.8	330.3	176.9	59.0	29.4	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	15.7	16.2	16.7
DW(Max) :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2554.1	2222.0	1668.5	893.6	298.0	148.7	0.0
Diaphragm :	V	17.2	34.3	51.5	68.6	79.3	81.8	84.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max) :	M	161.5	140.5	105.5	56.5	18.8	9.4	19.0
DL-Comp :	V	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DW(Max) :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2745.0	2397.8	1815.5	978.9	327.5	163.5	-0.0
LL + I :	M-	45.1	30.6	82.5	98.2	108.4	110.8	113.1
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	56.9	69.9	83.6	98.2	108.4	110.8	113.1
Total :	M	2365.4	2161.9	1696.1	978.9	338.6	170.2	-0.0
V :	V	8169.9	7117.3	5359.4	2877.0	960.4	479.3	0.0
M- :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	93.3	142.7	192.8	243.9	289.9	300.5	310.8
Total :	M	7790.3	6881.4	5240.1	2877.0	971.5	486.0	0.0

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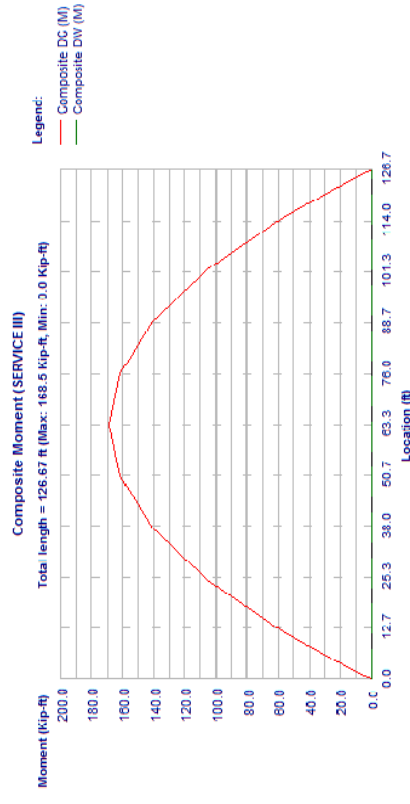
Precast Moment, Span 1, Beam 5, SERVICE III

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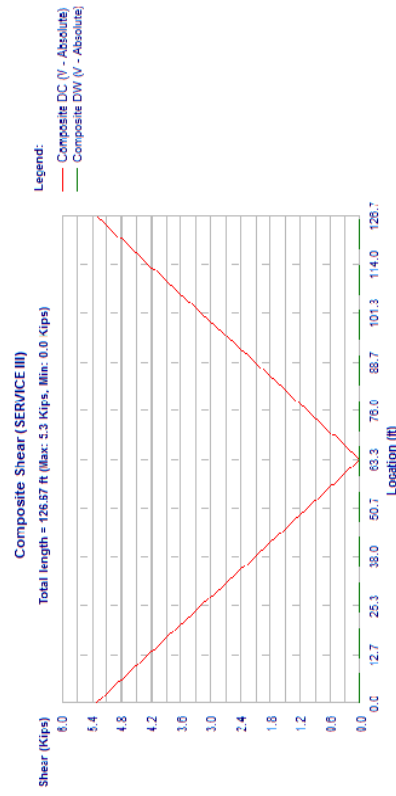
Precast Shear, Span 1, Beam 5, SERVICE III

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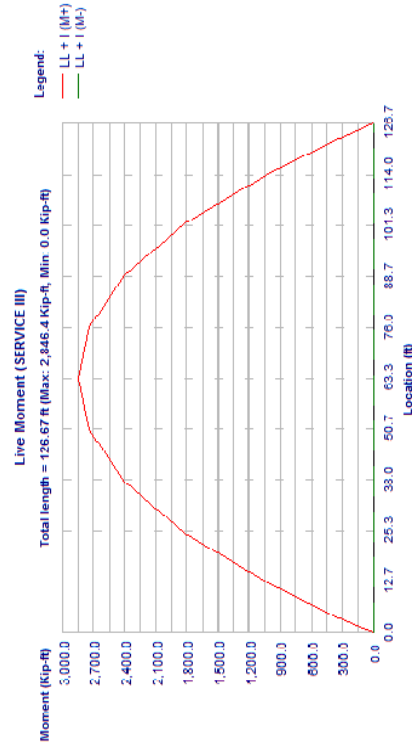
Composite Moment, Span 1, Beam 5, SERVICE III

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Composite Shear, Span 1, Beam 5, SERVICE III

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Live Moment, Span 1, Beam 5, SERVICE III

Bentley

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Sheet # 25
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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6004.8	5245.1	3971.3	2141.4	716.5	357.7
	V	98.7	66.9	180.6	214.7	237.2	242.4
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	124.4	152.8	182.8	214.7	237.2	242.4
	M	5174.4	4729.1	3710.3	2141.4	740.6	372.3
Total :	M+	12785.9	11144.5	8401.2	4514.0	1507.6	752.4
	V	144.2	158.0	317.2	396.8	464.1	479.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	169.9	243.9	319.4	396.8	464.1	479.6
	M	11955.5	10628.5	8140.2	4514.0	1531.7	767.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	105.2	105.2
Diaphragm	23.7	23.7
DL-Prec (DC)	20.8	20.8
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 3,330.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Location (ft)

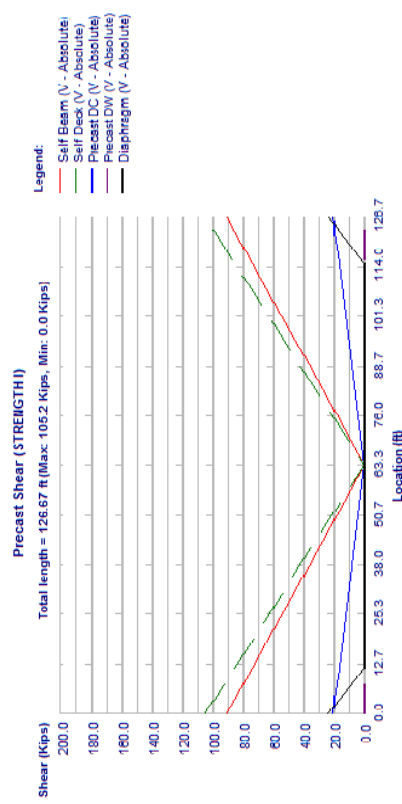
Precast Moment, Span 1, Beam 5, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

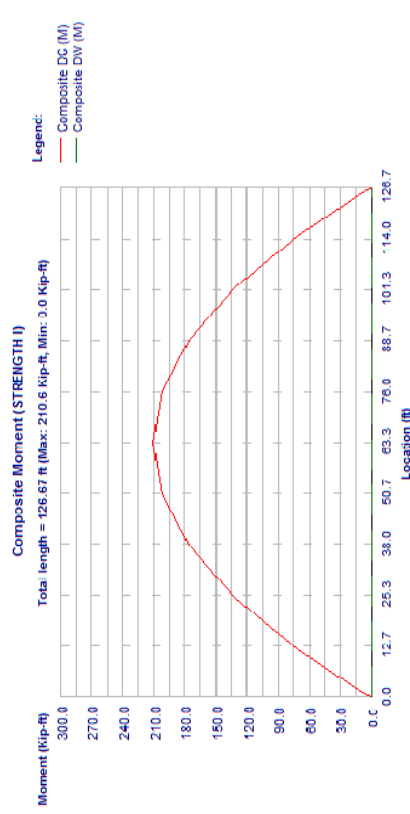
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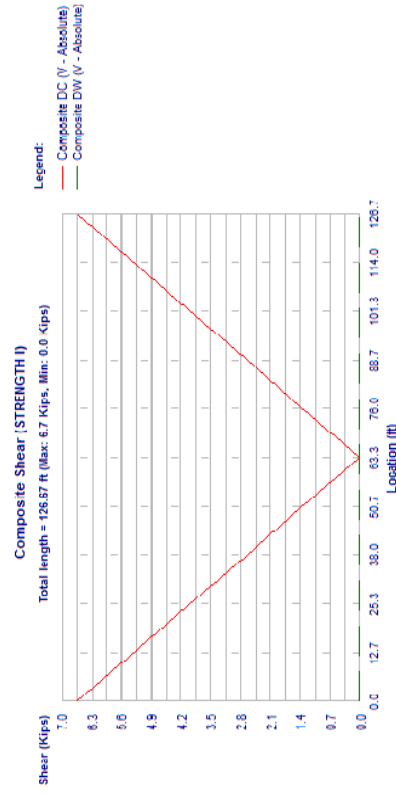
Precast Shear, Span 1, Beam 5, STRENGTH I

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		Job #	
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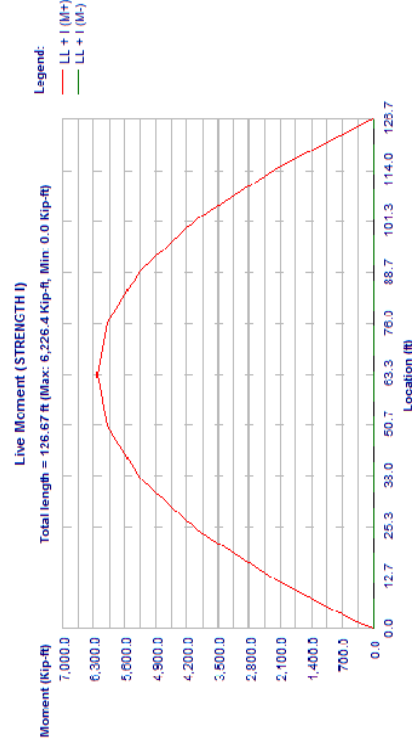
Composite Moment, Span 1, Beam 5, STRENGTH I

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Composite Shear, Span 1, Beam 5, STRENGTH I

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Live Moment, Span 1, Beam 5, STRENGTH I

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Sheet # 31
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Live Shear (STRENGTH I)

Total length = 126.67 ft (Max: 247.4 Kips, Min: 97.5 Kips)

Shear (Kips)

Location (ft)

Legend: LL + 1 (Vmx - Absolute)

Live Shear, Span 1, Beam 5, STRENGTH I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, FATIGUE I

Shears: Kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.65	11.70	24.61	37.52	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	29.4	59.0	176.9	330.3	439.8	505.6
DC(Max)	V	16.7	16.2	15.7	13.6	10.2	6.8	3.4
DL(Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	148.7	298.0	893.6	1668.5	2222.0	2554.1
Haunch (Max)	V	84.2	81.8	79.3	68.6	51.5	34.3	17.2
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Units : U.S. Units

Design Code : AASHTO LRFD

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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	19.0	16.1	13.1	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Comp :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	91.7	183.3	543.3	991.5	1306.3	1476.1
LL + I :	M-	74.2	72.9	71.5	65.6	56.9	43.0	34.3
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	74.2	72.9	71.5	65.6	56.9	48.2	39.6
Total :	M	0.0	91.7	183.3	543.3	991.5	1281.3	1412.5
Total :	M+	0.0	407.4	816.1	2441.4	4535.5	6025.8	6901.0
Total :	M-	272.0	262.7	253.1	211.3	166.2	115.9	70.8
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	272.0	262.7	253.1	211.3	166.2	121.1	76.0
Total :	M	0.0	407.4	816.1	2441.4	4535.5	6000.8	6837.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	126.67
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	505.6	439.8	330.3	176.9	59.0	29.4
DC(Max)	V	3.4	6.8	10.2	13.6	15.7	16.2
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2554.1	2222.0	1668.5	893.6	298.0	148.7
Haunch (Max)	V	17.2	34.3	51.5	68.6	79.3	84.2
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	161.5	140.5	105.5	56.5	18.8	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0

Units : U.S. Units

Design Code : AASHTO LRFD

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1476.1	1306.3	991.5	543.3	183.3	91.7	0.0
LL + I :	34.3	43.0	56.9	65.6	71.5	72.9	74.2
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	39.6	48.2	56.9	65.6	71.5	72.9	74.2
M	1412.5	1281.3	991.5	543.3	183.3	91.7	0.0
Total :	6901.0	6025.8	4535.5	2441.4	816.1	407.4	0.0
V	70.8	115.9	166.2	211.3	253.1	262.7	272.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	76.0	121.1	166.2	211.3	253.1	262.7	272.0
M	6837.3	6000.8	4535.5	2441.4	816.1	407.4	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,664.8 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 5, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 7:56 A.M.

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 84.2 Kips, Min 0.0 Kips)


Location (ft)

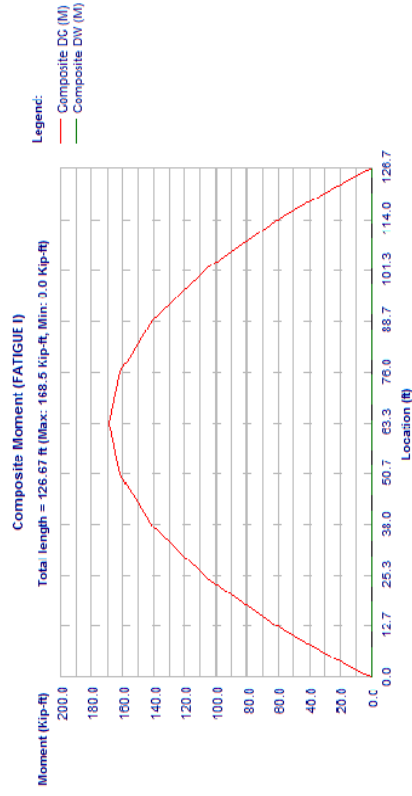
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 5, FATIGUE I

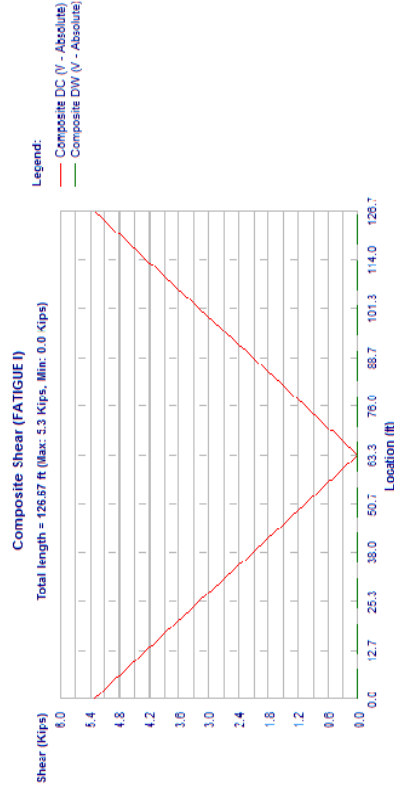
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 7:56 A.M.

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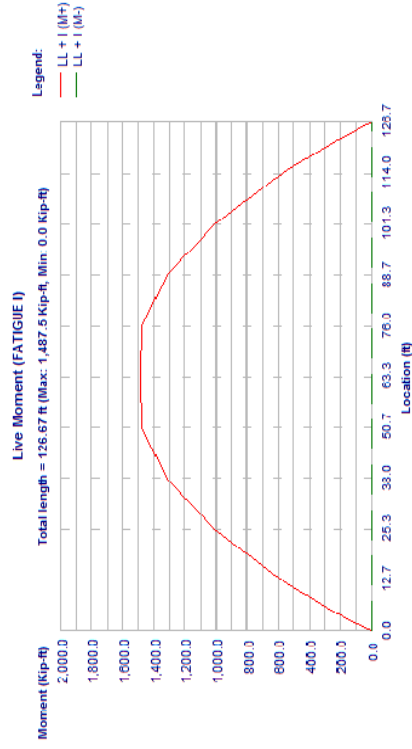
Composite Moment, Span 1, Beam 5, FATIGUE I

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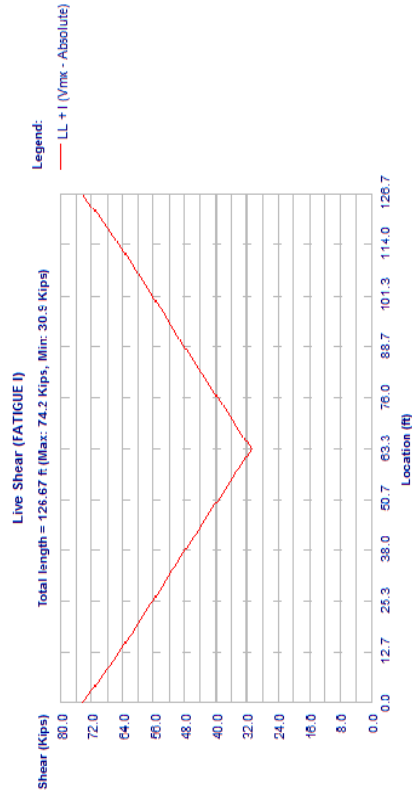
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Live Moment, Span 1, Beam 5, FATIGUE I

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Live Shear, Span 1, Beam 5, FATIGUE I



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Sheet # 1
Job #


PROPERTIES

Span:1, Beam:6

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

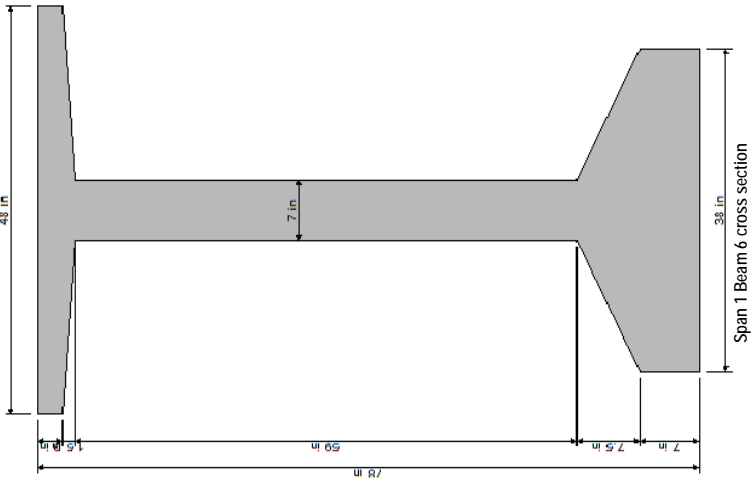


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Sheet # 2
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Span 1 Beam 6 cross section


GENERAL BRIDGE DATA:

Bridge Width	109.13 ft
Curb-to-curb	106.04 ft
Beam Spac. LL/RT	11.92/ 10.51 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees

Units: U.S. Units

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Sheet # 3

Job #

TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in
Effective	width	134.562	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.124	0.000	0.124	126.667	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
17.81	0.00
17.81	126.67

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment	(2+ lanes loaded)	0.863	(Calculated)
Live Moment	(1 lane loaded)	0.571	(Calculated)
Live Shear	(2+ lanes loaded)	1.047	(Calculated)
Live Shear	(1 lane loaded)	0.810	(Calculated)

Pedestrian	0.100	(Calculated)
------------	-------	--------------



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COMP. DATA:

Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):


Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	in2
Total Height	78.00	in
Mom. of inertia (xx)	904567	in4
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of inertia (yy)	82367.0	in4
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/F

(#) Of Total Section using Ecl/Ec = 0.8563
Use transformed strand and rebar: Strand Only

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Area,	in2	1149.5	1149.5	1149.5	1149.5	1149.5	1149.5	1149.5
Yb,	in	34.11	33.40	33.39	33.36	33.33	33.31	33.31
Mi(1xx),	in4	919724	941473	942711	944354	946032	947745	947745
Composite: (At Final, using Ec = 4491.0ksi)								
Area,	in2	2148.7	2174.4	2174.4	2174.4	2174.4	2174.4	2174.4
Yb,	in	57.60	57.00	56.99	56.98	56.97	56.95	56.95
Mi(1xx),	in4	2204469	2270691	2272723	2275397	2278102	2280838	2280838



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Span:1 Beam:6

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.00*	ksi
Max comp	4016.8	ksi
Outer	3.60	ksi
Max tens	15.00 %	ksi
Max tens, wireinf	-0.23	ksi
Center	-0.93	ksi
Max tens, 70.00 %	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	7.50	5.50
	ksi	ksi
	4490.96	3845.83
	ksi	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	4.50	3.30
	ksi	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	3.38	2.47
	ksi	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK
	3.00	-
	ksi	ksi

SERVICE III (Tension):


Max tens	PRECAST	DECK
	-0.52	-0.45
	ksi	ksi

Span:1 Beam:6

PRESTRESSED STEEL:

37 strands, 6/10-270K-LL, Low relaxation strands

Depressed at 0.40L (51.63 ft from member end)



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END PATTERN (Vcg = 6.68 in):

12 @ 3,000 in	14 @ 5,000 in	2 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		

MID PATTERN (Vcg = 4.24 in):

(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:

12 @ 3,000 in	14 @ 5,000 in	2 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	8.029	in ²
Trans. Len.bonded	3.000	ft
Trans. Len.debonded	3.000	ft
Dev. Len. bonded	11.582	ft
Dev. Len. debonded	14.477	ft
Holddown Force	6.382	kips
Tensile Strength(pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1625.9	kips
Beam Shring (PL/AE)	0.545	in

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ENDS

MIDSPAN

Number	Dist. from bottom(in)
5	13
3	15
1	17

Number	Dist. from bottom(in)
17	3
17	5
3	7

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
4776.192	740	3534.382	147988.594	1056.044	0.000

fy	ksi
60.0	ksi
29000	ksi
24.0	ksi

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.5262	No

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ENDS

MIDSPAN

Number	Dist. from bottom(in)
5	13
3	15
1	17

Number	Dist. from bottom(in)
17	3
17	5
3	7

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
4776.192	740	3534.382	147988.594	1056.044	0.000

fy	ksi
60.0	ksi
29000	ksi
24.0	ksi

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.5262	No

LOSSES

Note: Values are calculated at Midspan

Str. area	8.0290	in2
Ycg	4.24	in
P_init	1625.9	kips
Ecc	30.36	in
Days to release	0.75	
Rel. Humid (RH)	75.0	%
ES	28500.0	ksi
Ecl	4017	ksi

AASHTO LOSSES

Elastic Shortening ** 13.00 ksi (Eq 5.9.5.2.3a-1). (fcgp= 1.832 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads		-7.04	ksi
due to Composite Loads		-0.30	ksi
due to Live Loads		-4.79	ksi

Time Dependent Losses (Approximate Method (Art 5.9.5.3))

	Initial	Final
Steel relaxation	0.00	ksi
Concrete shrinkage	0.00	ksi
Concrete creep	0.00	ksi
Sub-total	13.00	(6.42 %)
Total Prestress Losses		8.44
		(4.17 %)
		21.44
		(10.59 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

initial fpi = 202.5 ksi < 0.75 fpu, OK

initial fpe = 181.1 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.


Printed on: October 21, 2013 @ 8:19 A.M.

Design Code: AASHTO LRFD

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 8:19 A.M.



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE I
Shears: kips, Moments: kft

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.0	1.79	3.65	11.70	24.61	37.52	50.43	63.33	
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DC(Max)	M	0.0	27.9	55.8	167.5	312.7	416.4	478.6	499.4
DL-Prec. :	V	15.8	15.3	14.9	12.9	9.6	6.4	3.2	0.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	140.3	281.2	843.4	1574.6	2097.0	2410.4	2514.8
Haunch (Max)	V	79.4	77.2	74.8	64.7	48.6	32.4	16.2	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	17.8	15.1	12.3	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	-5.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	195.5	391.6	1170.3	2170.5	2866.6	3281.8	3403.0
LL + I :	V	135.4	132.6	129.8	117.5	98.8	36.6	54.0	35.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	135.4	132.6	129.8	117.5	100.0	83.6	68.1	53.4
Total :	M+	0.0	203.5	404.8	1170.3	2027.8	2584.7	2828.0	2784.9
Total :	V	0.0	501.4	1004.6	3008.8	5602.9	7437.7	8536.1	8885.0
Total :	M-	326.3	315.9	305.2	258.6	204.7	107.2	89.3	35.3
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	326.3	315.9	305.2	258.6	205.9	154.2	103.4	53.4
Total :	M	0.0	509.3	1017.8	3008.8	5460.3	7155.8	8082.3	8266.9

Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67	
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3	0.0
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6	72.6
DC(Max)	M	478.6	416.4	312.7	167.5	55.8	21.9	0.0
DL-Prec. :	V	3.2	6.4	9.6	12.9	14.9	15.3	15.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2410.4	2097.0	1574.6	843.4	281.2	140.3	0.0
Haunch (Max)	V	16.2	32.4	48.6	64.7	74.8	77.2	79.4
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	12.3	15.1	17.8
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2	5.3
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3281.8	2866.6	2170.5	1170.3	391.6	195.5	-0.0



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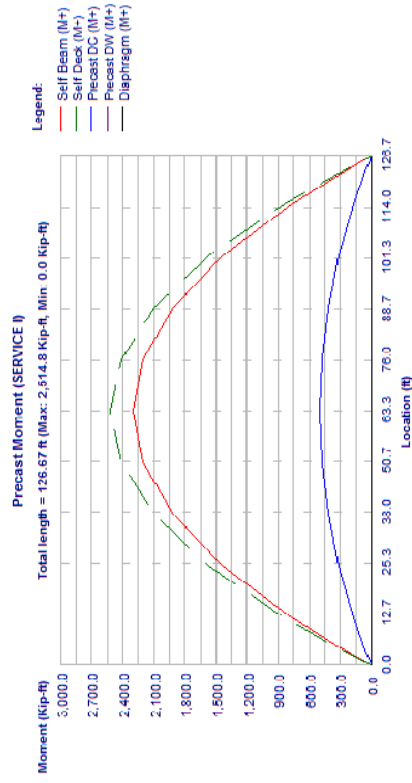
Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	54.0	36.6	98.8	117.5	129.8	132.6	135.4	
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	68.1	83.6	100.0	117.5	129.8	132.6	135.4
DL-Prec. :	V	2828.0	2584.6	2027.8	1170.3	404.8	203.5	-0.0
DL-Comp. :	M+	8536.1	7437.7	5602.9	3008.7	1004.6	501.4	0.0
LL + I :	V	89.3	107.2	204.7	258.6	305.2	315.9	326.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	103.4	154.2	205.9	258.6	305.2	315.9	326.3
Total :	M	8082.3	7155.7	5460.3	3008.7	1017.8	509.3	0.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	79.4	79.4
Diaphragm	17.8	17.8
DL-Prec.(DC)	15.8	15.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

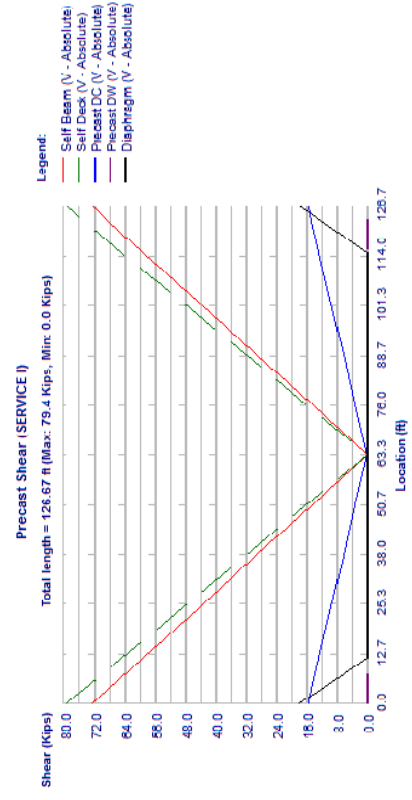
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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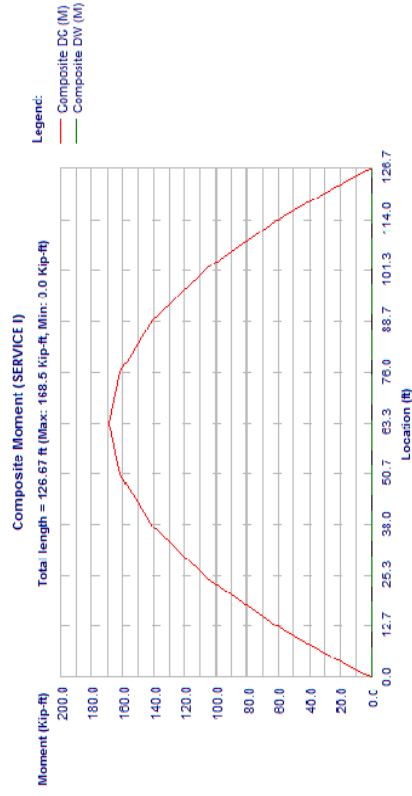
Precast Moment, Span 1, Beam 6, SERVICE I

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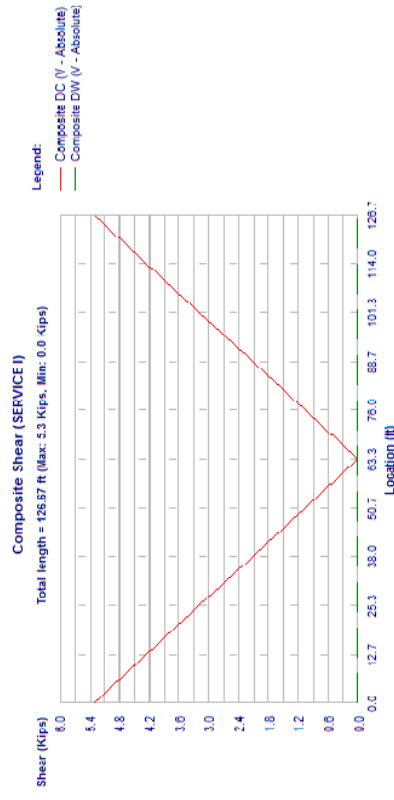
Precast Shear, Span 1, Beam 6, SERVICE I

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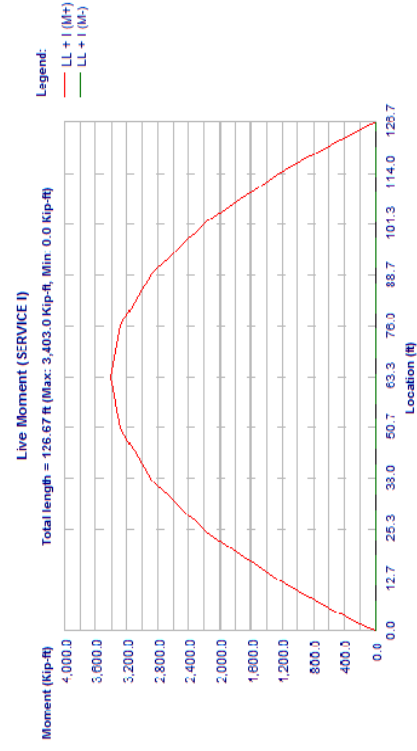
Composite Moment, Span 1, Beam 6, SERVICE I

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Composite Shear, Span 1, Beam 6, SERVICE I


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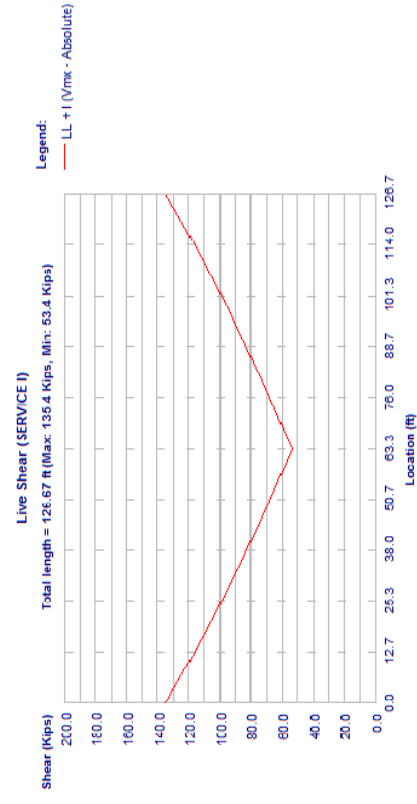


Live Moment, Span 1, Beam 6, SERVICE I


	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33	
Self wt.,	M	0.0	128.3	257.1	71.10	143.97	1917.2	2203.8	2299.3
(Max)	M	72.6	70.6	68.4	59.2	44.4	29.6	14.8	
DL-Prec.	M	0.0	27.9	55.8	167.5	312.7	416.4	478.6	499.4
DC(Max)	V	15.8	15.3	14.9	12.9	9.6	6.4	3.2	
DL-Prec.	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck +	M	0.0	140.3	281.2	843.4	1574.6	2097.0	2410.4	2514.8
Haunch (Max)	V	79.4	77.2	74.8	64.7	48.6	32.4	16.2	
Diaphragm:	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	M	17.8	15.1	12.3	0.0	0.0	0.0	0.0	0.0
DL-Comp.	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	
DL-Comp.	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1:	M+	0.0	156.4	313.3	936.3	1736.4	2299.3	2625.5	2722.4

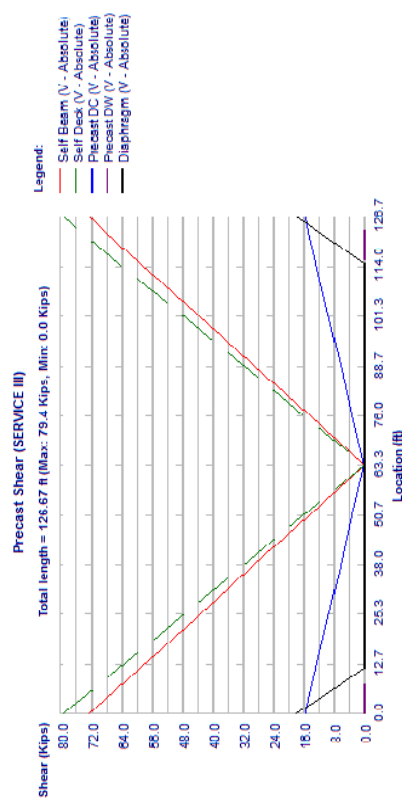
SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE III
Shears: kips, Moments: kft

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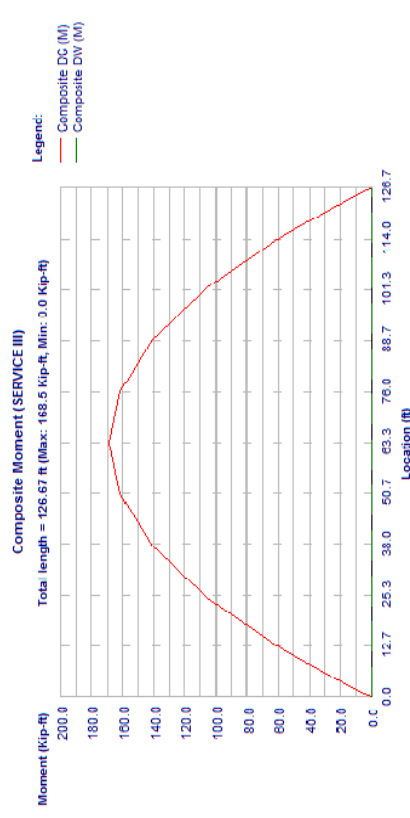
Live Shear. Span 1. Beam 6. SERVICE I

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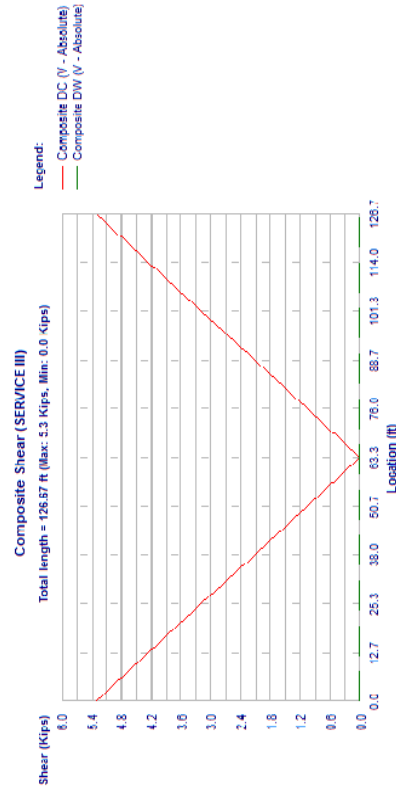
Precast Shear, Span 1, Beam 6, SERVICE III

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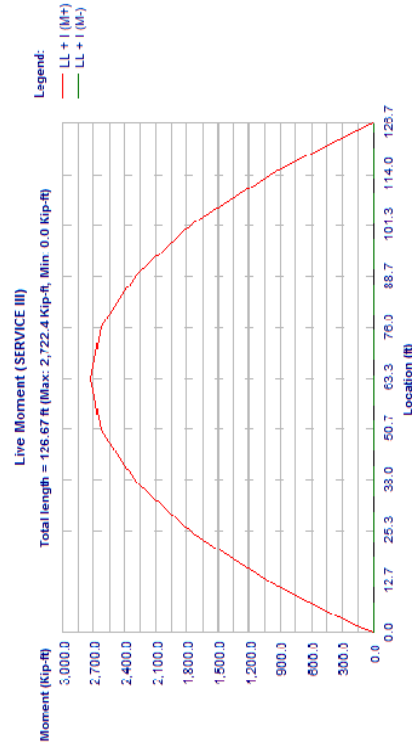
Composite Moment, Span 1, Beam 6, SERVICE III

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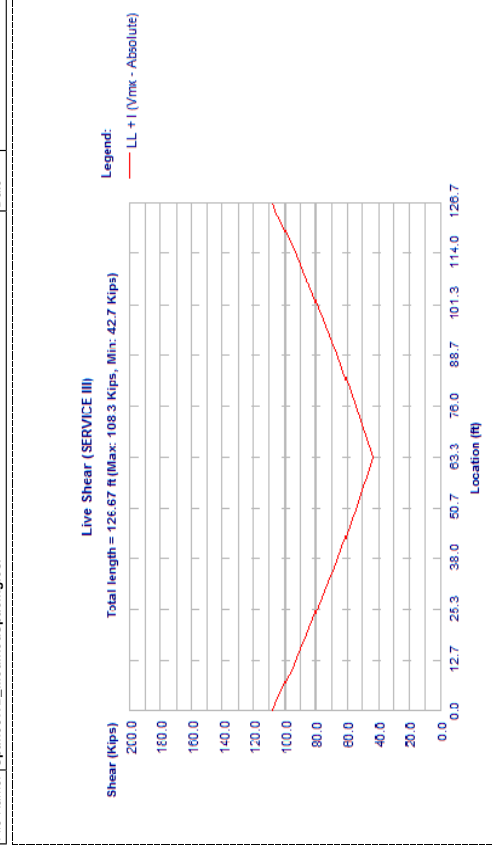
Composite Shear, Span 1, Beam 6, SERVICE III

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Live Moment, Span 1, Beam 6, SERVICE III


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Live Shear. Span 1. Beam 6. SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt.,	M	0.0	160.3	321.4	963.8	1799.6	2396.6	2754.7	2874.1
(Max)	M	90.8	88.2	85.4	74.0	55.5	37.0	18.5	0.0
Self wt.,	M	0.0	115.4	231.4	694.0	1295.7	1725.5	1983.4	2069.4
(Min)	M	65.3	63.5	61.6	53.3	40.0	26.6	13.3	0.0
DL-Pre-c.	M	0.0	34.8	69.8	209.3	390.9	520.5	598.3	624.2
DC(Max)	V	19.7	19.2	18.6	16.1	12.1	8.0	4.0	0.0
DL-Pre-c.	M	0.0	25.1	50.3	150.7	281.4	374.8	430.8	449.4
DC(Min)	V	14.2	13.8	13.4	11.6	8.7	5.8	2.9	0.0
DL-Pre-c.	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Pre-c.	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + ,	M	0.0	175.4	351.5	1054.2	1968.3	2621.2	3013.0	3143.6
Deck + (Max)	M	99.3	96.5	93.6	80.9	60.7	40.5	20.2	0.0
Deck + ,	M	0.0	126.3	253.1	759.0	1417.2	1887.3	2169.3	2263.4

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	Bearing	Trans	H ₂	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	71.5	69.5	58.3	43.7	29.1	14.6	0.0
Diaphragm :								
M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	V	22.3	18.8	15.3	0.0	0.0	0.0	0.0
Diaphragm :								
M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	V	16.0	13.6	11.0	0.0	0.0	0.0	0.0
DL-Comp :								
M	-0.0	11.7	23.5	70.6	131.9	175.6	201.8	210.6
DC(Max) :								
M	6.7	6.5	6.3	5.4	4.1	2.7	1.4	0.0
DL-Comp :								
M	-0.0	8.5	17.0	50.8	94.9	126.4	145.3	151.6
DC(Min) :								
V	4.8	4.7	4.5	3.9	2.9	2.0	1.0	0.0
DL-Comp :								
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) :								
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :								
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) :								
M+	0.0	342.2	685.3	2048.1	3798.3	5016.6	5743.2	5955.2
LL + I :	V	236.9	232.1	227.1	205.6	172.9	64.1	94.5
LL + I :								
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	236.9	232.1	227.1	205.6	175.0	146.3	119.1
M	0.0	356.1	708.4	2048.1	3548.7	4523.1	4949.0	4873.6
Total :	M+	0.0	724.4	1451.5	4346.1	8088.9	10730.5	12311.0
V	V	475.5	461.2	446.4	382.0	305.2	152.3	138.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	475.5	461.2	446.4	382.0	307.3	234.5	163.2
M	M	0.0	738.4	1474.6	4346.1	7839.3	10237.0	11516.8
Total :	M	0.0	738.4	1474.6	4346.1	7839.3	10237.0	11516.8

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, Self wt. :	ft	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	M	2754.7	2396.6	1799.6	963.8	321.4	160.3	0.0
Self wt. :	M	18.5	37.0	55.5	74.0	85.5	88.2	90.8
(Min)	V	1983.4	1725.5	1295.7	694.0	231.4	115.4	0.0
DL-Prec. :	M	13.3	26.6	40.0	53.3	61.6	63.5	65.3
DC(Max)	M	598.3	520.5	390.9	209.3	69.8	34.8	0.0
DL-Prec. :	V	4.0	8.0	12.1	16.1	18.6	19.2	19.7
DC(Max)	M	430.8	374.8	281.4	150.7	50.3	25.1	0.0
DL-Prec. :	V	2.9	5.8	8.7	11.6	13.4	13.8	14.2
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3013.0	2621.2	1968.3	1054.2	351.5	175.4	0.0
Haunch (Max)	V	20.2	40.5	60.7	80.9	93.6	96.5	99.3
Deck + :	M	2169.3	1887.3	1417.2	759.0	253.1	126.3	0.0
Haunch (Min)	V	14.6	29.1	43.7	58.3	67.4	69.5	71.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	188	22.3
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
DL-Comp :	V	0.0	0.0	0.0	0.0	0.0	13.6	16.0
DC(Max)	V	201.8	175.6	131.9	70.6	23.5	11.7	0.0
DL-Comp :	V	1.4	2.7	4.1	5.4	6.5	6.5	6.7
DC(Max)	M	145.3	126.4	94.9	50.8	17.0	8.5	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5743.2	5016.6	3798.3	2048.1	685.3	342.2
LL + I :	M-	V	94.5	64.1	172.9	205.6	227.1
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	119.1	146.3	175.0	205.6	227.1	232.1
Total :	M	4949.0	4523.1	3548.7	2048.1	708.4	356.1
Total :	M+	12311.0	10730.5	8088.9	4346.1	1451.5	724.5
Total :	M-	V	138.6	152.3	305.2	382.0	446.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	163.2	234.5	307.3	382.0	446.4	461.2
Total :	M	11516.8	10237.0	7839.3	4346.1	1474.6	738.4

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	99.3	99.3
Diaphragm	22.3	22.3
DL-Prec (DC)	19.7	19.7
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:19 A.M.

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 3,143.6 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

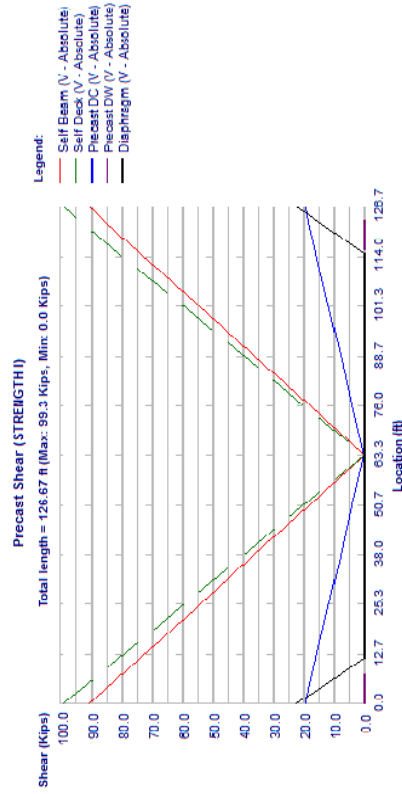
Moment (Kip-ft)

Location (ft)


Precast Moment, Span 1, Beam 6, STRENGTH I

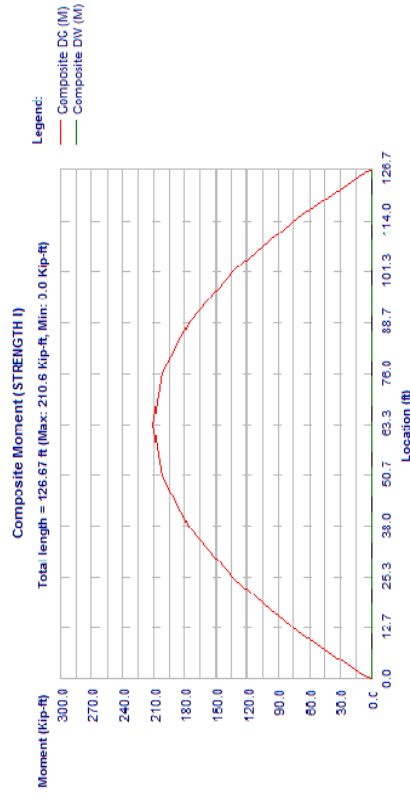
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:19 A.M.

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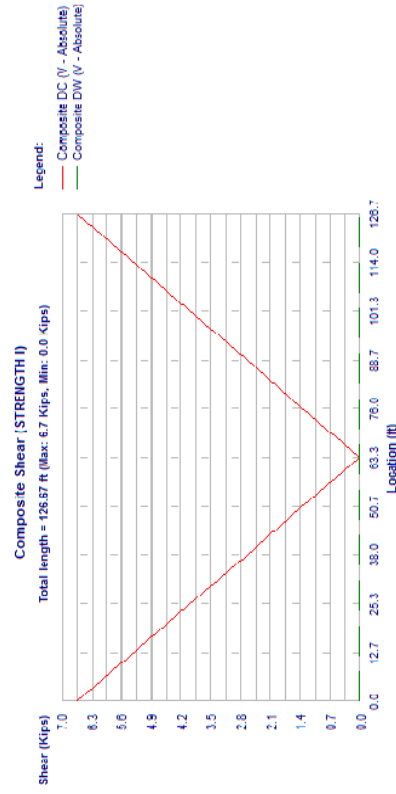
Precast Shear, Span 1, Beam 6, STRENGTH I

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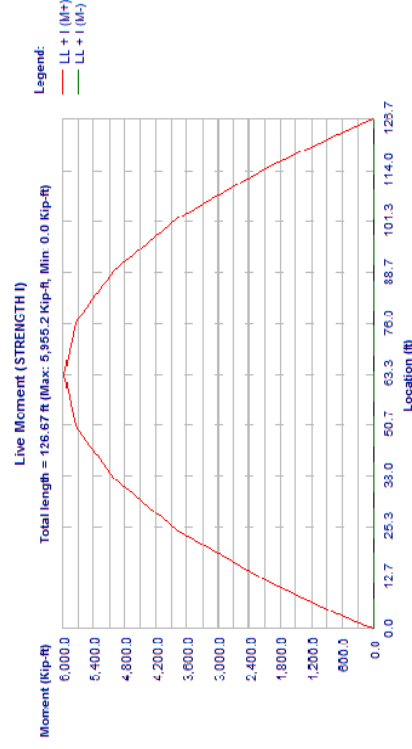
Composite Moment, Span 1, Beam 6, STRENGTH I

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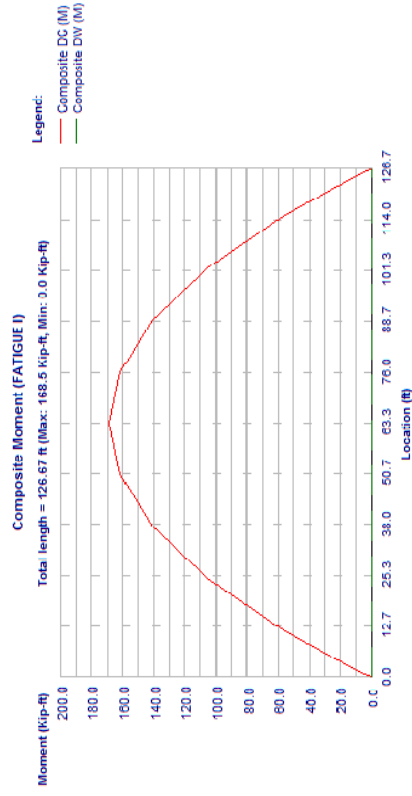
Composite Shear, Span 1, Beam 6, STRENGTH I

		Sheet # 30	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
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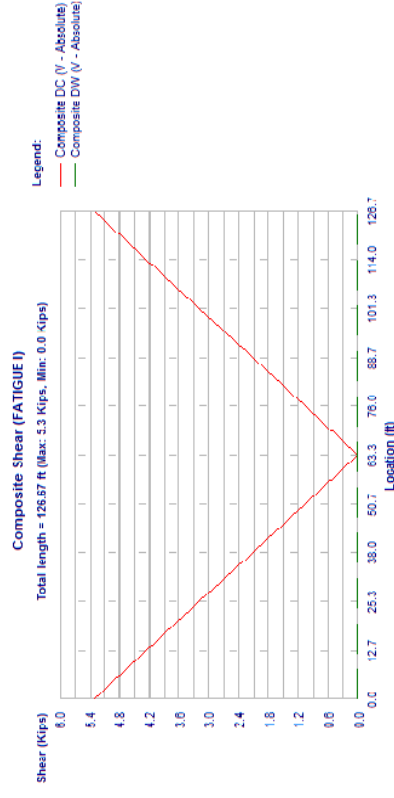
Live Moment, Span 1, Beam 6, STRENGTH I

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Composite Moment, Span 1, Beam 6, FATIGUE I

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		Job #	
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Composite Shear, Span 1, Beam 6, FATIGUE I



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Sheet # 1
Job #


PROPERTIES

Span:1, Beam:7

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

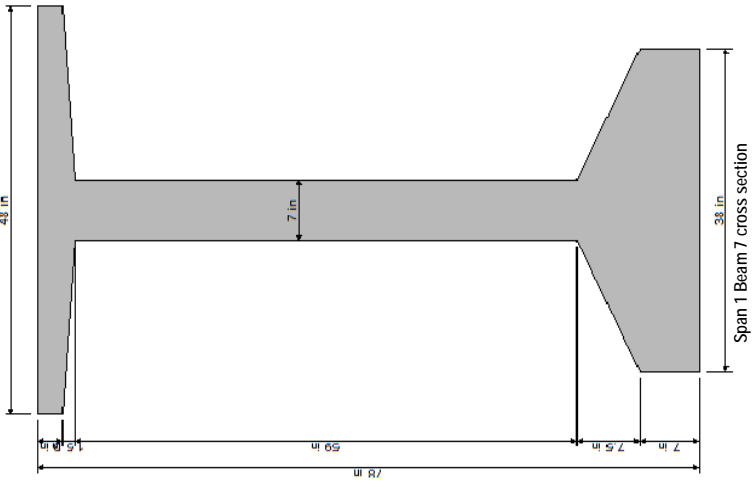


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Sheet # 2
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Span 1 Beam 7 cross section

GENERAL BRIDGE DATA:

Bridge Width	109.13 ft
Curb-to-curb	106.04 ft
Beam Spac. LL/RT	10.51/ 10.51 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees



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Sheet # 5

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Designed CAM

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Span:1 Beam:7

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength		PRECAST	
Elasticity	4016.8	ksi	6.00*
Max comp	3.60	ksi	
Outer	15.00 %		
Max tens	-0.23	ksi	
Max tens, Center	-0.93	ksi	
Max tens	70.00 %		
Max tens, wireinf	-0.23	ksi	
Max tens, wireinf	-0.59	ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	7.50	ksi	DECK	5.50	ksi
Elasticity	4490.96	ksi		3845.83	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	4.50	ksi	DECK	3.30	ksi
----------	------	-----	------	------	-----

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	3.38	ksi	DECK	2.47	ksi
----------	------	-----	------	------	-----

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art. 5.5.3.1):

Max comp	3.00	ksi	DECK	-	ksi
----------	------	-----	------	---	-----

SERVICE III (Tension):


Max tens	-0.52	ksi	DECK	-0.45	ksi
----------	-------	-----	------	-------	-----

Span:1 Beam:7
PRESTRESSED STEEL:
36 strands, 6/10-270K-LL, Low relaxation strands
Depressed at 0.40L (51.63 ft from member end)

Units: U.S. Units

Design Code: AASHTO LRFD

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END PATTERN (Vcg = 6.67 in):

12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		

MID PATTERN (Vcg = 4.17 in):

(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:


12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	7.812	in ²
Trans. Len. bonded	3,000	ft
Trans. Len. debonded	3,000	ft
Dev. Len. bonded	11,556	ft
Dev. Len. debonded	14,445	ft
Holddown Force	6,382	kips
Tensile Strength(pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1581.9	kips
Beam Shring (PL/AE)	0.531	in

Units: U.S. Units

Design Code: AASHTO LRFD

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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	-0.0	26.3	52.7	158.1	295.1	393.0	451.7
DC(Max)	V	14.9	14.5	14.0	12.1	9.1	6.1	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	131.9	264.4	793.1	1480.8	1972.0	2266.7
Haunch (Max)	V	74.7	72.6	70.4	60.9	45.7	30.4	15.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	16.6	14.1	11.4	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	186.5	373.5	1116.4	2070.4	2734.4	3130.5
LL + :	V	129.3	126.7	123.9	112.2	94.4	35.0	51.6
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	129.3	126.7	123.9	112.2	95.5	79.9	65.0
Total :	M+	0.0	482.4	966.6	2895.1	5391.4	7157.1	8214.1
Total :	V	313.4	303.5	293.2	248.7	196.8	103.2	85.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	313.4	303.5	293.2	248.7	197.9	148.1	99.1
	M	0.0	490.0	979.2	2895.1	5255.3	6888.1	7781.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	124.87
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
DL-Prec. :	M	451.7	393.0	295.1	158.1	52.7	26.3
DC(Max)	V	3.0	6.1	9.1	12.1	14.0	14.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2266.7	1972.0	1480.8	793.1	264.4	131.9
Haunch (Max)	V	15.2	30.4	45.7	60.9	70.4	72.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	11.4	14.1
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3130.5	2734.4	2070.4	1116.4	373.5	186.5



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + :	V	51.6	35.0	94.4	112.2	123.9	126.7
	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
	M	65.0	79.9	95.5	112.2	123.9	126.7
Total :	M	2697.5	2465.4	1934.3	1116.4	386.1	194.1
	M+	8214.1	7157.1	5391.4	2895.1	966.6	482.4
Total :	V	85.7	103.2	196.8	248.7	293.2	303.5
	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
	M	99.1	148.1	197.9	248.7	293.2	303.5
Total :	M	7781.2	6888.1	5255.3	2895.1	979.2	490.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	74.7	74.7
Diaphragm	16.6	16.6
DL-Prec.(DC)	14.9	14.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0



Upward reactions are positive.

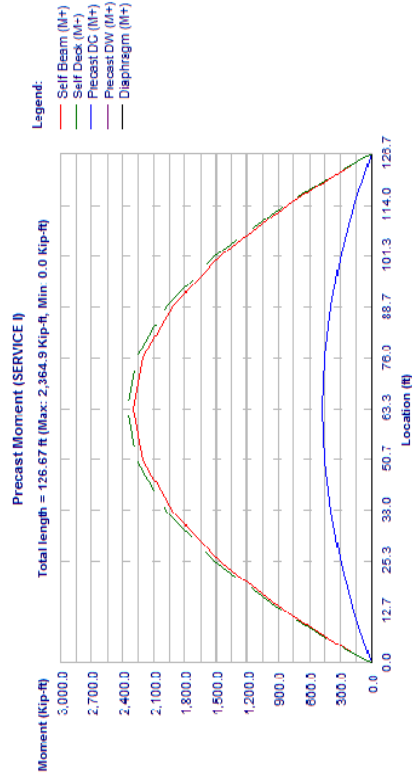
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

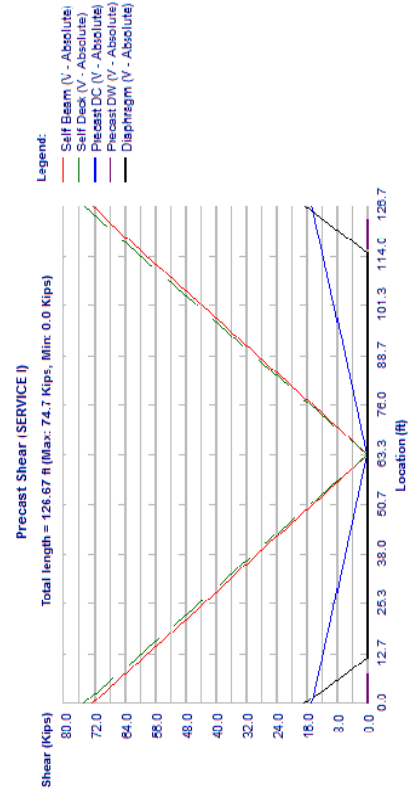
Composite and Pedestrian load types are per total bridge width.

		Sheet # 11			
		Job #			
		Designed CAM			
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		Checked			
File Name: Span05WB_ModifiedSpacing.csl		Date		Date	
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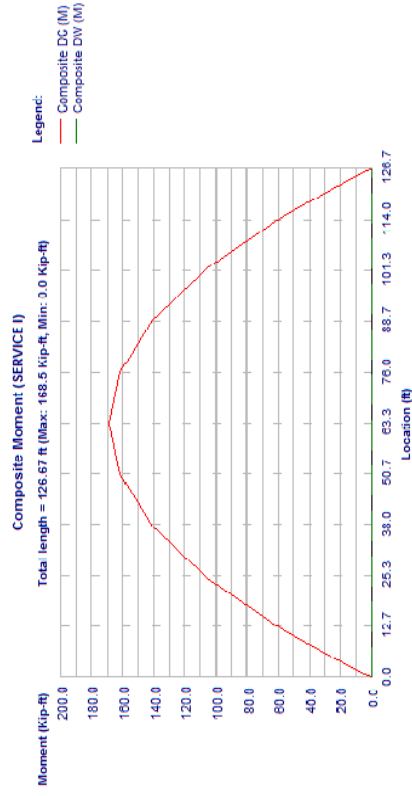
Precast Moment, Span 1, Beam 7, SERVICE I

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				Job #		




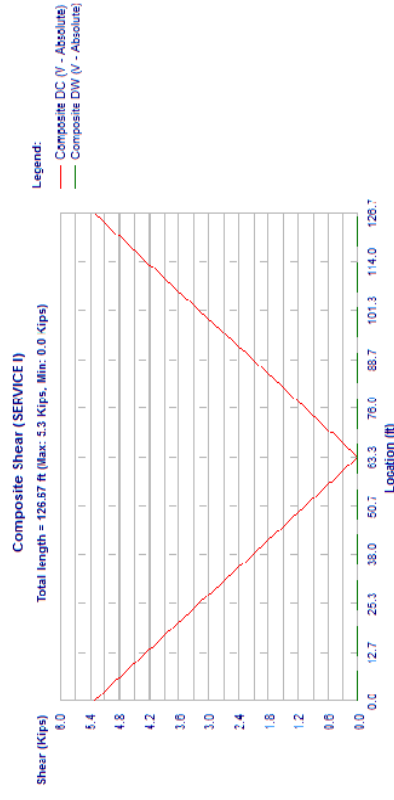
Precast Shear, Span 1, Beam 7, SERVICE I

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Composite Moment, Span 1, Beam 7, SERVICE I

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Composite Shear, Span 1, Beam 7, SERVICE I

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Sheet # 15
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Date

Live Moment (SERVICE I)

Total length = 126.67 ft (Max: 3,246.0 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
12.7	1,000.0
25.3	2,000.0
38.0	3,000.0
50.7	3,246.0
63.3	3,246.0
76.0	3,000.0
88.7	2,000.0
101.3	1,000.0
114.0	0.0
126.7	0.0

Live Moment, Span 1, Beam 7, SERVICE I

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Sheet # 16
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Live Shear (SERVICE I)

Total length = 126.67 ft (Max: 129.3 Kips, Min: 51.0 Kips)

Legend:
— LL + I (Vmk - Absolute)


Location (ft)	Shear (Kips)
0.0	129.3
12.7	110.0
25.3	90.7
38.0	71.4
50.7	52.1
63.3	51.0
76.0	71.4
88.7	90.7
101.3	110.0
114.0	129.3
126.7	129.3

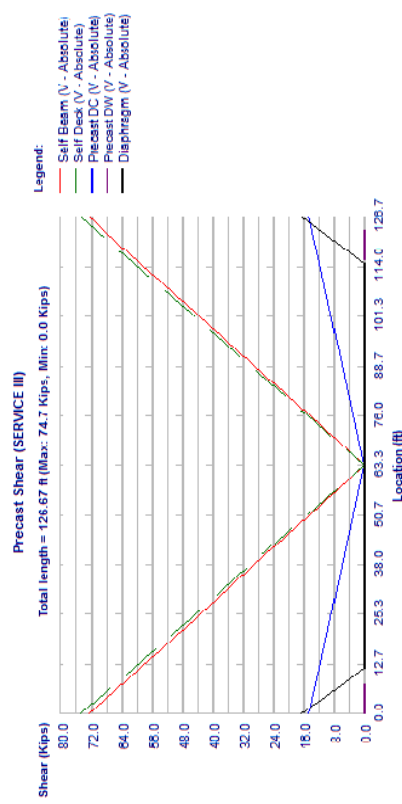
Live Shear, Span 1, Beam 7, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE III
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. : M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8	2299.3
(Max) V	72.6	70.6	68.4	59.2	44.4	29.6	14.8	0.0
DL-Prec. : M	-0.0	26.3	52.7	158.1	295.1	393.0	451.7	471.3
DC(Max) V	14.9	14.5	14.0	12.1	9.1	6.1	3.0	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	131.9	264.4	793.1	1480.8	1972.0	2266.7	2364.9
Haunch (Max) V	74.7	72.6	70.4	60.9	45.7	30.4	15.2	0.0
Diaphragm : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max) V	16.6	14.1	11.4	0.0	0.0	0.0	0.0	0.0
DL-Comp : M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5	168.5
DC(Max) V	5.3	5.2	5.0	4.3	3.3	2.2	1.1	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	0.0	149.2	298.8	893.1	1656.3	2187.5	2504.4	2596.8

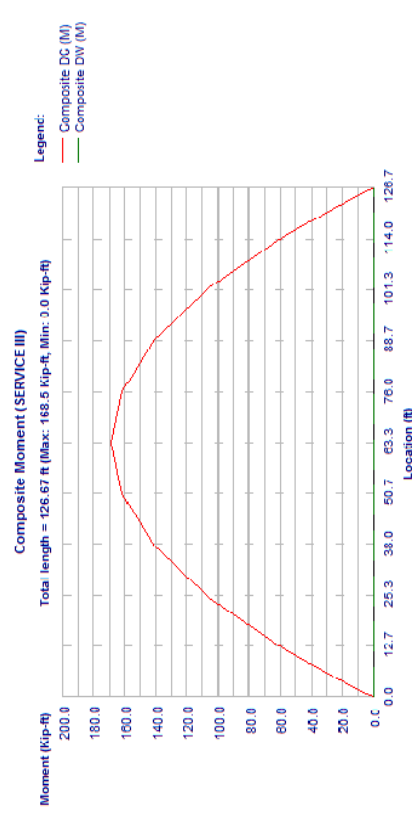
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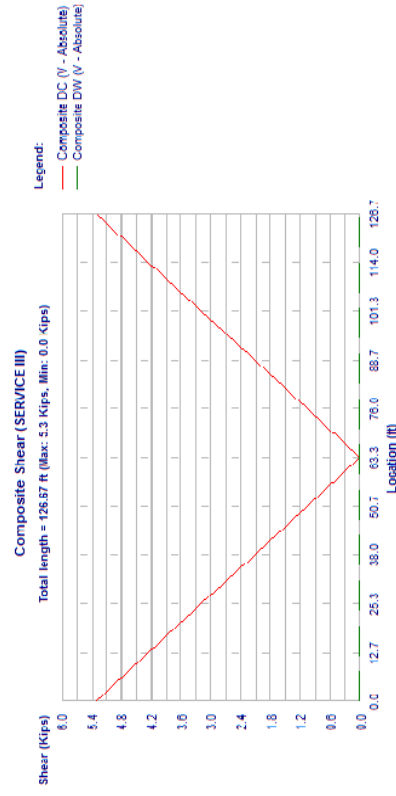
Precast Shear, Span 1, Beam 7, SERVICE III

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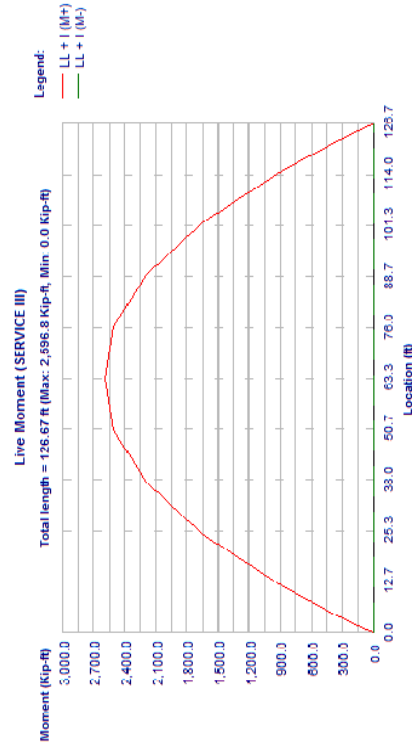
Composite Moment, Span 1, Beam 7, SERVICE III

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Composite Shear, Span 1, Beam 7, SERVICE III

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		Job #	
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Live Moment, Span 1, Beam 7, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.0	2.0	2.9	3.9	4.5	4.7
DC(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5478.3	4785.2	3623.1	1953.6	653.7	326.4
LL + I :	V	90.2	61.2	165.1	196.3	216.9	221.6
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	113.8	139.7	167.1	196.3	216.9	221.6
LL + I :	M	4720.7	4314.5	3385.0	1953.6	675.7	339.7
Total :	M+	11832.9	10313.6	7774.4	4177.0	1395.0	696.3
Total :	V	132.9	146.5	293.1	367.0	428.5	442.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	156.4	225.1	295.2	367.0	428.5	442.7
Total :	M	11075.3	9842.9	7536.3	4177.0	1417.0	709.6

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	93.4	93.4
Diaphragm	20.8	20.8
DL-Prec (DC)	18.6	18.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:21 A.M.

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Precast Moment (STRENGTH I)

Total length = 126.67 ft (Max: 2,956.2 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

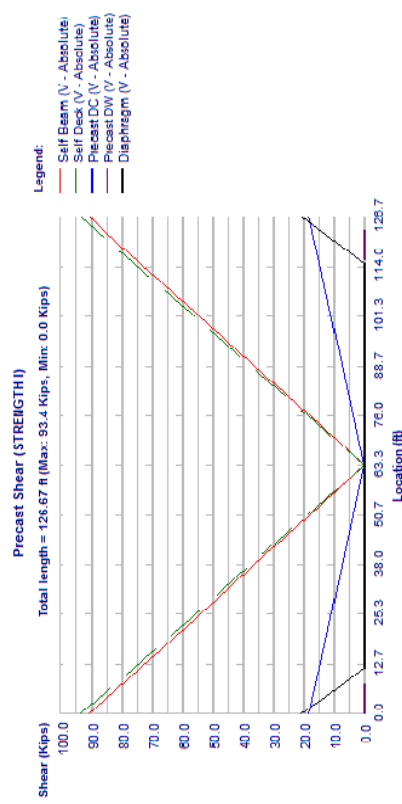
Moment (Kip-ft)

Location (ft)


Precast Moment, Span 1, Beam 7, STRENGTH I

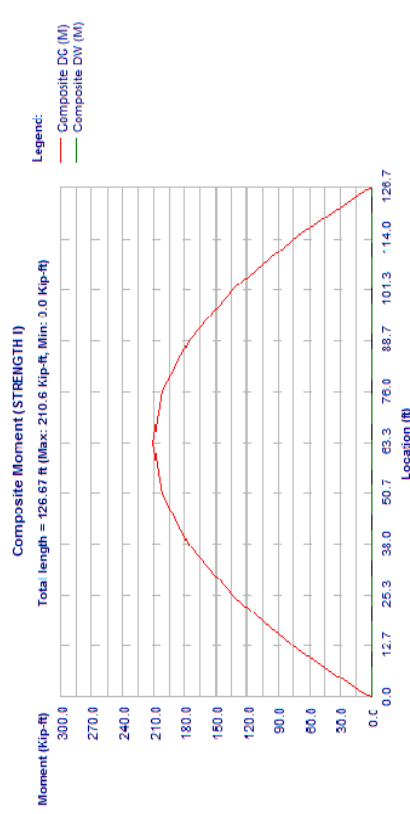
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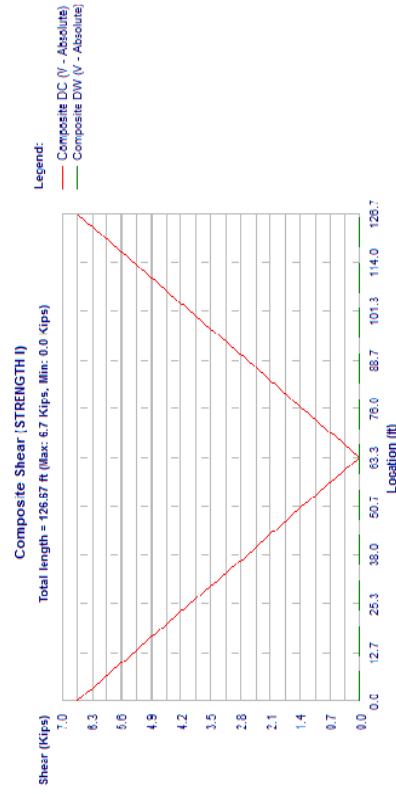
Precast Shear, Span 1, Beam 7, STRENGTH I

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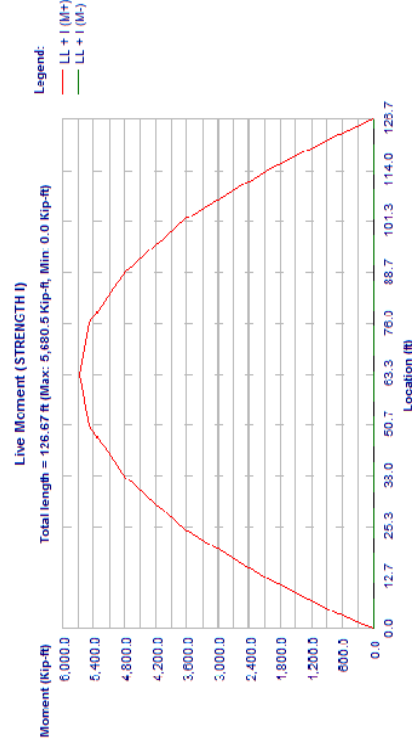
Composite Moment, Span 1, Beam 7, STRENGTH I

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Composite Shear, Span 1, Beam 7, STRENGTH I

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Live Moment, Span 1, Beam 7, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1364.4	1207.4	916.5	502.2	169.4	84.7	0.0
M+	32.0	40.1	53.1	61.2	66.7	68.0	69.2
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	36.9	45.0	53.1	61.2	66.7	68.0	69.2
M	1305.6	1184.3	916.5	502.2	169.4	84.7	0.0
M+	6448.1	5630.1	4237.5	2280.9	762.5	380.6	0.0
V	66.2	108.4	155.5	197.7	236.0	244.8	253.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	71.0	113.3	155.5	197.7	236.0	244.8	253.4
M	6389.2	5607.0	4237.5	2280.9	762.5	380.6	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,364.9 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 7, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:21 A.M.

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Job #

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 74.7 Kips, Min 0.0 Kips)


Location (ft)

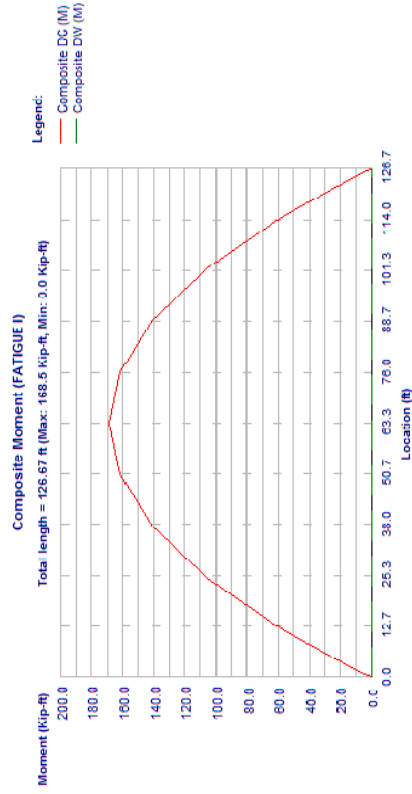
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 7, FATIGUE I

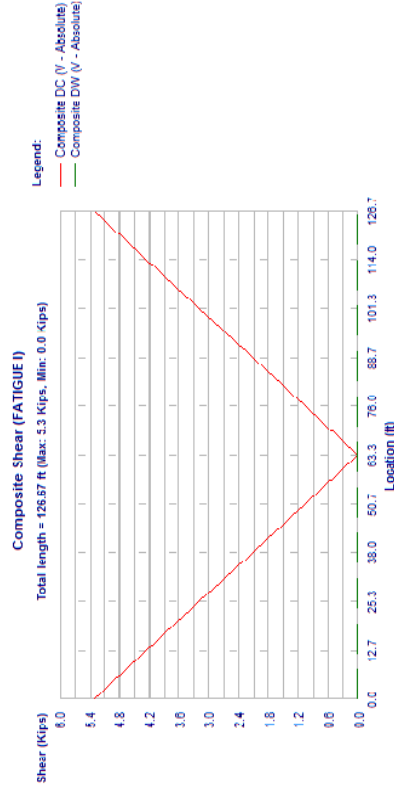
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		Date	




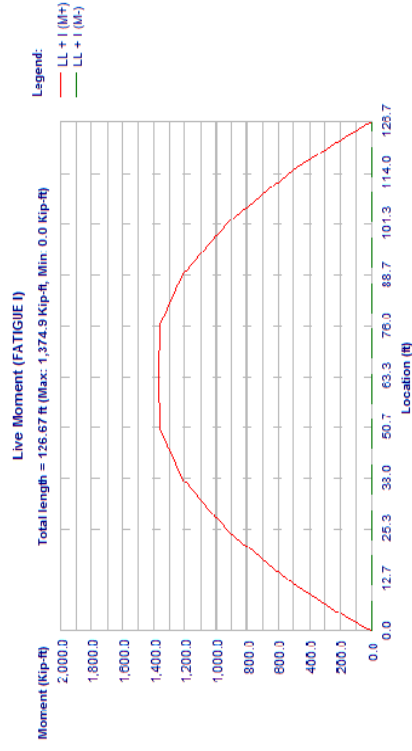
Composite Moment, Span 1, Beam 7, FATIGUE I

		Sheet # 36	
		Job #	
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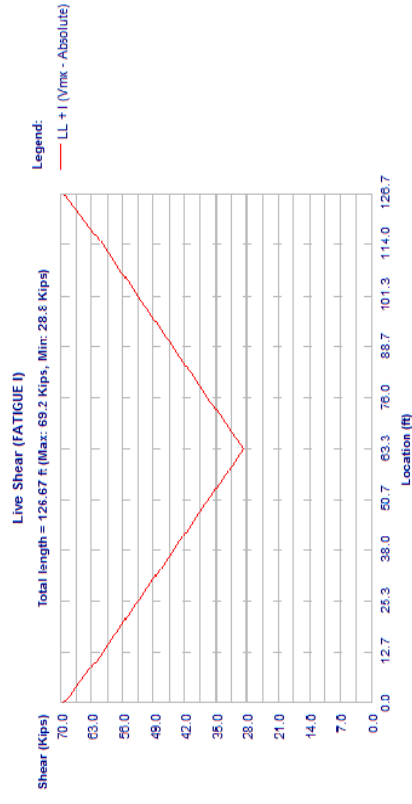
Composite Shear, Span 1, Beam 7, FATIGUE I

		Sheet # 37	
		Job #	
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Live Moment, Span 1, Beam 7, FATIGUE I

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		Job #	
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Live Shear, Span 1, Beam 7, FATIGUE I



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Sheet # 5
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Span:1 Beam:8

STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.00*	ksi
Max comp	4016.8	ksi
Outer	3.60	ksi
Max tens	15.00 %	
Max tens, wireinf	-0.23	ksi
Max tens, Center	-0.93	ksi
Max tens, 70.00 %		
Max tens, wireinf	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	7.50 ksi	5.50 ksi
	4490.96 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	3.38 ksi	2.47 ksi


FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art. 5.5.3.1):

Max comp	PRECAST	DECK
	3.00 ksi	- ksi

SERVICE III (Tension):

Max tens	PRECAST	DECK
	-0.52 ksi	-0.45 ksi

Span:1 Beam:8
PRESTRESSED STEEL:
36 strands, 6/10-270K-LL, Low relaxation strands
Depressed at 0.40L (51.63 ft from member end)



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END PATTERN (Vcg = 6.67 in):

12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		


MID PATTERN (Vcg = 4.17 in):
(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:

12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600 in
Strand Area	0.217 in ²
Total Strand Area	7.812 in ²
Trans. Len. bonded	3,000 ft
Trans. Len. debonded	3,000 ft
Dev. Len. bonded	11,556 ft
Dev. Len. debonded	14,445 ft
Holddown Force	6,382 kips
Tensile Strength(pu)	270.0 ksi
Initial Prestress = 0.75pu	202.5 ksi
Initial Pull	1581.9 kips
Beam Shring (PL/AE)	0.531 in



Program: LEAPb CONSPAN® V8i (SELECTseries 5)
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
(Max)	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
DL-Prec. :	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DC(Max)	M	-0.0	26.3	52.7	158.1	295.1	393.0	451.7
DL-Prec. :	V	14.9	14.5	14.0	12.1	9.1	6.1	3.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	131.9	264.4	793.1	1480.8	1972.0	2266.7
Haunch (Max)	V	74.7	72.6	70.4	60.9	45.7	30.4	15.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	16.6	14.1	11.4	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	186.5	373.5	1116.4	2070.4	2734.4	3130.5
LL + :	V	129.3	126.7	123.9	112.2	94.4	35.0	51.6
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	129.3	126.7	123.9	112.2	95.5	79.9	65.0
Total :	M+	0.0	482.4	966.6	2895.1	5391.4	7157.1	8214.1
Total :	V	313.4	303.5	293.2	248.7	196.8	103.2	85.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	313.4	303.5	293.2	248.7	197.9	148.1	99.1
Total :	M	0.0	490.0	979.2	2895.1	5255.3	6888.1	7781.2

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	76.24	89.15	102.06	114.97	123.02	124.87	126.67
(Max)	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
DL-Prec. :	V	14.8	29.6	44.4	59.2	68.4	70.6
DC(Max)	M	451.7	393.0	295.1	158.1	52.7	26.3
DL-Prec. :	V	3.0	6.1	9.1	12.1	14.0	14.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2266.7	1972.0	1480.8	793.1	264.4	131.9
Haunch (Max)	V	15.2	30.4	45.7	60.9	70.4	72.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	11.4	14.1
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3130.5	2734.4	2070.4	1116.4	373.5	186.5



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LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	51.6	35.0	94.4	112.2	123.9	126.7	129.3
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	65.0	79.9	95.5	112.2	123.9	129.3
DL-Prec. :	V	2697.5	2465.4	1934.3	1116.4	386.1	194.1
DL-Prec. :	M	8214.1	7157.1	5391.4	2895.1	966.6	482.4
Total :	V	85.7	103.2	196.8	248.7	293.2	303.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	7781.2	6888.1	5255.3	2895.1	979.2	490.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	74.7	74.7
Diaphragm	16.6	16.6
DL-Prec.(DC)	14.9	14.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0


Upward reactions are positive.

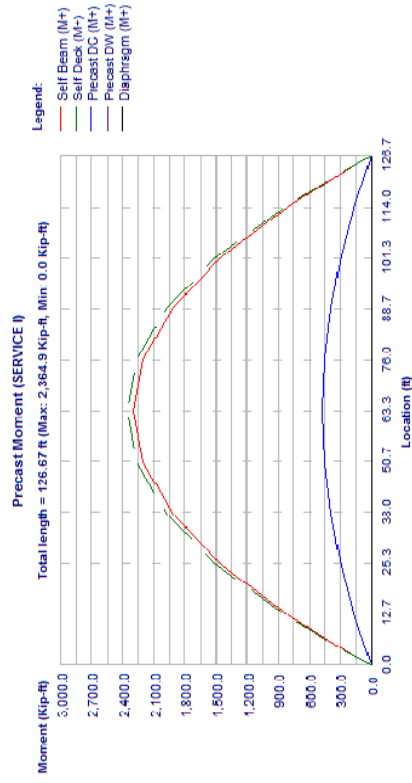
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

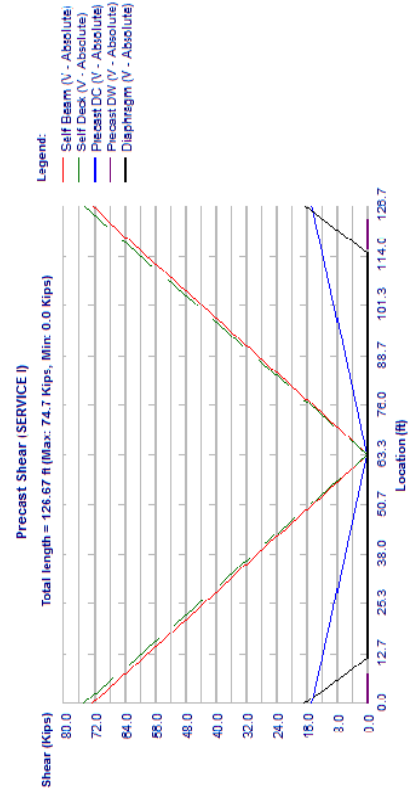
Composite and Pedestrian load types are per total bridge width.

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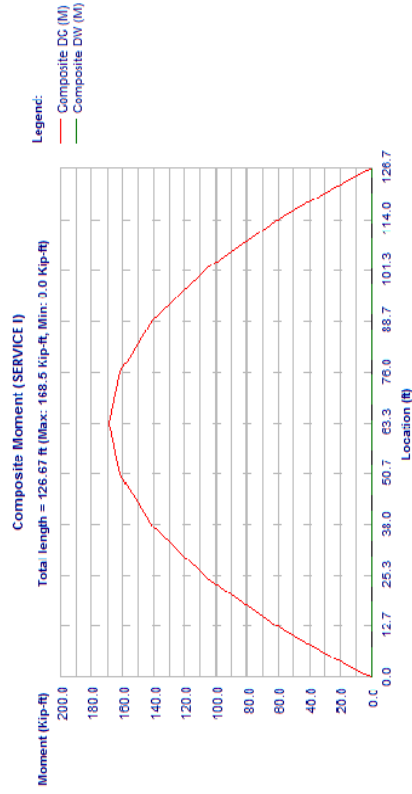
Precast Moment, Span 1, Beam 8, SERVICE I

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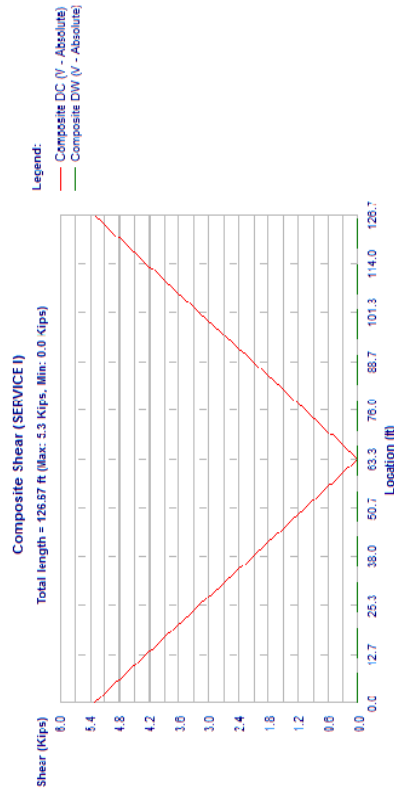
Precast Shear, Span 1, Beam 8, SERVICE I

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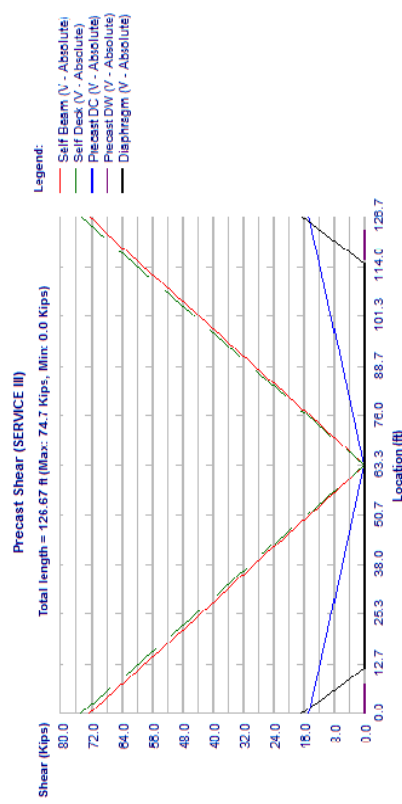
Composite Moment, Span 1, Beam 8, SERVICE I

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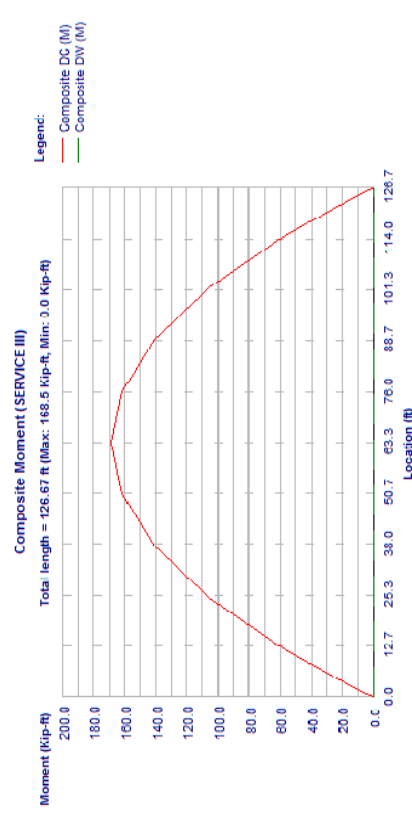
Composite Shear, Span 1, Beam 8, SERVICE I

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Precast Shear, Span 1, Beam 8, SERVICE III

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Composite Moment, Span 1, Beam 8, SERVICE III

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Sheet # 21
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Composite Shear (SERVICE III)

Total length = 126.67 ft (Max: 5.3 Kips, Min: 0.0 Kips)

Legend:
Composite DC (V - Absolute)
Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute) (Kips)	Composite DW (V - Absolute) (Kips)
0.0	0.0	0.0
12.7	0.4	0.0
25.3	0.8	0.0
38.0	1.2	0.0
50.7	1.6	0.0
63.3	2.0	0.0
76.0	2.4	0.0
88.7	2.8	0.0
101.3	3.2	0.0
114.0	3.6	0.0
126.7	4.0	0.0

Composite Shear, Span 1, Beam 8, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:21 A.M.

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Live Moment (SERVICE III)


Total length = 126.67 ft (Max: 2,596.8 Kip-ft, Min: 0.0 Kip-ft)

Legend:
LL + I (M+)
LL + I (M-)

Location (ft)	LL + I (M+) (Kip-ft)	LL + I (M-) (Kip-ft)
0.0	0.0	0.0
12.7	100.0	0.0
25.3	400.0	0.0
38.0	900.0	0.0
50.7	1,600.0	0.0
63.3	2,596.8	0.0
76.0	1,600.0	0.0
88.7	900.0	0.0
101.3	400.0	0.0
114.0	100.0	0.0
126.7	0.0	0.0

Live Moment, Span 1, Beam 8, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:21 A.M.



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5478.3	4785.2	3623.1	1953.6	653.7	326.4
LL + I :	V	90.2	61.2	165.1	196.3	216.9	221.6
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	113.8	139.7	167.1	196.3	216.9	221.6
Total :	M	4720.7	4314.5	3385.0	1953.6	675.7	339.7
Total :	M+	11832.9	10313.6	7774.4	4177.0	1395.0	696.3
Total :	V	132.9	146.5	293.1	367.0	428.5	442.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	156.4	225.1	295.2	367.0	428.5	442.7
Total :	M	11075.3	9842.9	7536.3	4177.0	1417.0	709.6

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	93.4	93.4
Diaphragm	20.8	20.8
DL-Prec (DC)	18.6	18.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

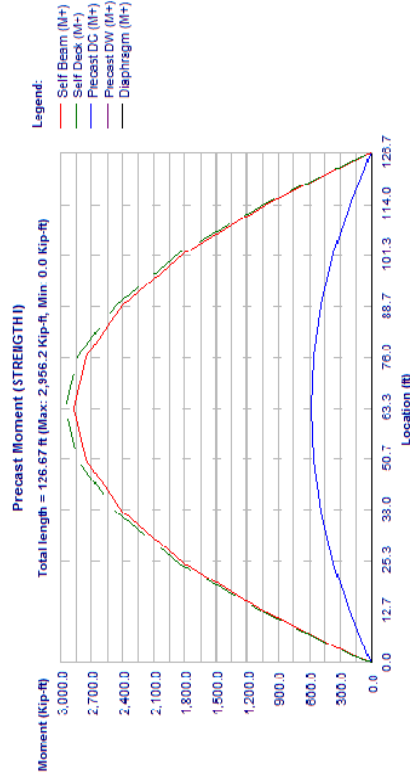
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.




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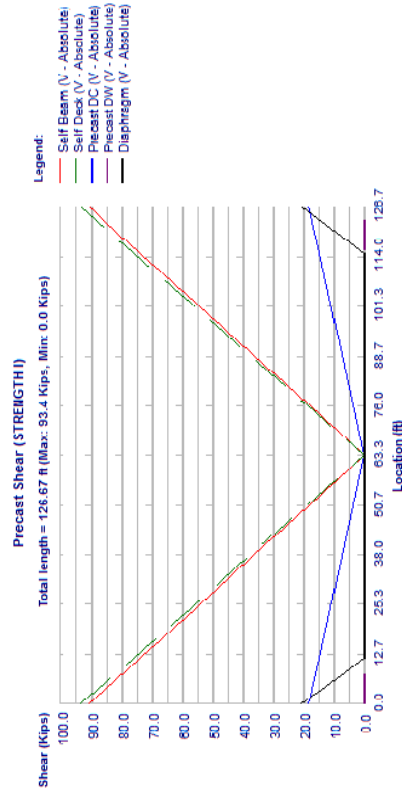
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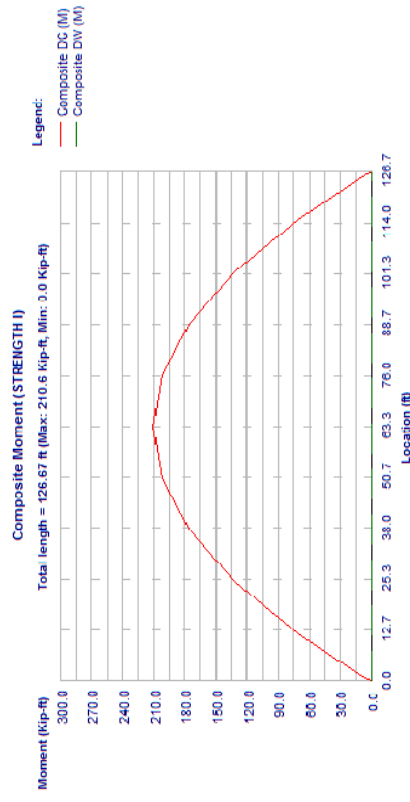
Precast Moment, Span 1, Beam 8, STRENGTH I

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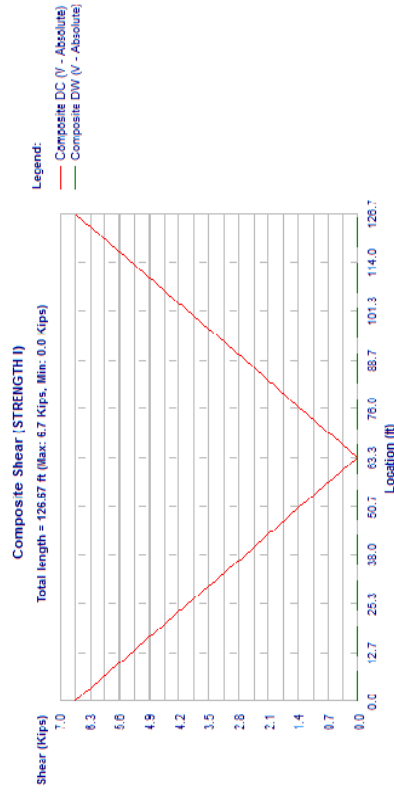
Precast Shear, Span 1, Beam 8, STRENGTH I

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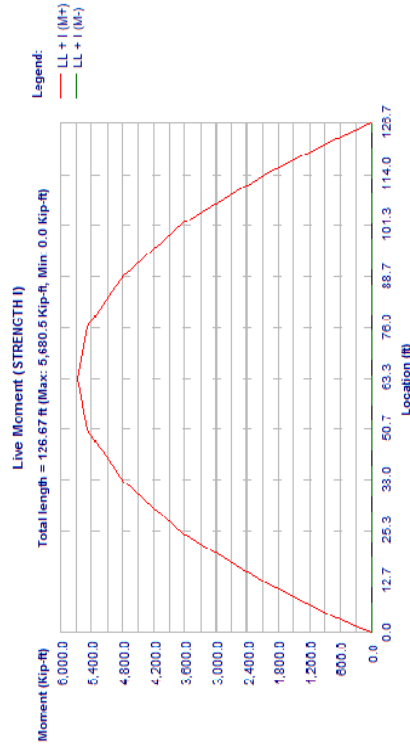
Composite Moment, Span 1, Beam 8, STRENGTH I

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Composite Shear, Span 1, Beam 8, STRENGTH I

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Live Moment, Span 1, Beam 8, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1364.4	1207.4	916.5	502.2	169.4	84.7	0.0
M+	32.0	40.1	53.1	61.2	66.7	68.0	69.2
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	36.9	45.0	53.1	61.2	66.7	68.0	69.2
M	1305.6	1184.3	916.5	502.2	169.4	84.7	0.0
M+	6448.1	5630.1	4237.5	2280.9	762.5	380.6	0.0
V	66.2	108.4	155.5	197.7	236.0	244.8	253.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	71.0	113.3	155.5	197.7	236.0	244.8	253.4
M	6389.2	5607.0	4237.5	2280.9	762.5	380.6	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,364.9 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 8, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:21 A.M.

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 126.67 ft (Max: 74.7 Kips, Min 0.0 Kips)


Location (ft)

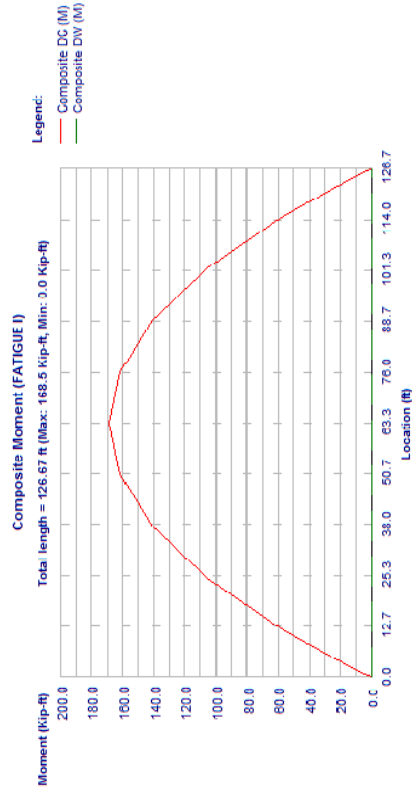
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 8, FATIGUE I

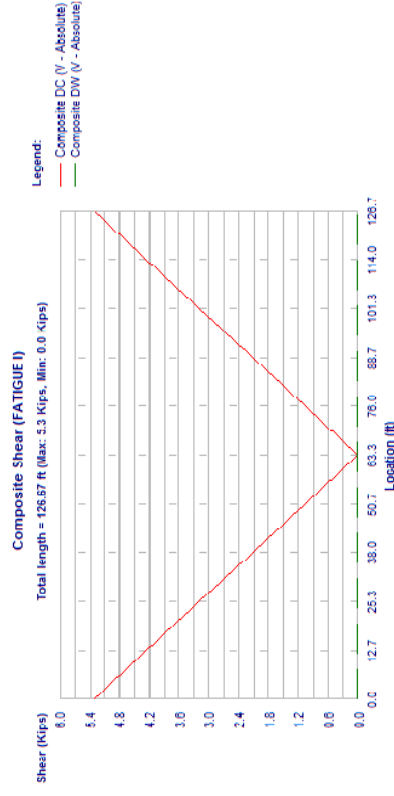
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		Job #	
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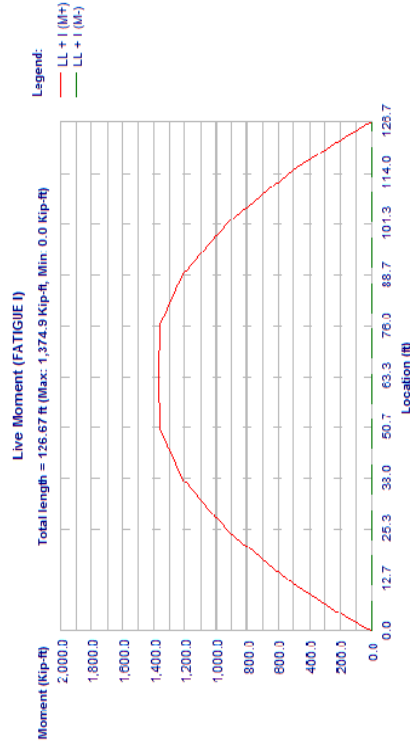
Composite Moment, Span 1, Beam 8, FATIGUE I

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		Job #	
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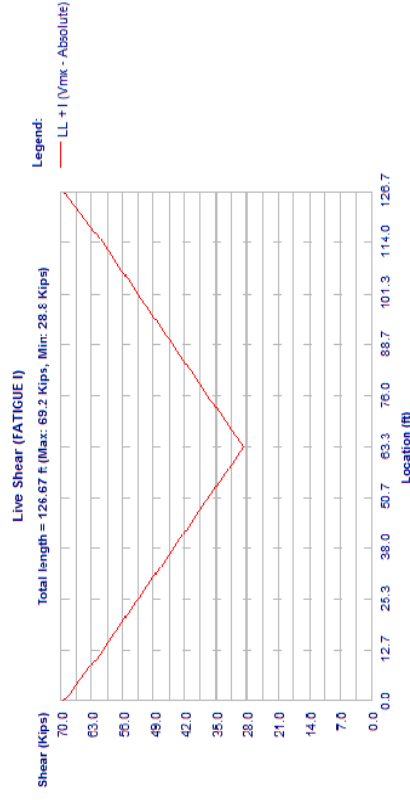
Composite Shear, Span 1, Beam 8, FATIGUE I

		Sheet #	37
		Job #	
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Live Moment, Span 1, Beam 8, FATIGUE I

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Live Shear, Span 1, Beam 8, FATIGUE I

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Sheet # 3
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TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in
Effective	width	126.120	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.110	0.000	0.110	126.667	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.63	0.00
16.63	126.67

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment	(2+ lanes loaded)	0.823	(Calculated)
Live Moment	(1 lane loaded)	0.548	(Calculated)
Live Shear	(2+ lanes loaded)	1.000	(Calculated)
Live Shear	(1 lane loaded)	0.782	(Calculated)

Pedestrian	0.100	(Calculated)
------------	-------	--------------

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

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COMP. DATA:

Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90


SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	2070.0
Total Height	78.00	87.50
Mom. of inertia (xx)	904567	2118516
Ht. of c.g.	34.60	57.27
Density	150.00	150.00
Self-weight	1146.5	2325.6
Mom. of inertia (yy)	82367.0	
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	17°F

(#) Of Total Section using Ecl/Ec = 0.8563
Use transformed strand and rebar: Strand Only

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Area,								
Yb,								
Mi(1xx),								
Composite: (At Final, using Ec = 4491.0ksi)								
Area,								
Yb,								
Mi(1xx),								

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.



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Sheet # 5

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Designed CAM

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Span:1 Beam:9

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.00*	ksi
Max comp	4016.8	ksi
Outer	3.60	ksi
Max tens	15.00 %	ksi
Max tens, wireinf	-0.23	ksi
Center	-0.93	ksi
Max tens, 70.00 %	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	7.50	5.50
	ksi	ksi
	4490.96	3845.83
	ksi	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	4.50	3.30
	ksi	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	3.38	2.47
	ksi	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art. 5.5.3.1):

Max comp	PRECAST	DECK
	3.00	-
	ksi	ksi

SERVICE III (Tension):


Max tens	PRECAST	DECK
	-0.52	-0.45
	ksi	ksi

Span:1 Beam:9

PRESTRESSED STEEL:

36 strands, 6/10-270K-LL, Low relaxation strands

Depressed at 0.40L (51.63 ft from member end)



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END PATTERN (Vcg = 6.67 in):

12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	5 @ 13,000 in
3 @ 15,000 in	1 @ 17,000 in		

MID PATTERN (Vcg = 4.17 in):


(A) Draped:

5 @ 3,000 in	3 @ 5,000 in	1 @ 7,000 in	
--------------	--------------	--------------	--

(B) Straight:

12 @ 3,000 in	14 @ 5,000 in	1 @ 7,000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	7.812	in ²
Trans. Len. bonded	3,000	ft
Trans. Len. debonded	3,000	ft
Dev. Len. bonded	11,556	ft
Dev. Len. debonded	14,445	ft
Holddown Force	6,382	kips
Tensile Strength(pu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	1581.9	kips
Beam Shring (PL/AE)	0.531	in



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Sheet # 9
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE I
Shears: Kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.79	3.65	11.70	24.61	37.52	50.43
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	59.2	44.4	29.6	14.8
DL-Prec. :	M	-0.0	26.3	52.7	158.1	295.1	393.0	451.7
DC(Max)	V	14.9	14.5	14.0	12.1	9.1	6.1	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	131.9	264.4	793.1	1480.8	1972.0	2266.7
Haunch (Max)	V	74.7	72.6	70.4	60.9	45.7	30.4	15.2
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	16.6	14.1	11.4	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	186.5	373.5	1116.4	2070.4	2734.4	3130.5
LL + :	V	129.3	126.7	123.9	112.2	94.4	35.0	51.6
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	129.3	126.7	123.9	112.2	95.5	79.9	65.0
Total :	M+	0.0	482.4	966.6	2895.1	5391.4	7157.1	8214.1
Total :	V	313.4	303.5	293.2	248.7	196.8	103.2	85.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	313.4	303.5	293.2	248.7	197.9	148.1	99.1
Total :	M	0.0	490.0	979.2	2895.1	5255.3	6888.1	7781.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	89.15	102.06	114.97	123.02	124.87
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
DL-Prec. :	M	451.7	393.0	295.1	158.1	52.7	26.3
DC(Max)	V	3.0	6.1	9.1	12.1	14.0	14.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2266.7	1972.0	1480.8	793.1	264.4	131.9
Haunch (Max)	V	15.2	30.4	45.7	60.9	70.4	72.6
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	11.4	14.1
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3130.5	2734.4	2070.4	1116.4	373.5	186.5



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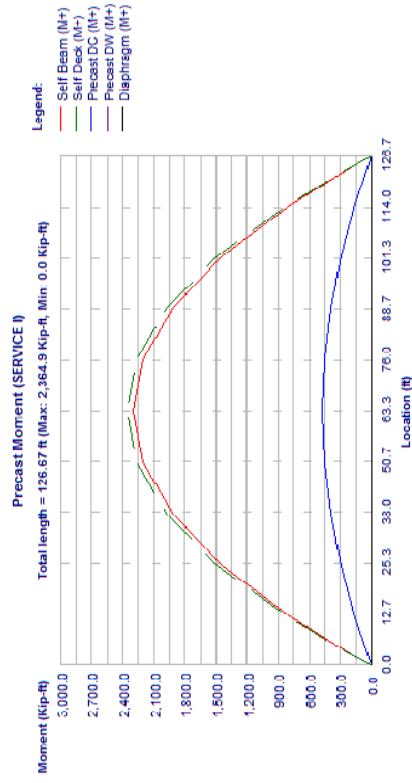
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + :	V	51.6	35.0	94.4	112.2	123.9	126.7
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	65.0	79.9	95.5	112.2	123.9	126.7
Total :	M	2697.5	2465.4	1934.3	1116.4	386.1	194.1
Total :	M+	8214.1	7157.1	5391.4	2895.1	966.6	482.4
Total :	V	85.7	103.2	196.8	248.7	293.2	303.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	99.1	148.1	197.9	248.7	293.2	303.5
Total :	M	7781.2	6888.1	5255.3	2895.1	979.2	490.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	74.7	74.7
Diaphragm	16.6	16.6
DL-Prec.(DC)	14.9	14.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

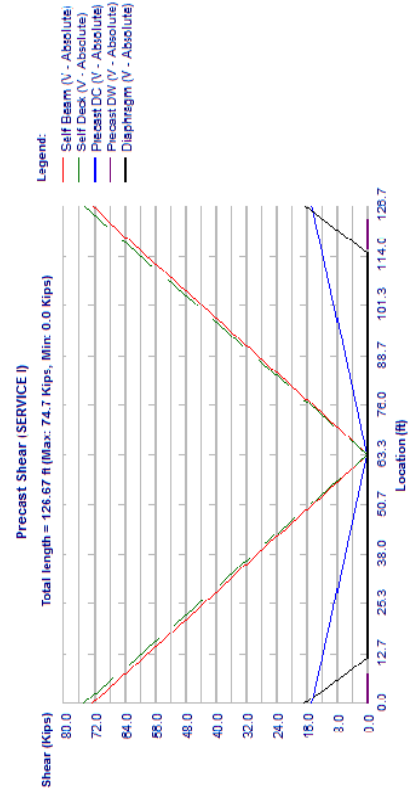
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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		Job #	
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Precast Moment, Span 1, Beam 9, SERVICE I

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Precast Shear, Span 1, Beam 9, SERVICE I

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Sheet # 13

Job #

Composite Moment (SERVICE I)
Total length = 126.57 ft (Max: 168.5 kip-ft, Min: 0.0 Kip-ft)

Legend:
— Composite DC (M)
— Composite D/W (M)

Location (ft)	Composite DC (M)	Composite D/W (M)
0.0	0.0	0.0
12.7	0.0	0.0
25.3	0.0	0.0
38.0	0.0	0.0
50.7	0.0	0.0
63.3	0.0	168.5
76.0	0.0	168.5
88.7	0.0	168.5
101.3	0.0	168.5
114.0	0.0	168.5
126.7	0.0	0.0

Composite Moment, Span 1, Beam 9, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

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Sheet # 14

Job #


Composite Shear (SERVICE I)
Total length = 126.57 ft (Max: 5.3 Kips, Min: 0.0 Kips)

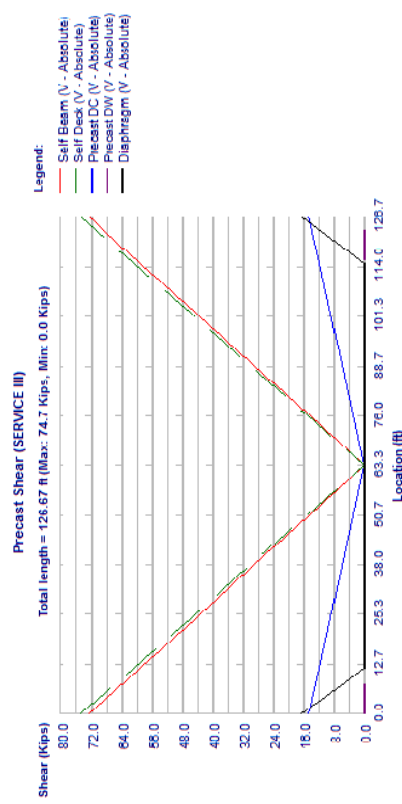
Legend:
— Composite DC (V - Absolute)
— Composite D/W (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite D/W (V - Absolute)
0.0	0.0	5.3
12.7	0.0	4.8
25.3	0.0	4.3
38.0	0.0	3.8
50.7	0.0	3.3
63.3	0.0	2.8
76.0	0.0	2.3
88.7	0.0	1.8
101.3	0.0	1.3
114.0	0.0	0.8
126.7	0.0	0.0


Composite Shear, Span 1, Beam 9, SERVICE I

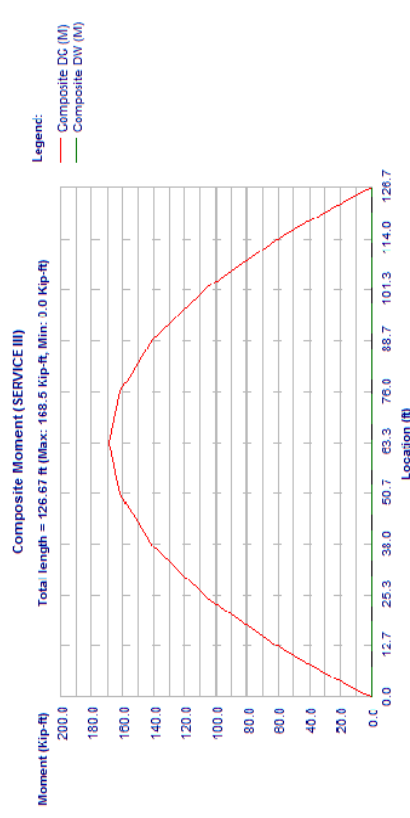
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

		Sheet # 19	
		Job #	
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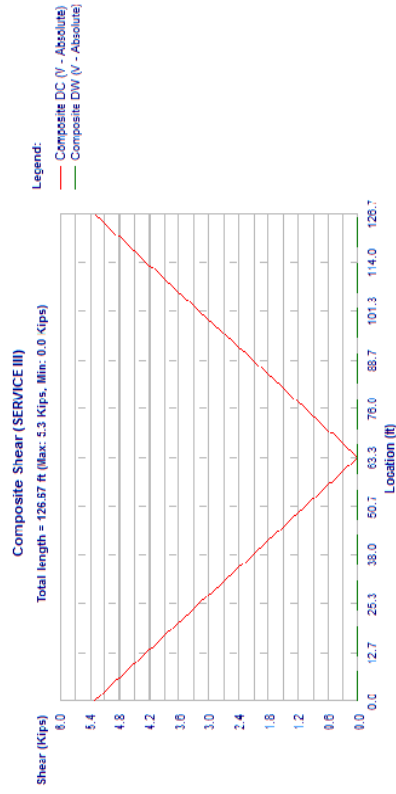
Precast Shear, Span 1, Beam 9, SERVICE III

		Sheet # 20	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
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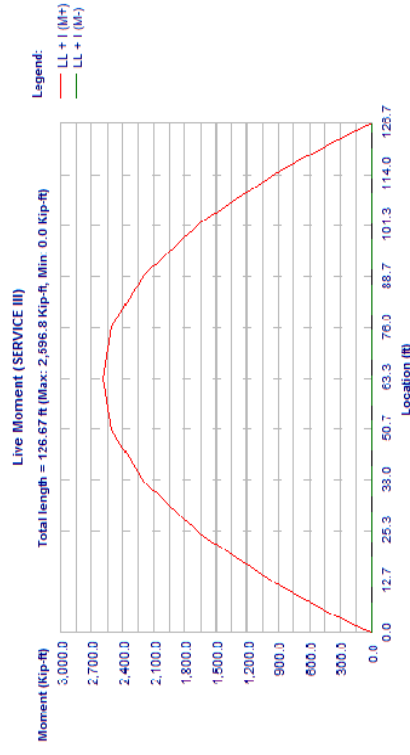
Composite Moment, Span 1, Beam 9, SERVICE III

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		Job #	
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		Date	



Composite Shear, Span 1, Beam 9, SERVICE III

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		Job #	
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Live Moment, Span 1, Beam 9, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5478.3	4785.2	3623.1	1953.6	653.7	326.4
LL + I :	M-	90.2	61.2	165.1	196.3	216.9	221.6
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	113.8	139.7	167.1	196.3	216.9	221.6
Total :	M	4720.7	4314.5	3385.0	1953.6	675.7	339.7
Total :	M+	11832.9	10313.6	7774.4	4177.0	1395.0	696.3
Total :	V	132.9	146.5	293.1	367.0	428.5	442.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	156.4	225.1	295.2	367.0	428.5	442.7
Total :	M	11075.3	9842.9	7536.3	4177.0	1417.0	709.6

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	93.4	93.4
Diaphragm	20.8	20.8
DL-Prec (DC)	18.6	18.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

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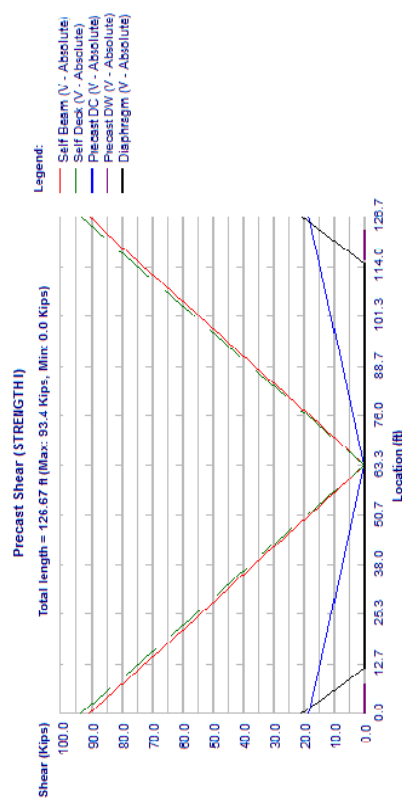
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Precast Moment, Span 1, Beam 9, STRENGTH I

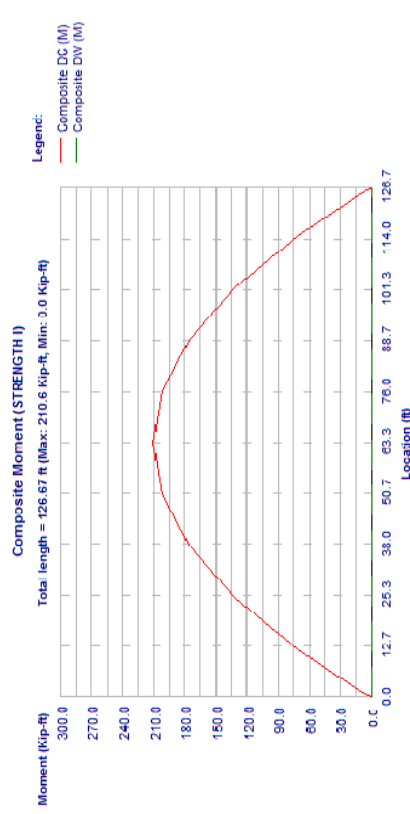
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

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		Job #	
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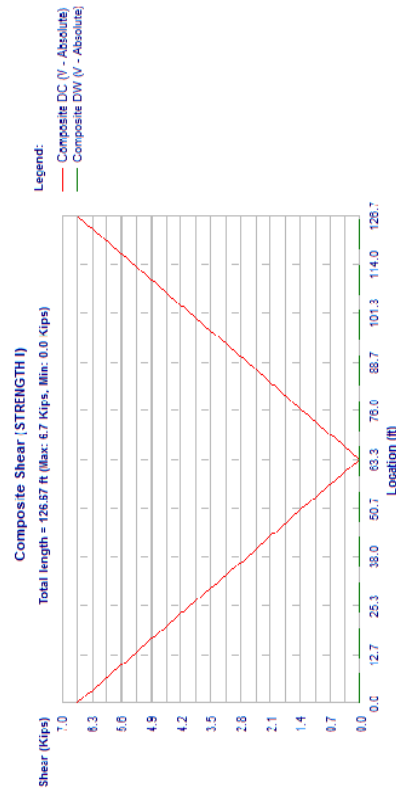
Precast Shear, Span 1, Beam 9, STRENGTH I

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		Job #	
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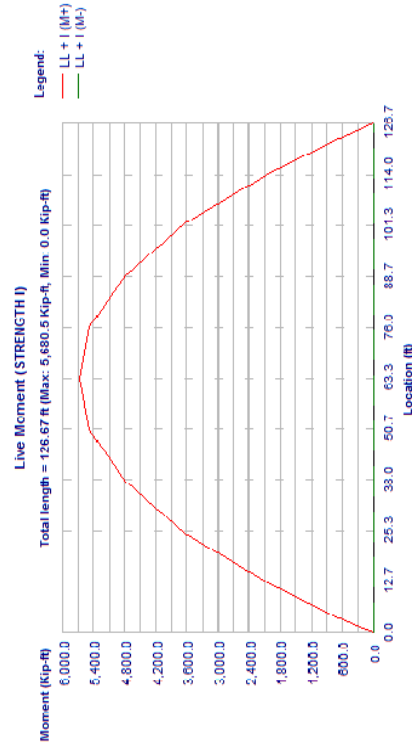
Composite Moment, Span 1, Beam 9, STRENGTH I

		Sheet # 29
		Job #
		Designed CAM
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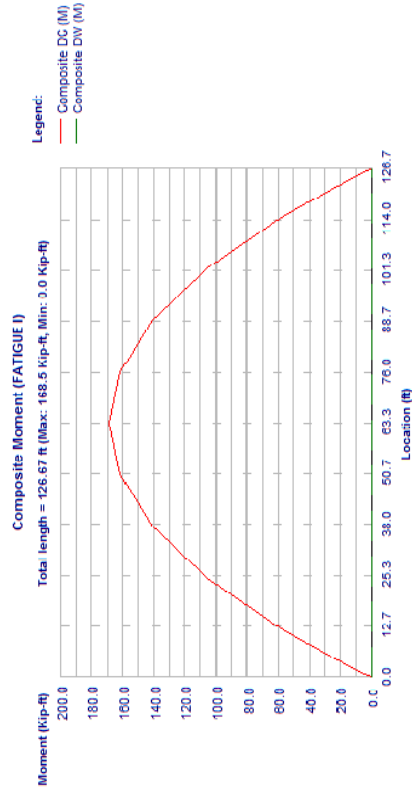
Composite Shear, Span 1, Beam 9, STRENGTH I

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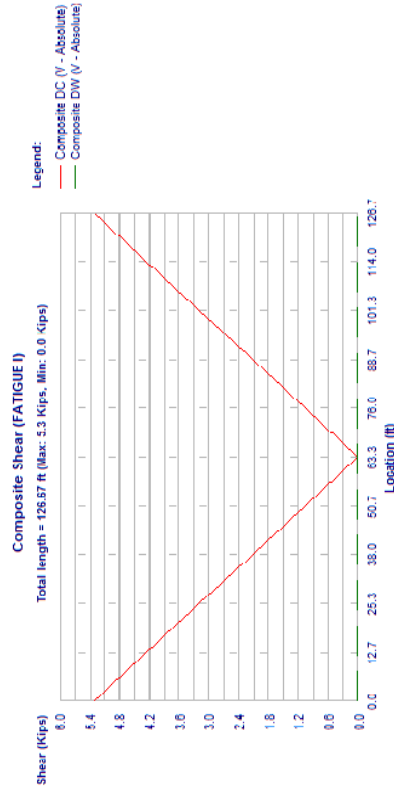
Live Moment, Span 1, Beam 9, STRENGTH I

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		Job #	
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		Date	




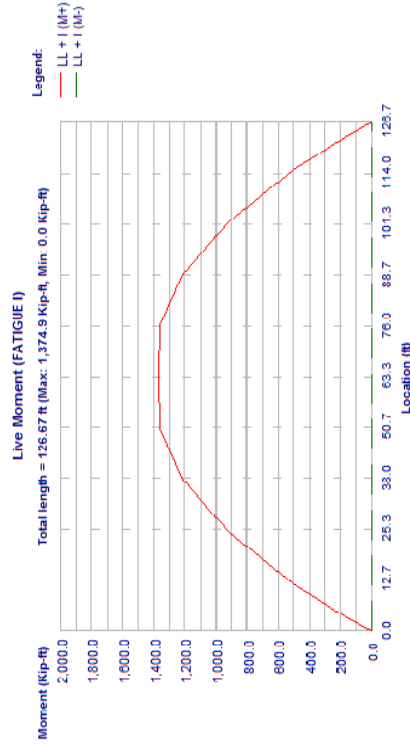
Composite Moment, Span 1, Beam 9, FATIGUE I

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		Job #	
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		Date	




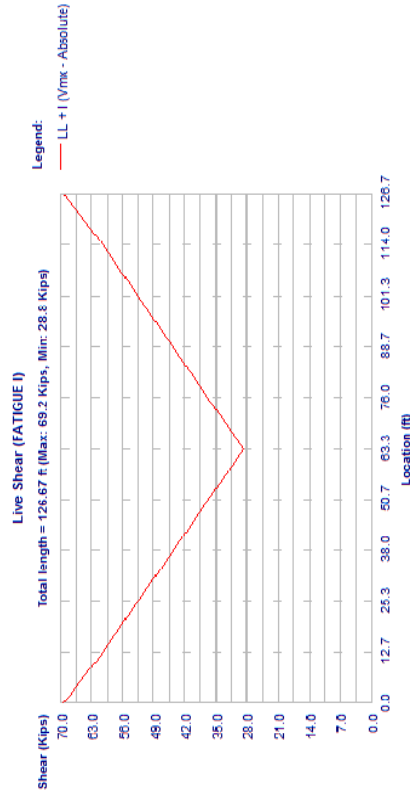
Composite Shear, Span 1, Beam 9, FATIGUE I

		Sheet #	37
		Job #	
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Live Moment, Span 1, Beam 9, FATIGUE I

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Live Shear, Span 1, Beam 9, FATIGUE I



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PROPERTIES

Span:1, Beam:10

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in	Bot 7,000 in		
Shear width	Top 7,000 in	Bot 7,000 in		

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.



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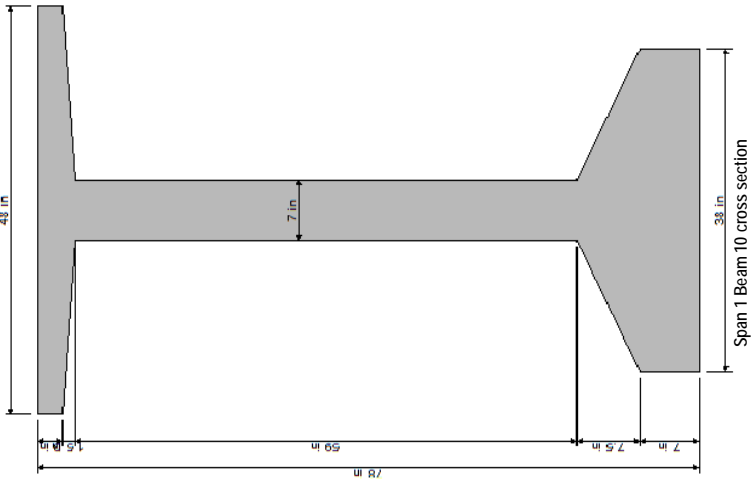
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Span 1 Beam 10 cross section



GENERAL BRIDGE DATA:

Bridge Width	109.13 ft
Curb-to-curb	106.04 ft
Beam Spac. LL/RT	10.51/4.75 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Exterior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees



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TOPPING DATA:

Deck Haunch:	Thickness	8.500 in	
	Thickness	1.000 in	
	Width	60.000 in	
Effective	width	120.060 in	(Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	126.667	Haunch
DC	Line	0.055	0.000	0.055	126.667	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
8.31	0.00
8.31	126.67

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	129.083	ft
Release length	129.083	ft
Design length	126.667	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment	(2+ lanes loaded)	(Calculated)
Live Moment	(1 lane loaded)	(Calculated)
Live Shear	(2+ lanes loaded)	(Calculated)
Live Shear	(1 lane loaded)	(Calculated)

(#) Lever rule (C4.6.2.2.1)



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Pedestrian	0.100	(Calculated)
Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	0.75
Shear	0.90


SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6 in ²	2025.9 in ²
Total Height	78.00 in	87.50 in
Mom. of Inertia (xxx)	904567 in ⁴	2087819 in ⁴
Ht. of c.g.	34.60 in	56.70 in
Density	150.00 pcf	150.00 pcf
Self-weight	1146.5 plf	2272.0 plf
Mom. of Inertia (yyy)	82367.0 in ⁴	
Poisson's Ratio	0.2	
Thermal Coeff.	0.000060/°F	

$$(\#) \text{ Of Total Section using } F_{ct}/F_c = 0.8563$$

(#) OF TOTAL SECTION USING LCV/EC = 0.0003
Use transformed strand and rebar: Strand Only

Location.	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast:(At Release, using	Ec =	4016.8ksi)							
Area,	In ²	119.8	1148.2	1148.2	1148.2	1148.2	1148.2	1148.2	1148.2
Yb,	In	34.12	33.44	33.43	33.42	33.39	33.36	33.34	33.34
Ml(1xx),	In ⁴	919333	940550	940781	941790	943438	945120	946839	946839
Composite:(At Final, using	Ec =	4491.0ksi)							
Area,	In ²	204.2	2067.7	2067.7	2067.7	2067.7	2067.7	2067.7	2067.7
Yb,	In	56.29	55.69	55.68	55.68	55.66	55.65	55.64	55.64



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Sheet # 9
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	1.79	3.65	11.70	24.61	37.52	50.43	63.33
Self wt. :	M	0.0	128.3	257.1	771.1	1439.7	1917.2	2203.8
(Max)	V	72.6	70.6	68.4	44.4	29.6	14.8	0.0
DL-Prec. :	M	0.0	20.1	40.4	121.1	226.0	301.0	346.0
DC(Max)	V	11.4	11.1	10.7	9.3	7.0	4.6	2.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	125.9	252.4	757.0	1413.4	1882.2	2163.6
Haunch (Max)	V	71.3	69.3	67.2	58.1	43.6	29.1	14.5
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	8.3	7.0	5.7	0.0	0.0	0.0	0.0
DL-Comp. :	M	-0.0	9.4	18.8	56.5	105.5	140.5	161.5
DC(Max)	V	5.3	5.2	5.0	4.3	3.3	2.2	1.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	225.5	451.7	1350.1	2503.8	3306.8	3785.8
LL + I :	V	128.6	126.0	123.4	111.7	93.9	34.8	51.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	128.6	126.0	123.4	111.7	93.9	34.8	51.3
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	234.7	466.9	1350.1	2339.2	2981.6	3262.3
Total :	M+	0.0	509.3	1020.4	3055.7	5688.3	7547.8	8660.6
Total :	V	297.6	289.2	280.4	242.6	192.1	100.3	84.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	297.6	289.2	280.4	242.6	192.1	100.3	84.0
Total :	M	0.0	518.5	1035.6	1933.3	3055.7	4517.1	5185.5

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.24	102.06	114.97	123.02	124.87	126.67
Self wt. :	M	2203.8	1917.2	1439.7	771.1	257.1	128.3
(Max)	V	14.8	29.6	44.4	59.2	68.4	70.6
DL-Prec. :	M	346.0	301.0	226.0	121.1	40.4	20.1
DC(Max)	V	2.3	4.6	7.0	9.3	10.7	11.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2163.6	1882.2	1413.4	757.0	252.4	125.9
Haunch (Max)	V	14.5	29.1	43.6	58.1	67.2	69.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	161.5	140.5	105.5	56.5	18.8	9.4
DC(Max)	V	1.1	2.2	3.3	4.3	5.0	5.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3785.8	3306.8	2503.8	1350.1	451.7	225.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	51.3	34.8	93.9	111.7	123.4	126.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	64.7	79.5	95.1	111.7	123.4	126.0
Total :	M	3262.3	2981.6	2339.2	1350.1	466.9	234.7
Total :	M+	8660.6	7547.8	5688.3	3055.7	1020.4	509.3
Total :	M-	84.0	100.3	192.1	242.6	280.4	289.2
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	8137.1	7222.5	5523.8	3055.7	1035.6	518.5

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	72.6	72.6
Deck+Haunch	71.3	71.3
Diaphragm	8.3	8.3
DL-Prec.(DC)	11.4	11.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	53.2	53.2
DL-Comp.(DW)	0.0	0.0
Live	107.2	107.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Designed CAM
Date Sept/9/2013
Checked
Date

Sheet # 11
Job #

Moment (Kip-ft)

Precast Moment (SERVICE I)

Total length = 125.67 ft (Max: 2,299.3 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 10, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

Bentley

Program: LEAP® CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span05WB_ModifiedSpacing.csl

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Designed CAM
Date Sept/9/2013
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Date

Sheet # 12
Job #

Shear (Kips)

Precast Shear (SERVICE I)

Total length = 125.67 ft (Max: 72.6 Kips, Min: 0.0 Kips)


Legend:

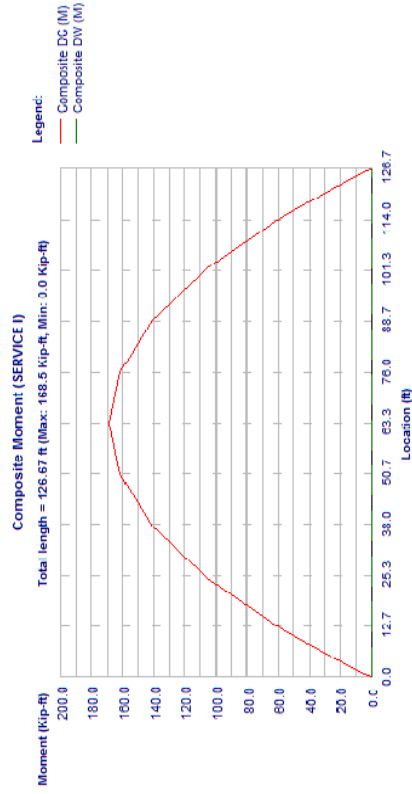
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 10, SERVICE I

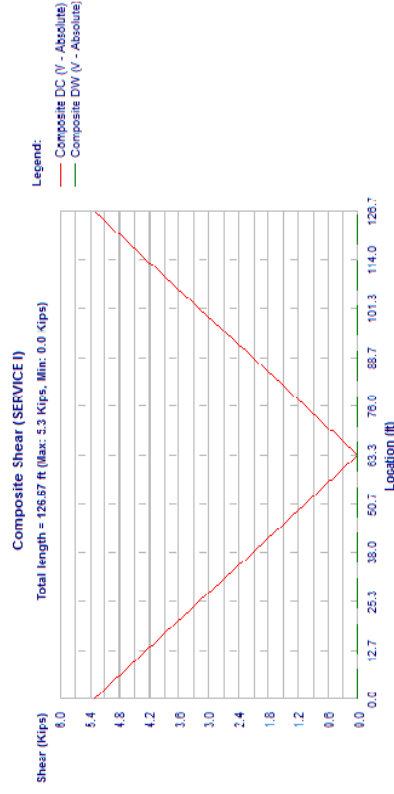
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

		Sheet # 13	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	
File Name: Span05WB_ModifiedSpacing.csl		www.bentley.com	
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		Designed CAM	
		Date Sept/9/2013	
		Checked	
		Date	




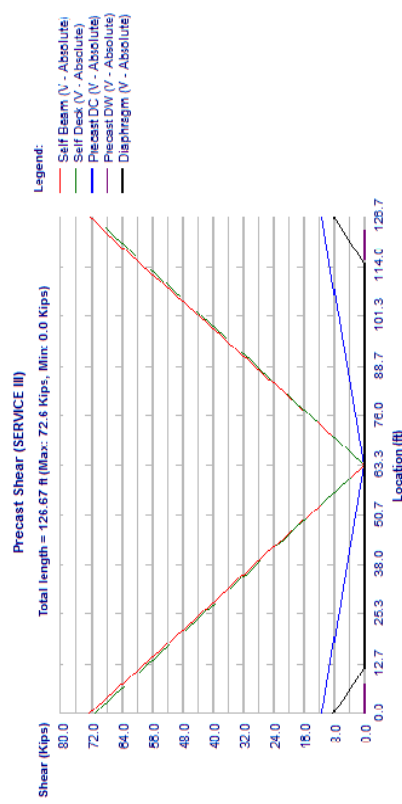
Composite Moment, Span 1, Beam 10, SERVICE I

		Sheet # 14	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	
File Name: Span05WB_ModifiedSpacing.csl		www.bentley.com	
		Phone: 1-800-778-4277	
		Designed CAM	
		Date Sept/9/2013	
		Checked	
		Date	




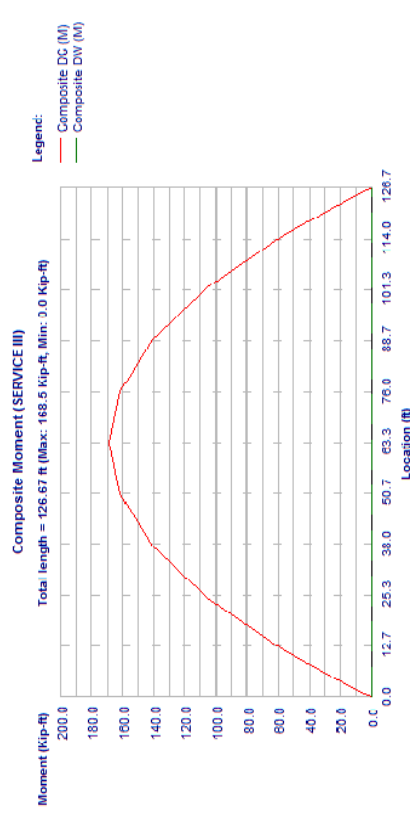
Composite Shear, Span 1, Beam 10, SERVICE I

		Sheet # 19	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
Version: 12.01.00.57		Date Sept/9/2013	
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Phone: 1-800-778-4277			
File Name: Span05WB_ModifiedSpacing.csl			




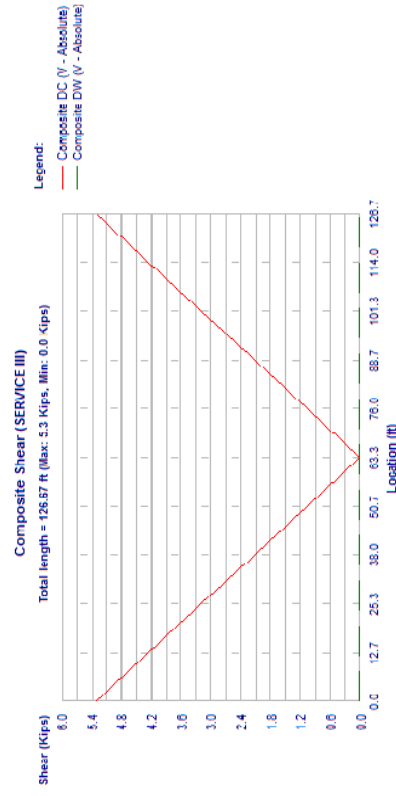
Precast Shear, Span 1, Beam 10, SERVICE III

		Sheet # 20	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
Version: 12.01.00.57		Date Sept/9/2013	
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Phone: 1-800-778-4277			
File Name: Span05WB_ModifiedSpacing.csl			




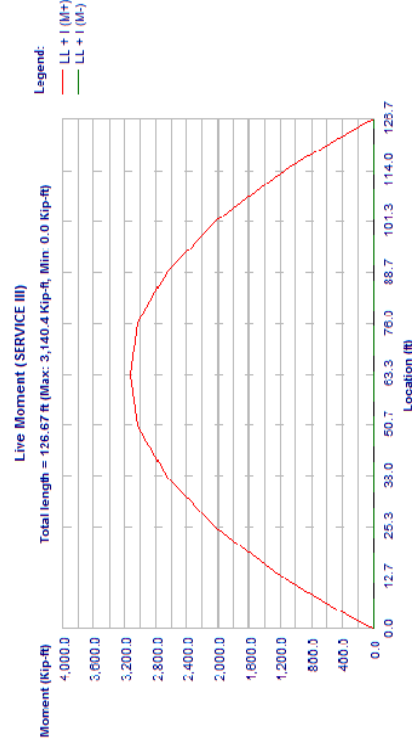
Composite Moment, Span 1, Beam 10, SERVICE III

		Sheet #	21
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	Designed CAM
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			Date



Composite Shear, Span 1, Beam 10, SERVICE III

		Sheet #	22
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	Designed CAM
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			Date



Live Moment, Span 1, Beam 10, SERVICE III

Bentley

Program: LEAPb CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span05WB_ModifiedSpacing.csl

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Designed CAM
Date Sept/9/2013
Checked
Date

Sheet # 25
Job #

Span05WB_ModifiedSpacing.csl

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.0	2.0	2.9	3.9	4.5	4.7	4.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6625.1	5787.0	4381.6	2362.6	790.5	394.7
	V	89.8	60.9	164.3	195.4	215.9	220.6
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	113.2	139.1	166.3	195.4	215.9	220.6
	V	5708.9	5217.7	4093.6	2362.6	817.1	410.8
Total :	M+	12718.7	11088.2	8362.3	4494.7	1501.4	749.4
	V	130.7	142.7	287.1	359.1	412.2	424.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	11802.5	10518.9	8074.4	4494.7	1528.0	765.5
	V	154.1	220.9	289.1	359.1	412.2	424.5
Total :	M	11802.5	10518.9	8074.4	4494.7	1528.0	765.5
	V	154.1	220.9	289.1	359.1	412.2	424.5

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	90.8	90.8
Deck+Haunch	89.1	89.1
Diaphragm	10.4	10.4
DL-Prec (DC)	14.3	14.3
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	66.5	66.5
DL-Comp (DW)	0.0	0.0
Live	187.6	187.6
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

Bentley

Program: LEAPb CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span05WB_ModifiedSpacing.csl

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Designed CAM
Date Sept/9/2013
Checked
Date

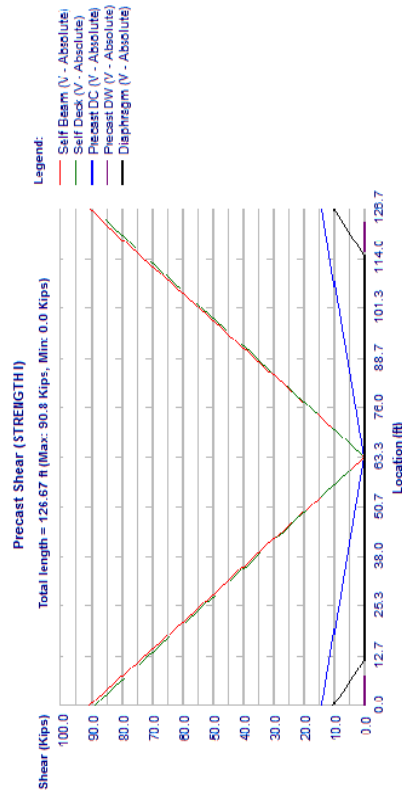
Sheet # 26
Job #

Span05WB_ModifiedSpacing.csl


Precast Moment, Span 1, Beam 10, STRENGTH I

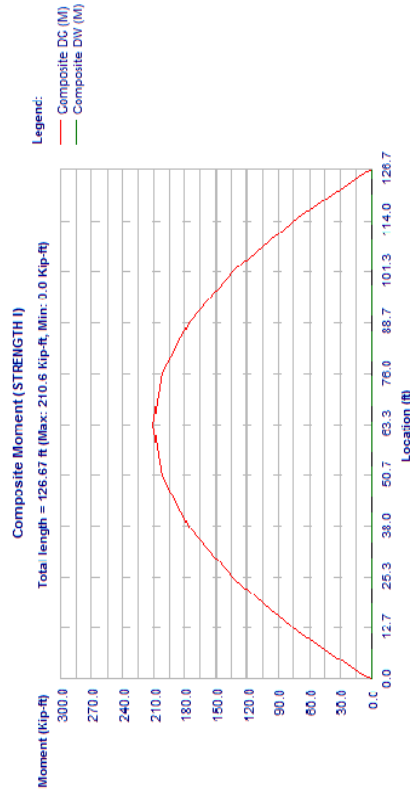
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

		Sheet # 27	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
Version: 12.01.00.57		Date Sept/9/2013	
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File Name: Span05WB_ModifiedSpacing.csl			



Precast Shear, Span 1, Beam 10, STRENGTH I

		Sheet # 28	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed CAM	
Version: 12.01.00.57		Date Sept/9/2013	
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Phone: 1-800-778-4277			
File Name: Span05WB_ModifiedSpacing.csl			



Composite Moment, Span 1, Beam 10, STRENGTH I

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Program: LEAP@ CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span05WB_ModifiedSpacing.csl

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Designed CAM

Date Sept/9/2013

Checked

Date

Sheet # 29

Job #

Composite Shear (STRENGTH I)

Total length = 126.67 ft (Max: 6.7 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute) (Kips)	Composite DW (V - Absolute) (Kips)
0.0	0.0	0.0
12.7	0.5	0.0
25.3	1.0	0.0
38.0	1.5	0.0
50.7	2.0	0.0
63.3	2.5	0.0
76.0	3.0	0.0
88.7	3.5	0.0
101.3	4.0	0.0
114.0	4.5	0.0
126.7	6.7	0.0

Composite Shear, Span 1, Beam 10, STRENGTH I

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 8:23 A.M.

Bentley

Program: LEAP@ CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span05WB_ModifiedSpacing.csl

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Designed CAM

Date Sept/9/2013

Checked

Date

Sheet # 30

Job #

Live Moment (STRENGTH I)

Total length = 126.67 ft (Max: 6,869.7 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- LL + I (M+)
- LL + I (M-)

Location (ft)	LL + I (M+) (Kip-ft)	LL + I (M-) (Kip-ft)
0.0	0.0	0.0
12.7	1,000.0	0.0
25.3	3,500.0	0.0
38.0	5,500.0	0.0
50.7	6,500.0	0.0
63.3	6,869.7	0.0
76.0	6,500.0	0.0
88.7	5,500.0	0.0
101.3	3,500.0	0.0
114.0	1,000.0	0.0
126.7	0.0	0.0

Live Moment, Span 1, Beam 10, STRENGTH I

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 8:23 A.M.

Bentley

Program: LEAPb CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span05WB_ModifiedSpacing.csl

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Designed CAM
Date Sept/9/2013
Checked
Date

Sheet # 33
Job #
Date
Checked
Date

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	2476.5	2191.5	1663.5	911.5	307.5	153.8	0.0
LL + I :	40.8	51.1	67.6	77.9	85.0	86.6	88.2
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	47.0	57.3	67.6	77.9	85.0	86.6	88.2
M	2369.7	2149.6	1663.5	911.5	307.5	153.8	0.0
Total :	7351.3	6432.5	4848.1	2617.1	876.2	437.5	0.0
Total :	73.5	116.6	165.8	208.8	242.1	249.7	257.1
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	79.7	122.8	165.8	208.8	242.1	249.7	257.1
Total :	7244.5	6390.6	4848.1	2617.1	876.2	437.5	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 126.67 ft (Max: 2,299.3 Kip-ft, Min 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 10, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

Bentley

Program: LEAPb CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span05WB_ModifiedSpacing.csl

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Designed CAM
Date Sept/9/2013
Checked
Date

Sheet # 34
Job #
Date
Checked
Date

Shear (Kips)

Precast Shear (FATIGUE I)


Total length = 126.67 ft (Max: 72.6 Kips, Min: 0.0 Kips)

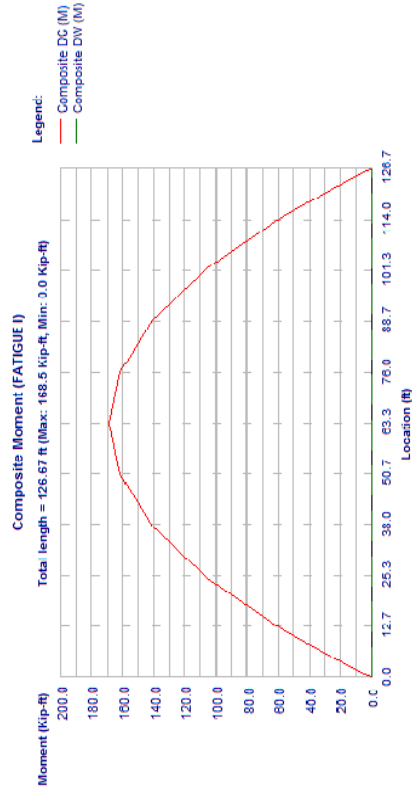
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 10, FATIGUE I

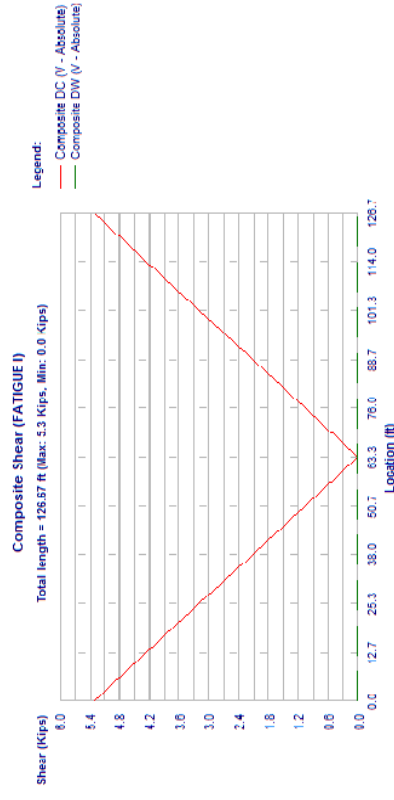
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:23 A.M.

		Sheet # 35	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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		Designed CAM	
		Date Sept/9/2013	
		Checked	
		Date	




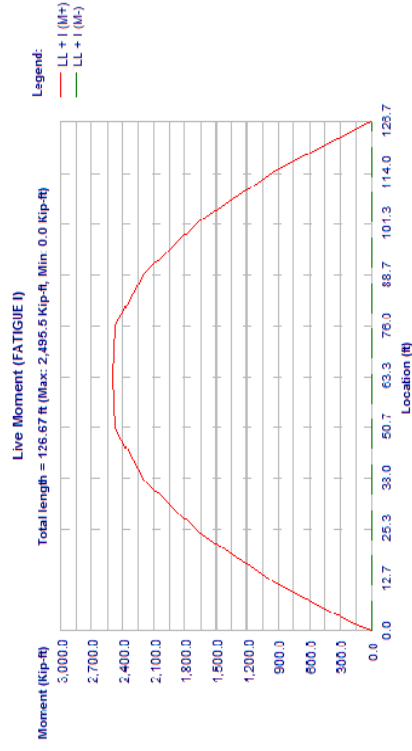
Composite Moment, Span 1, Beam 10, FATIGUE I

		Sheet # 36	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	
File Name: Span05WB_ModifiedSpacing.csl		www.bentley.com	
		Phone: 1-800-778-4277	
		Designed CAM	
		Date Sept/9/2013	
		Checked	
		Date	




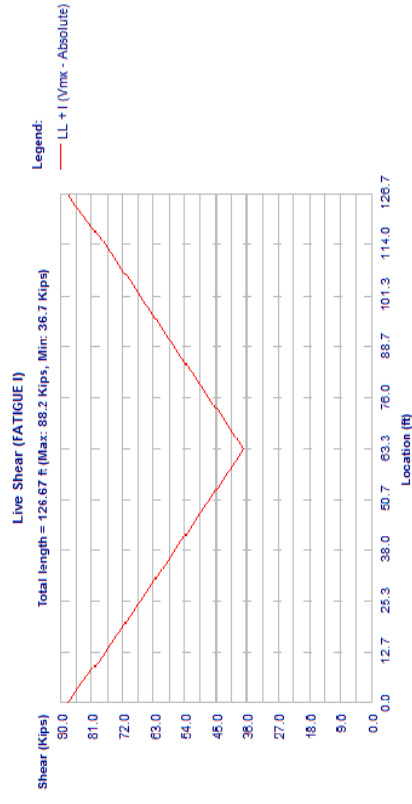
Composite Shear, Span 1, Beam 10, FATIGUE I

		Sheet #	37
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span05WB_ModifiedSpacing.csl		SE Client Licenses Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com Phone: 1-800-778-4277	
		Designed CAM	
		Date	Sept/9/2013
		Checked	
		Date	




Live Moment, Span 1, Beam 10, FATIGUE I

		Sheet #	38
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span05WB_ModifiedSpacing.csl		SE Client Licenses Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com Phone: 1-800-778-4277	
		Designed CAM	
		Date	Sept/9/2013
		Checked	
		Date	




Live Shear, Span 1, Beam 10, FATIGUE I

		Sheet # 1	
Job #		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	
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File Name: Span11EB_Modified Spacing.csl		Designed KSM	
		Date Sept/9/2013	
		Checked	
		Date	

PROJECT DATA

Project:	I4 Over St. John's River Bridge
Designer:	KSM
Date:	Sept/9/2013
Checked By:	
Date Checked:	
User job number:	
State:	FL, State Job #:
State:	Florida
Specification:	AASHTO LRFD - [6th Edition, 2012]
Design Code:	US
Units:	Simple Span
Span Type:	Yes
Flared Girder:	\\Lkmw001PM\WORK\3\jobs\59219 - I4 SAMRTECH\PROD\43210012201\Segment 4\stru\eng_data\I-4 Over St. John's River\Alternative 1 - Interior Widening\1 - Superstructure\Span 11EB\Span11EB_Modified Spacing.csl
File Name:	

		Sheet # 2	
Job #		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
Version: 12.01.00.57		Copyright © Bentley Systems, Inc. 1984 - 2012	
www.bentley.com		Phone: 1-800-778-4277	
File Name: Span11EB_Modified Spacing.csl		Designed KSM	
		Date Sept/9/2013	
		Checked	
		Date	

GEOMETRY DATA

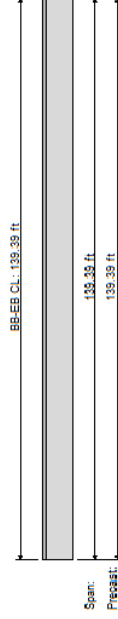
ALIGNMENT DATA
 Bridge Alignment: ALG01
 Beginning Station: 0+00.0000 ft

Seg	Shape	StartDirection	EndStation	Radius	Sense
1	Tangent	N 90 00 00.00 E	2+00.0000	ft	-

BRIDGE LAYOUT

Overall Width (ft)	103.083
Left curb (ft)	1.542
Right curb (ft)	1.542
Curb-to-curb width (ft)	100.000
Number of spans	1
Number of lanes	8
Lane width (ft)	12.000
Eft Deck thick (in)	8.500
Sacrificial thick (in)	0.000
Haunch thickness (in)	1.000
Haunch width (in)	60.000
Bridge c/s MI(1xx) (in4)	22520988.00

Component	RefName	Station	Bearing	Deck Width	Deck Offset
Begin Bridge		0+00.0000	N 0 00 00.00 W	103.0830	76.0000
Abutment	AB01	0+00.0000	N 0 00 00.00 W	103.0830	76.0000
Abutment	AB02	1+39.3907	N 14 09 12.96 W	103.0830	76.0000
End Bridge		1+39.3907	N 14 09 12.96 W	103.0830	76.0000



Bridge elevation

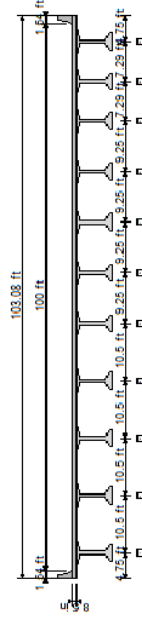
BEAM DATA

No	ID	Length	Loc-start	Loc-end	Area	MI(1xx)	Height	Yb	B-topg	B-trib
		ft	ft	ft	in2	in4	in	in	in	ft



Program:	LEAP@ CONSPAN® V8i (SELECTseries 5)	SE Client Licenses	Designed	KSM
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012	Date	Sep/9/2013
File Name:	Span11EB Modified Spacing.csl	www.bentley.com	Phone:	1-800-778-4277
			Checked	Date

No	ID	Length ft	Loc-start ft	Loc-end ft	Area in ²	M((xx) in	Height in	Yb in	B-topg ft	B-trip ft
1	FIB-78	127.575	3.799	1.096	1100.6	904567.0	78.00	34.60	48.00	10.000
2	FIB-78	130.223	10.500	10.829	1100.6	904567.0	78.00	34.60	48.00	10.500
3	FIB-78	132.871	10.500	10.829	1100.6	904567.0	78.00	34.60	48.00	10.500
4	FIB-78	135.519	10.500	10.829	1100.6	904567.0	78.00	34.60	48.00	10.500
5	FIB-78	138.167	10.500	10.829	1100.6	904567.0	78.00	34.60	48.00	9.875
6	FIB-78	140.499	9.250	9.540	1100.6	904567.0	78.00	34.60	48.00	9.250
7	FIB-78	142.832	9.250	9.540	1100.6	904567.0	78.00	34.60	48.00	9.250
8	FIB-78	145.165	9.250	9.540	1100.6	904567.0	78.00	34.60	48.00	9.250
9	FIB-78	147.497	9.250	9.540	1100.6	904567.0	78.00	34.60	48.00	8.271
10	FIB-78	149.336	7.292	7.520	1100.6	904567.0	78.00	34.60	48.00	7.292
11	FIB-78	151.175	7.292	7.520	1100.6	904567.0	78.00	34.60	48.00	8.395



Bridge cross section

MATERIAL DATA - Project Level

As defined in Material Tab. For beam level properties look at Beam Specific output.

CONCRETE PROPERTIES

	Precast Release	Precast Final	C.I.P
f _c (ksi)	6,000	7,500	5,500
W _c (pcf)	150,000	150,000	150,000
E _c (ksi)	4016,840	4490,960	3845,830
K1	0.900	0.900	0.900
Thermal coeff. (1/°F)	0.000000600		

STRAND AND REBAR PROPERTIES

PRESTRESSED STEEL:

6/10-270K-LL, Low relaxation strands
Depressed at 0.40!

Strand Diameter = 0.600 in




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Tensile Strength(fpu) = 270.0 ksi

Use transformed strand and rebar: Strand Only

REINFORCING STEEL:

Tension/Shear steel: $f_y = 60.0$ ksi $E_s = 29000$ ksi fs = 24.0 ksi



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LOADS DATA

Loads generated using Permanent Load Wizard: YES

Left Barrier Weight, klf	0.000
Right Barrier Weight, klf	0.000
Left Curb Weight, klf	0.420
Right Curb Weight, klf	0.420
Left Sidewalk, klf	0.000
Right Sidewalk, klf	0.000
Future Wearing Surface, ksf	0.000
Sacrificial Wearing Surface, in	0.000
Slay in Place Deck Forms, klf	0.000


DEAD LOADS ON PRECAST

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

Span	Beam	DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
1	1	DC	Line	0.125	0.000	127.575	127.575	Add'l Build-Up
1	1	DC	Line	0.005	0.000	0.005	127.575	SJP
1	2	DC	Line	0.125	0.000	0.125	130.223	Add'l Build-Up
1	3	DC	Line	0.110	0.000	0.110	130.223	SJP
1	3	DC	Line	0.125	0.000	0.125	132.871	Add'l Build-Up
1	3	DC	Line	0.110	0.000	0.110	132.871	SJP
1	4	DC	Line	0.125	0.000	0.125	135.519	Add'l Build-Up
1	4	DC	Line	0.110	0.000	0.110	135.519	SJP
1	5	DC	Line	0.125	0.000	0.125	138.167	Add'l Build-Up
1	5	DC	Line	0.098	0.000	0.098	138.167	SJP
1	6	DC	Line	0.125	0.000	0.125	140.499	Add'l Build-Up
1	6	DC	Line	0.085	0.000	0.085	140.499	SJP
1	7	DC	Line	0.125	0.000	0.125	142.832	Add'l Build-Up
1	7	DC	Line	0.085	0.000	0.085	142.832	SJP
1	8	DC	Line	0.125	0.000	0.125	145.165	Add'l Build-Up
1	8	DC	Line	0.085	0.000	0.085	145.165	SJP
1	9	DC	Line	0.125	0.000	0.125	147.497	Add'l Build-Up
1	9	DC	Line	0.065	0.000	0.065	147.497	SJP
1	10	DC	Line	0.125	0.000	0.125	149.336	Add'l Build-Up
1	10	DC	Line	0.046	0.000	0.046	149.336	SJP
1	11	DC	Line	0.125	0.000	0.125	151.175	Add'l Build-Up
1	11	DC	Line	0.043	0.000	0.043	151.175	SJP

DIAPHRAGM LOADS - using Wizard

Span	Magnitude (plf)	Location (ft)	Skew (deg)
1	1675.000	1.000	0.000
1	1675.000	120.000	-14.150



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Span	Beam	Load (kips)	Location (ft)
1	1	8.305	1.000
1	1	8.565	127.364
1	2	16.610	1.000
1	2	17.130	130.011
1	3	16.610	1.000
1	3	17.130	132.658
1	4	16.610	1.000
1	4	17.130	135.305
1	5	15.564	1.000
1	5	16.051	137.952
1	6	14.517	1.000
1	6	14.971	140.284
1	7	14.517	1.000
1	7	14.971	142.616
1	8	14.517	1.000
1	8	14.971	144.948
1	9	12.877	1.000
1	9	13.279	147.281
1	10	11.236	1.000
1	10	11.588	149.119
1	11	5.618	1.000
1	11	5.794	150.957

DEAD LOADS ON COMPOSITE

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf, Area: ksf, Width: ft)

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
1	DC	Line	0.420	0.000	0.420	127.575	Left Curb Weight
1	DC	Line	0.420	0.000	0.420	127.575	Right Curb Weight


TEMPERATURE LOADS - NONE

LIVE LOADS

Live load deflection: not included.

ID	Type
Design Lane	Design Lane
Design Tandem	Design Tandem
Design Truck	Design Truck

Pedestrian Load - NONE

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Truck Impact: 1.330	
Lane Impact: 1.000	
Strength II Impact: 1.330	
Fatigue Impact: 1.150	

DISTRIBUTION FACTORS (Art. 4.6.2.2):


Is Span Post-tensioned:	NO
Include Rigid Cross Section Assumption (Art. 4.6.2.2.d):	YES
ADTT (Average Daily Truck Traffic) :	5000
Percent of the specified force effect :	1.00

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service II:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor:	1.00
Redundancy Factor:	1.00
Importance Factor:	1.00

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Truck Impact: 1.330	
Lane Impact: 1.000	
Strength II Impact: 1.330	
Fatigue Impact: 1.150	

DISTRIBUTION FACTORS (Art. 4.6.2.2):


Is Span Post-tensioned:	NO
Include Rigid Cross Section Assumption (Art. 4.6.2.2.d):	YES
ADTT (Average Daily Truck Traffic) :	5000
Percent of the specified force effect :	1.00

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service II:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor:	1.00
Redundancy Factor:	1.00
Importance Factor:	1.00



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PROJECT DESIGN PARAMETERS

Trans len multi:	Bonded	1.00
	Debonded	1.00
Dev len multi:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed: AASHTO equations
Horizontal Shear, Beam and Slab effects in V_u: INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00	%
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi


STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):



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PROJECT DESIGN PARAMETERS

Trans len multi:	Bonded	1.00
	Debonded	1.00
Dev len multi:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed: AASHTO equations
Horizontal Shear, Beam and Slab effects in V_u: INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00	%
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	ksi
Max tens	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.38	ksi
Max tens	2.47	ksi

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52	ksi
Max comp	3.00	ksi

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRESTRESS LOSSES:

Time Dependent Losses, Approximate Method (Art.5.9.5.3)
Days to release = 0.75
Rel. Humid. (RH) = 75.0 %

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*Average bridge width

TOPPING DATA:

Deck Thickness	8.500	in
Haunch Thickness	1.000	in
Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	127.575	Add'l Build-Up
DC	Line	0.005	0.000	0.005	127.575	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
8.31	1.00
8.57	127.36

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	127.575	ft
Release length	127.575	ft
Design length	127.575	ft

KERN POINTS:

Upper	Lower
58.35	15.66
in	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Section Assumption (Art. 4.6.2.2d): YES

Location	+ve	Moment	Shear
0.0L	2+Lane	1Lane	2+Lane
0.1L	0.919	0.995(#)	0.926
0.2L	0.919	0.995(#)	0.926
0.3L	0.919	0.995(#)	0.926

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

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*Average bridge width

TOPPING DATA:

Deck Thickness	8.500	in
Haunch Thickness	1.000	in
Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	127.575	Add'l Build-Up
DC	Line	0.005	0.000	0.005	127.575	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
8.31	1.00
8.57	127.36

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	127.575	ft
Release length	127.575	ft
Design length	127.575	ft

KERN POINTS:

Upper	Lower
58.35	15.66
in	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Section Assumption (Art. 4.6.2.2d): YES

Location	+ve	Moment	Shear
0.0L	2+Lane	1Lane	2+Lane
0.1L	0.919	0.995(#)	0.926
0.2L	0.919	0.995(#)	0.926
0.3L	0.919	0.995(#)	0.926

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

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Total Strand Area	7.812	in2
Trans. Len bonded	3,000	ft
Trans. Len debonded	3,000	ft
Dev. Len bonded	11,540	ft
Dev. Len debonded	14,424	ft
Holddown Force	6,457	kips
Tensile Strength(fpu)	270.0	ksi
Initial Prestress = 0.75fpu	202.5	ksi
Initial Pull	1581.9	kips
Beam Shrink (PL/AE)	0.525	in

Straight strands		Dist. from bottom(in)	
Number			
12	3	17	3
14	5	17	5
1	7	2	7

Strand Pattern, Span 1, Beam 1

Span:1, Beam:1
ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
4592.829	740	36.113	146259.938	1654.632	0.000

Span:1, Beam:1
REINFORCING STEEL:

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

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Tension steel:	fy	60.0	ksi
	Es	29000	ksi
	fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#6(M19)	60.0	0.88	18.00	0.0000	127.5751	No

LOSSES
Note: Values are calculated at Midspan

Str. area	7.8120	in2
Ycg	4.17	in
P_init	1581.9	kips
Ecc	30.43	in
Days to release	0.75	
Rel. Humid.(RH)	75.0	%
Es	285000.0	ksi
Eci	4017	ksi

AASHTO LOSSES

Elastic Shortening ** 12.51 ksi (Eq 5.9.5.2.3a-1). (fcgp= 1.763 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-6.00	ksi	0.00
due to Composite Loads	-0.25	ksi	0.00
due to Live Loads	-5.19	ksi	0.00

Time Dependent Losses (Approximate Method (Art.5.9.5.3))


	Initial	Final
Steel relaxation	0.00	ksi
Concrete shrinkage	0.00	ksi
Concrete creep	0.00	ksi
Sub-total	12.51	(6.18%)
Total Prestress Losses		8.85
		(4.37%)
		21.36
		(10.55%)

Prestressing Stress Limit Check (Table 5.9.3.1)

Initial fpi = 202.5 ksi < 0.75 fpu, OK
Initial fpe = 181.1 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE I
Shears: kips, Moments: kft

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	M	0.0	3.00	3.65	12.76	25.52	38.27	51.03	63.79
(Max)	V	0.0	214.2	259.0	839.7	1492.7	1959.2	2239.1	2332.4
DL-Prec. :	M	73.1	69.7	69.0	58.5	43.9	29.3	14.6	0.0
DC(Max)	V	-0.0	24.4	29.5	95.6	169.9	223.0	254.9	265.5
DL-Prec. :	M	8.3	7.9	7.8	6.7	5.0	3.3	1.7	0.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	210.2	254.2	823.9	1464.8	1922.5	2197.2	2288.7
Haunch (Max)	V	71.8	68.4	67.7	57.4	43.1	28.7	14.4	0.0
Diaphragm :	M	-0.0	2.5	3.0	7.7	7.0	6.4	5.7	5.1
(Max)	V	8.3	6.3	5.9	0.1	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	12.7	15.3	49.7	88.3	115.9	132.4	137.9
DC(Max)	V	4.6	4.4	4.3	3.7	2.8	1.8	0.9	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	347.8	420.4	1356.3	2391.5	3105.4	3527.9	3644.0
LL + :	V	126.2	122.1	121.3	109.0	91.8	74.6	50.5	33.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	126.2	122.2	121.4	109.4	93.3	78.1	63.6	49.8
Total :	M	0.0	343.9	415.1	1314.9	2244.2	2815.5	3056.4	2994.6
Total + :	M+	0.0	811.9	981.4	3172.8	5614.2	7332.4	8357.1	8673.6
Total :	V	292.2	278.9	276.0	235.3	186.5	137.8	82.2	33.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	292.2	278.9	276.1	235.7	188.1	141.2	95.2	49.9
Total :	M	0.0	807.9	976.1	3131.4	5466.9	7042.5	7885.7	8024.2

Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	76.55	89.30	102.06	114.82	123.93	124.58	127.58
(Max)	V	2239.1	1959.2	1492.7	839.7	259.0	214.2	0.0
DL-Prec. :	M	14.6	29.3	43.9	58.5	69.0	69.7	73.1
DC(Max)	V	1.7	3.3	5.0	6.7	7.8	7.9	8.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2197.2	1922.5	1464.8	823.9	254.2	210.2	0.0
Haunch (Max)	V	14.4	28.7	43.1	57.4	67.7	68.4	71.8
Diaphragm :	M	4.4	3.8	3.1	2.5	0.9	0.7	-0.0
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DL-Comp. :	M	132.4	115.9	88.3	49.7	15.3	12.7	0.0
DC(Max)	V	0.9	1.8	2.8	3.7	4.3	4.4	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3527.9	3105.4	2391.5	1356.3	420.4	347.8	-0.0



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Sheet # 10
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Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	50.5	74.6	91.8	109.0	121.3	122.1	126.2
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	63.6	78.1	93.3	109.4	121.4	122.2	126.2
DC(Max)	V	3056.4	2815.5	2244.2	1314.9	415.1	343.9	0.0
DL-Prec. :	M+	8355.8	7329.8	5610.3	3167.6	979.2	810.1	0.0
Total :	V	82.2	137.8	186.5	235.3	276.2	279.1	292.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	95.2	141.2	188.1	235.7	276.3	279.2	292.6
Total :	M	7884.4	7039.9	5463.0	3126.2	974.0	806.1	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	73.1	73.1
Deck+Haunch	71.8	71.8
Diaphragm	8.3	8.6
DL-Prec.(DC)	8.3	8.3
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0


Upward reactions are positive.

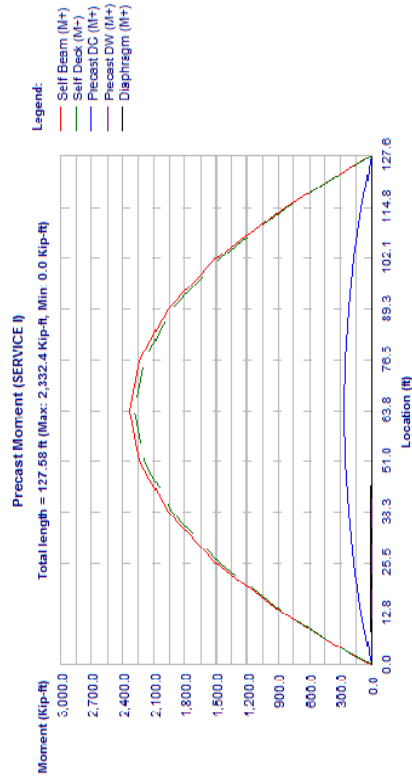
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

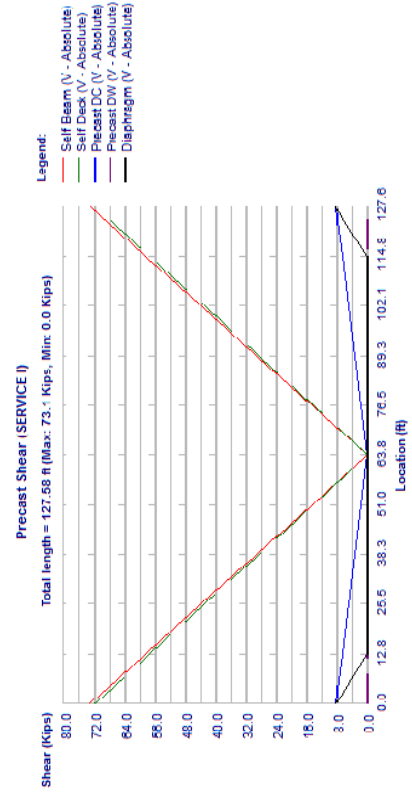
Composite and Pedestrian load types are per total bridge width.

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Precast Moment, Span 1, Beam 1, SERVICE I

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Precast Shear, Span 1, Beam 1, SERVICE I

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Sheet # 13

Job #

Composite Moment (SERVICE I)
Total length = 127.58 ft (Max: 137.9 kip-ft, Min: 0.0 kip-ft)

Legend:
— Composite DC (M)
— Composite D/W (M)

Location (ft)	Composite DC (M)	Composite D/W (M)
0.0	0.0	0.0
12.8	0.0	0.0
25.5	0.0	0.0
38.3	0.0	0.0
51.0	0.0	0.0
63.8	0.0	137.9
76.5	0.0	102.1
89.3	0.0	63.8
102.1	0.0	25.5
114.8	0.0	12.8
127.6	0.0	0.0

Composite Moment, Span 1, Beam 1, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

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Sheet # 14

Job #

Composite Shear (SERVICE I)
Total length = 127.58 ft (Max: 4.8 Kips, Min: 0.0 Kips)

Legend:
— Composite DC (V - Absolute)
— Composite D/W (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite D/W (V - Absolute)
0.0	0.0	4.8
12.8	0.0	4.0
25.5	0.0	3.2
38.3	0.0	2.4
51.0	0.0	1.6
63.8	0.0	0.8
76.5	0.0	0.0
89.3	0.0	0.0
102.1	0.0	0.0
114.8	0.0	0.0
127.6	0.0	0.0

Composite Shear, Span 1, Beam 1, SERVICE I

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Live Moment (SERVICE I)
Total length = 127.58 ft (Max: 3,644.0 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Live Moment, Span 1, Beam 1, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

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Live Shear (SERVICE I)
Total length = 127.58 ft (Max: 126.2 Kips, Min: 49.8 Kips)

Legend:
— LL + I (Vmk - Absolute)

Live Shear, Span 1, Beam 1, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	3.00	3.65	12.76	25.52	38.27	51.03	63.79
Self wt. : M	0.0	214.2	259.0	839.7	1492.7	1959.2	2239.1	2332.4
(Max) V	73.1	69.7	69.0	58.5	43.9	29.3	14.6	0.0
DL-Prec. : M	-0.0	24.4	29.5	95.6	169.9	223.0	254.9	265.5
DC(Max) V	8.3	7.9	7.8	6.7	5.0	3.3	1.7	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	210.2	254.2	823.9	1464.8	1922.5	2197.2	2288.7
Haunch (Max) V	71.8	68.4	67.7	57.4	43.1	28.7	14.4	0.0
Diaphragm : M	-0.0	2.5	3.0	7.7	7.0	6.4	5.7	5.1
(Max) V	8.3	6.3	5.9	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	0.0	12.7	15.3	49.7	88.3	115.9	132.4	137.9
DC(Max) V	4.6	4.4	4.3	3.7	2.8	1.8	0.9	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	0.0	278.3	336.3	1085.0	1913.2	2484.3	2822.3	2915.2

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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
LL + I :	V	100.9	97.7	97.0	87.2	73.5	59.7	40.4
M- :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	100.9	97.8	97.1	87.5	74.7	62.5	50.9
LL + I :	M	0.0	275.1	332.1	1051.9	1795.3	2252.4	2445.1
Total :	M+	0.0	742.3	897.3	2901.5	5135.9	6711.3	7944.8
V :	V	267.0	254.4	251.7	213.5	168.2	122.9	72.1
M- :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	267.0	254.5	251.8	213.8	169.4	125.6	82.5
Total :	M	0.0	739.2	893.1	2868.4	5018.1	6479.4	7425.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	76.55	89.30	102.06	114.82	123.93	124.58
Self wt. :	M	2239.1	1959.2	1492.7	839.7	259.0	214.2
(Max)	V	14.6	29.3	43.9	58.5	69.0	69.7
DL-Prec :	M	254.9	223.0	169.9	95.6	29.5	24.4
DC(Max)	V	1.7	3.3	5.0	6.7	7.8	7.9
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2197.2	1922.5	1464.8	823.9	254.2	210.2
Haunch (Max)	V	14.4	28.7	43.1	57.4	67.7	68.4
Diaphragm :	M	4.4	3.8	3.1	2.5	0.9	0.7
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	132.4	115.9	88.3	49.7	15.3	12.7
DC(Max)	V	0.9	1.8	2.8	3.7	4.3	4.4
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2822.3	2484.3	1913.2	1085.0	336.3	278.3
LL + I :	M-	40.4	59.7	73.5	87.2	97.0	97.7
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	50.9	62.5	74.7	87.5	97.1	97.8
Total :	M	2445.1	2252.4	1795.3	1051.9	332.1	275.1
Total :	M+	7650.3	6708.7	5132.0	2896.3	895.1	740.5
Total :	V	72.1	122.9	168.2	213.5	252.0	254.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	82.5	125.6	169.4	213.8	252.1	254.8
Total :	M	7273.1	6476.8	5014.2	2863.2	890.9	737.4

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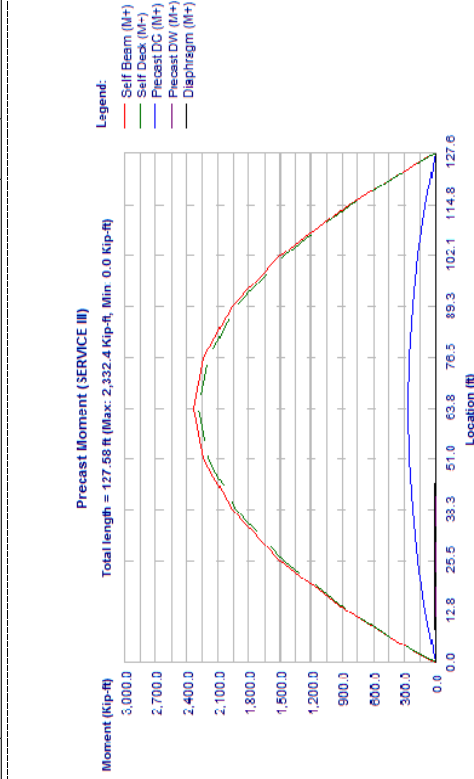
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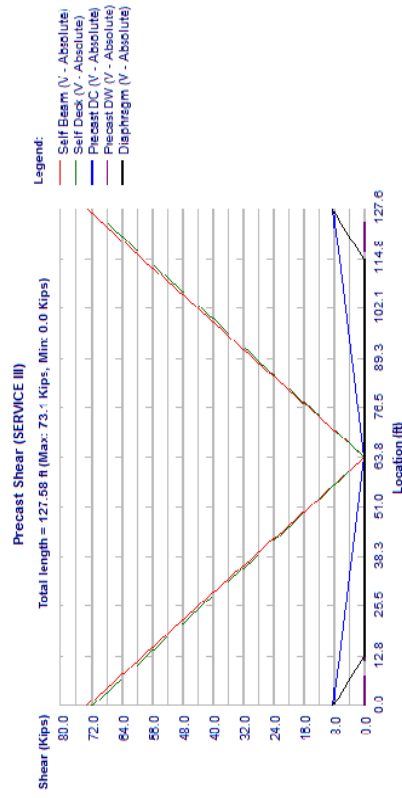


Units: U.S. Units


Design Code: AASHTO LRFD

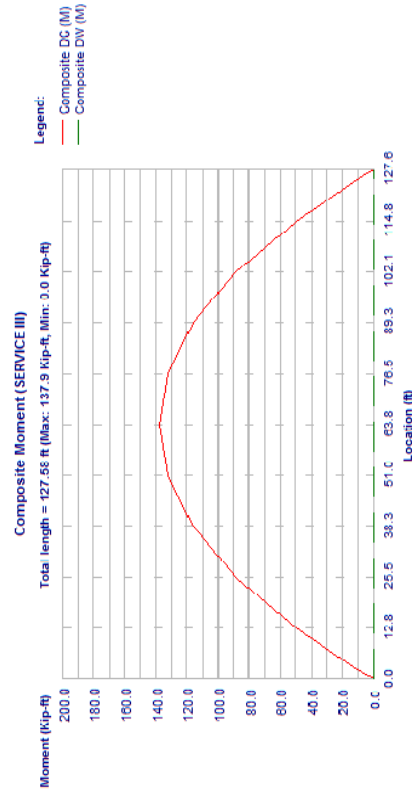
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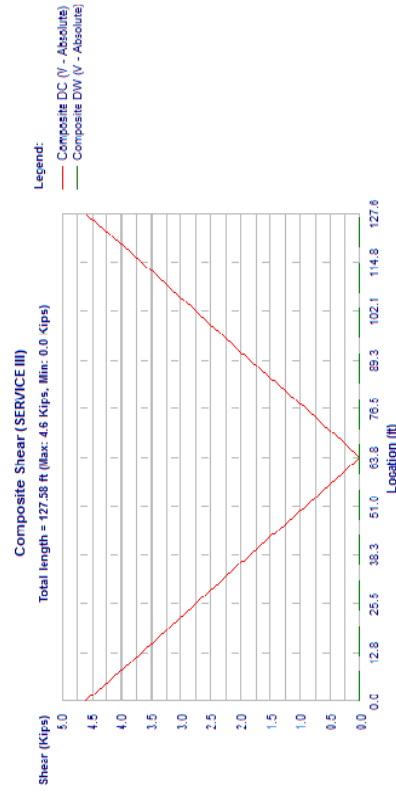
Precast Shear, Span 1, Beam 1, SERVICE III

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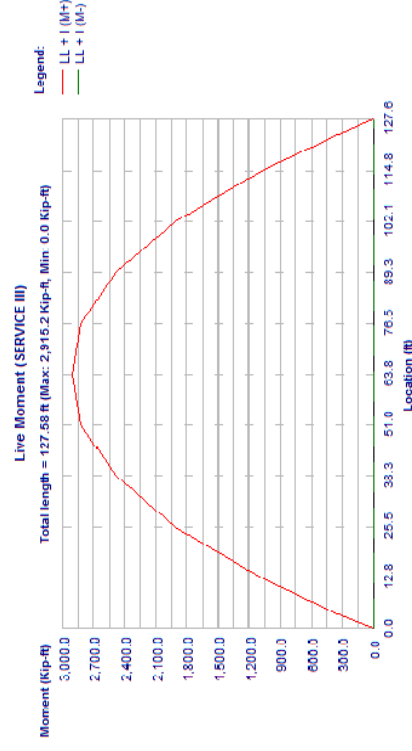
Composite Moment, Span 1, Beam 1, SERVICE III

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Composite Shear, Span 1, Beam 1, SERVICE III

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Live Moment, Span 1, Beam 1, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	3.9	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6173.8	5434.5	4185.0	2373.5	735.7	608.7
LL + I :	M-	V	88.5	130.6	160.7	190.8	213.8
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	M	111.2	136.6	163.4	191.4	212.4	213.9
LL + I :	M	5348.8	4927.1	3927.3	2301.1	726.5	601.8
Total :	M+	12208.8	10715.0	8208.6	4637.7	1434.2	1186.5
Total :	V	128.0	209.6	279.1	348.6	405.9	410.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	150.8	215.6	281.8	349.3	406.1	410.1
Total :	M	11383.7	10207.6	7950.8	4565.2	1425.0	1179.6

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	91.4	91.4
Deck+Haunch	89.7	89.7
Diaphragm	10.3	10.8
DL-Prec(DC)	10.4	10.4
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	63.1	63.1
DL-Comp(DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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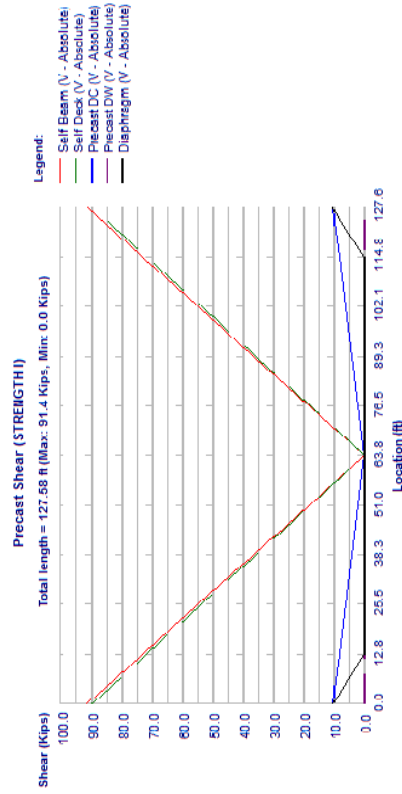
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Precast Moment, Span 1, Beam 1, STRENGTH I

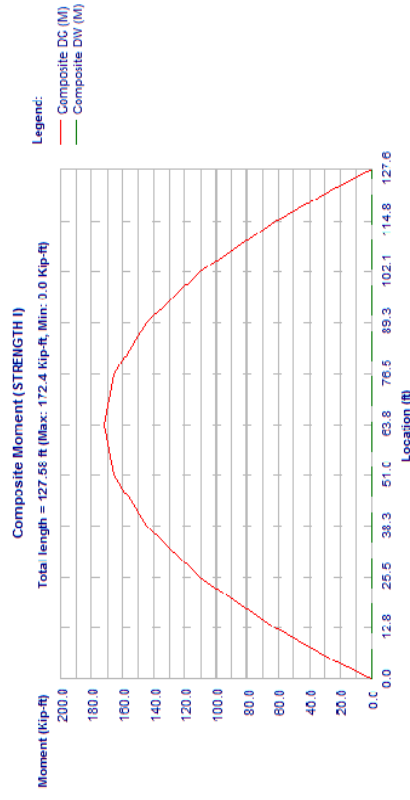
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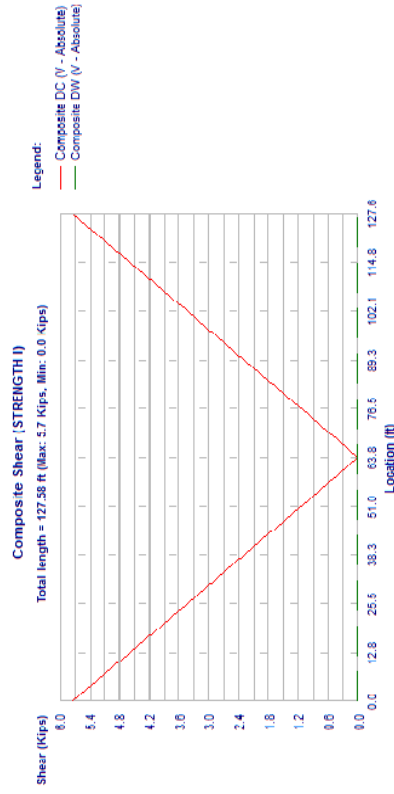
Precast Shear, Span 1, Beam 1, STRENGTH I

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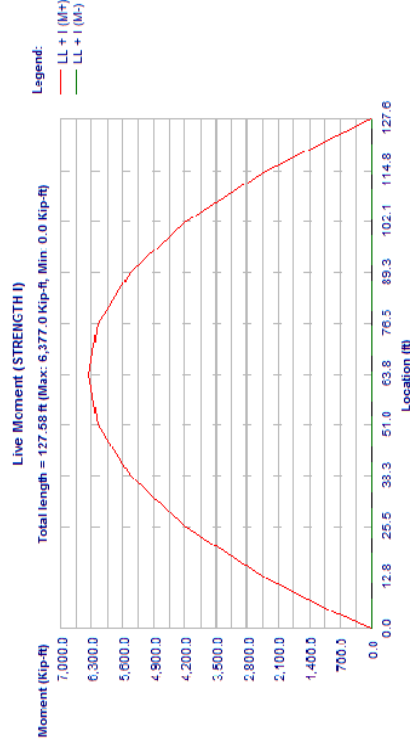
Composite Moment, Span 1, Beam 1, STRENGTH I

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Composite Shear, Span 1, Beam 1, STRENGTH I

		Sheet # 30	
		Job #	
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Live Moment, Span 1, Beam 1, STRENGTH I



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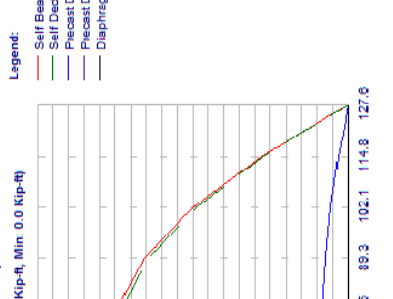
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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2326.3	2076.1	1605.8	926.7	290.1	240.2
	V	40.3	50.6	66.8	77.1	84.4	85.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	46.2	56.5	66.8	77.1	84.4	85.0
	M	2221.0	2037.2	1605.8	926.7	290.1	240.2
Total :	M+	7154.2	6300.5	4824.6	2738.0	848.9	702.4
	M-	71.9	113.7	161.5	203.4	239.4	242.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	77.8	119.7	161.5	203.4	239.4	242.0
Total :	M	7048.9	6261.6	4824.6	2738.0	848.9	702.4

Precast Moment (FATIGUE I)

Total length = 127.58 ft (Max: 2,322.4 Kip-ft, Min: 0.0 Kip-ft)



Precast Moment, Span 1, Beam 1, FATIGUE I

		Sheet # 34	
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Shear (Kips)

80.0

72.0

64.0

56.0

48.0

40.0

32.0

24.0

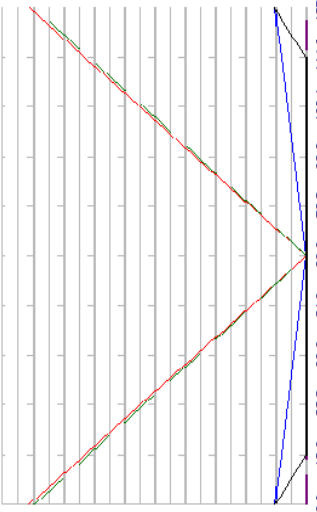
16.0

8.0

0.0

Precast Shear (FATIGUE I)

Total length = 127.58 ft (Max: 73.1 Kips, Min: 0.0 Kips)



72.0

64.0

56.0

48.0

40.0

32.0

24.0

16.0

8.0

0.0

Location (ft)

0.0

12.8

25.6

38.3

51.0

63.8

76.5

89.3

102.1


114.8

127.6

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 1, FATIGUE I



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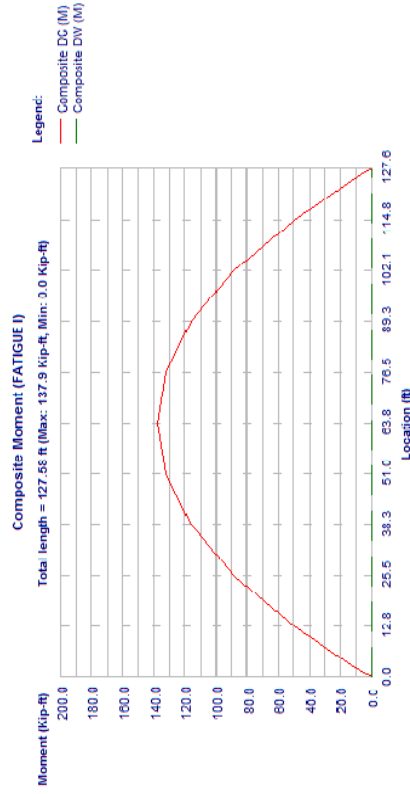
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Sheet # 35

Job #



Composite Moment, Span 1, Beam 1, FATIGUE I



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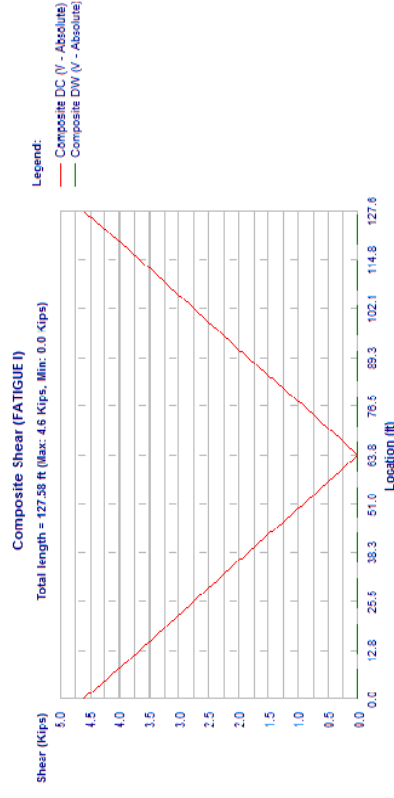
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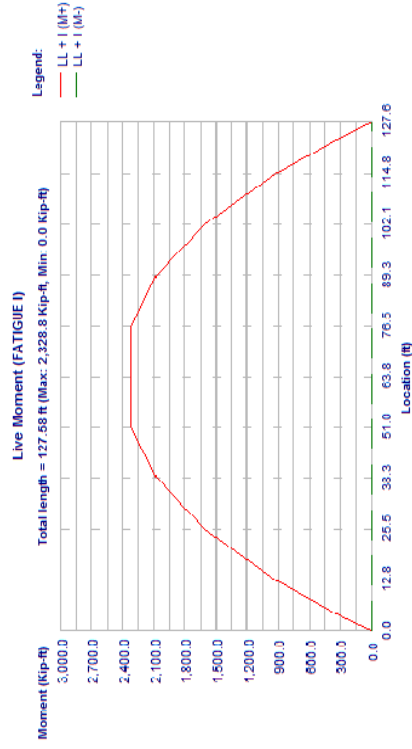
Sheet # 36

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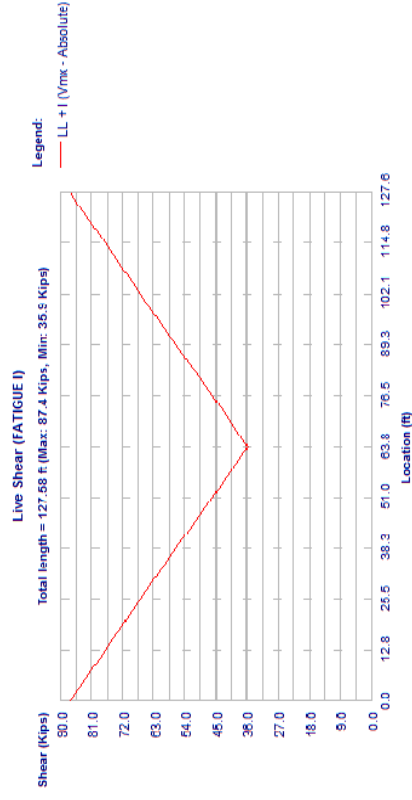
Composite Shear, Span 1, Beam 1, FATIGUE I

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Live Moment, Span 1, Beam 1, FATIGUE I

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Live Shear, Span 1, Beam 1, FATIGUE I



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* Average bridge width

TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	130.223	Add'l Build-Up
DC	Line	0.110	0.000	0.110	130.223	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.61	1.00
17.13	130.01

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	130.223	ft
Release length	130.223	ft
Design length	130.223	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES

Location	+ve		Moment		Shear
	2+Lane	1Lane	2+Lane	1Lane	
0.0L	0.816	0.543	1.000	0.781	
0.1L	0.816	0.543	1.000	0.781	
0.2L	0.816	0.543	1.000	0.781	
0.3L	0.816	0.543	1.000	0.781	

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 8:58 A.M.



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* Average bridge width

TOPPING DATA:

0.6L	0.816	0.543	1.000	0.781
0.6L	0.816	0.543	1.000	0.781
0.7L	0.816	0.543	1.000	0.781
0.8L	0.816	0.543	1.000	0.781
0.9L	0.816	0.543	1.000	0.781
1.0L	0.816	0.543	1.000	0.781

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (xx)	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (yy)	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/°F

COMPOSITE SECTION PROPERTIES:

Location	Bridge	Width	Self-Weight plf	Area in ²	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.0L	103.08	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.1L	103.08	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.2L	103.08	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.3L	103.08	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.4L	103.08	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0

Units: U.S. Units

Design Code: AASHTO LRFD

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Sheet # 7

Job #

14.445 ft

6.326 kips

270.0 ksi

202.5 ksi

1581.9 kips

0.536 in

Holddown Force

Tensile Strength(fpu)

Initial Prestress = 0.75fpu

Initial Pull

Beam Shring (PL/AE)

61"

ENDS

1

5

3

13

15

17

Number

Dist. from bottom(in)

1

14

12

17

Number

Dist. from bottom(in)

3"

MIDSPAN

1

5

3

13

15

17

Number

Dist. from bottom(in)

1

14

12

17

Number

Dist. from bottom(in)

Strand Pattern, Span 1, Beam 2

1

5

3

13

15

17

Number

Dist. from bottom(in)

1

14

12

17

Number

Dist. from bottom(in)

Span:1, Beam:2

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.V.) (LB)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
4688.149	740	36.863	149295.609	1674.098	0.000

Span:1, Beam:2

REINFORCING STEEL:

Tension steel:	fy	Es
60.0	29000	ksi

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Job #

24.0

ksi

Tension steel:

fs

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#6(M19)	60.0	0.88	18.00	0.0000	130.2230	No

LOSSES

Note: Values are calculated at Midspan

Str. area	Ycg	P. Init	Ecc	Days to release	Rel. Humid (RH)	Es	Eci
7.8120 in2	4.17 in	1581.9 kips	30.43 in	0.75	75.0 %	28500.0 ksi	4017 ksi

AASHTO LOSSES

Elastic Shortening ** 12.28 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.730 ksi)


due to Precast Loads	due to Composite Loads	due to Live Loads
-7.05 ksi	-0.24 ksi	-4.24 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

Elastic Gains	Gains	Adjustment	Initial	Final
Steel relaxation	0.00 ksi			2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi			8.14 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00 ksi			9.75 ksi (Eq 5.9.5.3-1)
Sub-total	12.28 ksi	(6.06 %)		8.76 ksi (4.32 %)
Total Prestress Losses				21.03 ksi (10.39 %)

Prestressing Stress Limit Check (Table 5.9.3.1)
initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 181.5 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations.
Please see theory section for complete explanation.



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	3.00	3.65	13.02	26.04	39.07	52.09	65.11
(Max)	M	0.0	218.8	264.5	874.9	1555.3	2041.4	2430.2
DL-Prec. :	V	74.6	71.2	70.5	59.7	44.8	29.9	14.9
DC(Max)	M	-0.0	44.8	54.2	179.3	318.8	418.4	478.2
DL-Prec. :	V	15.3	14.6	14.4	12.2	9.2	6.1	3.1
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	224.8	271.8	899.0	1598.3	2097.8	2397.4
Haunch (Max)	V	76.7	73.2	72.4	61.4	46.0	30.7	15.3
Diaphragm :	M	-0.0	5.0	6.0	15.3	14.0	12.7	11.4
DL-Prec. :	V	16.5	12.7	11.9	0.1	0.1	0.1	0.1
DC(Max)	M	0.0	12.4	15.0	49.7	88.3	115.9	132.4
DL-Prec. :	V	4.6	4.4	4.3	3.7	2.8	1.8	0.9
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	279.7	338.0	1112.5	1961.6	2547.3	2893.8
LL + :	V	126.7	122.8	121.9	109.5	92.2	74.9	50.8
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	126.7	122.8	122.0	109.9	93.7	78.4	63.8
Total :	M	0.0	276.5	333.8	1078.6	1840.8	2309.5	2507.1
Total :	M+	0.0	785.5	949.6	3130.8	5536.4	7233.5	8246.3
Total :	M-	314.5	298.8	295.5	246.6	195.1	143.5	85.1
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	314.5	298.9	295.6	247.0	196.6	147.0	98.2
Total :	M	0.0	782.4	945.4	3096.8	5415.6	6995.6	7859.6

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	78.13	91.16	104.18	117.20	126.58	127.22	130.22
(Max)	M	2333.0	2041.4	1555.3	874.9	264.5	218.8
DL-Prec. :	V	14.9	29.9	44.8	59.7	70.5	71.2
DC(Max)	M	478.2	418.4	318.8	179.3	54.2	44.8
DL-Prec. :	V	3.1	6.1	9.2	12.2	14.4	14.6
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2397.4	2097.8	1598.3	899.0	271.8	224.8
Haunch (Max)	V	15.3	30.7	46.0	61.4	72.4	73.2
Diaphragm :	M	8.8	7.5	6.2	4.9	1.7	1.5
DL-Prec. :	V	0.1	0.1	0.1	0.1	12.4	13.3
DC(Max)	M	132.4	115.9	88.3	49.7	15.0	12.4
DL-Prec. :	V	0.9	1.8	2.8	3.7	4.3	4.4
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	2893.8	2547.3	1961.6	1112.5	338.0	279.7
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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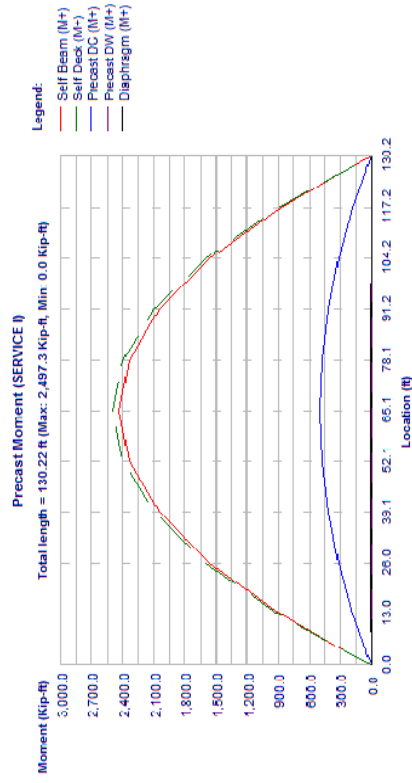
Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	50.8	74.9	92.2	109.5	121.9	122.8	126.7
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	63.8	78.4	93.7	109.9	122.0	126.7
DL-Prec. :	V	2507.1	2309.5	1840.8	1078.6	333.8	276.5
DC(Max)	M	8243.7	7228.3	5528.6	3120.4	945.4	782.0
DW(Max)	V	85.1	143.5	195.1	246.6	296.0	315.2
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	98.2	147.0	196.6	247.0	296.1	299.5
DL-Prec. :	V	7857.0	6990.4	5407.8	3086.4	941.2	778.8
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	74.6	74.6
Deck+Haunch	76.7	76.7
Diaphragm	16.5	17.2
DL-Prec.(DC)	15.3	15.3
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

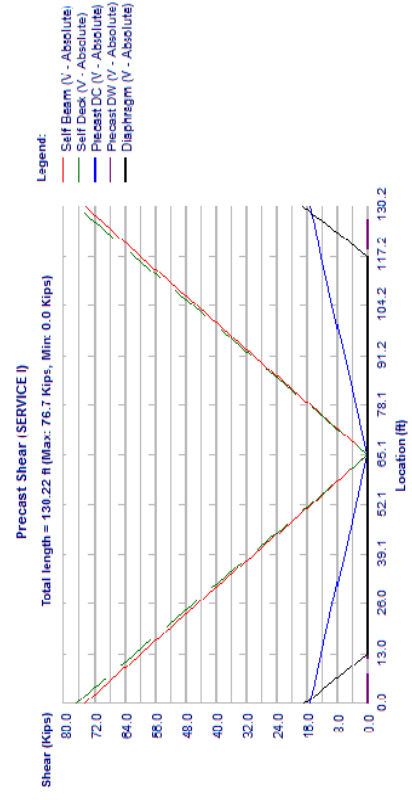
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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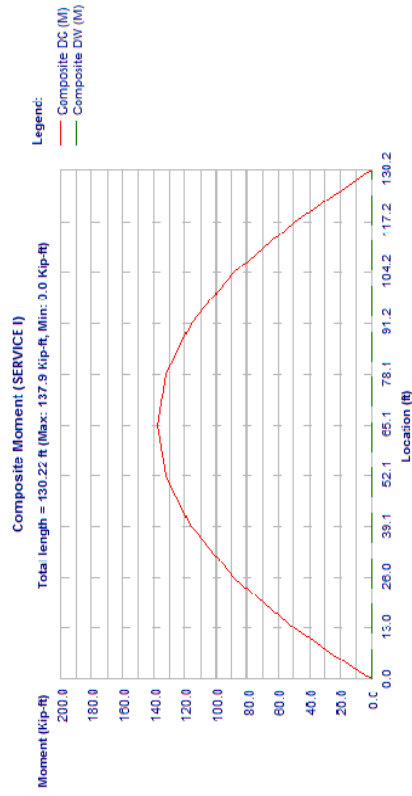
Precast Moment, Span 1, Beam 2, SERVICE I

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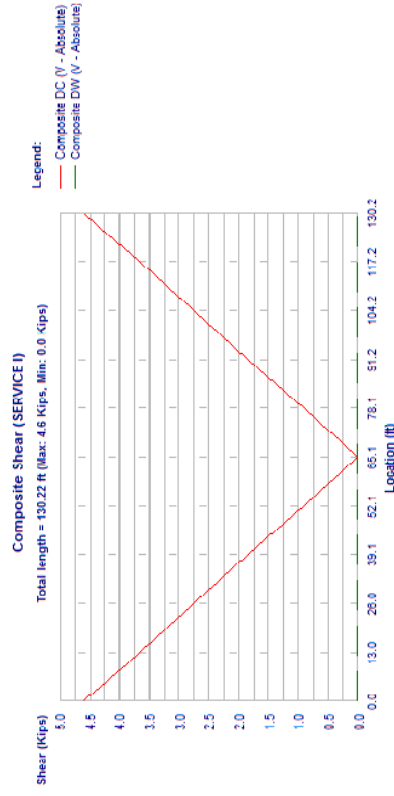
Precast Shear, Span 1, Beam 2, SERVICE I

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Phone: 1-800-778-4277			
File Name: Span11EB_Modified Spacing.csl			




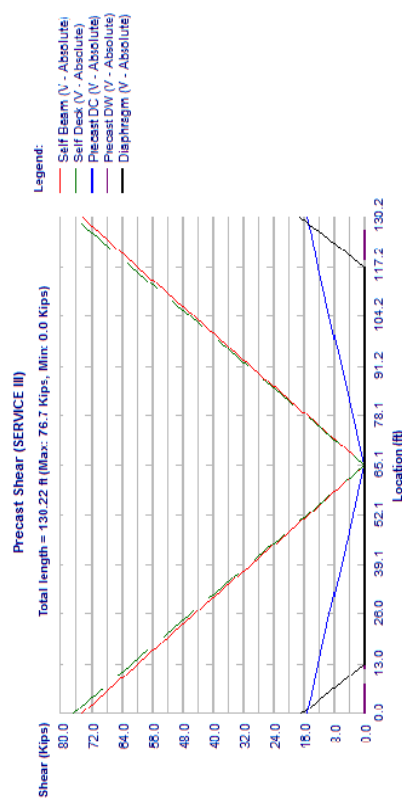
Composite Moment, Span 1, Beam 2, SERVICE I

		Sheet # 14	
		Job #	
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File Name: Span11EB_Modified Spacing.csl			




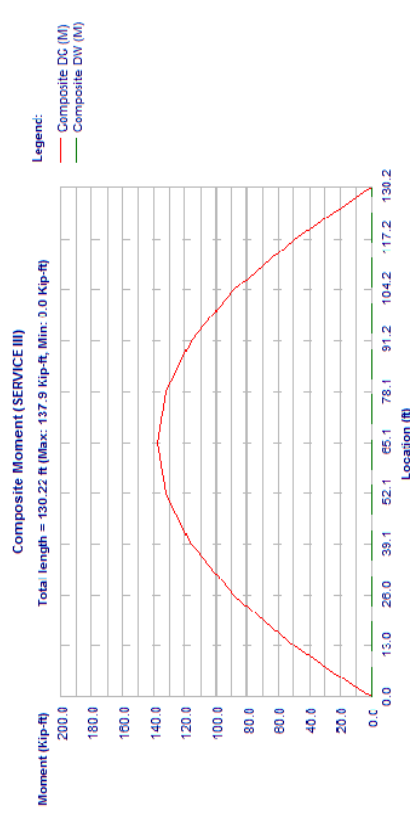
Composite Shear, Span 1, Beam 2, SERVICE I

		Sheet # 19	
		Job #	
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File Name: Span11EB_Modified Spacing.csl			




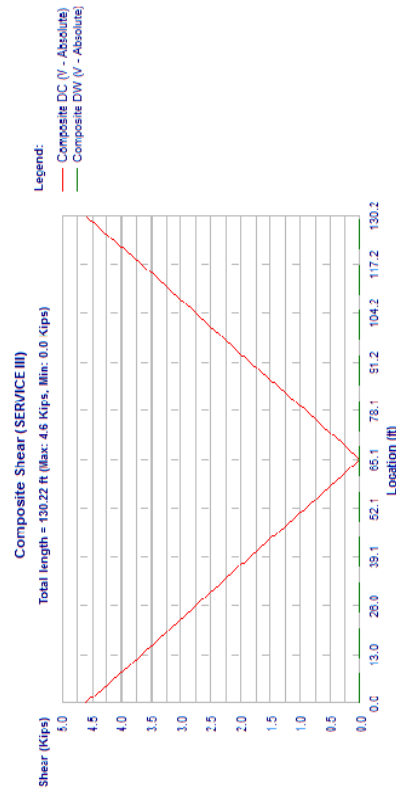
Precast Shear, Span 1, Beam 2, SERVICE III

		Sheet # 20	
		Job #	
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File Name: Span11EB_Modified Spacing.csl			




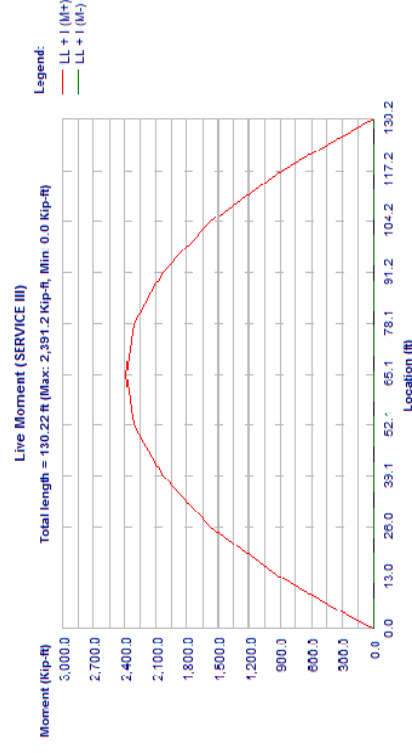
Composite Moment, Span 1, Beam 2, SERVICE III

		Sheet #	21
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span11EB_Modified Spacing.csl		Designed	KSM
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		Checked	
		Date	



Composite Shear, Span 1, Beam 2, SERVICE III

		Sheet #	22
		Job #	
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		Date	



Live Moment, Span 1, Beam 2, SERVICE III

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Sheet # 25
Job #

Span11EB_Modified Spacing.csl

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	3.9	4.1
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	506.42	4457.8	3432.9	1947.0	591.6	489.4	-0.0
LL + I :	88.8	131.2	161.4	191.6	213.3	214.8	221.8
LL + I :	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	111.7	137.2	164.1	192.2	213.5	215.0	221.8
M	4387.4	4041.6	3221.5	1887.5	584.2	483.9	0.0
Total :	11751.6	10309.0	7891.6	4456.7	1350.8	1117.3	0.0
V	131.8	216.9	289.9	362.9	430.9	435.6	457.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	154.7	223.0	292.6	363.6	431.1	435.8	457.4
Vmx	11074.8	9892.8	7680.2	4397.3	1343.4	1111.8	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	93.3	93.3
Deck+Haunch	95.9	95.9
Diaphragm	20.6	21.5
DL-Prec(DC)	19.1	19.1
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	63.1	63.1
DL-Comp(DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

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Sheet # 26
Job #

Span11EB_Modified Spacing.csl

Precast Moment (STRENGTH I)


Total length = 130.22 ft (Max: 3,121.7 Kip-ft, Min: 0.0 Kip-ft)

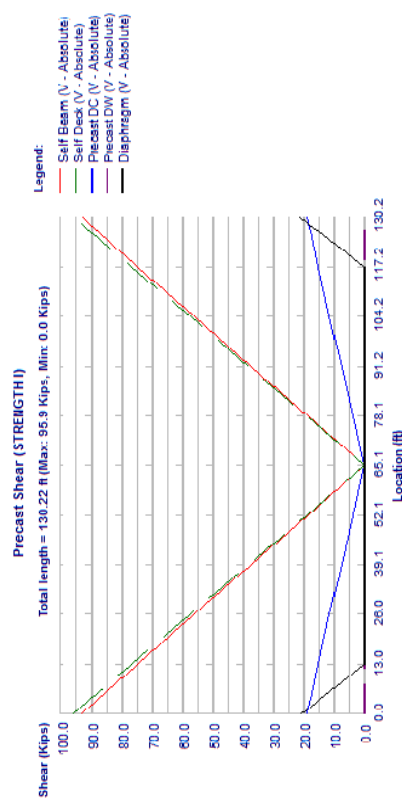
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 2, STRENGTH I

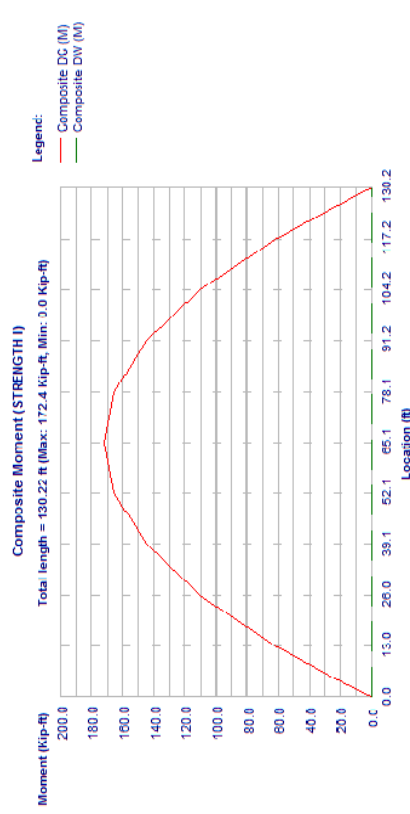
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 6:58 A.M.

		Sheet # 27	
		Job #	
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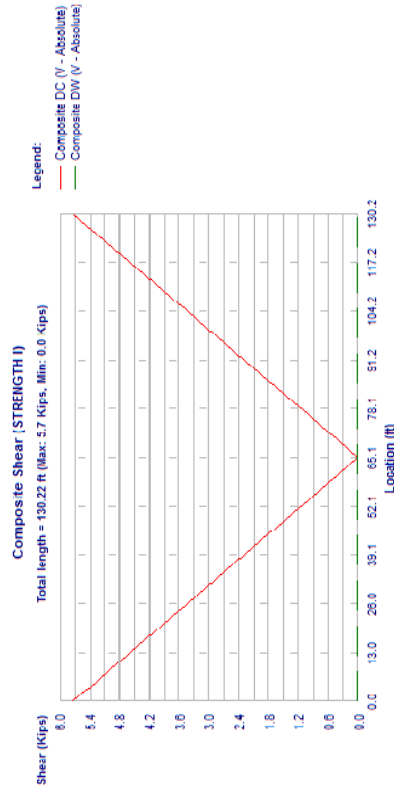
Precast Shear, Span 1, Beam 2, STRENGTH I

		Sheet # 28	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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File Name: Span11EB_Modified Spacing.csl			




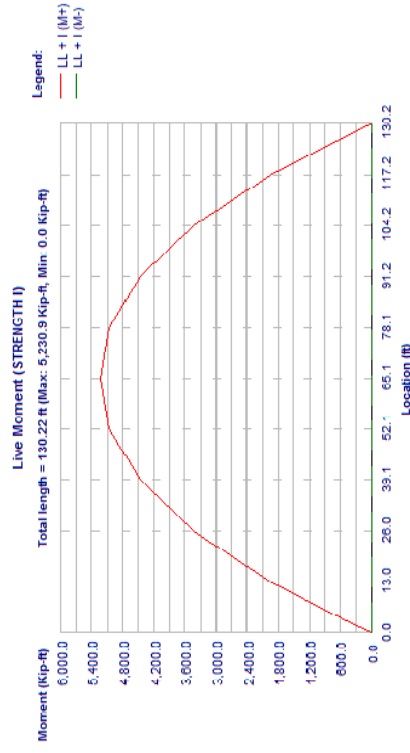
Composite Moment, Span 1, Beam 2, STRENGTH I

		Sheet # 29	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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Composite Shear, Span 1, Beam 2, STRENGTH I

		Sheet # 30	
		Job #	
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Live Moment, Span 1, Beam 2, STRENGTH I

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Sheet # 33

Job #

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1268.5	1132.1	875.7	505.4	155.1	128.4	0.0
LL + I :	31.6	39.7	52.4	60.5	66.3	66.7	68.6
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	36.3	44.3	52.4	60.5	66.3	66.7	68.6
LL + I :	1211.1	1110.9	875.7	505.4	155.1	128.4	0.0
Total :	6618.4	5813.1	4442.6	2513.2	762.5	630.7	0.0
Total :	66.0	108.3	155.3	197.6	240.4	243.4	257.1
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	70.6	112.9	155.3	197.6	240.4	243.4	257.1
Total :	6561.0	5791.9	4442.6	2513.2	762.5	630.7	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 130.22 ft (Max: 2,497.3 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 2, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

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Sheet # 34

Job #

Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 130.22 ft (Max: 76.7 Kips, Min 0.0 Kips)


Location (ft)

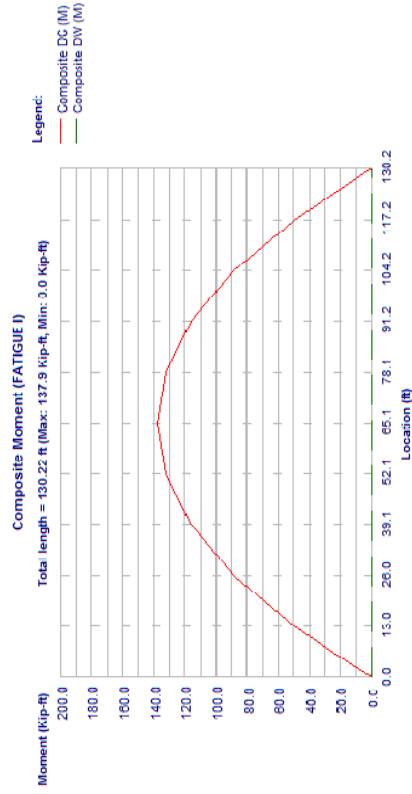
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 2, FATIGUE I

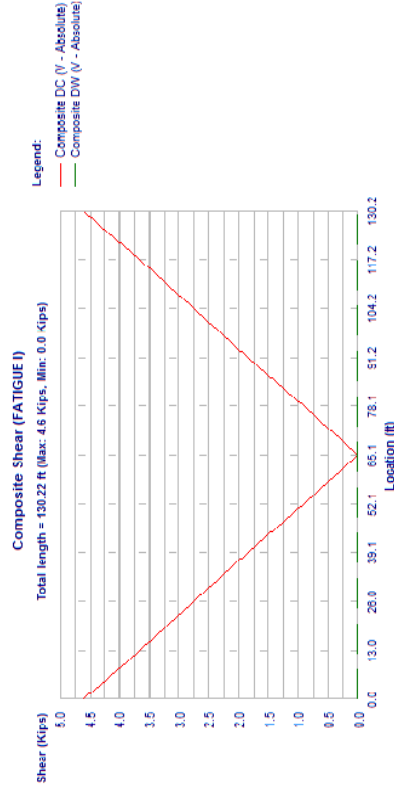
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:58 A.M.

		Sheet # 35	
		Job #	
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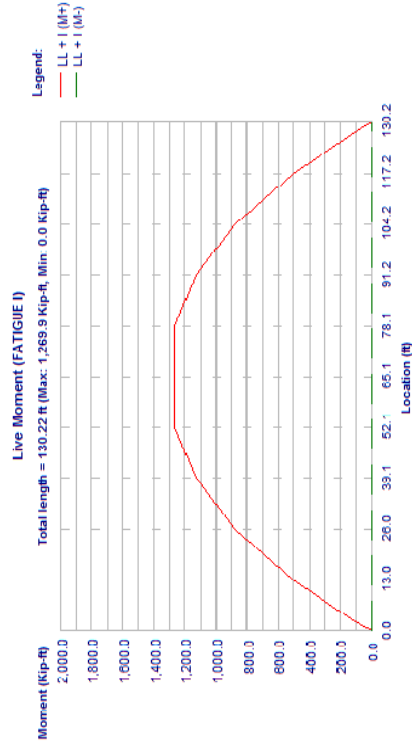
Composite Moment, Span 1, Beam 2, FATIGUE I

		Sheet # 36	
		Job #	
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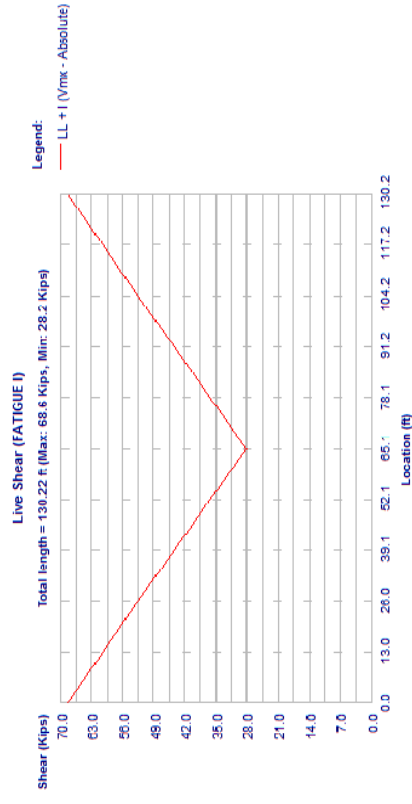
Composite Shear, Span 1, Beam 2, FATIGUE I

			Sheet #	37
			Job #	
			Designed	KSM
			Date	Sep/9/2013
			Checked	
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Live Moment, Span 1, Beam 2, FATIGUE I

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Live Shear, Span 1, Beam 2, FATIGUE I



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Sheet # 1
Job #


PROPERTIES

Span:1, Beam:3

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

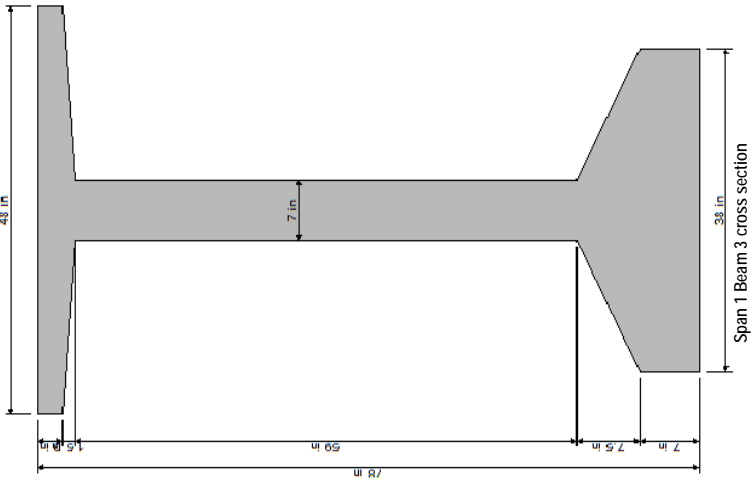


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Sheet # 2
Job #



Span 1 Beam 3 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.08 ft
Curb-to-curb*	100.00 ft
Beam Spac. Start LL/RI	10.50/ 10.50 ft
End LL/RI	10.83/ 10.83 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	-14.15 degrees



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* Average bridge width

TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips. Location: ft. Line: klf. Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	132.871	Add'l Build-Up
DC	Line	0.110	0.000	0.110	132.871	SIF

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.61	1.00
17.13	132.66

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	132.871	ft
Release length	132.871	ft
Design length	132.871	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES

Location	+ve		Moment	Shear
	2+Lane	1Lane		
0.0L	0.812	0.539	1.000	0.781
0.1L	0.812	0.539	1.000	0.781
0.2L	0.812	0.539	1.000	0.781
0.3L	0.812	0.539	1.000	0.781

Units: U.S. Units

Design Code: AASHTO LRFD

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File Name:	Span11EB_Modified Spacing.csl			
			Checked	Date

File Name: Span11EB Modified Spacing.csl

Location	+ve	Moment	Shear
0.4L	0.812	0.539	1,000
0.5L	0.812	0.539	1,000
0.6L	0.812	0.539	1,000
0.7L	0.812	0.539	1,000
0.8L	0.812	0.539	1,000
0.9L	0.812	0.539	1,000
1.0L	0.812	0.539	1,000

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in2
Total Height	78.00	in
Mom. of Inertia (Ixx)	904567	in4
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (Iyy)	82367.0	in4
Poisson's Ratio	0.2	
Thermal Coeff	0.000006	1/°F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight pif	Area in ²	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.0L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.1L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.2L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.3L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.4L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0

Units: U.S. Units

Design Code: AASHTO LRFD

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		Sheet #	5
		Job #	
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Location	Bridge Width	Self Weight	Area	Height	Ixx	Iyy	Density	Eff. Width
0.5L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.6L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.7L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.8L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.9L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
1.0L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
Use transformed strand and rebar: Strand Only

Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	in2	0.00	3.00	3.65	13.29	26.57	39.86	53.15	66.44
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)	in4	1100.6	1149.5	1149.5	1149.5	1149.5	1149.5	1149.5	1149.5
Area, Yb, MI(XX)	in4	34.60	33.41	33.40	33.39	33.36	33.33	33.31	33.31
	in4	904567	941463	941540	942711	944354	946032	947745	947745
	in4	2069.1	2112.1	2112.1	2112.1	2112.1	2112.1	2112.1	2112.1
	in4	57.25	56.22	56.22	56.21	56.20	56.19	56.18	56.18
	in4	2117921	2226082	2226208	2228099	2230733	2233397	2236093	2236093

Span:1, Beam:3

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00*	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK	ksi
Strength	7.50	5.50	ksi
Elasticity	4490.96	3845.83	ksi

		Sheet #	6
		Job #	
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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK	ksi
Max comp	4.50	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK	ksi
Max comp	3.38	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK	ksi
Max comp	3.00	-	ksi

SERVICE III (Tension):

	PRECAST	DECK	ksi
Max tens	-0.52	-0.45	ksi

Span:1, Beam:3

PRESTRESSED STEEL:

37 strands, 6/10-270K-L, Low relaxation strands
Depressed at 0.40L (53.15 ft from member end)

END PATTERN (Ycg = 6.68 in):

12 @ 3.000 in	14 @ 5.000 in	2 @ 7.000 in	5 @ 13.000 in
3 @ 15.000 in	1 @ 17.000 in		

MID PATTERN (Ycg = 4.24 in):

(A) Draped:

5 @ 3.000 in	3 @ 5.000 in	1 @ 7.000 in	
--------------	--------------	--------------	--

(B) Straight:

12 @ 3.000 in	14 @ 5.000 in	2 @ 7.000 in	
---------------	---------------	--------------	--

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	8.029	in2
Trans. Len, bonded	3.000	ft
Trans. Len, debonded	3.000	ft
Dev. Len, bonded	11.561	ft

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Span 1, Beam 3

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14.451 ft

Dev Len debonded

6,200 kips

Holddown Force

270.0 ksi

Tensile Strength(fpu)

202.5 ksi

Initial Prestress = 0.75fpu

1625.9 kips

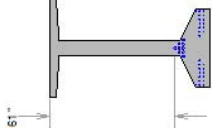
Initial Pull

0.561 in

Beam Shring (PL/AE)

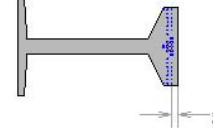
ENDS

61"



MIDSPAN

3"



Strand Pattern, Span 1, Beam 3

Draped strands		Straight strands	
Number	Dist. from bottom(in)	Number	Dist. from bottom(in)
5	13	12	3
3	15	14	5
1	17	2	7

All strands

Number	Dist. from bottom(in)
17	3
17	5
3	7

Span 1, Beam:3

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Concrete Wt(LB)	Beam Vol(C.Y.)	Stirrups (LB)	Longitudinal Bars (LB)
4916.341	740	3638.092	37.613	1713.030	0.000

Span 1, Beam:3

REINFORCING STEEL:

Tension steel:	fy	Es
60.0	29000	ksi

Units: U.S. Units

Design Code: AASHTO LRFD

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Span 1, Beam 3

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24.0

Tension steel:

fs

24.0

ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#6(M19)	60.0	0.88	18.00	0.0000	132.8707	No

LOSSES

Note: Values are calculated at Midspan

Str. area	Ycg	P. Init	Ecc	Days to release	Rel. Humid (RH)	Es	Eci
8.0290 in2	4.24 in	1625.9 kips	30.36 in	0.75	75.0 %	28500.0 ksi	4017 ksi

AASHTO LOSSES

Elastic Shortening ** 12.45 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.755 ksi)

due to Precast Loads	Elastic Gains	Gains	Adjustment
-7.31 ksi	0.00 ksi	0.00 ksi	0.00 ksi
-0.24 ksi	0.00 ksi	0.00 ksi	0.00 ksi
-4.21 ksi	0.00 ksi	0.00 ksi	0.00 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

Initial	Final
0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
0.00 ksi	8.14 ksi (Eq 5.9.5.3-1)
0.00 ksi	10.02 ksi (Eq 5.9.5.3-1)
12.45 ksi (6.15 %)	8.81 ksi (4.35 %)
	21.26 ksi (10.50 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

initial fpi = 202.5 ksi < 0.75 fpu, OK


initial fpe = 181.2 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 8:59 A.M.



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, SERVICE I
Shears: Kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	3.00	3.65	13.29	26.57	39.86	53.15	66.44
(Max)	M	0.0	223.3	270.1	910.8	1619.2	2125.2	2428.8
DL-Prec. :	V	76.2	72.7	72.0	60.9	45.7	30.5	15.2
DC(Max)	M	0.0	45.8	55.4	186.7	331.9	435.6	497.9
DW(Max)	V	15.6	14.9	14.8	12.5	9.4	6.2	3.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	229.5	277.5	936.0	1664.0	2183.9	2495.9
Haunch (Max)	V	78.3	74.7	74.0	62.6	47.0	31.3	15.7
Diaphragm :	M	-0.0	4.9	5.9	15.3	14.0	12.7	11.4
(Max)	V	16.5	12.8	12.0	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	12.2	14.7	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.3	3.7	2.8	1.8	0.9
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	272.7	329.7	1106.5	1950.9	2533.4	2878.0
LL + I :	V	126.7	122.8	122.0	109.5	92.2	74.9	50.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	126.7	122.9	122.1	109.9	93.7	78.4	63.8
Total :	M	0.0	269.7	325.6	1072.7	1830.8	2296.8	2493.4
Total :	M+	0.0	788.4	953.2	3204.9	5668.3	7406.8	8444.5
Total :	V	317.9	302.4	299.1	249.3	197.1	144.9	85.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	317.9	302.5	299.2	249.7	198.6	148.4	98.9
Total :	M	0.0	785.4	949.2	3171.1	5548.2	7170.2	8059.9

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	79.72	93.01	106.30	119.58	129.23	129.87	132.87
(Max)	M	2428.8	2125.2	1619.2	910.8	270.1	223.3
DL-Prec. :	V	15.2	30.5	45.7	60.9	72.0	72.7
DC(Max)	M	497.9	435.6	331.9	186.7	55.4	45.8
DL-Prec. :	V	3.1	6.2	9.4	12.5	14.8	14.9
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	2495.9	2183.9	1664.0	936.0	277.5	229.5
Deck + :	V	15.7	31.3	47.0	62.6	74.0	74.7
Diaphragm :	M	8.8	7.5	6.2	4.9	1.7	1.4
(Max)	V	0.1	0.1	0.1	0.1	12.5	13.4
DL-Comp. :	M	132.4	115.9	88.3	49.7	14.7	12.2
DC(Max)	V	0.9	1.8	2.8	3.7	4.3	4.4
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2878.0	2533.4	1950.9	1106.5	329.7	272.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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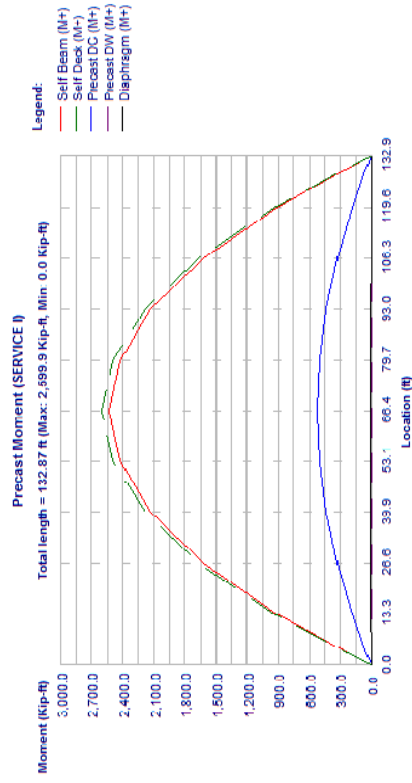
LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	50.8	74.9	92.2	109.5	122.0	122.8	126.7
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	63.8	78.4	93.7	109.9	122.1	122.9
DW(Max)	V	2493.4	2296.8	1830.8	1072.7	325.6	269.7
DL-Prec. :	M	84.1	74.0	56.0	31.4	15.6	15.6
DW(Max)	V	85.8	144.9	197.1	249.3	299.6	302.9
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	805.7	716.5	554.0	316.0	81.9	0.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	805.7	716.5	554.0	316.0	81.9	0.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	76.2	76.2
Deck+Haunch	78.3	78.3
Diaphragm	16.5	17.2
DL-Prec.(DC)	15.6	15.6
DL-Comp.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

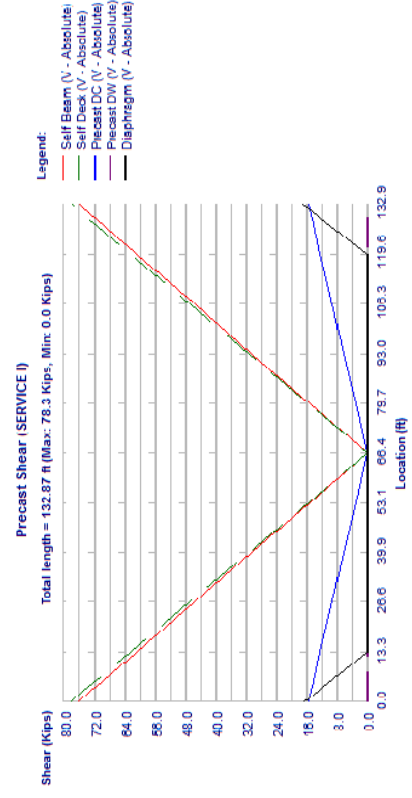
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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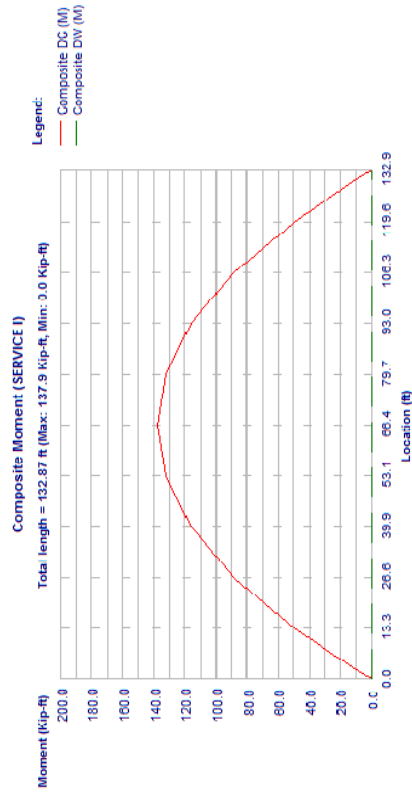
Precast Moment, Span 1, Beam 3, SERVICE I

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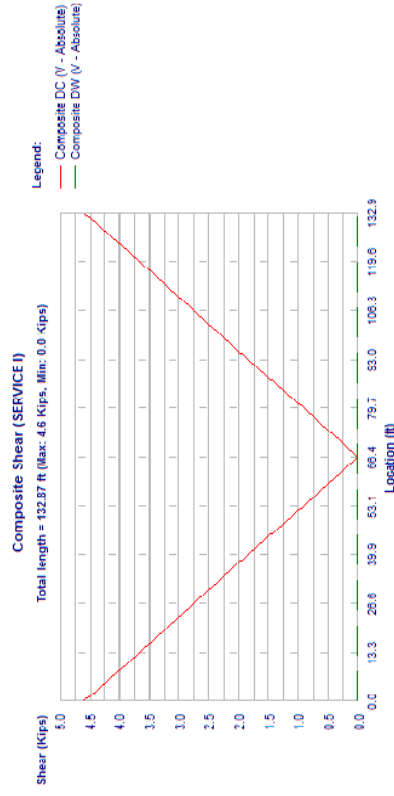
Precast Shear, Span 1, Beam 3, SERVICE I

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Composite Moment, Span 1, Beam 3, SERVICE I

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Composite Shear, Span 1, Beam 3, SERVICE I



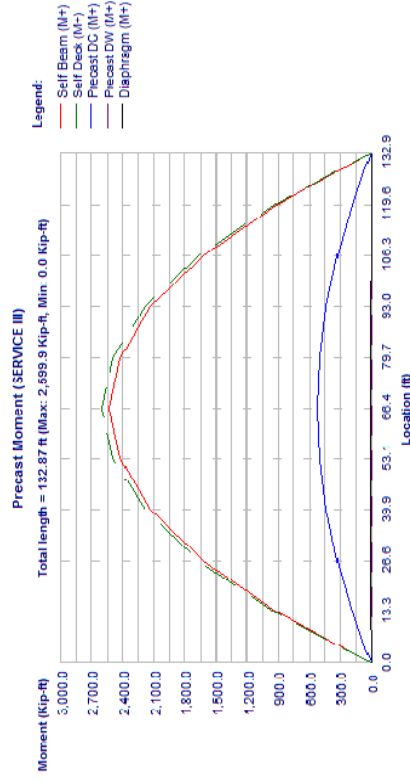
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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
LL + I :	V	101.4	98.3	97.6	87.6	73.8	60.0	40.6
M- :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	101.4	98.3	97.7	87.9	75.0	62.7	51.1
LL + I :	M	0.0	215.7	260.5	858.1	1464.6	1837.5	1994.7
Total :	M+	0.0	733.9	887.3	2983.6	5278.1	6900.1	7868.9
Total :	V	292.5	277.8	274.7	227.4	178.6	129.9	75.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	292.5	277.9	274.7	227.7	179.9	132.7	86.1
Total :	M	0.0	731.5	884.0	2956.6	5182.0	6710.9	7561.2

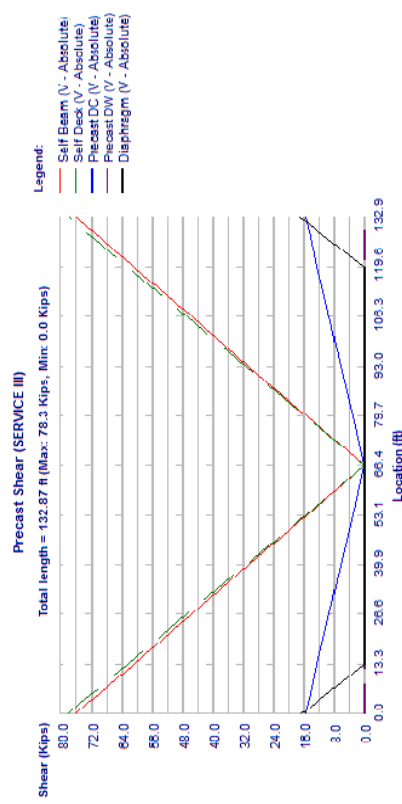
Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	79.72	93.01	106.30	119.58	129.23	129.87	132.87
(Max)	M	2428.8	2125.2	1619.2	910.8	270.1	223.3	0.0
DL-Prec :	V	15.2	30.5	45.7	60.9	72.0	72.7	76.2
DC(Max)	M	497.9	435.6	331.9	186.7	55.4	45.8	0.0
DL-Prec :	V	3.1	6.2	9.4	12.5	14.8	14.9	15.6
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2495.9	2183.9	1664.0	936.0	277.5	229.5	0.0
Diaphragm :	M	15.7	31.3	47.0	62.6	74.0	74.7	78.3
(Max)	M	8.8	7.5	6.2	4.9	1.7	1.4	-0.0
DL-Comp :	V	0.1	0.1	0.1	0.1	12.5	13.4	17.2
DC(Max)	M	132.4	115.9	88.3	49.7	14.7	12.2	0.0
DL-Comp :	V	0.9	1.8	2.8	3.7	4.3	4.4	4.6
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2302.4	2026.7	1560.7	885.2	263.7	218.2	-0.0
LL + I :	M-	40.6	60.0	73.8	87.6	97.6	98.3	101.4
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	51.1	62.7	75.0	87.9	97.7	98.3	101.4
Total :	M	1994.7	1837.5	1464.6	858.1	260.5	215.7	0.0
Total :	V	786.3	689.9	5270.3	2973.3	883.1	730.4	0.0
Total :	M-	75.6	129.9	178.6	227.4	275.2	278.4	293.3
Total :	Vmx	86.1	132.7	179.9	227.7	275.3	278.4	293.3
Total :	M	7558.6	6705.7	5174.2	2946.2	879.9	728.0	0.0




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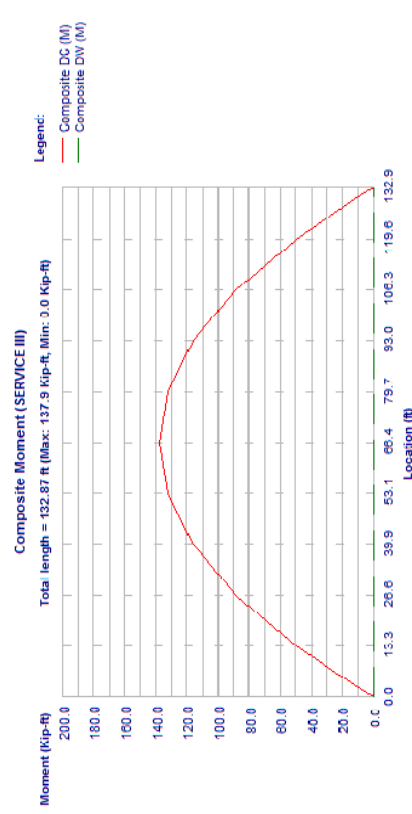


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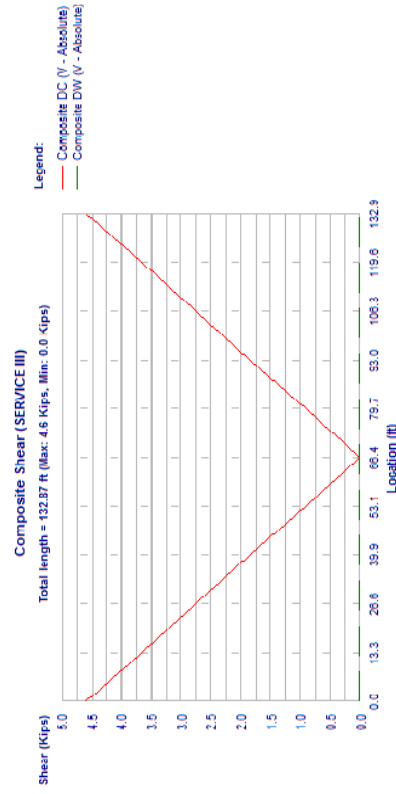
Precast Shear, Span 1, Beam 3, SERVICE III

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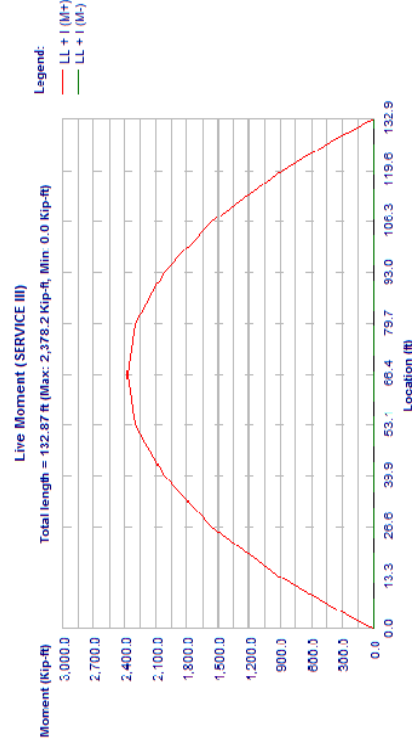
Composite Moment, Span 1, Beam 3, SERVICE III

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Composite Shear, Span 1, Beam 3, SERVICE III

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Live Moment, Span 1, Beam 3, SERVICE III

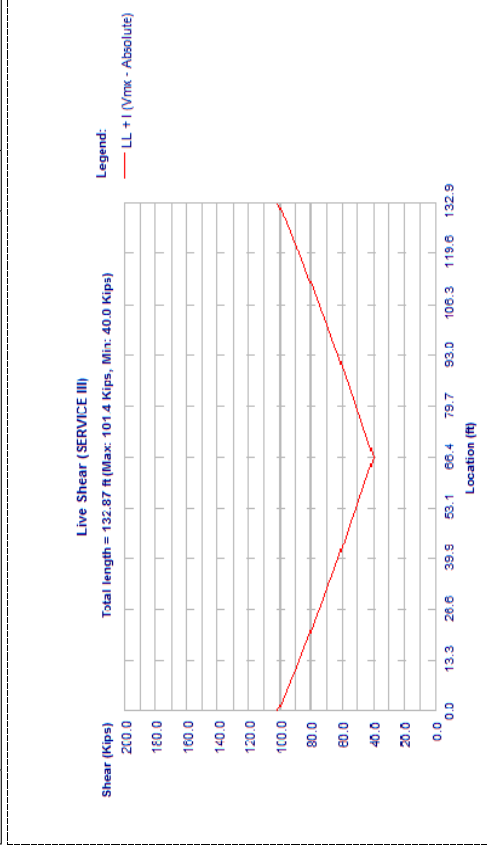


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Live Shear, Span 1, Beam 3, SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, STRENGTH I
Shears: Kips, Moments: kt

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	3.00	3.65	13.29	26.57	39.86	53.15	66.44
Self wt. :	M	0.0	279.2	337.6	1138.5	2024.0	2656.5	3036.1
(Max)	V	95.2	90.9	90.0	76.2	57.1	38.1	19.0
Self wt. :	M	0.0	201.0	243.1	819.7	1457.3	1912.7	2186.0
(Min)	V	68.5	65.5	64.8	54.8	41.1	27.4	13.7
DL-Prec :	M	0.0	57.2	69.2	233.4	414.9	544.5	622.3
DC(Max)	V	19.5	18.6	18.4	15.6	11.7	7.8	3.9
DL-Prec :	M	0.0	41.2	49.8	168.0	298.7	392.1	448.1
DC(Min)	V	14.1	13.4	13.3	11.2	8.4	5.6	2.8
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	286.9	346.9	1170.0	2079.9	3119.9	3249.9
Haunch (Max)	V	97.8	93.4	92.5	78.3	58.7	39.1	19.6
Deck + :	M	0.0	206.6	249.8	842.4	1497.6	1965.5	2246.3



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	70.4	67.3	66.6	56.4	42.3	28.2	14.1
Diaphragm :	M	-0.0	6.1	7.3	19.1	17.5	15.9	14.3
(Max)	V	20.6	16.0	15.0	0.1	0.1	0.1	0.1
Diaphragm :	M	-0.0	4.4	5.3	13.8	12.6	11.4	10.3
(Min)	V	14.9	11.5	10.8	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	15.2	18.4	62.1	110.3	144.8	165.5
DC(Max)	V	5.7	5.5	5.4	4.6	3.4	2.3	1.1
DL-Comp :	M	0.0	11.0	13.3	44.7	79.5	104.3	119.2
DC(Min)	V	4.1	3.9	3.9	3.3	2.5	1.7	0.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	477.3	576.9	1936.3	3414.1	4433.4	5036.5
LL + I :	M-	221.8	215.0	213.5	191.6	161.4	131.2	88.8
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	221.8	215.1	213.7	192.2	164.1	137.2	111.7
Total :	M	0.0	471.9	569.9	1877.2	3203.9	4019.5	4363.4
Total :	M+	0.0	1121.9	1356.4	4559.4	8060.8	10525.1	11994.6
Total :	M-	460.7	439.4	434.8	366.3	292.5	218.6	132.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	460.7	439.6	435.0	367.0	295.2	224.7	155.5
Total :	M	0.0	1116.6	1349.3	4500.2	7850.6	10111.2	11321.5

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	79.72	93.01	106.30	119.58	129.23	132.87	132.87
Self wt. :	M	3036.1	2656.5	2024.0	1138.5	337.6	279.2	0.0
(Max)	V	19.0	38.1	57.1	76.2	90.0	90.9	95.2
Self wt. :	M	2186.0	1912.7	1457.3	819.7	243.1	201.0	0.0
(Min)	V	13.7	27.4	41.1	54.8	64.8	65.5	68.5
DL-Prec :	M	622.3	544.5	414.9	233.4	69.2	57.2	0.0
DC(Max)	V	3.9	7.8	11.7	15.6	18.4	18.6	19.5
DL-Prec :	M	448.1	392.1	298.7	168.0	49.8	41.2	0.0
DC(Min)	V	2.8	5.6	8.4	11.2	13.3	13.4	14.1
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3119.9	2729.9	2079.9	1170.0	346.9	286.9	0.0
Haunch (Max)	V	19.6	39.1	58.7	78.3	92.5	93.4	97.8
Deck + :	M	2246.3	1965.5	1497.6	842.4	249.8	206.6	0.0
Haunch (Min)	V	14.1	28.2	42.3	56.4	66.6	67.3	70.4
Diaphragm :	M	11.0	9.4	7.8	6.2	2.1	1.8	-0.0
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	7.9	6.8	5.6	4.4	1.5	1.3	-0.0
(Min)	V	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	165.5	144.8	110.3	62.1	18.4	15.2	0.0
DC(Max)	V	1.1	2.3	3.4	4.6	5.4	5.5	5.7
DL-Comp :	M	119.2	104.3	79.5	44.7	13.3	11.0	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	3.9	4.1
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	5036.5	4433.4	3414.1	1936.3	576.9	477.3	-0.0
LL + I :	88.8	131.2	161.4	191.6	213.5	215.0	221.8
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	111.7	137.2	164.1	192.2	213.7	215.1	221.8
M	4363.4	4019.5	3203.9	1877.2	569.9	471.9	0.0
Total :	11991.4	10518.6	8051.1	4546.4	1351.2	1117.6	0.0
Total :	132.6	218.6	292.5	366.3	435.5	440.1	461.6
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	155.5	224.7	295.2	367.0	435.7	440.3	461.6
Total :	11318.3	10104.7	7840.9	4487.3	1344.1	1112.2	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.2	95.2
Deck+Haunch	97.8	97.8
Diaphragm	20.6	21.5
DL-Prec (DC)	19.5	19.5
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	63.1	63.1
DL-Comp (DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Precast Moment (STRENGTH I)

Total length = 132.87 ft (Max: 3,249.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

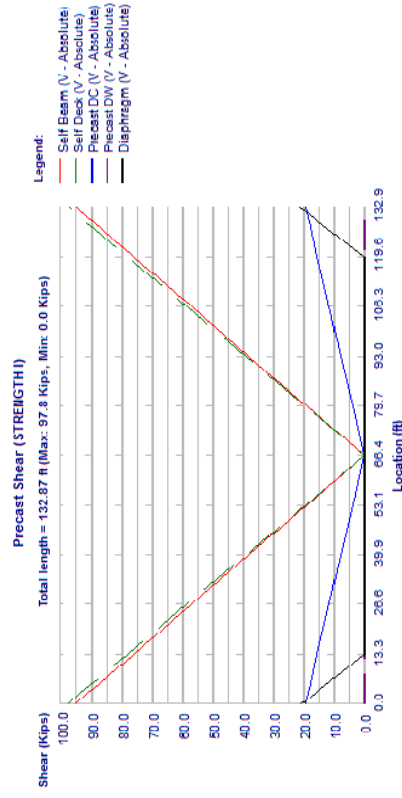
Location (ft)

Location (ft)	Self Beam (M+)	Self Deck (M+)	Precast DC (M+)	Precast DW (M+)	Diaphragm (M+)
0.0	0.0	0.0	0.0	0.0	0.0
13.3	100.0	100.0	100.0	100.0	100.0
26.6	400.0	400.0	400.0	400.0	400.0
39.9	1000.0	1000.0	1000.0	1000.0	1000.0
53.2	2000.0	2000.0	2000.0	2000.0	2000.0
60.4	3249.9	3249.9	3249.9	3249.9	3249.9
67.6	2000.0	2000.0	2000.0	2000.0	2000.0
80.9	1000.0	1000.0	1000.0	1000.0	1000.0
94.2	400.0	400.0	400.0	400.0	400.0
107.5	100.0	100.0	100.0	100.0	100.0
120.8	0.0	0.0	0.0	0.0	0.0
132.9	0.0	0.0	0.0	0.0	0.0


Precast Moment, Span 1, Beam 3, STRENGTH I

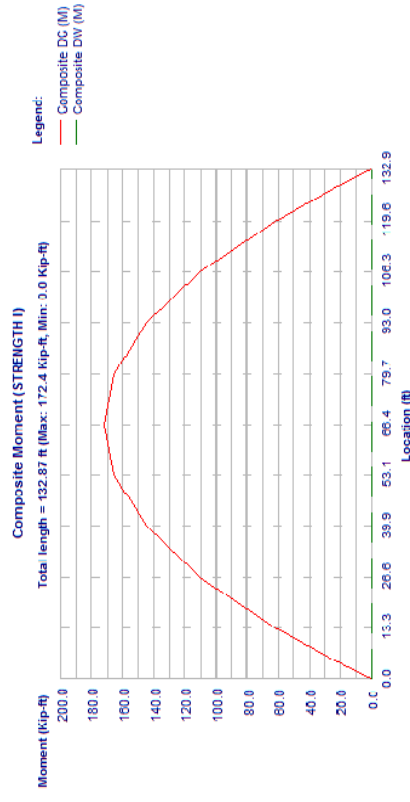
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		Job #	
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Precast Shear, Span 1, Beam 3, STRENGTH I

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Composite Moment, Span 1, Beam 3, STRENGTH I

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Composite Shear (STRENGTH I)

Total length = 132.87 ft (Max: 5.7 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute) (Kips)	Composite DW (V - Absolute) (Kips)
0.0	0.0	0.0
13.3	0.5	0.0
26.6	1.0	0.0
39.9	1.5	0.0
53.1	2.0	0.0
66.4	5.7	0.0
79.7	2.0	0.0
93.0	1.5	0.0
106.3	1.0	0.0
119.6	0.5	0.0
132.9	0.0	0.0

Composite Shear, Span 1, Beam 3, STRENGTH I

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Live Moment (STRENGTH I)

Total length = 132.87 ft (Max: 5,202.3 Kip-ft, Min: 0.0 Kip-ft)


Legend:

- LL + I (M+)
- LL + I (M-)

Location (ft)	Live Moment (Kip-ft)
0.0	0.0
13.3	100.0
26.6	200.0
39.9	300.0
53.1	400.0
66.4	5,202.3
79.7	400.0
93.0	300.0
106.3	200.0
119.6	100.0
132.9	0.0

Live Moment, Span 1, Beam 3, STRENGTH I

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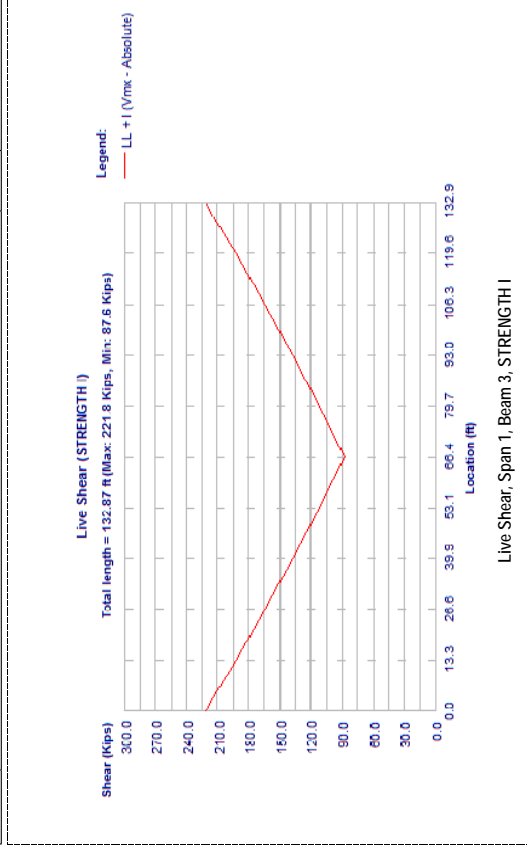
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Live Shear, Span 1, Beam 3, STRENGTH I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, FATIGUE I


Shears: Kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	0.00	3.00	3.65	13.29	26.57	39.86	53.15
Self wt. :	M	0.0	223.3	270.1	910.8	1619.2	2428.8	2530.0
(Max)	V	76.2	72.7	72.0	60.9	45.7	30.5	15.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	45.8	55.4	186.7	331.9	435.6	497.9
DC(Max)	V	15.6	14.9	14.8	12.5	9.4	6.2	3.1
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	229.5	277.5	936.0	1664.0	2183.9	2495.9
Haunch (Max)	V	78.3	74.7	74.0	62.6	47.0	31.3	15.7
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Units : U.S. Units

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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	-0.0	4.9	5.9	15.3	14.0	12.7	11.4
(Max)	V	16.5	12.8	12.0	0.1	0.1	0.1	0.1
Diaphragm :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	12.2	14.7	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.3	3.7	2.8	1.8	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	125.0	151.0	501.7	869.4	1124.1	1259.5
LL + I :	M-	68.6	66.8	66.4	60.5	52.4	39.7	31.6
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	68.6	66.8	66.4	60.5	52.4	44.3	36.3
Total :	M	0.0	125.0	151.0	501.7	869.4	1103.0	1202.5
Total :	M+	0.0	640.7	774.6	2600.2	4586.8	5997.4	6826.0
Total :	V	259.7	246.3	243.4	200.3	157.3	109.6	66.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	259.7	246.3	243.4	200.3	157.3	114.3	71.3
Total :	M	0.0	640.7	774.6	2600.2	4586.8	5976.4	6769.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	79.72	93.01	106.30	119.58	129.23	132.87
Self wt. :	M	2428.8	2125.2	1619.2	910.8	270.1	223.3
(Max)	V	15.2	30.5	45.7	60.9	72.0	72.7
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	497.9	435.6	331.9	186.7	55.4	45.8
DC(Max)	V	3.1	6.2	9.4	12.5	14.8	14.9
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2495.9	2183.9	1664.0	936.0	277.5	229.5
Haunch (Max)	V	15.7	31.3	47.0	62.6	74.0	74.7
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	8.8	7.5	6.2	4.9	1.7	1.4
(Max)	V	0.1	0.1	0.1	0.1	12.5	13.4
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	132.4	115.9	88.3	49.7	14.7	12.2
DC(Max)	V	0.9	1.8	2.8	3.7	4.3	4.4
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1259.5	1124.1	869.4	501.7	151.0	125.0	0.0
LL + I :	31.6	39.7	52.4	60.5	66.4	66.8	68.6
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	36.3	44.3	52.4	60.5	66.4	66.8	68.6
LL + I :	1202.5	1103.0	869.4	501.7	151.0	125.0	0.0
Total :	6823.4	5992.3	4579.0	2589.8	770.4	637.2	0.0
Total :	66.6	109.6	157.3	200.3	244.0	246.9	260.5
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	71.3	114.3	157.3	200.3	244.0	246.9	260.5
Total :	6766.4	5971.2	4579.0	2589.8	770.4	637.2	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 132.87 ft (Max: 2,599.9 Kip-ft, Min 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 3, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:59 A.M.

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Program: LEAPb CONSPAN® V8i (SELECTseries 5)

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Sheet # 34

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Date Sept/9/2013

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Shear (Kips)

Precast Shear (FATIGUE I)


Total length = 132.87 ft (Max: 78.3 Kips, Min: 0.0 Kips)

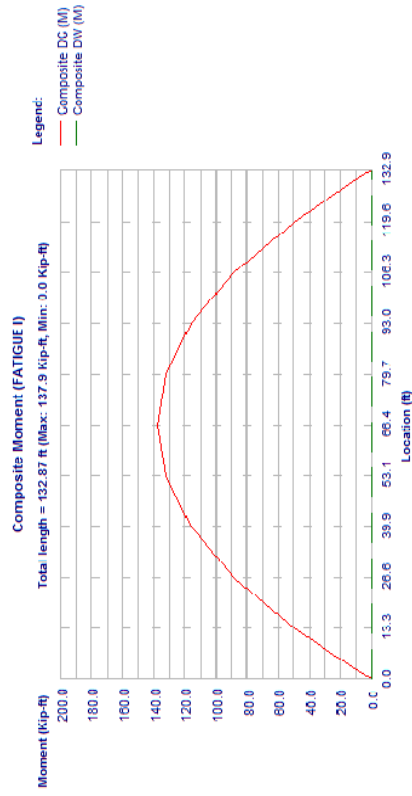
Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 3, FATIGUE I

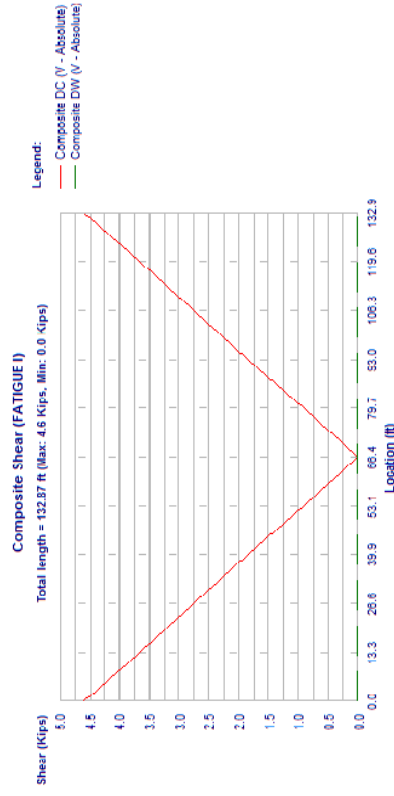
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 8:59 A.M.

		Sheet # 35	
		Job #	
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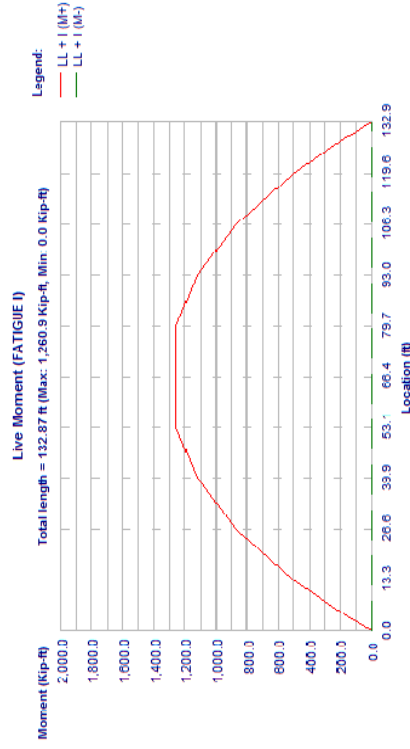
Composite Moment, Span 1, Beam 3, FATIGUE I

		Sheet # 36	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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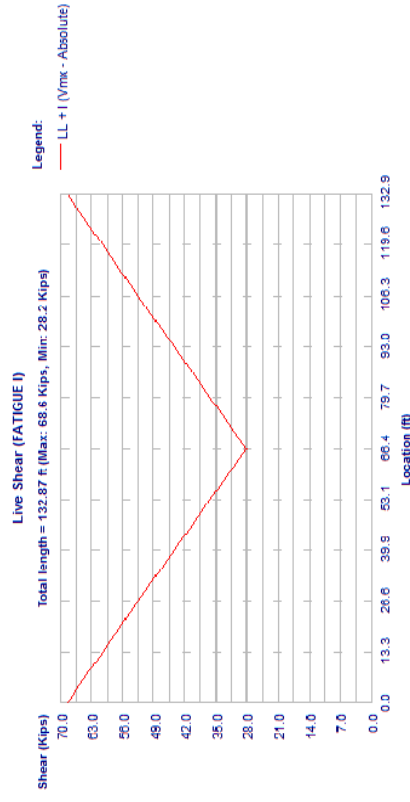
Composite Shear, Span 1, Beam 3, FATIGUE I

		Sheet # 37	
Job #		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		SE Client Licenses	
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Date		Date	



Live Moment, Span 1, Beam 3, FATIGUE I

		Sheet # 38	
Job #		Job #	
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Date		Date	



Live Shear, Span 1, Beam 3, FATIGUE I

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Sheet # 1

Job #

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Date Sept/9/2013

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Date

PROPERTIES

Span:1, Beam:4

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 8:59 A.M.

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Program: LEAP® CONSPAN® V8i (SELECTseries 5)

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Span 1 Beam 4 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.08 ft
Curb-to-curb*	100.00 ft
Beam Spac. Start LL/RI	10.50/ 10.50 ft
End LL/RI	10.83/ 10.83 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	-14.15 degrees

Units: U.S. Units

Design Code: AASHTO LRFD

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File Name:	Span1EB Modified Spacing.csl		Checked	
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* Average bridge width

TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

GENERAL LOAD DATA:
DEAD LOADS ON PRECAST

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	135.519	Add'l Build-Up
DC	Line	0.110	0.000	0.110	135.519	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.61	1.00
17.13	135.31

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	135.519	ft
Release length	135.519	ft
Design length	135.519	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES

Location	+ve Moment		Shear
	2+Lane	1Lane	
0.0L	0.808	0.535	1.000
0.1L	0.808	0.535	1.000
0.2L	0.808	0.535	1.000
0.3L	0.808	0.535	1.000

Units: U.S. Units

Design Code: AASHTO LRFD

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File Name: Span11EB Modified Spacing.cs!

Location	+ve	Moment	Shear
0.4L	0.808	0.535	1.000
0.5L	0.808	0.535	1.000
0.6L	0.808	0.535	1.000
0.7L	0.808	0.535	1.000
0.8L	0.808	0.535	1.000
0.9L	0.808	0.535	1.000
1.0L	0.808	0.535	1.000

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (I _{xx})	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (I _{yy})	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006	1/°F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight pbf	Area in ²	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.0L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.1L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.2L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.3L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.4L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0

Units: U.S. Units

Design Code: AASHTO LRFD

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		Sheet #	5
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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pcf	in ²	in	in ⁴	in	pcf	in
0.5L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.6L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.7L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.8L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
0.9L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0
1.0L	103.08	2324.6	2069.13	87.5	2117921	57.25	150.0	126.0

(#) Area, Ixx, and Ycg Of Total Section using Ecf/Ec = 0.8563
 Use transformed strand and rebar: Strand Only

Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft	in	in	in	in	in	in	in
Precast: (At Release, using Ec = 4016.8ksi)	0.00	3.00	3.65	13.55	27.10	40.66	54.21	67.76
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4497.0ksi)	in ²	in ²	in	in	in	in	in	in
	4016.8	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2
	3.60	33.34	33.34	33.32	33.30	33.27	33.25	33.25
	15.00 %	943295	943371	944546	946182	947851	949552	949552
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4497.0ksi)	in ²	in	in	in	in	in	in	in
	2069.1	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4
	57.25	56.17	56.17	56.16	56.15	56.14	56.12	56.12
	2117921	2231686	2231809	2233711	2236338	2238995	2241681	2241681

Span:1, Beam:4
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Center	-0.93 ksi	
Max tens	-0.23 ksi	
Max tens	-0.59 ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00 ksi	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

Span:1, Beam:4
 PRESTRESSED STEEL:
 39 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (54.21 ft from member end)

END PATTERN (Ycg = 6.69 in):

	12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
	3 @ 15.000 in	1 @ 17.000 in		

MID PATTERN (Ycg = 4.38 in):


(A) Draped:

	5 @ 3.000 in	3 @ 5.000 in	1 @ 7.000 in
--	--------------	--------------	--------------

(B) Straight:

	12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
--	---------------	---------------	--------------	---------------

Strand Diameter	0.600 in
Strand Area	0.217 in ²
Total Strand Area	8.463 in ²
Trans. Len, bonded	3.000 ft
Trans. Len, debonded	3.000 ft
Dev. Len, bonded	11.571 ft



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Sheet # 9
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: Kips, Moments: kft

Location, Self wt. : (Max) DL-Prec. : DC(Max) DL-Prec. : DW(Max) Deck + : Haunch (Max) Diaphragm : (Max) DL-Comp : DC(Max) DL-Comp : DW(Max) LL + I : LL + I : LL + I : Total : Total : Total :	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
ft	0.00	3.00	3.65	13.55	27.10	40.66	54.21	67.76
M	0.0	227.9	275.6	947.5	1684.4	2210.8	2526.6	2631.9
V	77.7	74.2	73.5	62.1	46.6	31.1	15.5	0.0
M	0.0	46.7	56.5	194.2	345.3	453.2	517.9	539.5
V	15.9	15.2	15.1	12.7	9.6	6.4	3.2	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	234.2	283.2	973.6	1730.9	2271.8	2596.4	2704.6
V	79.8	76.3	75.5	63.9	47.9	31.9	16.0	0.0
M	-0.0	4.8	5.8	15.3	14.0	12.7	11.4	10.1
V	16.5	12.9	12.1	0.1	0.1	0.1	0.1	0.1
M	0.0	11.9	14.4	49.7	88.3	115.9	132.4	137.9
V	4.6	4.4	4.3	3.7	2.8	1.8	0.9	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M+	0.0	266.1	321.7	1100.5	1940.5	2519.8	2862.6	2956.8
V	126.7	122.9	122.1	109.5	92.2	74.9	50.8	33.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	126.7	123.0	122.2	109.9	93.7	78.4	63.8	50.0
Vmx	0.0	263.2	317.8	1066.9	1821.0	2284.5	2480.0	2429.9
M	0.0	791.6	957.2	3280.8	5803.4	7584.2	8647.3	8980.8
M+	321.3	305.9	302.6	252.0	199.1	146.3	86.5	33.6
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	321.3	306.0	302.7	252.4	200.7	149.7	99.5	50.1
M	0.0	788.7	953.3	3247.2	5683.9	7348.9	8264.8	8453.9

Location, Self wt. : (Max) DL-Prec. : DC(Max) DL-Prec. : DW(Max) Deck + : Haunch (Max) Diaphragm : (Max) DL-Comp : DC(Max) DL-Comp : DW(Max) LL + I : LL + I : LL + I : Total : Total : Total :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
ft	81.31	94.86	108.42	121.97	131.87	132.52	135.52
M	2526.6	2210.8	1684.4	947.5	275.6	227.9	0.0
V	15.5	31.1	46.6	62.1	73.5	74.2	77.7
M	517.9	453.2	345.3	194.2	56.5	46.7	0.0
V	3.2	6.4	9.6	12.7	15.1	15.2	15.9
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	2596.4	2271.8	1730.9	973.6	283.2	234.2	0.0
M	16.0	31.9	47.9	63.9	75.5	76.3	79.8
V	8.8	7.5	6.2	5.0	1.7	1.4	0.0
M	0.1	0.1	0.1	0.1	12.6	13.4	17.2
V	132.4	115.9	88.3	49.7	14.4	11.9	0.0
M	0.9	1.8	2.8	3.7	4.3	4.4	4.6
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M+	2862.6	2519.8	1940.5	1100.5	321.7	266.1	-0.0



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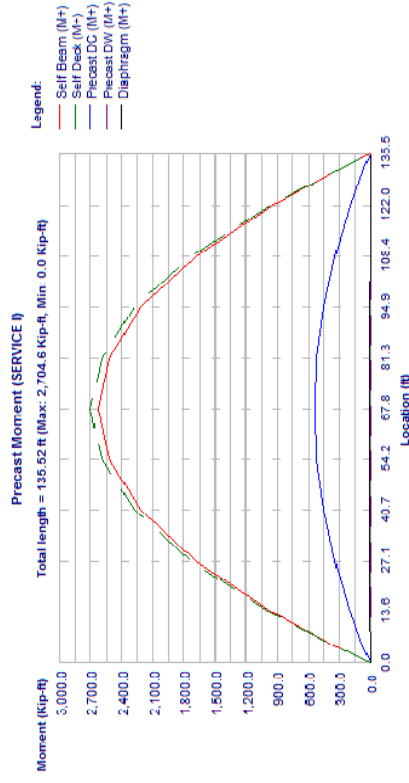
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
V	50.8	74.9	92.2	109.5	122.1	122.9	126.7
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	63.8	78.4	93.7	109.9	122.2	123.0	126.7
M	2480.0	2284.5	1821.0	1066.9	317.8	263.2	0.0
M+	8644.8	7579.0	5795.6	3270.5	953.1	788.2	0.0
V	86.5	146.3	199.1	252.0	303.2	306.5	322.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	99.5	149.7	200.7	252.4	303.3	306.6	322.0
M	8262.2	7343.7	5676.1	3236.9	949.2	785.3	0.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	77.7	77.7
Deck+Haunch	79.8	79.8
Diaphragm	16.5	17.2
DL-Prec.(DC)	15.9	15.9
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

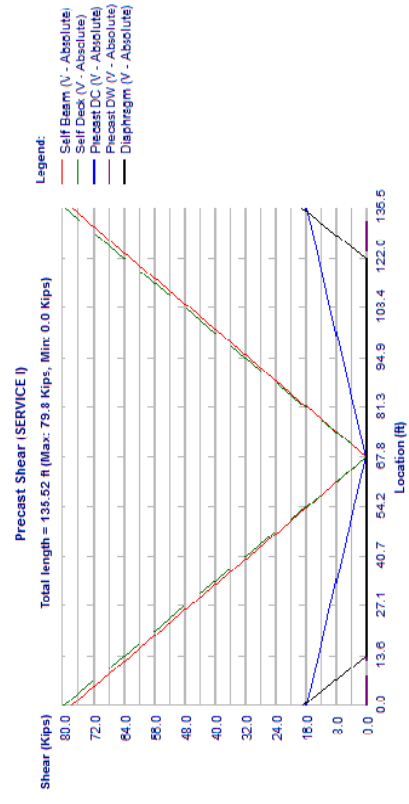
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

		Sheet # 11	
Job #		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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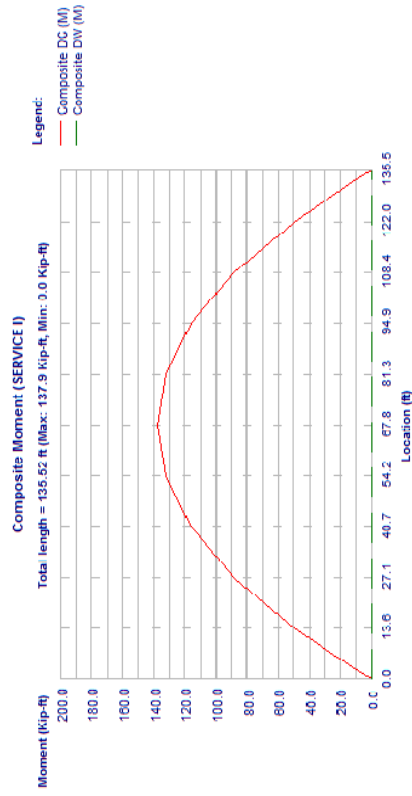
Precast Moment, Span 1, Beam 4, SERVICE I

		Sheet # 12	
Job #		Job #	
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Version: 12.01.00.57		Date Sept/9/2013	
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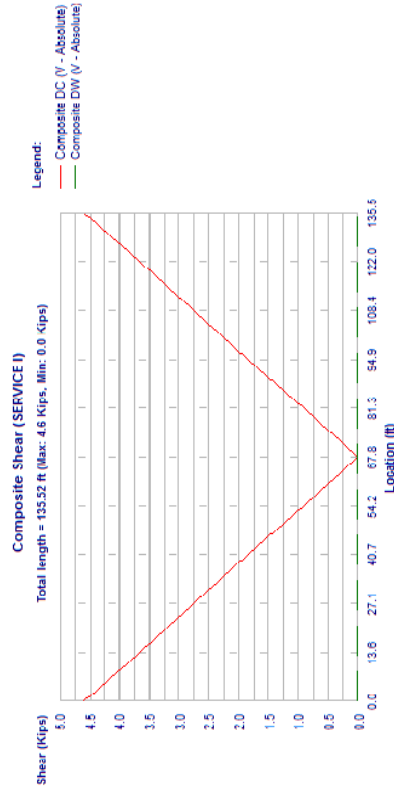
Precast Shear, Span 1, Beam 4, SERVICE I

		Sheet # 13	
		Job #	
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Composite Moment, Span 1, Beam 4, SERVICE I

		Sheet # 14	
		Job #	
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Composite Shear, Span 1, Beam 4, SERVICE I



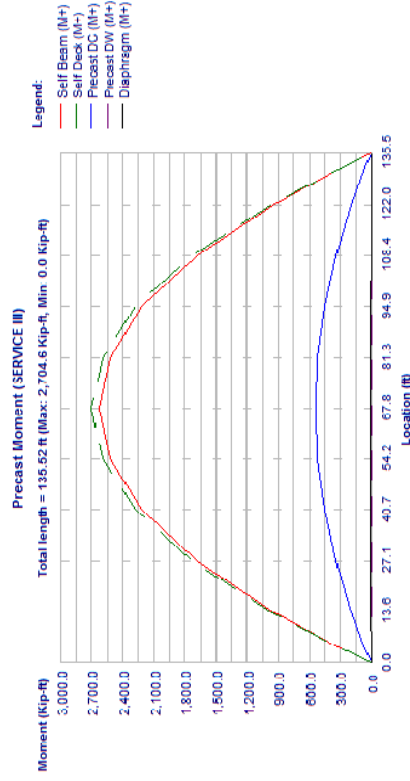
Program:	LEAPb CONSPAN® V8i (SELECTseries 5)	SE Client Licenses	Designed KSM
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012	Date Sept/9/2013
File Name:	Span11EB_Modified Spacing.csl	www.bentley.com	Checked
		Phone: 1-800-778-4277	Date


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
LL + I :	V	101.4	98.3	97.7	87.6	73.8	60.0	40.6
M- :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx :	Vmx	101.4	98.4	97.8	87.9	75.0	62.7	51.1
LL + I :	M	0.0	210.5	254.2	853.5	1456.8	1827.6	1984.0
Total :	M+	0.0	738.4	892.9	3060.7	5415.3	7080.2	8074.8
								8389.5
Total :	V	295.9	281.4	278.2	230.1	180.7	131.3	76.3
	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	295.9	281.4	278.3	230.4	181.9	134.0	86.8
Total :	M	0.0	736.1	889.7	3033.9	5319.7	6892.0	7768.8
								7967.9

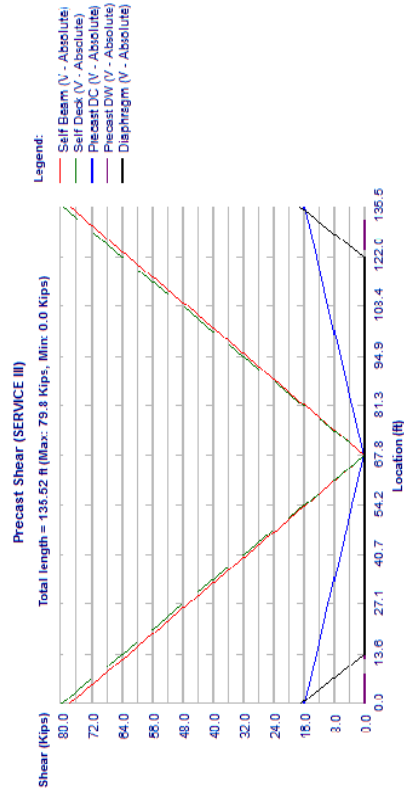
Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	81.31	94.86	108.42	121.97	131.87	132.52	135.52
(Max)	M	2526.6	2210.8	1684.4	947.5	275.6	227.9	0.0
DL-Prec :	V	15.5	31.1	46.6	62.1	73.5	74.2	77.7
DC(Max)	V	517.9	453.2	345.3	194.2	56.5	46.7	0.0
DL-Prec :	M	3.2	6.4	9.6	12.7	15.1	15.2	15.9
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2596.4	2271.8	1730.9	973.6	283.2	234.2	0.0
Haunch (Max)	V	16.0	31.9	47.9	63.9	75.5	76.3	79.8
Diaphragm :	M	8.8	7.5	6.2	5.0	1.7	1.4	0.0
(Max)	V	0.1	0.1	0.1	0.1	12.6	13.4	17.2
DL-Comp :	M	132.4	115.9	88.3	49.7	14.4	11.9	0.0
DC(Max)	V	0.9	1.8	2.8	3.7	4.3	4.4	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2290.1	2015.8	1552.4	880.4	257.4	212.9	-0.0
	V	40.6	60.0	73.8	87.6	97.7	98.3	101.4
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	51.1	62.7	75.0	87.9	97.8	98.4	101.4
Total :	M	1984.0	1827.6	1456.8	853.5	254.2	210.5	0.0
	M+	8072.2	7075.0	5407.5	3050.4	888.8	735.0	0.0
Total :	V	76.3	131.3	180.7	230.1	278.7	281.9	296.6
	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	86.8	134.0	181.9	230.4	278.8	282.0	296.6
Total :	M	7766.2	6886.8	5311.9	3023.5	885.7	732.7	0.0




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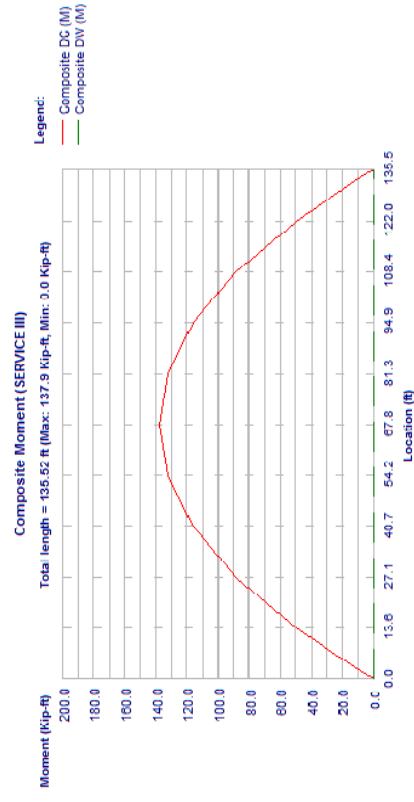


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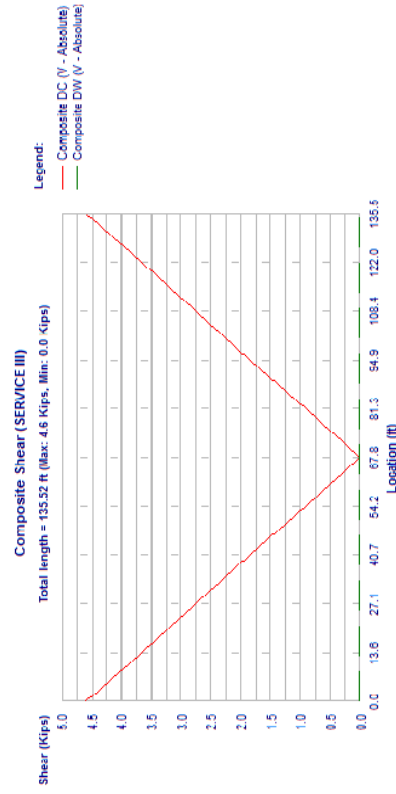
Precast Shear, Span 1, Beam 4, SERVICE III

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		Designed	KSM
		Date	Sept/9/2013
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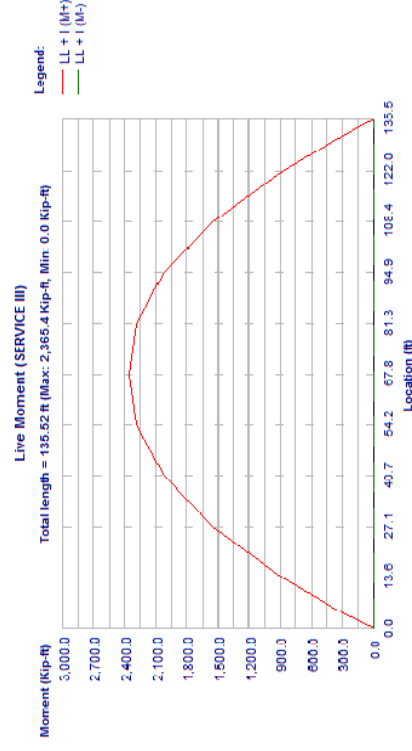
Composite Moment, Span 1, Beam 4, SERVICE III

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Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span11EB_Modified Spacing.csl		Designed	KSM
		Date	Sept/9/2013
		Checked	
		Date	




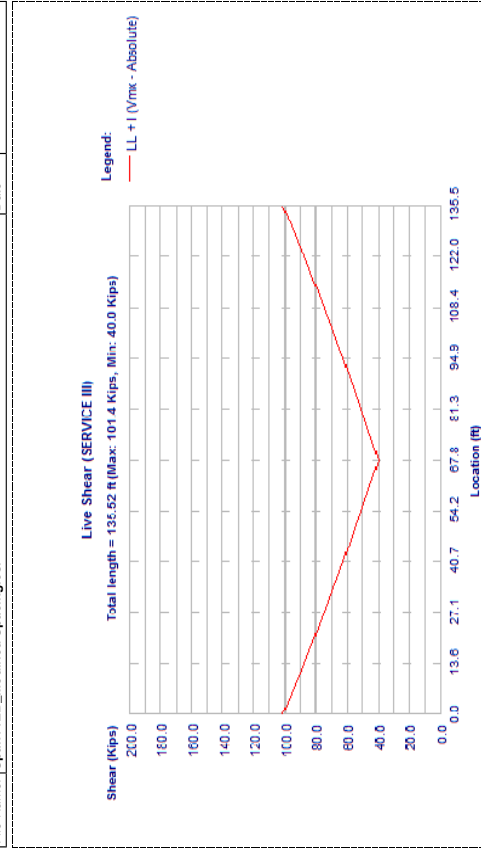
Composite Shear, Span 1, Beam 4, SERVICE III

		Sheet #	22
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span11EB_Modified Spacing.csl		Designed	KSM
		Date	Sept/9/2013
		Checked	
		Date	



Live Moment, Span 1, Beam 4, SERVICE III


	Bentley				Sheet # 23
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Live Shear Span 1 Beam 4 SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H ₂	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	3.00	3.65	13.55	27.10	40.66	54.21	67.76
Self wt. :	M	0.0	284.9	344.5	1184.3	2105.5	2763.5	3158.3	3289.9
(Max)	V	97.1	92.8	91.9	77.7	58.3	38.8	19.4	0.0
Self wt. :	M	0.0	205.1	248.0	852.7	1516.0	1989.7	2273.9	2368.7
(Min)	V	69.9	66.8	66.2	55.9	41.9	28.0	14.0	0.0
DL-Prec. :	M	0.0	58.4	70.6	242.8	431.6	566.5	647.4	674.4
DC(Max)	V	19.9	19.0	18.8	15.9	11.9	8.0	4.0	0.0
DL-Prec. :	M	0.0	42.0	50.8	174.8	310.7	407.8	466.1	485.5
DC(Min)	V	14.3	13.7	13.6	11.5	8.6	5.7	2.9	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	292.7	354.0	1217.1	2163.7	2839.8	3245.5	3380.7
Haunch (Max)	V	99.8	95.4	94.4	79.8	59.9	39.9	20.0	0.0
Deck + :	M	0.0	210.8	254.9	876.3	1557.8	2044.7	2336.8	2434.1

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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	71.8	68.7	68.0	57.5	43.1	28.7	14.4
Diaphragm :	M	-0.0	6.0	7.2	19.1	17.5	14.3	12.7
(Max)	V	20.6	16.1	15.1	0.1	0.1	0.1	0.1
Diaphragm :	M	-0.0	4.3	5.2	13.8	12.6	11.5	10.3
(Min)	V	14.9	11.6	10.9	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	14.9	18.1	62.1	110.3	144.8	165.5
DC(Max)	V	5.7	5.5	5.4	4.6	3.4	2.3	1.1
DL-Comp :	M	0.0	10.7	13.0	44.7	79.5	104.3	119.2
DC(Min)	V	4.1	3.9	3.9	3.3	2.5	1.7	0.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	465.7	563.0	1925.9	3395.8	4409.6	5174.4
LL + I :	V	221.8	215.1	213.7	191.6	161.4	131.2	88.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	221.8	215.2	213.8	192.2	164.1	137.2	111.7
LL + I :	M	0.0	460.5	556.1	1867.1	3186.7	3997.9	4252.3
Total :	M+	0.0	1122.6	1357.4	4651.3	8224.5	10740.1	12240.5
Total :	V	465.0	443.9	439.3	369.7	295.0	220.3	133.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	465.0	444.0	439.5	370.4	297.7	226.3	156.3
Total :	M	0.0	1117.5	1350.5	4592.5	8015.3	10328.4	11751.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location:	ft	81.31	94.86	108.42	121.97	131.87	132.52	135.52
Self wt.:	M	3158.3	2763.5	2105.5	1184.3	344.5	284.9	0.0
(Max)	V	19.4	38.8	58.3	77.7	91.9	92.8	97.1
Self wt.:	M	2273.9	1989.7	1516.0	852.7	248.0	205.1	0.0
(Min)	V	14.0	28.0	41.9	55.9	66.2	66.8	69.9
DL-Prec.:	M	647.4	566.5	431.6	242.8	70.6	58.4	0.0
DC(Max)	V	4.0	8.0	11.9	15.9	18.8	19.0	19.9
DL-Prec.:	M	466.1	407.8	310.7	174.8	50.8	42.0	0.0
DC(Min)	V	2.9	5.7	8.6	11.5	13.6	13.7	14.3
DL-Prec.:	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.:	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck +:	M	3245.5	2839.8	2163.7	1217.1	354.0	292.7	0.0
Haunch (Max)	V	20.0	39.9	59.9	78.9	94.4	95.4	99.8
Deck +:	M	2336.8	2044.7	1557.8	876.3	254.9	210.8	0.0
Haunch (Min)	V	14.4	28.7	43.1	57.5	68.0	68.7	71.8
Diaphragm:	M	11.0	9.4	7.8	6.2	2.1	1.8	0.0
(Max)	V	0.1	0.1	0.1	0.1	15.8	16.8	21.5
Diaphragm:	M	8.0	6.8	5.6	4.5	1.5	1.3	0.0
(Min)	V	0.1	0.1	0.1	0.1	11.4	12.1	15.5
DL-Comp:	M	165.5	144.8	110.3	62.1	18.1	14.9	0.0
DC(Max)	V	1.1	2.3	3.4	4.6	5.7	5.5	5.7
DL-Comp:	M	119.2	104.3	79.5	44.7	13.0	10.7	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	3.9	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5009.5	4409.6	3395.8	1925.9	563.0	465.7
	V	88.8	131.2	161.4	191.6	213.7	215.1
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	111.7	137.2	164.1	192.2	213.8	215.2
	V	4340.1	3997.9	3186.7	1867.1	556.1	460.5
Total :	M+	12237.2	10733.7	8214.7	4638.4	1352.3	1118.3
	V	133.5	220.3	295.0	369.7	440.0	444.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	156.3	226.3	297.7	370.4	440.2	444.7
	M	11567.8	10322.0	8005.6	4579.6	1345.4	1113.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	97.1	97.1
Deck+Haunch	99.8	99.8
Diaphragm	20.6	21.5
DL-Prec(DC)	19.9	19.9
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	63.1	63.1
DL-Comp(DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units
Design Code: AASHTO LRFD
Printed on: October 21, 2013 @ 8:59 A.M.

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Sheet # 26
Job #
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Precast Moment (STRENGTH I)

Total length = 135.52 ft (Max: 3,380.7 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

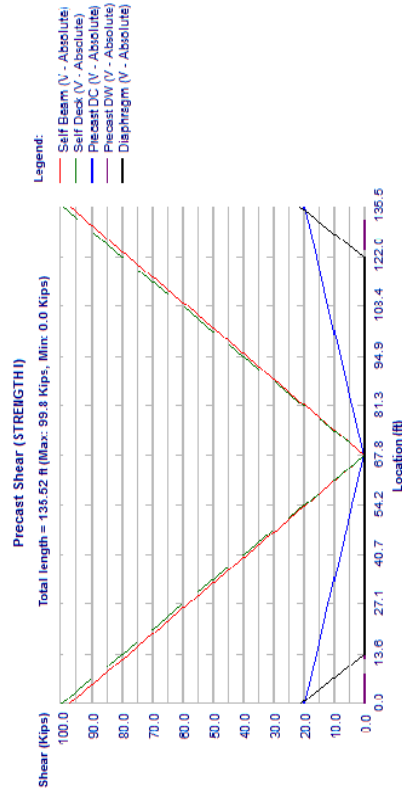
Location (ft)

Location (ft)	Total Moment (Kip-ft)
0.0	0.0
13.6	400.0
27.1	1600.0
40.7	2800.0
54.2	3300.0
67.76	3380.7
81.3	3300.0
94.9	2800.0
108.4	1600.0
122.0	400.0
135.5	0.0


Precast Moment, Span 1, Beam 4, STRENGTH I

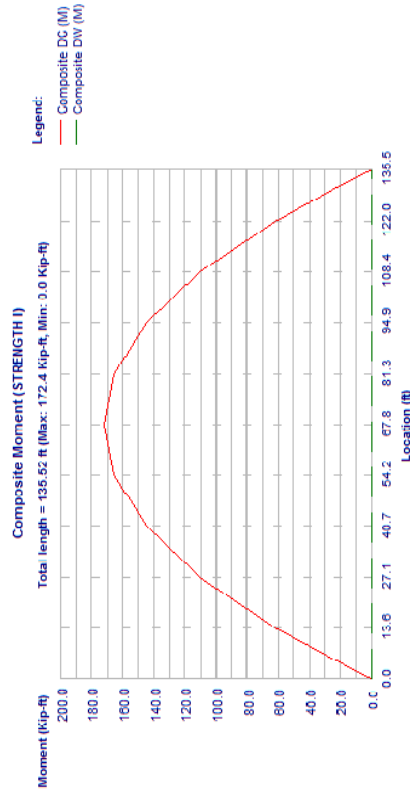
Units: U.S. Units
Design Code: AASHTO LRFD
Printed on: October 21, 2013 @ 8:59 A.M.

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		Designed	KSM
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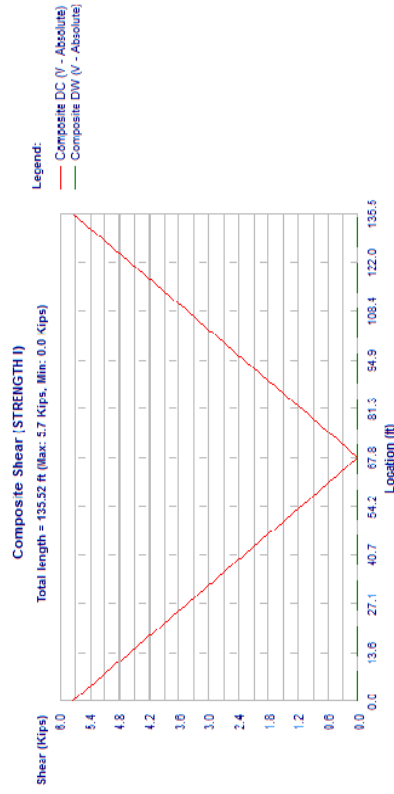
Precast Shear, Span 1, Beam 4, STRENGTH I

		Sheet #	28
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		Date	Sept/9/2013
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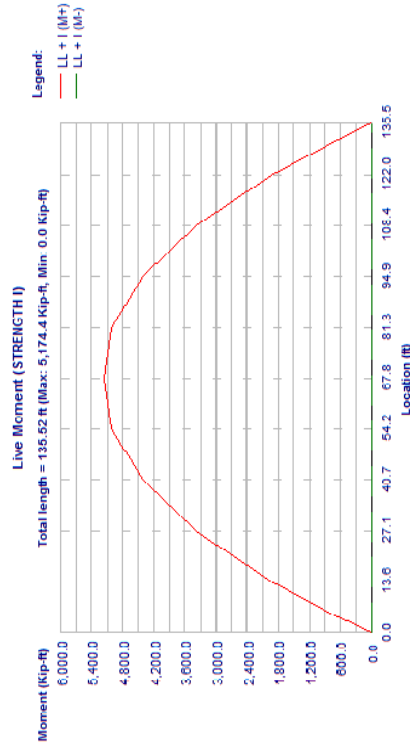
Composite Moment, Span 1, Beam 4, STRENGTH I

		Sheet # 29	
		Job #	
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Composite Shear, Span 1, Beam 4, STRENGTH I

		Sheet # 30	
		Job #	
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Live Moment, Span 1, Beam 4, STRENGTH I



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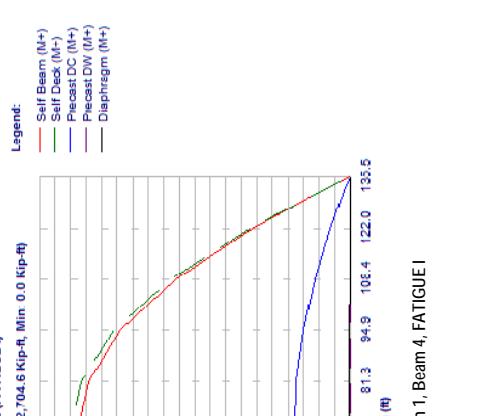
Sheet # 33

Job #

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1250.7	1116.2	863.3	498.2	147.1	121.8
	V	31.6	39.7	52.4	60.5	66.4	68.6
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	36.3	44.3	52.4	60.5	66.4	68.6
	M	1194.1	1095.3	863.3	498.2	147.1	121.8
Total :	M+	7032.9	6175.4	4718.5	2668.2	778.6	643.9
	M	67.3	111.0	159.3	203.0	247.5	250.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx	72.0	115.6	159.3	203.0	247.5	250.4
	M	6976.3	6154.5	4718.5	2668.2	778.6	643.9

Precast Moment (FATIGUE I)


Total length = 135.52 ft (Max: 2,704.6 Kip-ft, Min: 0.0 Kip-ft)



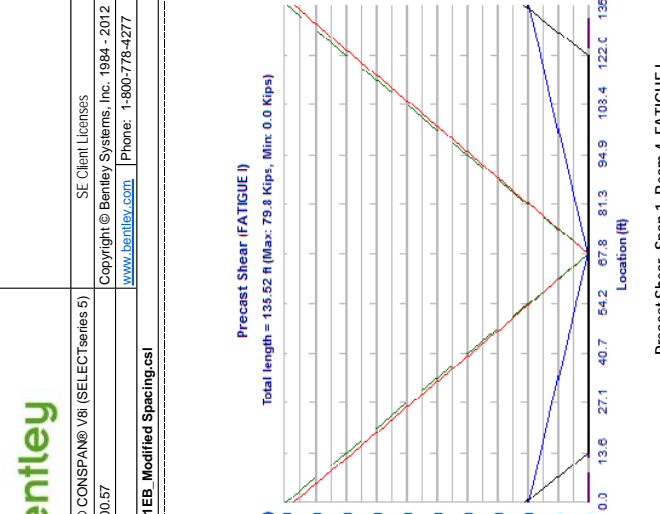
Legend:
 — Self Beam (N+)
 — Self Deck (M+)
 — Precast DC (M+)
 — Precast DW (M+)
 — Diaphragm (M+)

Precast Moment, Span 1, Beam 4, FATIGUE I

Units: U.S. Units
Design Code: AASHTO LRFD
Printed on: October 21, 2013 @ 8:59 A.M.

	Sheet # 34	
	Job #	
	Designed KSM	
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		Date


Total length = 135.52 ft (Max: 79.8 Kips, Min: 0.0 Kips)

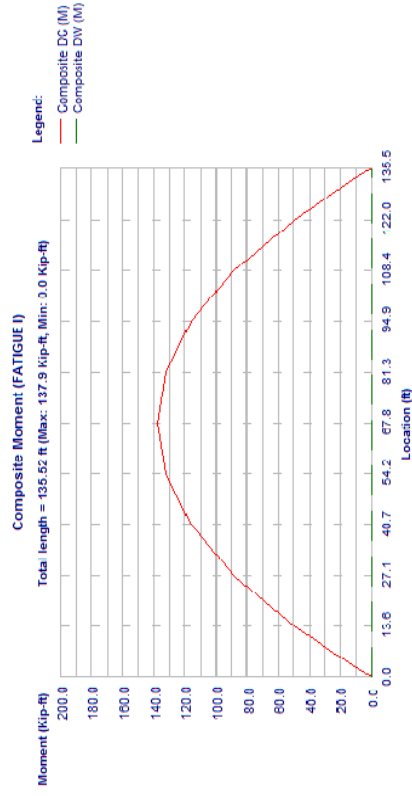


Legend:
 — Self Beam (V - Absolute)
 — Self Deck (V - Absolute)
 — Precast DC (V - Absolute)
 — Precast DW (V - Absolute)
 — Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 4, FATIGUE I

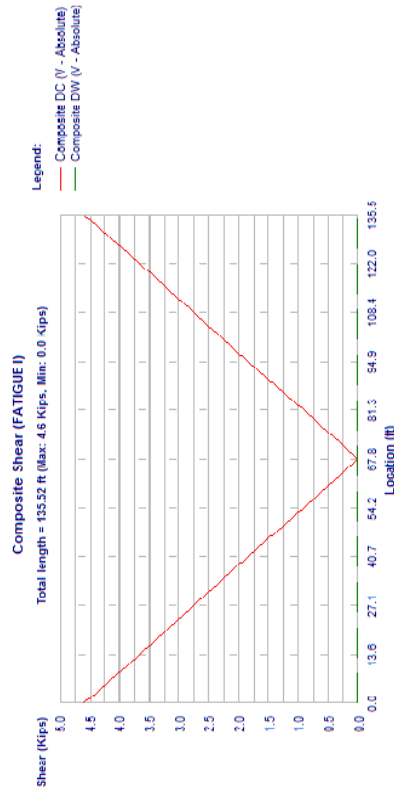
Units: U.S. Units
Design Code: AASHTO LRFD
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		Job #	
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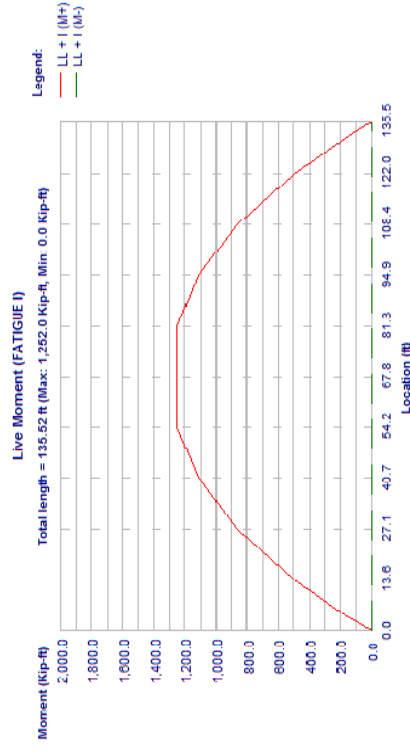
Composite Moment, Span 1, Beam 4, FATIGUE I

		Sheet # 36	
		Job #	
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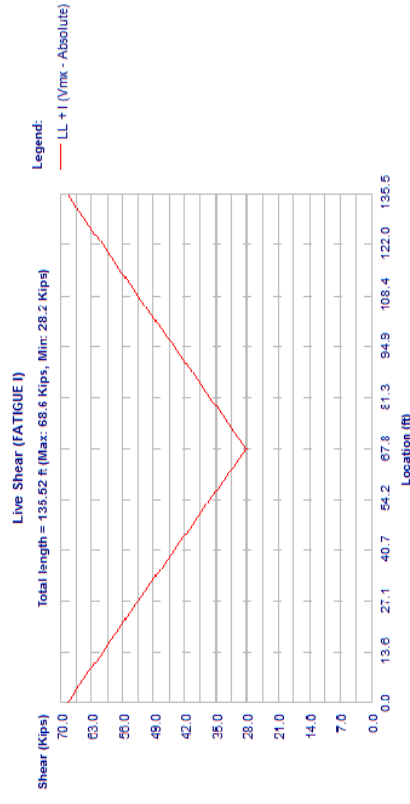
Composite Shear, Span 1, Beam 4, FATIGUE I

			Sheet #	37
			Job #	
			Designed	KSM
			Date	Sept/9/2013
			Checked	
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File Name: Span11EB_Modified Spacing.csl				




Live Moment, Span 1, Beam 4, FATIGUE I

			Sheet #	38
			Job #	
			Designed	KSM
			Date	Sept/9/2013
			Checked	
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Live Shear, Span 1, Beam 4, FATIGUE I



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Sheet # 1
Job #

PROPERTIES

Span:1, Beam:5
PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in Bottom 38,000 in			
thick	Top 3,000 in Bottom 7,000 in			
Stems	No 1			
	Top 7,000 in Bottom 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

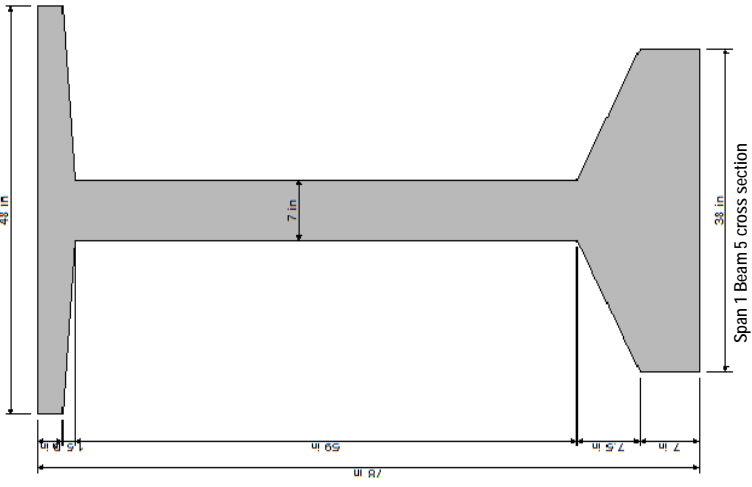


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Sheet # 2
Job #



Span 1 Beam 5 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.08 ft
Curb-to-curb*	100.00 ft
Beam Spac. Start LL/RI	10.50/9.25 ft
End LL/RI	10.83/9.54 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	-14.15 degrees



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* Average bridge width

TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft. Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	138.167	Add'l Build-Up
DC	Line	0.098	0.000	0.098	138.167	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
15.56	1.00
16.05	137.95

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	138.167	ft
Release length	138.167	ft
Design length	138.167	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2d): YES

Location	+ve		Moment		Shear
	2+Lane	1Lane	2+Lane	1Lane	
0.0L	0.768	0.512	0.957	0.756	
0.1L	0.768	0.512	0.957	0.756	
0.2L	0.768	0.512	0.957	0.756	
0.3L	0.768	0.512	0.957	0.756	

Units: U.S. Units

Design Code: AASHTO LRFD

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			Checked	Date

File Name: Span11EB Modified Spacing.cs!

Location	+ve	Moment	Shear
0.4L	0.768	0.512	0.957
0.5L	0.768	0.512	0.957
0.6L	0.768	0.512	0.957
0.7L	0.768	0.512	0.957
0.8L	0.768	0.512	0.957
0.9L	0.768	0.512	0.957
1.0L	0.768	0.512	0.957

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (I _{xx})	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (I _{yy})	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/°F


COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight pif	Area in ₂	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.0L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.1L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.2L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.3L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.4L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5

Units: U.S. Units

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Location	Bridge Width ft	Self Weight plf	Area in ²	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.5L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.6L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.7L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.8L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
0.9L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5
1.0L	103.08	2258.2	2014.54	87.5	2079701	56.55	150.0	118.5

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	in ²	0.00	3.00	3.65	13.82	27.63	41.45	55.27	69.08
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4497.0ksi)	in ²	1100.6	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2
	in	34.60	33.34	33.34	33.32	33.30	33.27	33.25	33.25
	in ⁴	904567	943289	943363	944546	946182	947851	949552	949552
Area, Yb, MI(XX)	in ²	2014.5	2059.8	2059.8	2059.8	2059.8	2059.8	2059.8	2059.8
	in	55.45	55.45	55.45	55.44	55.43	55.42	55.40	55.40
	in ⁴	2079701	2190251	2190370	2192257	2194847	2197467	2200115	2200115

Span:1, Beam:5
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Center	-0.93 ksi	
Max tens	-0.23 ksi	
Max tens	-0.59 ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be less than 0.8 * f_{cr} or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

		Sheet # 6 Job #	
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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00 ksi	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

Span:1, Beam:5
 PRESTRESSED STEEL:
 39 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (55.27 ft from member end)

END PATTERN (Ycg = 6.69 in):

12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
3 @ 15.000 in	1 @ 17.000 in		

MID PATTERN (Ycg = 4.38 in):

(A) Draped:	5 @ 3.000 in	3 @ 5.000 in	1 @ 7.000 in
-------------	--------------	--------------	--------------

(B) Straight:

12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
---------------	---------------	--------------	---------------

Strand Diameter	0.600 in
Strand Area	0.217 in ²
Total Strand Area	8.463 in ²
Trans. Len, bonded	3.000 ft
Trans. Len, debonded	3.000 ft
Dev. Len, bonded	11.549 ft

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Sheet # 7

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Dev Len debonded 14.437 ft

Holddown Force 5.963 kips

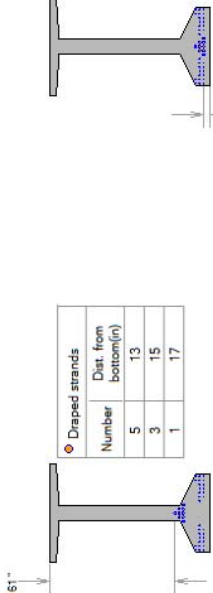
Tensile Strength(fpu) 270.0 ksi

Initial Prestress = 0.75fpu 202.5 ksi

Initial Pull 1713.8 kips

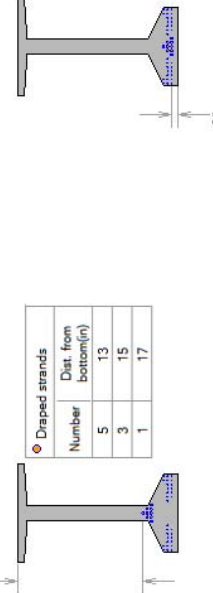
Beam Shring (PL/AE) 0.614 in

ENDS



61"

MIDSPAN



3"

Strand Pattern, Span 1, Beam 5

Draped strands		Straight strands	
Number	Dist. from bottom(in)	Number	Dist. from bottom(in)
5	13	12	3
3	15	14	5
1	17	4	7

All strands	
Number	Dist. from bottom(in)
17	3
17	5
5	7

Span:1, Beam:5

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Strands (LB)	Beam Vol(C.V.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
5388.611	740	3987.573	39.112	158402.625	1790.895	0.000

Span:1, Beam:5

REINFORCING STEEL:

Tension steel:	fy	Es
60.0	29000	ksi

Span:1, Beam:5

REINFORCING STEEL:

Tension steel:	fy	Es
60.0	29000	ksi

Span:1, Beam:5

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Strands (LB)	Beam Vol(C.V.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
5388.611	740	3987.573	39.112	158402.625	1790.895	0.000

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Sheet # 8

Job #

Tension steel: 24.0 ksi

fs

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#6(M19)	60.0	0.88	18.00	0.0000	138.1666	No

LOSSES

Note: Values are calculated at Midspan

Str. area	Ycg	P. Init	Ecc	Days to release	Rel. Humid (RH)	Es	Eci
8.4630 in2	4.38 in	1713.8 kips	30.22 in	0.75	75.0 %	28500.0 ksi	4017 ksi

AASHTO LOSSES

Elastic Shortening ** 12.79 ksi (Eq 5.9.5.2.3a-1), (fcgp = 1.803 ksi)

due to Precast Loads	Gains	Elastic Gains	Adjustment
-7.39 ksi	0.00 ksi	0.00 ksi	0.00 ksi
-0.24 ksi	0.00 ksi	0.00 ksi	0.00 ksi
-3.97 ksi	0.00 ksi	0.00 ksi	0.00 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

Initial	Final
0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
0.00 ksi	8.14 ksi (Eq 5.9.5.3-1)
0.00 ksi	10.57 ksi (Eq 5.9.5.3-1)
12.79 ksi (6.32 %)	9.50 ksi (4.69 %)
	22.29 ksi (11.01 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

initial fpi = 202.5 ksi < 0.75 fpu, OK


initial fpe = 180.2 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units

Design Code: AASHTO LRFD

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Sheet # 9
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	3.00	3.65	13.82	27.63	41.45	55.27	69.08
(Max)	M	0.0	232.4	281.1	984.9	1750.9	2298.0	2626.3
DL-Prec. :	V	79.2	75.8	75.0	63.4	47.5	31.7	15.8
DC(Max)	M	-0.0	45.2	54.7	191.6	340.6	447.0	510.8
DL-Prec. :	V	15.4	14.7	14.6	12.3	9.2	6.2	3.1
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	225.4	272.6	955.0	1697.8	2228.4	2546.7
Haunch (Max)	V	76.8	73.5	72.7	61.4	46.1	30.7	15.4
Diaphragm :	M	0.0	4.4	5.3	14.4	13.1	11.9	10.7
(Max)	V	15.5	12.1	11.4	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	11.7	14.2	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.3	3.7	2.8	1.8	0.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	248.5	300.4	1047.2	1846.4	2397.7	2813.5
LL + I :	V	121.3	117.7	117.0	104.8	88.3	71.8	48.6
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	121.3	117.8	117.1	105.2	89.8	75.1	61.1
Total :	M	0.0	245.7	296.8	1015.2	1732.7	2173.8	2359.9
Total :	V	0.0	767.7	928.3	3242.7	5737.1	7498.9	8550.9
Total :	M-	312.8	298.2	295.1	245.7	194.0	142.2	83.9
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	312.8	298.3	295.2	246.1	195.4	145.6	96.4
Total :	M	0.0	765.0	924.7	3210.7	5623.4	7275.0	8380.3

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	82.90	96.72	110.53	124.35	134.52	135.17	138.17
(Max)	M	2626.3	2298.0	1750.9	984.9	281.1	232.4
DL-Prec. :	V	15.8	31.7	47.5	63.4	75.0	75.8
DC(Max)	M	510.8	447.0	340.6	191.6	54.7	45.2
DL-Prec. :	V	3.1	6.2	9.2	12.3	14.6	14.7
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2546.7	2228.4	1697.8	955.0	272.6	225.4
Haunch (Max)	V	15.4	30.7	46.1	61.4	72.7	73.5
Diaphragm :	M	8.3	7.1	5.9	4.7	1.6	1.3
(Max)	V	0.1	0.1	0.1	0.1	11.9	12.7
DL-Comp. :	M	132.4	115.9	88.3	49.7	14.2	11.7
DC(Max)	V	0.9	1.8	2.8	3.7	4.3	4.4
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2723.9	2397.7	1846.4	1047.2	300.4	248.5



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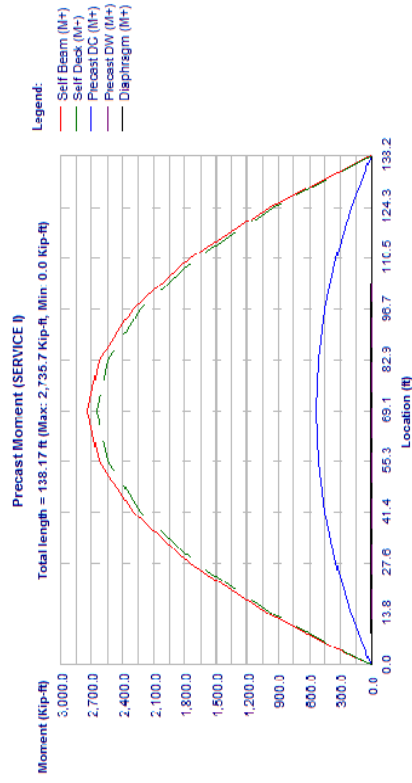
LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	48.6	71.8	88.3	104.8	117.0	117.7	121.3
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	61.1	75.1	89.8	105.2	117.1	117.8
DL-Prec. :	V	2359.9	2173.8	1732.7	1015.2	296.8	245.7
DW(Max)	M	8548.5	7494.0	5729.8	3233.0	924.6	764.5
Deck + :	M	83.9	142.2	194.0	245.7	295.6	298.8
Haunch (Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	96.4	145.6	195.4	246.1	295.7	298.8
DL-Comp. :	M	8184.5	7270.2	5616.1	3201.0	921.0	761.8

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	79.2	79.2
Deck+Haunch	76.8	76.8
Diaphragm	15.5	16.1
DL-Prec. (DC)	15.4	15.4
DL-Prec. (DW)	0.0	0.0
DL-Comp. (DC)	50.5	50.5
DL-Comp. (DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

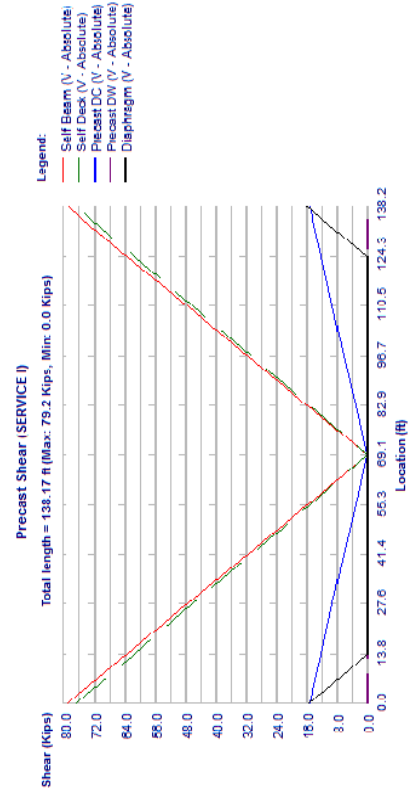
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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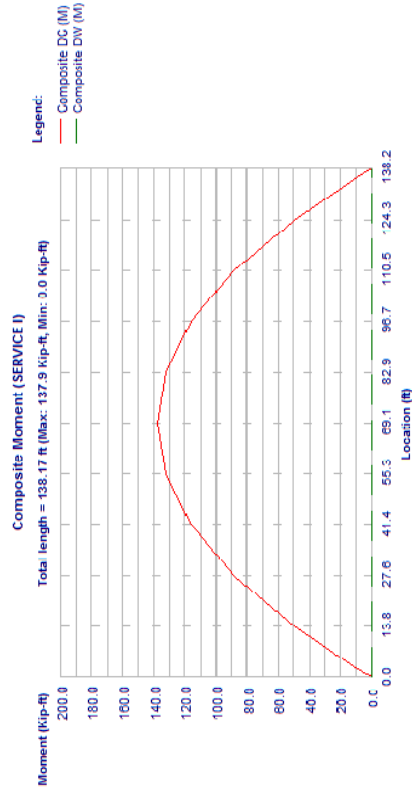
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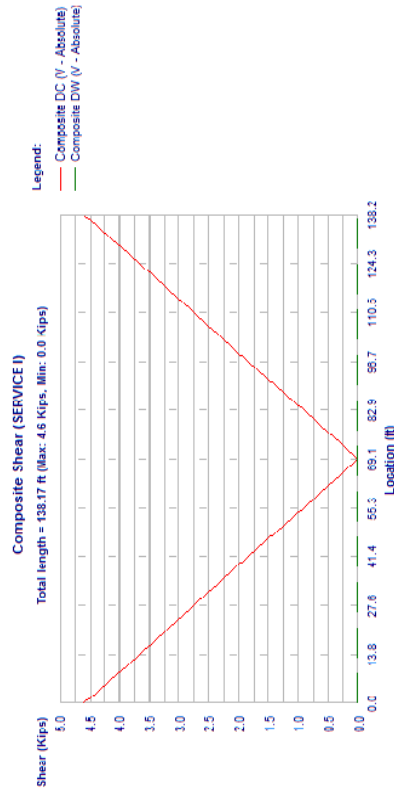
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Composite Moment, Span 1, Beam 5, SERVICE I

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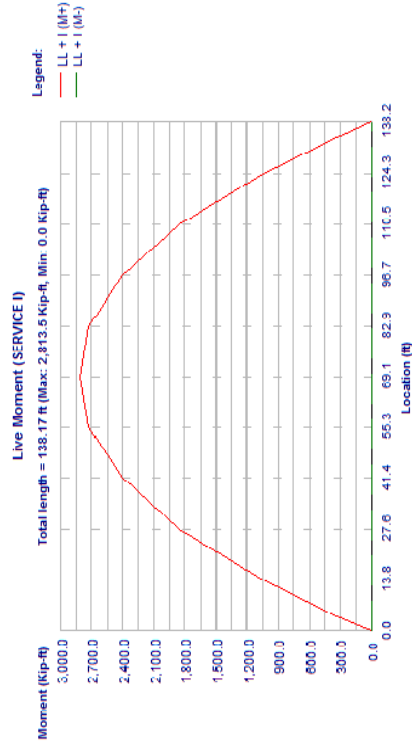
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Sheet # 15

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Live Moment, Span 1, Beam 5, SERVICE I



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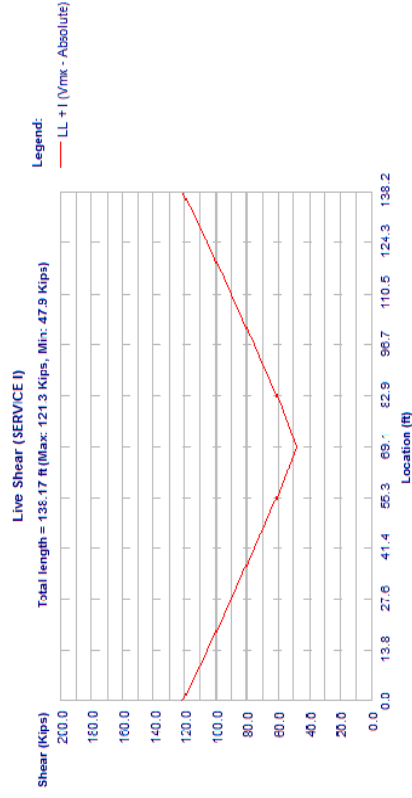
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Job #



Live Shear, Span 1, Beam 5, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	3.00	3.65	13.82	27.63	41.45	55.27
Self wt. :	M	0.0	232.4	281.1	984.9	1750.9	2298.0	2626.3
(Max)	V	79.2	75.8	75.0	63.4	47.5	31.7	15.8
DL-Prec. :	M	-0.0	45.2	54.7	191.6	340.6	447.0	510.8
DC(Max)	V	15.4	14.7	14.6	12.3	9.2	6.2	3.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	225.4	272.6	955.0	1697.8	2228.4	2546.7
Haunch (Max)	V	76.8	73.5	72.7	61.4	46.1	30.7	15.4
Diaphragm :	M	0.0	4.4	5.3	14.4	13.1	11.9	10.7
(Max)	V	15.5	12.1	11.4	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	11.7	14.2	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.3	3.7	2.8	1.8	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	198.8	240.3	837.8	1477.1	1918.2	2179.1
								2250.8



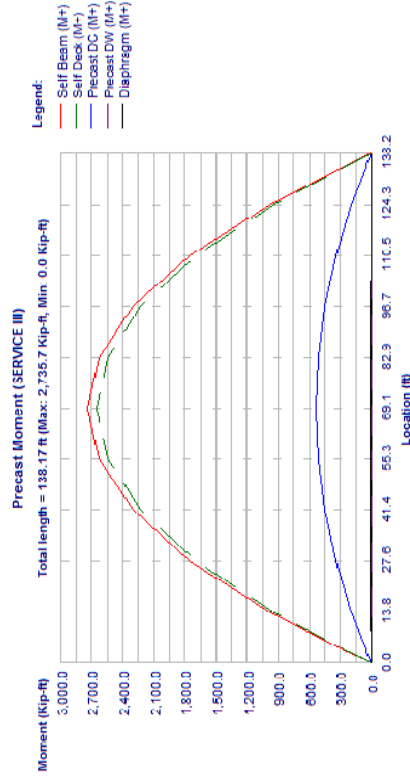
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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
LL + I :	V	97.1	94.2	93.6	83.8	70.6	57.4	38.9
M-	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	Vmx	97.1	94.3	93.7	84.1	71.8	60.1	48.9
LL + I :	M	0.0	196.6	237.4	812.2	1386.2	1739.1	1887.9
Total :	M+	0.0	718.0	868.2	3033.2	5367.8	7019.3	8006.1
Total :	V	288.5	274.7	271.7	224.7	176.3	127.9	74.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	288.5	274.7	271.8	225.0	177.5	130.5	84.2
Total :	M	0.0	715.8	865.4	3007.6	5276.9	6840.3	7714.9
Total :	M	0.0	715.8	865.4	3007.6	5276.9	6840.3	7714.9

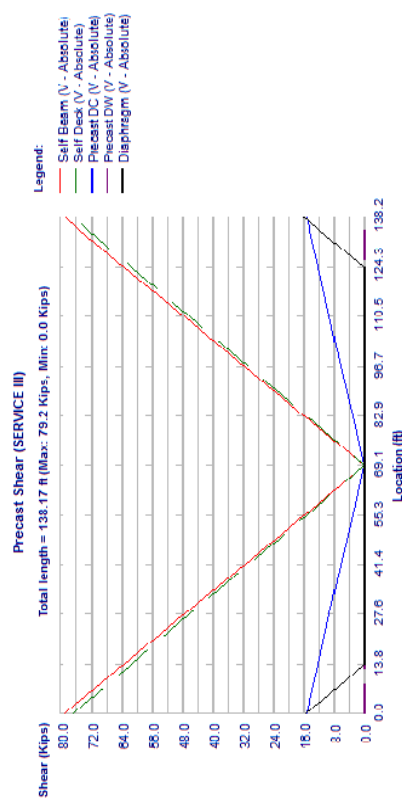
Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	82.90	96.72	110.53	124.35	134.52	135.17	138.17
(Max)	M	2626.3	2298.0	1750.9	984.9	281.1	232.4	0.0
DL-Prec :	V	15.8	31.7	47.5	63.4	75.0	75.8	79.2
DC(Max)	M	510.8	447.0	340.6	191.6	54.7	45.2	-0.0
DL-Prec :	V	3.1	6.2	9.2	12.3	14.6	14.7	15.4
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2546.7	2228.4	1697.8	955.0	272.6	225.4	0.0
Diaphragm :	M	15.4	30.7	46.1	61.4	72.7	73.5	76.8
(Max)	M	8.3	7.1	5.9	4.7	1.6	1.3	0.0
DL-Comp :	V	0.1	0.1	0.1	0.1	11.9	12.7	16.1
DC(Max)	M	132.4	115.9	88.3	49.7	14.2	11.7	0.0
DL-Comp :	V	0.9	1.8	2.8	3.7	4.3	4.4	4.6
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2179.1	1918.2	1477.1	837.8	240.3	198.8	-0.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	48.9	60.1	71.8	84.1	93.7	94.3	97.1
Total :	M	1887.9	1739.1	1386.2	812.2	237.4	196.6	0.0
Total :	V	8003.7	7014.5	5360.5	3023.5	864.5	714.8	0.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	74.2	127.9	176.3	224.7	272.2	275.2	289.2
Total :	M	84.2	130.5	177.5	225.0	272.3	275.3	289.2
Total :	M	7712.5	6835.4	5269.6	2997.9	861.6	712.7	0.0




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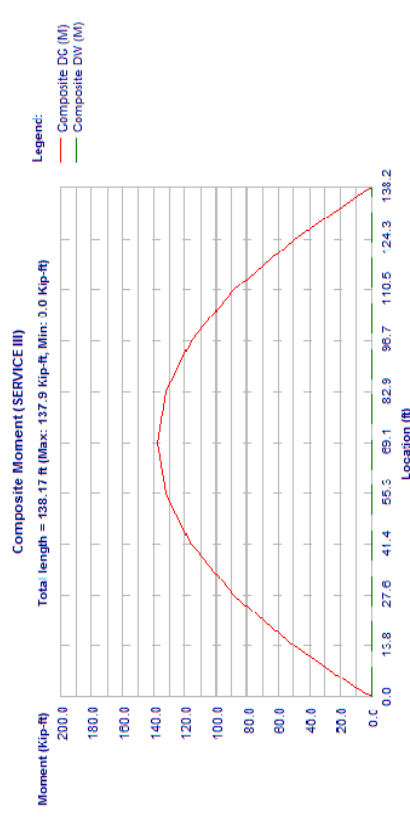


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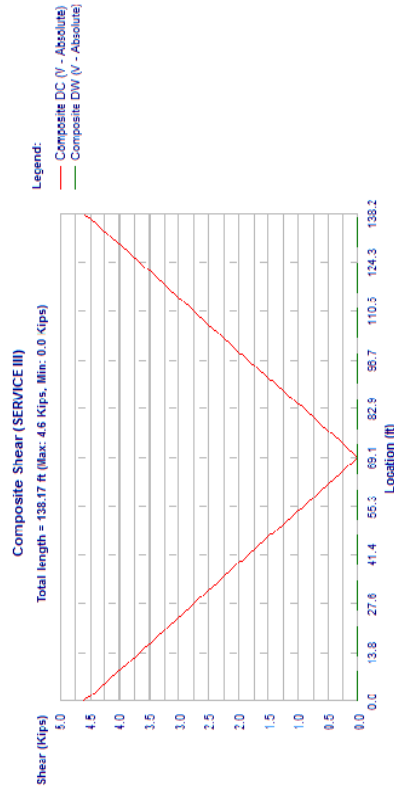
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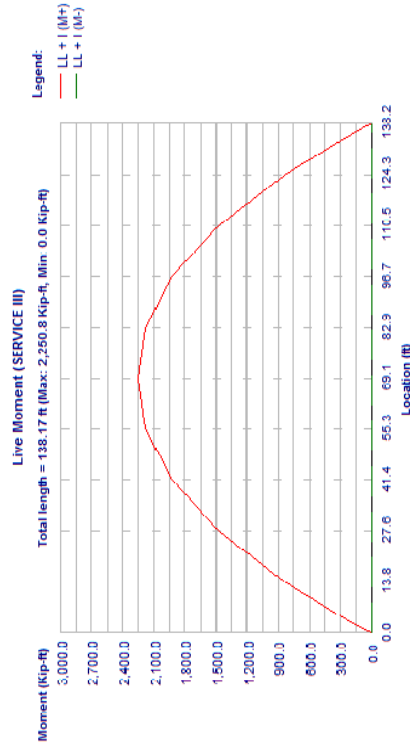
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Live Moment, Span 1, Beam 5, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	4.0	4.1
DL-Comp :							
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :							
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4766.8	4196.0	3231.3	1832.6	525.7	434.8	-0.0
LL + I :	85.1	125.6	154.5	183.4	204.7	206.1	212.3
LL + I :	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	107.0	131.4	157.1	184.1	204.9	206.2	212.3
Total :	4129.8	3804.2	3032.3	1776.6	519.4	430.0	0.0
Total :	12047.5	10566.4	8085.5	4564.8	1305.9	1079.9	0.0
Total :	129.2	213.7	286.6	359.3	428.0	432.3	452.5
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	151.1	219.5	289.2	360.2	428.1	432.5	452.5
Total :	11410.5	10174.6	7886.5	4508.8	1299.6	1075.1	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	99.0	99.0
Deck+Haunch	96.0	96.0
Diaphragm	19.3	20.2
DL-Prec (DC)	19.3	19.3
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	63.1	63.1
DL-Comp (DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

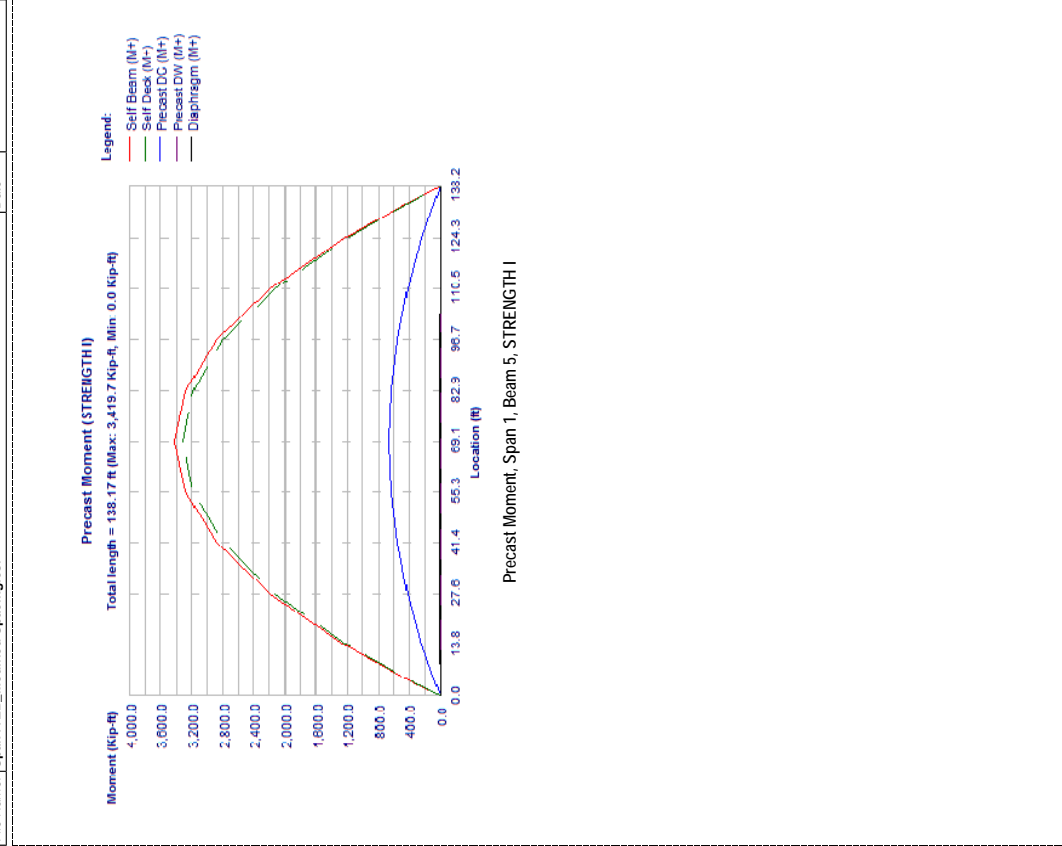
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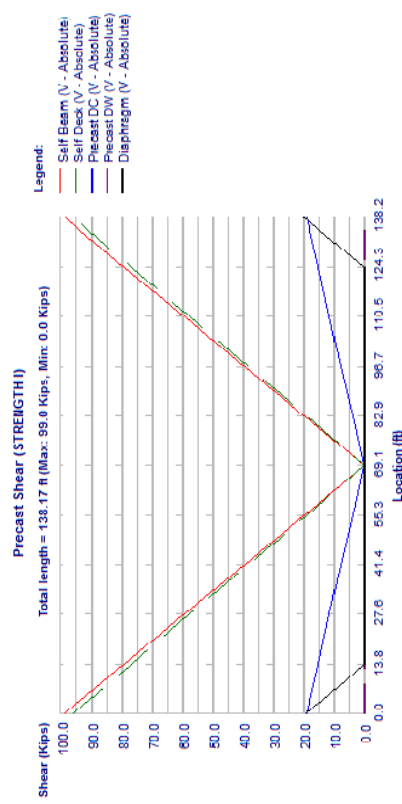
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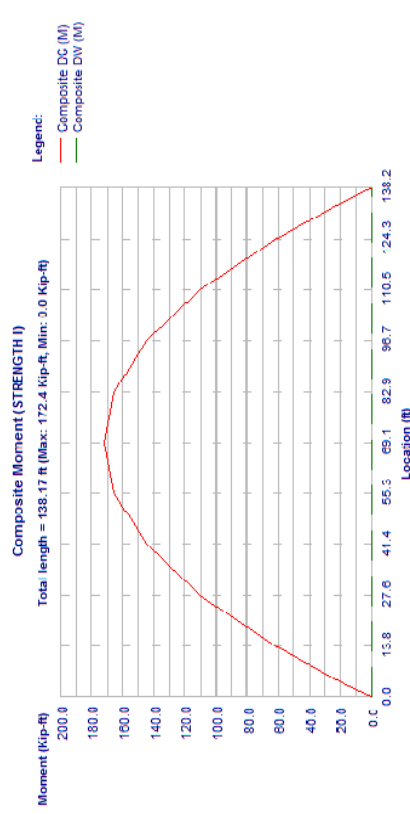


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Precast Shear, Span 1, Beam 5, STRENGTH I

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Composite Moment, Span 1, Beam 5, STRENGTH I

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Composite Shear (STRENGTH I)

Total length = 138.17 ft (Max: 5.7 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute) (Kips)	Composite DW (V - Absolute) (Kips)
0.0	0.0	0.0
13.8	1.9	0.0
27.6	3.8	0.0
41.4	5.7	0.0
55.3	5.7	0.0
69.1	5.7	0.0
82.9	3.8	0.0
96.7	1.9	0.0
110.5	0.0	0.0
124.3	0.0	0.0
138.2	0.0	0.0

Composite Shear, Span 1, Beam 5, STRENGTH I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:00 A.M.

Bentley

Program: LEAP@ CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span11EB_Modified Spacing.csl

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Designed KSM

Date Sept/9/2013

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Date

Sheet # 30

Job #

Live Moment (STRENGTH I)

Total length = 138.17 ft (Max: 4,923.6 Kip-ft, Min: 0.0 Kip-ft)


Legend:

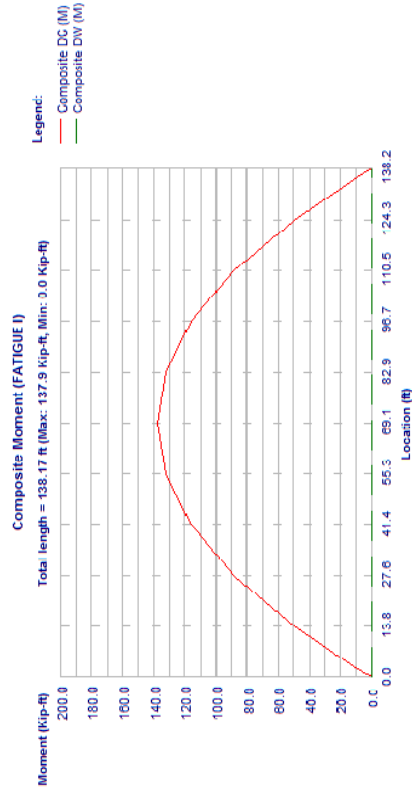
- LL + I (M+)
- LL + I (M-)

Location (ft)	LL + I (M+) (Kip-ft)	LL + I (M-) (Kip-ft)
0.0	0.0	0.0
13.8	1,477.1	0.0
27.6	2,954.2	0.0
41.4	4,431.3	0.0
55.3	4,923.6	0.0
69.1	4,923.6	0.0
82.9	4,431.3	0.0
96.7	2,954.2	0.0
110.5	1,477.1	0.0
124.3	0.0	0.0
138.2	0.0	0.0


Live Moment, Span 1, Beam 5, STRENGTH I

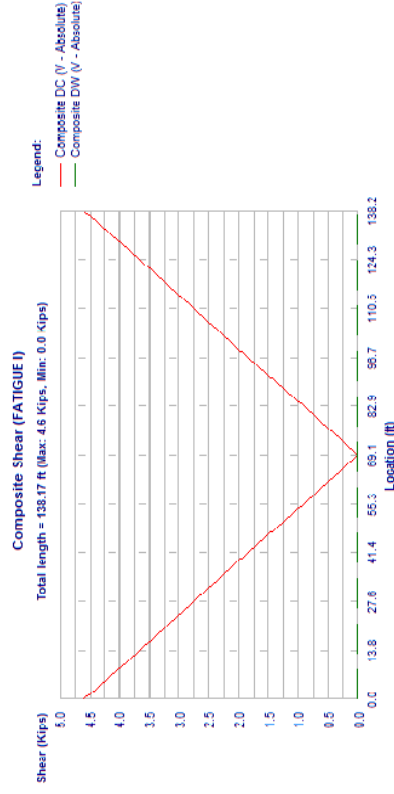
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:00 A.M.

		Sheet # 35	
		Job #	
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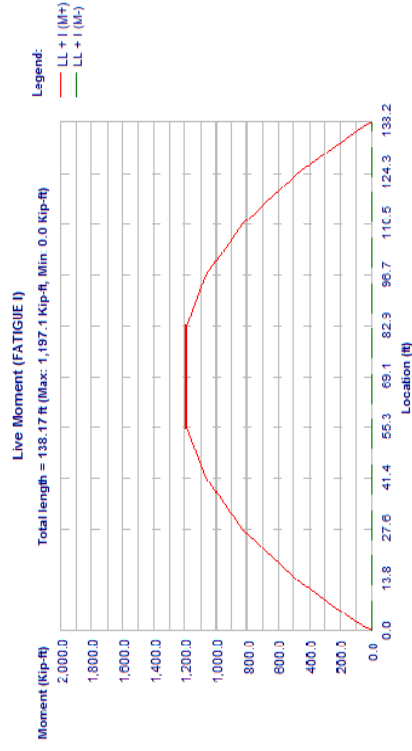
Composite Moment, Span 1, Beam 5, FATIGUE I

		Sheet # 36	
		Job #	
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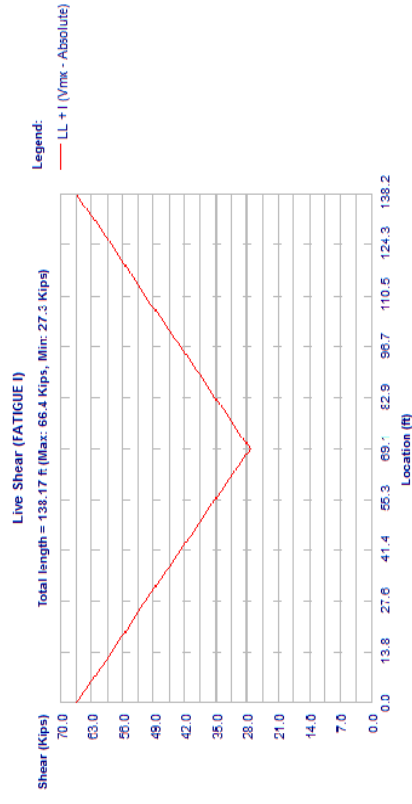
Composite Shear, Span 1, Beam 5, FATIGUE I

		Sheet #	37
		Job #	
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		Date	




Live Moment, Span 1, Beam 5, FATIGUE I

		Sheet #	38
		Job #	
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Live Shear, Span 1, Beam 5, FATIGUE I



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Sheet # 1
Job #


PROPERTIES

Span:1, Beam:6

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

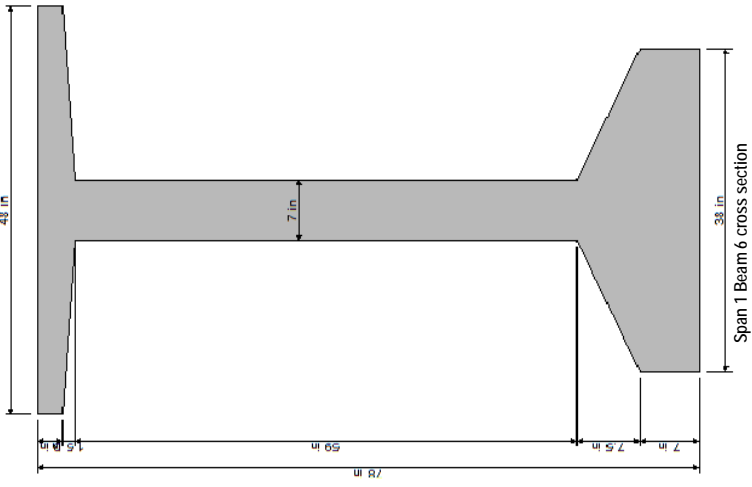


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Sheet # 2
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Span 1 Beam 6 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.08 ft
Curb-to-curb*	100.00 ft
Beam Spac. Start LL/RT	9.25/ 9.25 ft
End LL/RT	9.54/ 9.54 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	-14.15 degrees



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* Average bridge width

TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	140.499	Add'l Build-Up
DC	Line	0.085	0.000	0.085	140.499	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
14.52	1.00
14.97	140.28

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	140.499	ft
Release length	140.499	ft
Design length	140.499	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES

Location	+ve	Moment	Shear
	2+Lane	1Lane	2+Lane
0.0L	0.730	0.499	0.914
0.1L	0.730	0.489	0.914
0.2L	0.730	0.489	0.914
0.3L	0.730	0.489	0.914

Units: U.S. Units

Design Code: AASHTO LRFD

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* Average bridge width

TOPPING DATA:

0.9L	0.730	0.741	0.731
0.6L	0.730	0.741	0.731
0.7L	0.730	0.741	0.731
0.8L	0.730	0.741	0.731
0.9L	0.730	0.741	0.731
1.0L	0.730	0.741	0.731

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (I _{xx})	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (I _{yy})	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coef.	0.000006000	1/°F


COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight pif	Area in ²	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.0L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.1L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.2L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.3L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.4L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0

Units: U.S. Units

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in2	in	in4	in	pcf	in
0.5L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.6L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.7L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.8L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.9L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
1.0L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft	in2	in	in	in	in	in	in
Precast: (At Release, using Ec = 4016.8ksi)	0.00	3.00	3.65	14.05	28.10	42.15	56.20	70.25
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)	in2	in2	in	in	in	in	in	in
	4016.8	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2
	3.60	33.35	33.34	33.32	33.30	33.27	33.25	33.25
	904567	943283	943356	944546	946182	947851	949552	949552
Area, Yb, MI(XX)	in2	in	in	in	in	in	in	in
	1959.9	2005.2	2005.2	2005.2	2005.2	2005.2	2005.2	2005.2
	55.81	54.70	54.69	54.69	54.67	54.66	54.65	54.65
	2039369	2146579	2146695	2148564	2151115	2153694	2156303	2156303

Span:1, Beam:6
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Center	-0.93 ksi	
Max tens	-0.23 ksi	
Max tens	-0.59 ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be less than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00 ksi	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

Span:1, Beam:6
 PRESTRESSED STEEL:
 39 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.20 ft from member end)

END PATTERN (Ycg = 6.69 in):

	12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
	3 @ 15.000 in	1 @ 17.000 in		


MID PATTERN (Ycg = 4.38 in):

(A) Draped:	5 @ 3.000 in	3 @ 5.000 in	1 @ 7.000 in
-------------	--------------	--------------	--------------

(B) Straight:

	12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
--	---------------	---------------	--------------	---------------

Strand Diameter	0.600 in
Strand Area	0.217 in2
Total Strand Area	8.463 in2
Trans. Len, bonded	3.000 ft
Trans. Len, debonded	3.000 ft
Dev. Len, bonded	11.524 ft



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	3.00	3.65	14.05	28.10	42.15	70.25
Self wt. :	M	0.0	236.5	286.0	1018.4	1810.5	2376.3	2715.7
(Max)	V	80.5	77.1	76.4	64.4	48.3	32.2	16.1
DL-Prec. :	M	0.0	43.3	52.4	186.5	331.6	435.3	497.4
DC(Max)	V	14.8	14.1	14.0	11.8	8.9	5.9	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	215.6	260.8	928.6	1650.8	2166.6	2476.1
Haunch (Max)	V	73.4	70.3	69.6	58.7	44.1	29.4	14.7
Diaphragm :	M	0.0	4.1	4.9	13.4	12.3	11.1	10.0
(Max)	V	14.4	11.4	10.7	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	11.5	13.9	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.4	3.7	2.8	1.8	0.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	232.1	280.7	994.6	1753.6	2277.1	2586.9
LL + :	V	115.9	112.5	111.8	100.1	84.3	68.5	46.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	115.9	112.6	111.9	100.4	85.7	71.7	58.4
Total :	M	0.0	229.6	277.4	964.2	1645.6	2064.5	2241.2
Total :	M+	0.0	743.1	898.7	3191.1	5647.0	7382.3	8418.7
Total :	V	303.6	289.8	286.8	238.8	188.4	137.9	81.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	303.6	289.8	286.9	239.2	189.8	141.1	93.1
Total :	M	0.0	740.6	895.4	3160.7	5539.0	7169.7	8073.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	84.30	98.35	112.40	126.45	136.85	137.50
Self wt. :	M	2715.7	2376.3	1810.5	1018.4	286.0	236.5
(Max)	V	16.1	32.2	48.3	64.4	76.4	77.1
DL-Prec. :	M	497.4	435.3	331.6	186.5	52.4	43.3
DC(Max)	V	3.0	5.9	8.9	11.8	14.0	14.1
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2476.1	2166.6	1650.8	928.6	260.8	215.6
Haunch (Max)	V	14.7	29.4	44.1	58.7	69.6	70.3
Diaphragm :	M	7.7	6.6	5.5	4.3	1.4	1.2
(Max)	V	0.1	0.1	0.1	0.1	11.2	11.9
DL-Comp. :	M	132.4	115.9	88.3	49.7	13.9	11.5
DC(Max)	V	0.9	1.8	2.8	3.7	4.4	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	2586.9	2277.1	1753.6	994.6	280.7	232.1
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + :	V	46.4	68.5	84.3	100.1	111.8	112.5
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	58.4	71.7	85.7	100.4	111.9	112.6
Total :	M	2241.2	2064.5	1645.6	964.2	277.4	229.6
Total :	M+	8416.4	7377.8	5640.2	3182.1	895.3	740.2
Total :	V	81.2	137.9	188.4	238.8	287.2	290.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	93.1	141.1	189.8	239.2	287.3	290.3
Total :	M	8070.7	7165.2	5532.3	3151.7	891.9	737.7

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.5	80.5
Deck+Haunch	73.4	73.4
Diaphragm	14.4	15.1
DL-Prec.(DC)	14.8	14.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0



Upward reactions are positive.

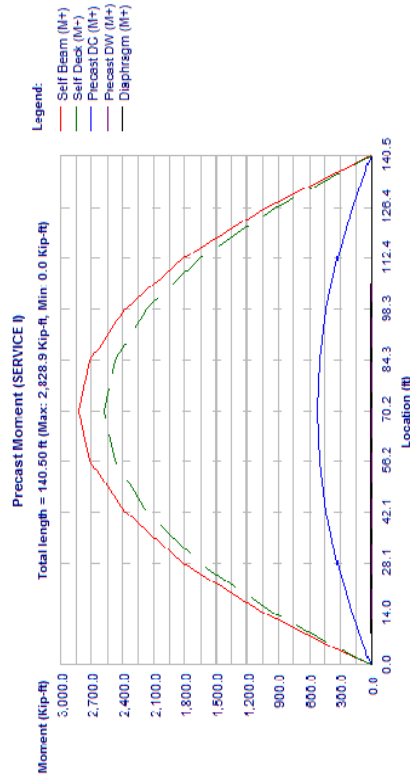
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

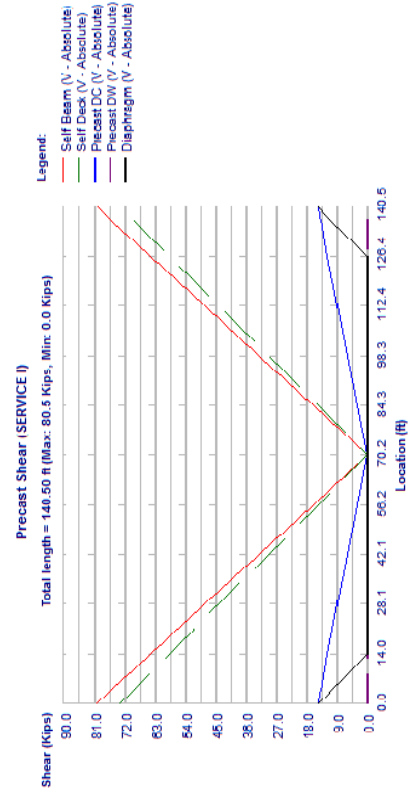
Composite and Pedestrian load types are per total bridge width.

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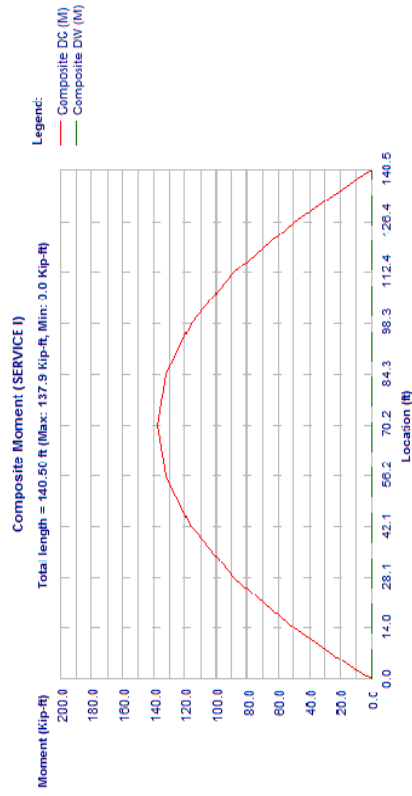
Precast Moment, Span 1, Beam 6, SERVICE I

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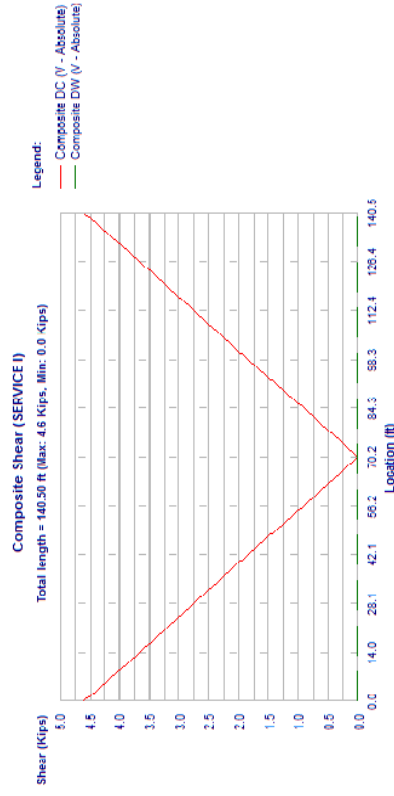
Precast Shear, Span 1, Beam 6, SERVICE I

		Sheet # 13	
		Job #	
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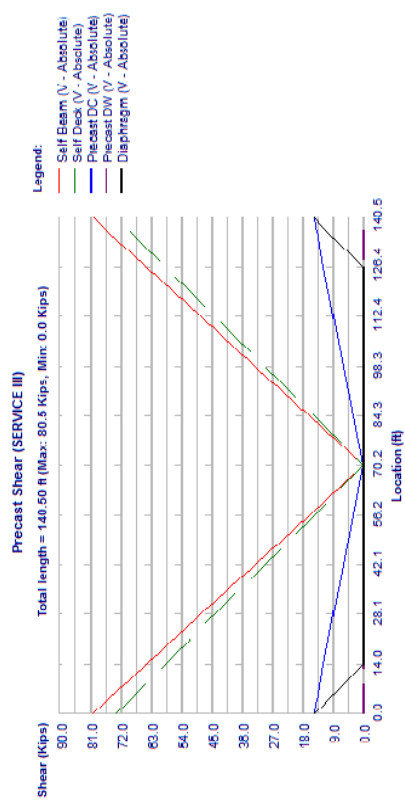
Composite Moment, Span 1, Beam 6, SERVICE I

		Sheet # 14	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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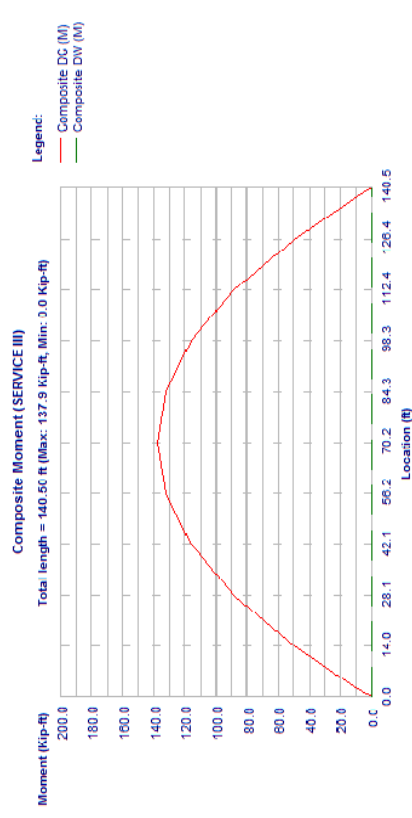
Composite Shear, Span 1, Beam 6, SERVICE I

		Sheet # 19	
		Job #	
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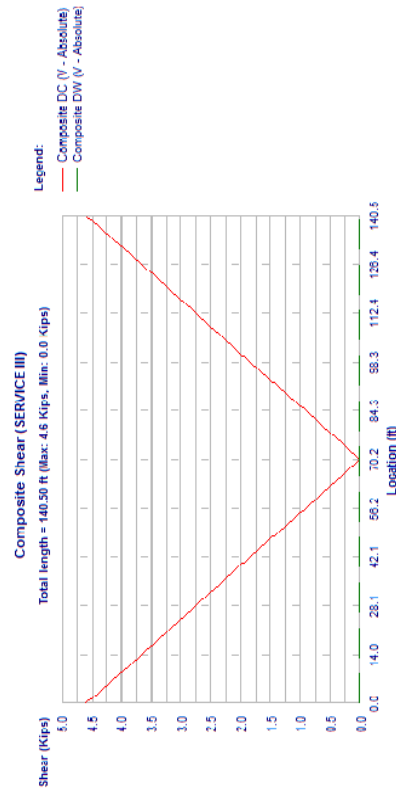
Precast Shear, Span 1, Beam 6, SERVICE III

		Sheet # 20	
		Job #	
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File Name: Span11EB_Modified Spacing.csl			




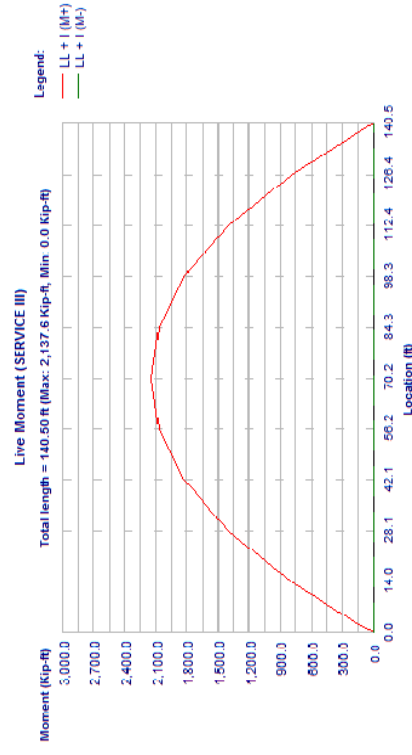
Composite Moment, Span 1, Beam 6, SERVICE III

		Sheet #	21
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span11EB_Modified Spacing.csl		Designed	KSM
		Date	Sept/9/2013
		Checked	
		Date	



Composite Shear, Span 1, Beam 6, SERVICE III

		Sheet #	22
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span11EB_Modified Spacing.csl		Designed	KSM
		Date	Sept/9/2013
		Checked	
		Date	



Live Moment, Span 1, Beam 6, SERVICE III

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Version: 12.01.00.57

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Sheet # 25

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	4527.1	3985.0	3068.8	1740.5	491.2	406.2
LL + I :	M-	81.2	119.9	147.5	175.1	195.6	196.8
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	102.1	125.4	150.0	175.7	195.7	197.0
Total :	M	3922.1	3612.9	2879.8	1687.3	485.4	401.8
Total :	M+	11813.9	10360.8	7927.1	4474.8	1259.4	1041.3
Total :	V	124.6	206.7	277.6	348.5	414.9	419.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	145.6	212.2	280.1	349.2	415.1	419.2
Total :	M	11209.0	9988.7	7738.1	4421.7	1253.6	1036.9

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.7	100.7
Deck+Haunch	91.8	91.8
Diaphragm	18.0	18.8
DL-Prec(DC)	18.4	18.4
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	63.1	63.1
DL-Comp(DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 9:00 A.M.

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Program: LEAPb CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

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Sheet # 26

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Precast Moment (STRENGTH I)


Total length = 140.50 ft (Max: 3,536.1 Kip-ft, Min: 0.0 Kip-ft)

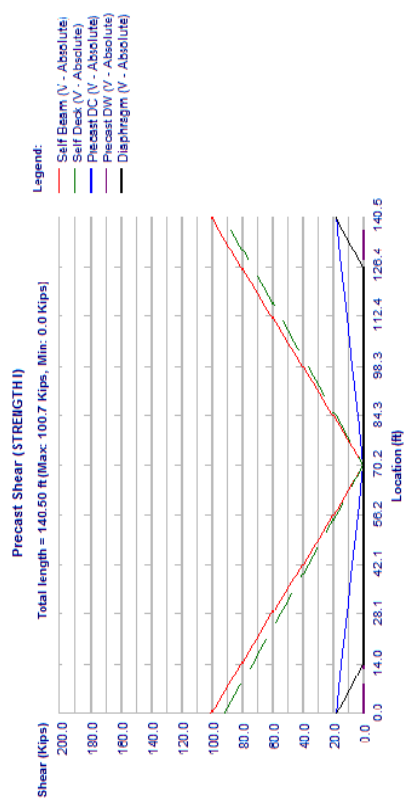
Precast Moment, Span 1, Beam 6, STRENGTH I

Units: U.S. Units


Design Code: AASHTO LRFD

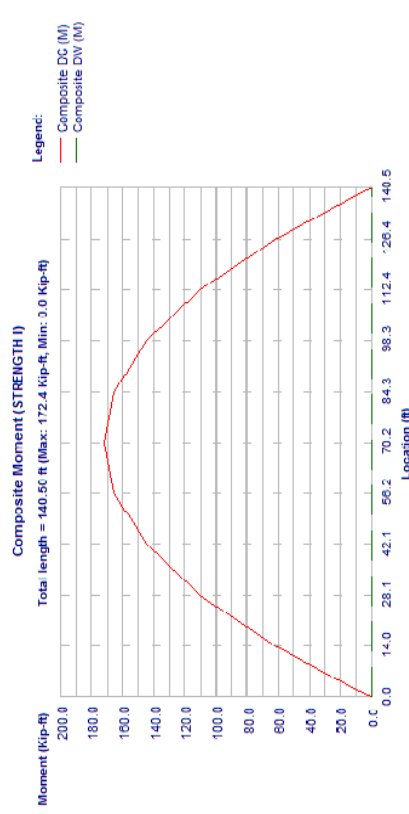
Printed on: October 21, 2013 @ 9:00 A.M.

		Sheet # 27	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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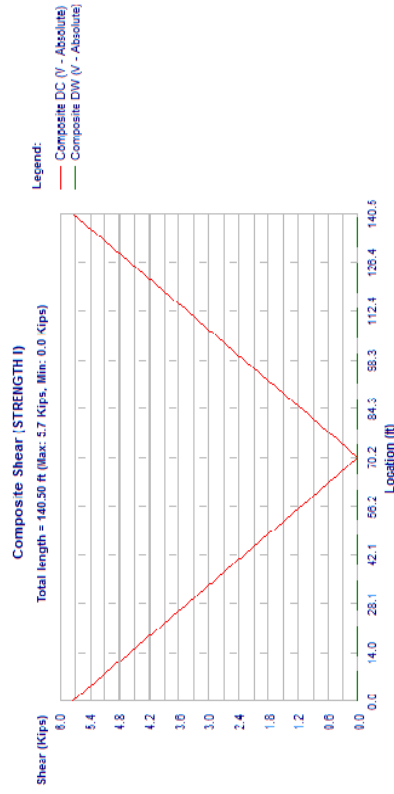
Precast Shear, Span 1, Beam 6, STRENGTH I

		Sheet # 28	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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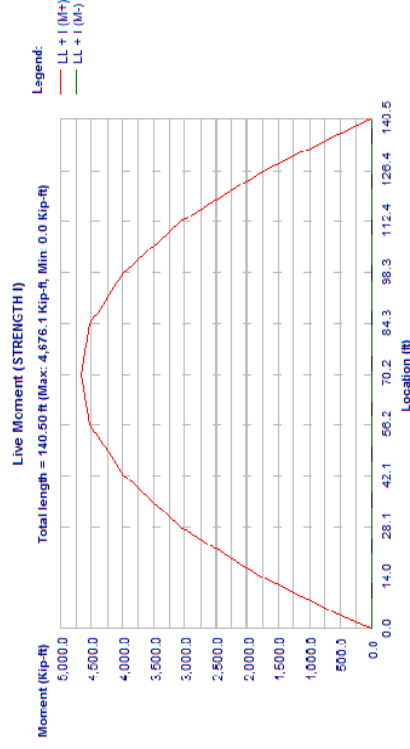
Composite Moment, Span 1, Beam 6, STRENGTH I

		Sheet # 29	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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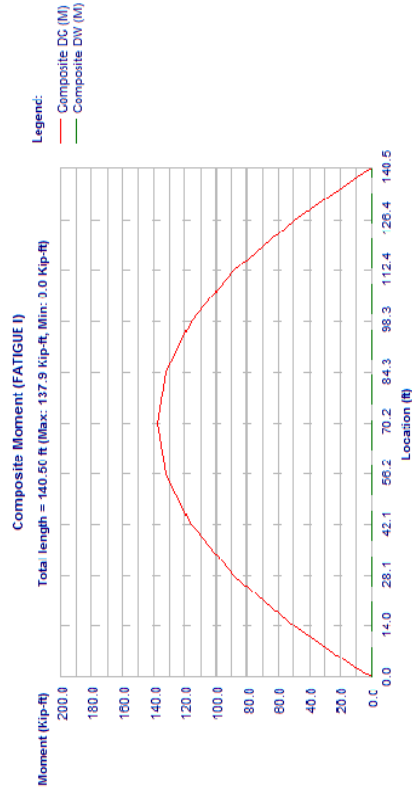
Composite Shear, Span 1, Beam 6, STRENGTH I

		Sheet # 30	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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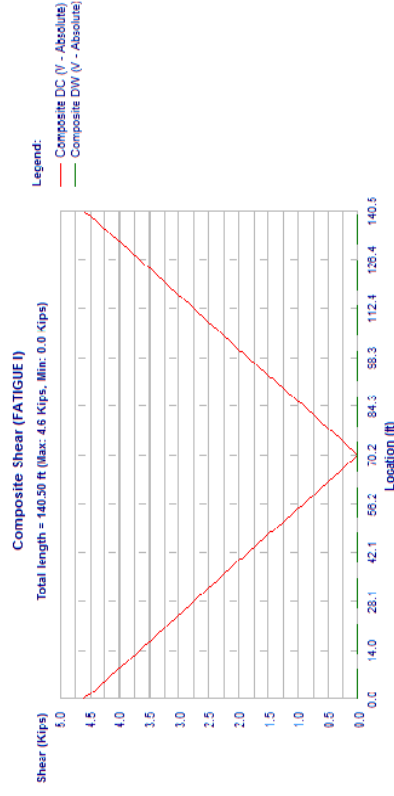
Live Moment, Span 1, Beam 6, STRENGTH I

		Sheet # 35	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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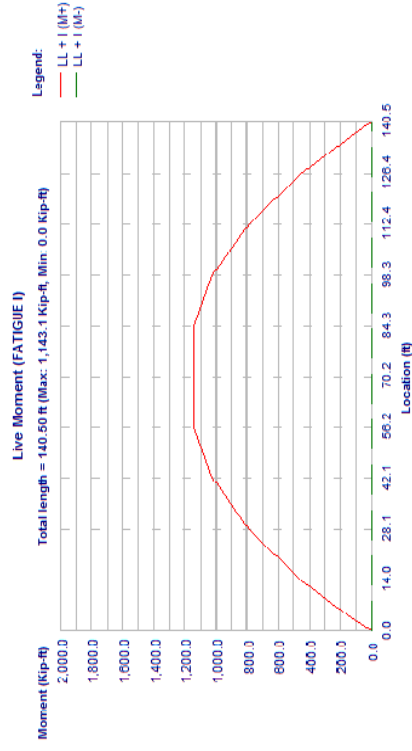
Composite Moment, Span 1, Beam 6, FATIGUE I

		Sheet # 36	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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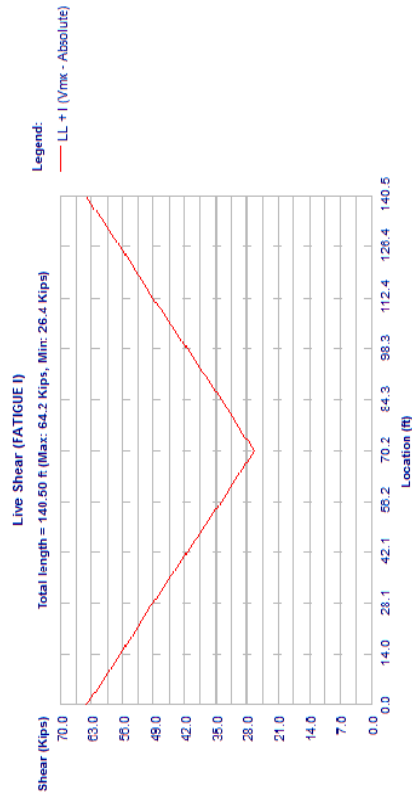
Composite Shear, Span 1, Beam 6, FATIGUE I

		Sheet #	37
		Job #	
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Live Moment, Span 1, Beam 6, FATIGUE I

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Live Shear, Span 1, Beam 6, FATIGUE I

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Version:

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Sheet #

3

Job #

Designed KSM

Date

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Date

*Average bridge width

TOPPING DATA:

Deck Thickness	8.500	in
Haunch Thickness	1.000	in
Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	142.832	Add'l Build-Up
DC	Line	0.085	0.000	0.085	142.832	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
14.52	1.00
14.97	142.62

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.832	ft
Release length	142.832	ft
Design length	142.832	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve	Moment	Shear
0.0L	2+Lane	1Lane	2+Lane
0.1L	0.727	0.486	0.914
0.2L	0.727	0.486	0.914
0.3L	0.727	0.486	0.914

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

Bentley

Program:

LEAPe CONSPAN® V8i (SELECTseries 5)

Version:

12.01.00.57

File Name:

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Sheet #

4

Job #

Designed KSM

Date

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Date

*Average bridge width

Location	+ve	Moment	Shear
0.4L	0.727	0.486	0.914
0.5L	0.727	0.486	0.914
0.6L	0.727	0.486	0.914
0.7L	0.727	0.486	0.914
0.8L	0.727	0.486	0.914
0.9L	0.727	0.486	0.914
1.0L	0.727	0.486	0.914

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in2
Total Height	78.00	in
Mom. of Inertia (Ixx)	904567	in4
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (Iyy)	82367.0	in4
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
0.0L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.1L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.2L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.3L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0
0.4L	103.08	2191.8	1959.95	87.5	2039369	55.81	150.0	111.0

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

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Designed KSM

Date Sept/9/2013

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Sheet # 7

Job #

Dev Len debonded 14.406 ft

Holddown Force 5.768 kips

Tensile Strength(fpu) 270.0 ksi

Initial Prestress = 0.75fpu 202.5 ksi

Initial Pull 1713.8 kips

Beam Shring (PL/AE) 0.635 in

ENDS

61°

Strands

Number

Dist. from bottom(in)

5

13

3

15

1

17

DRAPED STRANDS

MIDSPAN

3"

Strands

Number

Dist. from bottom(in)

12

3

14

5

4

7

STRAIGHT STRANDS

ALL STRANDS

Number

Dist. from bottom(in)

17

3

17

5

5

7

ALL STRANDS

Span:1, Beam:7

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Strands (LB)	Beam Vol(C.V.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
5570.554	740	4122.210	40.432	163751.172	1849.294	0.000

Span:1, Beam:7

REINFORCING STEEL:

Tension steel:	
fy	60.0 ksi
Es	29000 ksi

Units: U.S. Units

Design Code: AASHTO LRFD

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Sheet # 8

Job #

Tension steel:

fy 24.0 ksi

Stirrups:

2 US#6(M19) 60.0 0.88 18.00 0.0000 142.8319 No

LOSSES

Note: Values are calculated at Midspan

Str. area	8.4630 in2
Ycg	4.38 in
P_init	1713.8 kips
Ecc	30.22 in
Days to release	0.75
Rel. Humid (RH)	75.0 %
Es	28500.0 ksi
Ecd	4017 ksi

AASHTO LOSSES

Elastic Shortening ** 12.35 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.741 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-7.43 ksi		0.00 ksi
due to Composite Loads	-0.24 ksi		0.00 ksi
due to Live Loads	-3.78 ksi		0.00 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial	Final
Steel relaxation	0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi	8.14 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00 ksi	10.57 ksi (Eq 5.9.5.3-1)
Sub-total	12.35 ksi (6.10 %)	9.66 ksi (4.77 %)
Total Prestress Losses		22.01 ksi (10.87 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

initial fpi = 202.5 ksi < 0.75 fpu, OK


initial fpe = 180.5 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 9:01 A.M.



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Sheet # 9
Job #
Designed KSM
Date Sept/9/2013
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Date

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE I
Shears: Kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	3.00	3.65	14.28	28.57	42.85	57.13	71.42
(Max)	M	0.0	240.5	290.9	1052.5	1871.1	2455.8	2806.7
DL-Prec. :	V	81.9	78.4	77.7	65.5	49.1	32.8	16.4
DC(Max)	M	0.0	44.0	53.3	192.8	342.7	449.8	514.1
DL-Prec. :	V	15.0	14.4	14.2	12.0	9.0	6.0	3.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	219.3	265.2	959.6	1706.0	2239.2	2559.0
Haunch (Max)	V	74.7	71.5	70.8	59.7	44.8	29.9	14.9
Diaphragm :	M	-0.0	-4.0	-4.8	13.4	12.3	11.1	10.0
(Max)	V	14.4	11.4	10.8	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	11.3	13.7	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.4	3.7	2.8	1.8	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	227.4	275.0	990.2	1745.8	2267.1	2575.5
LL + :	V	115.9	112.5	111.8	100.1	84.3	68.5	46.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	115.9	112.6	111.9	100.4	85.7	71.7	58.4
Total :	M+	0.0	225.0	271.8	959.9	1638.3	2055.4	2231.3
Total :	V	0.0	746.5	902.9	3258.1	5766.3	7538.9	8597.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	306.4	292.8	289.8	241.4	191.4	142.2	93.7
Total :	M	0.0	744.1	899.7	3227.9	5658.7	7327.2	8253.5

Location,	0.60L	0.70L	0.80L	H/2	0.90L	Trans	Bearing
Self wt. :	85.70	99.98	114.27	128.55	139.19	139.83	142.83
(Max)	M	2806.7	2455.8	1871.1	1052.5	290.9	240.5
DL-Prec. :	V	16.4	32.8	34.7	65.5	77.7	78.4
DC(Max)	M	514.1	449.8	342.7	192.8	53.3	44.0
DL-Prec. :	V	3.0	6.0	9.0	12.0	14.2	14.4
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2559.0	2239.2	1706.0	959.6	265.2	219.3
Haunch (Max)	V	14.9	29.9	44.8	59.7	70.8	71.5
Diaphragm :	M	7.7	6.6	5.5	4.4	1.4	1.2
(Max)	V	0.1	0.1	0.1	0.1	11.2	11.9
DL-Comp :	M	132.4	115.9	88.3	49.7	13.7	11.3
DC(Max)	V	0.9	1.8	2.8	3.7	4.4	4.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	2575.5	2267.1	1745.8	990.2	275.0	227.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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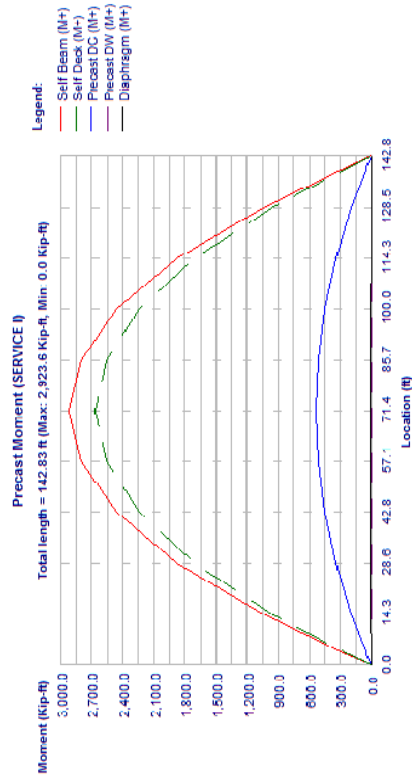
LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	46.4	68.5	84.3	100.1	111.8	112.5	115.9
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	58.4	71.7	85.7	100.4	111.9	112.6
DL-Prec. :	V	2231.3	2055.4	1638.3	959.9	271.8	225.0
DC(Max)	M	8595.4	7534.4	5759.5	3249.1	899.6	743.7
DW(Max)	V	81.7	139.0	190.0	241.0	290.2	307.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	93.7	142.2	191.4	241.4	290.3	293.2
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	8251.3	7322.7	5652.0	3218.9	896.3	741.3
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	307.0	293.2	290.3	241.4	191.4	142.2
LL + I :	M	307.0	293.2	290.3	241.4	191.4	142.2

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	81.9	81.9
Deck+Haunch	74.7	74.7
Diaphragm	14.4	15.0
DL-Prec.(DC)	15.0	15.0
DL-Comp.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

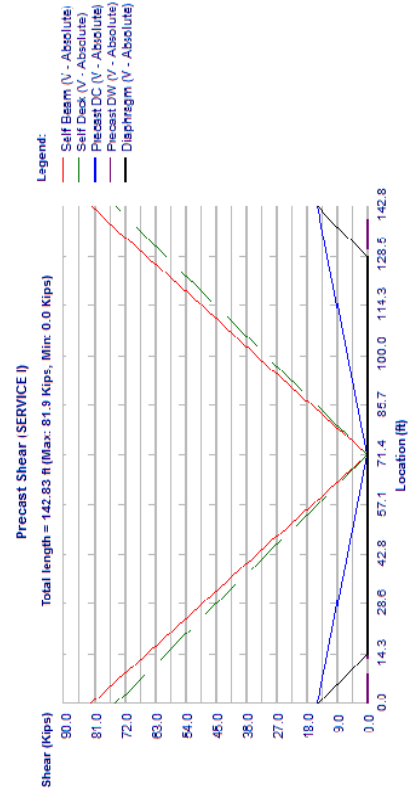
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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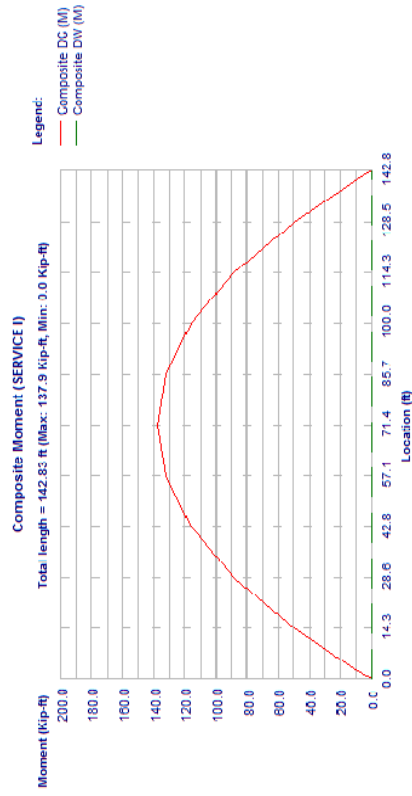
Precast Moment, Span 1, Beam 7, SERVICE I

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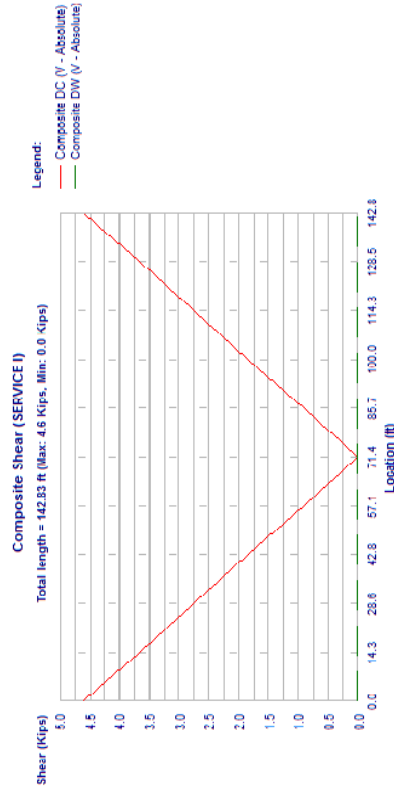
Precast Shear, Span 1, Beam 7, SERVICE I

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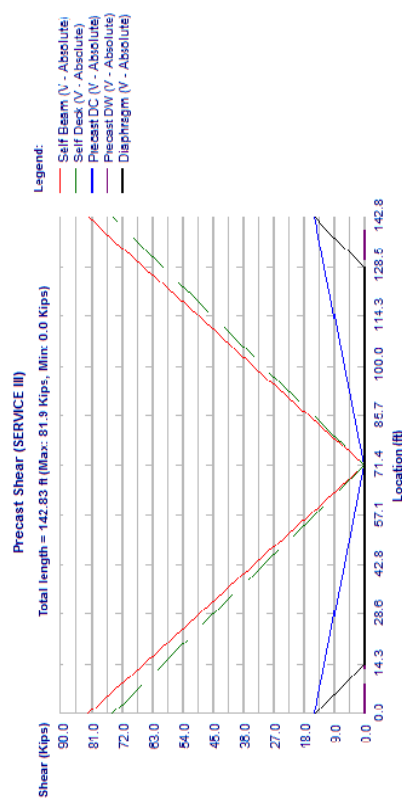
Composite Moment, Span 1, Beam 7, SERVICE I

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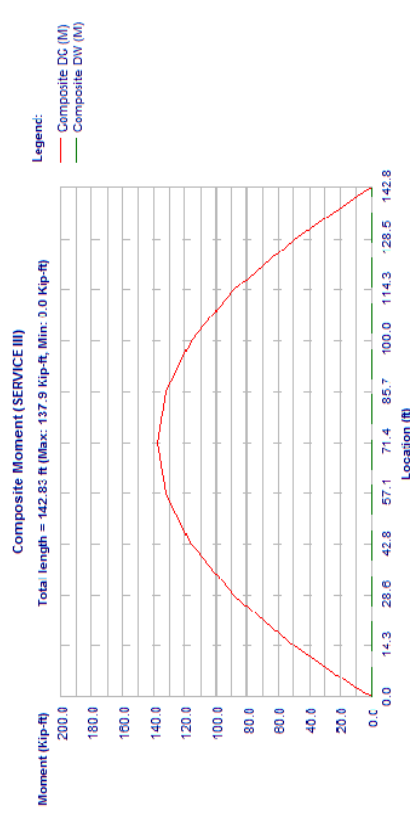
Composite Shear, Span 1, Beam 7, SERVICE I

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		Job #	
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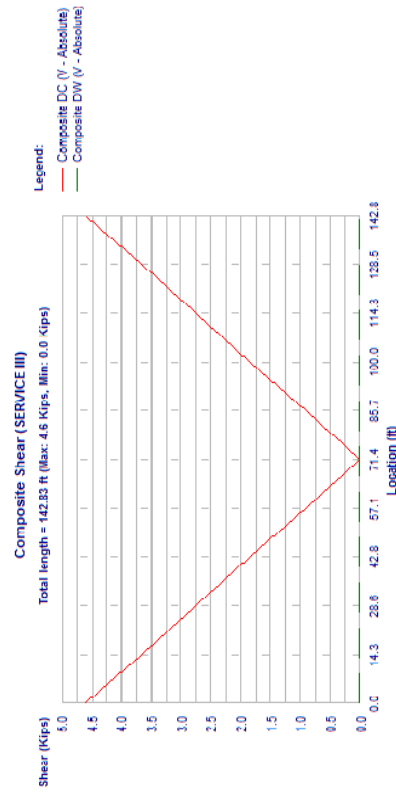
Precast Shear, Span 1, Beam 7, SERVICE III

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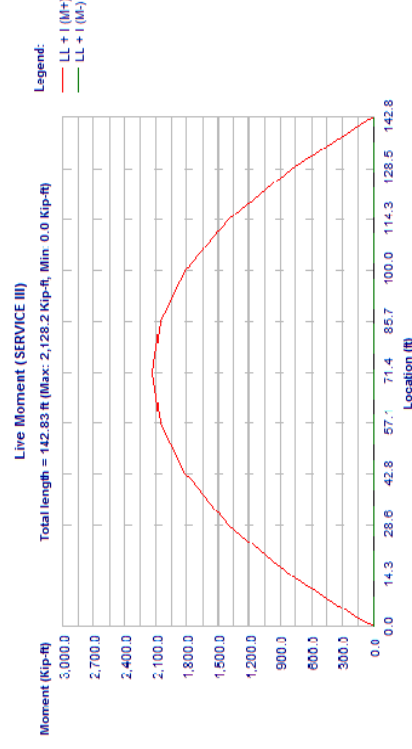
Composite Moment, Span 1, Beam 7, SERVICE III

		Sheet #	21
		Job #	
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Composite Shear, Span 1, Beam 7, SERVICE III

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		Job #	
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Live Moment, Span 1, Beam 7, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	4507.1	3967.4	3055.2	1732.8	481.3	398.0
LL + I :	M-	81.2	119.9	147.5	175.1	195.7	196.9
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	M	102.1	125.4	150.0	175.7	195.9	197.1
LL + I :	M	3904.8	3597.0	2867.1	1679.9	475.6	393.7
Total :	M+	12032.0	10551.5	8072.3	4556.4	1262.0	1043.4
Total :	V	125.3	208.1	279.7	351.3	418.6	422.7
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	146.3	213.6	282.2	352.0	418.8	422.9
Total :	M	11429.7	10181.1	7884.1	4503.5	1256.3	1039.1

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	102.3	102.3
Deck+Haunch	93.3	93.3
Diaphragm	18.0	18.8
DL-Prec(DC)	18.7	18.7
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	63.1	63.1
DL-Comp(DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

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Sheet # 26
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Precast Moment (STRENGTH I)


Total length = 142.83 ft (Max: 3,654.5 Kip-ft, Min: 0.0 Kip-ft)

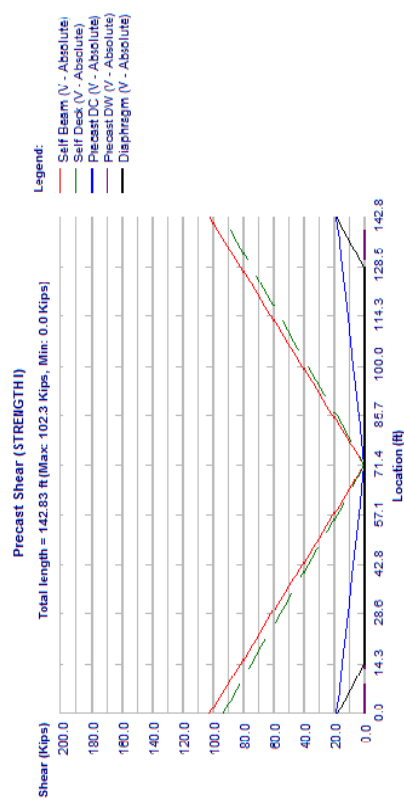
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 7, STRENGTH I

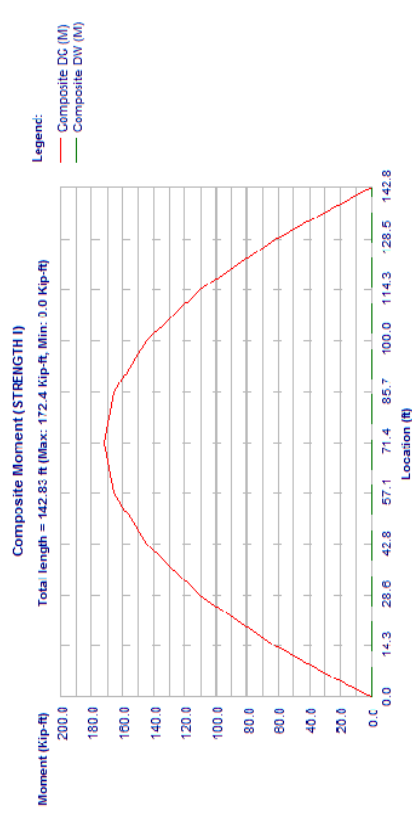
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

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Precast Shear, Span 1, Beam 7, STRENGTH I

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Composite Moment, Span 1, Beam 7, STRENGTH I

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Sheet # 29

Job #

Composite Shear (STRENGTH I)

Total length = 142.83 ft (Max: 5.7 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Shear (Kips)
0.0	0.0
14.3	0.0
28.6	0.0
42.8	0.0
57.1	0.0
71.4	5.7
85.7	0.0
100.0	0.0
114.3	0.0
128.5	0.0
142.8	0.0

Composite Shear, Span 1, Beam 7, STRENGTH I

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Sheet # 30

Job #

Live Moment (STRENGTH I)

Total length = 142.83 ft (Max: 4,655.4 Kip-ft, Min: 0.0 Kip-ft)


Legend:

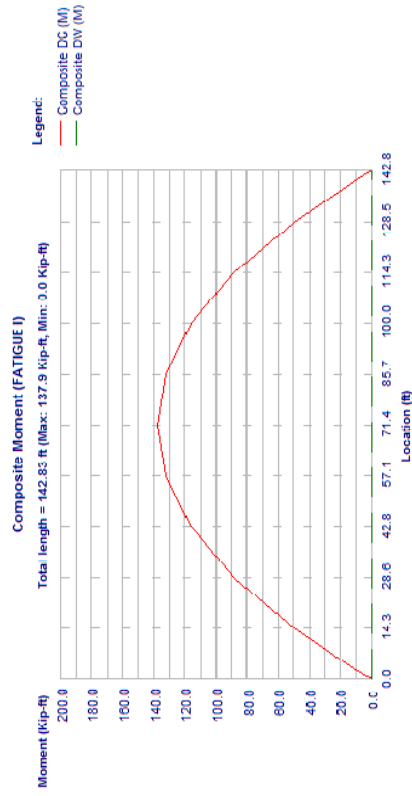
- LL + I (M+)
- LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
14.3	0.0
28.6	0.0
42.8	0.0
57.1	0.0
71.4	4,655.4
85.7	0.0
100.0	0.0
114.3	0.0
128.5	0.0
142.8	0.0


Live Moment, Span 1, Beam 7, STRENGTH I

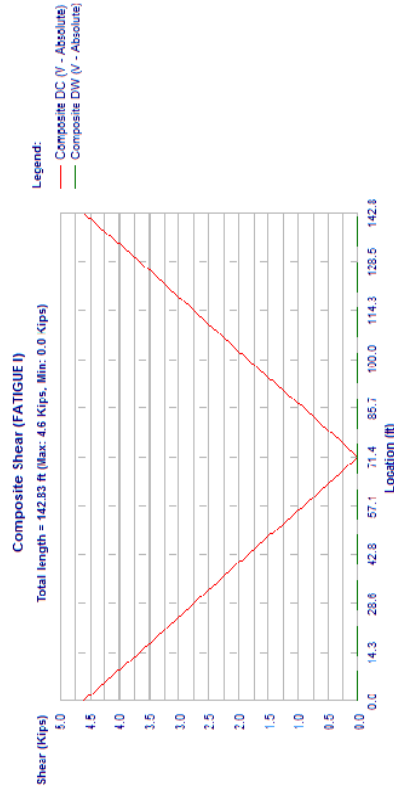
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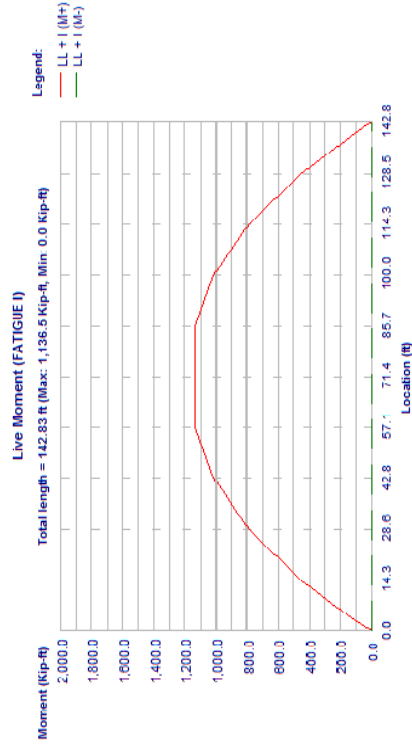
Composite Moment, Span 1, Beam 7, FATIGUE I

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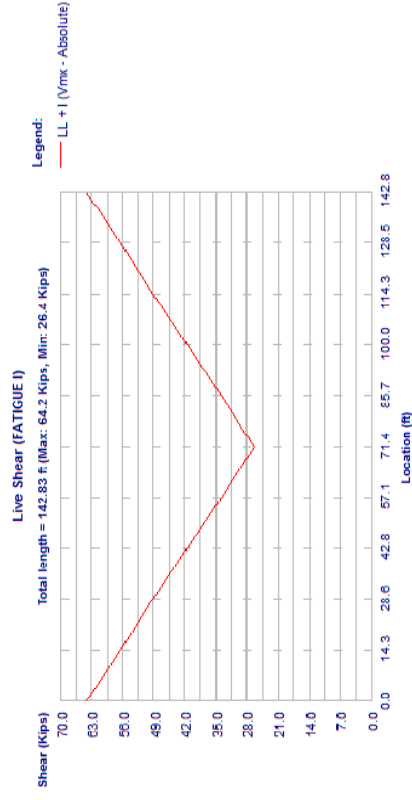
Composite Shear, Span 1, Beam 7, FATIGUE I

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Live Moment, Span 1, Beam 7, FATIGUE I

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Live Shear, Span 1, Beam 7, FATIGUE I



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Sheet # 1
Job #


PROPERTIES

Span:1, Beam:8

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

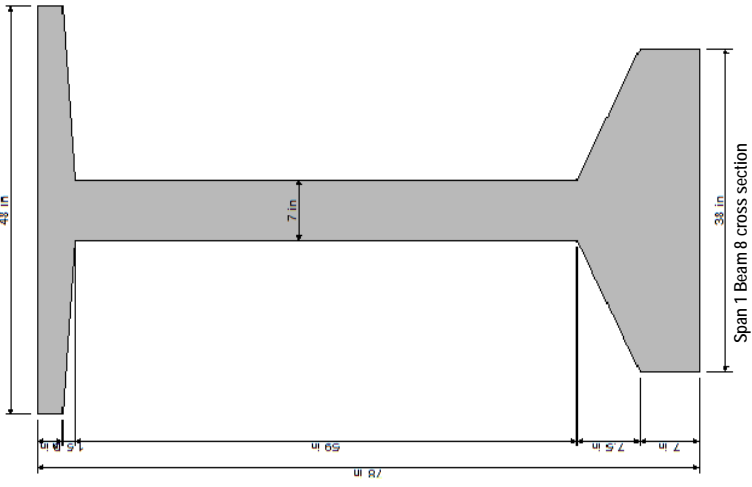


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Sheet # 2
Job #



Span 1 Beam 8 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.08 ft
Curb-to-curb*	100.00 ft
Beam Spac. Start LL/RT	9.25/ 9.25 ft
End LL/RT	9.54/ 9.54 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	-14.15 degrees

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in2	in	in4	in	pcf	in
0.5L	103.08	2191.8	1959.95	87.5	2039370	55.81	150.0	111.0
0.6L	103.08	2191.8	1959.95	87.5	2039370	55.81	150.0	111.0
0.7L	103.08	2191.8	1959.95	87.5	2039370	55.81	150.0	111.0
0.8L	103.08	2191.8	1959.95	87.5	2039370	55.81	150.0	111.0
0.9L	103.08	2191.8	1959.95	87.5	2039370	55.81	150.0	111.0
1.0L	103.08	2191.8	1959.95	87.5	2039370	55.81	150.0	111.0

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	in2	0.00	3.00	1154.8	1154.8	1154.8	1154.8	1154.8	1154.8
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)	in4	1100.6	33.33	33.33	33.30	33.27	33.23	33.19	33.19
Area, Yb, MI(XX)	in4	904567	942326	942423	944075	946338	948663	951050	951050
Area, Yb, MI(XX)	in4	1959.9	2007.5	2007.5	2007.5	2007.5	2007.5	2007.5	2007.5
	in	55.81	54.66	54.66	54.65	54.63	54.61	54.59	54.59
	in4	2039369	2147415	2147570	2150206	2153776	2157403	2161085	2161085

Span:1, Beam:8
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00*	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Center	-0.93	ksi
Max tens	-0.23	ksi
Max tens	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be less than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
	5.50	ksi
	3845.83	ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	ksi
	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38	ksi
	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00	ksi
	-	ksi

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52	ksi
	-0.45	ksi

Span:1, Beam:8
 PRESTRESSED STEEL:
 41 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (58.07 ft from member end)

END PATTERN (Ycg = 7.73 in):

10 @ 3.000 in	12 @ 5.000 in	2 @ 7.000 in	1 @ 9.000 in
7 @ 11.000 in	5 @ 13.000 in	3 @ 15.000 in	1 @ 17.000 in

MID PATTERN (Ycg = 4.61 in):

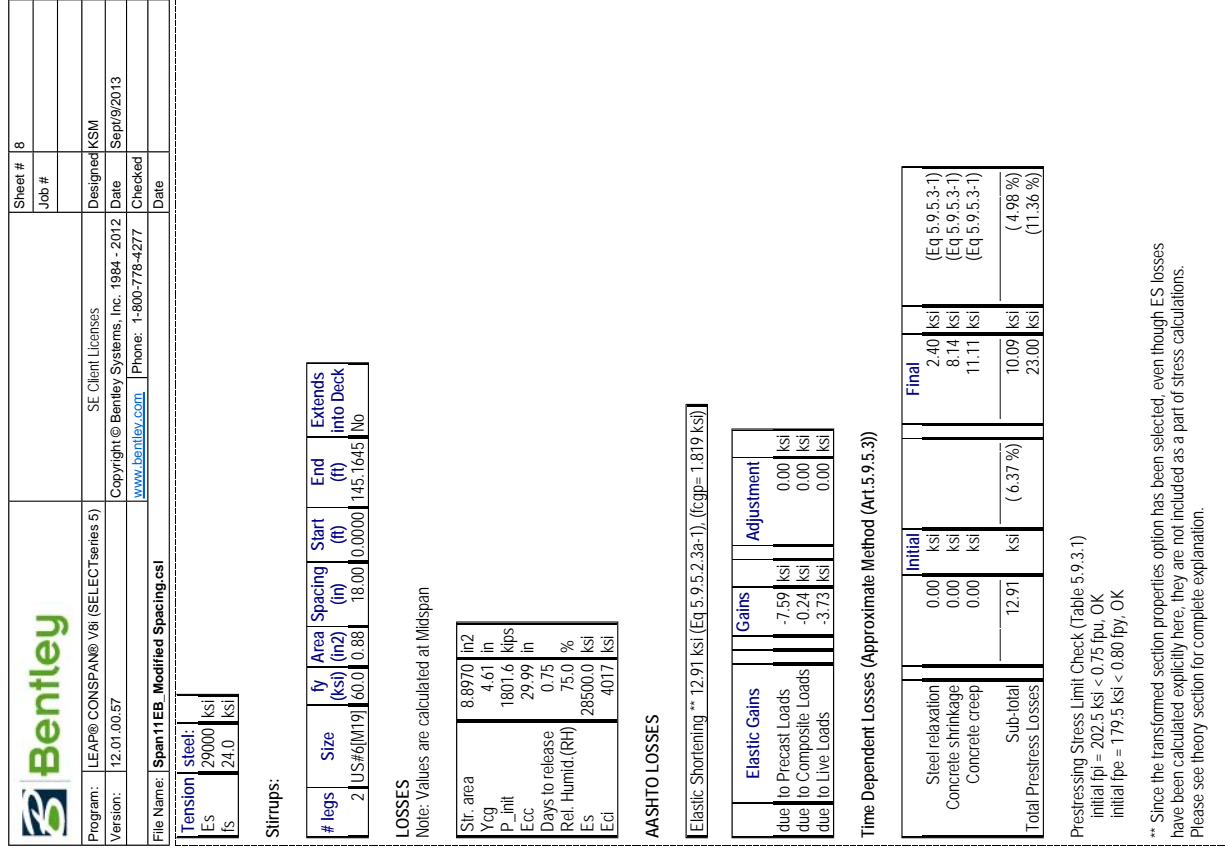
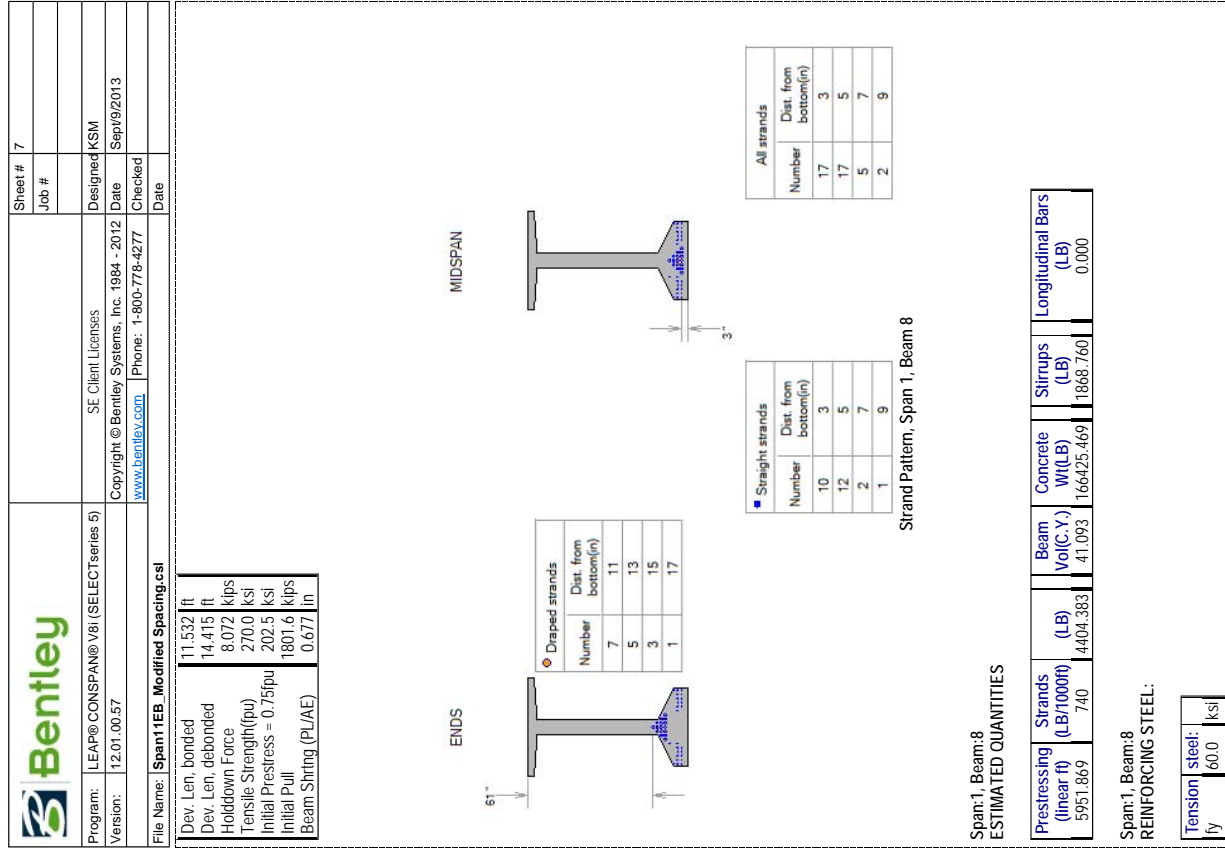
(A) Draped:


7 @ 3.000 in	5 @ 5.000 in	3 @ 7.000 in	1 @ 9.000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3.000 in	12 @ 5.000 in	2 @ 7.000 in	1 @ 9.000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	8.897	in2
Trans. Len.bonded	3.000	ft
Trans. Len.debonded	3.000	ft





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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE I
Shears: Kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	3.00	3.65	14.52	29.03	43.55	58.07	72.58
(Max)	M	0.0	244.5	295.8	1087.2	2536.7	2899.1	3019.9
DL-Prec. :	V	83.2	79.8	79.0	66.6	49.9	33.3	16.6
DC(Max)	M	-0.0	44.8	54.2	199.1	354.0	464.7	531.0
DW(Max)	V	15.2	14.6	14.5	12.2	9.1	6.1	3.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	222.9	269.7	991.2	1762.2	2312.9	2643.3
Haunch (Max)	V	75.9	72.7	72.1	60.7	45.5	30.3	15.2
Diaphragm :	M	0.0	4.0	4.7	13.4	12.3	11.1	10.0
(Max)	V	14.4	11.5	10.8	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	11.2	13.5	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.4	3.7	2.8	1.8	0.9
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	222.9	269.6	985.8	1738.3	2257.2	2564.3
LL + :	V	115.9	112.6	111.9	100.1	84.3	68.5	46.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	115.9	112.7	112.0	100.4	85.7	71.7	58.4
Total :	M	0.0	220.5	266.4	955.7	1631.2	2046.5	2221.6
Total :	V	0.0	750.2	907.4	3326.4	5887.7	7698.5	8780.1
Total :	M-	309.2	295.6	292.7	243.3	191.7	140.2	82.3
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	309.2	295.7	292.7	243.6	193.1	143.3	94.2
Total :	M	0.0	747.8	904.2	3296.3	5780.7	7487.7	8437.5

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	87.10	101.62	116.13	130.65	141.52	142.16	145.16
(Max)	M	2895.1	2536.7	1932.7	1087.2	295.8	244.5
DL-Prec. :	V	16.6	33.3	49.9	66.6	79.0	79.8
DC(Max)	M	531.0	464.7	354.0	199.1	54.2	44.8
DL-Prec. :	V	3.0	6.1	9.1	12.2	14.5	14.6
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2643.3	2312.9	1762.2	991.2	269.7	222.9
Haunch (Max)	V	15.2	30.3	45.5	60.7	72.1	72.7
Diaphragm :	M	7.7	6.6	5.5	4.4	1.4	1.2
(Max)	V	0.1	0.1	0.1	0.1	11.3	12.0
DL-Comp. :	M	132.4	115.9	88.3	49.7	13.5	11.2
DC(Max)	V	0.9	1.8	2.8	3.7	4.4	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	2564.3	2257.2	1738.3	985.9	269.6	222.9



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LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	46.4	68.5	84.3	100.1	111.9	112.6	115.9
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	58.4	71.7	85.7	100.4	112.0	112.7
DW(Max)	V	2221.6	2046.5	1631.2	955.7	266.4	220.5
Deck + :	M	8771.9	7693.9	5881.0	3317.4	904.1	747.4
Haunch (Max)	V	82.3	140.2	191.7	243.3	293.1	296.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	94.2	143.3	193.1	243.6	293.2	296.1
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	8435.2	7483.2	5773.9	3287.3	900.9	745.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	83.2	83.2
Deck+Haunch	75.9	75.9
Diaphragm	14.4	15.0
DL-Prec.(DC)	15.2	15.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

Upward reactions are positive.

Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).

Non-composite load types are per beam.

Composite and Pedestrian load types are per total bridge width.

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Sheet # 11
Job #

Moment (Kip-ft)

Precast Moment (SERVICE I)

Total length = 145.16 ft (Max: 3,919.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 8, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

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Sheet # 12
Job #

Shear (Kips)

Precast Shear (SERVICE I)

Total length = 145.16 ft (Max: 83.2 Kips, Min: 0.0 Kips)


Legend:

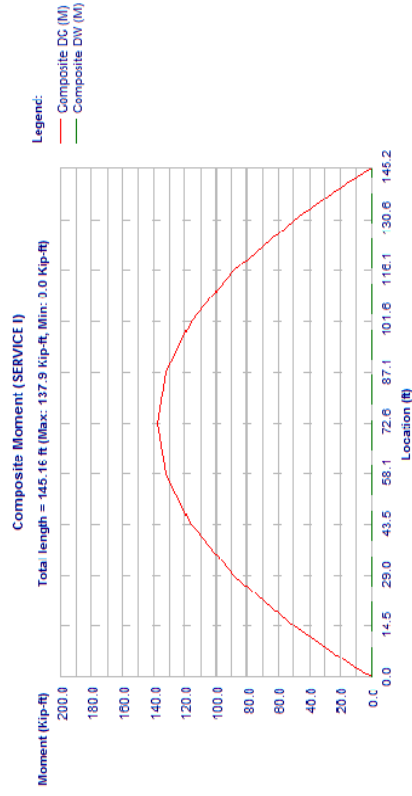
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 8, SERVICE I

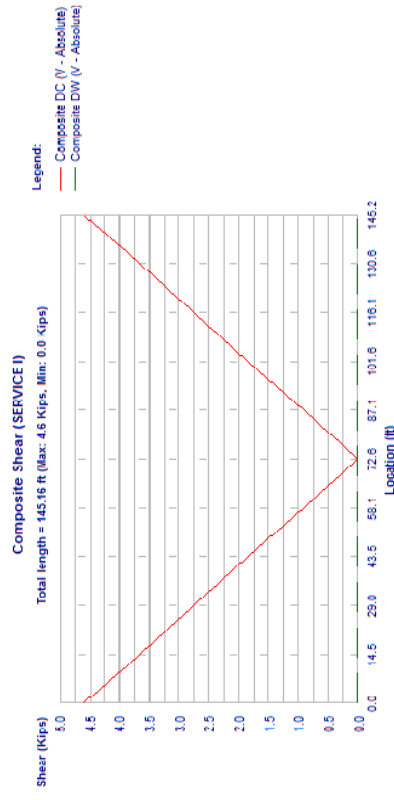
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

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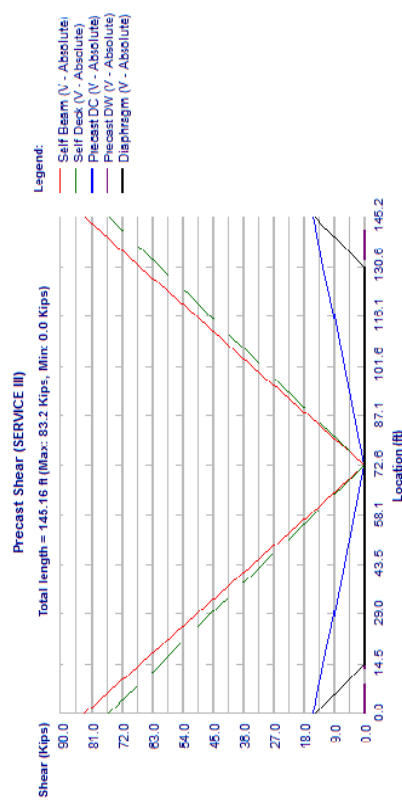
Composite Moment, Span 1, Beam 8, SERVICE I

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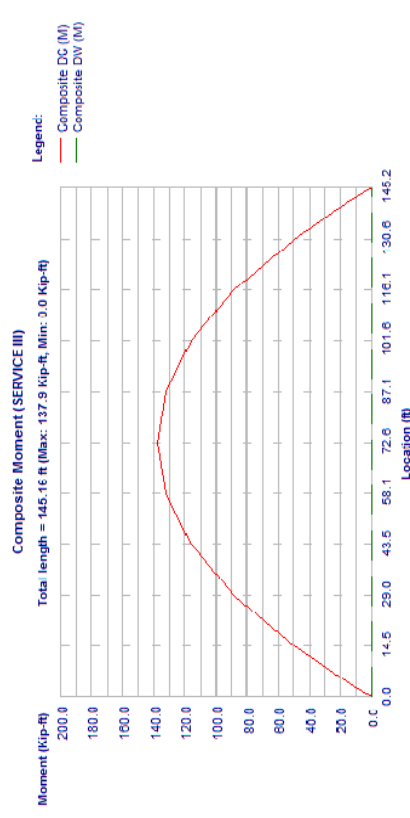
Composite Shear, Span 1, Beam 8, SERVICE I

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		Date	




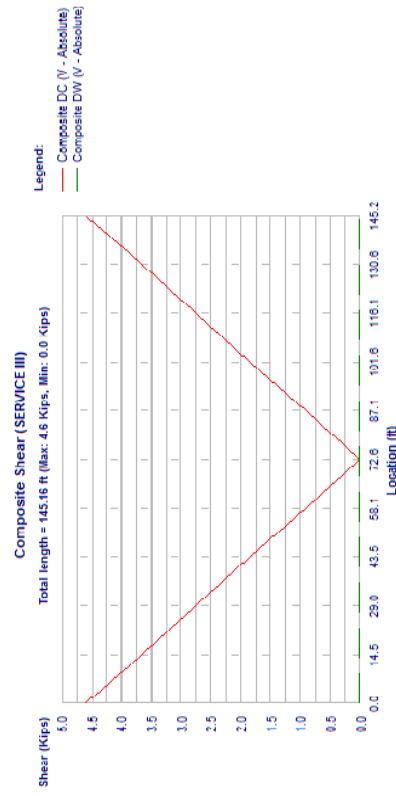
Precast Shear, Span 1, Beam 8, SERVICE III

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		Date	




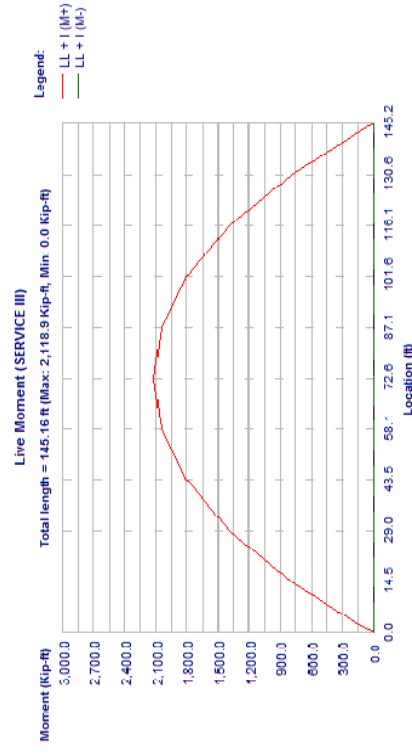
Composite Moment, Span 1, Beam 8, SERVICE III

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Composite Shear, Span 1, Beam 8, SERVICE III

		Sheet #	22
		Job #	
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Live Moment, Span 1, Beam 8, SERVICE III

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Sheet # 25
Job #

Span11EB_Modified Spacing.csl

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	4.0	4.1
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	4487.5	3950.1	3041.9	1725.2	471.7	390.0	-0.0
LL + I :	81.2	119.9	147.5	175.1	195.8	197.0	202.7
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	102.1	125.4	150.0	175.7	196.0	197.2	202.7
Total :	3887.8	3581.3	2854.6	1672.6	466.2	385.9	0.0
Total :	12254.5	10746.0	8220.3	4639.7	1264.9	1045.7	0.0
Total :	126.0	209.5	281.8	354.1	422.3	426.4	445.2
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	147.0	215.0	284.3	354.8	422.5	426.5	445.2
Total :	11654.8	10377.2	8033.0	4587.0	1259.3	1041.5	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	104.0	104.0
Deck+Haunch	94.8	94.8
Diaphragm	18.0	18.8
DL-Prec(DC)	19.1	19.1
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	63.1	63.1
DL-Comp(DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

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Sheet # 26
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Span11EB_Modified Spacing.csl

Precast Moment (STRENGTH I)

Total length = 145.16 ft (Max: 3,774.8 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

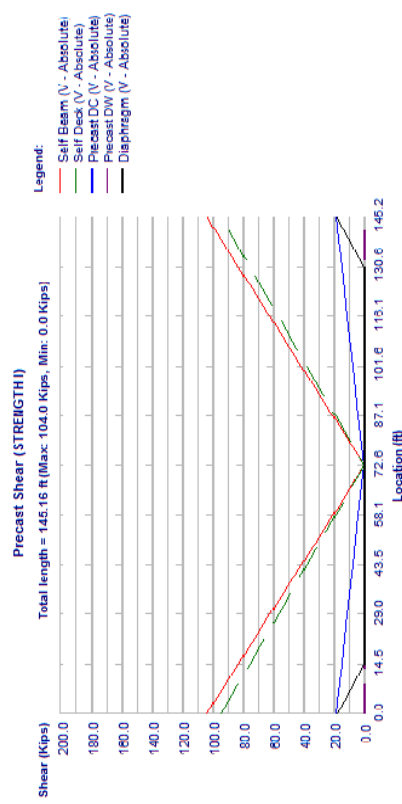
Moment (Kip-ft)

Location (ft)


Precast Moment, Span 1, Beam 8, STRENGTH I

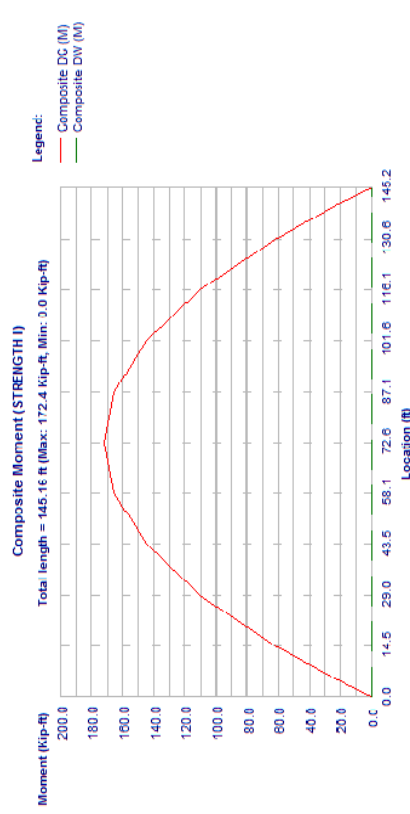
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		Job #	
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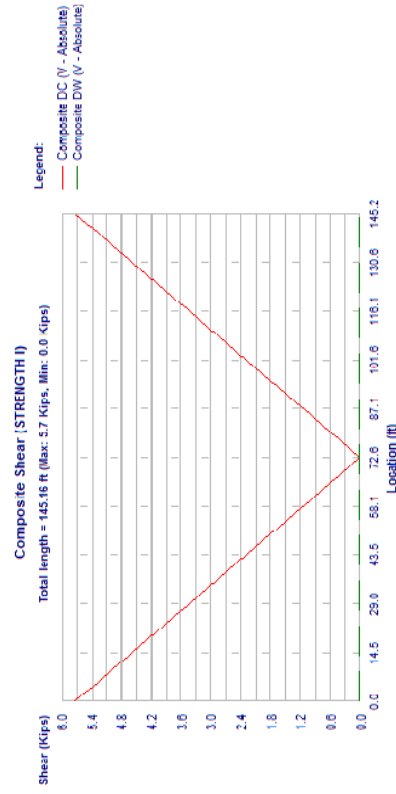
Precast Shear, Span 1, Beam 8, STRENGTH I

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		Job #	
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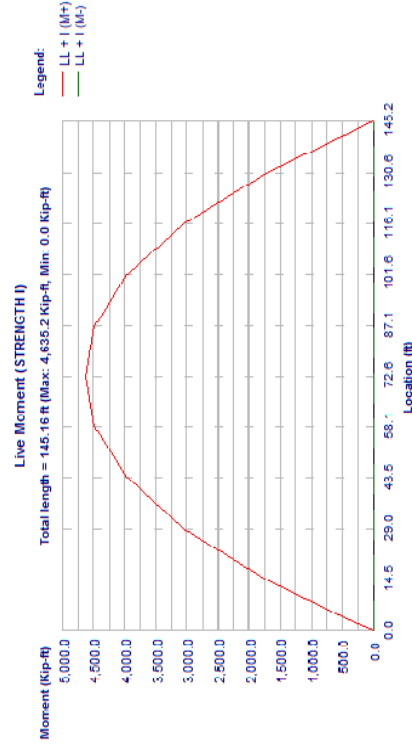
Composite Moment, Span 1, Beam 8, STRENGTH I

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		Job #	
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Composite Shear, Span 1, Beam 8, STRENGTH I

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		Job #	
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File Name: Span11EB_Modified Spacing.csl			

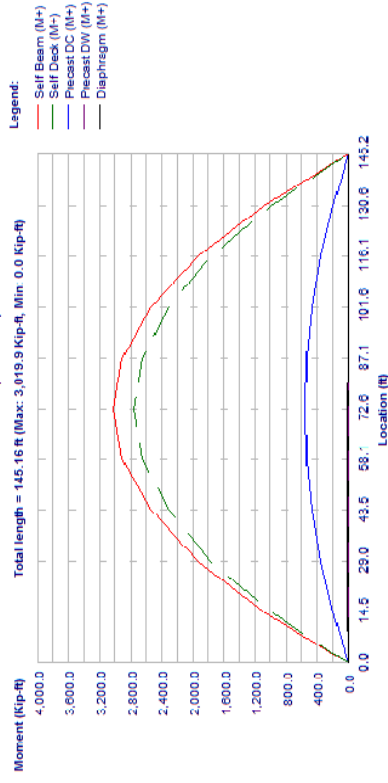


Live Moment, Span 1, Beam 8, STRENGTH I



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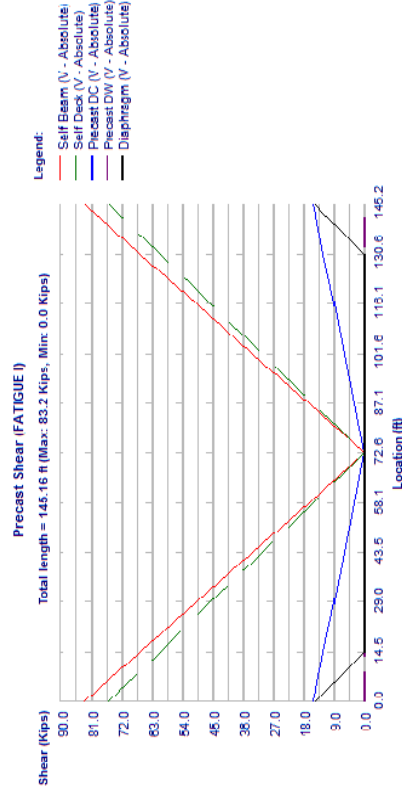
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) :	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1128.8	1007.5	779.2	449.7	124.2	102.8
LL + I :	M-	29.6	37.1	49.1	56.6	62.3	64.2
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	33.9	41.5	49.1	56.6	62.3	64.2
LL + I :	M	1077.8	988.6	779.2	449.7	124.2	102.8
Total :	M+	7342.4	6444.2	4921.9	2781.3	758.8	627.3
Total :	V	65.4	108.8	156.5	199.8	243.5	246.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	69.8	113.1	156.5	199.8	243.5	246.1
Total :	M	7291.3	6425.3	4921.9	2781.3	758.8	627.3




Precast Moment, Span 1, Beam 8, FATIGUE I

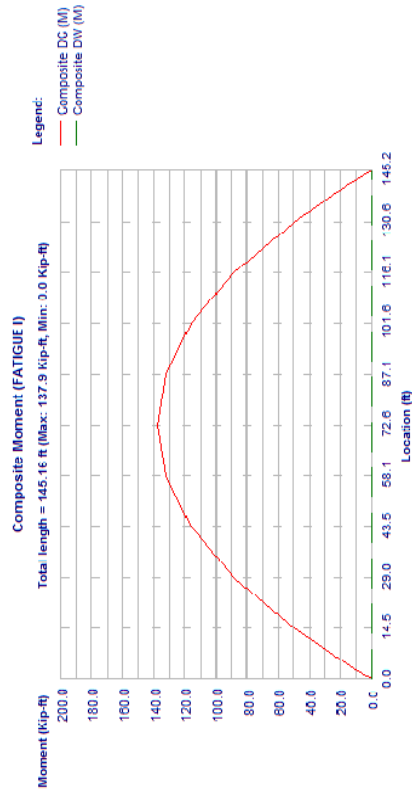


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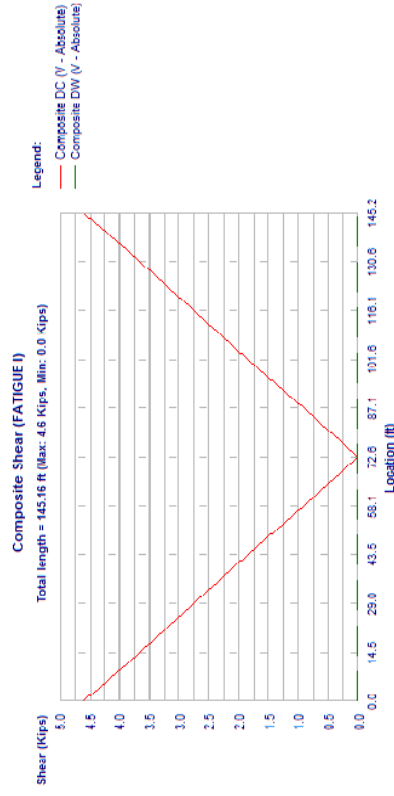
Precast Shear, Span 1, Beam 8, FATIGUE I

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		Job #	
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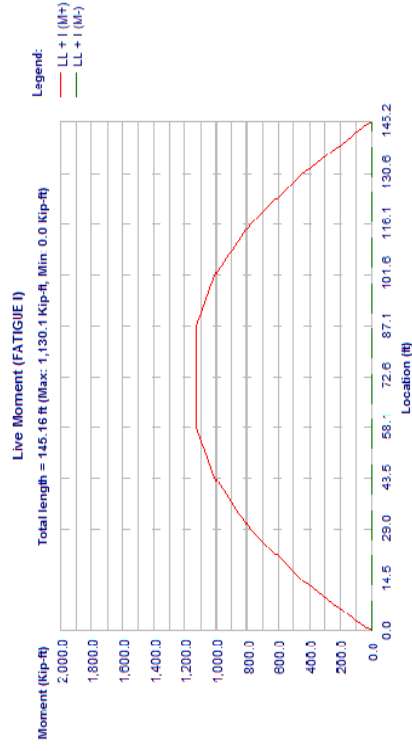
Composite Moment, Span 1, Beam 8, FATIGUE I

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		Job #	
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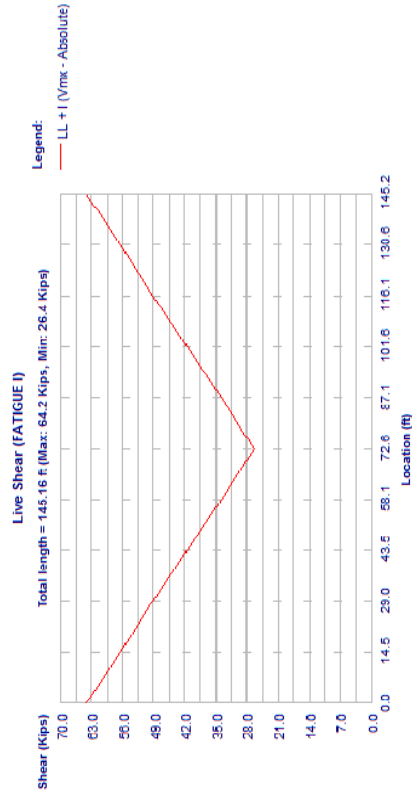
Composite Shear, Span 1, Beam 8, FATIGUE I

		Sheet #	37
		Job #	
		Designed	KSM
		Date	Sept/9/2013
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Live Moment, Span 1, Beam 8, FATIGUE I

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		Job #	
		Designed	KSM
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Live Shear, Span 1, Beam 8, FATIGUE I



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* Average bridge width

TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft. Line: klf, Trapez: klf)

UNITS: (Point: kips, Location: ft. Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	147.497	Add'l Build-Up
DC	Line	0.065	0.000	0.065	147.497	SIF

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
12.88	1.00
13.28	147.28

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	147.497	ft
Release length	147.497	ft
Design length	147.497	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES

Location	+ve	Moment	Shear
2+Lane	0.0L	0.665	0.692
1Lane	0.1L	0.665	0.692
2+Lane	0.2L	0.665	0.692
1Lane	0.3L	0.665	0.692

Units: U.S. Units

Design Code: AASHTO LRFD

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Location	+ve	Moment	Shear
0.4L	0.665	0.449	0.692
0.5L	0.665	0.449	0.692
0.6L	0.665	0.449	0.692
0.7L	0.665	0.449	0.692
0.8L	0.665	0.449	0.692
0.9L	0.665	0.449	0.692
1.0L	0.665	0.449	0.692

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in2
Total Height	78.00	in
Mom. of Inertia (Ixx)	904567	in4
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (Iyy)	82367.0	in4
Poisson's Ratio	0.2	
Thermal Coeff	0.000006	1/°F


COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight pif	Area in ²	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.0L	103.08	2087.7	1874.42	87.5	1971499	54.55	150.0	99.3
0.1L	103.08	2087.7	1874.42	87.5	1971499	54.55	150.0	99.3
0.2L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3
0.3L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3
0.4L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3

Units: U.S. Units

Design Code: AASHTO LRFD

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Iyy	Density	Eff. Width
	ft	pcf	in2	in	in4	in4	pcf	in
0.5L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3
0.6L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3
0.7L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3
0.8L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3
0.9L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3
1.0L	103.08	2087.7	1874.42	87.5	1971500	54.55	150.0	99.3

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
Use transformed strand and rebar: Strand Only


Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft	in	in	in	in	in	in	in
Precast: (At Release, using Ec = 4016.8ksi)	0.00	3.00	3.65	14.75	29.50	44.25	59.00	73.75
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)	in2	in	in	in	in	in	in	in
	1100.6	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2	1152.2
	34.60	33.35	33.34	33.32	33.30	33.27	33.25	33.25
	904567	943267	943336	944546	946182	947851	949552	949552
Area, Yb, MI(XX)	in2	in	in	in	in	in	in	in
	1874.4	53.42	53.42	53.41	53.40	53.39	53.37	53.37
	1971499	2073196	2073303	2075153	2077637	2080151	2082693	2082693

Span:1, Beam:9
STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	5.50 ksi
Elasticity	4016.8 ksi	5.50 ksi
Max comp	3.60 ksi	5.50 ksi
Outer	15.00 %	5.50 ksi
Max tens	-0.23 ksi	5.50 ksi
Center	-0.93 ksi	5.50 ksi
Max tens	-0.23 ksi	5.50 ksi
Max tens	-0.59 ksi	5.50 ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):	
Max comp	4.50 ksi
Max tens	3.30 ksi
STRESS LIMITS AT FINAL 2 (P/S + DL):	
Max comp	3.38 ksi
Max tens	2.47 ksi
FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):	
Max comp	3.00 ksi
Max tens	-0.45 ksi
SERVICE III (Tension):	
Max comp	3.00 ksi
Max tens	-0.45 ksi

Span:1, Beam:9
PRESTRESSED STEEL:
39 strands, 6/10-270K-L, Low relaxation strands
Depressed at 0.40L (59.00 ft from member end)

END PATTERN (Ycg = 6.69 in):

12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
3 @ 15.000 in	1 @ 17.000 in		


MID PATTERN (Ycg = 4.38 in):

5 @ 3.000 in	3 @ 5.000 in	1 @ 7.000 in

(B) Straight:

12 @ 3.000 in	14 @ 5.000 in	4 @ 7.000 in	5 @ 13.000 in
3 @ 15.000 in	1 @ 17.000 in		

Strand Diameter 0.600 in
Strand Area 0.217 in2
Total Strand Area 8.463 in2
Trans. Len, bonded 3.000 ft
Trans. Len, debonded 3.000 ft
Dev. Len, bonded 11.478 ft



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	3.00	3.65	14.75	29.50	44.25	59.00	73.75
(Max)	M	0.0	248.5	300.6	1122.4	1995.3	2618.9	2993.0
DL-Prec. :	V	84.5	81.1	80.4	67.6	50.7	33.8	16.9
DC(Max)	M	0.0	41.2	49.8	186.0	330.7	434.0	496.0
DW(Max)	V	14.0	13.4	13.3	11.2	8.4	5.6	2.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	204.0	246.8	921.5	1638.2	2150.2	2457.3
Haunch (Max)	V	69.4	66.6	66.0	55.5	41.7	27.8	13.9
Diaphragm :	M	0.0	3.5	4.1	11.9	10.9	9.9	8.9
(Max)	V	12.8	10.2	9.7	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	11.0	13.3	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.4	3.7	2.8	1.8	0.9
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	201.7	244.0	906.3	1598.1	2075.2	2357.5
LL + I :	V	107.1	104.1	103.5	92.5	77.9	63.3	42.9
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	107.1	104.2	103.6	92.8	79.2	66.3	54.0
Total :	M+	0.0	199.6	241.2	878.7	1499.6	1881.4	2042.4
Total :	V	0.0	709.9	858.7	3197.8	5661.5	7404.0	8445.1
Total :	M-	292.5	279.9	277.2	230.6	181.5	132.4	77.5
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	292.5	280.0	277.3	231.0	182.8	135.4	88.5
LL + I :	M	0.0	707.7	855.9	3170.1	5563.0	7210.2	8130.1

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	88.50	103.25	118.00	132.75	143.85	144.50	147.50
(Max)	M	2993.0	2618.9	1995.3	1122.4	300.6	248.5
DL-Prec. :	V	16.9	33.8	50.7	67.6	80.4	81.1
DC(Max)	M	496.0	434.0	330.7	186.0	49.8	41.2
DL-Prec. :	V	2.8	5.6	8.4	11.2	13.3	14.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2457.3	2150.2	1638.2	921.5	246.8	204.0
Haunch (Max)	V	13.9	27.8	41.7	55.5	66.0	66.6
Diaphragm :	M	6.9	5.9	4.9	3.9	1.2	1.0
(Max)	V	0.1	0.1	0.1	0.1	10.1	10.6
DL-Comp. :	M	132.4	115.9	88.3	49.7	13.3	11.0
DC(Max)	V	0.9	1.8	2.8	3.7	4.4	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2357.5	2075.2	1598.1	906.3	244.0	201.7



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LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	42.9	63.3	77.9	92.5	103.5	104.1	107.1
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	54.0	66.3	79.2	92.8	103.6	104.2
DW(Max)	V	2042.4	1881.4	1499.6	878.7	241.2	199.6
LL + I :	M+	8443.1	7400.0	5655.5	3189.8	855.8	707.4
LL + I :	V	77.5	132.4	181.5	230.6	277.6	293.0
Total :	M	88.5	135.4	182.8	231.0	277.7	280.4
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	8128.1	7206.2	5557.1	3162.1	853.0	705.3

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	84.5	84.5
Deck+Haunch	69.4	69.4
Diaphragm	12.8	13.3
DL-Prec.(DC)	14.0	14.0
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0


Upward reactions are positive.

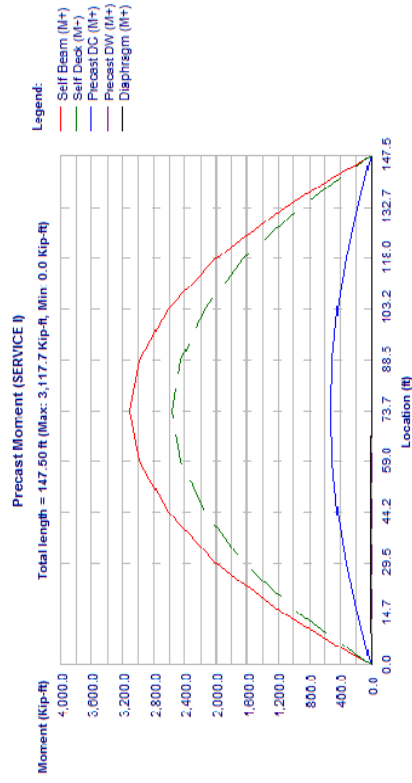
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).



Non-composite load types are per beam.

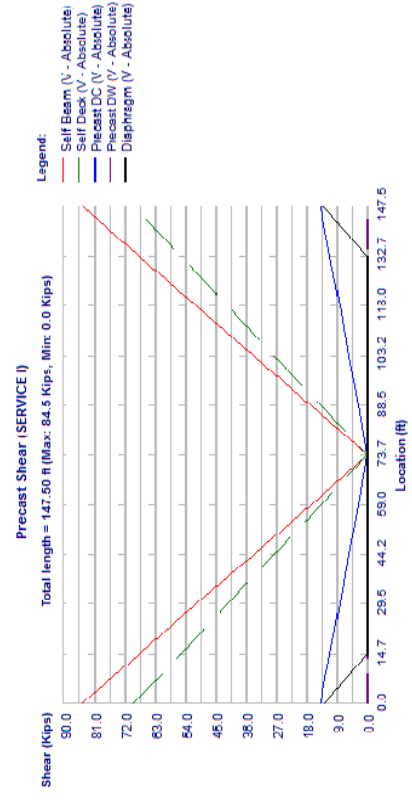
Composite and Pedestrian load types are per total bridge width.

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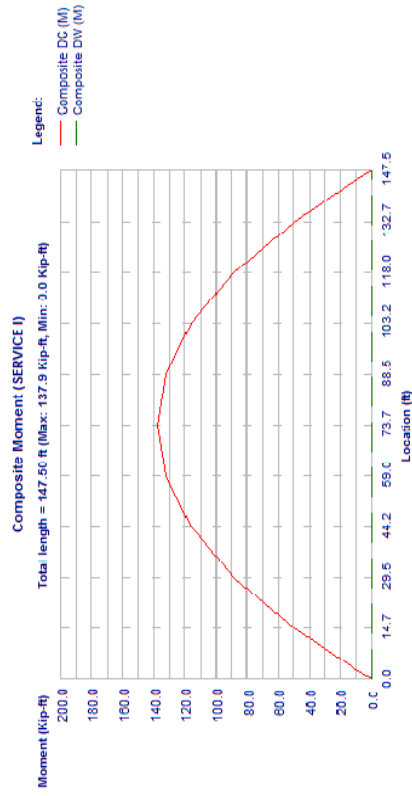
Precast Moment, Span 1, Beam 9, SERVICE I

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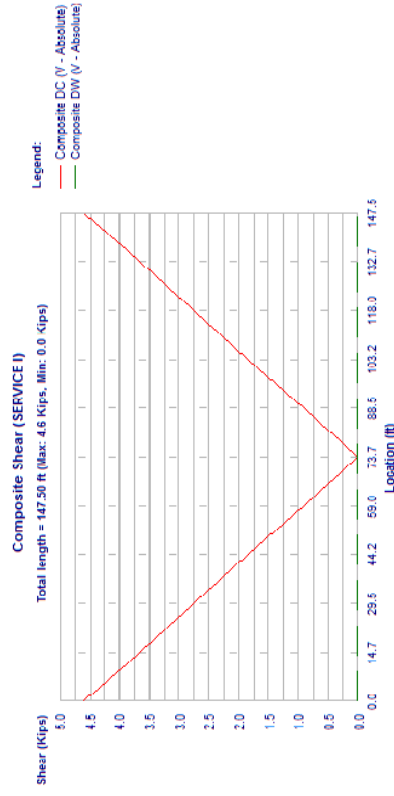
Precast Shear, Span 1, Beam 9, SERVICE I

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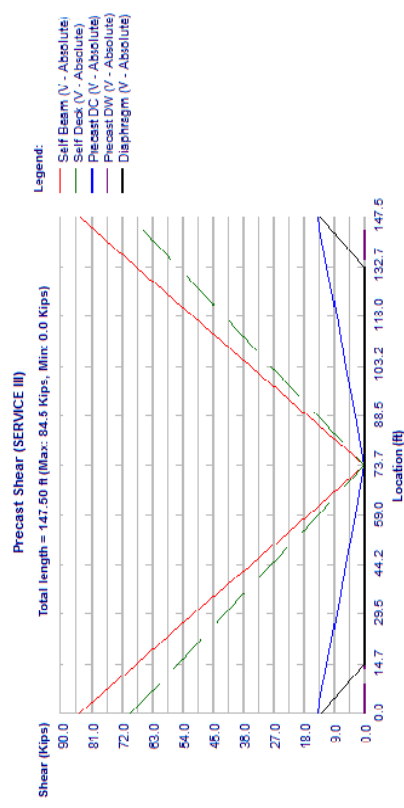
Composite Moment, Span 1, Beam 9, SERVICE I

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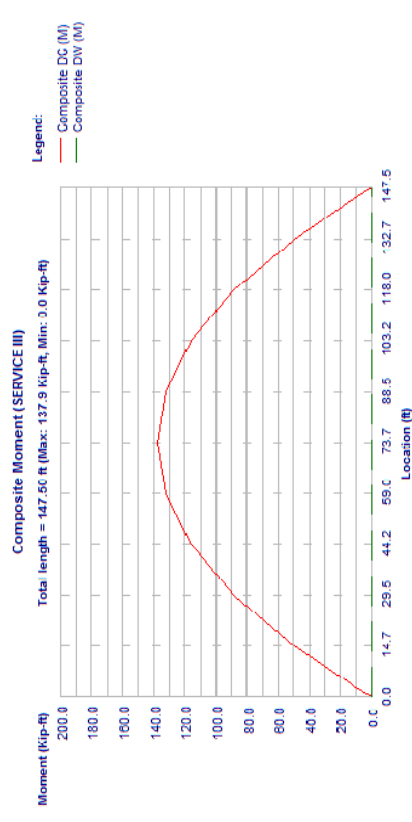
Composite Shear, Span 1, Beam 9, SERVICE I

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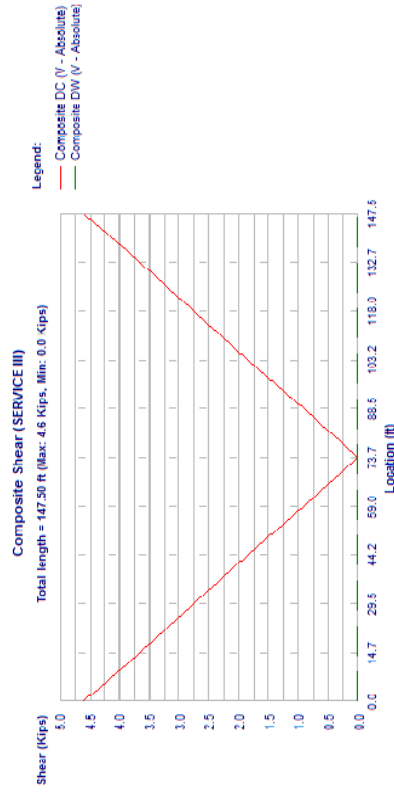
Precast Shear, Span 1, Beam 9, SERVICE III

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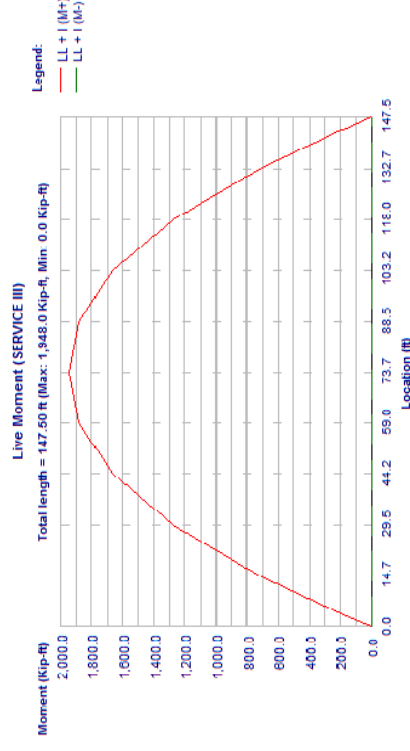
Composite Moment, Span 1, Beam 9, SERVICE III

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Composite Shear, Span 1, Beam 9, SERVICE III

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Live Moment, Span 1, Beam 9, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	4.0	4.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	4125.6	3631.5	2796.6	1586.1	427.0	353.0
LL + I :	M-	75.1	110.9	136.4	161.9	181.1	182.2
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	94.4	116.0	138.7	162.5	181.3	182.4
Total :	M	3574.2	3292.5	2624.4	1537.7	422.0	349.3
Total :	M+	11732.6	10287.5	7868.4	4440.4	1191.8	985.2
Total :	V	118.3	197.2	265.9	334.6	398.8	402.5
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	137.6	202.3	268.2	335.1	398.9	402.6
Total :	M	11181.3	9948.5	7696.1	4391.9	1186.8	981.4

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	105.7	105.7
Deck+Haunch	86.8	86.8
Diaphragm	16.0	16.7
DL-Prec (DC)	17.5	17.5
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	63.1	63.1
DL-Comp (DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:01 A.M.

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Sheet # 26
Job #

Precast Moment (STRENGTH I)

Total length = 147.50 ft (Max: 3,897.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

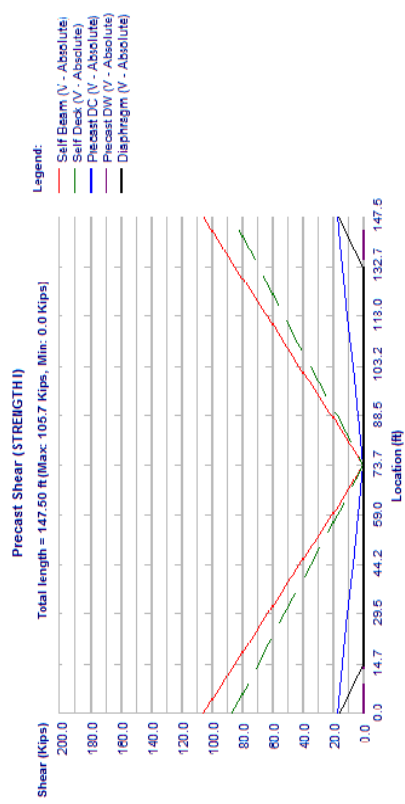
Moment (Kip-ft)

Location (ft)


Precast Moment, Span 1, Beam 9, STRENGTH I

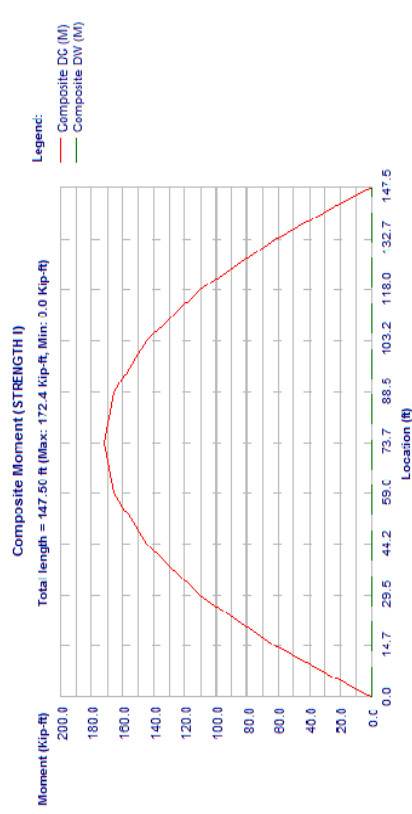
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		Job #	
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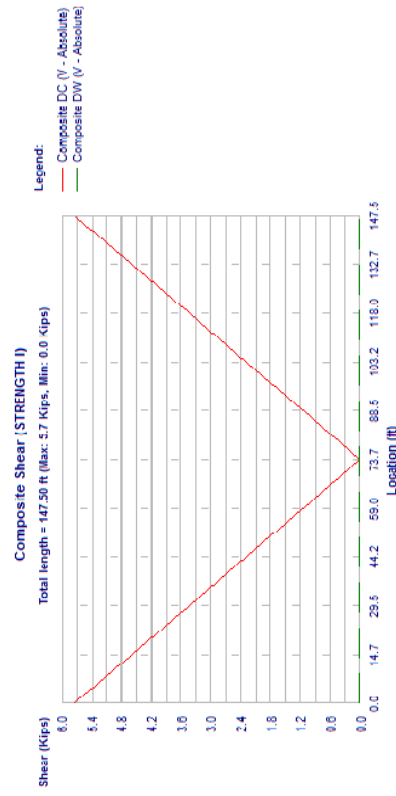
Precast Shear, Span 1, Beam 9, STRENGTH I

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		Job #	
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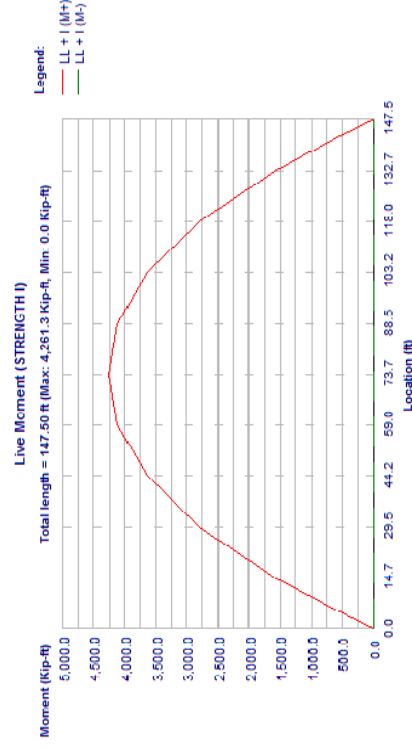
Composite Moment, Span 1, Beam 9, STRENGTH I

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		Job #	
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Composite Shear, Span 1, Beam 9, STRENGTH I

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Live Moment, Span 1, Beam 9, STRENGTH I

		Sheet # 33 Job #	
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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1048.6	935.8	723.8	417.7	113.6	94.0
	V	28.0	35.1	46.4	53.6	59.0	60.7
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	32.1	39.3	46.4	53.6	59.0	60.7
	M	1001.1	918.3	723.8	417.7	113.6	94.0
Total:	M+	7134.2	6260.6	4781.2	2701.1	725.5	599.7
	V	62.6	104.2	150.0	191.7	233.1	235.5
Total:	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total:	Mmx	66.7	108.4	150.0	191.7	233.1	235.5
	M	7086.8	6243.1	4781.2	2701.1	725.5	599.7


Precast Moment (FATIGUE I)

Total length = 147.50 ft (Max: 5,117.7 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 9, FATIGUE I



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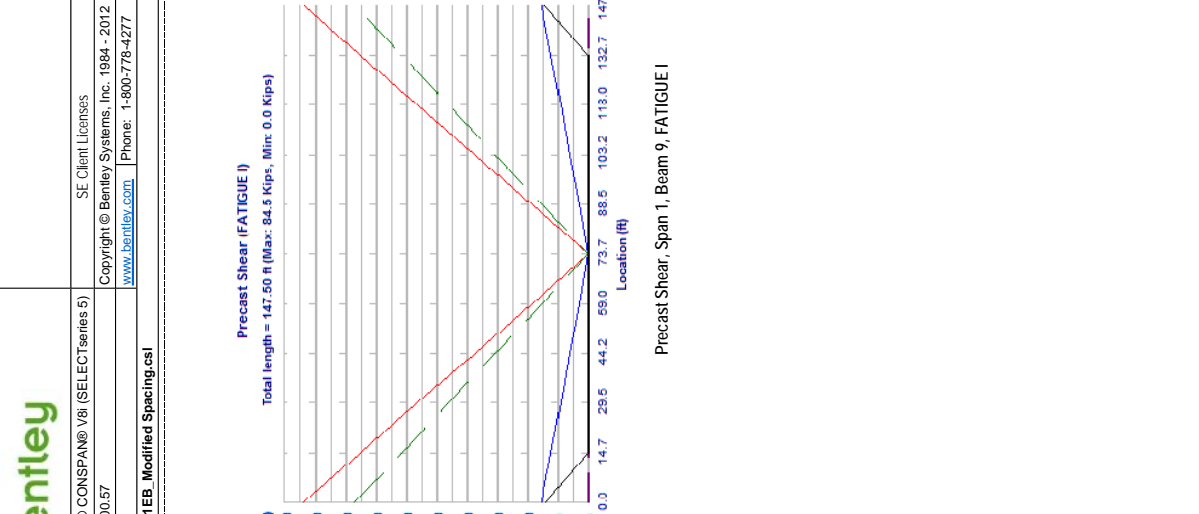
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Precast Shear (FATIGUE I)


Total length = 147.50 ft (Max: 84.5 Kips, Min: 0.0 Kips)

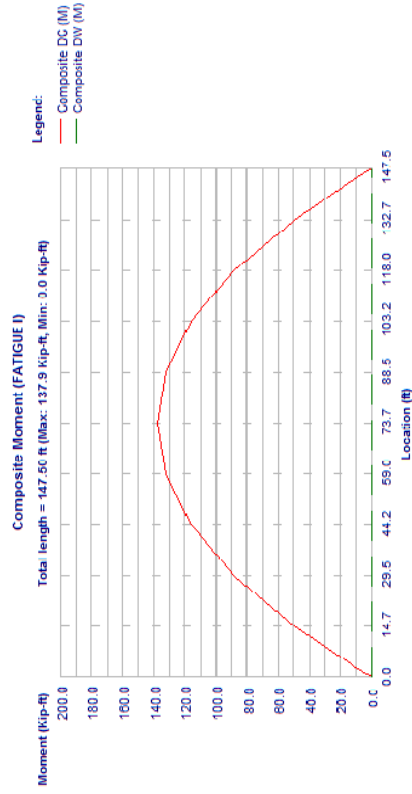


Legend:


- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

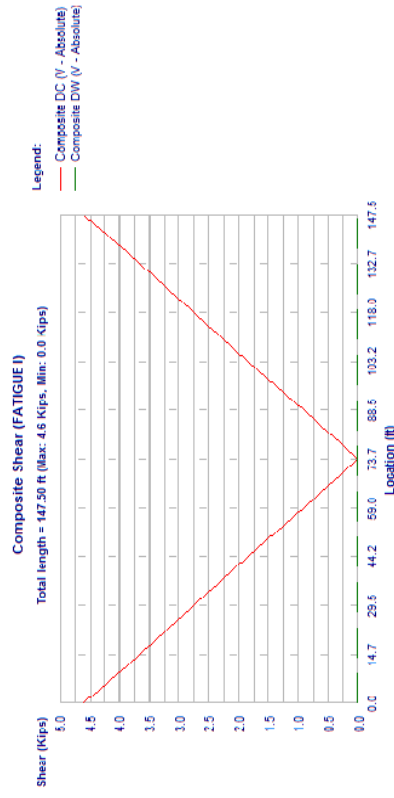
Precast Shear, Span 1, Beam 9, FATIGUE I

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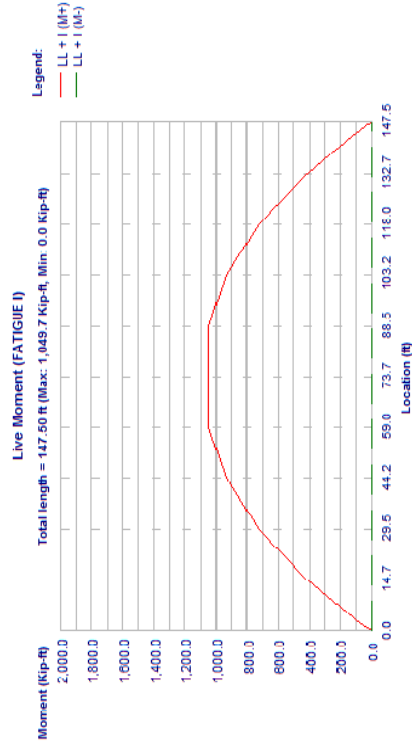
Composite Moment, Span 1, Beam 9, FATIGUE I

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		Job #	
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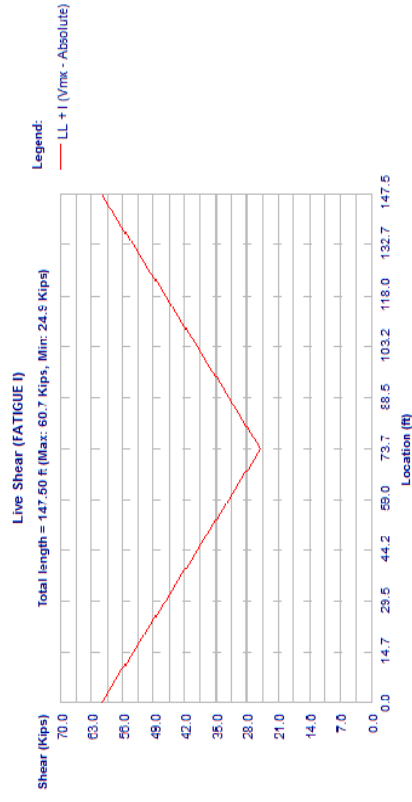
Composite Shear, Span 1, Beam 9, FATIGUE I

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Job #		Job #	
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Live Moment, Span 1, Beam 9, FATIGUE I

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Live Shear, Span 1, Beam 9, FATIGUE I



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PROPERTIES

Span:1, Beam:10

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.



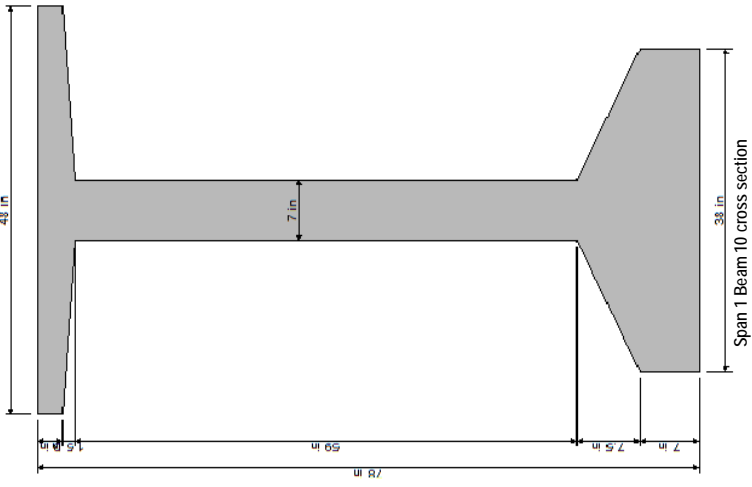
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Span 1 Beam 10 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.08 ft
Curb-to-curb*	100.00 ft
Beam Spac. Start LL/RI	7.29/ 7.29 ft
End LL/RI	7.52/ 7.52 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	-14.15 degrees

Units: U.S. Units

Design Code: AASHTO LRFD

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* Average bridge width

TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.125	0.000	0.125	149.336	Add'l Build-Up
DC	Line	0.046	0.000	0.046	149.336	SIP

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
11.24	1.00
11.59	149.12

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	149.336	ft
Release length	149.336	ft
Design length	149.336	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES

Location	+ve	Moment	Shear
2+Lane	0.0L	0.606	1Lane
0.1L	0.606	0.414	0.652
0.2L	0.606	0.414	0.652
0.3L	0.606	0.414	0.652

Units: U.S. Units

Design Code: AASHTO LRFD

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Location	+ve	Moment	Shear
0.4L	0.606	0.414	0.652
0.5L	0.606	0.414	0.652
0.6L	0.606	0.414	0.652
0.7L	0.606	0.414	0.652
0.8L	0.606	0.414	0.652
0.9L	0.606	0.414	0.652
1.0L	0.606	0.414	0.652

Pedestrian	0.091	(Calculated)
Comp. DC	0.091	(Calculated)
Comp. DW	0.091	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (I _{xx})	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (I _{yy})	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006	1/°F


COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight pbf	Area in ²	Height in	Ixx in ⁴	Ycg in	Density pcf	Eff. Width in
0.0L	103.08	1983.7	1788.89	87.5	1997190	53.18	150.0	87.5
0.1L	103.08	1983.7	1788.89	87.5	1997190	53.18	150.0	87.5
0.2L	103.08	1983.7	1788.89	87.5	1997190	53.18	150.0	87.5
0.3L	103.08	1983.7	1788.89	87.5	1997190	53.18	150.0	87.5
0.4L	103.08	1983.7	1788.89	87.5	1997190	53.18	150.0	87.5

Units: U.S. Units

Design Code: AASHTO LRFD

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Iyy	Density	Eff. Width
	ft	plf	in2	in	in4	in4	pcf	in
0.5L	103.08	1983.7	1788.89	87.5	1897190	53.18	150.0	87.5
0.6L	103.08	1983.7	1788.89	87.5	1897190	53.18	150.0	87.5
0.7L	103.08	1983.7	1788.89	87.5	1897190	53.18	150.0	87.5
0.8L	103.08	1983.7	1788.89	87.5	1897190	53.18	150.0	87.5
0.9L	103.08	1983.7	1788.89	87.5	1897190	53.18	150.0	87.5
1.0L	103.08	1983.7	1788.89	87.5	1897190	53.18	150.0	87.5

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)		0.00	3.00	3.65	14.93	29.87	44.80	59.73	74.67
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)		1100.6	1149.5	1149.5	1149.5	1149.5	1149.5	1149.5	1149.5
Area, Yb, MI(XX)		34.60	33.41	33.40	33.39	33.36	33.33	33.31	33.31
		904567	941423	941492	942711	944354	946032	947745	947745
		1788.9	1831.8	1831.8	1831.8	1831.8	1831.8	1831.8	1831.8
		53.18	52.09	52.09	52.08	52.06	52.05	52.04	52.04
		1897190	1988329	1988432	1990239	1992656	1995104	1997584	1997584

Span:1, Beam:10
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00*	
Elasticity	4016.8	
Max comp	3.60	
Outer	15.00 %	
Max tens	-0.23	
Max tens, wireinf	-0.93	
Center	70.00 %	
Max tens	-0.23	
Max tens, wireinf	-0.59	

* FDOT section 4.3.1, C4 requires that concrete strength at release be less than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	5.50
Elasticity	4490.96	3845.83

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	3.30

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38	2.47

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00	

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52	-0.45

Span:1, Beam:10
 PRESTRESSED STEEL:
 37 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (59.73 ft from member end)

END PATTERN (Ycg = 6.68 in):

	12 @ 3.000 in	14 @ 5.000 in	2 @ 7.000 in	5 @ 13.000 in
	3 @ 15.000 in	1 @ 17.000 in		

MID PATTERN (Ycg = 4.24 in):


(A) Draped:

	5 @ 3.000 in	3 @ 5.000 in	1 @ 7.000 in
--	--------------	--------------	--------------

(B) Straight:

	12 @ 3.000 in	14 @ 5.000 in	2 @ 7.000 in
--	---------------	---------------	--------------

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	8.029	in2
Trans. Len, bonded	3.000	ft
Trans. Len, debonded	3.000	ft
Dev. Len, bonded	11.416	ft



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Sheet # 9
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	3.00	3.65	14.93	29.87	44.80	59.73
Self wt. :	M	0.0	251.7	304.5	1150.5	2045.4	2684.6	3068.1
(Max)	V	85.6	82.2	81.4	68.5	51.4	34.2	17.1
DL-Prec. :	M	0.0	37.5	45.4	171.6	305.1	400.4	457.6
DC(Max)	V	12.8	12.3	12.1	10.2	7.7	5.1	2.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	183.8	222.4	840.2	1493.7	1960.5	2240.6
Haunch (Max)	V	62.5	60.0	59.5	50.0	37.5	25.0	12.5
Diaphragm :	M	0.0	3.0	3.6	10.4	9.5	8.6	7.7
(Max)	V	11.2	8.9	8.5	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	10.9	13.1	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.4	3.7	2.8	1.8	0.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	181.8	219.8	826.5	1457.3	1892.4	2149.9
LL + I :	V	98.2	95.5	94.9	84.8	71.4	58.1	39.3
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	98.2	95.5	95.0	85.1	72.6	60.7	49.4
Total :	M+	0.0	179.8	217.3	801.3	1367.6	1715.8	1862.6
Total :	V	0.0	668.6	808.8	3048.9	5399.3	7062.4	8056.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	274.8	263.3	260.8	217.5	172.0	127.0	82.6
	M	0.0	666.6	806.3	3023.7	5309.6	6885.8	7769.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	89.60	104.54	119.47	134.40	145.69	146.34
Self wt. :	M	3068.1	2684.6	2045.4	1150.5	304.5	251.7
(Max)	V	17.1	34.2	51.4	68.5	81.4	82.2
DL-Prec. :	M	457.6	400.4	305.1	171.6	45.4	37.5
DC(Max)	V	2.6	5.1	7.7	10.2	12.1	12.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2240.6	1960.5	1493.7	840.2	222.4	183.8
Haunch (Max)	V	12.5	25.0	37.5	50.0	59.5	60.0
Diaphragm :	M	6.0	5.1	4.3	3.4	1.1	0.9
(Max)	V	0.1	0.1	0.1	0.1	8.8	9.3
DL-Comp. :	M	132.4	115.9	88.3	49.7	13.1	10.9
DC(Max)	V	0.9	1.8	2.8	3.7	4.4	4.6
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2149.9	1892.4	1457.3	826.5	219.8	181.8
	M-	0.0	0.0	0.0	0.0	0.0	-0.0



Program: LEAPe CONSPAN® V8i (SELECTseries 5)
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Sheet # 10
Job #
Date

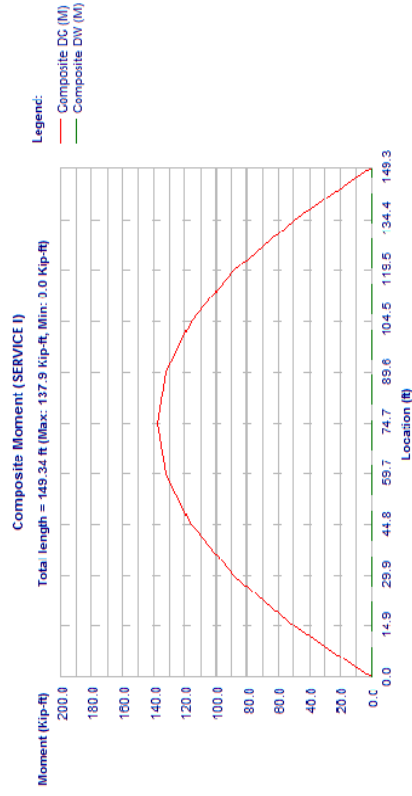
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	39.3	58.1	71.4	84.8	94.9	95.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	49.4	60.7	72.6	85.1	95.0	95.5
Total :	M	1862.6	1715.8	1367.6	801.3	217.3	179.8
Total :	M+	8054.6	7059.0	5394.1	3041.9	806.3	666.5
Total :	M-	72.5	124.3	170.8	217.2	261.1	263.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	82.6	127.0	172.0	217.5	261.2	263.7
	M	7767.3	6882.3	5304.3	3016.7	803.8	664.5

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	85.6	85.6
Deck+Haunch	62.5	62.5
Diaphragm	11.2	11.6
DL-Prec.(DC)	12.8	12.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

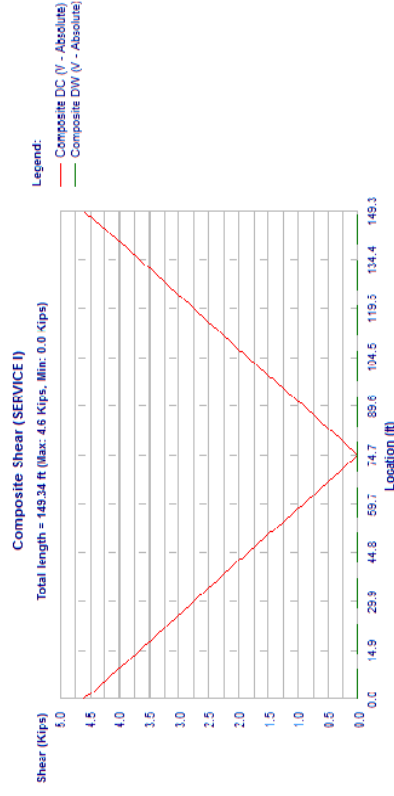
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

		Sheet # 13	
		Job #	
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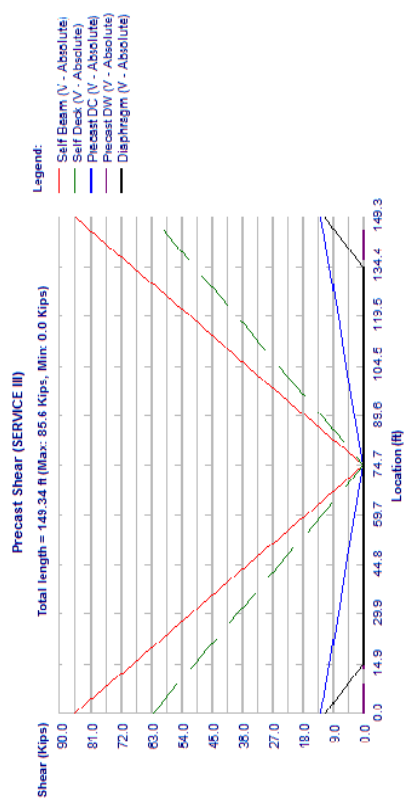
Composite Moment, Span 1, Beam 10, SERVICE I

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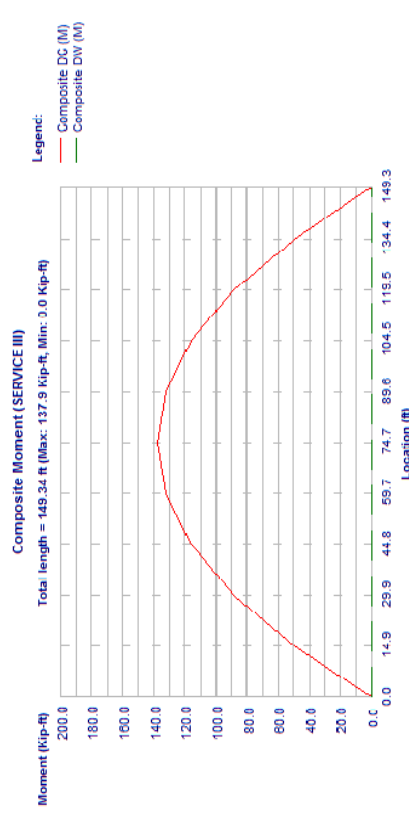
Composite Shear, Span 1, Beam 10, SERVICE I

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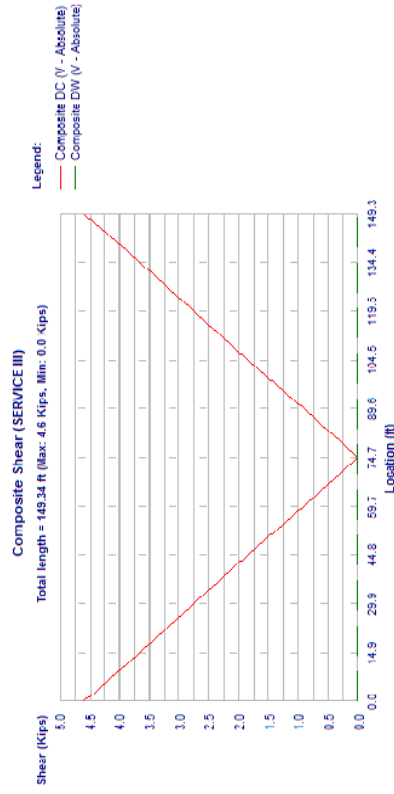
Precast Shear, Span 1, Beam 10, SERVICE III

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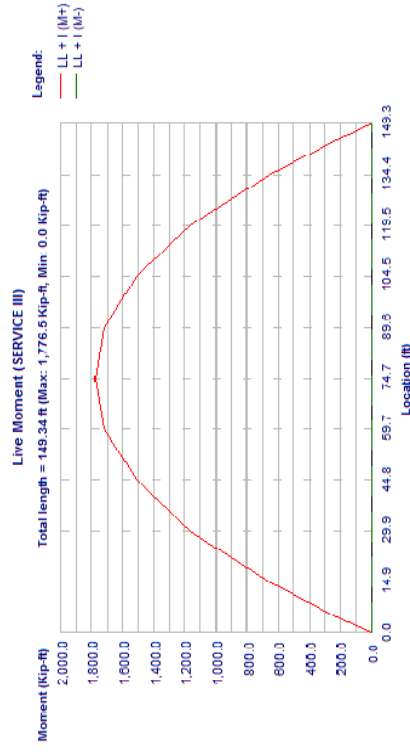
Composite Moment, Span 1, Beam 10, SERVICE III

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Composite Shear, Span 1, Beam 10, SERVICE III

		Sheet #	22
		Job #	
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Live Moment, Span 1, Beam 10, SERVICE III

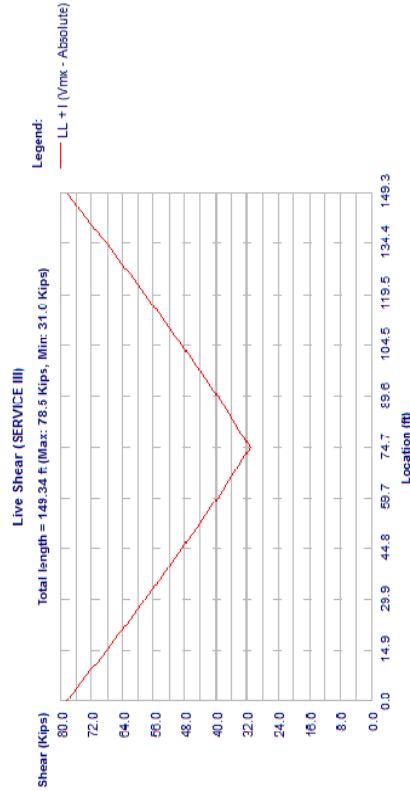


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File Name: Span11EB Modified Spacing.csl



Live Shear Span 1 Beam 10 SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, STRENGTH I
Shears: kips. Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	3.00	29.87	44.80	59.73	74.67	
Self wt.:	M	0.00	314.6	386.0	4438.2	3355.7	3835.1	3994.9
(Max)	V	107.0	102.8	101.8	85.6	64.2	21.4	0.0
Self wt.:	M	0.00	226.5	274.0	1035.5	1840.9	2416.1	2876.3
(Min)	V	77.0	73.9	73.3	61.6	46.2	30.8	15.4
DL-Prec.:	M	0.00	46.9	56.8	214.5	381.4	500.5	572.0
DC(Max)	V	16.0	15.3	15.2	12.8	9.8	6.4	3.2
DL-Prec.:	M	0.00	33.8	40.9	154.4	274.6	360.4	411.9
DC(Min)	V	11.5	11.0	10.9	9.2	6.9	4.6	2.3
DL-Prec.:	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.:	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0
Deck.:	M	0.00	229.7	277.9	1050.3	1867.2	2450.6	2917.4
Haunch (Max)	V	78.1	75.0	74.3	62.5	46.9	31.3	15.6
Deck.:	M	0.00	165.4	200.1	756.2	1344.3	1764.5	2100.5
Deck.:	V							2100.5

Units: U.S. Units

Design Code: AASHTO LRFD

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Program:	LEAP® CONSPAN® V8i (SELECTseries 5)
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Version:	12.01.00.57
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File Name: Span11EB Modified Spacing.csv

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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	56.3	54.0	53.5	45.0	33.8	22.5	11.3
Diaphragm :	M	0.0	3.7	4.5	13.0	11.9	10.8	9.7
(Max)	V	14.0	11.2	10.6	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	2.7	3.2	9.3	8.5	7.8	7.0
(Min)	V	10.1	8.0	7.6	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	13.6	16.4	62.1	110.3	144.8	165.5
DC(Max)	V	5.7	5.5	5.5	4.6	3.4	2.3	1.1
DL-Comp :	M	0.0	9.8	11.8	44.7	79.5	104.3	119.2
DC(Min)	V	4.1	4.0	3.9	3.3	2.5	1.7	0.8
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	318.1	384.7	1446.4	2550.4	3311.8	3762.3
	V	171.8	167.1	166.1	148.4	125.0	101.6	68.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	171.8	167.2	166.2	148.9	127.1	106.3	86.5
LL + I :	Vmx	0.0	314.7	380.3	1402.3	2393.3	3002.6	3259.5
Total :	M+	0.0	926.6	1120.9	4224.4	7477.8	9774.3	11145.4
	M-	392.6	376.8	373.4	313.9	249.2	184.4	110.3
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Vmx	392.6	376.9	373.5	314.5	251.3	189.1	128.0
Total :	Mmx	0.0	973.2	1116.5	4180.2	7320.8	9465.1	11442.6
	Vmx	392.6	376.9	373.5	314.5	251.3	189.1	128.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft		89.60	104.54	119.47	134.40	145.69	146.34	149.34
Self wt., lb		3835.1	3355.7	2556.7	1438.2	380.6	314.6	0.0
(Max)	V	21.4	42.8	64.2	85.6	101.8	102.7	107.0
Self wt., lb	M	2761.3	2416.1	1840.9	1035.5	274.0	226.5	0.0
(Min)	V	15.4	30.8	46.2	61.6	73.3	73.9	77.0
DL-Prec.: M	M	572.0	500.5	381.4	214.5	56.8	46.9	0.0
DC(Max)	V	3.2	6.4	9.6	12.8	15.2	15.3	16.0
DL-Prec.: V	M	411.9	360.4	274.6	154.4	40.9	33.8	0.0
DC(Min)	V	2.3	4.6	6.9	9.2	10.9	11.0	11.5
DL-Prec.: V	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.: V	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + V	M	2800.7	2450.6	1867.2	1050.3	277.9	229.7	0.0
Haunch (Max)	V	15.6	31.3	46.9	62.5	74.3	75.0	78.1
Deck + M	M	2076.5	1764.5	1344.3	756.2	200.1	165.4	0.0
Haunch (Min)	V	11.3	22.5	33.8	45.0	53.5	54.0	56.3
Diaphragm: M	M	7.5	6.4	5.3	4.2	1.3	1.1	-0.0
(Max)	V	0.1	0.1	0.1	0.1	11.0	11.6	14.6
Diaphragm: M	M	5.4	4.6	3.8	3.0	1.0	0.8	-0.0
(Min)	V	0.1	0.1	0.1	0.1	7.9	8.4	10.5
DL-Comp.: M	M	165.5	144.8	110.3	62.1	16.4	13.6	0.0
DC(Max)	V	1.1	2.3	3.4	4.6	5.5	5.5	5.7
DL-Comp.: M	M	119.2	204.3	79.5	44.7	11.8	9.8	0.0

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 9:02 A.M.

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.8	1.7	2.5	3.3	3.9	4.0	4.1
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	3762.3	3311.8	2550.4	1446.4	384.7	318.1	-0.0
LL + I :	68.8	101.6	125.0	148.4	166.1	167.1	171.8
LL + I :	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	86.5	106.3	127.1	148.9	166.2	167.2	171.8
M	3259.5	3002.6	2393.3	1402.3	380.3	314.7	0.0
M+	11143.2	9769.9	7471.3	4215.7	1117.8	924.0	0.0
V	110.3	184.4	249.2	313.9	373.8	377.3	393.2
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	128.0	189.1	251.3	314.5	374.0	377.4	393.2
M	10640.4	9460.7	7314.2	4171.5	1113.3	920.6	0.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	107.0	107.0
Deck+Haunch	78.1	78.1
Diaphragm	14.0	14.6
DL-Prec.(DC)	16.0	16.0
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	63.1	63.1
DL-Comp.(DW)	0.0	0.0
Live	183.5	183.5
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units
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Precast Moment (STRENGTH I)

Total length = 149.34 ft (Max: 3,994.9 Kip-ft, Min: 0.0 Kip-ft)


Legend:

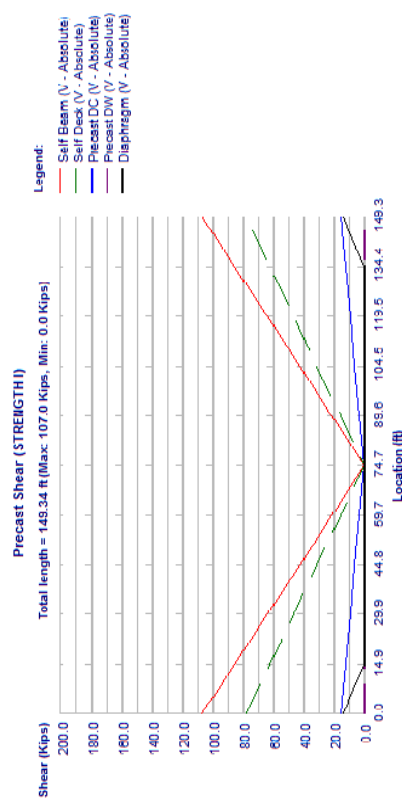
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- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)


Precast Moment, Span 1, Beam 10, STRENGTH I

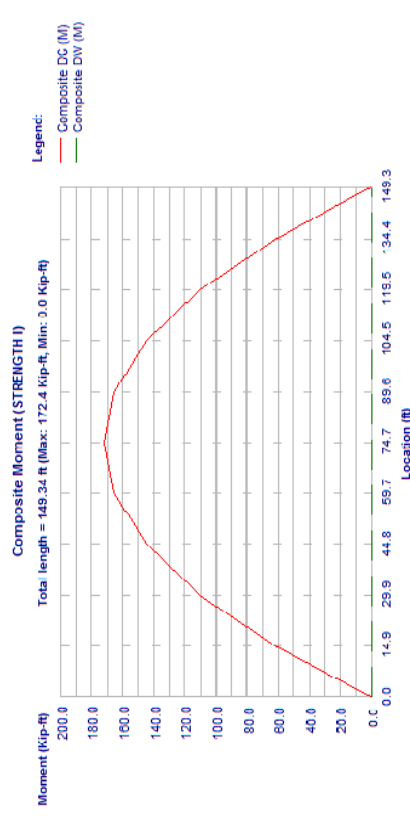
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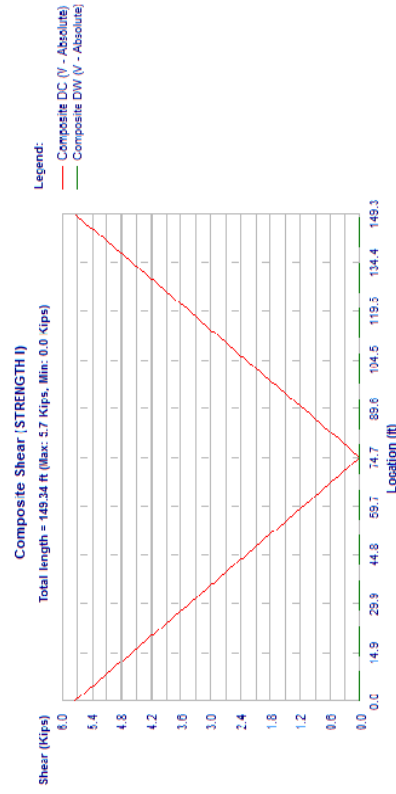
Precast Shear, Span 1, Beam 10, STRENGTH I

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		Job #	
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File Name: Span11EB_Modified Spacing.csl			




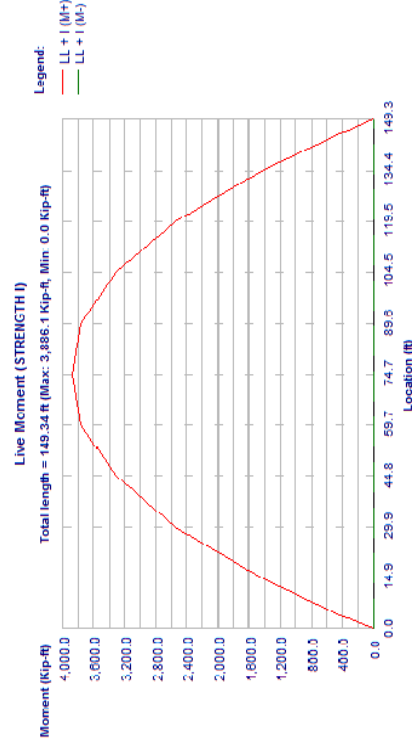
Composite Moment, Span 1, Beam 10, STRENGTH I

		Sheet # 29	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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File Name: Span11EB_Modified Spacing.csl			




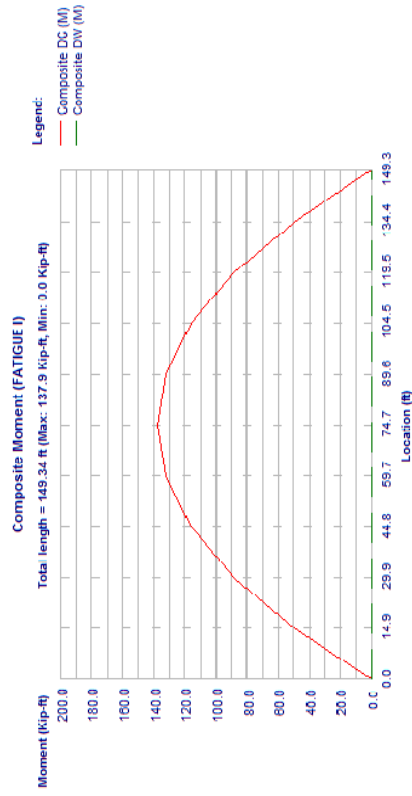
Composite Shear, Span 1, Beam 10, STRENGTH I

		Sheet # 30	
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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File Name: Span11EB_Modified Spacing.csl			




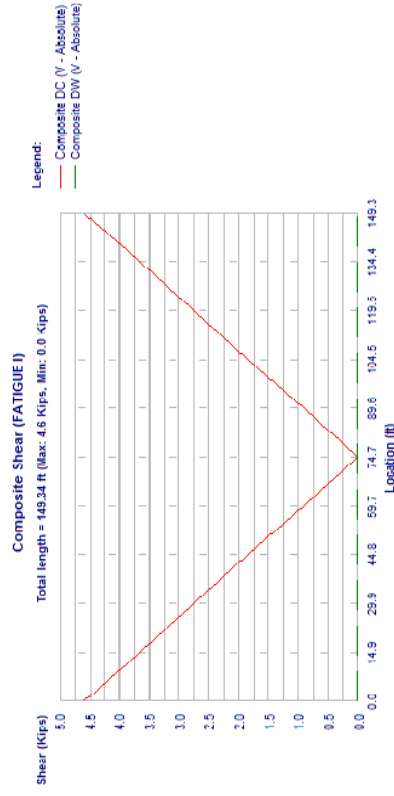
Live Moment, Span 1, Beam 10, STRENGTH I

		Sheet # 35	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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File Name: Span11EB_Modified Spacing.csl			




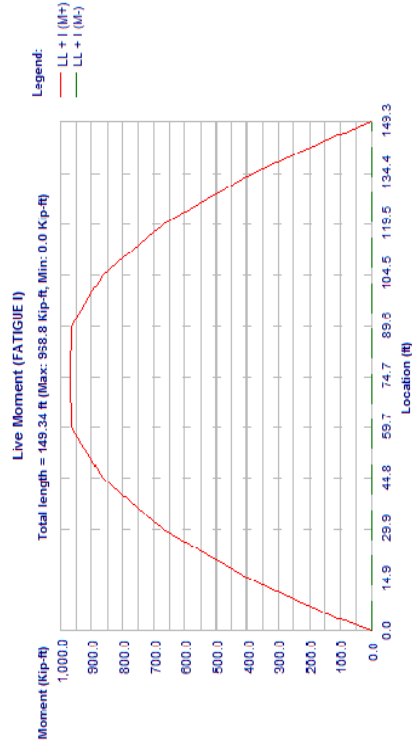
Composite Moment, Span 1, Beam 10, FATIGUE I

		Sheet # 36	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
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File Name: Span11EB_Modified Spacing.csl			




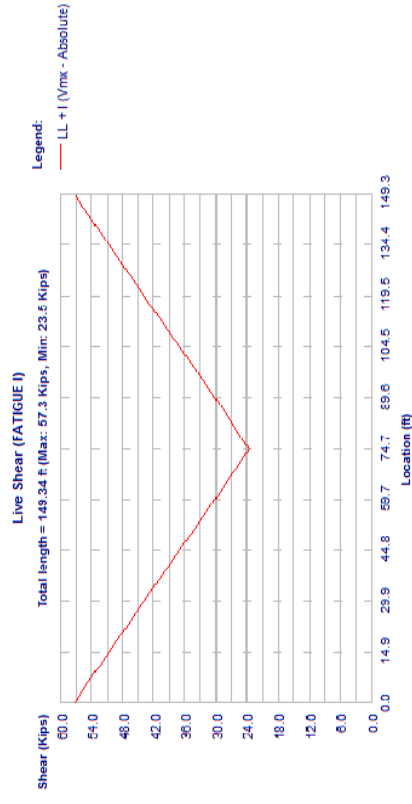
Composite Shear, Span 1, Beam 10, FATIGUE I

		Sheet #	37
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com Phone: 1-800-778-4277		Designed KSM	
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		Date	



Live Moment, Span 1, Beam 10, FATIGUE I

		Sheet #	38
		Job #	
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		Date	



Live Shear, Span 1, Beam 10, FATIGUE I

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Program:

LEAPe CONSPAN® V8i (SELECTseries 5)

Version:

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File Name:

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Sheet #

3

Job #

Average bridge width

TOPPING DATA:

Deck Thickness

8.500 in

Haunch Thickness

1.000 in

Width

60.000 in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW

Type

Mag.1

Loc.1

Mag.2

Loc.2

Description

DC

Line

0.125

0.000

0.125

151.175

Add'l Build-Up

DC

Line

0.043

0.000

0.043

151.175

SIP

Diaphragm loads - using Wizard:

(kips, ft)

Mag.

Loc.

5.62

1.00

5.79

150.96

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length

151.175 ft

Release length

151.175 ft

Design length

151.175 ft

KERN POINTS:

Upper

58.35 in

Lower

15.66 in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Section Assumption (Art. 4.6.2.2d): YES

Location

+ve

Moment

Shear

0.0L

2+Lane

1Lane

2+Lane

1Lane

0.677

0.905(#)

0.717

0.905(#)

0.1L

0.677

0.905(#)

0.717

0.905(#)

0.3L

0.677

0.905(#)

0.717

0.905(#)

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Program:

LEAPe CONSPAN® V8i (SELECTseries 5)

Version:

12.01.00.57

File Name:

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Sheet #

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Job #

Average bridge width

TOPPING DATA:

Deck Thickness

8.500 in

Haunch Thickness

1.000 in

Width

60.000 in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW

Type

Mag.1

Loc.1

Mag.2

Loc.2

Description

DC

Line

0.125

0.000

0.125

151.175

Add'l Build-Up

DC

Line

0.043

0.000

0.043

151.175

SIP

Diaphragm loads - using Wizard:

(kips, ft)

Mag.

Loc.

5.62

1.00

5.79

150.96

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length

151.175 ft

Release length

151.175 ft

Design length

151.175 ft

KERN POINTS:

Upper

58.35 in

Lower

15.66 in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Section Assumption (Art. 4.6.2.2d): YES

Location

+ve

Moment

Shear

0.0L

2+Lane

1Lane

2+Lane

1Lane

0.677

0.905(#)

0.717

0.905(#)

0.1L

0.677

0.905(#)

0.717

0.905(#)


0.3L

0.677

0.905(#)

0.717

0.905(#)



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Sheet # 5

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in ²	in	in ⁴	in	pcf	in
0.1L	103.08	2101.0	1885.31	87.5	1980479	54.72	150.0	100.7
0.2L	103.08	2101.0	1885.31	87.5	1980479	54.72	150.0	100.7
0.3L	103.08	2101.0	1885.31	87.5	1980479	54.72	150.0	100.7
0.4L	103.08	2101.0	1885.31	87.5	1980479	54.72	150.0	100.7
0.5L	103.08	2101.0	1885.31	87.5	1980480	54.72	150.0	100.7
0.6L	103.08	2101.0	1885.31	87.5	1980480	54.72	150.0	100.7
0.7L	103.08	2101.0	1885.31	87.5	1980480	54.72	150.0	100.7
0.8L	103.08	2101.0	1885.31	87.5	1980480	54.72	150.0	100.7
0.9L	103.08	2101.0	1885.31	87.5	1980480	54.72	150.0	100.7
1.0L	103.08	2101.0	1885.31	87.5	1980481	54.72	150.0	100.7


(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
Use transformed strand and rebar: Strand Only

Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft							
Precast: (At Release, using Ec = 4016.8ksi)	0.00	3.00	3.65	15.12	30.23	45.35	60.47	75.59
Area, Yb, MI(XX),	in ²	in ⁴	in ⁴	in ⁴	in ⁴	in ⁴	in ⁴	in ⁴
	1100.6	33.21	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
	34.60	945958	946050	947719	949967	952273	954636	954636
Composite: (At Final, using Ec = 4491.0ksi)	in ²	in ⁴	in ⁴	in ⁴	in ⁴	in ⁴	in ⁴	in ⁴
Area, Yb, MI(XX),	1885.3	1937.5	1937.5	1937.5	1937.5	1937.5	1937.5	1937.5
	54.72	53.45	53.45	53.43	53.41	53.39	53.38	53.38
	1980479	2093620	2093766	2096370	2099847	2103375	2106954	2106954

Span:1, Beam:11
STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00*	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Max tens	w/relief	ksi
Center	70.00 %	ksi
Max tens	-0.23	ksi
Max tens	w/relief	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be less than 0.8 * f_{cr} or 6.0 ksi.
STRESS LIMITS AT FINAL AFTER LOSSES:



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	PRECAST	DECK	ksi
Strength	7.50	5.50	ksi
Elasticity	4490.96	3845.83	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	4.50	DECK	3.30	ksi
----------	------	------	------	-----

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	3.38	DECK	2.47	ksi
----------	------	------	------	-----

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

Max comp	3.00	DECK	-	ksi
----------	------	------	---	-----

SERVICE III (Tension):

Max tens	-0.52	DECK	-0.45	ksi
----------	-------	------	-------	-----

Span:1, Beam:11
PRESTRESSED STEEL:
45 strands 6/10-270K-L.L. Low relaxation strands
Depressed at 0.40L (60.47 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
7 @ 11.000 in	5 @ 13.000 in	3 @ 15.000 in	1 @ 17.000 in

MID PATTERN (Ycg = 4.82 in):

(A) Draped:

7 @ 3.000 in	5 @ 5.000 in	3 @ 7.000 in	1 @ 9.000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600	in
-----------------	-------	----

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Strand Area	0.217	in ²
Total Strand Area	9.765	in ²
Trans. Len bonded	3.000	ft
Trans. Len debonded	3.000	ft
Dev. Len bonded	11.503	ft
Dev. Len debonded	14.378	ft
Holddown Force	7.751	kips
Tensile Strength(fpu)	270.0	ksi
Initial Prestress = 0.75fpu	202.5	ksi
Initial Pull	1977.4	kips
Beam Shring (PL/AE)	0.770	in

Draped strands	
Number	Dist. from bottom(in)
7	11
5	13
3	15
1	17

Straight strands	
Number	Dist. from bottom(in)
10	3
12	5
6	7
1	9

All strands	
Number	Dist. from bottom(in)
17	3
17	5
9	7
2	9

Strand Pattern, Span 1, Beam 11

Span:1, Beam:11
ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Strands (LB)	Beam Vol(C.Y.)	Concrete Wt(LB)	Strirups (LB)	Longitudinal Bars (LB)
6802.983	740	5034.208	42.794	173315.969	1946.625	0.000

Span:1, Beam:11

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:02 A.M.

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REINFORCING STEEL:

Tension steel:	
f _y	60.0 ksi
E _s	29000 ksi
f _s	24.0 ksi

Stirrups:

# legs	Size	f _y (ksi)	Area (in ²)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#6(M19)	60.0	0.88	18.00	0.0000	151.748	No

LOSSES

Note: Values are calculated at Midspan

Str. area	9.7650	in ²
Y _{cg}	4.82	in
P _{init}	1977.4	kips
E _{cc}	29.78	in
Days to release	0.75	%
Rel. Humid (RH)	75.0	%
E _s	28500.0	ksi
E _{cd}	4017	ksi

AASHTO LOSSES

Elastic Shortening ** 13.92 ksi (Eq 5.9.5.2.3a-1), (f_{cgp} = 1.962 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-7.23	ksi	0.00
due to Composite Loads	-0.24	ksi	0.00
due to Live Loads	-4.65	ksi	0.00

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial	Final
Steel relaxation	0.00	ksi
Concrete shrinkage	0.00	ksi
Concrete creep	0.00	ksi
Sub-total	13.92	ksi
Total Prestress Losses		(6.88 %)
		10.61
		24.53
		(5.24 %)
		(12.11 %)


Prestressing Stress Limit Check (Table 5.9.3.1)

initial f_{pi} = 202.5 ksi < 0.75 f_{pu} OK

initial f_{pe} = 178.0 ksi < 0.80 f_{pu} OK

** Since the transformed section properties option has been selected, even though ES losses

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:02 A.M.




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have been calculated explicitly here, they are not included as a part of stress calculations.
Please see theory section for complete explanation.



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 11, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	3.00	3.65	15.12	30.23	45.35	60.47
Self wt. :	M	0.0	254.8	308.3	1179.0	2096.1	2751.1	3144.1
(Max)	V	86.7	83.2	82.5	69.3	52.0	34.7	17.3
DL-Prec. :	M	0.0	37.3	45.2	172.8	307.2	403.1	460.7
DC(Max)	V	12.7	12.2	12.1	10.2	7.6	5.1	2.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	212.2	256.7	981.7	1745.2	2290.5	2617.7
Haunch (Max)	V	72.1	69.3	68.7	57.7	43.3	28.9	14.4
Diaphragm :	M	0.0	1.5	1.8	5.2	4.7	4.3	3.9
(Max)	V	5.6	4.5	4.2	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	10.7	13.0	49.7	88.3	115.9	132.4
DC(Max)	V	4.6	4.4	4.4	3.7	2.8	1.8	0.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	268.0	324.2	1233.4	2174.8	2824.1	3208.3
	V	114.8	111.7	111.0	99.1	83.5	67.9	46.0
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	114.8	111.7	111.1	99.5	84.9	71.0	57.8
	M	0.0	265.2	320.5	1195.8	2040.9	2560.5	2779.6
Total :	M+	0.0	784.5	949.1	3621.8	6416.2	8389.1	9567.2
	V	296.4	285.2	282.8	240.0	189.2	138.3	81.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx	296.4	285.3	282.9	240.4	190.6	141.5	93.1
	M	0.0	781.7	945.4	3584.1	6282.3	8125.4	9138.4
								9346.6

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	90.70	105.82	120.94	136.06	147.53	151.17
Self wt. :	M	3144.1	2751.1	2096.1	1179.0	308.3	254.8
(Max)	V	17.3	34.7	52.0	69.3	82.5	86.7
DL-Prec. :	M	460.7	403.1	307.2	172.8	45.2	37.3
DC(Max)	V	2.5	5.1	7.6	10.2	12.1	12.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2617.7	2290.5	1745.2	981.7	256.7	212.2
Haunch (Max)	V	14.4	28.9	43.3	57.7	68.7	69.3
Diaphragm :	M	3.0	2.6	2.1	1.7	0.5	0.4
(Max)	V	0.0	0.0	0.0	0.0	4.4	4.7
DL-Comp :	M	132.4	115.9	88.3	49.7	13.0	10.7
DC(Max)	V	0.9	1.8	2.8	3.7	4.4	4.4
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3208.3	2824.1	2174.8	1233.5	324.2	268.0
							-0.0

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Version: 12.01.00.57

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 46.0	67.9	83.5	99.1	111.0	111.7	114.8
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	57.8	71.0	84.9	99.5	111.1	111.7	114.8
M	2779.6	2560.5	2040.9	1195.8	320.5	265.2	0.0
Total :	M+ 9566.3	8387.3	6413.6	3618.3	947.9	783.5	0.0
V	81.2	138.3	189.2	240.0	283.0	285.4	296.7
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M 9137.6	8123.6	6279.7	3580.6	944.2	780.7	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	86.7	86.7
Deck+Haunch	72.1	72.1
Diaphragm	5.6	5.8
DL-Prec.(DC)	12.7	12.7
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	50.5	50.5
DL-Comp.(DW)	0.0	0.0
Live	104.9	104.9
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 9:02 A.M.

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Version: 12.01.00.57

File Name: Span11EB_Modified Spacing.csl

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Sheet # 12

Job #

Precast Moment (SERVICE I)

Total length = 151.17 ft (Max: 3,275.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

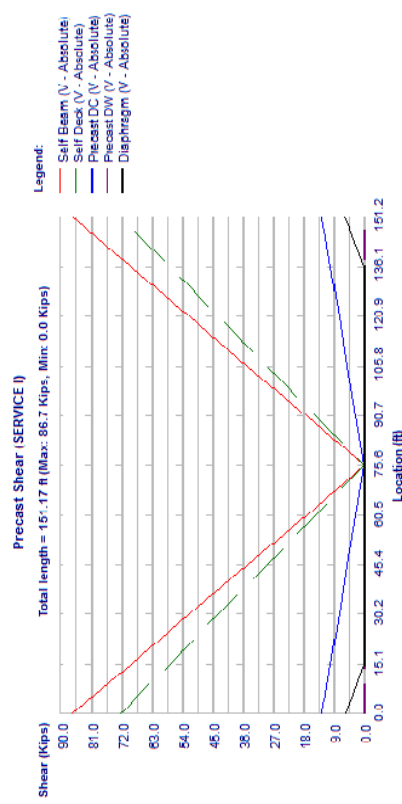
Precast Moment, Span 1, Beam 11, SERVICE I

Units: U.S. Units


Design Code: AASHTO LRFD

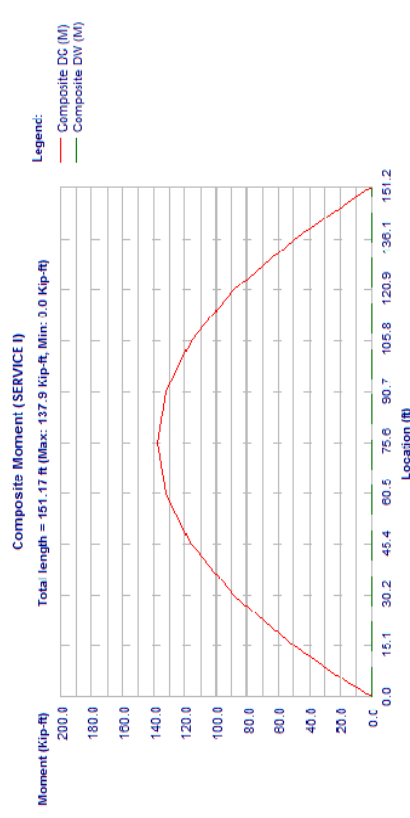
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		Sheet # 13	
		Job #	
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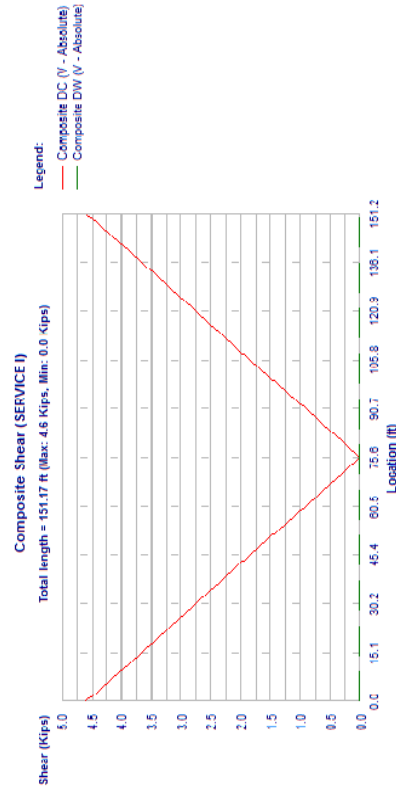
Precast Shear, Span 1, Beam 11, SERVICE I

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		Job #	
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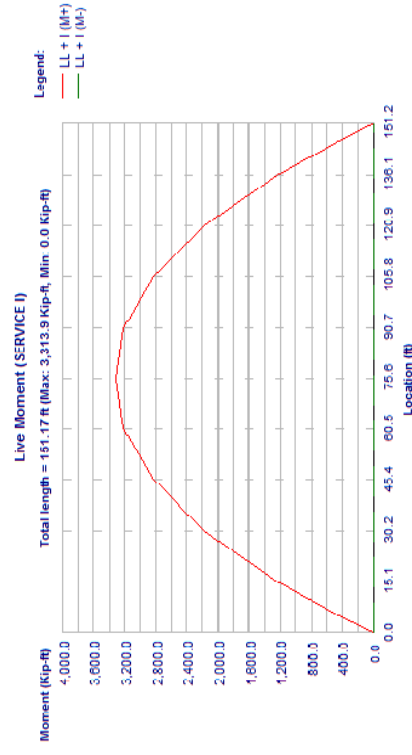
Composite Moment, Span 1, Beam 11, SERVICE I

		Sheet #	15
		Job #	
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		Date	




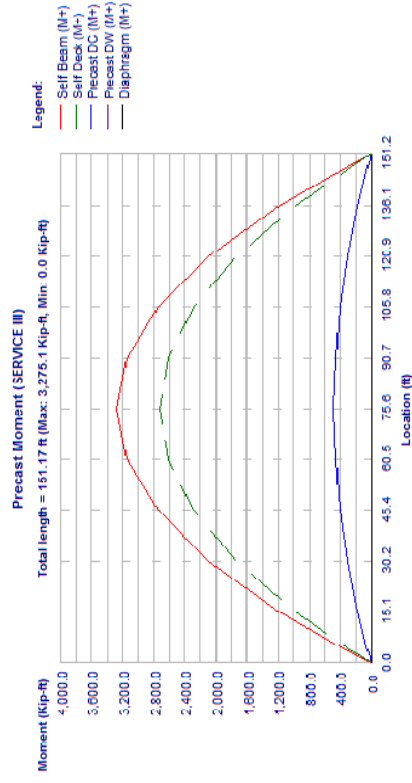
Composite Shear, Span 1, Beam 11, SERVICE I

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		Checked	
		Date	




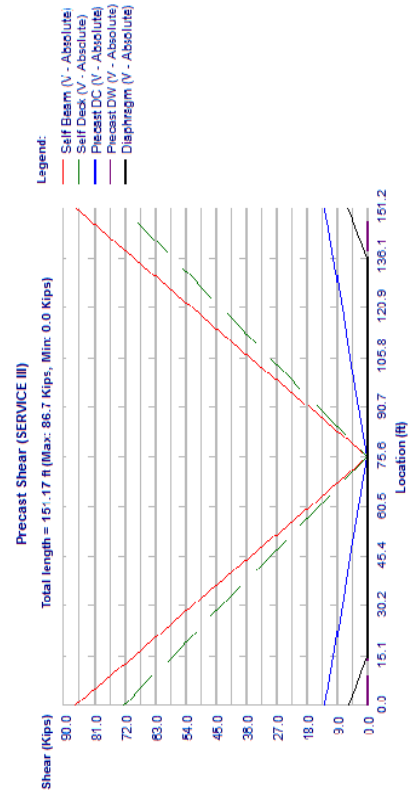
Live Moment, Span 1, Beam 11, SERVICE I

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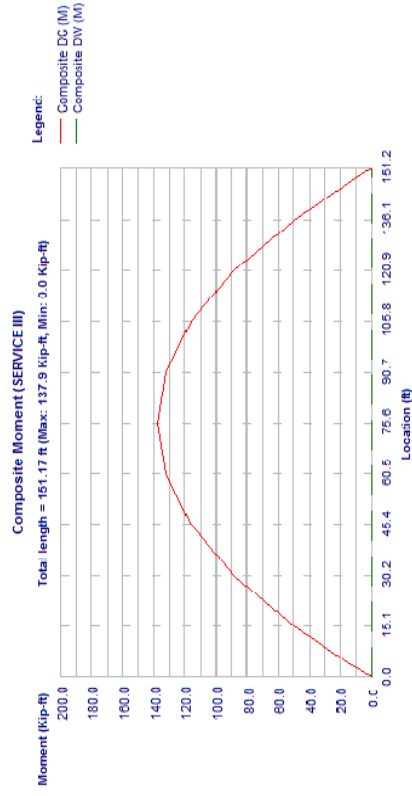
Precast Moment, Span 1, Beam 11, SERVICE III

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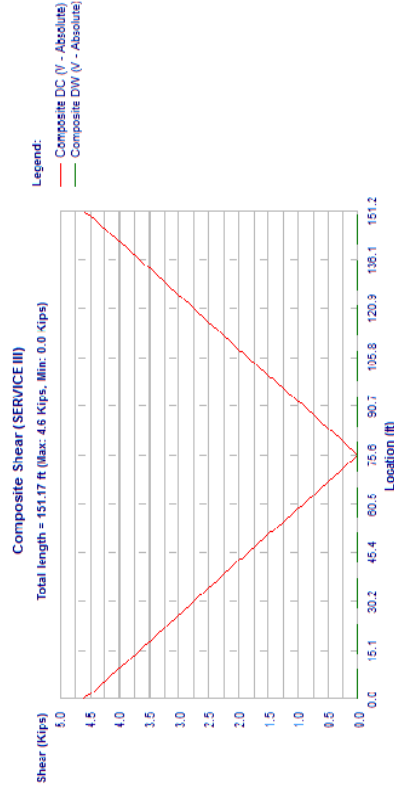
Precast Shear, Span 1, Beam 11, SERVICE III

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Composite Moment, Span 1, Beam 11, SERVICE III

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Composite Shear, Span 1, Beam 11, SERVICE III

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Live Moment (SERVICE III)

Total length = 151.17 ft (Max: 2,651.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
15.1	30.2
30.2	45.4
45.4	60.5
60.5	75.6
75.6	90.7
90.7	105.8
105.8	120.9
120.9	136.1
136.1	151.2

Live Moment, Span 1, Beam 11, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:02 A.M.

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Sheet # 24
Job #

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Live Shear (SERVICE III)

Total length = 151.17 ft (Max: 91.8 Kips, Min: 36.2 Kips)

Legend:
— LL + I (Vmk)
— LL + I (Vmk - Absolute)


Location (ft)	Shear (Kips)
0.0	91.8
15.1	80.0
30.2	68.2
45.4	56.4
60.5	44.6
75.6	32.8
90.7	21.0
105.8	9.2
120.9	-2.6
136.1	-14.4
151.2	-26.2

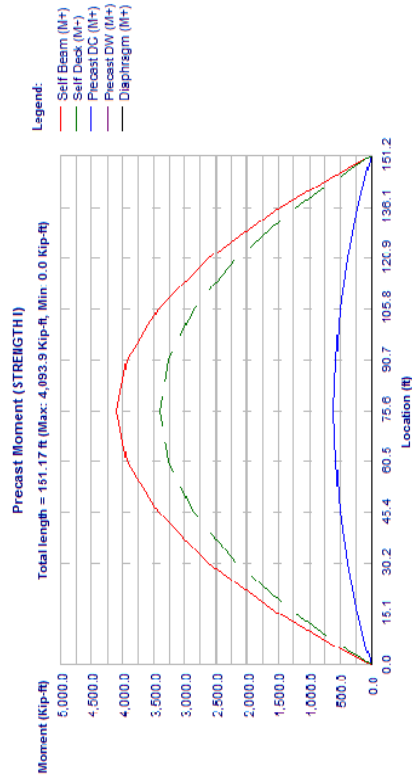
Live Shear, Span 1, Beam 11, SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 11, STRENGTH I
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	3.00	3.65	15.12	30.23	45.35	60.47	75.59
Self wt. : M	0.0	318.5	385.4	1473.8	2620.1	3438.9	3930.1	4093.9
(Max) V	108.3	104.0	103.1	86.7	65.0	43.3	21.7	0.0
Self wt. : M	0.0	229.3	277.5	1061.1	1886.5	2476.0	2829.7	2947.6
(Min) V	78.0	74.9	74.2	62.4	46.8	31.2	15.6	0.0
DL-Prec. : M	0.0	46.7	56.5	216.0	383.9	503.9	575.9	599.9
DC(Max) V	15.9	15.2	15.1	12.7	9.5	6.3	3.2	0.0
DL-Prec. : M	0.0	33.6	40.7	155.5	276.4	362.8	414.7	431.9
DC(Min) V	11.4	11.0	10.9	9.1	6.9	4.6	2.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	265.2	320.9	1227.1	2181.4	2863.1	3272.2	3408.5
Haunch (Max) V	90.2	86.6	85.8	72.1	54.1	36.1	18.0	0.0
Deck + : M	0.0	190.9	231.0	883.5	1570.6	2061.5	2356.0	2454.1

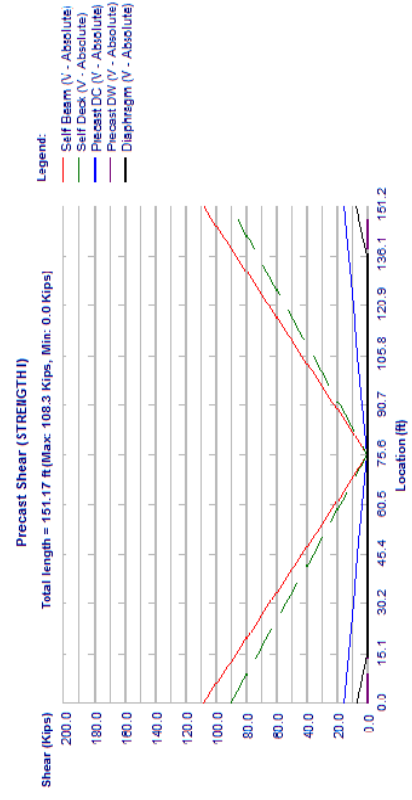
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:02 A.M.

		Sheet #	27
		Job #	
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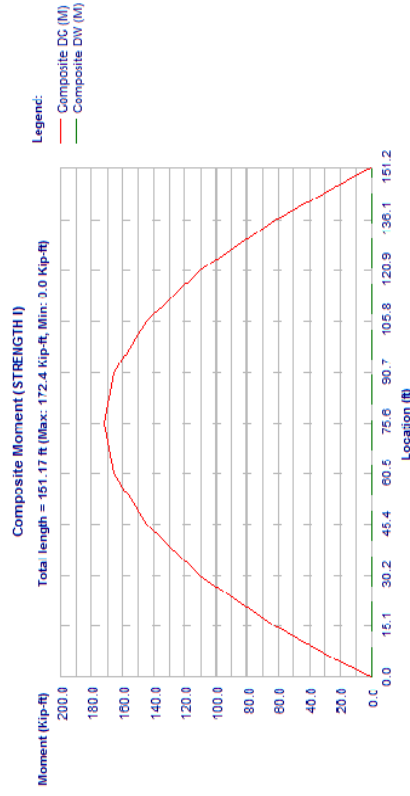
Precast Moment, Span 1, Beam 11, STRENGTH I

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		Job #	
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		Date	




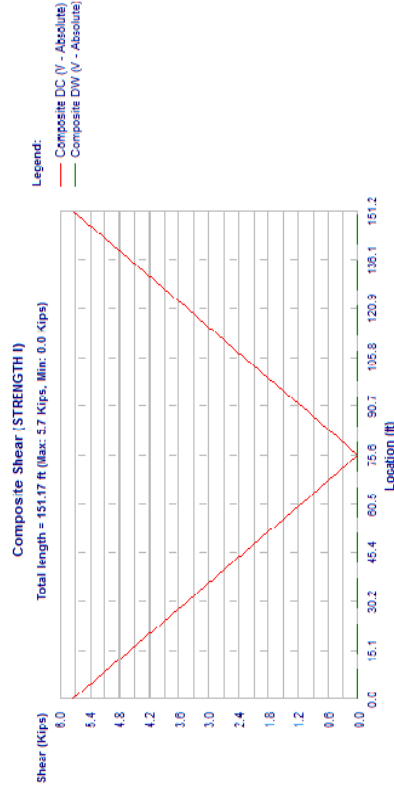
Precast Shear, Span 1, Beam 11, STRENGTH I

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		Job #	
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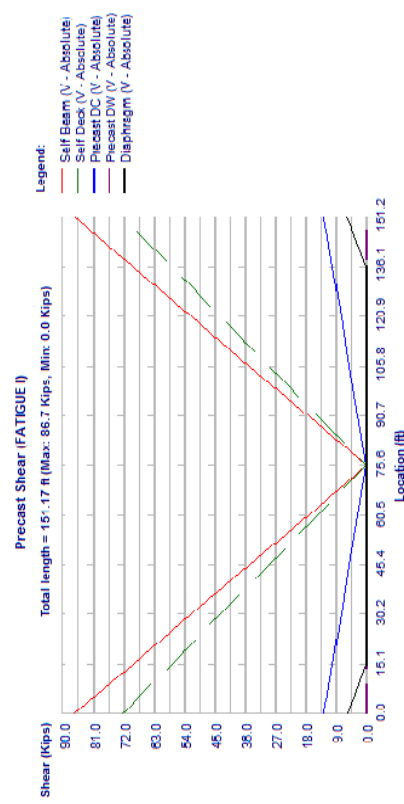
Composite Moment, Span 1, Beam 11, STRENGTH I

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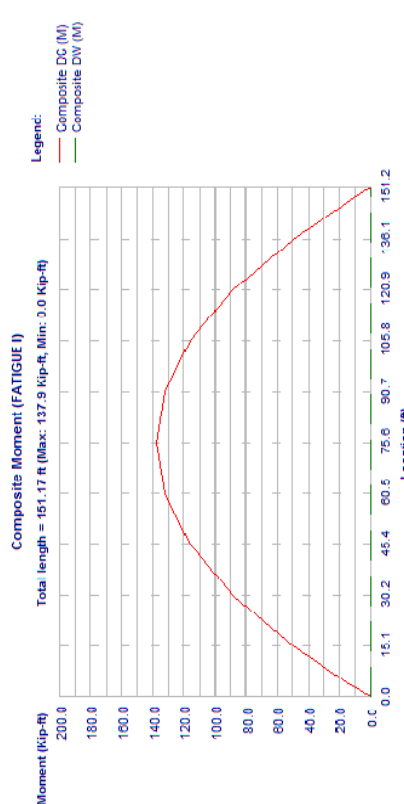
Composite Shear, Span 1, Beam 11, STRENGTH I

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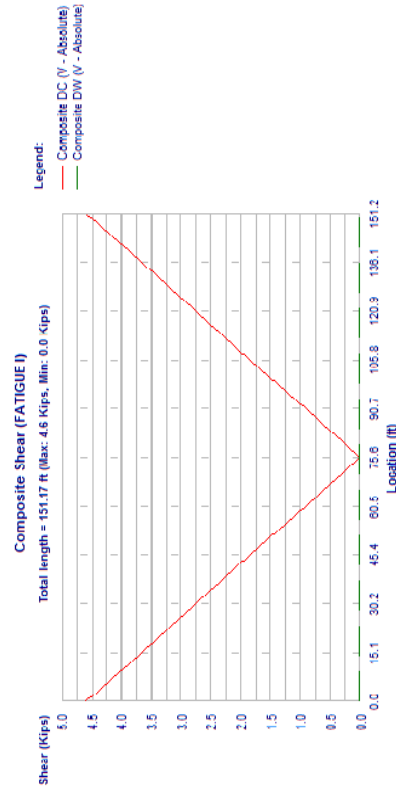
Precast Shear, Span 1, Beam 11, FATIGUE I

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		Job #	
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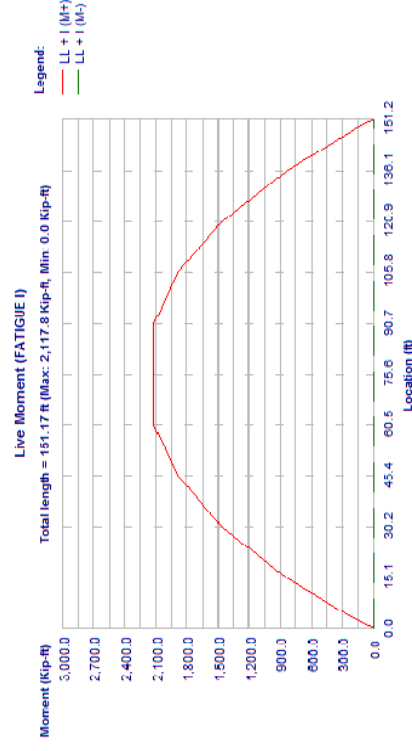
Composite Moment, Span 1, Beam 11, FATIGUE I

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		Job #	
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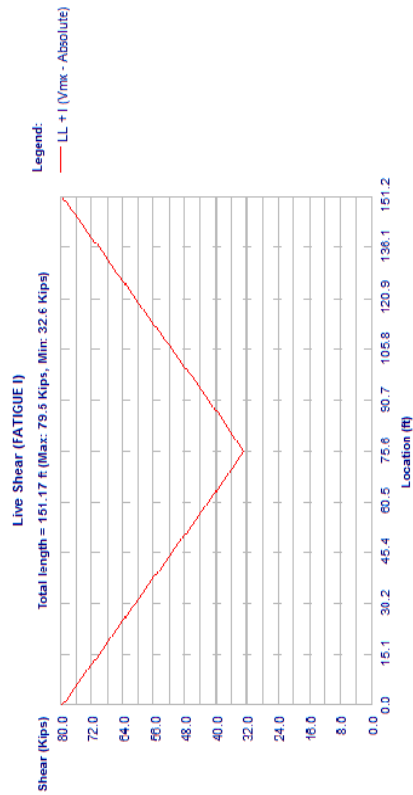
Composite Shear, Span 1, Beam 11, FATIGUE I

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		Job #	
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Live Moment, Span 1, Beam 11, FATIGUE I

				Sheet #	39
				Job #	
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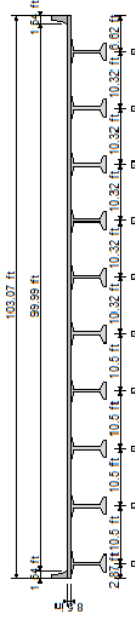


Live Shear, Span 1, Beam 11, FATIGUE I



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No	ID	Length ft	Loc-start ft	Loc-end ft	Area in ²	M((xx) in ⁴)	Height in	Yb in	B-10ppg in	B-bit in
1	FIB-78	142.397	2.96	2.96	1100.6	904567.0	78.00	34.60	48.00	8.122
2	FIB-78	142.397	10.829	10.829	1100.6	904567.0	78.00	34.60	48.00	10.509
3	FIB-78	142.397	10.829	10.829	1100.6	904567.0	78.00	34.60	48.00	10.509
4	FIB-78	142.397	10.829	10.829	1100.6	904567.0	78.00	34.60	48.00	10.509
5	FIB-78	142.397	10.829	10.829	1100.6	904567.0	78.00	34.60	48.00	10.418
6	FIB-78	142.397	10.641	10.641	1100.6	904567.0	78.00	34.60	48.00	10.327
7	FIB-78	142.397	10.641	10.641	1100.6	904567.0	78.00	34.60	48.00	10.327
8	FIB-78	142.397	10.641	10.641	1100.6	904567.0	78.00	34.60	48.00	10.327
9	FIB-78	142.397	10.641	10.641	1100.6	904567.0	78.00	34.60	48.00	10.327
10	FIB-78	142.397	10.641	10.641	1100.6	904567.0	78.00	34.60	48.00	11.781



Bridge cross section

MATERIAL DATA - Project Level

As defined in Material Tab. For beam level properties look at Beam Specific output.

CONCRETE PROPERTIES

	Precast Release	Precast Final	C.I.P
f _c (ksi)	6,000	7,500	5,500
W _c (pcf)	150,000	150,000	150,000
E _c (ksi)	407,684.0	449,096.0	384,583.0
K ₁	0.900	0.900	0.900
Thermal coeff (1/°F)	0.00000600		0.00000600

STRAND AND REBAR PROPERTIES

PRESTRESSED STEEL:

6/10-270K-LL, Low relaxation strands
Depressed at 0.40L

Strand Diameter = 0.600 in

Tensile Strength(fpu) = 270.0 ksi




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Use transformed strand and rebar: Strand Only

REINFORCING STEEL:

Tension/Shear steel: $f_y = 60.0 \text{ ksi}$ $E_s = 29000 \text{ ksi fs} = 24.0 \text{ ksi}$



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LOADS DATA

Loads generated using Permanent Load Wizard: YES

Left Barrier Weight, klf	0.000
Right Barrier Weight, klf	0.000
Left Curb Weight, klf	0.420
Right Curb Weight, klf	0.420
Left Sidewalk, klf	0.000
Right Sidewalk, klf	0.000
Future Wearing Surface, ksf	0.000
Sacrificial Wearing Surface, in	0.000
Slay in Place Deck Forms, klf	0.000


DEAD LOADS ON PRECAST

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

Span	Beam	DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
1	1	DC	Line	0.055	0.000	0.055	140.273	SIP
1	1	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	2	DC	Line	0.110	0.000	0.110	140.273	SIP
1	2	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	3	DC	Line	0.110	0.000	0.110	140.273	SIP
1	3	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	4	DC	Line	0.110	0.000	0.110	140.273	SIP
1	4	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	5	DC	Line	0.108	0.000	0.108	140.273	SIP
1	5	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	6	DC	Line	0.106	0.000	0.106	140.273	SIP
1	6	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	7	DC	Line	0.106	0.000	0.106	140.273	SIP
1	7	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	8	DC	Line	0.106	0.000	0.106	140.273	SIP
1	8	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	9	DC	Line	0.106	0.000	0.106	140.273	SIP
1	9	DC	Line	0.125	0.000	0.125	140.273	Haunch
1	10	DC	Line	0.053	0.000	0.053	140.273	SIP
1	10	DC	Line	0.125	0.000	0.125	140.273	Haunch

DIAPHRAGM LOADS - using Wizard

Span	Magnitude (plf)	Location (ft)	Skew (deg)
1	16.75.000	1.000	-14.154
1	16.75.000	140.000	-14.150



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Span	Beam	Load (kips)	Location (ft)
1	1	8.565	1.000
1	1	8.565	140.003
1	2	17.130	1.000
1	2	17.130	140.003
1	3	17.130	1.000
1	3	17.130	140.002
1	4	17.130	1.000
1	4	17.130	140.001
1	5	16.973	1.000
1	5	16.973	140.000
1	6	16.816	1.000
1	6	16.815	140.000
1	7	16.815	1.000
1	7	16.815	139.999
1	8	16.815	1.000
1	8	16.815	139.998
1	9	16.815	1.000
1	9	16.815	139.998
1	10	8.408	1.000
1	10	8.408	139.997

DEAD LOADS ON COMPOSITE

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf, Area: ksf, Width: ft)

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
1	DC	Line	0.420	0.000	0.420	140.273	Left Curb Weight
1	DC	Line	0.420	0.000	0.420	140.273	Right Curb Weight


TEMPERATURE LOADS - NONE

LIVE LOADS

Live load deflection: not included.

ID	Type
Design Lane	Design Lane
Design Tandem	Design Tandem
Design Truck	Design Truck

Pedestrian Load - NONE



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ANALYSIS DATA
ANALYSIS PARAMETERS DATA

Truck Impact:	1.330
Lane Impact:	1.000
Strength II Impact:	1.330
Fatigue Impact:	1.150

DISTRIBUTION FACTORS (Art. 4.6.2.2):


Is Span Post-tensioned:	NO
Include Rigid Cross Section Assumption (Art. 4.6.2.2.2b):	YES
ADTT (Average Daily Truck Traffic) :	5000
Percent of the specified force effect :	1.00

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service II:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor:	1.00
Redundancy Factor:	1.00
Importance Factor:	1.00



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PROJECT DESIGN PARAMETERS
MULTIPLIERS:

Trans len mult:	Bonded	1.00
	Debonded	1.00
Dev len mult:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self. Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed:	AASHTO equations
Horizontal Shear, Beam and Slab effects in Vu:	INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Max tens, w/reinf	-0.93	ksi
Center	70.00 %	ksi
Max tens	-0.23	ksi
Max tens, w/reinf	-0.59	ksi


STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK	ksi
Strength	7.50	5.50	ksi
Elasticity	4490.96	3845.83	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK	ksi
Max comp	4.50	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

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Max comp	3.38	ksi	2.47	ksi
PRECAST	DECK			

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art. 5.5.3.1):

Max comp	3.00	ksi	-	ksi
PRECAST	DECK			

SERVICE III (Tension):

Max tens	-0.52	ksi	-0.45	ksi
PRECAST	DECK			

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

PRESTRESS LOSSES:

Time Dependent Losses, Approximate Method (Art.5.9.5.3)
Days to release = 0.75
Rel. Humid. (RH) = 75.0 %

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*Average bridge width
TOPPING DATA:

Deck Thickness	8.500 in
Haunch Thickness	1.000 in
Width	60.000 in

GENERAL LOAD DATA:
DEAD LOADS ON PRECAST
UNITS: (Point: kips; Local: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag. 1	Loc. 1	Mag. 2	Loc. 2	Description
DC	Line	0.055	0.000	0.055	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
8.57	1.00
8.57	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397 ft
Release length	142.397 ft
Design length	140.273 ft

KERN POINTS:

Upper	Lower
58.35 in	15.66 in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Section Assumption (Art. 4.6.2.2d): YES

Location	+ve	Moment	Shear
0.0L	2+Lane	1Lane	2+Lane
0.1L	0.732	0.780(#)	0.759
0.2L	0.732	0.780(#)	0.759
0.3L	0.732	0.780(#)	0.759

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:19 A.M.

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*Average bridge width
TOPPING DATA:

Location	+ve	Moment	Shear
0.4L	0.732	0.780(#)	0.759
0.5L	0.732	0.780(#)	0.759
0.6L	0.732	0.780(#)	0.759
0.7L	0.732	0.780(#)	0.759
0.8L	0.732	0.780(#)	0.759
0.9L	0.732	0.780(#)	0.759
1.0L	0.732	0.780(#)	0.759

(#) Lever rule (C4.6.2.2.1)

Pedestrian	0.100 (Calculated)
Comp. DC	0.100 (Calculated)
Comp. DW	0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90


PRECAST SECTION PROPERTIES:

Area	1100.6 in ²
Total Height	78.00 in
Mom. of inertia (I _{xx})	904567 in ⁴
Ht. of c.g.	34.60 in
Density	150.00 pcf
Self-weight	1146.5 plf
Mom. of inertia (I _{yy})	82367.0 in ⁴
Poisson's Ratio	0.2
Thermal Coeff.	0.000006000 17°F


COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	I _{xx}	Ycg	Density	Eff. Width
0.0L	103.07	2071.9 plf	1861.43 in ²	87.5 in	1960649 in ⁴	54.35 in	150.0 pcf	97.5 in

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:19 A.M.

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have been calculated explicitly here, they are not included as a part of stress calculations.
Please see theory section for complete explanation.


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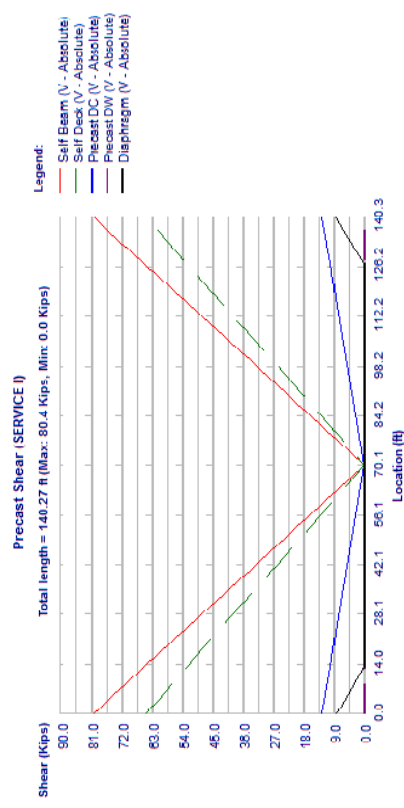
SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE I
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. :	M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6
(Max)	V	80.4	78.2	76.2	65.3	49.0	32.7	16.3
DL-Prec. :	M	-0.0	24.1	44.8	150.7	278.5	369.7	424.5
DC(Max)	V	12.6	12.3	12.0	10.3	7.7	5.1	2.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	124.0	230.5	775.0	1431.8	1900.9	2182.4
Haunch (Max)	V	64.9	63.1	61.5	52.7	39.5	26.4	13.2
Diaphragm :	M	0.0	1.7	3.0	8.0	7.3	6.7	6.1
(Max)	V	8.5	7.3	6.2	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1
DC(Max)	V	5.9	5.7	5.6	4.8	3.6	2.4	1.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	199.6	370.7	1241.4	2277.2	2998.9	3431.8
LL + I :	M-	108.3	106.2	104.3	93.8	78.7	63.6	42.5
LL + I :	V	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	108.3	106.2	104.3	93.8	79.8	66.7	54.2
Total :	M+	-0.0	208.4	384.8	1241.4	2119.1	2688.1	2933.9
Total :	M-	0.0	514.4	955.6	3205.7	5898.5	7803.7	8946.4
Total :	V	280.6	272.7	265.8	226.8	178.5	130.2	75.9
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	280.6	272.7	265.8	226.8	179.6	133.2	87.5
Total :	M	0.0	523.2	969.6	3205.7	5740.5	7492.9	8448.5

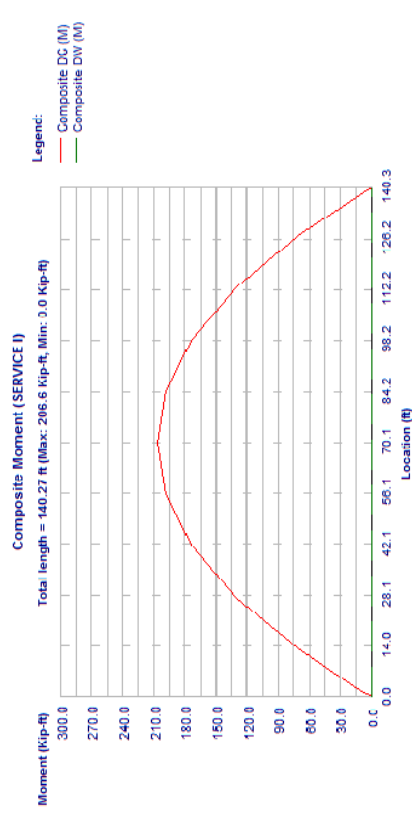
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	84.38	98.62	112.86	127.10	136.63	138.34
Self wt. :	M	2703.6	2354.9	1773.7	960.0	285.5	153.7
(Max)	V	16.3	32.7	49.0	65.3	76.2	78.2
DL-Prec. :	M	424.5	369.7	278.5	150.7	44.8	24.1
DC(Max)	V	2.6	5.1	7.7	10.3	12.0	12.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2182.4	1900.9	1431.8	775.0	230.5	124.0
Haunch (Max)	V	13.2	26.4	39.5	52.7	61.5	63.1
Diaphragm :	M	4.8	4.2	3.5	2.9	1.0	0.6
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	198.1	172.6	130.0	70.5	21.0	7.4
DC(Max)	V	1.2	2.4	3.6	4.8	5.6	5.7
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3431.8	2998.9	2277.2	1241.4	370.7	199.6
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

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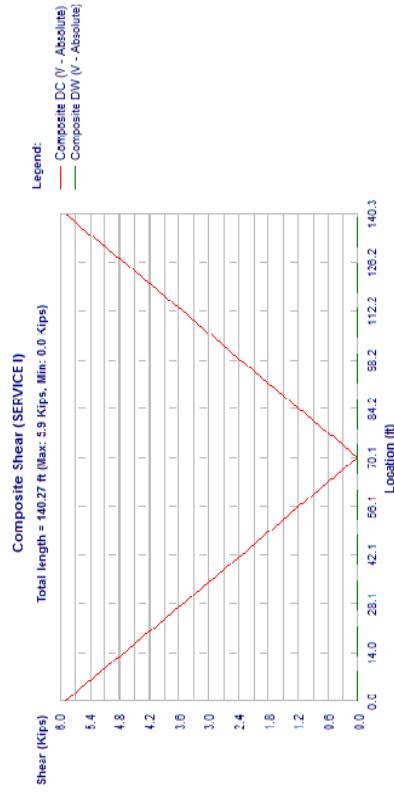
Precast Shear, Span 1, Beam 1, SERVICE I

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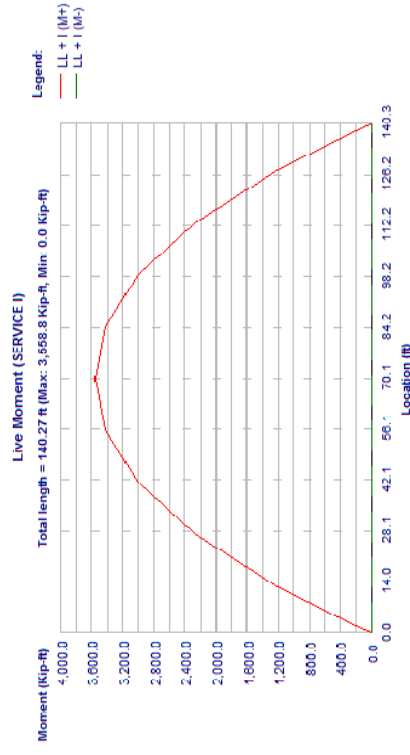
Composite Moment, Span 1, Beam 1, SERVICE I

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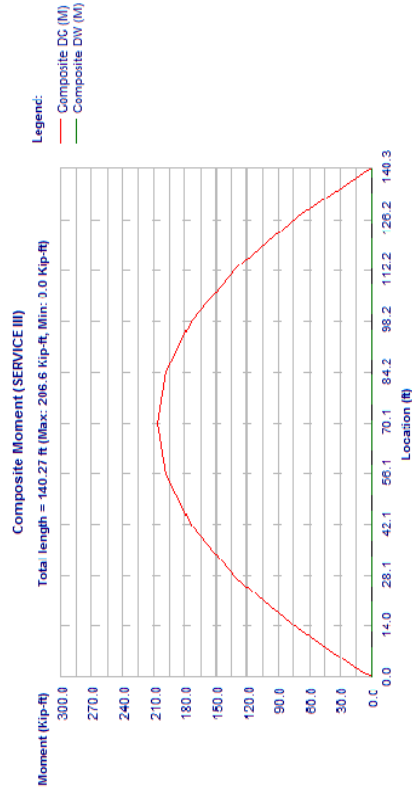
Composite Shear, Span 1, Beam 1, SERVICE I

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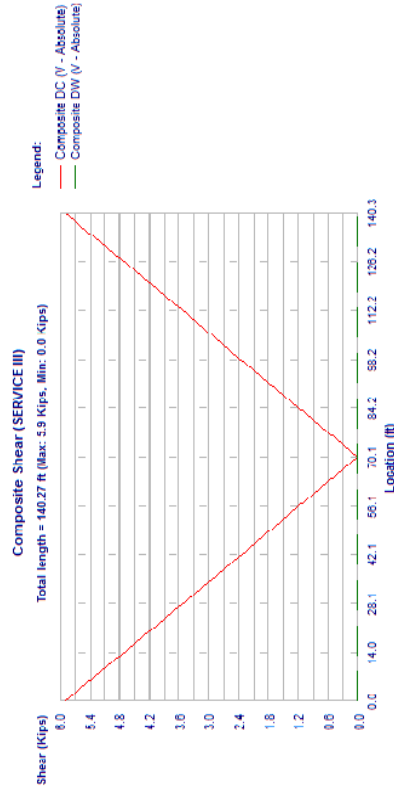
Live Moment, Span 1, Beam 1, SERVICE I

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Composite Moment, Span 1, Beam 1, SERVICE III

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Composite Shear, Span 1, Beam 1, SERVICE III



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	58.4	56.8	55.4	47.4	35.6	23.7	11.9
Diaphragm :	M	0.0	2.1	3.8	10.0	9.2	8.4	7.6
(Max)	V	10.7	9.1	7.7	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	1.5	2.7	7.2	6.6	6.0	5.5
(Min)	V	7.7	6.5	5.6	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	14.1	26.2	88.1	162.5	215.7	247.6
DC(Max)	V	7.4	7.2	7.0	6.0	4.5	3.0	1.5
DL-Comp :	M	-0.0	10.2	18.9	63.4	117.0	155.3	178.3
DC(Min)	V	5.3	5.2	5.0	4.3	3.2	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	349.3	648.7	2172.5	3985.0	5248.1	6005.6
LL + I :	V	189.5	185.8	182.5	164.1	137.7	111.3	74.5
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	189.5	185.8	182.5	164.1	139.7	116.7	94.9
Total :	M	-0.0	364.8	673.3	2172.5	3708.5	4704.1	5134.3
Total :	M+	0.0	742.8	1379.8	4627.8	8511.7	11254.1	12898.9
Total :	V	405.0	394.0	384.3	330.4	262.5	194.5	116.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx	405.0	394.0	384.3	330.4	264.5	199.9	136.5
Total :	M	0.0	758.3	1404.4	4627.8	8235.1	10710.1	12027.5

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. :	M	3379.4	2943.6	2217.1	1200.1	356.9	192.1
(Max)	V	20.4	40.8	61.2	81.6	95.3	97.7
Self wt. :	M	2433.2	2119.4	1596.3	864.0	257.0	138.3
(Min)	V	14.7	29.4	44.1	58.8	68.6	70.4
DL-Prec. :	M	530.6	462.2	348.1	188.4	56.0	30.2
DC(Max)	V	3.2	6.4	9.6	12.8	15.0	15.3
DL-Prec. :	M	382.0	332.8	250.6	135.7	40.3	21.7
DC(Min)	V	2.3	4.6	6.9	9.2	10.8	11.4
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2728.0	2376.2	1789.7	968.7	288.1	155.1
Haunch (Max)	V	16.5	32.9	49.4	65.9	76.9	78.9
Deck + :	M	1964.2	1710.9	1288.6	697.5	207.4	111.6
Haunch (Min)	V	11.9	23.7	35.6	47.4	55.4	56.8
Diaphragm :	M	6.0	5.2	4.4	3.6	1.3	0.7
(Max)	V	0.1	0.1	0.1	0.1	7.8	9.2
Diaphragm :	M	4.3	3.8	3.2	2.6	0.9	0.5
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	247.6	215.7	162.5	88.1	26.2	14.1
DC(Max)	V	1.5	3.0	4.5	6.0	7.0	7.2
DL-Comp :	M	178.3	155.3	117.0	63.4	18.9	10.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.5	100.5
Deck+Haunch	81.1	81.1
Diaphragm	10.7	10.8
DL-Prec. (DC)	15.8	15.8
DL-Prec. (DW)	0.0	0.0
DL-Comp. (DC)	73.6	73.6
DL-Comp. (DW)	0.0	0.0
Live	196.2	196.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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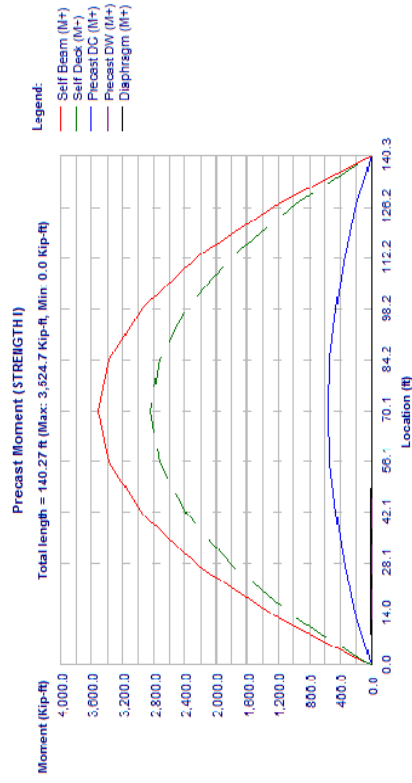
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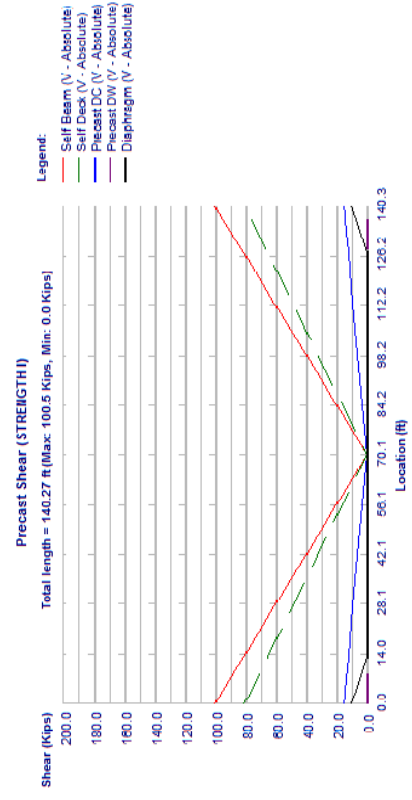
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.1	2.2	3.2	4.3	5.0	5.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6005.6	5248.1	3985.0	2172.5	648.7	349.3
LL + I :	V	74.5	111.3	137.7	164.1	182.5	185.8
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	94.9	116.7	139.7	164.1	182.5	185.8
Total :	M	5134.3	4704.1	3708.5	2172.5	673.3	364.8
Total :	M+	12897.3	11251.0	8506.9	4621.4	1377.3	741.4
Total :	V	116.1	194.5	262.5	330.4	384.4	394.1
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx	136.5	199.9	264.5	330.4	384.4	394.1
Total :	M	12025.9	10707.0	8230.4	4621.4	1401.9	756.9

		Sheet # 27	
Job #		Job #	
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		Date	




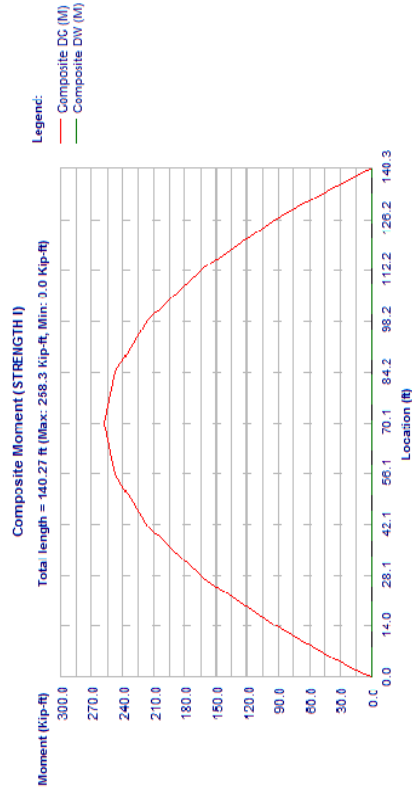
Precast Moment, Span 1, Beam 1, STRENGTH I

		Sheet # 28	
Job #		Job #	
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		Date	




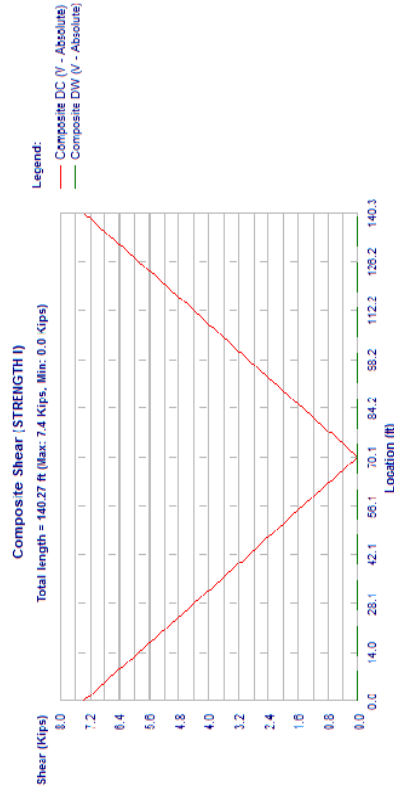
Precast Shear, Span 1, Beam 1, STRENGTH I

		Sheet # 29	
		Job #	
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Composite Moment, Span 1, Beam 1, STRENGTH I

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		Job #	
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Composite Shear, Span 1, Beam 1, STRENGTH I

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Sheet # 31
Job #
Job #
Job #

Live Moment (STRENGTH I)

Total length = 140.27 ft (Max: 6,227.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)

Live Moment, Span 1, Beam 1, STRENGTH I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:19 A.M.

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Sheet # 32
Job #
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Live Shear (STRENGTH I)

Total length = 140.27 ft (Max: 189.5 Kips, Min: 74.4 Kips)


Legend:
— LL + I (Vmk - Absolute)

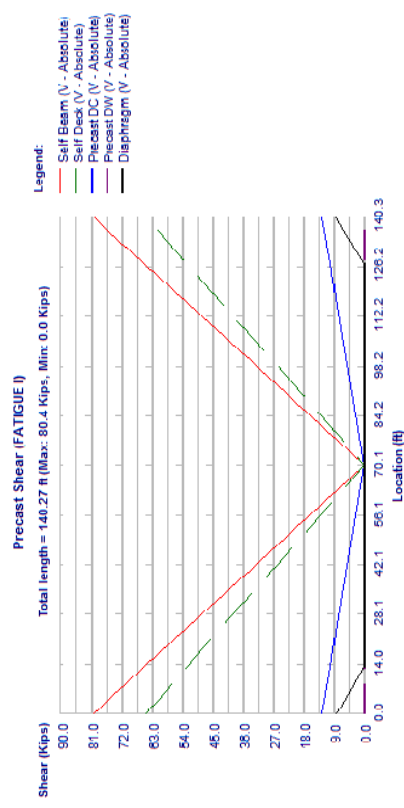
Location (ft)

Live Shear, Span 1, Beam 1, STRENGTH I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, FATIGUE I
Shears: kips, Moments: kft

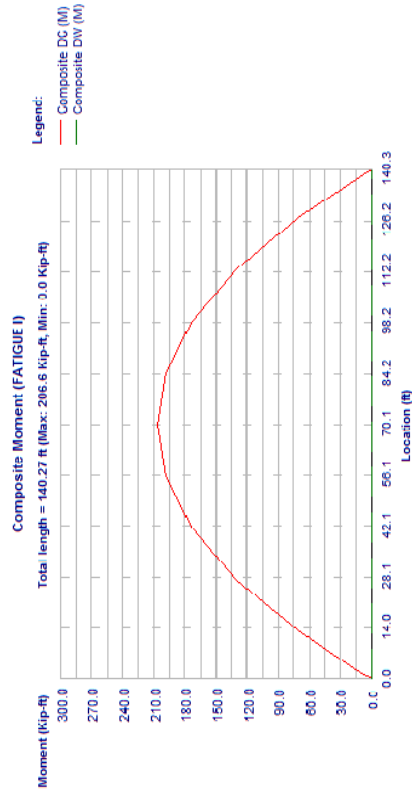
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	0.00	1.94	3.65	13.18	27.42	41.66	70.14
Self wt. :	M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6
(Max)	V	80.4	78.2	76.2	65.3	49.0	32.7	16.3
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	-0.0	24.1	44.8	150.7	278.5	369.7	424.5
DC(Max)	V	12.6	12.3	12.0	10.3	7.7	5.1	2.6
DL-Prec. :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	124.0	230.5	775.0	1431.8	1900.9	2182.4
Haunch (Max)	V	64.9	63.1	61.5	52.7	39.5	26.4	13.2
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		Sheet # 35	
		Job #	
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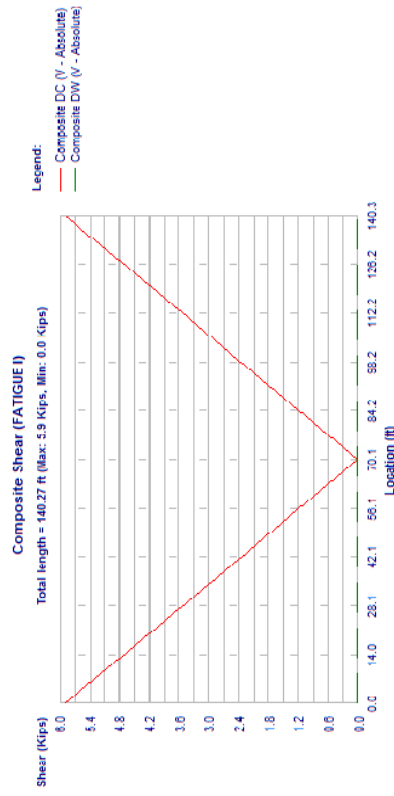
Precast Shear, Span 1, Beam 1, FATIGUE I

		Sheet # 36	
		Job #	
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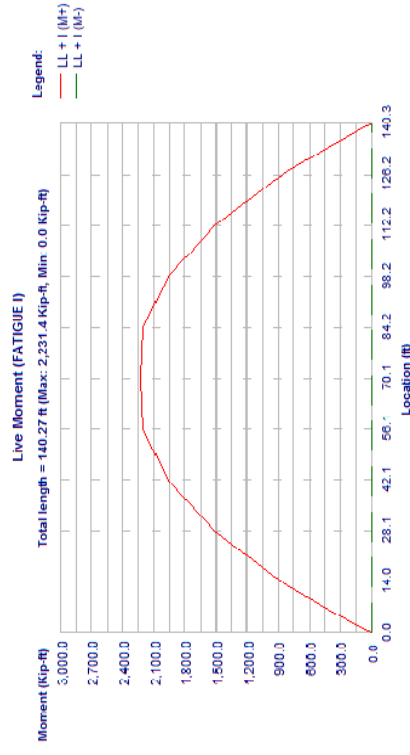
Composite Moment, Span 1, Beam 1, FATIGUE I

		Sheet #	37
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span12EB_ModifiedSpacing.csl		Designed KSM	
		Date	Sept/9/2013
		Checked	
		Date	




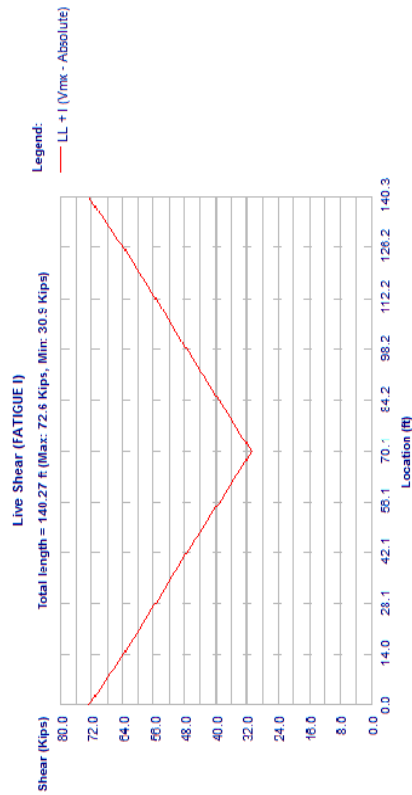
Composite Shear, Span 1, Beam 1, FATIGUE I

		Sheet #	38
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span12EB_ModifiedSpacing.csl		Designed KSM	
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		Checked	
		Date	



Live Moment, Span 1, Beam 1, FATIGUE I

				Sheet #	39
				Job #	
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Live Shear, Span 1, Beam 1, FATIGUE I

Bentley

Program:

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Version:

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File Name:

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Sheet #

3

Job #

Designed KSM

Date

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Date

*Average bridge width

TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.110	0.000	0.110	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
17.13	1.00
17.13	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397	ft
Release length	142.397	ft
Design length	140.273	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve	Moment	Shear
	2+Lane	1Lane	1Lane
0.0L	0.801	0.529	1.034
0.1L	0.801	0.529	1.034
0.2L	0.801	0.529	1.034
0.3L	0.801	0.529	1.034

Units: U.S. Units

Design Code: AASHTO LRFD

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Bentley

Program:

LEAPe CONSPAN® V8i (SELECTseries 5)

Version:

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File Name:

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Sheet #

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Job #

Designed KSM

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*Average bridge width

Location	+ve	Moment	Shear
0.4L	0.801	0.529	1.034
0.5L	0.801	0.529	1.034
0.6L	0.801	0.529	1.034
0.7L	0.801	0.529	1.034
0.8L	0.801	0.529	1.034
0.9L	0.801	0.529	1.034
1.0L	0.801	0.529	1.034

Pedestrian	0.100	(Calculated)
Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in2
Total Height	78.00	in
Mom. of Inertia (Ixx)	904567	in4
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (Iyy)	82367.0	in4
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/F


COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
		plf	in2	in	in4	in	pcf	in
0.0L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.1L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.2L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.3L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.4L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1

Units: U.S. Units

Design Code: AASHTO LRFD

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in2	in	in4	in	pcf	in
0.5L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.6L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.7L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.8L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.9L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
1.0L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1

(#) Area, Ixx, and Ycg Of Total Section using $E_{cf}/E_c = 0.8563$
 Use transformed strand and rebar: Strand Only


Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using $E_c = 4016.8$ ksi)	in2	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Area, Yb, MI(XX),	in2	1121.7	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
	in	34.09	33.21	33.21	33.18	33.15	33.11	33.07	33.07
	in4	919627	945984	946245	947719	949967	952273	954636	954636
Composite: (At Final, using $E_c = 4491.0$ ksi)	in2	2088.4	2122.1	2122.1	2122.1	2122.1	2122.1	2122.1	2122.1
Area, Yb, MI(XX),	in	56.83	56.04	56.04	56.03	56.01	55.99	55.97	55.97
	in4	2163639	2244493	2244926	2247353	2251022	2254743	2258515	2258515

Span:1, Beam:2
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00*	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
	5.50	ksi
	3845.83	ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	ksi
	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38	ksi
	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00	ksi
	-	ksi

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52	ksi
	-0.45	ksi

Span:1, Beam:2
 PRESTRESSED STEEL:
 45 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.96 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3,000 in	12 @ 5,000 in	6 @ 7,000 in	1 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Ycg = 4.82 in):


(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	6 @ 7,000 in	1 @ 9,000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	9.765	in2
Trans. Len,bonded	3.000	ft
Trans. Len,debonded	3.000	ft



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** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 178.1 ksi < 0.80 fpy, OK



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max) V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0
DL-Prec. : M	0.0	31.5	58.5	196.8	363.6	482.7	554.2	578.0
DC(Max) V	16.5	16.0	15.6	13.4	10.0	6.7	3.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	158.0	293.7	987.4	1824.2	2421.9	2780.6	2900.1
Haunch (Max) V	82.7	80.4	78.4	67.2	50.4	33.6	16.8	0.0
Diaphragm : M	-0.0	3.4	6.1	16.0	14.7	13.4	12.2	10.9
(Max) V	17.0	14.5	12.4	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max) V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	204.7	380.2	1273.4	2335.7	3076.0	3520.0	3650.3
V	138.8	136.0	133.6	120.1	100.8	81.5	54.5	35.2
LL + I : M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : Mmx	138.8	136.0	133.6	120.1	102.3	85.4	69.5	54.5
Total : M	-0.0	213.8	394.7	1273.4	2173.6	2757.2	3009.3	2960.6
M+	0.0	562.6	1045.0	3504.0	6441.9	8521.5	9768.6	10165.6
V	341.3	330.9	321.8	270.9	213.9	156.9	92.3	35.3
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	341.3	330.9	321.8	270.9	215.3	160.8	107.2	54.6
Total : M	0.0	571.6	1059.4	3504.0	6279.8	8202.7	9257.8	9476.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. : M	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0
(Max) V	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec. : M	554.2	482.7	363.6	196.8	58.5	31.5	0.0
DC(Max) V	3.3	6.7	10.0	13.4	15.6	16.0	16.5
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2780.6	2421.9	1824.2	987.4	293.7	158.0	0.0
Haunch (Max) V	16.8	33.6	50.4	67.2	78.4	80.4	82.7
Diaphragm : M	9.6	8.3	7.1	5.8	2.1	1.1	-0.0
(Max) V	0.1	0.1	0.1	0.1	12.5	14.7	17.2
DL-Comp : M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max) V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	3520.0	3076.0	2335.7	1273.4	380.2	204.7	-0.0

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Version: 12.01.00.57

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Sheet # 11

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Designed KSM

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 54.5	81.5	100.8	120.1	133.6	136.0	138.8
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	69.5	85.4	102.3	120.1	133.6	136.0	138.8
M	3009.3	2757.2	2173.6	1273.4	394.6	213.8	0.0
Total :	M+ 9766.0	8576.4	6434.3	3493.9	1041.0	560.4	0.0
V	92.3	156.9	213.9	270.9	321.9	331.1	341.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	107.2	160.8	215.3	270.9	321.9	331.1	341.5
M	9255.3	8197.6	6272.2	3493.9	1055.4	569.4	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	82.7	82.7
Diaphragm	17.0	17.2
DL-Prec.(DC)	16.5	16.5
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 9:20 A.M.

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Precast Moment (SERVICE I)


Total length = 140.27 ft (Max: 2,900.1 Kip-ft, Min: 0.0 Kip-ft)

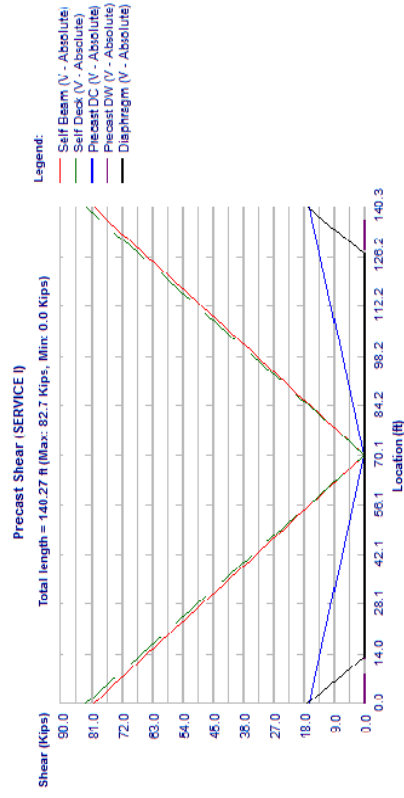
Precast Moment, Span 1, Beam 2, SERVICE I

Units: U.S. Units


Design Code: AASHTO LRFD

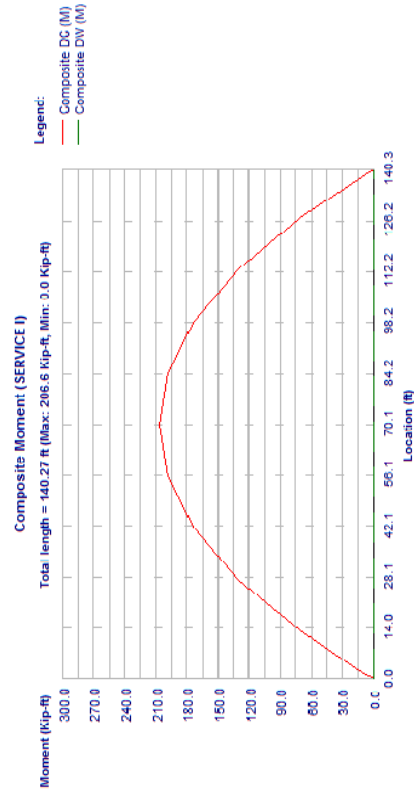
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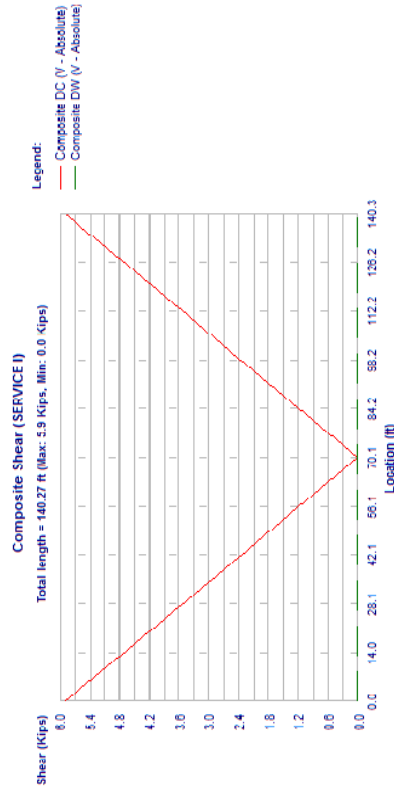
Precast Shear, Span 1, Beam 2, SERVICE I

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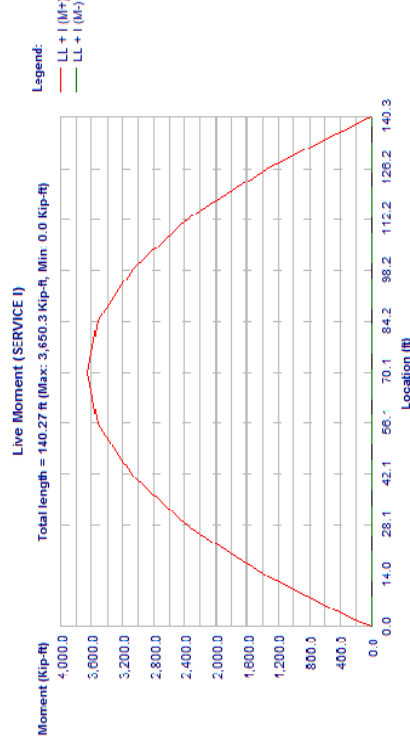
Composite Moment, Span 1, Beam 2, SERVICE I

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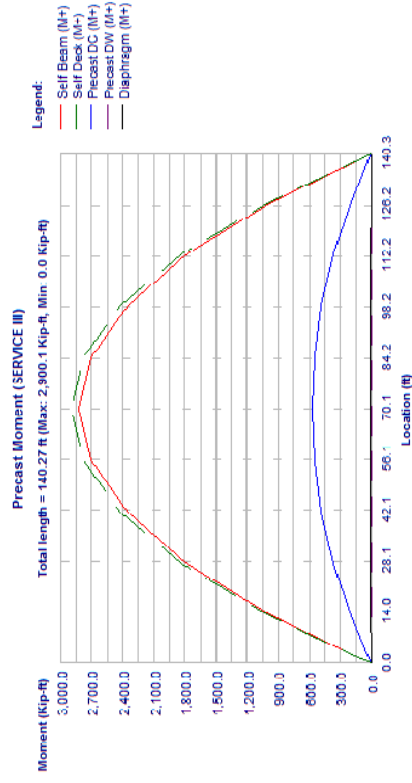
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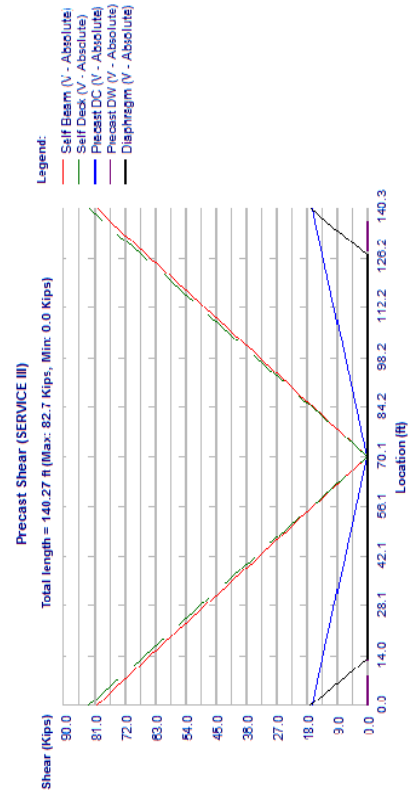
Live Moment, Span 1, Beam 2, SERVICE I

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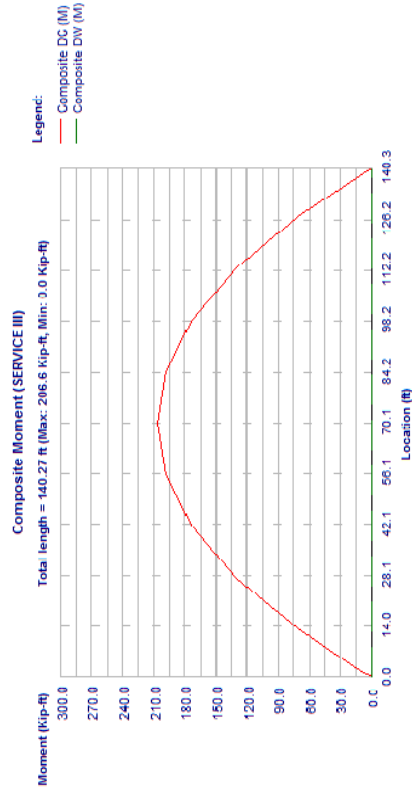
Precast Moment, Span 1, Beam 2, SERVICE III

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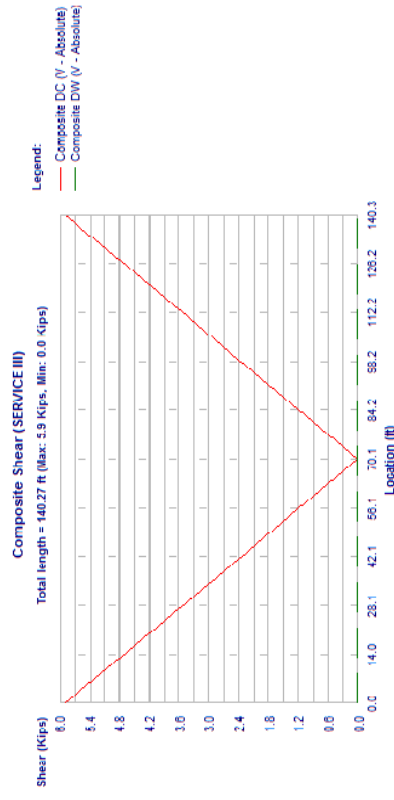
Precast Shear, Span 1, Beam 2, SERVICE III

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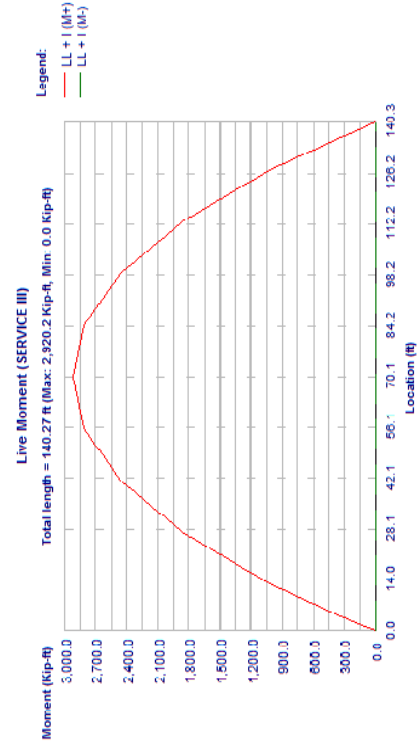
Composite Moment, Span 1, Beam 2, SERVICE III

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Composite Shear, Span 1, Beam 2, SERVICE III


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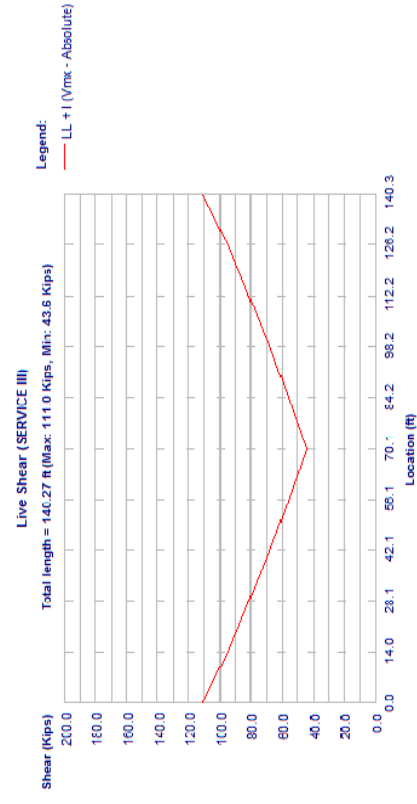


Live Moment, Span 1, Beam 2, SERVICE III


	ft	Bearing	Trans	H2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	M	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt.,	M	0.00	192.1	356.9	1200.1	2217.1	2943.6	3379.4	3524.7
(Max)	M	100.5	97.7	95.3	81.6	61.2	40.8	20.4	0.0
Self wt.,	V	0.00	138.3	257.0	864.0	1596.3	2119.4	2433.2	2537.8
(Min)	V	72.4	70.4	68.6	58.8	44.1	29.4	14.7	0.0
DL-Prec.,	M	0.00	39.4	73.2	246.0	454.5	603.4	692.7	722.5
DC(Max)	V	20.6	20.0	19.5	16.7	12.5	8.4	4.2	0.0
DL-Prec.,	M	0.00	28.3	52.7	177.1	327.2	434.4	498.8	520.2
DC(Min)	V	14.8	14.4	14.1	12.0	9.0	6.0	3.0	0.0
DL-Prec.,	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.,	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + ,	M	0.00	197.5	367.1	1234.2	2280.3	3027.4	3475.7	3625.1
Haunch (Max)	M	103.4	100.5	98.0	84.0	63.0	42.0	21.0	0.0
Deck + ,	V	0.00	142.2	264.3	888.6	1641.8	2179.7	2502.5	2610.1

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, STRENGTH
Shears: kips, Moments: kft

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Live Shear. Span 1. Beam 2. SERVICE III



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	74.4	72.4	70.6	60.4	45.3	30.2	15.1
Diaphragm :	M	-0.0	4.2	7.6	19.9	18.4	16.8	13.6
(Max)	V	21.3	18.2	15.4	0.1	0.1	0.1	0.1
Diaphragm :	M	-0.0	3.0	5.5	14.4	13.2	12.1	10.9
(Min)	V	15.3	13.1	11.1	0.1	0.1	0.1	0.1
DL-Comp :	M	-0.0	14.1	26.2	88.1	162.5	215.7	247.6
DC(Max)	V	7.4	7.2	7.0	6.0	4.5	3.0	1.5
DL-Comp :	M	-0.0	10.2	18.9	63.4	117.0	155.3	178.3
DC(Min)	V	5.3	5.2	5.0	4.3	3.2	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	358.3	665.4	2228.4	4087.5	5383.1	6160.1
LL + I :	V	242.9	238.1	233.8	210.3	176.5	142.7	95.4
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	242.9	238.1	233.8	210.3	179.0	149.5	121.6
Total :	M	-0.0	374.1	690.6	2228.4	3803.8	4825.1	5266.3
Total :	M+	0.0	805.6	1496.4	5016.7	920.2	12189.9	13970.7
Total :	M-	496.0	481.7	469.1	398.7	317.8	236.9	142.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	496.0	481.7	469.1	398.7	320.3	243.8	168.8
Total :	M	0.0	821.5	1521.6	5016.7	8936.5	11631.9	13076.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. :	M	3379.4	2943.6	2217.1	1200.1	356.9	192.1
(Max)	V	20.4	40.8	61.2	81.6	95.3	97.7
Self wt. :	M	2433.2	2119.4	1596.3	864.0	257.0	138.3
(Min)	V	14.7	29.4	44.1	58.8	68.6	70.4
DL-Prec :	M	692.7	603.4	454.5	246.0	73.2	39.4
DC(Max)	V	4.2	8.4	12.5	16.7	19.5	20.6
DL-Prec :	M	498.8	434.4	327.2	177.1	52.7	28.3
DC(Min)	V	3.0	6.0	9.0	12.0	14.1	14.8
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3475.7	3027.4	2280.3	1234.2	367.1	197.5
Haunch (Max)	V	21.0	42.0	63.0	84.0	98.0	100.5
Deck + :	M	2502.5	2179.7	1641.8	888.6	264.3	142.2
Haunch (Min)	V	15.1	30.2	45.3	60.4	70.6	72.4
Diaphragm :	M	12.0	10.4	8.8	7.3	2.6	1.4
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	8.7	7.5	6.4	5.2	1.8	1.0
(Min)	V	0.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	247.6	215.7	162.5	88.1	26.2	14.1
DC(Max)	V	1.5	3.0	4.5	6.0	7.0	7.4
DL-Comp :	M	178.3	155.3	117.0	63.4	18.9	10.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.5	100.5
Deck+Haunch	103.4	103.4
Diaphragm	21.3	21.5
DL-Prec (DC)	20.6	20.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	73.6	73.6
DL-Comp (DW)	0.0	0.0
Live	196.2	196.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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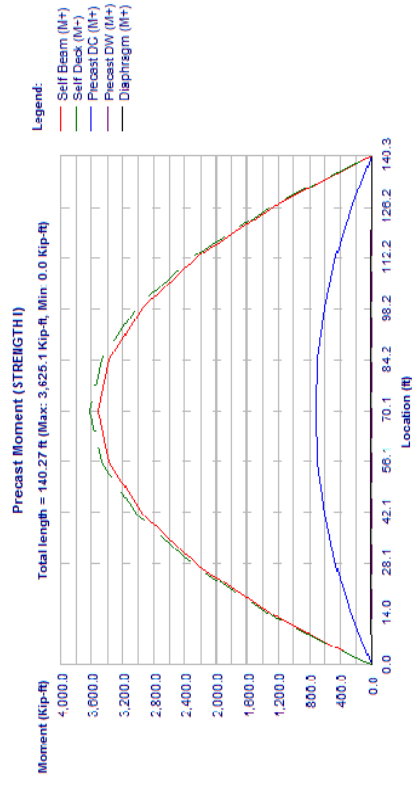
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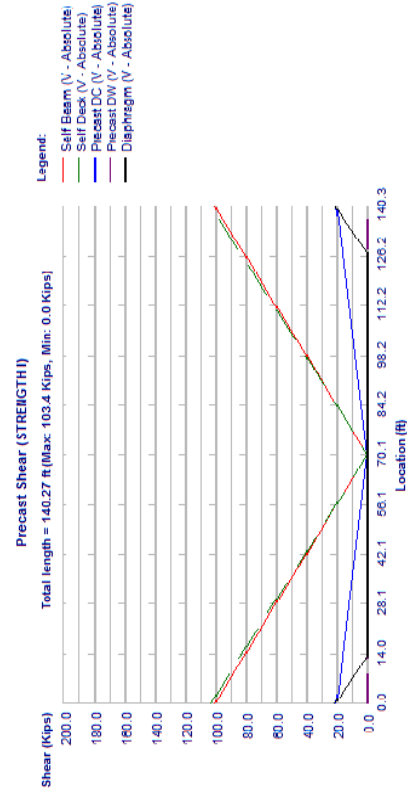
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DC(Min)	V	1.1	2.2	3.2	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6160.1	5383.1	4087.5	2228.4	665.4	358.3
LL + I :	V	95.4	142.7	176.5	210.3	233.8	242.9
LL + I :	M-	0.0	0.0	0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	121.6	149.5	179.0	210.3	233.8	242.9
Total :	M	5266.3	4825.1	3803.8	2228.4	690.6	374.1
Total :	M+	13967.5	12183.5	9210.7	5004.0	1491.3	802.8
Total :	M-	142.6	236.9	317.8	398.7	469.2	481.9
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	168.8	243.8	320.3	398.7	469.2	481.9
Total :	M	13073.7	11625.6	8927.0	5004.0	1516.6	818.6

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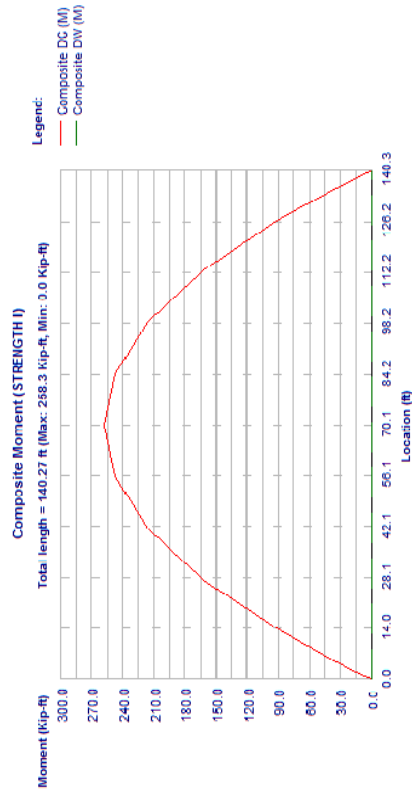
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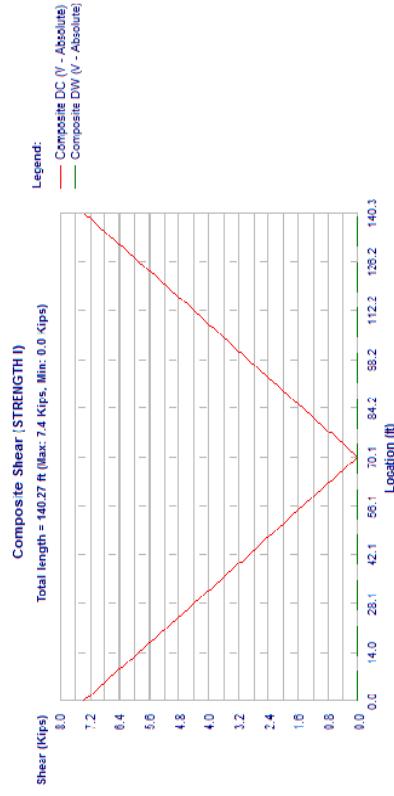
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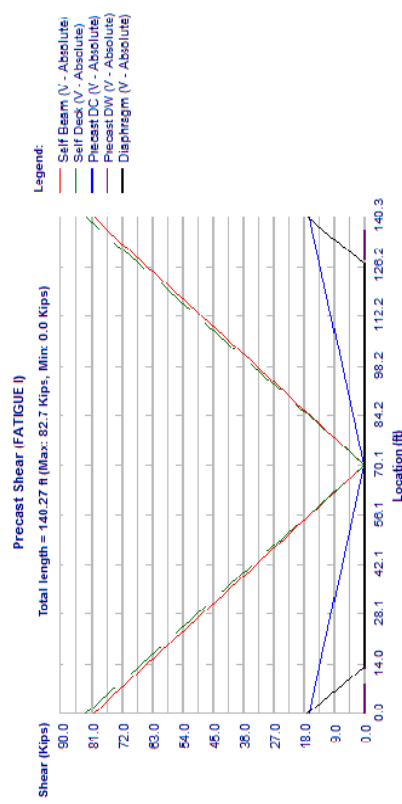
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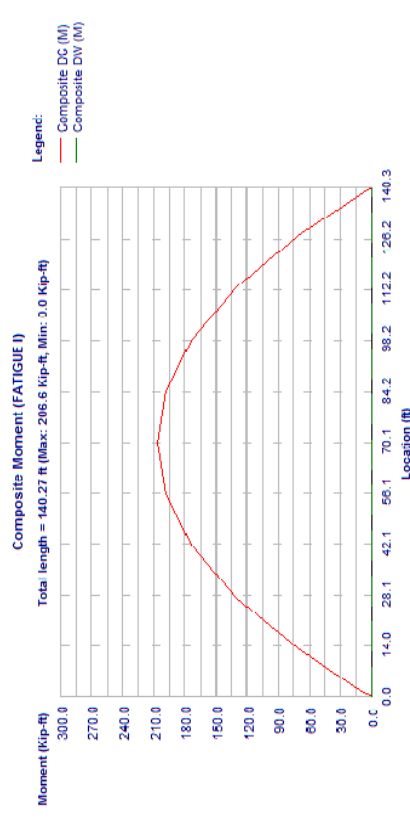
Composite Shear, Span 1, Beam 2, STRENGTH I

		Sheet # 35	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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File Name: Span12EB_ModifiedSpacing.csl			




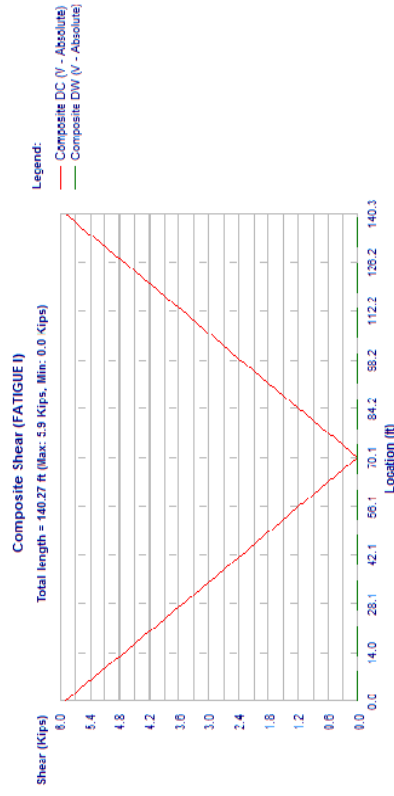
Precast Shear, Span 1, Beam 2, FATIGUE I

		Sheet # 36	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
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Phone: 1-800-778-4277			
File Name: Span12EB_ModifiedSpacing.csl			




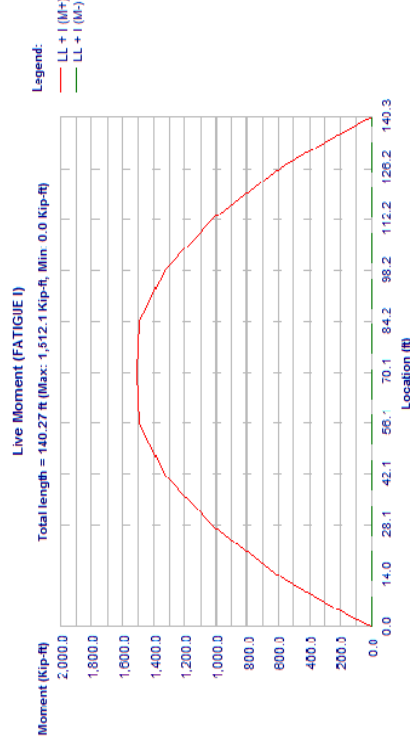
Composite Moment, Span 1, Beam 2, FATIGUE I

		Sheet #	37
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span12EB_ModifiedSpacing.csl		Designed KSM	
		Date	Sept/9/2013
		Checked	
		Date	



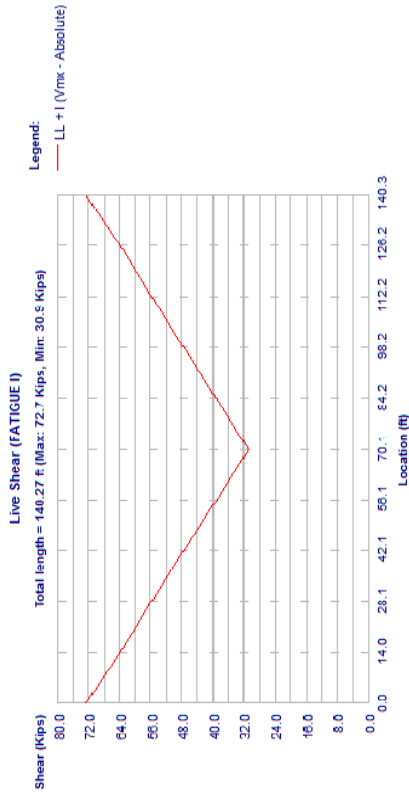
Composite Shear, Span 1, Beam 2, FATIGUE I

		Sheet #	38
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span12EB_ModifiedSpacing.csl		Designed KSM	
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		Checked	
		Date	



Live Moment, Span 1, Beam 2, FATIGUE I

		Sheet # 39	
Job #		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
File Name: Span12EB_ModifiedSpacing.csl		Checked	
		Date	



Live Shear, Span 1, Beam 2, FATIGUE I

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Program:

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Version:

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File Name:

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Sheet #

3

Job #

Designed KSM

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*Average bridge width

TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.110	0.000	0.110	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
17.13	1.00
17.13	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397	ft
Release length	142.397	ft
Design length	140.273	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve	Moment	Shear
	2+Lane	1Lane	1Lane
0.0L	0.801	0.529	1.034
0.1L	0.801	0.529	1.034
0.2L	0.801	0.529	1.034
0.3L	0.801	0.529	1.034

Units: U.S. Units

Design Code: AASHTO LRFD

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Program:

LEAPe CONSPAN® V8i (SELECTseries 5)

Version:

12.01.00.57

File Name:

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Sheet #

4

Job #

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Date

*Average bridge width

Location	+ve	Moment	Shear
0.4L	0.801	0.529	1.034
0.5L	0.801	0.529	1.034
0.6L	0.801	0.529	1.034
0.7L	0.801	0.529	1.034
0.8L	0.801	0.529	1.034
0.9L	0.801	0.529	1.034
1.0L	0.801	0.529	1.034

Pedestrian	0.100	(Calculated)
Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in2
Total Height	78.00	in
Mom. of Inertia (Ixx)	904567	in4
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (Iyy)	82367.0	in4
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/F


COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
		plf	in2	in	in4	in	pcf	in
0.0L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.1L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.2L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.3L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.4L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 9:20 A.M.

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		Designed KSM Date Sept/9/2013 Checked Date	
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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in2	in	in4	in	pcf	in
0.5L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.6L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.7L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.8L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.9L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
1.0L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	in2	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Area, Yb, MI(XX),	in4	1121.7	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
		34.09	33.21	33.21	33.18	33.15	33.11	33.07	33.07
		919627	945984	946245	947719	949967	952273	954636	954636
Composite: (At Final, using Ec = 4491.0ksi)	in2	2088.4	2122.1	2122.1	2122.1	2122.1	2122.1	2122.1	2122.1
Area, Yb, MI(XX),	in4	56.83	56.04	56.04	56.03	56.01	55.99	55.97	55.97
		2163639	2244493	2244926	2247353	2251022	2254743	2258515	2258515

Span:1, Beam:3
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00*	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50	ksi
Elasticity	4490.96	ksi
	5.50	ksi
	3845.83	ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50	ksi
	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38	ksi
	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00	ksi
	-	ksi

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52	ksi
	-0.45	ksi

Span:1, Beam:3
 PRESTRESSED STEEL:
 45 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.96 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
7 @ 11.000 in	5 @ 13.000 in	3 @ 15.000 in	1 @ 17.000 in

MID PATTERN (Ycg = 4.82 in):

(A) Draped:

7 @ 3.000 in	5 @ 5.000 in	3 @ 7.000 in	1 @ 9.000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	9.765	in2
Trans. Len,bonded	3.000	ft
Trans. Len,debonded	3.000	ft

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Dev. Len bonded 11,603 ft
Holddown Force 14,504 kips
Tensile Strength (fpu) 8,229 kips
Initial Prestress = 0.75fpu 270.0 ksi
Initial Pull 202.5 kips
Beam Shring (PL/AE) 1977.4 kips
0.725 in

ENDS

MIDSPAN

3"

Strands

Number

Dist. from bottom(in)

7

11

Drapped strands

Number

Dist. from bottom(in)

5

13

1

17

Strand Pattern, Span 1, Beam 3

Strands

Strips

Concrete

Beam

Longitudinal Bars

6408.011

740

4741.928

40.309

163253.141

1138.333

0.000

Span:1, Beam:3

ESTIMATED QUANTITIES

REINFORCING STEEL:

Tension steel:

fy

60.0

ksi

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Tension steel:

Es

29000

ksi

fy

24.0

ksi

Stirrups:

legs

Size

fy (ksi)

Area (in2)

Spacing (in)

Start (ft)

End (ft)

Extends into Deck

2

US#5(M16)

60.0

0.62

3.00

0.0000

1.5348

No

2

US#5(M16)

60.0

0.62

6.00

1.5348

2.9160

No

2

US#5(M16)

60.0

0.62

18.00

2.9160

7.3087

No

2

US#5(M16)

60.0

0.62

24.00

7.3087

135.0886

No

2

US#5(M16)

60.0

0.62

18.00

135.0886

139.4816

No

2

US#5(M16)

60.0

0.62

6.00

139.4816

140.8629

No

2

US#5(M16)

60.0

0.62

3.00

140.8629

142.3976

No

* The stirrups spacing for vertical shear is bigger than the maximum spacing allowed.

LOSSES

Note: Values are calculated at Midspan

Str. area

Ycg

P. Init

Ecc

Days to release

Rel. Humid (RH)

Es

Ecd

9.7650

4.82

1977.4

29.78

0.75

75.0

28500.0

4017

ksi

in

kips

in

%

%

ksi

ksi

AASHTO LOSSES

Elastic Shortening ** 14.95 ksi (Eq 5.9.5.2.3a-1), (fcgp= 2.107 ksi)

Elastic Gains

Gains

Adjustment

due to Precast Loads

-7.86

ksi

due to Composite Loads

-0.36

ksi

due to Live Loads

-5.04

ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

Initial

Final

Steel relaxation

0.00

ksi

2.40

ksi

Concrete shrinkage

0.00

ksi

8.14

ksi

Concrete creep

0.00

ksi

12.19

ksi

Sub-total

14.95

ksi

9.48

ksi

Total Prestress Losses

(7.38 %)

24.43

ksi

(4.68 %)

(12.06 %)

Final

(Eq 5.9.5.3-1)


(Eq 5.9.5.3-1)

(Eq 5.9.5.3-1)

Prestressing Stress Limit Check (Table 5.9.3.1)

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:20 A.M.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 9:20 A.M.



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** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 178.1 ksi < 0.80 fpy, OK



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max) V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0
DL-Prec. : M	0.0	31.5	58.5	196.8	363.6	482.7	554.2	578.0
DC(Max) V	16.5	16.0	15.6	13.4	10.0	6.7	3.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	158.0	293.7	987.4	1824.2	2421.9	2780.6	2900.1
Haunch (Max) V	82.7	80.4	78.4	67.2	50.4	33.6	16.8	0.0
Diaphragm : M	0.0	3.4	6.1	16.0	14.7	13.4	12.2	10.9
(Max) V	17.0	14.5	12.4	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max) V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	204.7	380.2	1273.4	2335.7	3076.0	3520.0	3650.3
V	138.8	136.0	133.6	120.1	100.8	81.5	54.5	35.2
LL + I : M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : Mmx	138.8	136.0	133.6	120.1	102.3	85.4	69.5	54.5
Total : M	-0.0	213.8	394.7	1273.4	2173.6	2757.2	3009.3	2960.6
M+	0.0	562.6	1045.0	3504.0	6441.9	8521.5	9768.6	10165.7
V	341.3	330.9	321.8	270.9	213.9	156.9	92.3	35.3
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	341.3	330.9	321.8	270.9	215.3	160.8	107.2	54.6
Total : M	0.0	571.6	1059.4	3504.0	6279.8	8202.7	9257.8	9476.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. : M	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0
(Max) V	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec. : M	554.2	482.7	363.6	196.8	58.5	31.5	0.0
DC(Max) V	3.3	6.7	10.0	13.4	15.6	16.0	16.5
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2780.6	2421.9	1824.2	987.4	293.7	158.0	0.0
Haunch (Max) V	16.8	33.6	50.4	67.2	78.4	80.4	82.7
Diaphragm : M	9.6	8.4	7.1	5.8	2.1	1.1	0.0
(Max) V	0.1	0.1	0.1	0.1	12.5	14.7	17.2
DL-Comp : M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max) V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	3520.0	3076.0	2335.7	1273.4	380.2	204.7	-0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 54.5	81.5	100.8	120.1	133.6	136.0	138.8
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	69.5	85.4	102.3	120.1	133.6	136.0	138.8
M	3009.3	2757.2	2173.6	1273.4	394.6	213.8	0.0
Total :	V 9766.0	8576.4	6434.3	3493.9	1041.0	560.4	0.0
M+	92.3	156.9	213.9	270.9	321.9	331.1	341.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	107.2	160.8	215.3	270.9	321.9	331.1	341.5
M	9255.3	8197.6	6272.2	3493.9	1055.4	569.4	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	82.7	82.7
Diaphragm	17.0	17.2
DL-Prec.(DC)	16.5	16.5
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 9:20 A.M.

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Sheet # 12

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Designed KSM

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Date

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Precast Moment (SERVICE I)

Total length = 140.27 ft (Max: 2,900.1 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

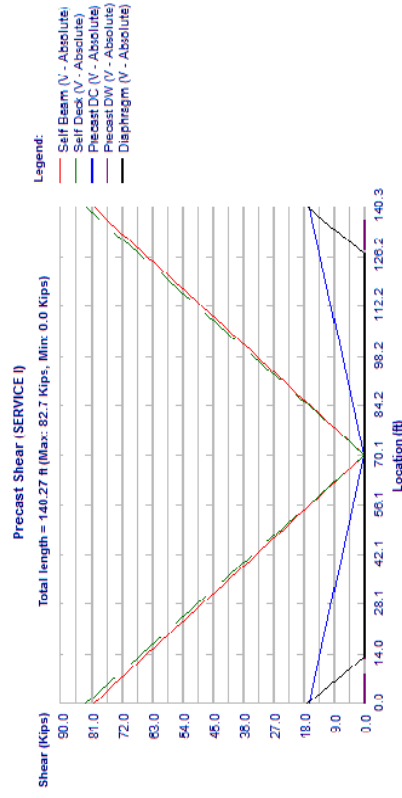
Precast Moment, Span 1, Beam 3, SERVICE I

Units: U.S. Units


Design Code: AASHTO LRFD

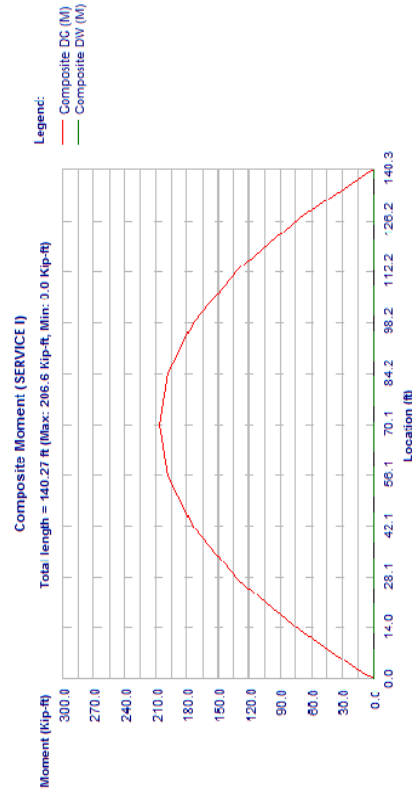
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		Designed	KSM
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		Date	




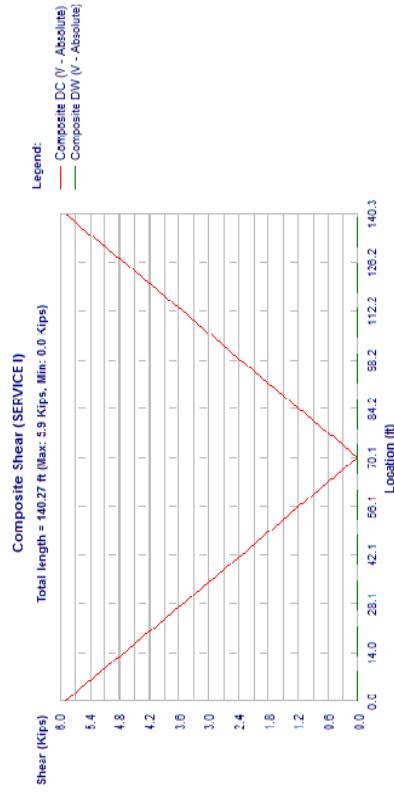
Precast Shear, Span 1, Beam 3, SERVICE I

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		Date	Sept/9/2013
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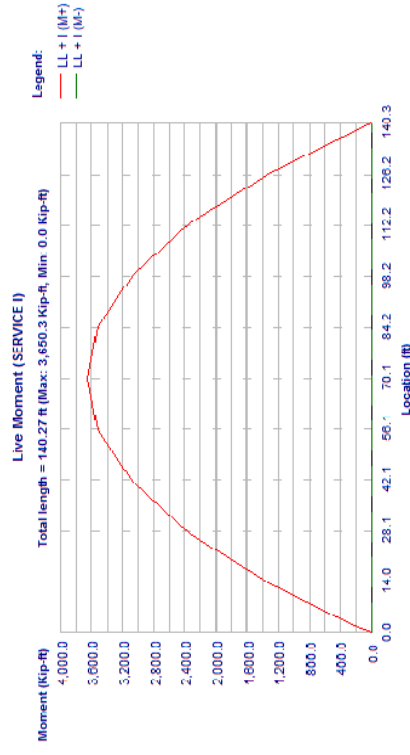
Composite Moment, Span 1, Beam 3, SERVICE I

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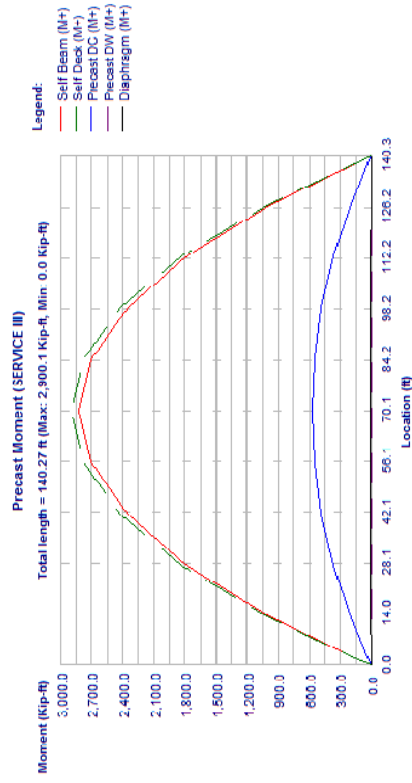
Composite Shear, Span 1, Beam 3, SERVICE I

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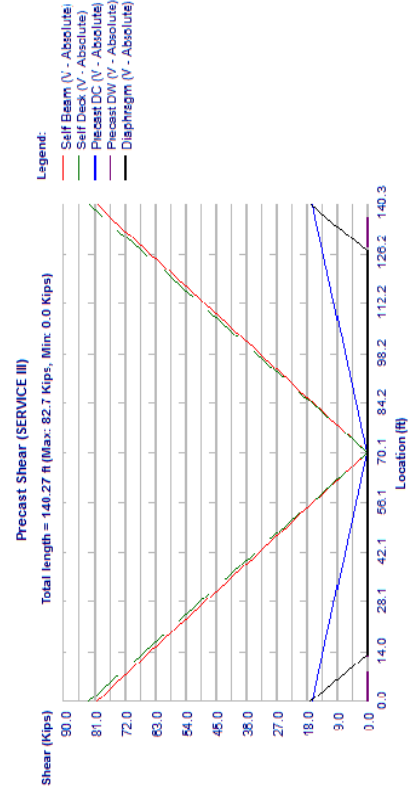
Live Moment, Span 1, Beam 3, SERVICE I

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Precast Moment, Span 1, Beam 3, SERVICE III

		Sheet #	20
		Job #	
		Designed	KSM
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Precast Shear, Span 1, Beam 3, SERVICE III

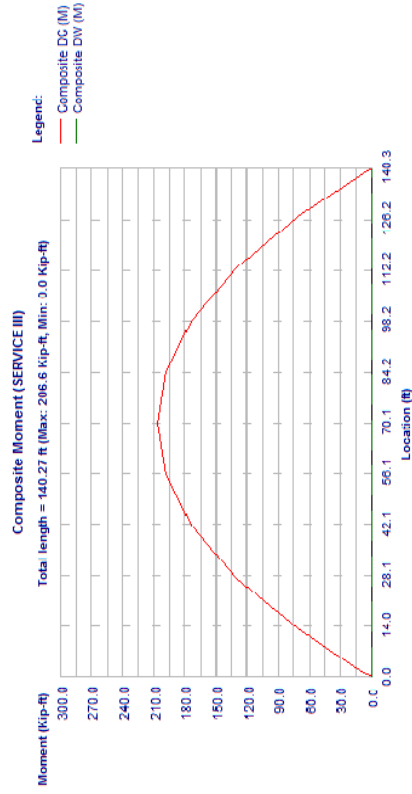


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Composite Moment, Span 1, Beam 3, SERVICE III

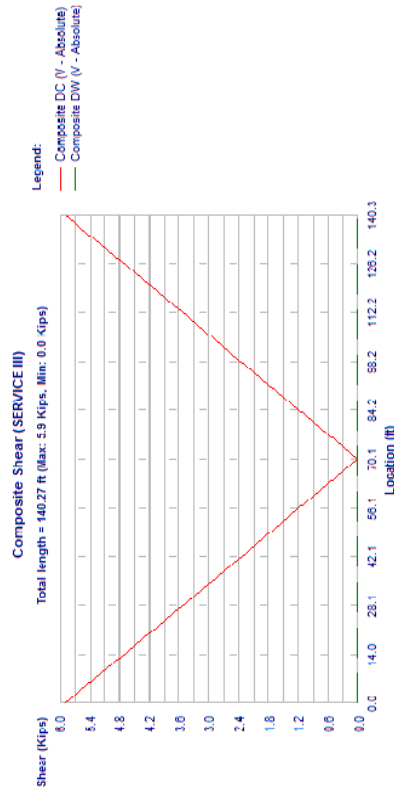


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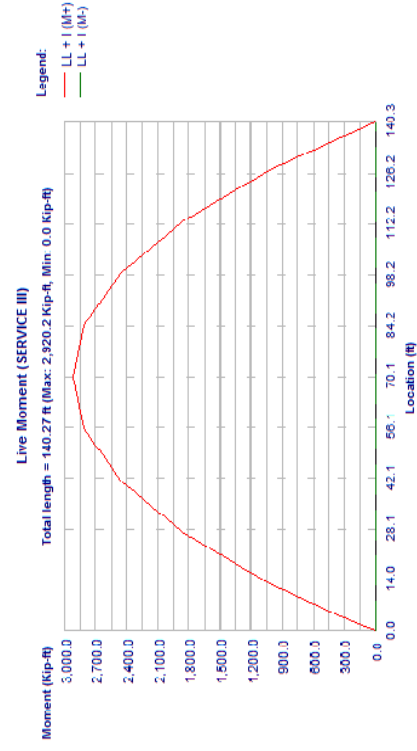
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Composite Shear, Span 1, Beam 3, SERVICE III


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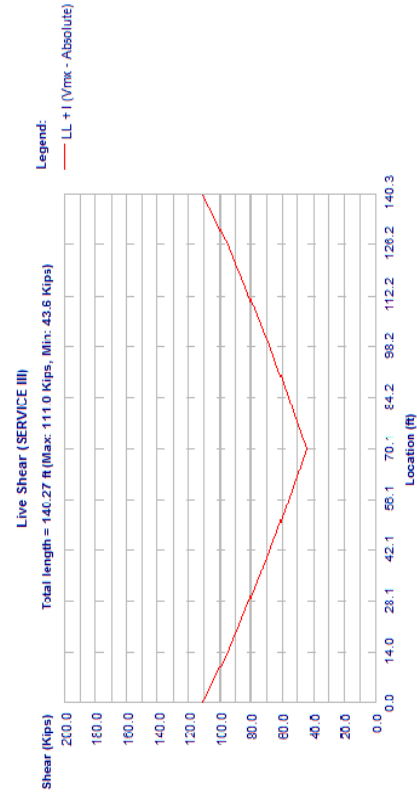


Live Moment, Span 1, Beam 3, SERVICE III


	ft	Bearing	Trans	H2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	M	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt.,	M	0.00	192.1	356.9	1200.1	2217.1	2943.6	3379.4	3524.7
(Max)	M	100.5	97.7	95.3	81.6	61.2	40.8	20.4	0.0
Self wt.,	V	0.00	138.3	257.0	864.0	1596.3	2119.4	2433.2	2537.8
(Min)	V	72.4	70.4	68.6	58.8	44.1	29.4	14.7	0.0
DL-Prec.,	M	0.00	39.4	73.2	246.0	454.5	603.4	692.7	722.5
DC(Max)	V	20.6	20.0	19.5	16.7	12.5	8.4	4.2	0.0
DL-Prec.,	M	0.00	28.3	52.7	177.1	327.2	434.4	498.8	520.2
DC(Min)	V	14.8	14.4	14.1	12.0	9.0	6.0	3.0	0.0
DL-Prec.,	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.,	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + ,	M	0.00	197.5	367.1	1234.2	2280.3	3027.4	3475.7	3625.1
Haunch (Max)	M	103.4	100.5	98.0	84.0	63.0	42.0	21.0	0.0
Deck + ,	V	0.00	142.2	264.3	888.6	1641.8	2179.7	2502.5	2610.1

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, STRENGTH
Shears: kips, Moments: kft

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Live Shear. Span 1. Beam 3. SERVICE III



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	74.4	72.4	70.6	60.4	45.3	30.2	15.1
Diaphragm :	M	0.0	4.2	7.6	19.9	18.4	16.8	13.6
(Max)	V	21.3	18.2	15.4	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	3.0	5.5	14.4	13.2	12.1	10.9
(Min)	V	15.3	13.1	11.1	0.1	0.1	0.1	0.1
DL-Comp :	M	-0.0	14.1	26.2	88.1	162.5	215.7	247.6
DC(Max)	V	7.4	7.2	7.0	6.0	4.5	3.0	1.5
DL-Comp :	M	-0.0	10.2	18.9	63.4	117.0	155.3	178.3
DC(Min)	V	5.3	5.2	5.0	4.3	3.2	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	358.3	665.4	2228.4	4087.5	5383.1	6160.1
LL + I :	V	242.9	238.1	233.8	210.3	176.5	142.7	95.4
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	242.9	238.1	233.8	210.3	179.0	149.5	121.6
Total :	M	-0.0	374.1	690.6	2228.4	3803.8	4825.1	5266.3
Total :	M+	0.0	805.6	1496.4	5016.7	920.2	12189.9	13970.7
Total :	M-	496.0	481.7	469.1	398.7	317.8	236.9	142.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	496.0	481.7	469.1	398.7	320.3	243.8	168.8
Total :	M	0.0	821.5	1521.6	5016.7	8936.5	11631.9	13076.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. :	M	3379.4	2943.6	2217.1	1200.1	356.9	192.1
(Max)	V	20.4	40.8	61.2	81.6	95.3	97.7
Self wt. :	M	2433.2	2119.4	1596.3	864.0	257.0	138.3
(Min)	V	14.7	29.4	44.1	58.8	68.6	70.4
DL-Prec :	M	692.7	603.4	454.5	246.0	73.2	39.4
DC(Max)	V	4.2	8.4	12.5	16.7	19.5	20.0
DL-Prec :	M	498.8	434.4	327.2	177.1	52.7	28.3
DC(Min)	V	3.0	6.0	9.0	12.0	14.1	14.8
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3475.7	3027.4	2280.3	1234.2	367.1	197.5
Haunch (Max)	V	21.0	42.0	63.0	84.0	98.0	100.5
Deck + :	M	2502.5	2179.7	1641.8	888.6	264.3	142.2
Haunch (Min)	V	15.1	30.2	45.3	60.4	70.6	72.4
Diaphragm :	M	12.0	10.4	8.9	7.3	2.6	1.4
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	8.7	7.5	6.4	5.2	1.9	1.0
(Min)	V	0.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	247.6	215.7	162.5	88.1	26.2	14.1
DC(Max)	V	1.5	3.0	4.5	6.0	7.0	7.4
DL-Comp :	M	178.3	155.3	117.0	63.4	18.9	10.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.5	100.5
Deck+Haunch	103.4	103.4
Diaphragm	21.3	21.5
DL-Prec (DC)	20.6	20.6
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	73.6	73.6
DL-Comp (DW)	0.0	0.0
Live	196.2	196.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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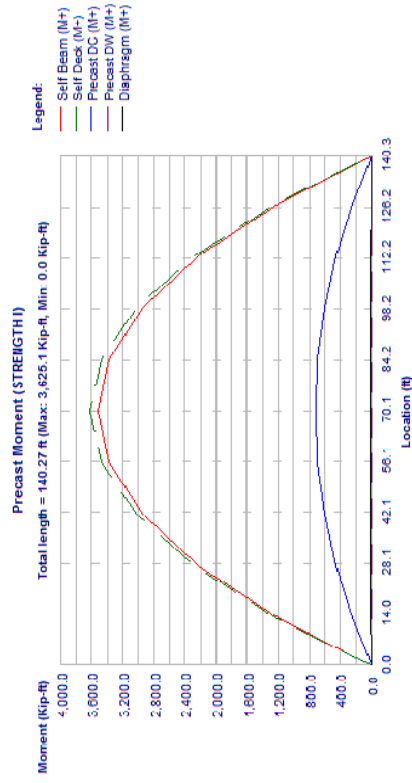
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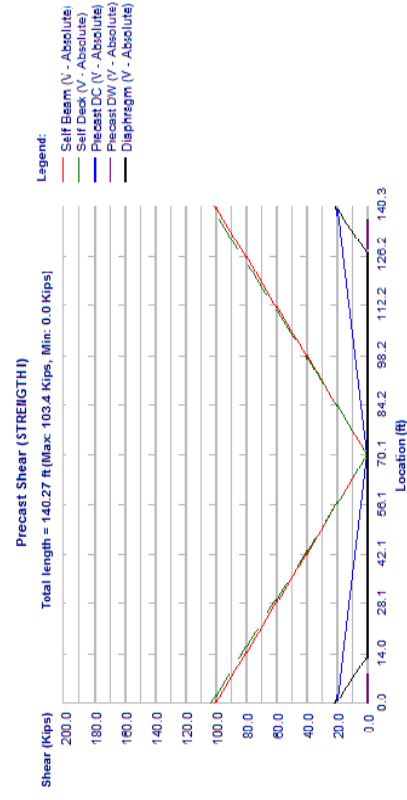
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DC(Min)	V	1.1	2.2	3.2	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6160.1	5383.1	4087.5	2228.4	665.4	358.3
LL + I :	V	95.4	142.7	176.5	210.3	233.8	242.9
LL + I :	M-	0.0	0.0	0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	121.6	149.5	179.0	210.3	233.8	242.9
Total :	M	5266.3	4825.1	3803.8	2228.4	690.6	374.1
Total :	M+	13967.5	12183.6	9210.7	5004.0	1491.3	802.8
Total :	M-	142.6	236.9	317.8	398.7	469.2	481.9
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	168.8	243.8	320.3	398.7	469.2	481.9
Total :	M	13073.8	11625.6	8927.0	5004.0	1516.6	818.7

		Sheet # 27	
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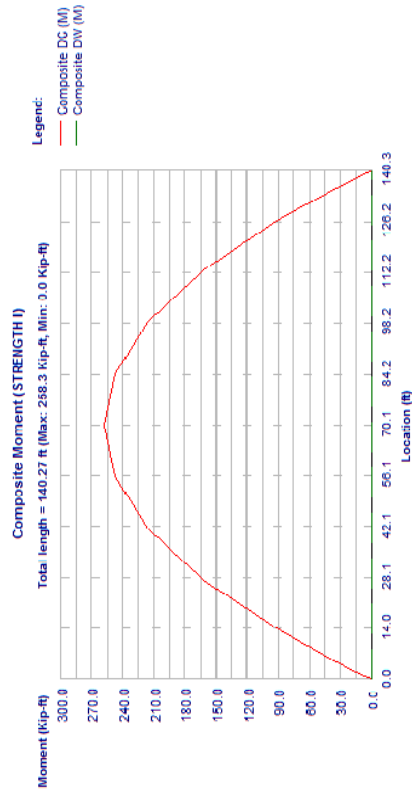
Precast Moment, Span 1, Beam 3, STRENGTH I

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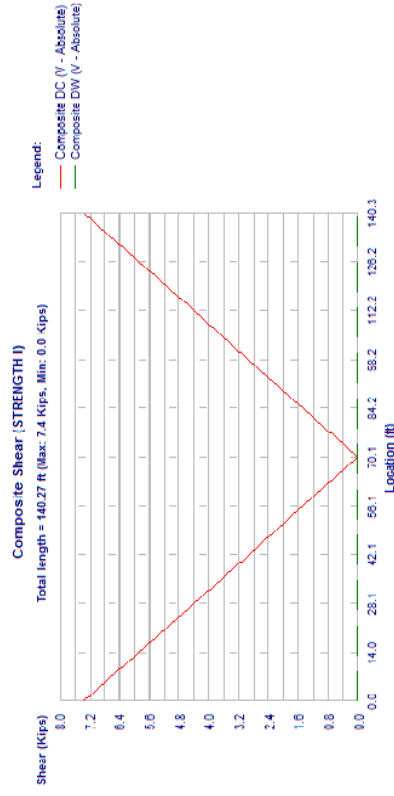
Precast Shear, Span 1, Beam 3, STRENGTH I

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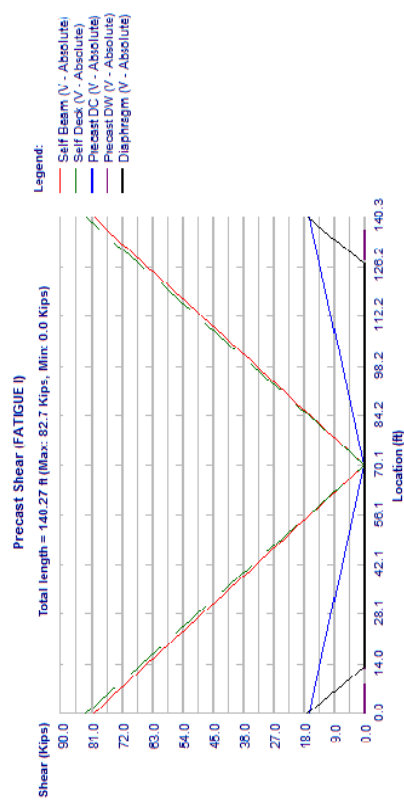
Composite Moment, Span 1, Beam 3, STRENGTH I

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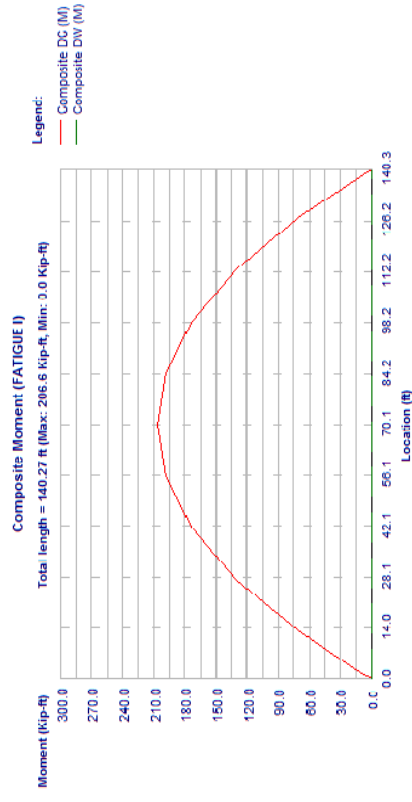
Composite Shear, Span 1, Beam 3, STRENGTH I

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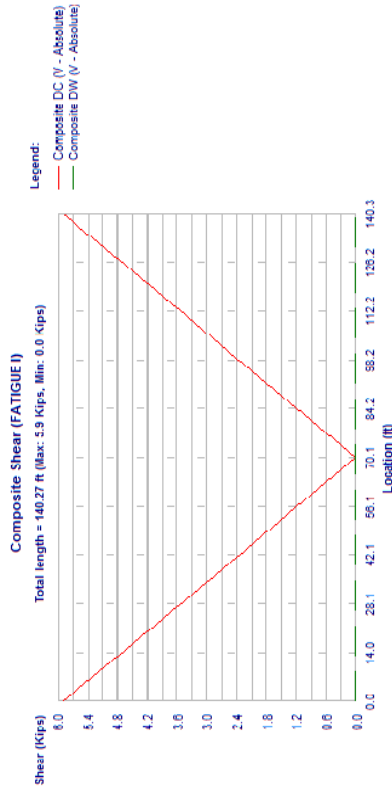
Precast Shear, Span 1, Beam 3, FATIGUE I

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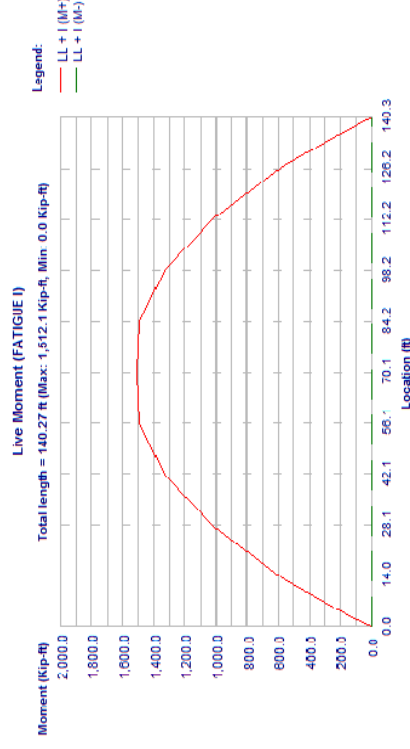
Composite Moment, Span 1, Beam 3, FATIGUE I

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		Job #	
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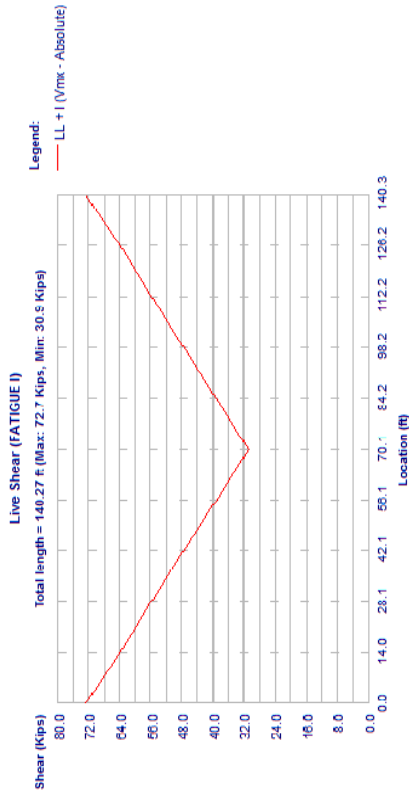
Composite Shear, Span 1, Beam 3, FATIGUE I

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		Job #	
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Live Moment, Span 1, Beam 3, FATIGUE I

		Sheet # 39	
		Job #	
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Version: 12.01.00.57		Date Sept/9/2013	
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Live Shear, Span 1, Beam 3, FATIGUE I

Bentley

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Version:

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3

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*Average bridge width

TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.110	0.000	0.110	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
17.13	1.00
17.13	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397	ft
Release length	142.397	ft
Design length	140.273	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve	Moment	Shear
	2+Lane	1Lane	1Lane
0.0L	0.801	0.529	1.034
0.1L	0.801	0.529	1.034
0.2L	0.801	0.529	1.034
0.3L	0.801	0.529	1.034

Units: U.S. Units Design Code: AASHTO LRFD

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*Average bridge width

Location	+ve	Moment	Shear
0.4L	0.801	0.529	1.034
0.5L	0.801	0.529	1.034
0.6L	0.801	0.529	1.034
0.7L	0.801	0.529	1.034
0.8L	0.801	0.529	1.034
0.9L	0.801	0.529	1.034
1.0L	0.801	0.529	1.034

Pedestrian	0.100	(Calculated)
Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (I _{xx})	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (I _{yy})	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/°F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	I _{xx}	Ycg	Density	Eff. Width
		plf	in ²	in	in ⁴	in	pcf	in
0.0L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.1L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.2L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.3L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1
0.4L	103.07	2325.6	2069.94	87.5	2118474	57.26	150.0	126.1

Units: U.S. Units Design Code: AASHTO LRFD

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Dev. Len bonded	11,603	ft
Dev. Len debonded	14,504	ft
Holddown Force	8,229	kips
Tensile Strength (fpu)	270.0	ksi
Initial Prestress = 0.75fpu	202.5	ksi
Initial Pull	1977.4	kips
Beam Shring (PL/AE)	0.725	in

Draped strands	
Number	Dist. from bottom(in)
7	11
5	13
3	15
1	17

Straight strands	
Number	Dist. from bottom(in)
10	3
12	5
6	7
1	9

Strand Pattern, Span 1, Beam 4

Span:1, Beam:4
ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
6408.011	740	4741.928	163253.141	1138.333	0.000

Span:1, Beam:4
REINFORCING STEEL:

Tension steel:		
f _y	60.0	ksi

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Tension steel:	29000	ksi
f _s	24.0	ksi

Stirrups:

# legs	Size	f _y (ksi)	Area (in ²)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.5348	No
2	US#5(M16)	60.0	0.62	6.00	1.5348	2.9160	No
2	US#5(M16)	60.0	0.62	18.00	2.9160	7.3087	No
2	US#5(M16)	60.0	0.62	24.00	7.3087	135.0886	No
2	US#5(M16)	60.0	0.62	18.00	135.0886	139.4816	No
2	US#5(M16)	60.0	0.62	6.00	139.4816	140.8629	No
2	US#5(M16)	60.0	0.62	3.00	140.8629	142.3976	No

* The stirrups spacing for vertical shear is bigger than the maximum spacing allowed.

LOSSES

Note: Values are calculated at Midspan

Str. area	9.7650	in ²
Ycg	4.82	in
P. Init	1977.4	kips
Ecc	29.78	in
Days to release	0.75	
Rel. Humid (RH)	75.0	%
Es	28500.0	ksi
Ecd	4017	ksi

AASHTO LOSSES

Elastic Shortening ** 14.95 ksi (Eq 5.9.5.2.3a-1), (fcgp= 2.107 ksi)

Elastic Gains		
due to Precast Loads	-7.86	ksi
due to Composite Loads	-0.36	ksi
due to Live Loads	-5.04	ksi


Gains		
Adjustment	0.00	ksi
due to Live Loads	0.00	ksi
due to Composite Loads	0.00	ksi
due to Precast Loads	0.00	ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

Steel relaxation		
Initial	0.00	ksi
Final	2.40	ksi
Concrete shrinkage		
Initial	0.00	ksi
Final	8.14	ksi
Concrete creep		
Initial	0.00	ksi
Final	12.19	ksi
Sub-total		
Initial	14.95	ksi
Final	9.48	ksi
Total Prestress Losses		
Initial	24.43	ksi
Final	24.43	ksi
Percentage Losses		
Initial	(4.68 %)	
Final	(12.06 %)	

Prestressing Stress Limit Check (Table 5.9.3.1)

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:35 A.M.



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** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 178.1 ksi < 0.80 fpy, OK



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max) V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0
DL-Prec. : M	0.0	31.5	58.5	196.8	363.6	482.7	554.2	578.0
DC(Max) V	16.5	16.0	15.6	13.4	10.0	6.7	3.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	158.0	293.7	987.4	1824.2	2421.9	2780.6	2900.1
Haunch (Max) V	82.7	80.4	78.4	67.2	50.4	33.6	16.8	0.0
Diaphragm : M	0.0	3.4	6.1	16.0	14.7	13.4	12.2	10.9
(Max) V	17.0	14.5	12.4	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max) V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	204.7	380.2	1273.4	2335.7	3076.0	3520.0	3650.3
V	138.8	136.0	133.6	120.1	100.8	81.5	54.5	35.2
LL + I : M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : Mmx	138.8	136.0	133.6	120.1	102.3	85.4	69.5	54.5
Total : M	-0.0	213.8	394.7	1273.4	2173.6	2757.2	3009.3	2960.6
M+	0.0	562.6	1045.0	3504.0	6441.9	8521.5	9768.6	10165.7
V	341.3	330.9	321.8	270.9	213.9	156.9	92.3	35.3
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	341.3	330.9	321.8	270.9	215.3	160.8	107.2	54.6
Total : M	0.0	571.6	1059.4	3504.0	6279.8	8202.7	9257.8	9476.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. : M	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0
(Max) V	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec. : M	554.2	482.7	363.6	196.8	58.5	31.5	0.0
DC(Max) V	3.3	6.7	10.0	13.4	15.6	16.0	16.5
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2780.6	2421.9	1824.2	987.4	293.7	158.0	0.0
Haunch (Max) V	16.8	33.6	50.4	67.2	78.4	80.4	82.7
Diaphragm : M	9.6	8.4	7.1	5.8	2.1	1.1	0.0
(Max) V	0.1	0.1	0.1	0.1	12.5	14.7	17.2
DL-Comp : M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max) V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	3520.0	3076.0	2335.7	1273.4	380.2	204.7	-0.0



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 54.5	81.5	100.8	120.1	133.6	136.0	138.8
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	69.5	85.4	102.3	120.1	133.6	136.0	138.8
M	3009.3	2757.2	2173.6	1273.4	394.7	213.8	0.0
Total :	M+ 9766.0	8576.4	6434.3	3493.9	1041.0	560.4	0.0
V	92.3	156.9	213.9	270.9	321.9	331.1	341.5
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	107.2	160.8	215.3	270.9	321.9	331.1	341.5
M	9255.3	8197.6	6272.2	3493.9	1055.4	569.4	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	82.7	82.7
Diaphragm	17.0	17.2
DL-Prec.(DC)	16.5	16.5
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

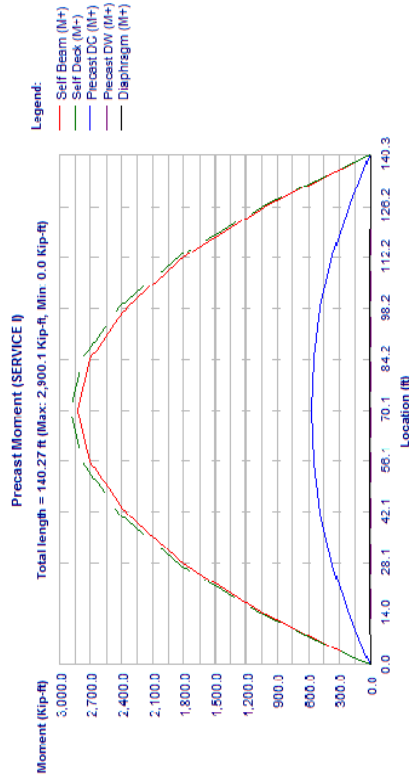


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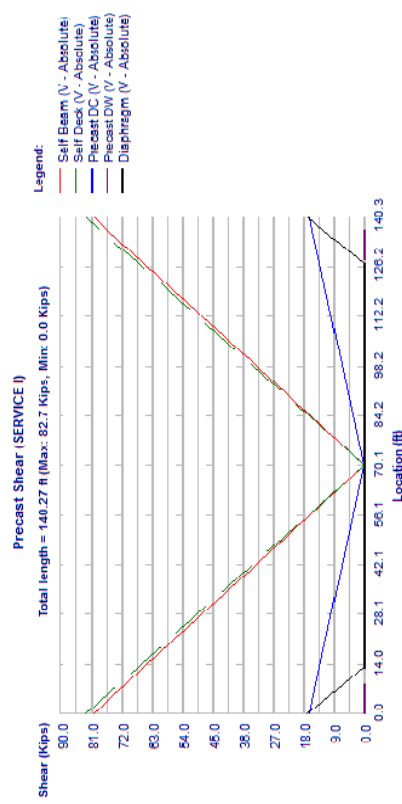
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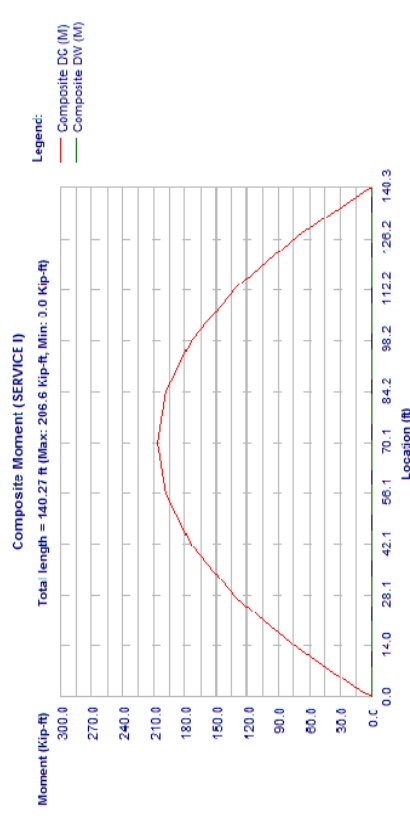
Precast Moment, Span 1, Beam 4, SERVICE I

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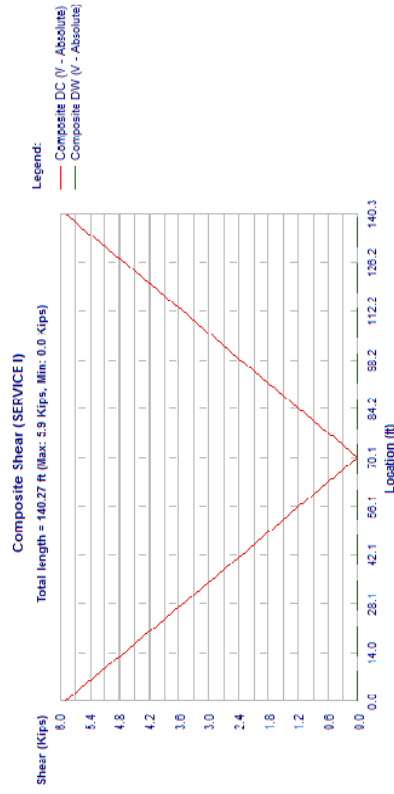
Precast Shear, Span 1, Beam 4, SERVICE I

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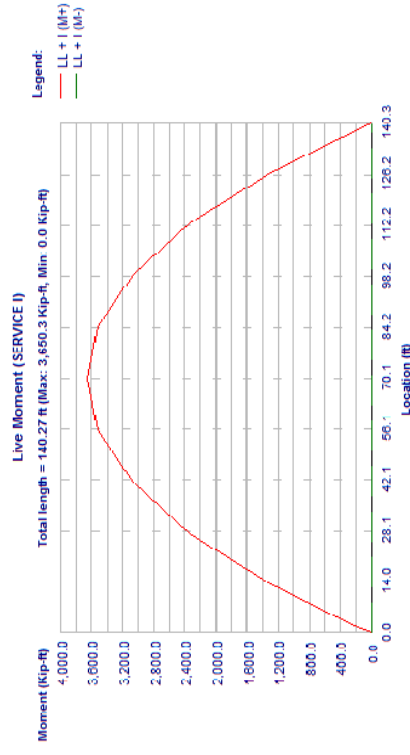
Composite Moment, Span 1, Beam 4, SERVICE I

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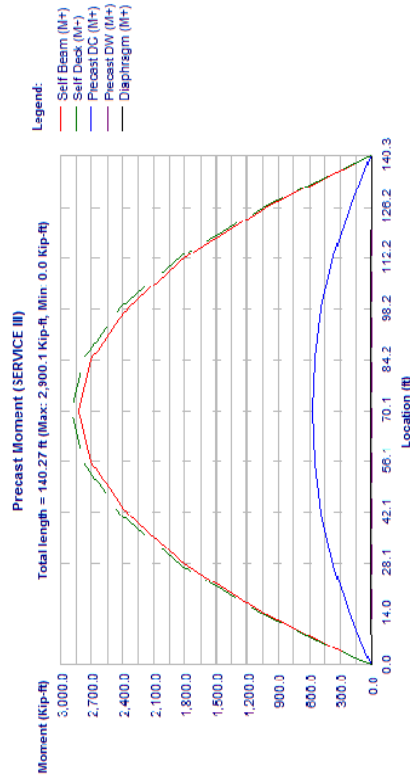
Composite Shear, Span 1, Beam 4, SERVICE I

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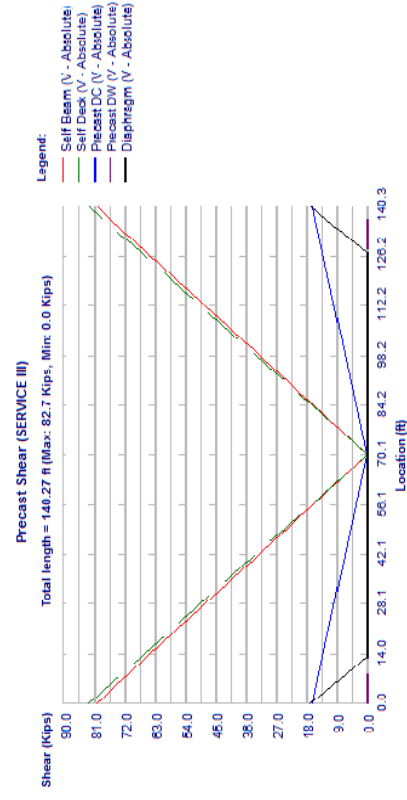
Live Moment, Span 1, Beam 4, SERVICE I

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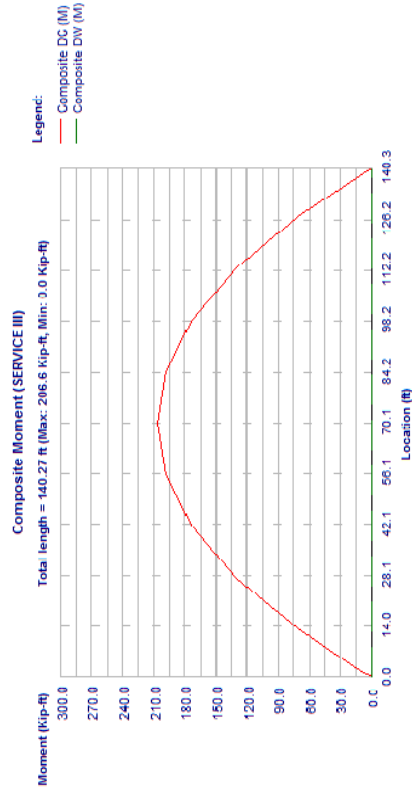
Precast Moment, Span 1, Beam 4, SERVICE III

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		Job #	
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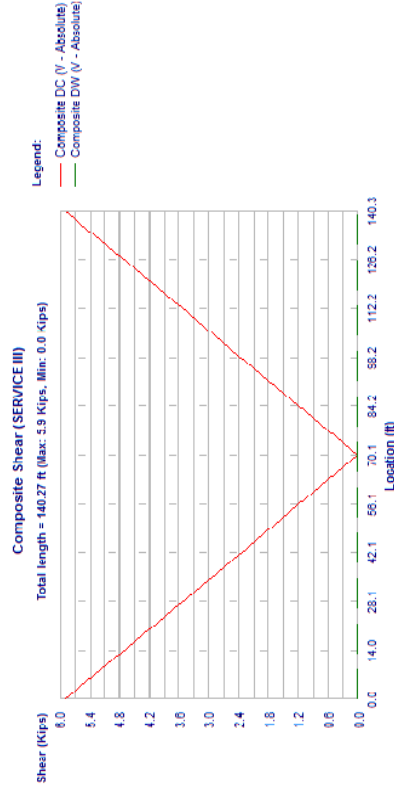
Precast Shear, Span 1, Beam 4, SERVICE III

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Composite Moment, Span 1, Beam 4, SERVICE III

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Composite Shear, Span 1, Beam 4, SERVICE III



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	74.4	72.4	70.6	60.4	45.3	30.2	15.1
Diaphragm :	M	0.0	4.2	7.6	19.9	18.4	16.8	15.2
(Max)	V	21.3	18.2	15.4	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	3.0	5.5	14.4	13.2	12.1	10.9
(Min)	V	15.3	13.1	11.1	0.1	0.1	0.1	0.1
DL-Comp :	M	-0.0	14.1	26.2	88.1	162.5	215.7	247.6
DC(Max)	V	7.4	7.2	7.0	6.0	4.5	3.0	1.5
DL-Comp :	M	-0.0	10.2	18.9	63.4	117.0	155.3	178.3
DC(Min)	V	5.3	5.2	5.0	4.3	3.2	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	358.3	665.4	2228.4	4087.5	5383.1	6160.1
LL + I :	V	242.9	238.1	233.8	210.3	176.5	142.7	95.4
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	242.9	238.1	233.8	210.3	179.0	149.5	121.6
Total :	M	-0.0	374.1	690.6	2228.4	3803.8	4825.1	5266.3
Total :	M+	0.0	805.6	1496.4	5016.7	920.2	12189.9	13970.7
Total :	M-	496.0	481.7	469.1	398.7	317.8	236.9	142.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	496.0	481.7	469.1	398.7	320.3	243.8	168.8
Total :	M	0.0	821.5	1521.6	5016.7	8936.5	11631.9	13076.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. :	M	3379.4	2943.6	2217.1	1200.1	356.9	192.1
(Max)	V	20.4	40.8	61.2	81.6	95.3	97.7
Self wt. :	M	2433.2	2119.4	1596.3	864.0	257.0	138.3
(Min)	V	14.7	29.4	44.1	58.8	68.6	70.4
DL-Prec. :	M	692.7	603.4	454.5	246.0	73.2	39.4
DC(Max)	V	4.2	8.4	12.5	16.7	19.5	20.0
DL-Prec. :	M	498.8	434.4	327.2	177.1	52.7	28.3
DC(Min)	V	3.0	6.0	9.0	12.0	14.1	14.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3475.7	3027.4	2280.3	1234.2	367.1	197.5
Haunch (Max)	V	21.0	42.0	63.0	84.0	98.0	100.5
Deck + :	M	2502.5	2179.7	1641.8	888.7	264.3	142.2
Haunch (Min)	V	15.1	30.2	45.3	60.4	70.6	72.4
Diaphragm :	M	12.0	10.5	8.9	7.3	2.6	1.4
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	8.7	7.5	6.4	5.2	1.9	1.0
(Min)	V	0.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	247.6	215.7	162.5	88.1	26.2	14.1
DC(Max)	V	1.5	3.0	4.5	6.0	7.0	7.4
DL-Comp :	M	178.3	155.3	117.0	63.4	18.9	10.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.5	100.5
Deck+Haunch	103.4	103.4
Diaphragm	21.3	21.5
DL-Prec. (DC)	20.6	20.6
DL-Prec. (DW)	0.0	0.0
DL-Comp. (DC)	73.6	73.6
DL-Comp. (DW)	0.0	0.0
Live	196.2	196.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.1	2.2	3.2	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6160.1	5383.1	4087.5	2228.4	665.4	358.3
LL + I :	V	95.4	142.7	176.5	210.3	233.8	242.9
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	121.6	149.5	179.0	210.3	233.8	242.9
Total :	M	5266.3	4825.1	3803.8	2228.4	690.6	374.1
Total :	M+	13967.6	12183.6	9210.7	5004.0	1491.3	802.8
Total :	M-	142.6	236.9	317.8	398.7	469.2	481.9
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	168.8	243.8	320.3	398.7	469.2	481.9
Total :	M	13073.8	11625.6	8927.0	5004.0	1516.6	818.7

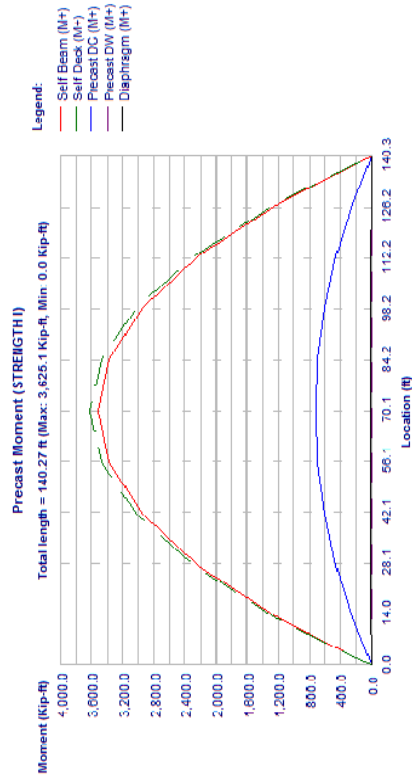


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Precast Moment, Span 1, Beam 4, STRENGTH I

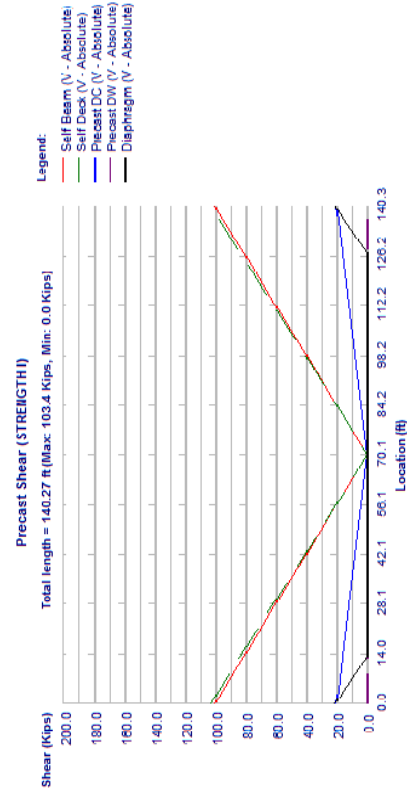


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Precast Shear, Span 1, Beam 4, STRENGTH I

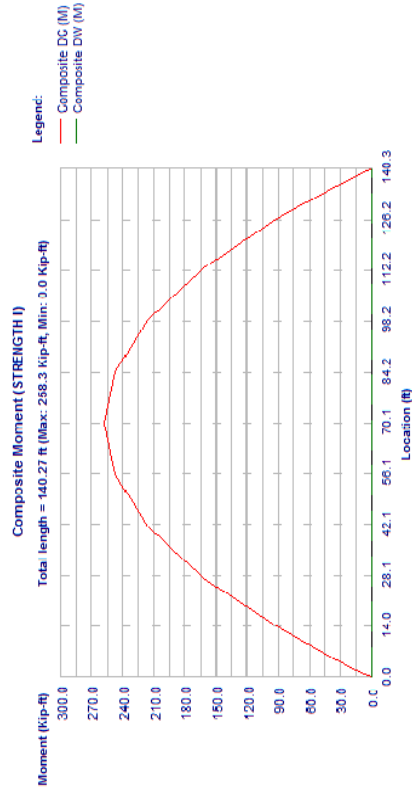


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Composite Moment, Span 1, Beam 4, STRENGTH I

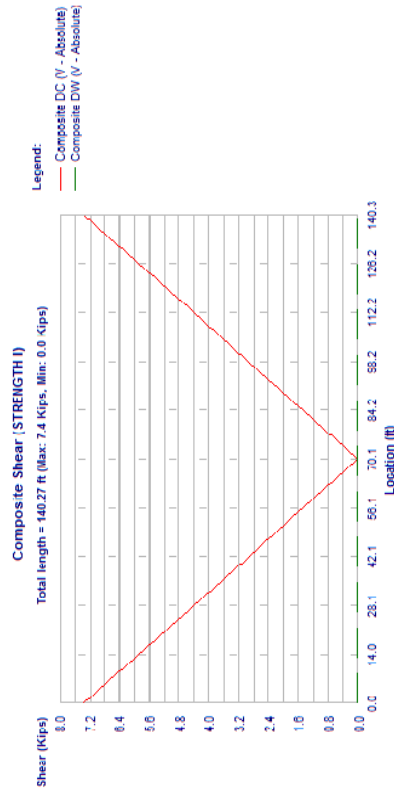


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Composite Shear, Span 1, Beam 4, STRENGTH I

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Live Moment (STRENGTH I)

Total length = 140.27 ft (Max: 6,388.0 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Live Moment, Span 1, Beam 4, STRENGTH I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:35 A.M.

Bentley

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Live Shear (STRENGTH I)

Total length = 140.27 ft (Max: 242.9 Kips, Min: 95.4 Kips)


Legend:
— LL + I (Vmk - Absolute)

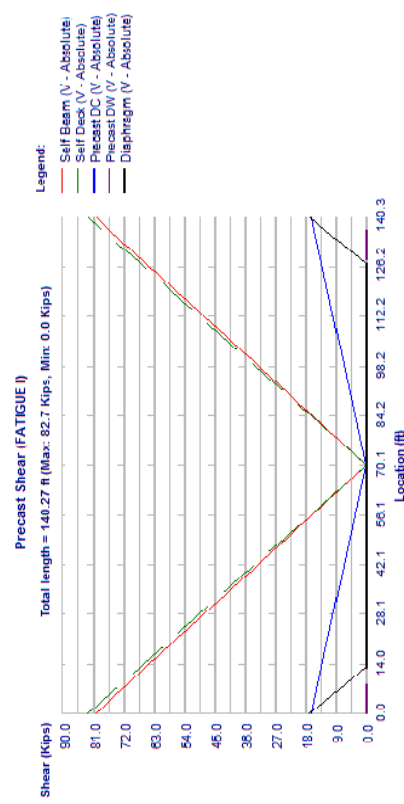
Live Shear, Span 1, Beam 4, STRENGTH I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, FATIGUE I
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90
Self wt. :	M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6
(Max)	V	80.4	78.2	76.2	65.3	49.0	32.7	16.3
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	31.5	58.5	196.8	363.6	482.7	554.2
DC(Max)	V	16.5	16.0	15.6	13.4	10.0	6.7	3.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	158.0	293.7	987.4	1824.2	2421.9	2780.6
Haunch (Max)	V	82.7	80.4	78.4	67.2	50.4	33.6	16.8
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

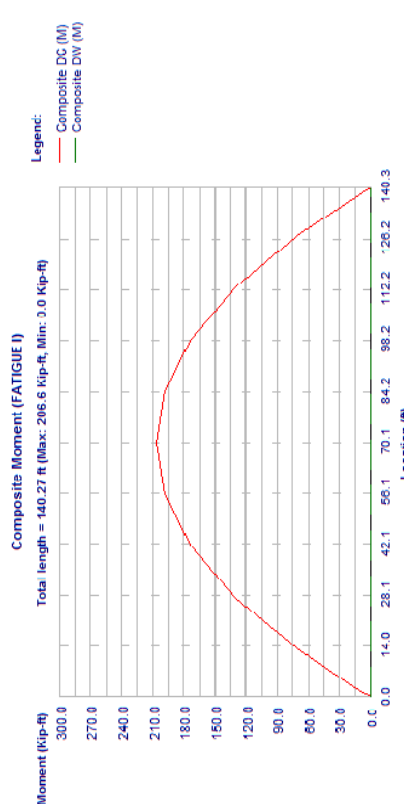
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:35 A.M.

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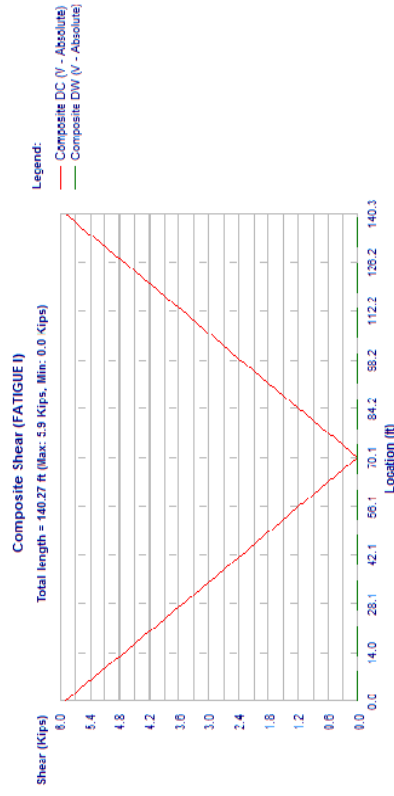
Precast Shear, Span 1, Beam 4, FATIGUE I

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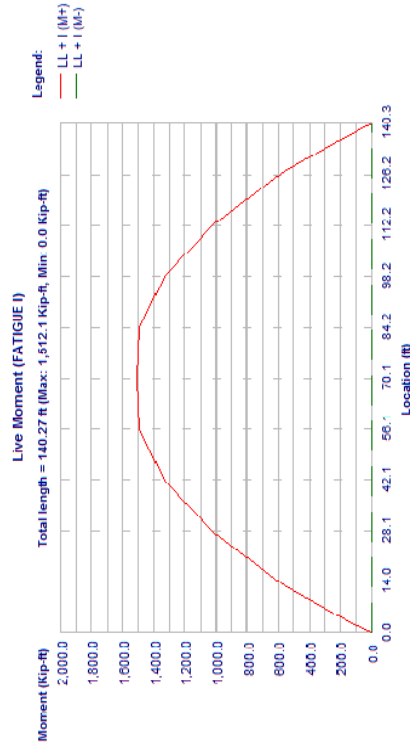
Composite Moment, Span 1, Beam 4, FATIGUE I

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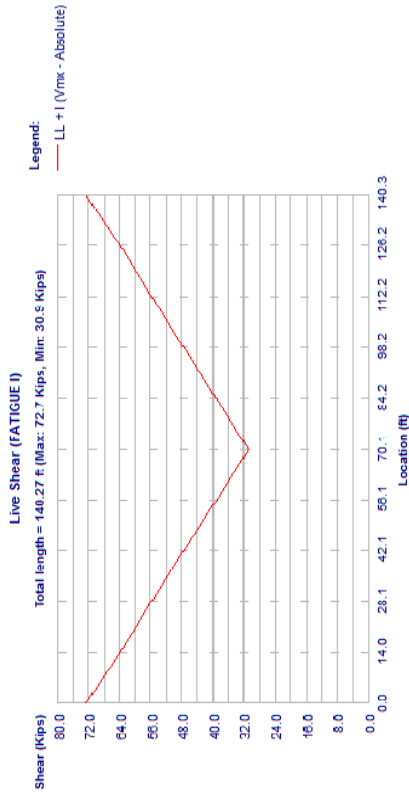
Composite Shear, Span 1, Beam 4, FATIGUE I

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Live Moment, Span 1, Beam 4, FATIGUE I

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Live Shear, Span 1, Beam 4, FATIGUE I



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*Average bridge width

TOPPING DATA:

Deck Thickness	8.500 in
Haunch Thickness	1.000 in
Width	60.000 in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.108	0.000	0.108	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.97	1.00
16.97	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397 ft
Release length	142.397 ft
Design length	140.273 ft

KERN POINTS:


Upper	58.35 in
Lower	15.66 in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.2d): YES

Location	+ve		Moment		Shear	
	2+Lane	1Lane	1Lane	2+Lane	1Lane	1Lane
0.0L	0.795	0.526	1.027	1.027	0.804	0.804
0.1L	0.795	0.526	1.027	1.027	0.804	0.804
0.2L	0.795	0.526	1.027	1.027	0.804	0.804
0.3L	0.795	0.526	1.027	1.027	0.804	0.804



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Location	+ve		Moment		Shear	
	0.4L	0.795	0.526	1.027	0.804	
0.5L	0.795	0.795	0.526	1.027	0.804	
0.6L	0.795	0.795	0.526	1.027	0.804	
0.7L	0.795	0.795	0.526	1.027	0.804	
0.8L	0.795	0.795	0.526	1.027	0.804	
0.9L	0.795	0.795	0.526	1.027	0.804	
1.0L	0.795	0.795	0.526	1.027	0.804	

Pedestrian	0.100 (Calculated)
Comp. DC	0.100 (Calculated)
Comp. DW	0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):


Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6 in ²
Total Height	78.00 in
Mom. of Inertia (I _{xx})	904567 in ⁴
Ht. of c.g.	34.60 in
Density	150.00 pcf
Self-weight	1146.5 plf
Mom. of Inertia (I _{yy})	82367.0 in ⁴
Poisson's Ratio	0.2
Thermal Coeff.	0.000006000 1/F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight plf	Area in ²	Height in	I _{xx} in ⁴	Ycg in	Density pcf	Eff. Width
0.0L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.1L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.2L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.3L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.4L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in ²	in	in ⁴	in	pcf	in
0.5L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.6L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.7L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.8L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
0.9L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0
1.0L	103.07	2315.9	2061.97	87.5	2113025	57.16	150.0	125.0

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4016.8ksi)	in ²	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Area, Yb, MI(XX),	in ²	1121.7	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
	in ⁴	34.09	33.21	33.21	33.18	33.15	33.11	33.07	33.07
		919627	945984	946245	947719	949967	952273	954636	954636
Composite: (At Final, using Ec = 4491.0ksi)	in ²	2080.5	2114.2	2114.2	2114.2	2114.2	2114.2	2114.2	2114.2
Area, Yb, MI(XX),	in ²	56.72	55.94	55.94	55.92	55.91	55.89	55.87	55.87
	in ⁴	2158006	2238524	2238956	2241378	2245039	2248752	2252517	2252517

Span:1, Beam:5
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00*	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK	ksi
Strength	7.50	5.50	ksi
Elasticity	4490.96	3845.83	ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK	ksi
Max comp	4.50	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK	ksi
Max comp	3.38	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK	ksi
Max comp	3.00	-	ksi

SERVICE III (Tension):

	PRECAST	DECK	ksi
Max tens	-0.52	-0.45	ksi

Span:1, Beam:5
 PRESTRESSED STEEL:
 45 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.96 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
7 @ 11.000 in	5 @ 13.000 in	3 @ 15.000 in	1 @ 17.000 in

MID PATTERN (Ycg = 4.82 in):

(A) Draped:

7 @ 3.000 in	5 @ 5.000 in	3 @ 7.000 in	1 @ 9.000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	9.765	in ²
Trans. Len, bonded	3.000	ft
Trans. Len, debonded	3.000	ft

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Dev. Len bonded

11,600 ft

Holddown Force

8,229 kips

Tensile Strength (fpu)

270.0 ksi

Initial Prestress = 0.75fpu

202.5 ksi

Initial Pull

1977.4 kips

Beam Shring (PL/AE)

0.725 in

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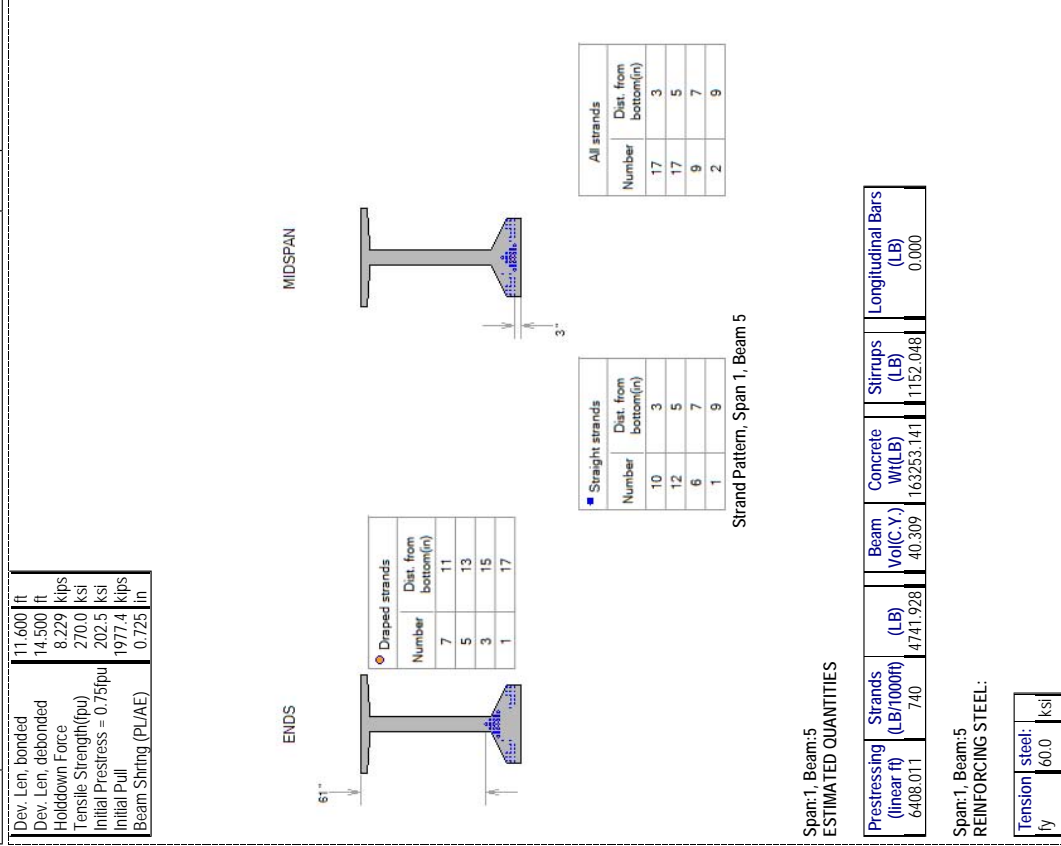
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Tension steel:

Es

29000 ksi

fy

24.0 ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.5217	No
2	US#5(M16)	60.0	0.62	6.00	1.5217	2.9094	No
2	US#5(M16)	60.0	0.62	18.00	2.9094	6.9642	No
2	US#5(M16)	60.0	0.62	24.00	6.9642	135.4331	No
2	US#5(M16)	60.0	0.62	18.00	135.4331	139.4882	No
2	US#5(M16)	60.0	0.62	6.00	139.4882	140.8760	No
2	US#5(M16)	60.0	0.62	3.00	140.8760	142.3976	No

* The stirrups spacing for vertical shear is bigger than the maximum spacing allowed.

LOSSES

Note: Values are calculated at Midspan

Str. area	9.7650 in2
Ycg	4.82 in
P. Init	1977.4 kips
Ecc	29.78 in
Days to release	0.75
Rel. Humid (RH)	75.0 %
Es	28500.0 ksi
Ecd	4017 ksi

AASHTO LOSSES

Elastic Shortening ** 14.95 ksi (Eq 5.9.5.2.3a-1), (fcgp= 2.107 ksi)

Elastic Gains	Gains	Adjustment
due to Precast Loads	-7.80 ksi	0.00 ksi
due to Composite Loads	-0.36 ksi	0.00 ksi
due to Live Loads	-5.01 ksi	0.00 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial	Final
Steel relaxation	0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi	8.14 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00 ksi	12.19 ksi (Eq 5.9.5.3-1)
Sub-total	14.95 ksi	9.57 ksi (4.73 %)
Total Prestress Losses		24.52 ksi (12.11 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 54.2	81.0	100.2	119.4	132.8	135.2	137.9
M :	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	69.1	84.9	101.7	119.4	132.8	135.2	137.9
M	2990.3	2739.8	2159.9	1265.3	392.2	212.4	0.0
Total :	M+ 9716.2	8473.0	6401.4	3476.0	1035.7	557.5	0.0
V	91.8	156.1	212.8	269.5	320.2	329.3	339.6
M :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	106.6	160.0	214.2	269.5	320.2	329.3	339.6
M	9208.7	8156.1	6240.4	3476.0	1050.0	566.5	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	82.0	82.0
Diaphragm	16.9	17.1
DL-Prec.(DC)	16.3	16.3
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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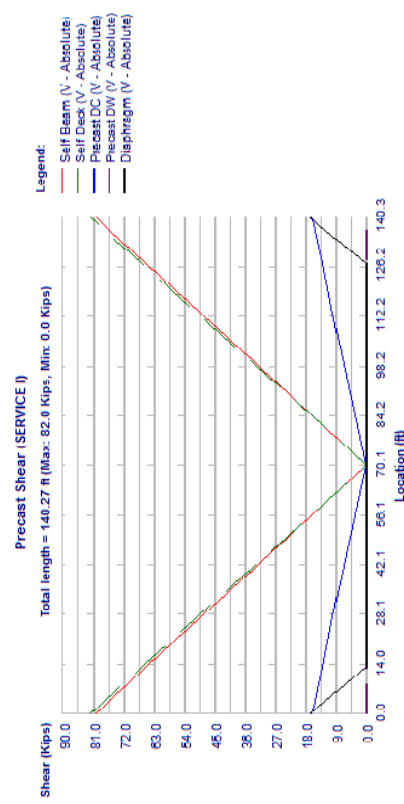
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Sheet # 12
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Precast Moment, Span 1, Beam 5, SERVICE I

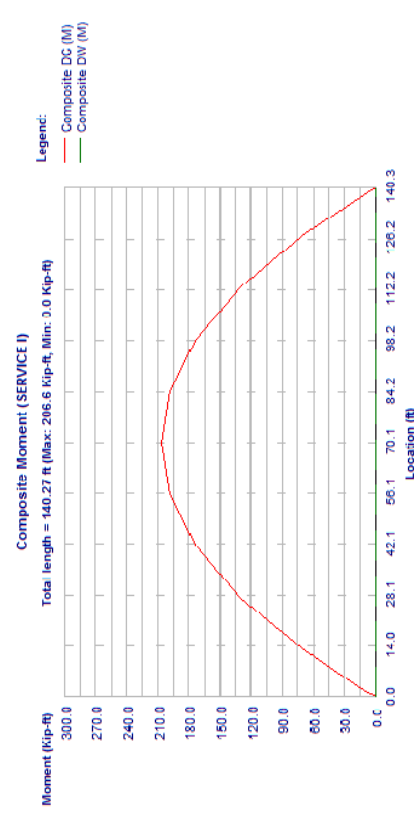
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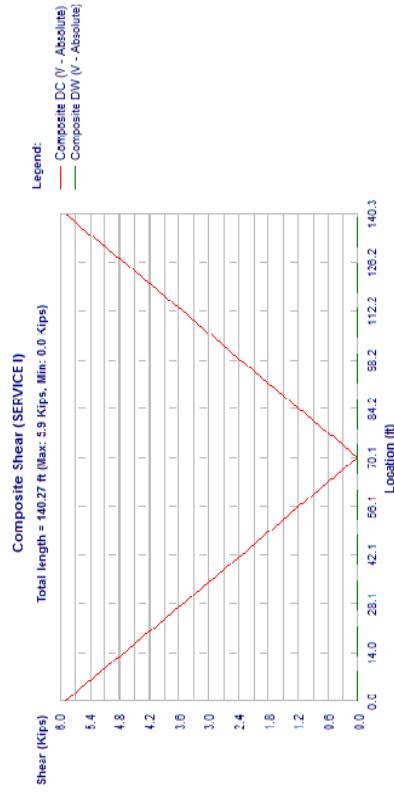
Precast Shear, Span 1, Beam 5, SERVICE I

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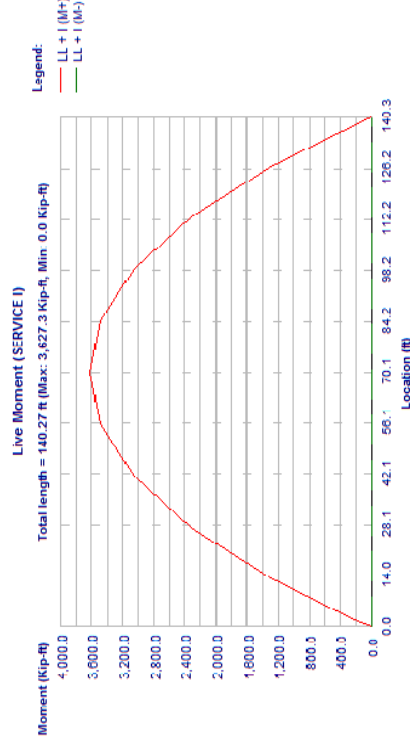
Composite Moment, Span 1, Beam 5, SERVICE I

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Composite Shear, Span 1, Beam 5, SERVICE I

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Live Moment, Span 1, Beam 5, SERVICE I

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Sheet # 19
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Moment (Kip-ft)

Precast Moment (SERVICE III)

Total length = 140.27 ft (Max: 2,876.3 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 5, SERVICE III

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Sheet # 20
Job #

Shear (Kips)

Precast Shear (SERVICE III)

Total length = 140.27 ft (Max: 82.0 Kips, Min: 0.0 Kips)


Legend:

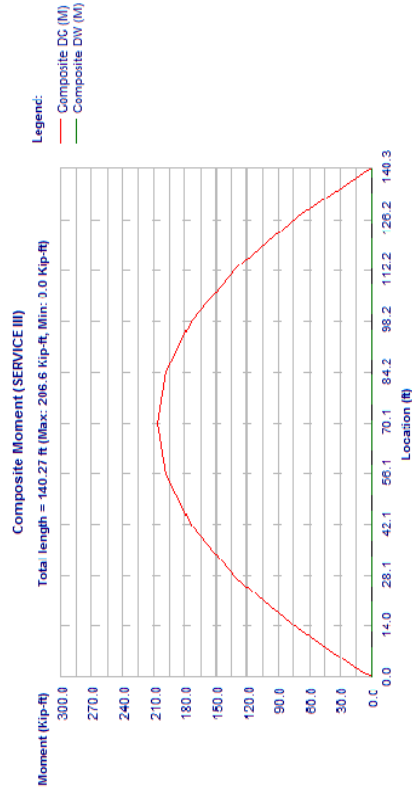
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 5, SERVICE III

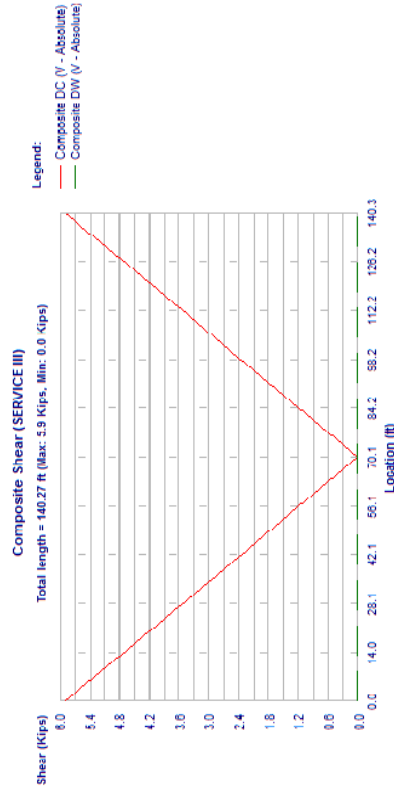
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Composite Moment, Span 1, Beam 5, SERVICE III

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Composite Shear, Span 1, Beam 5, SERVICE III



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	73.8	71.8	70.0	59.9	45.0	30.0	15.0
Diaphragm :	M	0.0	4.2	7.5	19.8	18.2	16.6	15.1
(Max)	V	21.1	18.0	15.3	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	3.0	5.4	14.2	13.1	12.0	10.8
(Min)	V	15.2	13.0	11.0	0.1	0.1	0.1	0.1
DL-Comp :	M	-0.0	14.1	26.2	88.1	162.5	215.7	247.6
DC(Max)	V	7.4	7.2	7.0	6.0	4.5	3.0	1.5
DL-Comp :	M	-0.0	10.2	18.9	63.4	117.0	155.3	178.3
DC(Min)	V	5.3	5.2	5.0	4.3	3.2	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	356.1	661.2	2214.4	4061.7	5349.2	6121.2
LL + I :	V	241.4	236.6	232.4	209.0	175.4	141.8	94.8
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	241.4	236.6	232.4	209.0	177.9	148.6	120.9
LL + I :	M	-0.0	371.8	686.3	2214.4	3779.9	4794.7	5233.1
Total :	M+	0.0	801.4	1488.5	4990.2	9171.7	12125.8	13897.3
Total :	V	493.3	479.1	466.5	396.5	316.1	235.6	141.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	493.3	479.1	466.5	396.5	316.1	235.6	141.8
Total :	M	0.0	871.1	1513.5	4990.2	8889.8	11571.4	13009.2

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. :	M	3379.4	2943.6	2217.1	1200.1	356.9	192.1
(Max)	V	20.4	40.8	61.2	81.6	95.3	97.7
Self wt. :	M	2433.2	2119.4	1596.3	864.0	257.0	138.3
(Min)	V	14.7	29.4	44.1	58.8	68.6	70.4
DC(Max)	M	686.8	598.2	450.6	243.9	72.5	39.0
DL-Comp :	V	4.1	8.3	12.4	16.6	19.4	19.9
DL-Comp :	M	494.5	430.7	324.4	175.6	52.2	28.1
DC(Min)	V	3.0	6.0	9.0	11.9	13.9	14.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	3447.1	3002.5	2261.5	1224.1	364.1	195.9
LL + I :	V	20.8	41.6	62.4	83.3	97.2	99.7
LL + I :	M	2481.9	2161.8	1628.3	881.3	262.1	141.1
LL + I :	V	15.0	30.0	45.0	59.9	70.0	71.8
LL + I :	M	11.9	10.4	8.8	7.2	2.6	1.4
LL + I :	V	0.1	0.1	0.1	0.1	0.1	0.1
LL + I :	M	8.6	7.5	6.3	5.2	1.8	1.0
LL + I :	V	0.1	0.1	0.1	0.1	0.1	0.1
LL + I :	M	247.6	215.7	162.5	88.1	26.2	14.1
LL + I :	V	1.5	3.0	4.5	6.0	7.0	7.4
LL + I :	M	178.3	155.3	117.0	63.4	18.9	10.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.5	100.5
Deck+Haunch	102.5	102.5
Diaphragm	21.1	21.3
DL-Prec.(DC)	20.4	20.4
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	73.6	73.6
DL-Comp.(DW)	0.0	0.0
Live	196.2	196.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.1	2.2	3.2	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6121.2	5349.2	4061.7	2214.4	661.2	356.1
LL + I :	V	94.8	141.8	175.4	209.0	232.4	236.6
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	120.9	148.6	177.9	209.0	232.4	236.6
LL + I :	M	5233.1	4794.7	3779.9	2214.4	686.3	371.8
Total :	M+	13894.2	12119.5	9162.3	4977.7	1483.5	798.6
Total :	V	141.8	235.6	316.1	396.5	466.7	479.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	167.8	242.4	318.6	396.5	466.7	479.3
Total :	M	13006.0	11565.1	8880.4	4977.7	1508.6	814.3

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Moment (Kip-ft)

Precast Moment (STRENGTH I)

Total length = 140.27 ft (Max: 3,995.3 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 5, STRENGTH I

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Shear (Kips)

Precast Shear (STRENGTH I)

Total length = 140.27 ft (Max: 102.5 Kips, Min: 0.0 Kips)


Legend:

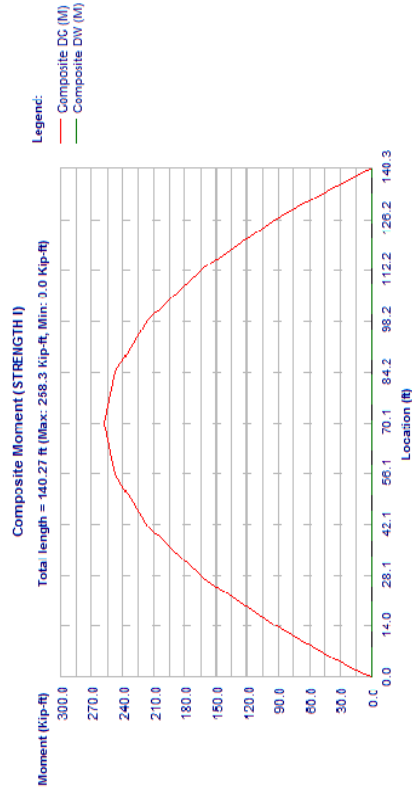
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 5, STRENGTH I

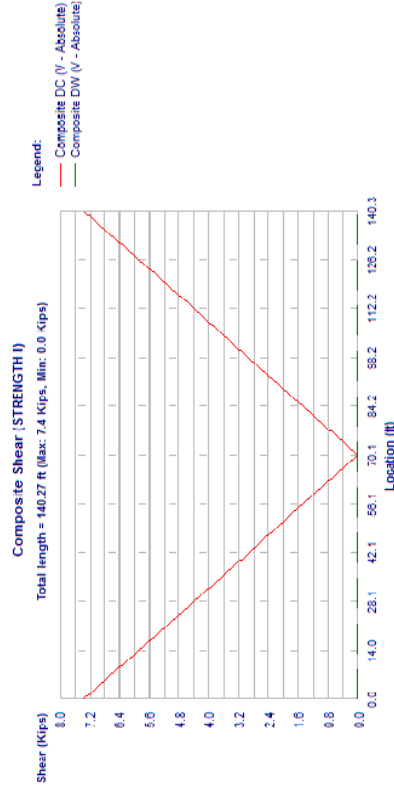
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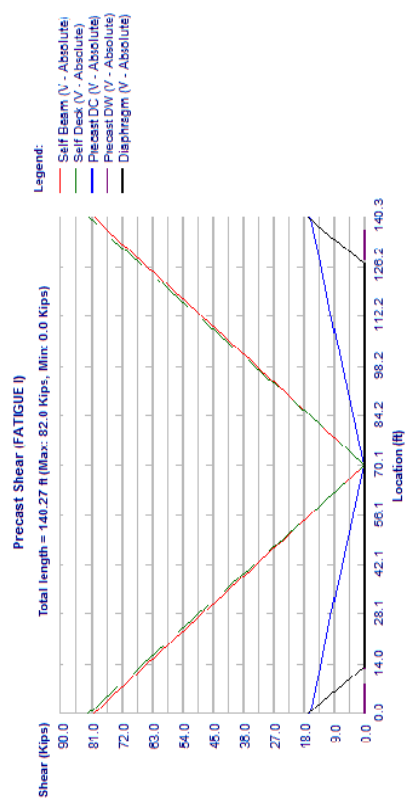
Composite Moment, Span 1, Beam 5, STRENGTH I

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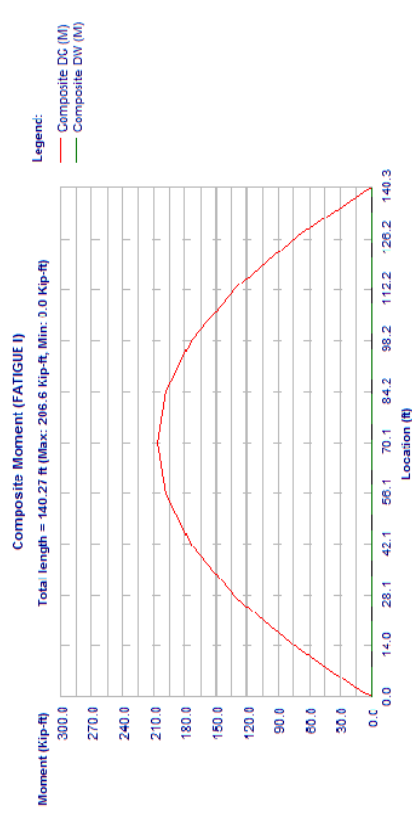
Composite Shear, Span 1, Beam 5, STRENGTH I

		Sheet # 35	
		Job #	
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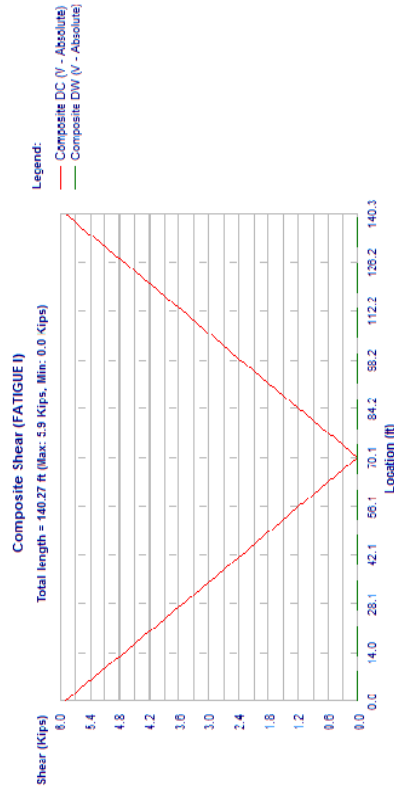
Precast Shear, Span 1, Beam 5, FATIGUE I

		Sheet # 36	
		Job #	
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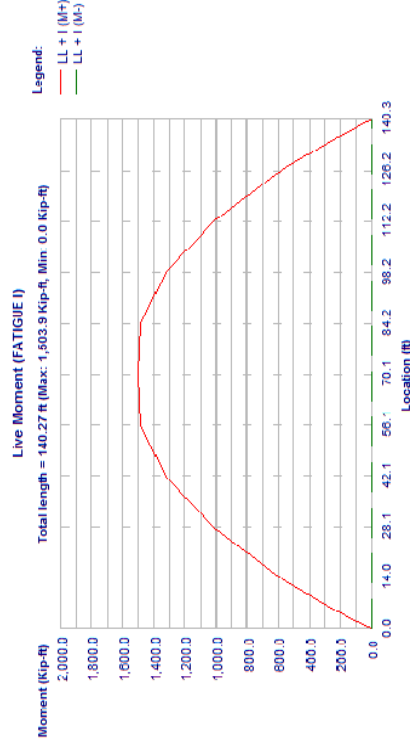
Composite Moment, Span 1, Beam 5, FATIGUE I

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		Job #	
		Designed	KSM
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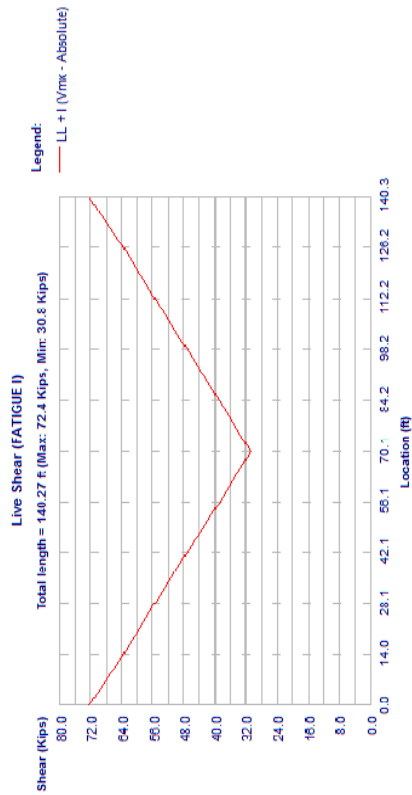
Composite Shear, Span 1, Beam 5, FATIGUE I

		Sheet #	38
		Job #	
		Designed	KSM
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Live Moment, Span 1, Beam 5, FATIGUE I

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				Job #	
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Live Shear, Span 1, Beam 5, FATIGUE I

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Sheet # 1
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PROPERTIES

Span:1, Beam:6
PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in Bottom 3,000 in	Top 38,000 in Bottom 7,000 in		
Stems	Top No 1 Bottom 7,000 in			
Shear width	Top 7,000 in Bottom 7,000 in			

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

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Span 1 Beam 6 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.07 ft
Curb-to-curb*	99.99 ft
Beam Spac. Start LL/RI	10.64/ 10.64 ft
End LL/RI	10.64/ 10.64 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	-14.15 degrees
End Skew Angle	-14.15 degrees



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*Average bridge width

TOPPING DATA:

Deck Thickness	8.500	in
Haunch Thickness	1.000	in
Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Location: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.106	0.000	0.106	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.82	1.00
16.82	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397	ft
Release length	142.397	ft
Design length	140.273	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve	Moment	Shear
0.0L	2+Lane	1Lane	2+Lane
0.1L	0.790	0.523	1.021
0.2L	0.790	0.523	1.021
0.3L	0.790	0.523	1.021



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PRECAST SECTION PROPERTIES:

Location	+ve	Moment	Shear
0.4L	0.790	0.523	1.021
0.5L	0.790	0.523	1.021
0.6L	0.790	0.523	1.021
0.7L	0.790	0.523	1.021
0.8L	0.790	0.523	1.021
0.9L	0.790	0.523	1.021
1.0L	0.790	0.523	1.021

Pedestrian	0.100	(Calculated)
Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):


Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (Ixx)	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (Iyy)	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/°F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
0.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.1L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.2L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.3L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.4L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in ²	in	in ⁴	in	pcf	in
0.5L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.6L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.7L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.8L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.9L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
1.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

(#) Area, Ixx, and Ycg Of Total Section using Ecf/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft							
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Area, Yb, MI(XX),	in ²	in	in	in	in	in	in	in
	1121.7	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
	34.09	33.21	33.21	33.18	33.15	33.11	33.07	33.07
	919627	945984	946245	947719	949967	952273	954636	954636
Composite: (At Final, using Ec = 4491.0ksi)	in ²	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2
Area, Yb, MI(XX),	in	55.83	55.83	55.82	55.80	55.79	55.77	55.77
	2152330	2232510	2232940	2235357	2239011	2242716	2246473	2246473

Span:1, Beam:6
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	ksi
Strength	6.00*	ksi
Elasticity	4016.8	ksi
Max comp	3.60	ksi
Outer	15.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.93	ksi
Center	70.00 %	ksi
Max tens	-0.23	ksi
Max tens, wireinf	-0.59	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK	ksi
Strength	7.50	5.50	ksi
Elasticity	4490.96	3845.83	ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK	ksi
Max comp	4.50	3.30	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK	ksi
Max comp	3.38	2.47	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK	ksi
Max comp	3.00	-	ksi

SERVICE III (Tension):

	PRECAST	DECK	ksi
Max tens	-0.52	-0.45	ksi

Span:1, Beam:6
 PRESTRESSED STEEL:
 45 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.96 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3,000 in	12 @ 5,000 in	6 @ 7,000 in	1 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Ycg = 4.82 in):


(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	6 @ 7,000 in	1 @ 9,000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600	in
Strand Area	0.217	in ²
Total Strand Area	9.765	in ²
Trans. Len, bonded	3,000	ft
Trans. Len, debonded	3,000	ft



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** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 177.9 ksi < 0.80 fpy, OK



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max) V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0
DL-Prec. : M	0.0	31.0	57.5	193.4	357.4	474.5	544.7	568.2
DC(Max) V	16.2	15.8	15.4	13.2	9.9	6.6	3.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	155.4	288.8	971.2	1794.2	2382.1	2734.8	2852.4
Haunch (Max) V	81.3	79.1	77.1	66.1	49.5	33.0	16.5	0.0
Diaphragm : M	0.0	3.3	6.0	15.7	14.4	13.2	11.9	10.7
(Max) V	16.7	14.3	12.1	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max) V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	202.2	375.4	1257.3	2306.3	3037.2	3475.6	3604.2
V	137.1	134.4	132.0	118.7	99.6	80.5	53.9	34.8
LL + I : M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : Mmx	137.1	134.4	132.0	118.7	101.0	84.4	68.6	53.8
Total : M	-0.0	211.1	389.7	1257.3	2146.2	2722.4	2971.3	2923.3
M+	0.0	556.8	1034.3	3468.1	6376.0	8434.4	9668.8	10061.9
V	337.6	327.4	318.4	268.0	211.7	155.3	91.3	34.8
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	337.6	327.4	318.4	268.0	213.1	159.1	106.1	53.9
M	0.0	565.8	1048.5	3468.1	6215.9	8119.6	9164.5	9380.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. : M	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0
(Max) V	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec. : M	544.7	474.5	357.4	193.4	57.5	31.0	-0.0
DC(Max) V	3.3	6.6	9.9	13.2	15.4	15.8	16.2
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2734.8	2382.1	1794.2	971.2	288.8	155.4	0.0
Haunch (Max) V	16.5	33.0	49.5	66.1	77.1	79.1	81.3
Diaphragm : M	9.5	8.2	7.0	5.7	2.0	1.1	0.0
(Max) V	0.1	0.1	0.1	0.1	12.3	14.4	16.9
DL-Comp : M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max) V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	3475.6	3037.2	2306.3	1257.3	375.4	202.2	-0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 53.9	80.5	99.6	118.7	132.0	134.4	137.1
M :	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	68.6	84.4	101.0	118.7	132.0	134.4	137.1
Total :	M 2971.3	2722.4	2146.2	1257.3	399.7	211.1	0.0
M+	9666.3	8429.5	6368.5	3458.2	1030.3	554.6	0.0
V :	91.3	155.3	211.7	268.0	318.5	327.5	337.8
M :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	106.1	159.1	213.1	268.0	318.5	327.5	337.8
Total :	M 9162.0	8114.7	6208.5	3458.2	1044.6	563.6	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	81.3	81.3
Diaphragm	16.7	16.9
DL-Prec.(DC)	16.2	16.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Precast Moment (SERVICE I)


Total length = 140.27 ft (Max: 2,852.4 Kip-ft, Min: 0.0 Kip-ft)

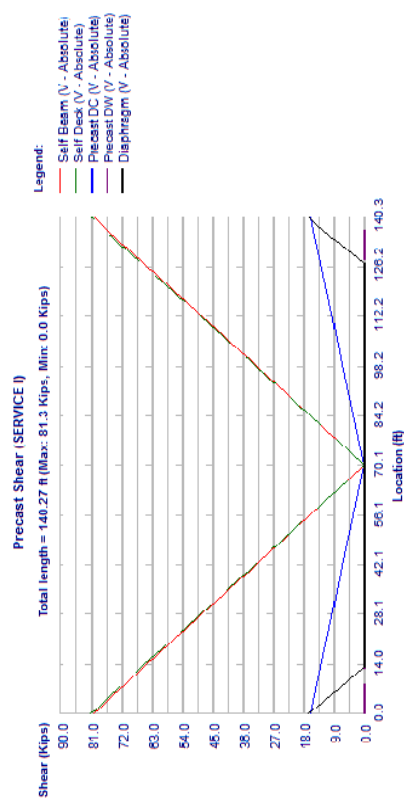
Precast Moment, Span 1, Beam 6, SERVICE I

Units: U.S. Units


Design Code: AASHTO LRFD

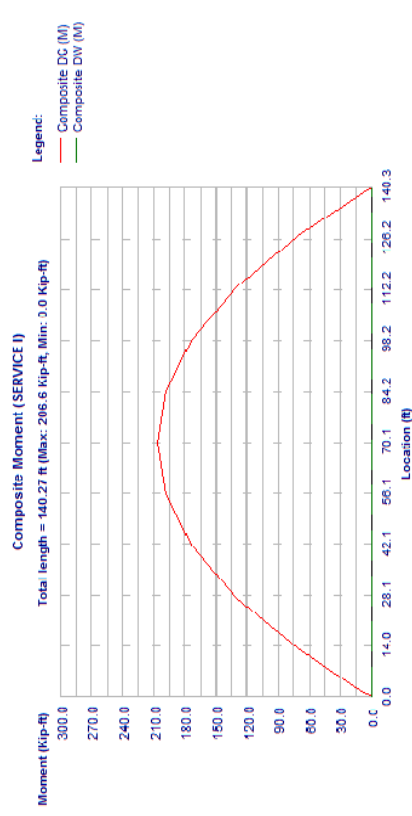
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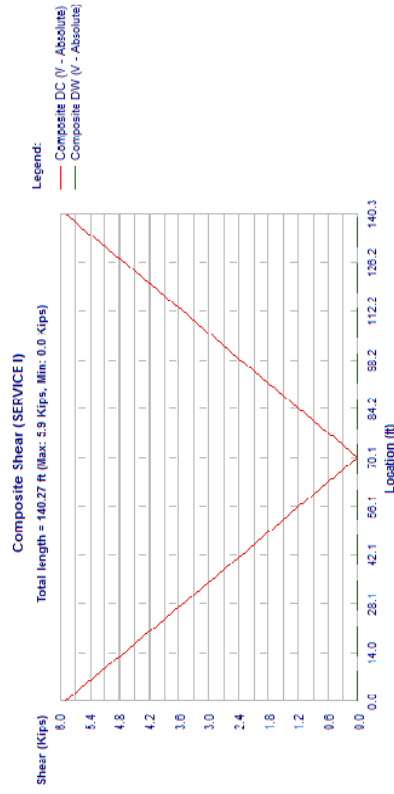
Precast Shear, Span 1, Beam 6, SERVICE I

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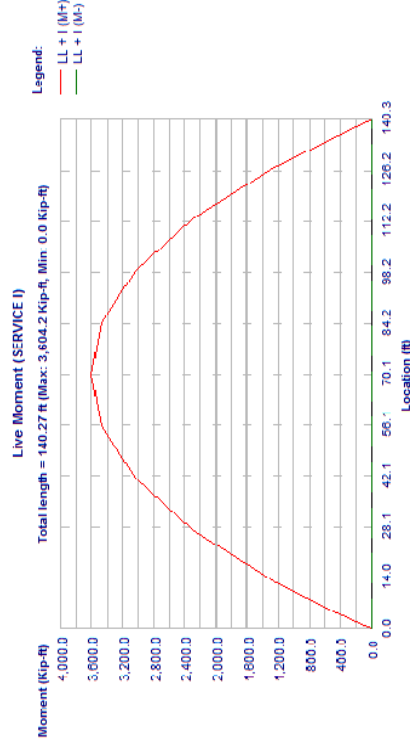
Composite Moment, Span 1, Beam 6, SERVICE I

		Sheet #	15
		Job #	
		Designed KSM	
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		Checked	Date



Composite Shear, Span 1, Beam 6, SERVICE I

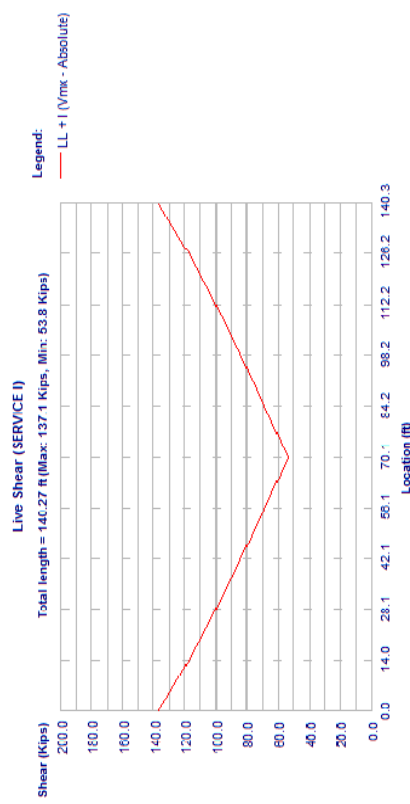
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Live Moment, Span 1, Beam 6, SERVICE I



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Live Shear Span 1 Beam 6 SERVICE I

SHEAR AND MOMENT ENVELOPE · Span : 1 Beam : 6 SERVICE III

Shears: kips. Moments: kft.



	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.85	13.18	27.42	41.66	55.90	70.14
Self wt., k	0.00	153.7	265.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max)	M	80.4	78.2	62.5	49.0	37.1	16.3	0.0
DL-Pre.: V	0.00	31.0	57.5	193.4	357.4	424.5	544.7	568.2
DC(Max): V	16.2	15.8	15.4	13.2	9.9	6.6	3.3	0.0
DL-Pre.: V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Max): V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deck +, k	0.00	155.4	278.8	971.2	1794.2	2382.1	2734.8	2852.4
Haunch (Max)	V	81.3	79.1	71.7	66.1	49.5	33.0	16.5
Diaphragm:	M	0.00	3.3	6.0	15.7	14.4	13.2	11.9
(Max)	V	16.7	14.3	12.1	0.1	0.1	0.1	0.1
DL-Comp.: V	-0.00	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max): V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp.: M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Max): V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LL + 1:	M+	-0.00	161.7	300.3	1005.8	1845.0	2429.8	2883.4

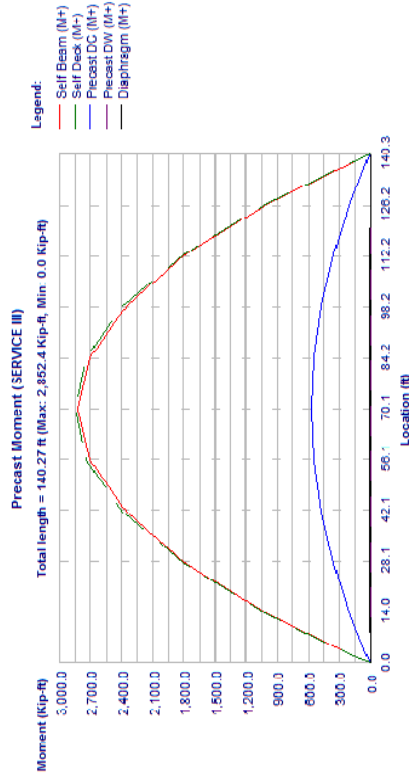


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			Checked	Date



	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	MidSpan
V	-109.7	107.5	105.6	94.9	79.7	64.4	43.1	27.8
M-	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	109.7	107.5	105.6	94.9	80.8	67.5	54.9	43.1
M	-0.0	168.9	311.7	1005.8	1717.0	2177.9	2377.1	2338.6
Total:	M+	0.0	516.4	959.2	3216.6	5914.7	7827.0	9341.1
V	310.2	300.5	292.0	244.3	191.7	139.1	80.5	27.9
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	310.2	300.5	292.0	244.3	192.9	142.2	92.3	43.1
M	0.0	523.5	970.6	3216.6	5786.7	7575.1	707.3	8796.3

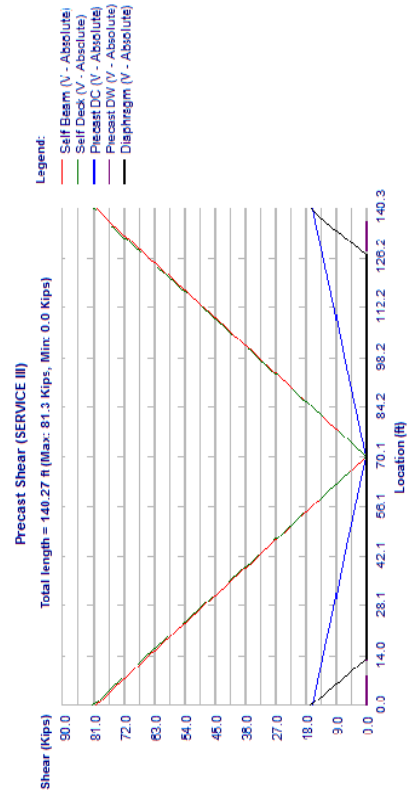
		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Sell wt. :	M	2703.6	2354.9	1773.7	960.0	285.5	153.7	80.4
(Max)	M	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec :	M	544.7	474.5	357.4	193.4	57.5	31.0	-0.0
DC(Max)	V	3.3	6.6	9.9	13.2	15.4	15.8	16.2
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2734.8	2382.1	1794.2	971.2	288.8	155.4	80.0
Haunch (Max)	V	16.5	33.0	49.5	66.1	77.1	79.1	81.3
Diaphragm :	M	9.5	8.2	7.0	5.7	2.0	1.1	0.0
(Max)	V	0.1	0.1	0.1	0.1	12.3	14.4	16.9
DL-Comp :	M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max)	V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	2780.5	2429.8	1845.0	1005.8	300.3	161.7	-0.0
LL + 1 :	M+	V	43.1	64.4	79.7	94.9	105.6	109.7
LL + 1 :	M-	V	0.0	0.0	0.0	0.0	0.0	-0.0
LL + 1 :	V	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
LL + 1 :	Vmx	54.9	67.5	80.8	94.9	105.6	107.5	109.7
Total :	M+	2377.1	2177.9	1717.0	1005.8	311.7	168.9	0.0
Total :	V	8971.2	7822.0	5907.3	3206.7	955.3	514.2	0.0
Total :	M-	V	80.5	139.1	191.7	244.3	292.1	310.4
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	92.3	142.2	192.9	244.3	292.1	300.7	310.4
Total :	Vmx	8567.8	7570.2	5779.2	3206.7	966.7	521.3	0.0

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Precast Moment, Span 1, Beam 6, SERVICE III

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Precast Shear, Span 1, Beam 6, SERVICE III

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Sheet # 21

Job #

Composite Moment (SERVICE III)

Total length = 140.27 ft (Max: 206.6 kip-ft, Min: 0.0 kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)

Composite Moment, Span 1, Beam 6, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:38 A.M.

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Sheet # 22

Job #

Composite Shear (SERVICE III)

Total length = 140.27 ft (Max: 5.9 Kips, Min: 0.0 Kips)

Legend:

- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Composite Shear, Span 1, Beam 6, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:38 A.M.

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Sheet # 23
Job #

Live Moment (SERVICE III)

Total length = 140.27 ft (Max: 2,883.4 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Live Moment, Span 1, Beam 6, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:38 A.M.

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Sheet # 24
Job #

Live Shear (SERVICE III)

Total length = 140.27 ft (Max: 109.7 Kips, Min: 43.1 Kips)

Legend:
— LL + I (Vmk - Absolute)

Live Shear, Span 1, Beam 6, SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, STRENGTH I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.00	192.1	356.9	1200.1	2217.1	2943.6	3379.4	3524.7
(Max) V	100.5	97.7	95.3	81.6	61.2	40.8	20.4	0.0
Self wt. : M	0.00	138.3	257.0	864.0	1596.3	2119.4	2433.2	2537.8
(Min) V	72.4	70.4	68.6	58.8	44.1	29.4	14.7	0.0
DL-Prec. : M	0.00	38.7	71.9	241.8	446.7	593.1	680.9	710.2
DC(Max) V	20.3	19.7	19.2	16.4	12.3	8.2	4.1	0.0
DL-Prec. : M	0.00	27.9	51.8	174.1	321.6	427.0	490.3	511.3
DC(Min) V	14.6	14.2	13.8	11.8	8.9	5.9	3.0	0.0
DL-Prec. : M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Max) V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DL-Prec. : M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Min) V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deck + : M	0.00	194.3	361.1	1213.9	2242.8	2977.6	3418.6	3565.5
Haunch (Max) V	101.7	98.9	96.4	82.6	61.9	41.3	20.6	0.0
Deck + : M	0.00	139.9	260.0	874.0	1614.8	2143.9	2461.4	2567.2

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:38 A.M.

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Sheet # 27
Job #

Moment (Kip-ft)

Precast Moment (STRENGTH I)

Total length = 140.27 ft (Max: 3,565.5 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 6, STRENGTH I

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Sheet # 28
Job #

Shear (Kips)

Precast Shear (STRENGTH I)

Total length = 140.27 ft (Max: 101.7 Kips, Min: 0.0 Kips)


Legend:

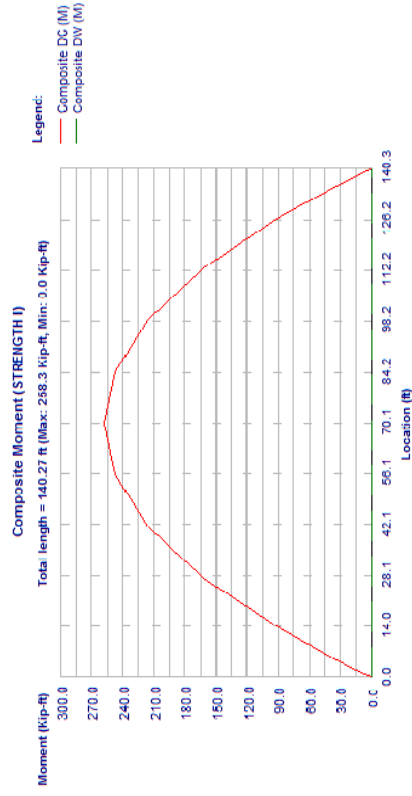
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 6, STRENGTH I

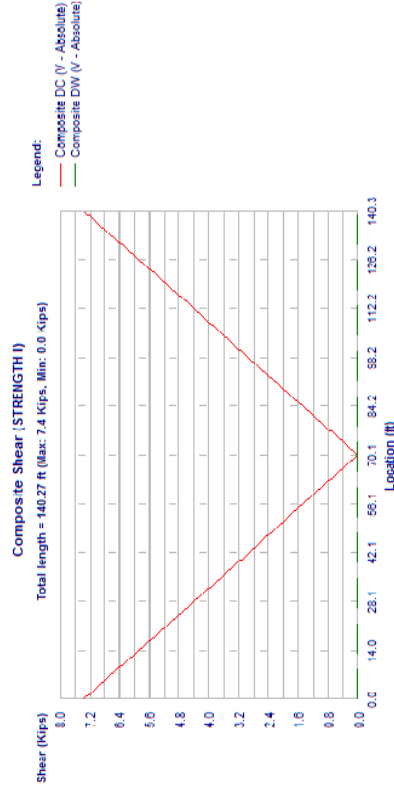
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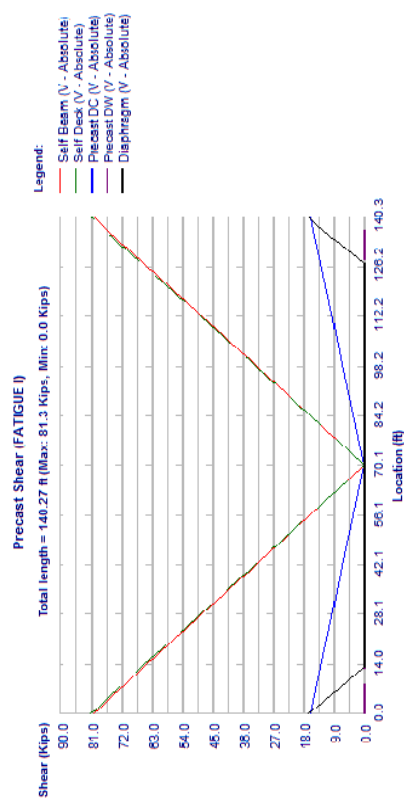
Composite Moment, Span 1, Beam 6, STRENGTH I

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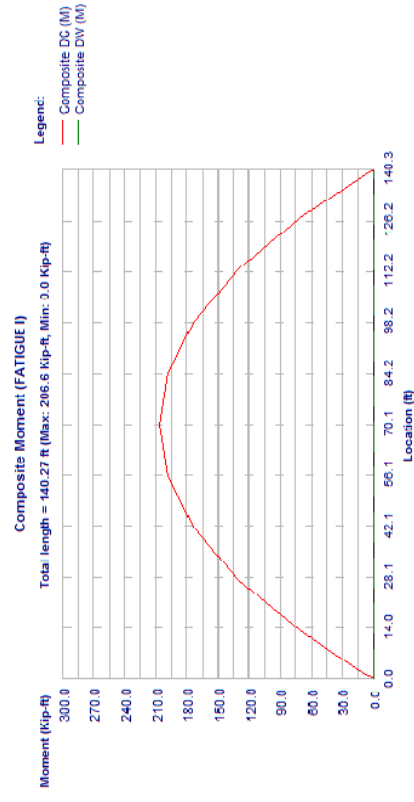
Composite Shear, Span 1, Beam 6, STRENGTH I

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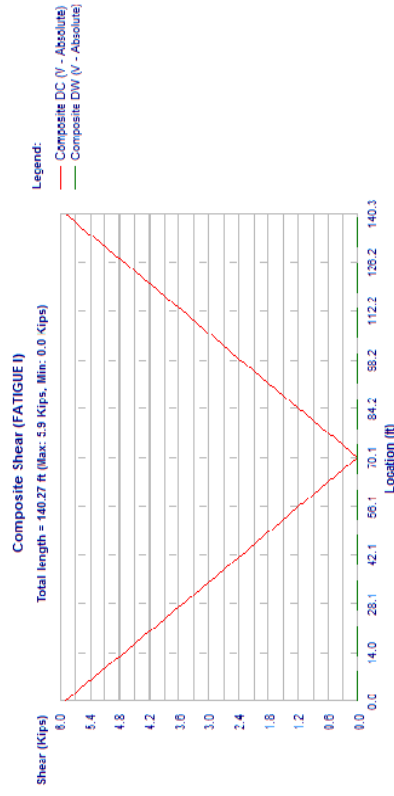
Precast Shear, Span 1, Beam 6, FATIGUE I

		Sheet # 36	
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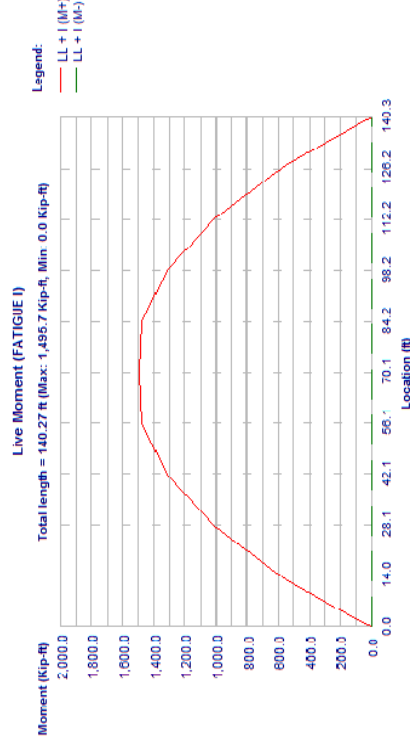
Composite Moment, Span 1, Beam 6, FATIGUE I

		Sheet #	37
		Job #	
		Designed	KSM
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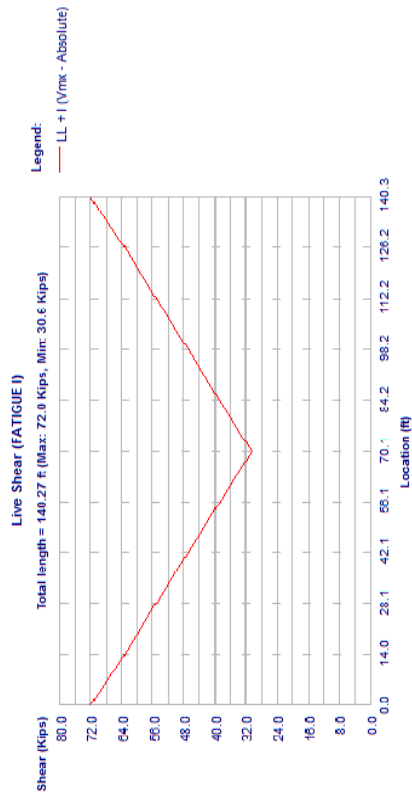
Composite Shear, Span 1, Beam 6, FATIGUE I

		Sheet #	38
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Live Moment, Span 1, Beam 6, FATIGUE I

				Sheet #	39
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Live Shear, Span 1, Beam 6, FATIGUE I



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Sheet # 3

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Designed KSM

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Date

*Average bridge width

TOPPING DATA:

Deck Thickness	8.500	in
Haunch Thickness	1.000	in
Width	60.000	in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.106	0.000	0.106	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.82	1.00
16.82	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397	ft
Release length	142.397	ft
Design length	140.273	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve		Moment	Shear	
	2+Lane	1Lane	1Lane	2+Lane	1Lane
0.0L	0.790	0.790	0.523	1.021	0.800
0.1L	0.790	0.790	0.523	1.021	0.800
0.2L	0.790	0.790	0.523	1.021	0.800
0.3L	0.790	0.790	0.523	1.021	0.800



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Sheet # 4

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Date

Location	+ve		Moment	Shear	
	0.4L	0.790	0.523	1.021	0.800
0.5L	0.790	0.790	0.523	1.021	0.800
0.6L	0.790	0.790	0.523	1.021	0.800
0.7L	0.790	0.790	0.523	1.021	0.800
0.8L	0.790	0.790	0.523	1.021	0.800
0.9L	0.790	0.790	0.523	1.021	0.800
1.0L	0.790	0.790	0.523	1.021	0.800

Pedestrian	0.100	(Calculated)
Comp. DC	0.100	(Calculated)
Comp. DW	0.100	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):


Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (I _{xx})	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (I _{yy})	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006000	1/°F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	I _{xx}	Ycg	Density	Eff. Width
0.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.1L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.2L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.3L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.4L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

		Sheet # 5	
		Job #	
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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in2	in	in4	in	pcf	in
0.5L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.6L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.7L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.8L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.9L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
1.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

(#) Area, Ixx, and Ycg Of Total Section using Ecf/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft	in2	in	in	in	in	in	in
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)	1121.7	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
Area, Yb, MI(XX)	34.09	33.21	33.21	33.18	33.15	33.11	33.07	33.07
	919627	945984	946245	947719	949967	952273	954636	954636
	2072.5	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2
	56.62	55.83	55.83	55.82	55.80	55.79	55.77	55.77
	2152330	2232510	2232940	2235357	2239011	2242716	2246473	2246473

Span:1, Beam:7
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Center	-0.93 ksi	
Max tens	-0.23 ksi	
Max tens	-0.59 ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

		Sheet # 6	
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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00 ksi	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

Span:1, Beam:7
 PRESTRESSED STEEL:
 45 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.96 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
7 @ 11.000 in	5 @ 13.000 in	3 @ 15.000 in	1 @ 17.000 in

MID PATTERN (Ycg = 4.82 in):


(A) Draped:

7 @ 3.000 in	5 @ 5.000 in	3 @ 7.000 in	1 @ 9.000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600 in
Strand Area	0.217 in2
Total Strand Area	9.765 in2
Trans. Len.bonded	3.000 ft
Trans. Len.debonded	3.000 ft



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** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 177.9 ksi < 0.80 fpy, OK



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max) V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0
DL-Prec. : M	0.0	31.0	57.5	193.4	357.4	474.5	544.7	568.2
DC(Max) V	16.2	15.8	15.4	13.2	9.9	6.6	3.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	155.4	288.8	971.2	1794.2	2382.1	2734.8	2852.4
Haunch (Max) V	81.3	79.1	77.1	66.1	49.5	33.0	16.5	0.0
Diaphragm : M	0.0	3.3	6.0	15.7	14.4	13.2	12.0	10.7
(Max) V	16.7	14.3	12.1	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max) V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	202.2	375.4	1257.3	2306.3	3037.2	3475.6	3604.2
V	137.1	134.4	132.0	118.7	99.6	80.5	53.9	34.8
LL + I : M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : Mmx	137.1	134.4	132.0	118.7	101.0	84.4	68.6	53.8
Total : M	-0.0	211.1	389.7	1257.3	2146.2	2722.4	2971.3	2923.3
M+	0.0	556.8	1034.3	3468.1	6376.0	8434.4	9668.8	10061.9
V	337.6	327.4	318.4	268.0	211.7	155.3	91.3	34.8
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	337.6	327.4	318.4	268.0	213.1	159.1	106.1	53.9
M	0.0	565.8	1048.5	3468.1	6215.9	8119.6	9164.5	9380.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. : M	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0
(Max) V	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec. : M	544.7	474.5	357.4	193.4	57.5	31.0	-0.0
DC(Max) V	3.3	6.6	9.9	13.2	15.4	15.8	16.2
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2734.8	2382.1	1794.2	971.2	288.8	155.4	0.0
Haunch (Max) V	16.5	33.0	49.5	66.1	77.1	79.1	81.3
Diaphragm : M	9.5	8.2	7.0	5.8	2.0	1.1	0.0
(Max) V	0.1	0.1	0.1	0.1	12.2	14.4	16.9
DL-Comp : M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max) V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	3475.6	3037.2	2306.3	1257.3	375.4	202.2	-0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 53.9	80.5	99.6	118.7	132.0	134.4	137.1
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	68.6	84.4	101.0	118.7	132.0	134.4	137.1
LL + I :	M 2971.3	2722.4	2146.2	1257.3	399.7	211.1	0.0
Total :	M+ 9666.3	8429.5	6368.5	3458.2	1030.3	554.6	0.0
V	91.3	155.3	211.7	268.0	318.5	327.5	337.8
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	106.1	159.1	213.1	268.0	318.5	327.5	337.8
Total :	M 9162.0	8114.7	6208.5	3458.2	1044.6	563.6	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	81.3	81.3
Diaphragm	16.7	16.9
DL-Prec.(DC)	16.2	16.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 10:39 A.M.

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Version: 12.01.00.57

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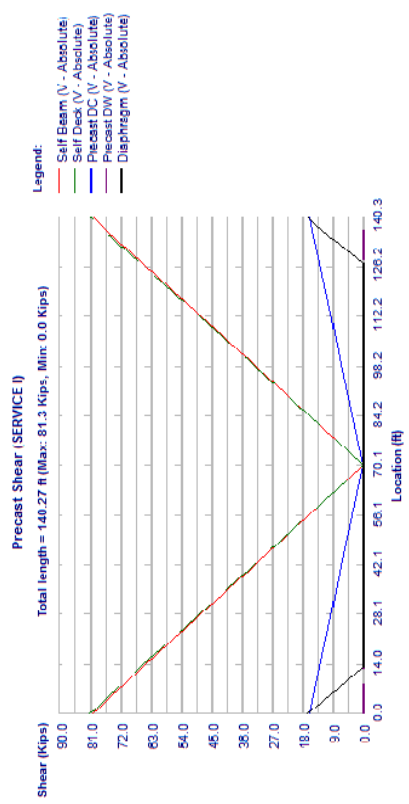
Precast Moment, Span 1, Beam 7, SERVICE I

Units: U.S. Units


Design Code: AASHTO LRFD

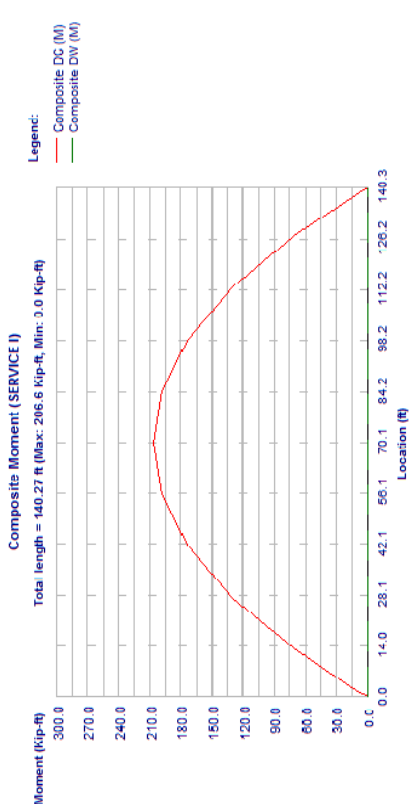
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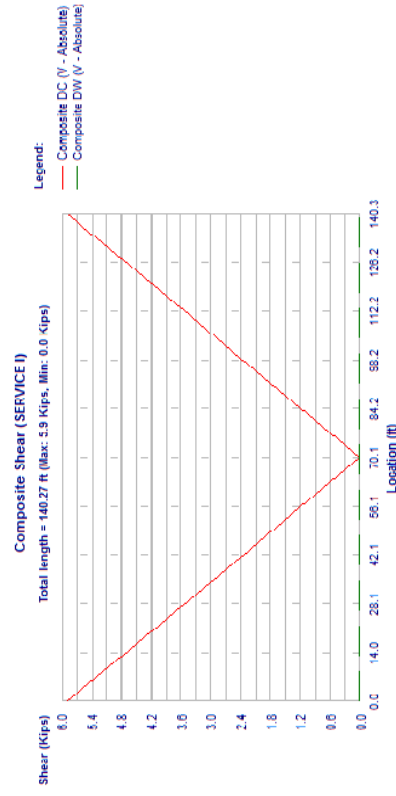
Precast Shear, Span 1, Beam 7, SERVICE I

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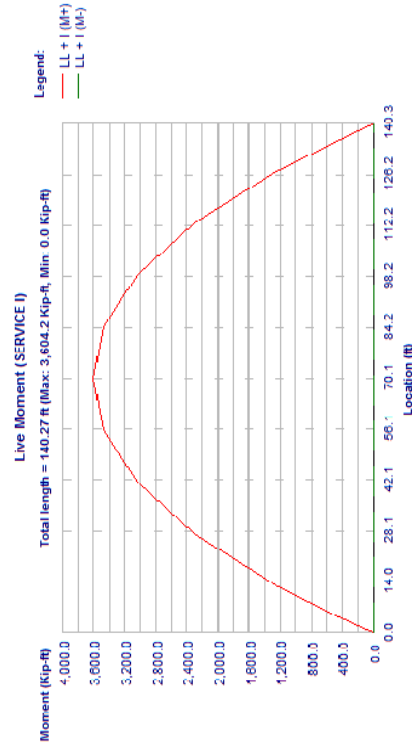
Composite Moment, Span 1, Beam 7, SERVICE I

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Composite Shear, Span 1, Beam 7, SERVICE I

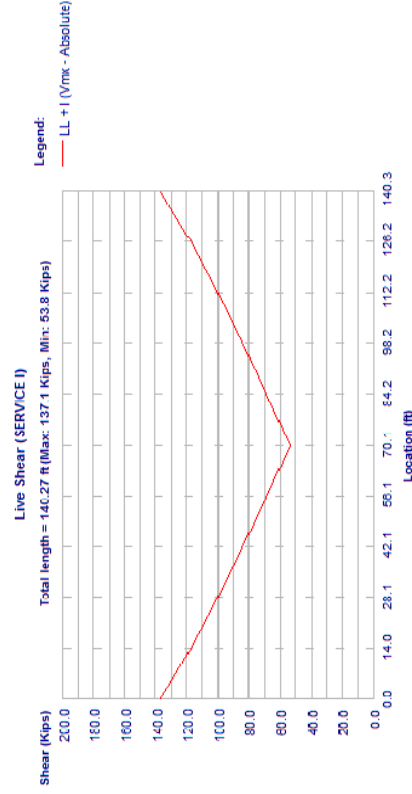
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Live Moment, Span 1, Beam 7, SERVICE I

	Beating	Trans	H2	0.10L	0.20L	0.30L	0.40L	Midspan
V	109.7	107.5	105.6	94.9	79.7	64.4	43.1	27.8
LL + I:	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
V	109.7	107.5	105.6	94.9	80.8	67.5	54.9	43.1
LL + I:	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	168.9	311.7	1005.8	1717.0	2177.9	2377.1	2338.6
M+	0.0	516.4	959.2	3216.6	5914.7	7827.0	8973.7	9341.1
V	310.2	300.5	292.0	244.3	191.7	139.1	80.5	27.9
Total:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	310.2	300.5	292.0	244.3	192.9	142.2	92.3	43.1
Vmx	0.0	523.5	970.6	3216.6	5786.7	7575.1	8570.3	8796.3
M	0.0	523.5	970.6	3216.6	5786.7	7575.1	8570.3	8796.3

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, Self wt.	ft	84.38	98.62	112.86	127.00	136.63	138.34	140.27
M	M	2703.6	2354.9	1773.7	960.0	285.5	153.7	80.4
DL-Prec.:	M	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DC(Max)	V	544.7	474.5	357.4	193.4	57.5	31.8	16.2
DL-Prec.:	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2734.8	2382.1	1794.2	971.2	288.8	155.4	80.0
Haunch (Max)	V	16.5	33.0	49.5	66.1	77.1	79.1	81.3
Diaphragm :	M	9.5	8.2	7.0	5.8	2.0	1.1	0.0
(Max)	V	0.1	0.1	0.1	0.1	1.2	14.4	16.9
DL-Comp :	M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max)	V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	2780.5	2429.8	1845.0	1005.8	300.3	161.7	109.7
LL + :	M+	V	43.1	64.4	79.7	94.9	105.6	109.7
LL + :	M-	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M-	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	Vmx	M	54.9	67.5	80.8	94.9	105.6	109.7
Total :	M+	M	2377.1	2177.9	1717.0	1005.8	311.7	168.9
Total :	V	M	8971.2	7822.0	5907.3	3206.7	514.2	310.4
Total :	M-	V	80.5	139.1	191.7	244.3	292.1	300.7
Total :	M-	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	M	95.67	142.2	192.9	244.3	300.7	310.4
Total :	Vmx	M	8563.8	7570.2	5779.3	3206.7	966.7	621.3





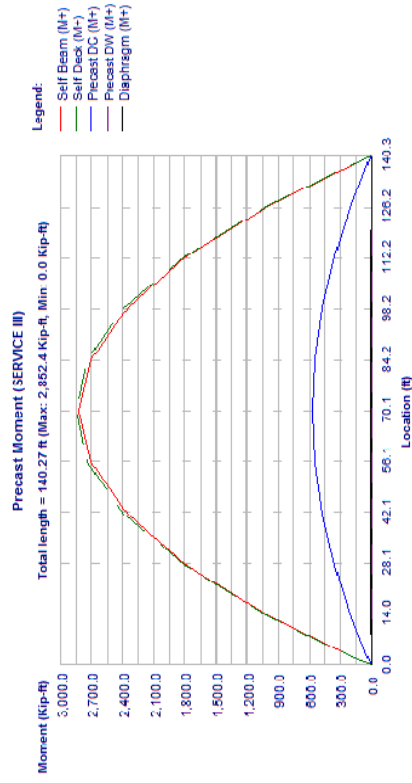
Live Shear Span 1 Beam 7 SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1 Beam : 7 SERVICE III



Shears: kips. Moments: kft.

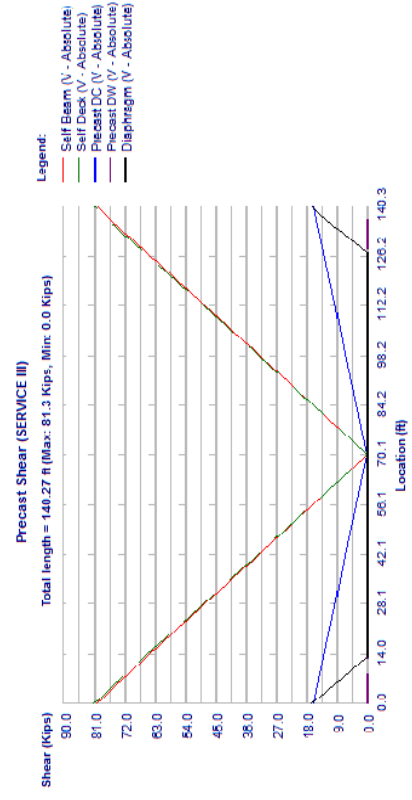
		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.94	3.85	13.18	27.42	41.66	55.90	70.14
Self wt.,	M	0.00	153.7	265.5	960.0	1773.7	2354.9	2703.6	2819.8
DL-Prec.	M	80.4	78.2	65.3	65.3	49.0	32.7	16.3	0.0
DL(Pav)	M	0.0	31.0	57.5	193.4	357.4	474.5	544.7	568.2
DC(Max)	M	16.2	15.8	15.4	13.2	9.9	6.6	3.3	0.0
DL-Prec.	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck +	M	0.0	155.4	288.8	971.2	1794.2	2382.1	2734.8	2852.4
Haunch (Max)	M	81.3	79.1	77.1	66.1	49.5	33.0	16.5	0.0
Diaphragm	M	0.0	3.3	6.0	15.7	14.4	13.2	12.0	10.7
(Max)	M	16.7	14.3	12.1	0.1	0.1	0.1	0.1	0.1
DL-Comp.	M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max)	M	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp.	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I.	M+	-0.0	161.7	300.3	1005.8	1845.0	2429.8	280.5	2883.4

		Sheet # 19			
		Job #			
		Designed KSM			
		Date Sep/9/2013			
		Checked			
File Name: Span12EB_ModifiedSpacing.csl		Date		Date	
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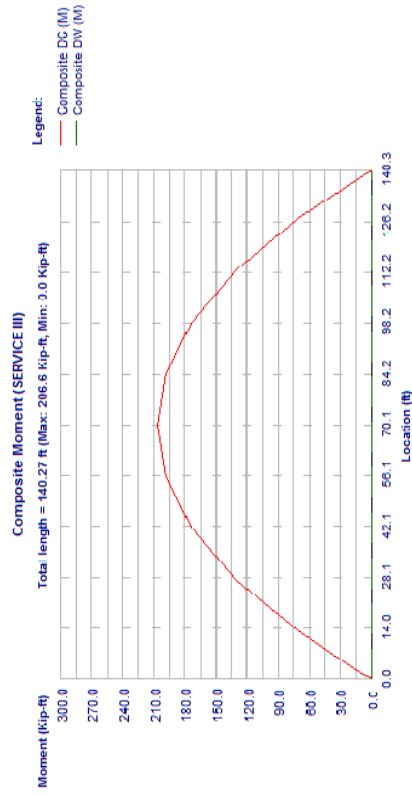
Precast Moment, Span 1, Beam 7, SERVICE III

		Sheet # 20	
		Job #	
		Designed KSM	
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		Checked	
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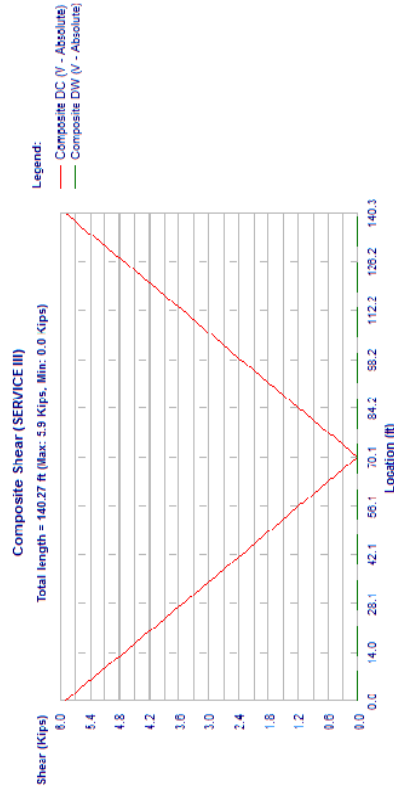
Precast Shear, Span 1, Beam 7, SERVICE III

		Sheet #	21
		Job #	
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File Name: Span12EB_ModifiedSpacing.csl			




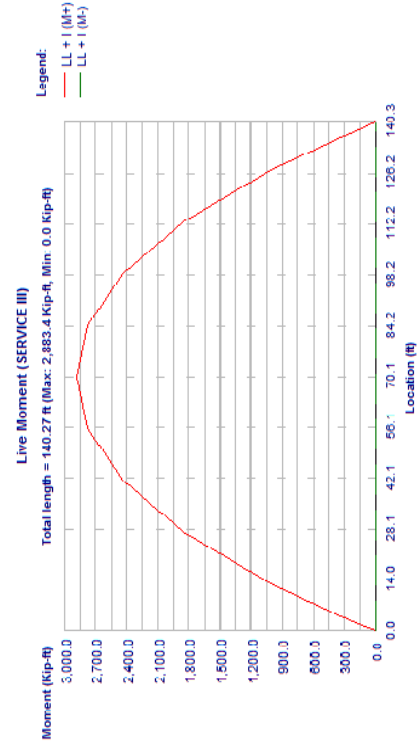
Composite Moment, Span 1, Beam 7, SERVICE III

		Sheet #	22
		Job #	
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File Name: Span12EB_ModifiedSpacing.csl			




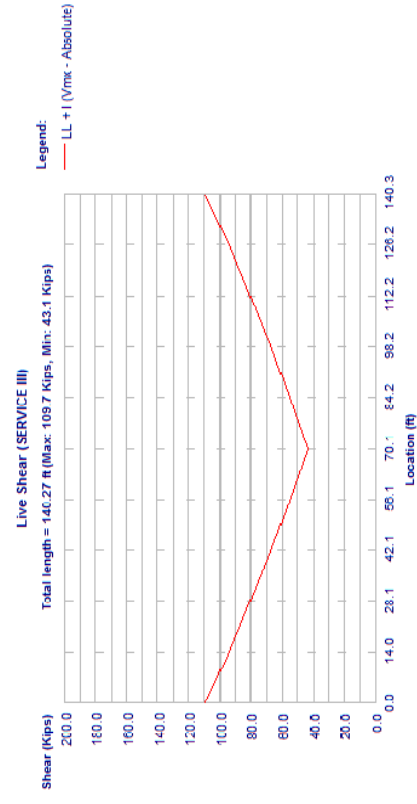
Composite Shear, Span 1, Beam 7, SERVICE III

				Sheet #	23
				Job #	
Program:		LEAP@CONSPAN® V8i (SELECTseries 5)		Designed	KSM
Version:		12.01.00.57		Date	Sep/09/2013
				Checked	
				Date	
File Name:		Spant12EB_ModifiedSpacing.csl			



Live Moment, Span 1, Beam 7, SERVICE III


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Live Shear. Span 1. Beam 7. SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, STRENGTH
Shears: kips, Moments: kft

	ft	Bearing	Trans	H ₂	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	M	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt.,	M	0.00	192.1	356.9	1200.1	2217.1	2943.6	3379.4	3524.7
(Max)	V	100.5	97.7	95.3	81.6	61.2	40.8	20.4	0.0
Self wt.,	M	0.00	138.3	257.0	864.0	1596.3	2119.4	2433.2	2537.8
(Min)	V	72.4	70.4	68.6	58.8	44.1	29.4	14.7	0.0
DL-Prec.,	M	0.00	38.7	71.9	241.8	446.7	593.1	680.9	710.2
DC(Max)	V	20.3	19.7	19.2	16.4	12.3	8.2	4.1	0.0
DL-Prec.,	M	0.00	27.9	51.8	174.1	321.6	427.0	490.3	511.3
DC(Min)	V	14.6	14.2	13.8	11.8	8.9	5.9	3.0	0.0
DL-Prec.,	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.,	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + ,	M	0.00	194.3	361.1	1213.9	2242.8	2977.6	3418.6	3565.5
Haunch (Max)	V	101.7	98.9	96.4	82.6	61.9	41.3	20.6	0.0
Deck + ,	M	0.00	139.9	260.0	874.0	1614.8	2143.9	2461.4	2567.2



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	73.2	71.2	69.4	59.5	44.6	29.7	14.9
Diaphragm :	M	0.0	4.1	7.4	19.6	18.0	16.5	14.9
(Max)	V	20.9	17.9	15.2	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	3.0	5.4	14.1	13.0	11.9	10.8
(Min)	V	15.1	12.9	10.9	0.1	0.1	0.1	0.1
DL-Comp :	M	-0.0	-0.0	14.1	26.2	88.1	162.5	247.6
DC(Max)	V	7.4	7.2	7.0	6.0	4.5	3.0	1.5
DL-Comp :	M	-0.0	-0.0	10.2	18.9	63.4	117.0	155.3
DC(Min)	V	5.3	5.2	5.0	4.3	3.2	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	-0.0	353.8	657.0	2200.3	4035.9	5315.2
LL + I :	V	239.9	235.1	231.0	207.7	174.3	140.9	94.2
LL + I :	M-	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	239.9	235.1	231.0	207.7	176.8	147.6	120.1
LL + I :	M	-0.0	-0.0	369.4	681.9	2200.3	3755.9	4764.2
Total :	M+	0.0	797.1	1480.5	4963.8	9123.1	12061.7	13823.9
Total :	V	490.6	476.4	464.0	394.4	314.4	234.3	141.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx	490.6	476.4	464.0	394.4	316.9	241.1	166.9
Total :	M	0.0	812.7	1505.5	4963.8	8843.0	11510.7	12941.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. :	M	3379.4	2943.6	2217.1	1200.1	356.9	192.1
(Max)	V	20.4	40.8	61.2	81.6	95.3	97.7
Self wt. :	M	2433.2	2119.4	1596.3	864.0	257.0	138.3
(Min)	V	14.7	29.4	44.1	58.8	68.6	70.4
DL-Prec :	M	680.9	593.1	446.7	241.8	71.9	38.7
DC(Max)	V	4.1	8.2	12.3	16.4	19.2	19.7
DL-Prec :	M	490.3	427.0	321.6	174.1	51.8	27.9
DC(Min)	V	3.0	5.9	8.9	11.8	13.8	14.2
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3418.6	2977.6	2242.8	1213.9	361.1	194.3
Haunch (Max)	V	20.6	41.3	61.9	82.6	96.4	98.9
Deck + :	M	2461.4	2143.9	1614.8	874.0	260.0	139.9
Haunch (Min)	V	14.9	29.7	44.6	59.5	69.4	71.2
Diaphragm :	M	11.8	10.3	8.7	7.2	2.5	1.4
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	8.5	7.4	6.3	5.2	1.8	1.0
(Min)	V	0.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	247.6	215.7	162.5	88.1	26.2	14.1
DC(Max)	V	1.5	3.0	4.5	6.0	7.0	7.2
DL-Comp :	M	178.3	155.3	117.0	63.4	18.9	10.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.5	100.5
Deck+Haunch	101.7	101.7
Diaphragm	20.9	21.1
DL-Prec (DC)	20.3	20.3
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	73.6	73.6
DL-Comp (DW)	0.0	0.0
Live	196.2	196.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.1	2.2	3.2	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6082.4	5315.2	4035.9	2200.3	657.0	353.8
LL + I :	V	94.2	140.9	174.3	207.7	231.0	239.9
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	120.1	147.6	176.8	207.7	231.0	235.1
LL + I :	M	5199.9	4764.2	3755.9	2200.3	681.9	369.4
Total :	M+	13820.8	12055.5	9113.8	4951.4	1475.6	794.4
Total :	V	141.0	234.3	314.4	394.4	464.1	476.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx	166.9	241.1	316.9	394.4	464.1	476.6
Total :	M	12938.2	11504.5	8833.7	4951.4	1500.6	810.0

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Sheet # 27
Job #

Moment (Kip-ft)

Precast Moment (STRENGTH I)

Total length = 140.27 ft (Max: 3,565.5 Kip-ft, Min: 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Location (ft)

Precast Moment, Span 1, Beam 7, STRENGTH I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:39 A.M.

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Sheet # 28
Job #

Shear (Kips)

Precast Shear (STRENGTH I)

Total length = 140.27 ft (Max: 101.7 Kips, Min: 0.0 Kips)


Legend:

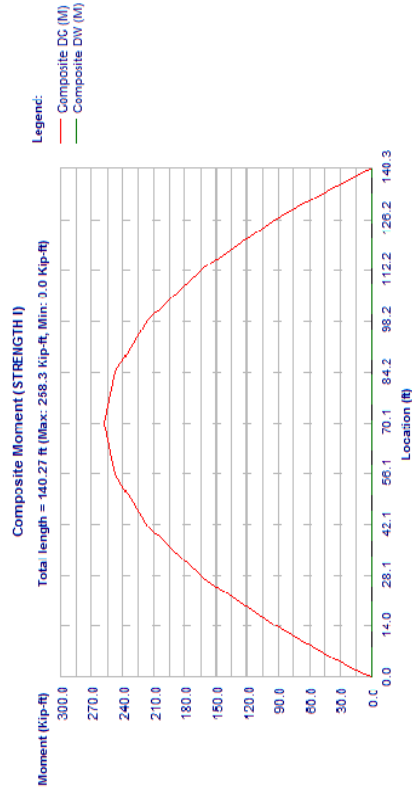
- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)


Precast Shear, Span 1, Beam 7, STRENGTH I

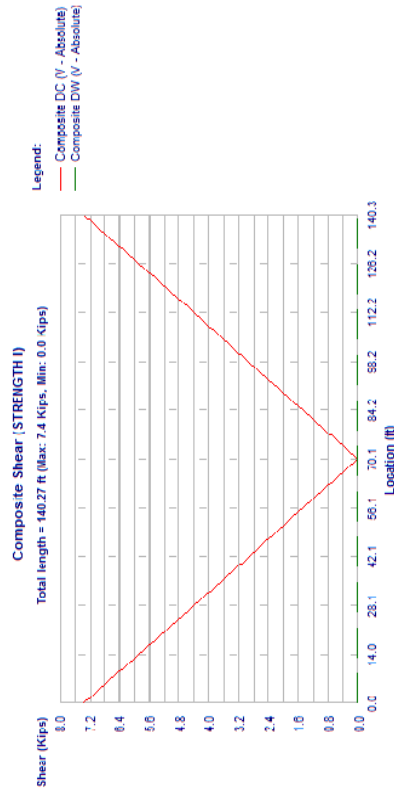
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:39 A.M.

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		Job #
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Composite Moment, Span 1, Beam 7, STRENGTH I

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Composite Shear, Span 1, Beam 7, STRENGTH I

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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	3.3	6.0	15.7	14.4	13.2	10.7
(Max)	V	16.7	14.3	12.1	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	11.3	21.0	70.5	130.0	172.6	206.6
DC(Max)	V	5.9	5.7	5.6	4.8	3.6	2.4	1.2
DL-Comp :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	89.3	165.7	550.5	995.5	1308.5	1495.7
LL + I :	V	72.0	70.8	69.8	63.8	55.5	41.8	33.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	72.0	70.8	69.8	63.8	55.5	47.2	38.9
Total :	M	0.0	89.3	165.7	550.5	995.5	1286.3	1422.9
Total :	M+	0.0	44.0	82.4	276.3	506.5	670.5	767.6
Total :	M-	0.0	272.6	263.9	256.2	213.1	167.5	116.6
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	272.6	263.9	256.2	213.1	167.5	121.9	76.3
Total :	M	0.0	44.0	82.4	276.3	506.5	668.5	761.6
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	84.38	98.62	112.86	127.10	136.63	138.34
Self wt. :	M	2703.6	2354.9	1773.7	960.0	285.5	153.7
(Max)	V	16.3	32.7	49.0	65.3	76.2	78.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	544.7	474.5	357.4	193.4	57.5	31.0
DC(Max)	V	3.3	6.6	9.9	13.2	15.4	15.8
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2734.8	2382.1	1794.2	971.2	288.8	155.4
Haunch (Max)	V	16.5	33.0	49.5	66.1	77.1	79.1
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	9.5	8.2	7.0	5.8	2.0	1.1
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	198.1	172.6	130.0	70.5	21.0	11.3
DC(Max)	V	1.2	2.4	3.6	4.8	5.6	5.7
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1479.4	1308.5	995.5	550.5	165.7	89.3
LL + I :	V	33.5	41.8	55.5	63.8	69.8	70.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	38.9	47.2	55.5	63.8	69.8	70.8
LL + I :	M	1422.9	1286.3	995.5	550.5	165.7	89.3
Total :	M+	7670.1	6700.7	5057.8	2751.4	820.6	441.8
Total :	V	71.0	116.6	167.5	213.1	256.3	264.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	76.3	121.9	167.5	213.1	256.3	264.0
Total :	M	7613.6	6678.5	5057.8	2751.4	820.6	441.8

Precast Moment (FATIGUE I)

Total length = 140.27 ft (Max: 2,852.4 Kip-ft, Min: 0.0 Kip-ft)


Legend:

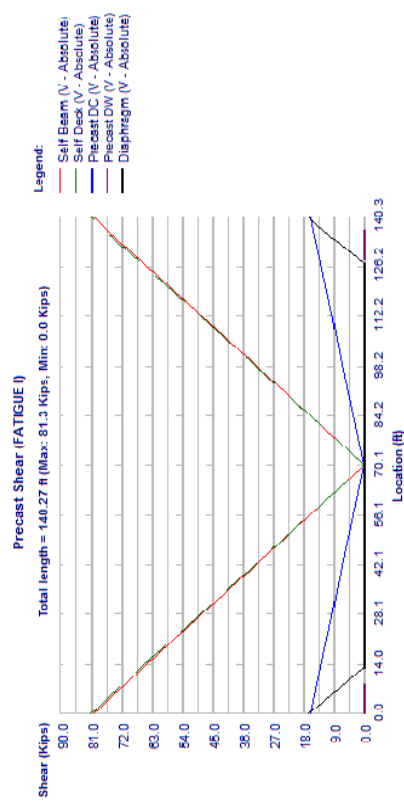
- Self Beam (M+)
- Self Deck (M+)
- Precast DW (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 7, FATIGUE I


Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:39 A.M.

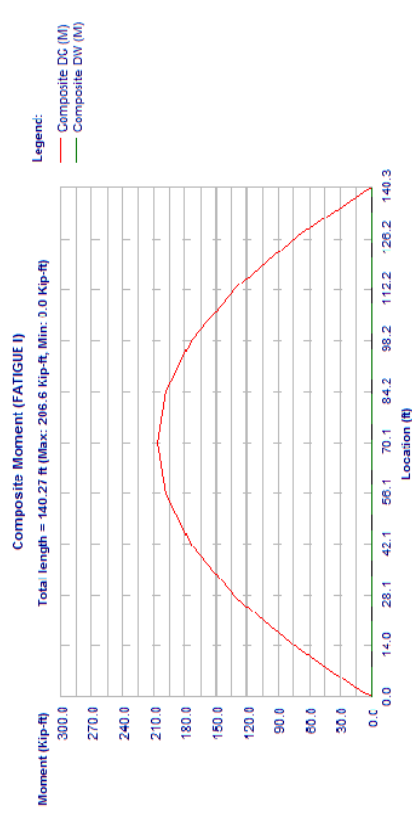
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:39 A.M.

		Sheet # 35	
		Job #	
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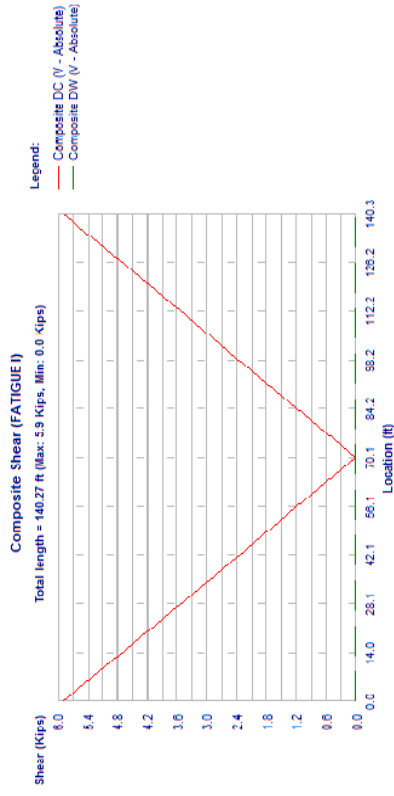
Precast Shear, Span 1, Beam 7, FATIGUE I

		Sheet # 36	
		Job #	
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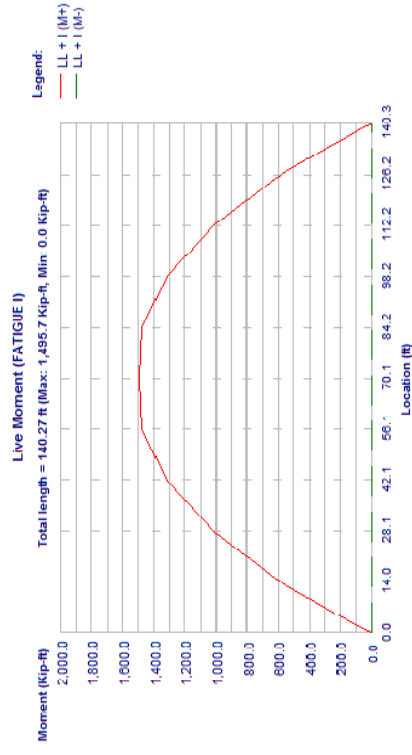
Composite Moment, Span 1, Beam 7, FATIGUE I

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		Job #	
		Designed	KSM
		Date	Sept/9/2013
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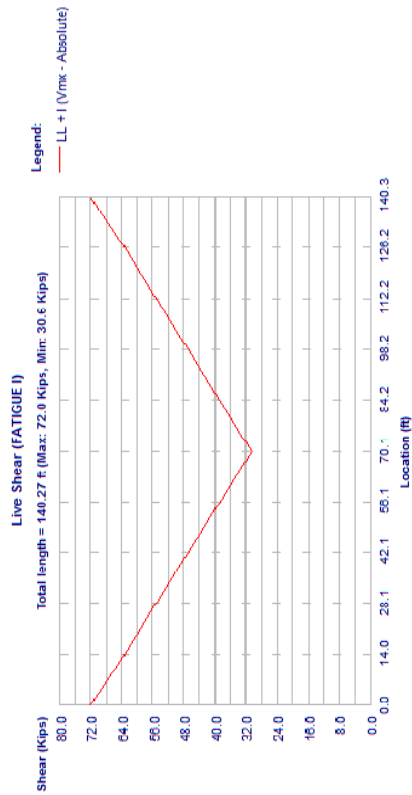
Composite Shear, Span 1, Beam 7, FATIGUE I

		Sheet #	38
		Job #	
		Designed	KSM
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Live Moment, Span 1, Beam 7, FATIGUE I

		Sheet # 39	
Job #		Job #	
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Live Shear, Span 1, Beam 7, FATIGUE I



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Sheet # 1
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PROPERTIES

Span:1, Beam:8

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

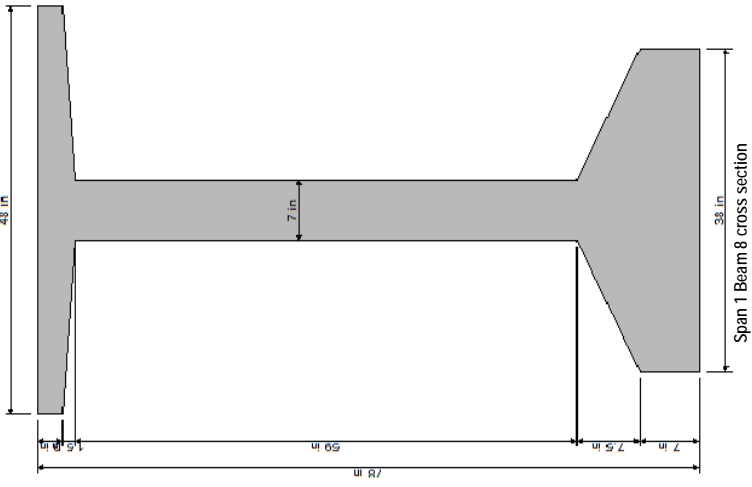


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Span 1 Beam 8 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.07 ft
Curb-to-curb*	99.99 ft
Beam Spac. Start LL/RI	10.64/ 10.64 ft
End LL/RI	10.64/ 10.64 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	-14.15 degrees
End Skew Angle	-14.15 degrees



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*Average bridge width

TOPPING DATA:

Deck Thickness	8.500 in
Haunch Thickness	1.000 in
Width	60.000 in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.106	0.000	0.106	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.82	1.00
16.82	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397 ft
Release length	142.397 ft
Design length	140.273 ft

KERN POINTS:


Upper	58.35 in
Lower	15.66 in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve	Moment	Shear
0.0L	2+Lane	1Lane	2+Lane
0.0L	0.790	0.523	1.021
0.1L	0.790	0.523	1.021
0.2L	0.790	0.523	1.021
0.3L	0.790	0.523	1.021



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Location	+ve	Moment	Shear
0.4L	0.790	0.523	1.021
0.5L	0.790	0.523	1.021
0.6L	0.790	0.523	1.021
0.7L	0.790	0.523	1.021
0.8L	0.790	0.523	1.021
0.9L	0.790	0.523	1.021
1.0L	0.790	0.523	1.021

Pedestrian	0.100 (Calculated)
Comp. DC	0.100 (Calculated)
Comp. DW	0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:

Area	1100.6 in ²
Total Height	78.00 in
Mom. of Inertia (I _{xx})	904567 in ⁴
Ht. of c.g.	34.60 in
Density	150.00 pcf
Self-weight	1146.5 plf
Mom. of Inertia (I _{yy})	82367.0 in ⁴
Poisson's Ratio	0.2
Thermal Coeff.	0.000006000 1/F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	I _{xx}	Ycg	Density	Eff. Width
0.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.1L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.2L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.3L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.4L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in ²	in	in ⁴	in	pcf	in
0.5L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.6L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.7L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.8L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.9L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
1.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

(#) Area, Ixx, and Ycg Of Total Section using Ec/Ec = 0.8563
 Use transformed strand and rebar: Strand Only

Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft							
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)	in ²	in ²	in	in	in	in	in	in
	1121.7	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
	34.09	33.21	33.21	33.18	33.15	33.11	33.07	33.07
	919627	945984	946245	947719	949967	952273	954636	954636
Area, Yb, MI(XX)	in ²	in	in	in	in	in	in	in
	2072.5	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2
	56.62	55.83	55.83	55.82	55.80	55.79	55.77	55.77
	2152330	2232510	2232940	2235357	2239011	2242716	2246473	2246473

Span:1, Beam:8
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Center	-0.93 ksi	
Max tens	-0.23 ksi	
Max tens	-0.59 ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00 ksi	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

Span:1, Beam:8
 PRESTRESSED STEEL:
 45 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.96 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3,000 in	12 @ 5,000 in	6 @ 7,000 in	1 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Ycg = 4.82 in):

(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	6 @ 7,000 in	1 @ 9,000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600 in
Strand Area	0.217 in ²
Total Strand Area	9.765 in ²
Trans. Len.bonded	3,000 ft
Trans. Len.debonded	3,000 ft

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Dev. Len bonded

11.596 ft

Holddown Force

8.229 kips

Tensile Strength(fpu)

270.0 ksi

Initial Prestress = 0.75fpu

202.5 ksi

Initial Pull

1977.4 kips

Beam Shring (PL/AE)

0.725 in

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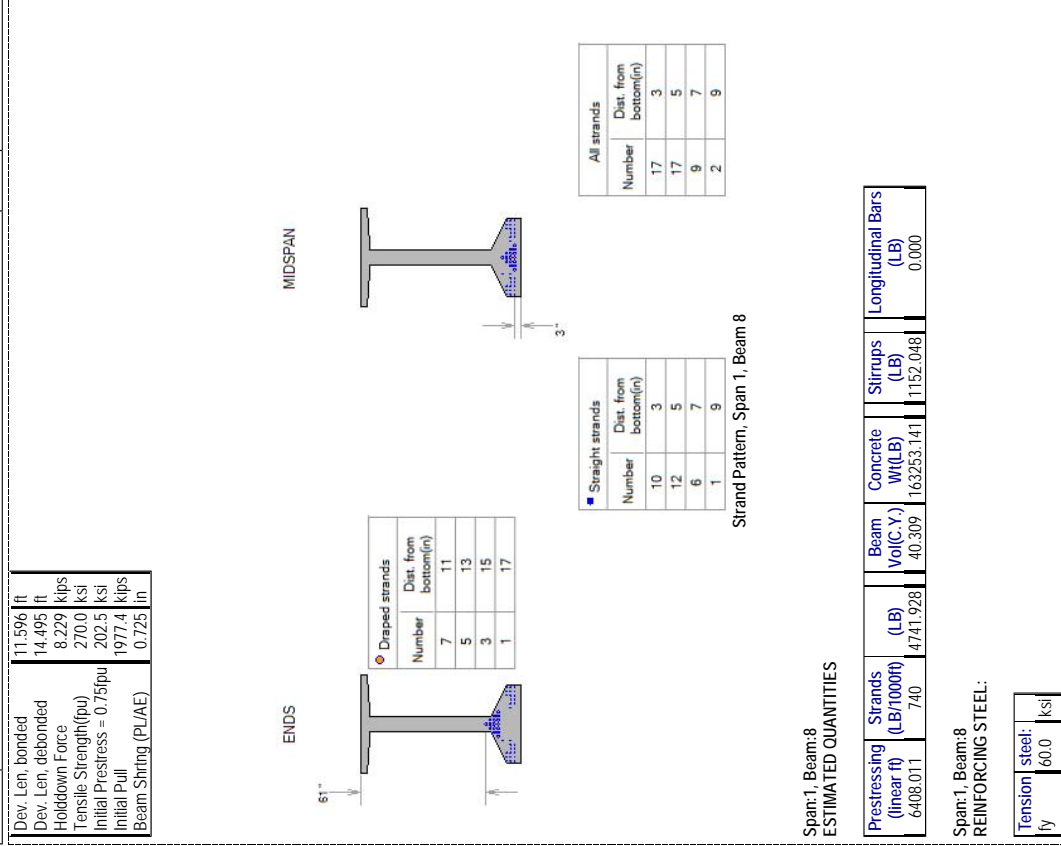
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** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 177.9 ksi < 0.80 fpy, OK



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max) V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0
DL-Prec. : M	0.0	31.0	57.5	193.4	357.4	474.5	544.7	568.2
DC(Max) V	16.2	15.8	15.4	13.2	9.9	6.6	3.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	155.4	288.8	971.2	1794.2	2382.1	2734.8	2852.4
Haunch (Max) V	81.3	79.1	77.1	66.1	49.5	33.0	16.5	0.0
Diaphragm : M	0.0	3.3	6.0	15.7	14.4	13.2	12.0	10.7
(Max) V	16.7	14.3	12.1	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max) V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	202.2	375.4	1257.3	2306.3	3037.2	3475.6	3604.2
V	137.1	134.4	132.0	118.7	99.6	80.5	53.9	34.8
LL + I : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : Mmx	137.1	134.4	132.0	118.7	101.0	84.4	68.6	53.8
Total : M	-0.0	211.1	389.7	1257.3	2146.2	2722.4	2971.3	2923.3
M+	0.0	556.8	1034.3	3468.1	6376.0	8434.4	9668.8	10061.9
V	337.6	327.4	318.4	268.0	211.7	155.3	91.3	34.8
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total : Mmx	337.6	327.4	318.4	268.0	213.1	159.1	106.1	53.9
M	0.0	565.8	1048.5	3468.1	6215.9	8119.6	9164.5	9380.9

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. : M	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0
(Max) V	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec. : M	544.7	474.5	357.4	193.4	57.5	31.0	-0.0
DC(Max) V	3.3	6.6	9.9	13.2	15.4	15.8	16.2
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2734.8	2382.1	1794.2	971.2	288.8	155.4	0.0
Haunch (Max) V	16.5	33.0	49.5	66.1	77.1	79.1	81.3
Diaphragm : M	9.5	8.2	7.0	5.8	2.0	1.1	0.0
(Max) V	0.1	0.1	0.1	0.1	12.2	14.4	16.9
DL-Comp : M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max) V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	3475.6	3037.2	2306.3	1257.3	375.4	202.2	-0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 53.9	80.5	99.6	118.7	132.0	134.4	137.1
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	68.6	84.4	101.0	118.7	132.0	134.4	137.1
Total :	M 2971.3	2722.4	2146.2	1257.3	399.7	211.1	0.0
M+	9666.4	8429.5	6368.6	3458.2	1030.3	554.6	0.0
V	91.3	155.3	211.7	268.0	318.5	327.5	337.8
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	106.1	159.1	213.1	268.0	318.5	327.5	337.8
Total :	M 9162.1	8114.7	6208.5	3458.2	1044.6	563.6	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	81.3	81.3
Diaphragm	16.7	16.9
DL-Prec.(DC)	16.2	16.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:39 A.M.

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Precast Moment (SERVICE I)


Total length = 140.27 ft (Max: 2,852.4 Kip-ft, Min: 0.0 Kip-ft)

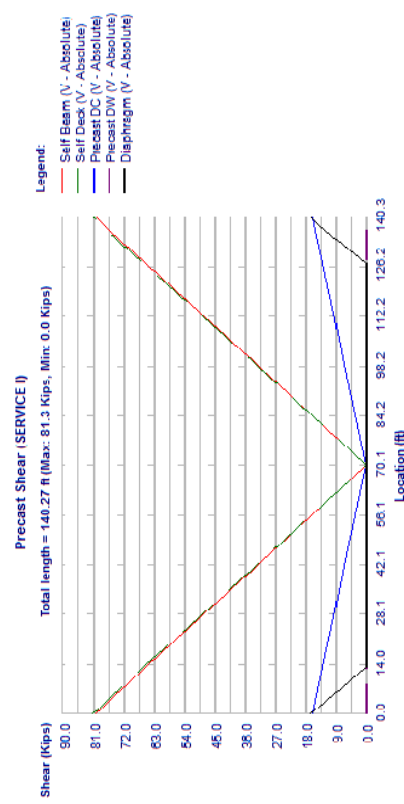
Legend:

- Self Beam (M+)
- Self Deck (M-)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 8, SERVICE I

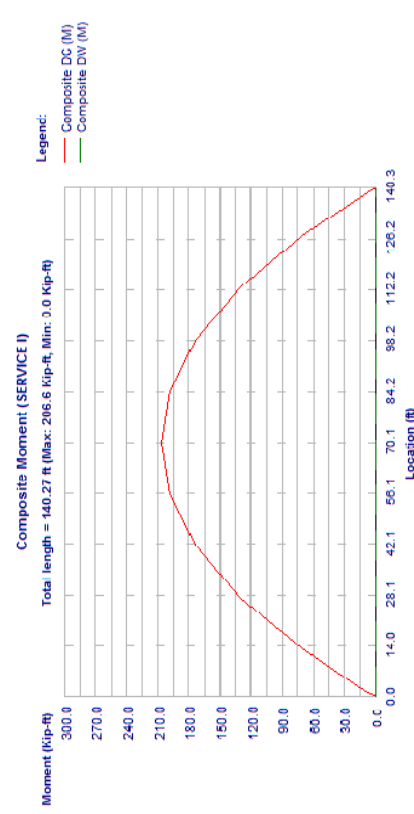
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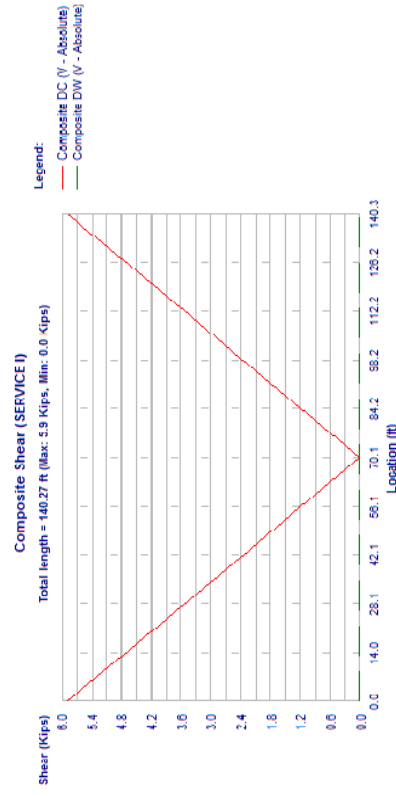
Precast Shear, Span 1, Beam 8, SERVICE I

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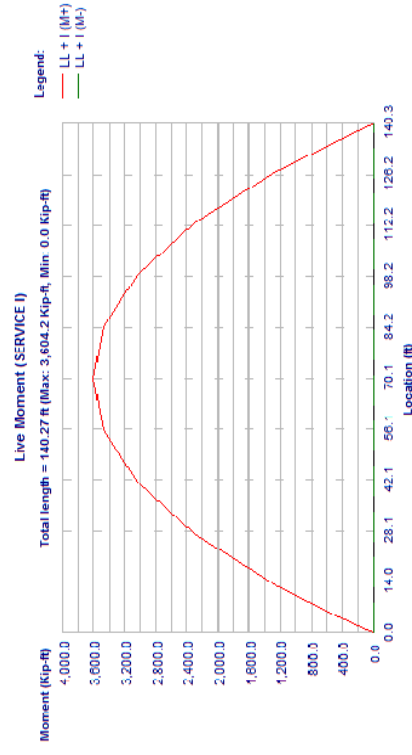
Composite Moment, Span 1, Beam 8, SERVICE I

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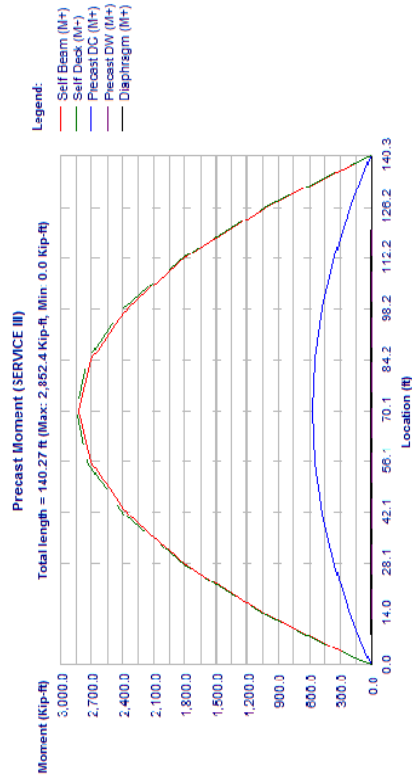
Composite Shear, Span 1, Beam 8, SERVICE I

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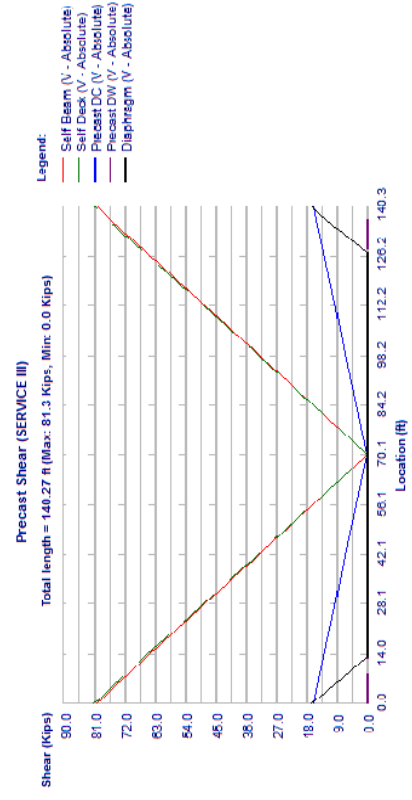
Live Moment, Span 1, Beam 8, SERVICE I

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Precast Moment, Span 1, Beam 8, SERVICE III

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Precast Shear, Span 1, Beam 8, SERVICE III

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Sheet # 21

Job #

Composite Moment (SERVICE III)
Total length = 140.27 ft (Max: 206.6 kip-ft, Min: 0.0 kip-ft)

Legend:
— Composite DC (M)
— Composite DW (M)

Composite Moment, Span 1, Beam 8, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:39 A.M.

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Sheet # 22

Job #

Composite Shear (SERVICE III)
Total length = 140.27 ft (Max: 5.9 Kips, Min: 0.0 Kips)

Legend:
— Composite DC (V - Absolute)
— Composite DW (V - Absolute)

Composite Shear, Span 1, Beam 8, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:39 A.M.

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Sheet # 23
Job #

Live Moment (SERVICE III)

Total length = 140.27 ft (Max: 2,883.4 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Live Moment, Span 1, Beam 8, SERVICE III

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Sheet # 24
Job #

Live Shear (SERVICE III)

Total length = 140.27 ft (Max: 109.7 Kips, Min: 43.1 Kips)

Legend:
— LL + I (Vmk - Absolute)

Live Shear, Span 1, Beam 8, SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 8, STRENGTH I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.00	192.1	356.9	1200.1	2217.1	2943.6	3379.4	3524.7
(Max) V	100.5	97.7	95.3	81.6	61.2	40.8	20.4	0.0
Self wt. : M	0.00	138.3	257.0	864.0	1596.3	2119.4	2433.2	2537.8
(Min) V	72.4	70.4	68.6	58.8	44.1	29.4	14.7	0.0
DL-Prec. : M	0.00	38.7	71.9	241.8	446.7	593.1	680.9	710.2
DC(Max) V	20.3	19.7	19.2	16.4	12.3	8.2	4.1	0.0
DL-Prec. : M	0.00	27.9	51.8	174.1	321.6	427.0	490.3	511.3
DC(Min) V	14.6	14.2	13.8	11.8	8.9	5.9	3.0	0.0
DL-Prec. : M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Max) V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DL-Prec. : M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Min) V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deck + : M	0.00	194.3	361.1	1213.9	2242.8	2977.6	3418.6	3565.5
Haunch (Max) V	101.7	98.9	96.4	82.6	61.9	41.3	20.6	0.0
Deck + : M	0.00	139.9	260.0	874.0	1614.8	2143.9	2461.4	2567.2

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Sheet # 27
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Precast Moment (STRENGTH I)
Total length = 140.27 ft (Max: 3,965.5 Kip-ft, Min: 0.0 Kip-ft)

Legend:
Self Beam (M+)
Self Deck (M+)
Precast DC (M+)
Precast DW (M+)
Diaphragm (M+)

Precast Moment, Span 1, Beam 8, STRENGTH I

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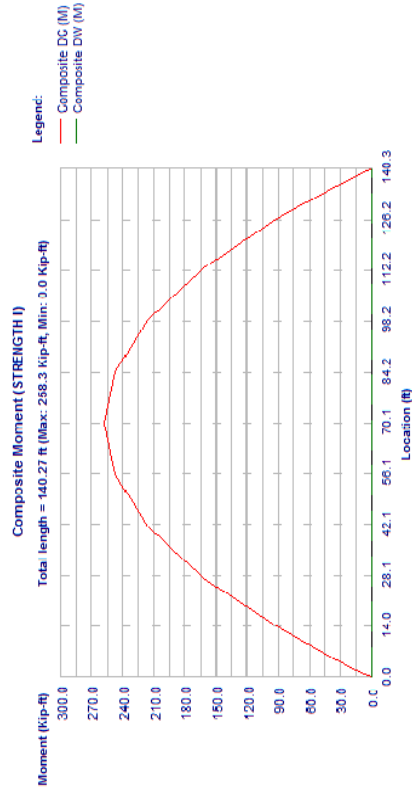
Precast Shear (STRENGTH I)
Total length = 140.27 ft (Max: 101.7 Kips, Min: 0.0 Kips)

Legend:
Self Beam (V - Absolute)
Self Deck (V - Absolute)
Precast DC (V - Absolute)
Precast DW (V - Absolute)
Diaphragm (V - Absolute)


Precast Shear, Span 1, Beam 8, STRENGTH I

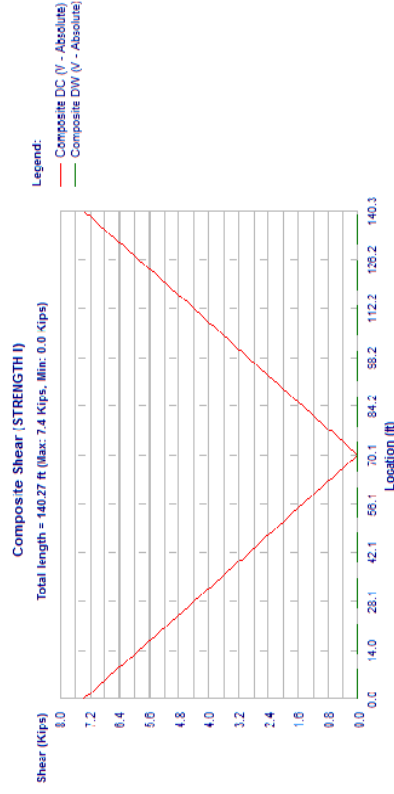
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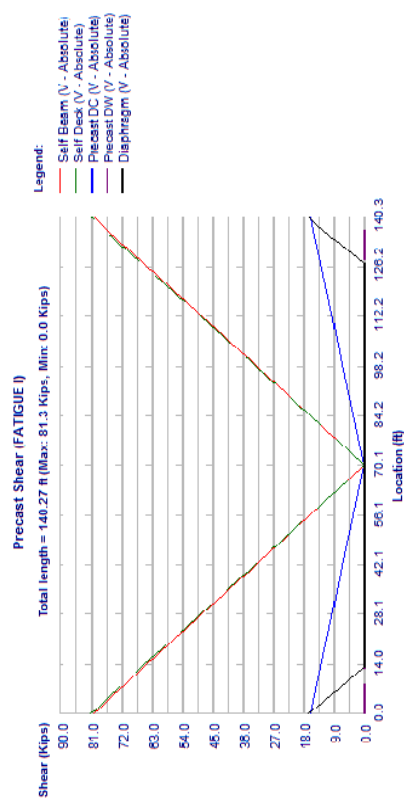
Composite Moment, Span 1, Beam 8, STRENGTH I

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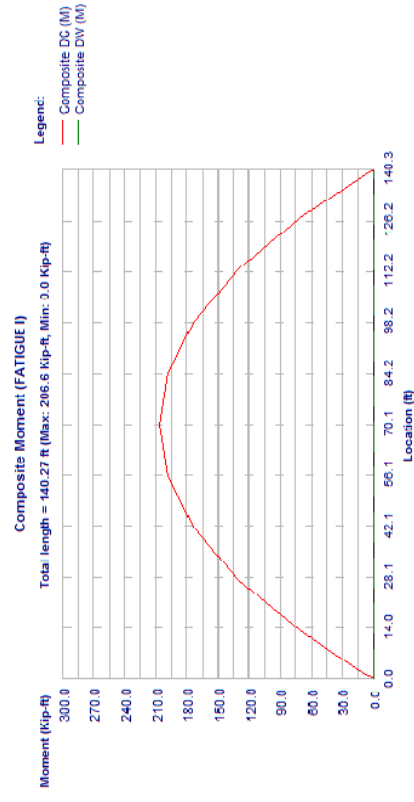
Composite Shear, Span 1, Beam 8, STRENGTH I

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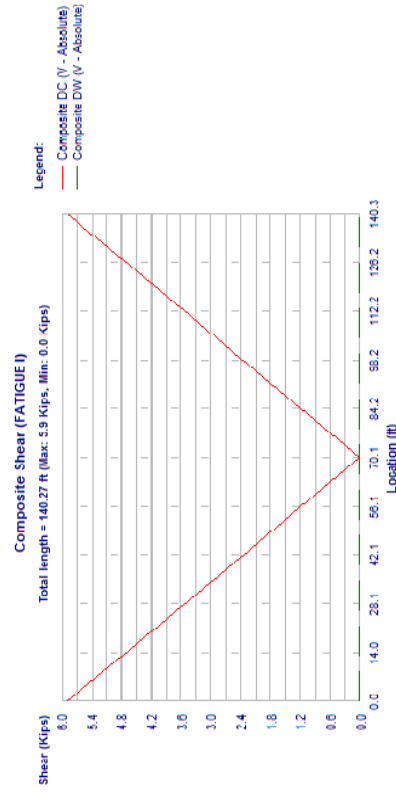
Precast Shear, Span 1, Beam 8, FATIGUE I

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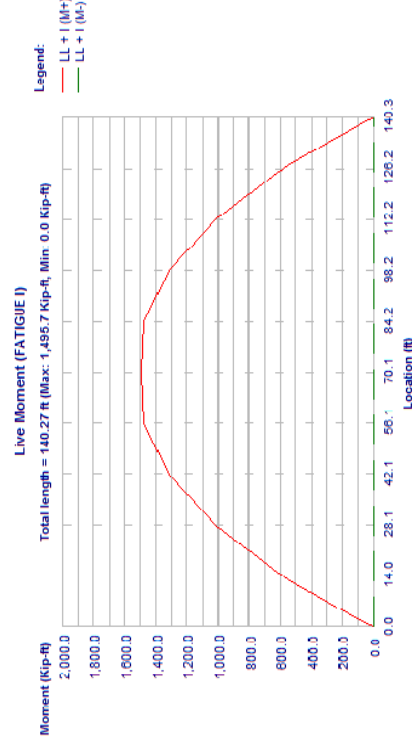
Composite Moment, Span 1, Beam 8, FATIGUE I

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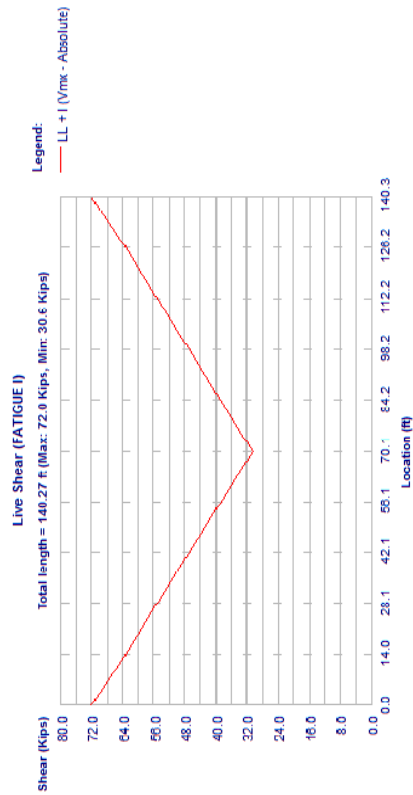
Composite Shear, Span 1, Beam 8, FATIGUE I

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Live Moment, Span 1, Beam 8, FATIGUE I

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Live Shear, Span 1, Beam 8, FATIGUE I



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Sheet # 1
Job #


PROPERTIES

Span:1, Beam:9

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

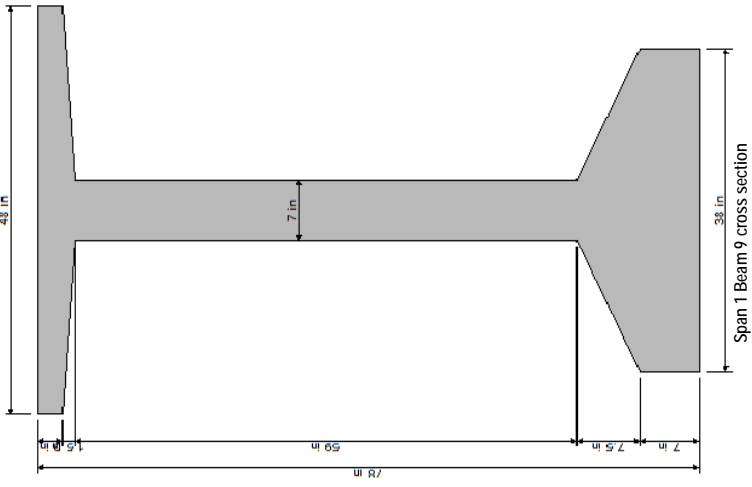


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Span 1 Beam 9 cross section

GENERAL BRIDGE DATA:

Bridge Width*	103.07 ft
Curb-to-curb*	99.99 ft
Beam Spac. Start LL/RI	10.64/ 10.64 ft
End LL/RI	10.64/ 10.64 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	-14.15 degrees
End Skew Angle	-14.15 degrees

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*Average bridge width

TOPPING DATA:

Deck Thickness	8.500 in
Haunch Thickness	1.000 in
Width	60.000 in

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips; Localon: ft; Line: klf; Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.106	0.000	0.106	140.273	SIP
DC	Line	0.125	0.000	0.125	140.273	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.82	1.00
16.82	140.00

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	142.397 ft
Release length	142.397 ft
Design length	140.273 ft

KERN POINTS:

Upper	Lower
58.35 in	15.66 in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Include Rigid Cross Section Assumption (Art. 4.6.2.2.d): YES

Location	+ve	Moment	Shear
0.0L	2+Lane	1Lane	2+Lane
0.1L	0.790	0.523	1.021
0.2L	0.790	0.523	1.021
0.3L	0.790	0.523	1.021

Units: U.S. Units Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 10:40 A.M.

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Sheet # 4

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Location	+ve	Moment	Shear
0.4L	0.790	0.523	1.021
0.5L	0.790	0.523	1.021
0.6L	0.790	0.523	1.021
0.7L	0.790	0.523	1.021
0.8L	0.790	0.523	1.021
0.9L	0.790	0.523	1.021
1.0L	0.790	0.523	1.021

Pedestrian	0.100 (Calculated)
Comp. DC	0.100 (Calculated)
Comp. DW	0.100 (Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.90
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	1.00
Shear	0.90

PRECAST SECTION PROPERTIES:


Area	1100.6 in ²
Total Height	78.00 in
Mom. of Inertia (I _{xx})	904567 in ⁴
Ht. of c.g.	34.60 in
Density	150.00 pcf
Self-weight	1146.5 plf
Mom. of Inertia (I _{yy})	82367.0 in ⁴
Poisson's Ratio	0.2
Thermal Coeff.	0.000006000 1/F

COMPOSITE SECTION PROPERTIES:

Location	Bridge Width	Self-Weight	Area	Height	I _{xx}	Ycg	Density	Eff. Width
0.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.1L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.2L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.3L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.4L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

Units: U.S. Units Design Code: AASHTO LRFD

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Location	Bridge Width	Self Weight	Area	Height	Ixx	Ycg	Density	Eff. Width
	ft	pl	in ²	in	in ⁴	in	pcf	in
0.5L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.6L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.7L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.8L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
0.9L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9
1.0L	103.07	2306.2	2054.01	87.5	2107533	57.06	150.0	123.9

(#) Area, Ixx, and Ycg Of Total Section using Ecf/Ec = 0.8563
 Use transformed strand and rebar: Strand Only


Location	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
	ft							
Precast: (At Release, using Ec = 4016.8ksi)	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Area, Yb, MI(XX), Composite: (At Final, using Ec = 4491.0ksi)	in ²	in ²	in	in	in	in	in	in
	1121.7	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1	1160.1
	34.09	33.21	33.21	33.18	33.15	33.11	33.07	33.07
	919627	945984	946245	947719	949967	952273	954636	954636
Area, Yb, MI(XX)	in ²	in	in	in	in	in	in	in
	2072.5	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2	2106.2
	56.62	55.83	55.83	55.82	55.80	55.79	55.77	55.77
	2152330	2232510	2232940	2235357	2239011	2242716	2246473	2246473

Span:1, Beam:9
 STRESS LIMITS (Art. 5.9.4):
 STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.00 ksi	
Elasticity	4016.8 ksi	
Max comp	3.60 ksi	
Outer	15.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.93 ksi	
Center	70.00 %	
Max tens	-0.23 ksi	
Max tens, wireinf	-0.59 ksi	

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f'c or 6.0 ksi.
 STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	7.50 ksi	5.50 ksi
Elasticity	4490.96 ksi	3845.83 ksi

		Sheet # 6	
		Job #	
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STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	4.50 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST	DECK
Max comp	3.38 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	3.00 ksi	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.52 ksi	-0.45 ksi

Span:1, Beam:9
 PRESTRESSED STEEL:
 45 strands, 6/10-270K-L, Low relaxation strands
 Depressed at 0.40L (56.96 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
7 @ 11.000 in	5 @ 13.000 in	3 @ 15.000 in	1 @ 17.000 in

MID PATTERN (Ycg = 4.82 in):

(A) Draped:

7 @ 3.000 in	5 @ 5.000 in	3 @ 7.000 in	1 @ 9.000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.600 in
Strand Area	0.217 in ²
Total Strand Area	9.765 in ²
Trans. Len, bonded	3.000 ft
Trans. Len, debonded	3.000 ft

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Dev. Len bonded 11.596 ft
Holddown Force 14.495 kips
Tensile Strength (fpu) 8.229 kips
Initial Prestress = 0.75fpu 270.0 ksi
Initial Pull 202.5 ksi
Beam Shring (PL/AE) 1977.4 kips
0.725 in

ENDS

MIDSPAN

61"

3"

3"

3"

3"

3"

3"

3"

Strands

Dist. from bottom(in)

Number

Dist. from bottom(in)

7

11

5

13

3

15

1

17

Strands

Dist. from bottom(in)

Number

Dist. from bottom(in)

10

3

12

5

6

7

1

9

Strands

Dist. from bottom(in)

Number

Dist. from bottom(in)

17

3

17

5

9

7

2

9

Prestressing (linear ft) 6408.011

Strands (LB/1000ft) 740

Beam Vol(C.Y.) 40.309

Concrete Wt(LB) 163253.141

Stirrups (LB) 1152.048

Longitudinal Bars (LB) 0.000

Span:1, Beam:9
ESTIMATED QUANTITIES

Span:1, Beam:9
REINFORCING STEEL:

Tension steel: 60.0 ksi

fy 60.0 ksi

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Tension steel: 29000 ksi
fs 24.0 ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.5085	No
2	US#5(M16)	60.0	0.62	6.00	1.5085	2.9029	No
2	US#5(M16)	60.0	0.62	18.00	2.9029	6.6132	No
2	US#5(M16)	60.0	0.62	24.00	6.6132	135.7841	No
2	US#5(M16)	60.0	0.62	18.00	135.7841	139.4948	No
2	US#5(M16)	60.0	0.62	6.00	139.4948	140.8891	No
2	US#5(M16)	60.0	0.62	3.00	140.8891	142.3976	No

* The stirrups spacing for vertical shear is bigger than the maximum spacing allowed.

LOSSES

Note: Values are calculated at Midspan

Str. area 9.7650 in2
Ycg 4.82 in
P. Init 1977.4 kips
Ecc 29.78 in
Days to release 0.75
Rel. Humid (RH) 75.0 %
Es 28500.0 ksi
Eci 4017 ksi

AASHTO LOSSES

Elastic Shortening ** 14.95 ksi (Eq 5.9.5.2.3a-1), (fcgp= 2.107 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-7.73 ksi		0.00 ksi
due to Composite Loads	-0.36 ksi		0.00 ksi
due to Live Loads	-4.98 ksi		0.00 ksi


Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial	Final
Steel relaxation	0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi	8.14 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00 ksi	12.19 ksi (Eq 5.9.5.3-1)
Sub-total	14.95 ksi	9.67 ksi (4.77 %)
Total Prestress Losses		24.62 ksi (12.16 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:40 A.M.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:40 A.M.



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initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 177.9 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE I
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max) V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0
DL-Prec. : M	0.0	31.0	57.5	193.4	357.4	474.5	544.7	568.2
DC(Max) V	16.2	15.8	15.4	13.2	9.9	6.6	3.3	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	155.4	288.8	971.2	1794.2	2382.1	2734.8	2852.4
Haunch (Max) V	81.3	79.1	77.1	66.1	49.5	33.0	16.5	0.0
Diaphragm : M	0.0	3.3	6.0	15.7	14.4	13.2	12.0	10.7
(Max) V	16.7	14.3	12.1	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max) V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	-0.0	202.2	375.4	1257.3	2306.3	3037.2	3475.6	3604.2
V	137.1	134.4	132.0	118.7	99.6	80.5	53.9	34.8
LL + I : M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : Mmx	137.1	134.4	132.0	118.7	101.0	84.4	68.6	53.8
Total : M	-0.0	211.1	389.7	1257.3	2146.2	2722.4	2971.3	2923.3
M+	0.0	556.8	1034.3	3468.1	6376.0	8434.4	9668.8	10061.9
V	337.6	327.4	318.4	268.0	211.7	155.3	91.3	34.8
Total : M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	337.6	327.4	318.4	268.0	213.1	159.1	106.1	53.9
M	0.0	565.8	1048.5	3468.1	6215.9	8119.6	9164.5	9381.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	84.38	98.62	112.86	127.10	136.63	138.34	140.27
Self wt. : M	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0
(Max) V	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DL-Prec. : M	544.7	474.5	357.4	193.4	57.5	31.0	-0.0
DC(Max) V	3.3	6.6	9.9	13.2	15.4	15.8	16.2
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	2734.8	2382.1	1794.2	971.2	288.8	155.4	0.0
Haunch (Max) V	16.5	33.0	49.5	66.1	77.1	79.1	81.3
Diaphragm : M	9.5	8.2	7.0	5.8	2.0	1.1	0.0
(Max) V	0.1	0.1	0.1	0.1	12.2	14.4	16.9
DL-Comp : M	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DC(Max) V	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	3475.6	3037.2	2306.3	1257.3	375.4	202.2	-0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 53.9	80.5	99.6	118.7	132.0	134.4	137.1
M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	68.6	84.4	101.0	118.7	132.0	134.4	137.1
Total :	M 2971.3	2722.4	2146.2	1257.3	399.7	211.1	0.0
M+	9666.4	8429.5	6368.6	3458.2	1030.4	554.6	0.0
V	91.3	155.3	211.7	268.0	318.5	327.5	337.8
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	106.1	159.1	213.1	268.0	318.5	327.5	337.8
Total :	M 9162.1	8114.7	6208.5	3458.2	1044.6	563.6	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	81.3	81.3
Diaphragm	16.7	16.9
DL-Prec.(DC)	16.2	16.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 10:40 A.M.

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Precast Moment (SERVICE I)


Total length = 140.27 ft (Max: 2,852.4 Kip-ft, Min: 0.0 Kip-ft)

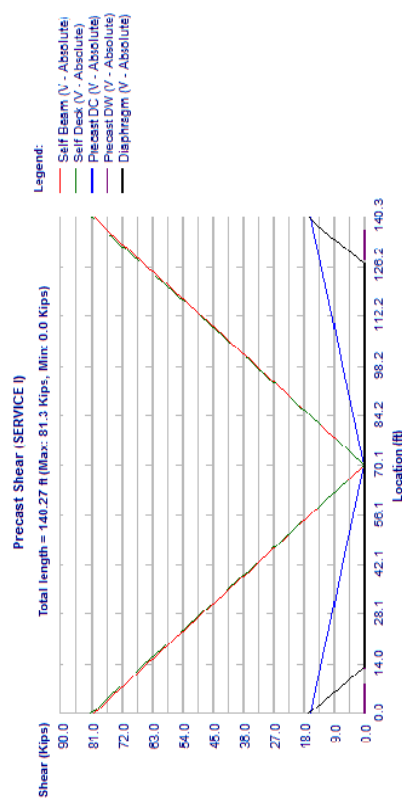
Precast Moment, Span 1, Beam 9, SERVICE I

Units: U.S. Units


Design Code: AASHTO LRFD

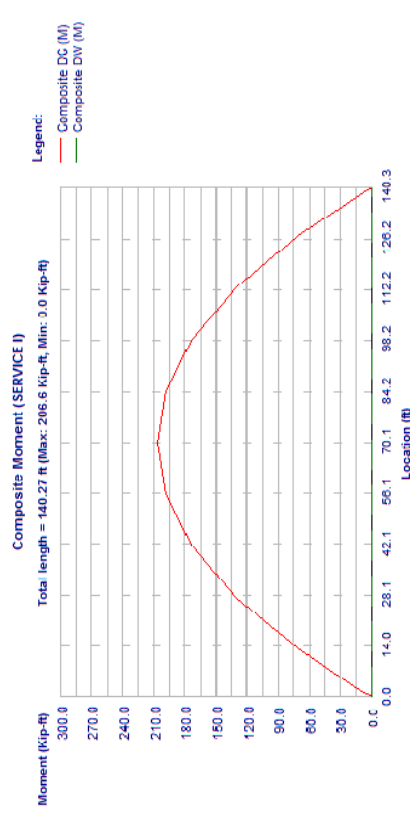
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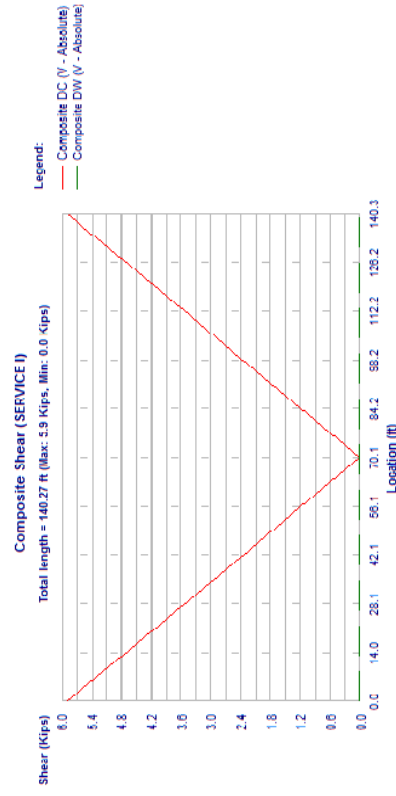
Precast Shear, Span 1, Beam 9, SERVICE I

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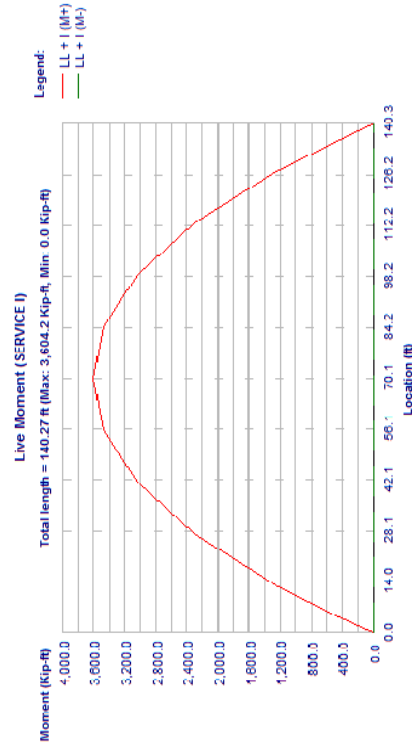
Composite Moment, Span 1, Beam 9, SERVICE I

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Composite Shear, Span 1, Beam 9, SERVICE I

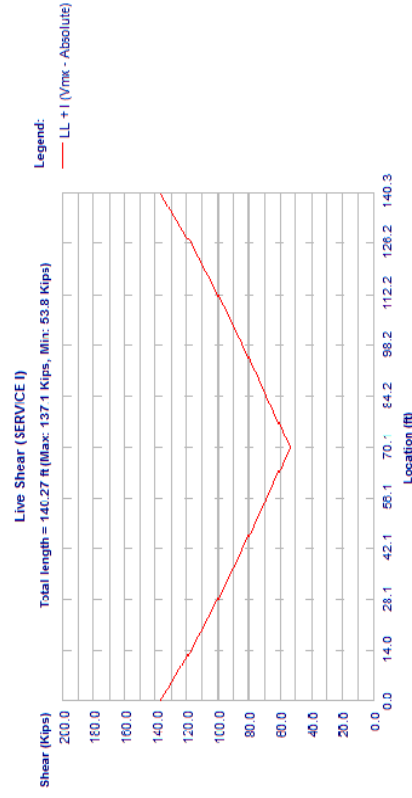
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Live Moment, Span 1, Beam 9, SERVICE I

	Beating	Trans	H2	0.10L	0.20L	0.30L	0.40L	Midspan
V	1097	107.5	105.6	94.9	79.7	64.4	43.1	27.8
LL + I:	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
M-	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
V	1097	107.5	105.6	94.9	80.8	67.5	54.9	43.1
LL + I:	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0
M	-0.0	168.9	311.7	1005.8	1717.0	2177.9	2377.1	2338.6
M+	0.0	576.4	959.2	3216.6	5914.7	7827.0	8973.7	9341.1
V	310.2	300.5	292.0	244.3	191.7	139.1	80.5	27.9
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	310.2	300.5	292.0	244.3	192.9	142.2	92.3	43.1
Vmx	0.0	523.5	970.6	3216.6	5786.7	7575.1	8570.3	8796.3
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total:	310.2	300.5	292.0	244.3	192.9	142.2	92.3	43.1

Location, Self (wt)	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DL-Comp :	M	84.38	98.62	112.86	127.10	136.63	138.34	140.27
DC(Max)	M	2703.6	2354.9	1773.7	960.0	285.5	153.7	80.4
DL-Prec. :	M	16.3	32.7	49.0	65.3	76.2	78.2	80.4
DC(Max)	V	544.7	474.5	357.4	193.4	57.5	31.8	-0.0
DL-Prec. :	M	3.3	6.6	9.9	13.2	15.4	15.8	16.2
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Max)	V	2734.8	2382.1	1794.2	971.2	288.8	155.4	81.3
Diaphragm :	M	16.5	33.0	49.5	66.1	77.1	79.1	81.3
(Max)	V	9.5	8.2	7.0	5.8	2.0	1.1	0.0
DL-Comp :	M	0.1	0.1	0.1	0.1	1.2	14.4	16.9
DC(Max)	V	198.1	172.6	130.0	70.5	21.0	11.3	0.0
DL-Comp :	M	1.2	2.4	3.6	4.8	5.6	5.7	5.9
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	2780.5	2429.8	1845.0	1005.8	300.3	161.7	-0.0
LL + I :	V	43.1	64.4	79.7	94.9	105.6	107.5	109.7
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
LL + I :	Vmx	54.9	67.5	80.8	94.9	105.6	107.5	109.7
Total :	M+	2377.1	2177.9	1717.0	1005.8	311.7	168.9	0.0
Total :	M	8971.2	7822.0	5907.3	3206.7	955.3	514.2	0.0
Total :	V	80.5	139.1	191.7	244.3	292.1	300.7	310.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	92.67	142.2	192.9	244.3	292.1	300.7	310.4
Total :	M	853.8	7570.2	5779.3	3206.7	966.7	521.3	0.0





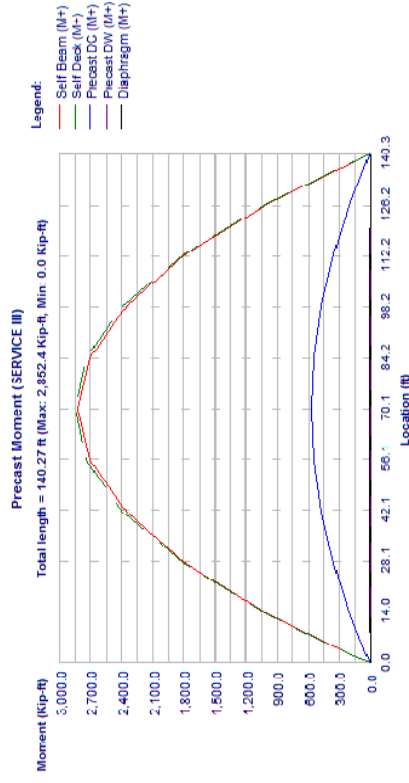
Live Shear Span 1 Beam 9 SERVICE I

SHEAR AND MOMENT ENVELOPE · Span : 1 · Beam : 9 · SERVICE III


Shears: kips. Moments: kft.

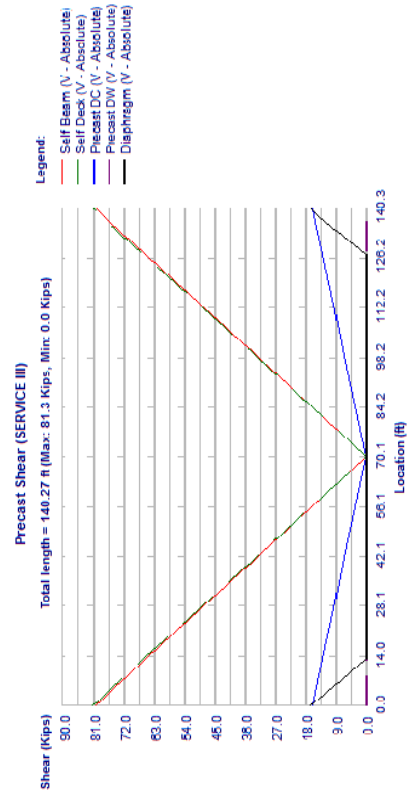
		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	1.94	3.85	13.18	27.42	41.66	55.90	70.14
Self wt. :	M	0.00	153.7	265.5	960.0	1773.7	2354.9	2703.6	2819.8
(Max)	M	80.4	78.2	65.2	65.3	49.0	37.4	16.3	0.0
DL-Pre-c :	M	0.00	31.0	57.5	193.4	357.4	427.5	544.7	568.2
DC(Max)	M	16.2	15.8	15.4	13.2	9.9	6.6	3.3	0.0
DL-Pre-c :	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.00	155.4	288.8	971.2	1794.2	2382.1	2734.8	2852.4
Haunch (Max)	M	81.3	79.1	77.1	66.1	49.5	33.0	16.5	0.0
Diaphragm :	M	0.00	3.3	6.0	15.7	14.4	13.2	12.0	10.7
(Max)	M	16.7	14.3	12.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6
DC(Max)	M	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0
DL-Comp :	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	M+	-0.0	161.7	300.3	1005.8	1845.0	2429.8	2780.5	2883.4

		Program: LEAP® CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span12EB_ModifiedSpacing.csl	SE Client Licenses Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com Phone: 1-800-778-4277	Sheet # 19
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Precast Moment, Span 1, Beam 9, SERVICE III

				Sheet #	20
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Precast Shear, Span 1, Beam 9, SERVICE III

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Sheet # 21

Job #

Composite Moment (SERVICE III)
Total length = 140.27 ft (Max: 206.6 kip-ft, Min: 0.0 Kip-ft)

Legend:
— Composite DC (M)
— Composite DW (M)

Composite Moment, Span 1, Beam 9, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:40 A.M.

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Sheet # 22

Job #

Composite Shear (SERVICE III)
Total length = 140.27 ft (Max: 5.9 Kips, Min: 0.0 Kips)

Legend:
— Composite DC (V - Absolute)
— Composite DW (V - Absolute)

Composite Shear, Span 1, Beam 9, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:40 A.M.

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Sheet # 23
Job #

Live Moment (SERVICE III)

Total length = 140.27 ft (Max: 2,883.4 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Live Moment, Span 1, Beam 9, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:40 A.M.

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Sheet # 24
Job #

Live Shear (SERVICE III)

Total length = 140.27 ft (Max: 109.7 Kips, Min: 43.1 Kips)


Legend:
— LL + I (Vmk - Absolute)

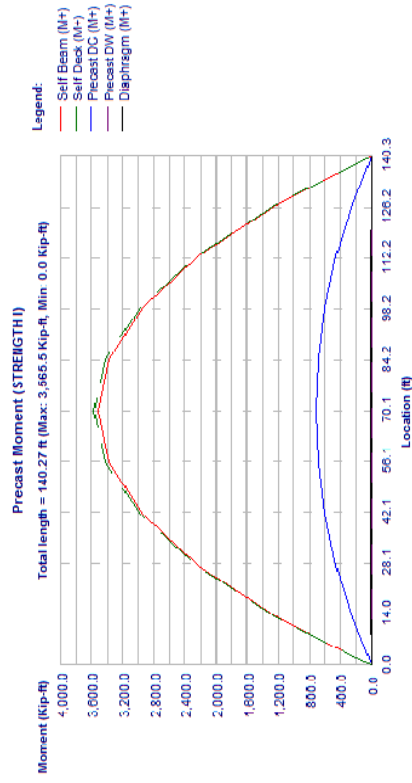
Live Shear, Span 1, Beam 9, SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, STRENGTH I
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	1.94	3.65	13.18	27.42	41.66	55.90	70.14
Self wt. : M	0.00	192.1	356.9	1200.1	2217.1	2943.6	3379.4	3524.7
(Max) V	100.5	97.7	95.3	81.6	61.2	40.8	20.4	0.0
Self wt. : M	0.00	138.3	257.0	864.0	1596.3	2119.4	2433.2	2537.8
(Min) V	72.4	70.4	68.6	58.8	44.1	29.4	14.7	0.0
DL-Prec. : M	0.00	38.7	71.9	241.8	446.7	593.1	680.9	710.2
DC(Max) V	20.3	19.7	19.2	16.4	12.3	8.2	4.1	0.0
DL-Prec. : M	0.00	27.9	51.8	174.1	321.6	427.0	490.3	511.3
DC(Min) V	14.6	14.2	13.8	11.8	8.9	5.9	3.0	0.0
DL-Prec. : M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Max) V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DL-Prec. : M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Min) V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deck + : M	0.00	194.3	361.1	1213.9	2242.8	2977.6	3418.6	3565.5
Haunch (Max) V	101.7	98.9	96.4	82.6	61.9	41.3	20.6	0.0
Deck + : M	0.00	139.9	260.0	874.0	1614.8	2143.9	2461.4	2567.2

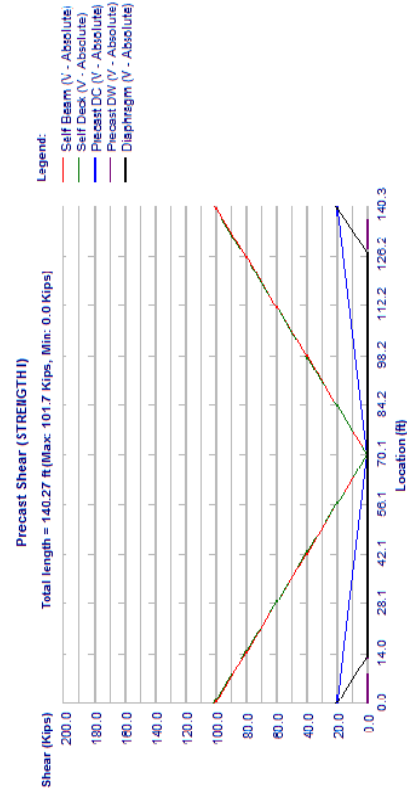
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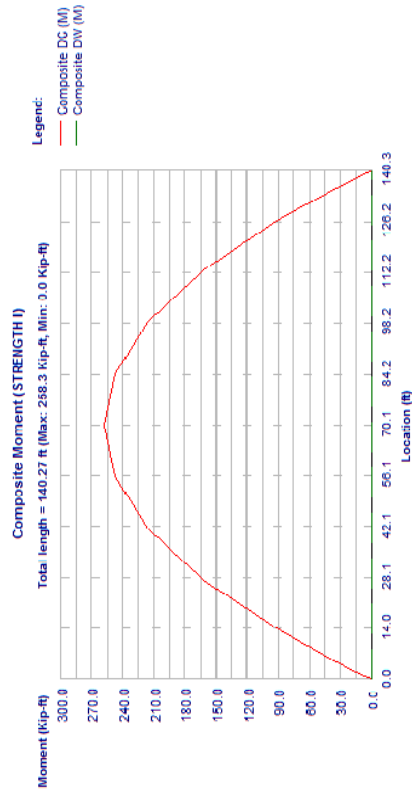
Precast Moment, Span 1, Beam 9, STRENGTH I

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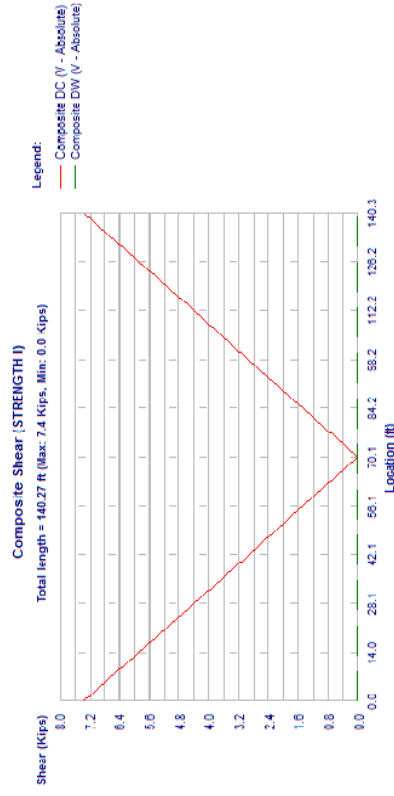
Precast Shear, Span 1, Beam 9, STRENGTH I

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Composite Moment, Span 1, Beam 9, STRENGTH I

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Composite Shear, Span 1, Beam 9, STRENGTH I

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Sheet # 33

Job #

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	3.3	6.0	15.7	14.4	13.2	10.7
(Max)	V	16.7	14.3	12.1	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	11.3	21.0	70.5	130.0	172.6	206.6
DC(Max)	V	5.9	5.7	5.6	4.8	3.6	2.4	1.2
DL-Comp :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	89.3	165.7	550.5	995.5	1308.5	1495.7
LL + I :	V	72.0	70.8	69.8	63.8	55.5	41.8	33.5
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	72.0	70.8	69.8	63.8	55.5	47.2	38.9
Total :	M	0.0	89.3	165.7	550.5	995.5	1286.3	1422.9
Total :	M+	0.0	44.0	82.4	276.3	506.5	670.5	767.6
Total :	M-	0.0	272.6	263.9	256.2	213.1	167.5	116.6
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	272.6	263.9	256.2	213.1	167.5	121.9	76.3
Total :	M	0.0	44.0	82.4	276.3	506.5	668.5	761.6
Total :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	84.38	98.62	112.86	127.10	136.63	138.34
Self wt. :	M	2703.6	2354.9	1773.7	960.0	285.5	153.7
(Max)	V	16.3	32.7	49.0	65.3	76.2	78.2
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	544.7	474.5	357.4	193.4	57.5	31.0
DC(Max)	V	3.3	6.6	9.9	13.2	15.4	15.8
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2734.8	2382.1	1794.2	971.2	288.8	155.4
Haunch (Max)	V	16.5	33.0	49.5	66.1	77.1	79.1
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	9.5	8.2	7.0	5.8	2.0	1.1
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	198.1	172.6	130.0	70.5	21.0	11.3
DC(Max)	V	1.2	2.4	3.6	4.8	5.6	5.7
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0

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Sheet # 34

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1479.4	1308.5	995.5	550.5	165.7	89.3
LL + I :	V	33.5	41.8	55.5	63.8	69.8	70.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	38.9	47.2	55.5	63.8	69.8	70.8
LL + I :	M	1422.9	1286.3	995.5	550.5	165.7	89.3
Total :	M+	7670.2	6700.7	5057.8	2751.4	820.6	441.8
Total :	V	71.0	116.6	167.5	213.1	256.3	264.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	76.3	121.9	167.5	213.1	256.3	264.0
Total :	M	7613.7	6678.5	5057.8	2751.4	820.6	441.8

Precast Moment (FATIGUE I)

Total length = 140.27 ft (Max: 2,852.4 Kip-ft, Min: 0.0 Kip-ft)


Legend:

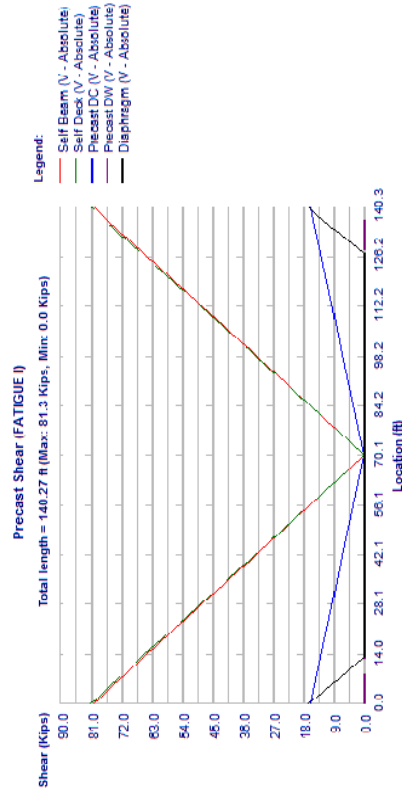
- Self Beam (M+)
- Self Deck (M+)
- Precast DW (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 9, FATIGUE I


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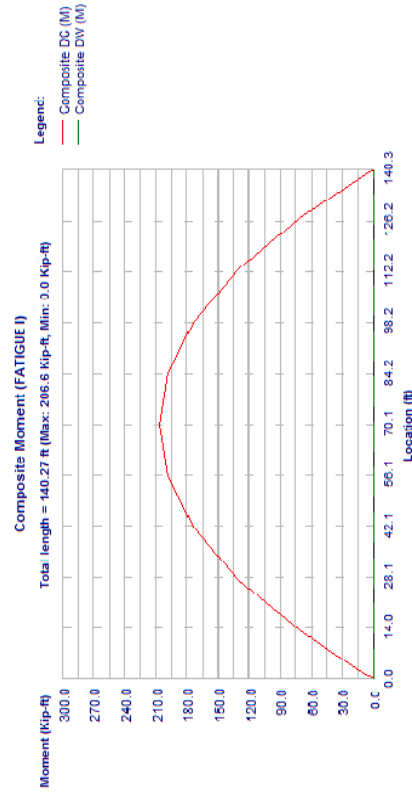
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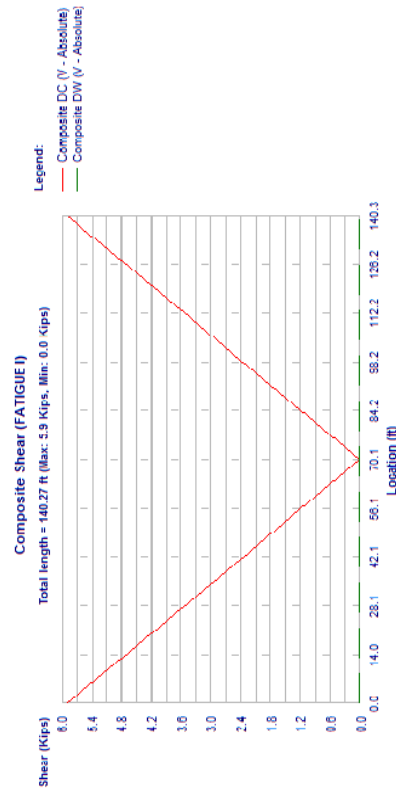
Precast Shear, Span 1, Beam 9, FATIGUE I

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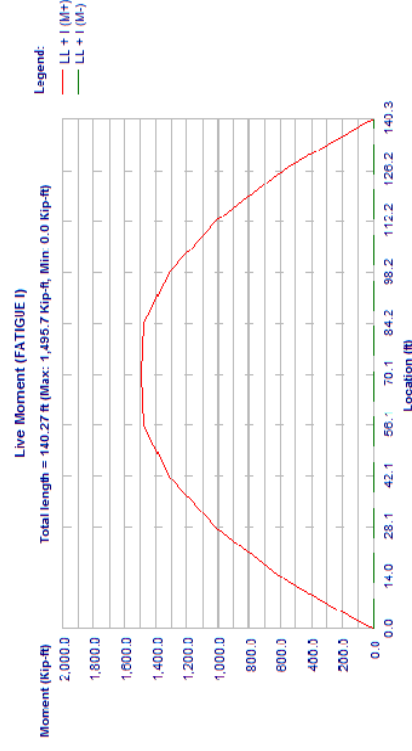
Composite Moment, Span 1, Beam 9, FATIGUE I

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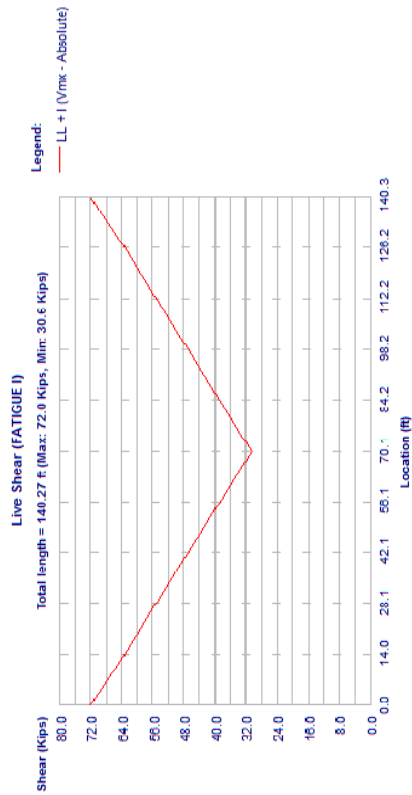
Composite Shear, Span 1, Beam 9, FATIGUE I

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Live Moment, Span 1, Beam 9, FATIGUE I

				Sheet #	39
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Live Shear, Span 1, Beam 9, FATIGUE I

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Sheet # 7
Job #
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Group	Strands	End	Heights	Mid	End	Shielding	Mid	Distance to center	Initial Frac	Pull	Pull/Str			
1	2	3.000	In	3.000	In	4.00	ft	0.00	ft	10.000	In	75.0 %	43.9	kips

Check for Art. 5.11.4.3 (debond termination distances). OK

Strand Diameter	0.600	In
Strand Area	0.217	In ²
Total Strand Area	10.850	In ²
Trans. Len bonded	3.000	ft
Trans. Len debonded	3.000	ft
Dev. Len bonded	11.678	ft
Dev. Len debonded	14.598	ft
Holddown Force	8.229	Kips
Tensile Strength(fpu)	270.0	ksi
Initial Prestress = 0.75pu	202.5	ksi
Initial Pull	2197.1	kips
Beam Shrink (PL/AE)	0.802	In

ENDS

Draped strands	
Number	Dist. from bottom(in)
7	11
5	13
3	15
1	17

MIDSPAN

3'

Straight strands	
Number	Dist. from bottom(in)
10	3
12	5
10	7
2	9

All strands

Number	Dist. from bottom(in)
17	3
17	5
13	7
3	9

Strand Pattern, Span 1, Beam 10

Span 1, Beam:10

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:40 A.M.

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ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	(LB)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
7119.999	740	5268.799	40.309	163253.141	1220.623	0.000

Span:1, Beam:10
REINFORCING STEEL:

Tension steel:	ksi
f _y	60.0
E _s	29000
f _s	24.0

Stirrups:

# legs	Size	f _y (ksi)	Area (in ²)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	3.00	0.0000	1.7513	No
2	US#5(M16)	60.0	0.62	6.00	1.7513	2.7159	No
2	US#5(M16)	60.0	0.62	12.00	2.7159	4.7861	No
2	US#5(M16)	60.0	0.62	18.00	4.7861	17.3251	No
2	US#5(M16)	60.0	0.62	24.00	17.3251	125.0725	No
2	US#5(M16)	60.0	0.62	18.00	125.0725	137.6115	No
2	US#5(M16)	60.0	0.62	12.00	137.6115	139.6818	No
2	US#5(M16)	60.0	0.62	6.00	139.6818	140.6463	No
2	US#5(M16)	60.0	0.62	3.00	140.6463	142.3976	No

LOSSES

Note: Values are calculated at Midspan


Str. area	10.8500	In ²
Ycg	5.08	In
P_init	2197.1	kips
Ecc	29.52	In
Days to release	0.75	
Rel. Humid.(RH)	75.0	%
E _s	28500.0	ksi
E _{ci}	4017	ksi

AASHTO LOSSES

Elastic Shortening ** 16.83 ksi (Eq 5.9.5.2.3a-1). (fcgp= 2.372 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-8.13	ksi	0.00
due to Composite Loads	-0.35	ksi	0.00
due to Live Loads	-7.44	ksi	0.00

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:40 A.M.



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Time Dependent Losses (Approximate Method (Art 5.9.5.3))

	Initial	Final	
Steel relaxation	0.00 ksi	2.40 ksi	(Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi	8.14 ksi	(Eq 5.9.5.3-1)
Concrete creep	0.00 ksi	13.55 ksi	(Eq 5.9.5.3-1)
Total Prestress Losses	16.83 ksi	8.17 ksi	(4.04 %)
		25.00 ksi	(12.35 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

Initial fpi = 202.5 ksi < 0.75 fpu, OK
Initial fpe = 177.5 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.



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SHEARMOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 10, SERVICE I
Shears: kips, Moments: kft

	Location	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	M	0.0	153.7	285.5	960.0	1773.7	2354.9	2703.6	2819.8	2819.8
(Max)	V	80.4	78.2	76.2	65.3	49.0	32.7	16.3	0.0	0.0
DL-Prec. :	M	-0.0	23.9	44.3	149.1	275.4	365.6	419.8	437.8	437.8
DC(Max)	V	12.5	12.1	11.8	10.1	7.6	5.1	2.5	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	176.1	327.3	1100.5	2033.2	2699.4	3099.1	3232.3	3232.3
Haunch (Max)	V	92.2	89.6	87.4	74.9	56.1	37.4	18.7	0.0	0.0
Diaphragm :	M	-0.0	1.7	3.0	7.8	7.2	6.6	6.0	5.4	5.4
(Max)	V	8.4	7.1	6.1	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	11.3	21.0	70.5	130.0	172.6	198.1	206.6	206.6
DC(Max)	V	5.9	5.7	5.6	4.8	3.6	2.4	1.2	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	309.2	574.1	1922.7	3526.9	4644.7	5315.1	5511.8	5511.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	167.7	164.4	161.5	145.2	121.9	98.5	65.9	42.5	42.5
LL + I :	M	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	167.7	164.4	161.5	145.2	123.6	103.2	84.0	65.9	65.9
LL + I :	M	-0.0	322.8	595.9	1922.7	3282.1	4163.3	4543.9	4470.4	4470.4
Total :	M+	0.0	675.8	1255.3	4210.7	7746.3	10243.7	11741.6	12213.7	12213.7
Total :	V	367.0	357.2	348.6	300.3	238.2	176.1	104.7	42.6	42.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	367.0	357.2	348.6	300.3	240.0	180.8	122.8	65.9	65.9
Total :	M	0.0	689.4	1277.0	4210.7	7501.6	9762.3	10970.4	11172.3	11172.3

	Location	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	M	84.38	98.62	112.86	127.10	136.63	138.34	140.27	140.27
(Max)	V	2703.6	2354.9	1773.7	960.0	285.5	153.7	0.0	0.0
DL-Prec. :	M	16.3	32.7	49.0	65.3	76.2	78.2	80.4	80.4
DC(Max)	V	419.8	365.6	275.4	149.1	44.3	23.9	0.0	0.0
DL-Prec. :	M	2.5	5.1	7.6	10.1	11.8	12.1	12.5	12.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3099.1	2699.4	2033.2	1100.5	327.3	176.1	0.0	0.0
Haunch (Max)	V	18.7	37.4	56.1	74.9	87.4	89.6	92.2	92.2
Diaphragm :	M	4.7	4.1	3.5	2.9	1.0	0.6	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	198.1	172.6	130.0	70.5	21.0	7.2	8.5	8.5
DC(Max)	V	1.2	2.4	3.6	4.8	5.6	5.7	5.9	5.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5315.1	4644.7	3526.9	1922.7	574.1	309.2	0.0	-0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V 65.9	98.5	121.9	145.2	161.5	164.4	167.7
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	84.0	103.2	123.6	145.2	161.5	164.4	167.7
M	4543.9	4163.3	3282.1	1922.7	595.9	322.8	0.0
Total :	M+ 11740.4	10241.3	7742.6	4205.7	1253.3	674.7	0.0
V	104.7	176.1	238.2	300.3	348.6	357.3	367.1
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	122.8	180.8	240.0	300.3	348.6	357.3	367.1
Total :	M 10969.2	9759.8	7497.9	4205.7	1275.1	688.3	0.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	80.4	80.4
Deck+Haunch	92.2	92.2
Diaphragm	8.4	8.5
DL-Prec.(DC)	12.5	12.5
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	58.9	58.9
DL-Comp.(DW)	0.0	0.0
Live	112.1	112.1
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units

Design Code: AASHTO LRFD

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Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment (SERVICE I)


Total length = 140.27 ft (Max: 3,232.3 Kip-ft, Min: 0.0 Kip-ft)

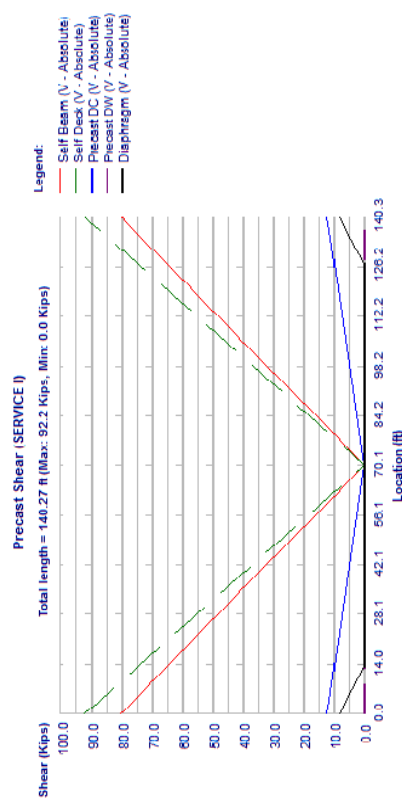
Precast Moment, Span 1, Beam 10, SERVICE I

Units: U.S. Units


Design Code: AASHTO LRFD

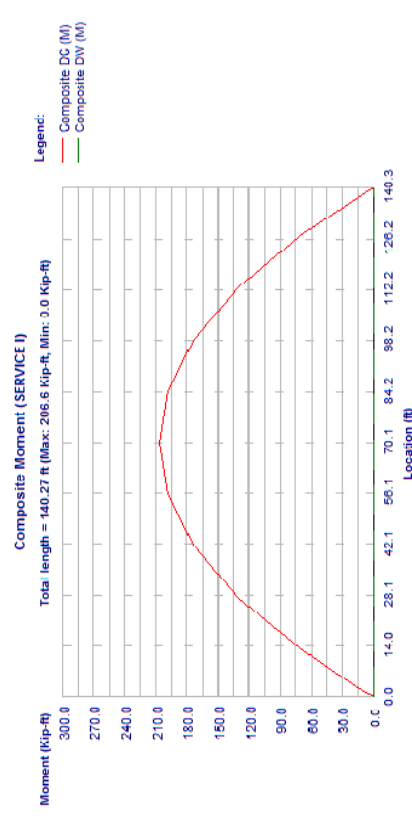
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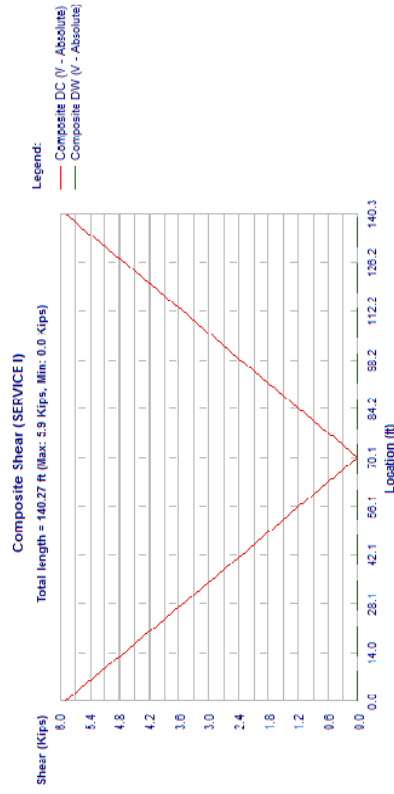
Precast Shear, Span 1, Beam 10, SERVICE I

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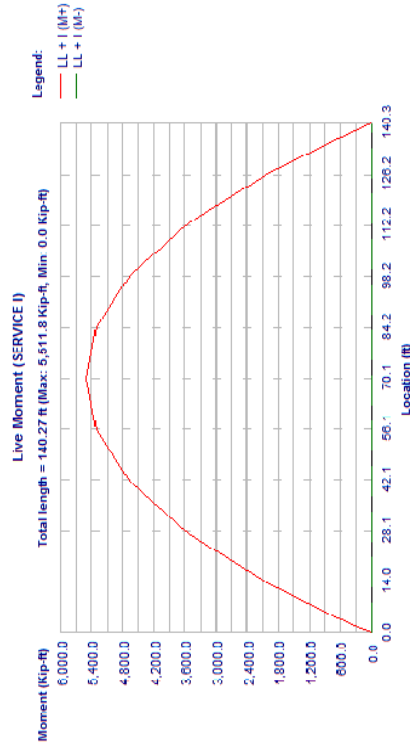
Composite Moment, Span 1, Beam 10, SERVICE I

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Composite Shear, Span 1, Beam 10, SERVICE I

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Live Moment, Span 1, Beam 10, SERVICE I

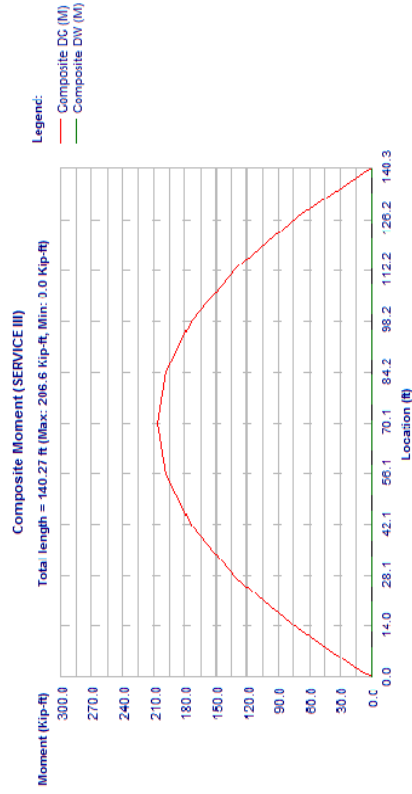


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Composite Moment, Span 1, Beam 10, SERVICE III

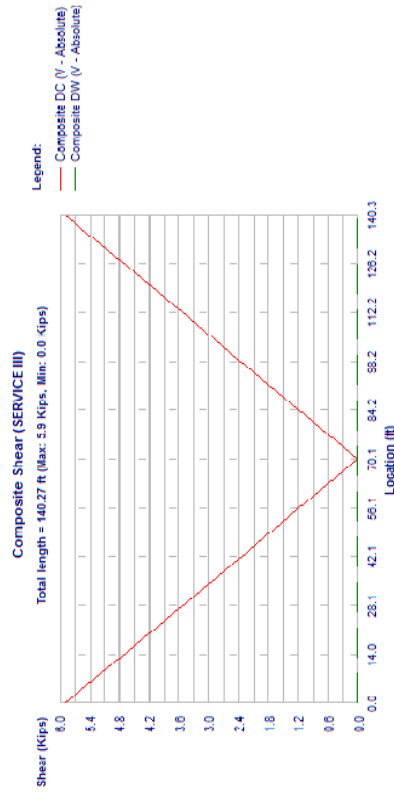


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Composite Shear, Span 1, Beam 10, SERVICE III



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	83.0	80.7	78.6	67.4	50.5	33.7	16.8
Diaphragm :	M	-0.0	2.1	3.7	9.8	9.0	8.2	7.5
(Max)	V	10.5	8.9	7.6	0.1	0.1	0.1	0.1
Diaphragm :	M	-0.0	1.5	2.7	7.1	6.5	5.9	5.4
(Min)	V	7.5	6.4	5.5	0.0	0.0	0.0	0.0
DL-Comp :	M	-0.0	14.1	26.2	88.1	162.5	215.7	247.6
DC(Max)	V	7.4	7.2	7.0	6.0	4.5	3.0	1.5
DL-Comp :	M	-0.0	10.2	18.9	63.4	117.0	155.3	178.3
DC(Min)	V	5.3	5.2	5.0	4.3	3.2	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	-0.0	541.0	1004.7	3364.8	6172.0	8128.3	9301.5
LL + I :	V	293.5	287.7	282.6	254.1	213.3	172.4	115.3
LL + I :	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	293.5	287.7	282.6	254.1	216.3	180.7	147.0
Total :	M	-0.0	564.9	1042.8	3364.8	5743.7	7285.8	7951.9
Total :	M+	0.0	995.3	1856.1	6247.7	11446.3	15127.0	17334.6
Total :	V	542.7	528.7	516.5	448.0	358.7	269.4	163.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	542.7	528.7	516.5	448.0	361.8	277.7	195.5
Total :	M	0.0	1023.2	1894.3	6247.7	11018.0	14284.5	15985.0

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft						
Self wt. :	M	3379.4	2943.6	2217.1	1200.1	356.9	192.1
(Max)	V	20.4	40.8	61.2	81.6	95.3	97.7
Self wt. :	M	2433.2	2119.4	1596.3	864.0	257.0	138.3
(Min)	V	14.7	29.4	44.1	58.8	68.6	70.4
DC(Max)	M	524.7	457.0	344.2	186.3	55.4	29.8
DL-Prec :	M	377.8	329.1	247.8	134.2	39.9	21.5
DC(Min)	V	2.3	4.6	6.8	9.1	10.7	10.9
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3873.9	3374.2	2541.5	1375.6	409.1	220.2
Haunch (Max)	V	23.4	46.8	70.2	93.6	109.2	112.0
Deck + :	M	2789.2	2429.4	1829.9	990.5	294.6	158.5
Haunch (Min)	V	16.8	33.7	50.5	67.4	78.6	80.7
Diaphragm :	M	5.9	5.2	4.4	3.6	1.3	0.7
(Max)	V	0.1	0.1	0.1	0.1	0.1	0.1
Diaphragm :	M	4.3	3.7	3.2	2.6	0.9	0.5
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	247.6	215.7	162.5	88.1	26.2	14.1
DC(Max)	V	1.5	3.0	4.5	6.0	7.0	7.4
DL-Comp :	M	178.3	155.3	117.0	63.4	18.9	10.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	100.5	100.5
Deck+Haunch	115.2	115.2
Diaphragm	10.5	10.6
DL-Prec.(DC)	15.6	15.6
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	73.6	73.6
DL-Comp.(DW)	0.0	0.0
Live	196.2	196.2
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.



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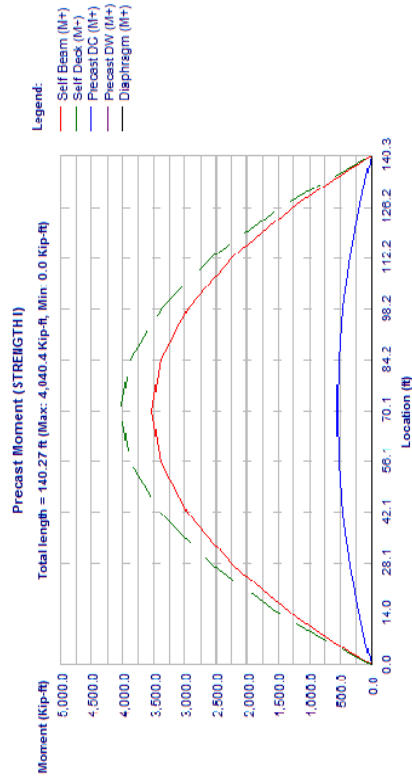
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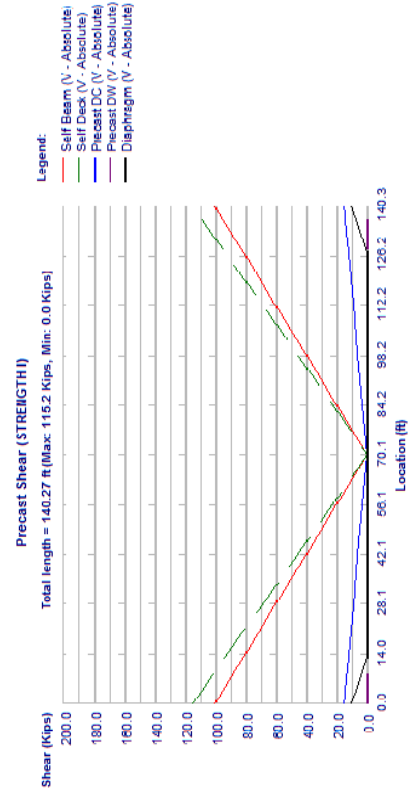
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.1	2.2	3.2	4.3	5.0	5.3
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	9301.5	8128.3	6172.0	3364.8	1004.7	541.0
LL + I :	V	115.3	172.4	213.3	254.1	282.6	287.7
LL + I :	M-	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	147.0	180.7	216.3	254.1	282.6	287.7
Total :	M	7951.9	7285.8	5743.7	3364.8	1042.8	564.9
Total :	M+	17333.1	15123.9	11441.7	6218.5	1853.7	997.9
Total :	V	163.8	269.4	358.7	448.0	516.6	528.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	195.5	277.7	361.8	448.0	516.6	528.8
Total :	M	15983.5	14281.4	11013.4	6218.5	1891.8	1021.8

		Sheet # 27
		Job #
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File Name: Span12EB_ModifiedSpacing.csl		




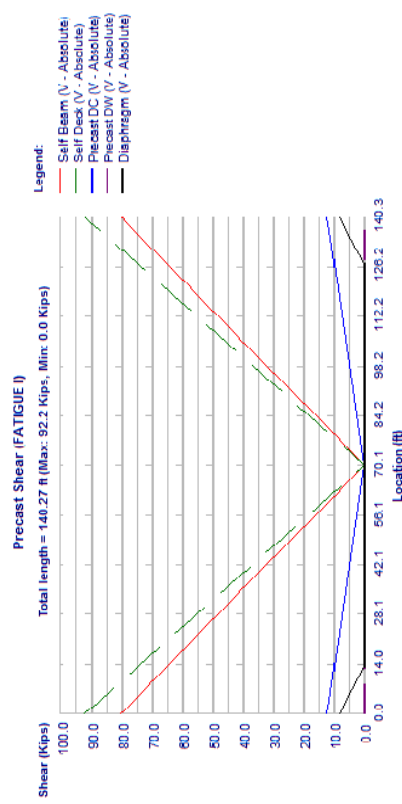
Precast Moment, Span 1, Beam 10, STRENGTH I

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		Job #
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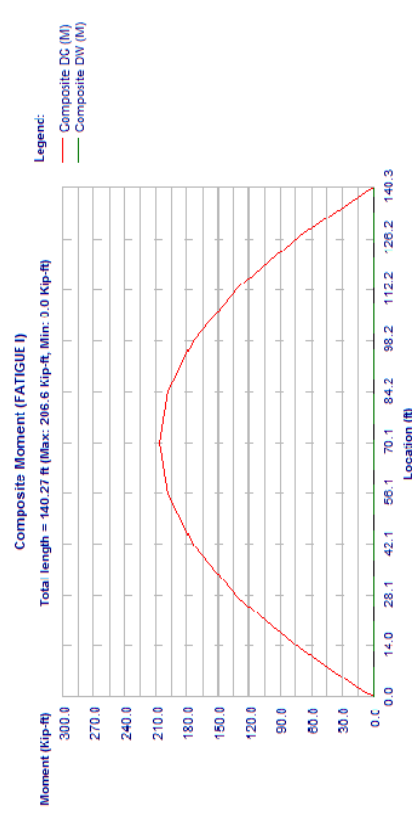
Precast Shear, Span 1, Beam 10, STRENGTH I

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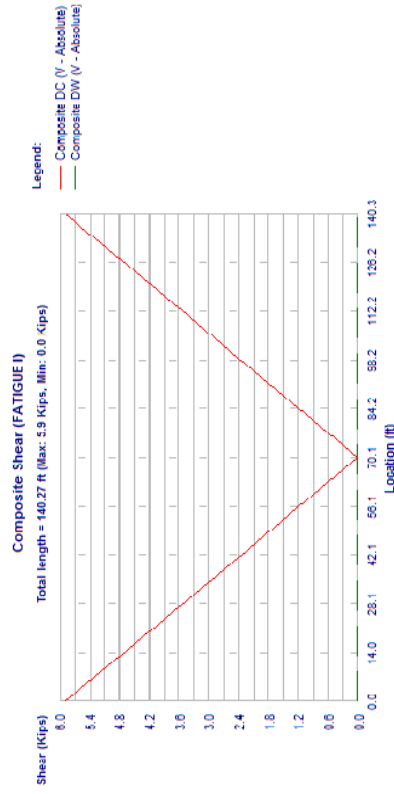
Precast Shear, Span 1, Beam 10, FATIGUE I

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		Job #	
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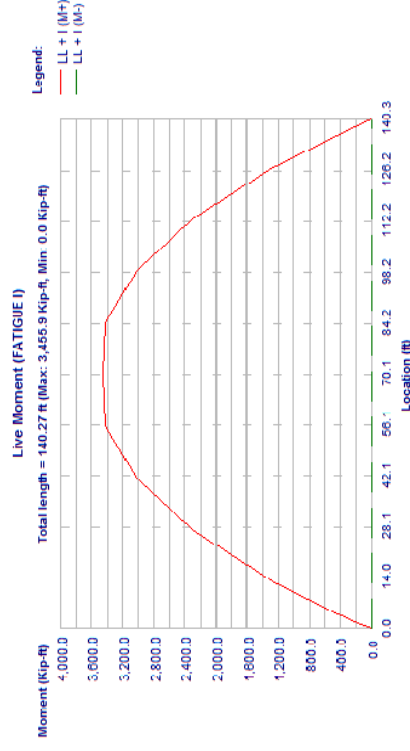
Composite Moment, Span 1, Beam 10, FATIGUE I

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Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span12EB_ModifiedSpacing.csl		Designed KSM	
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		Date	




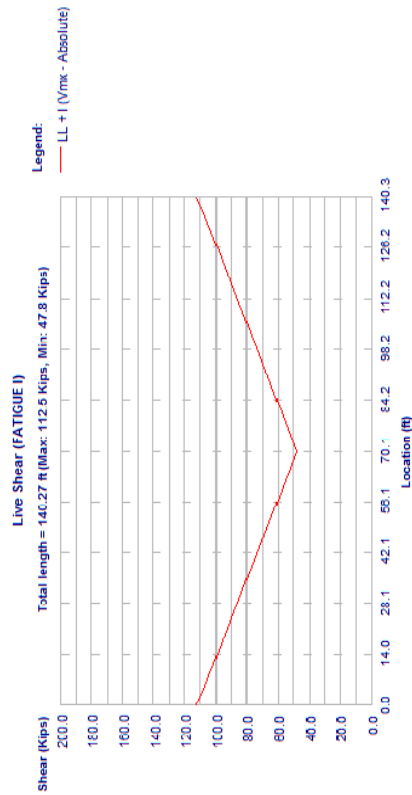
Composite Shear, Span 1, Beam 10, FATIGUE I

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Live Moment, Span 1, Beam 10, FATIGUE I

				Sheet #	39
				Job #	
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Live Shear, Span 1, Beam 10, FATIGUE I

		Sheet # 1	
		Job #	
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PROJECT DATA

Project:	14 Widening Over St. John's
Designer:	KSM
Date:	Sept/9/2013
Checked By:	
Date Checked:	
User job number:	
State:	FL, State Job #:
State:	Florida
Specification:	AASHTO LRFD - [6th Edition, 2012]
Design Code:	US
Units:	Simple Span
Span Type:	No
Flared Girder:	Span 20 - Modified Spacing
Comments:	\\lkmm001\PMWORK\3\jobs\59219 - 14 SAMRTECH\PROD\43210012201\Segment 4\structleng_data\14 Over St. John's River\Alternative 1 - Interior Widening\1_Superstructure\Span 20EB\Span20_ModifiedSpacing.csl
File Name:	

		Sheet # 2	
		Job #	
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File Name: Span20_ModifiedSpacing.csl			

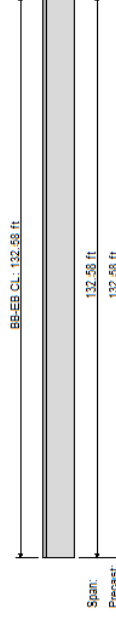
GEOMETRY DATA

BRIDGE LAYOUT

Overall Width (ft)	103.073
Left curb (ft)	1.542
Right curb (ft)	1.542
Curb-to-curb width (ft)	99.990
Number of spans	1
Number of lanes	8
Lane width (ft)	12.000
Eff Deck thick (in)	8.500
Sacrificial thick (in)	0.000
Haunch thickness (in)	1.000
Haunch width (in)	60.000
Bridge c/s, Ml (lxx) (in4)	18417280.00

SPAN DATA


Precast length,	ft = 132.580
Bearing-to-bearing,	ft = 132.580
Release span,	ft = 132.580

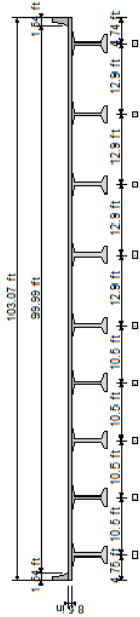


Bridge elevation

BEAM DATA

No	ID	Loc-prev ft	Area in2	Ml(lxx) in4	Height in	Yb in	B-topg in	B-trib ft
1	FIB-78	4.750	1100.6	904567.0	78.00	34.60	48.00	10.000
2	FIB-78	10.500	1100.6	904567.0	78.00	34.60	48.00	10.500
3	FIB-78	10.500	1100.6	904567.0	78.00	34.60	48.00	10.500
4	FIB-78	10.500	1100.6	904567.0	78.00	34.60	48.00	10.500
5	FIB-78	10.500	1100.6	904567.0	78.00	34.60	48.00	11.698
6	FIB-78	12.896	1100.6	904567.0	78.00	34.60	48.00	12.896
7	FIB-78	12.896	1100.6	904567.0	78.00	34.60	48.00	12.896
8	FIB-78	12.896	1100.6	904567.0	78.00	34.60	48.00	12.896
9	FIB-78	12.896	1100.6	904567.0	78.00	34.60	48.00	11.188

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Bridge cross section

MATERIAL DATA - Project Level

As defined in Material Tab. For beam level properties look at Beam Specific output.

CONCRETE PROPERTIES

	Precast Release	Precast Final	C.I.P
f _c (ksi)	6,800*	10,000	5,500
W _c (pcf)	150,000	150,000	150,000
E _c (ksi)	4499,330	5456,240	3845,830
K ₁	0.900	0.900	0.900
Thermal coeff.(1/°F)	0.00000600		

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRAND AND REBAR PROPERTIES

PRESTRESSED STEEL:

9/16-270K-LI, Low relaxation strands
Depressed at 0.40L
Strand Diameter = 0.563 in
Tensile Strength(f_{pu}) = 270.0 ksi
Use transformed strand and rebar: Strand Only

REINFORCING STEEL:

Tension/Shear steel: f_y = 60.0 ksi E_s = 29000 ksi f_s = 24.0 ksi

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Sheet # 1
Job #

PROPERTIES

Span:1, Beam:1
PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

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Job #

Span 1 Beam 1 cross section

GENERAL BRIDGE DATA:

Bridge Width	103.07 ft
Curb-to-curb	99.99 ft
Beam Spac. LL/RT	4.75/10.50 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Exterior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees



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Sheet # 3

Job #

TOPPING DATA:

Deck Thickness	8.500	in
Haunch Thickness	1.000	in
Width	60.000	in
Effective width	120.000	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips, Localon: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.055	0.000	0.055	132.580	SIP
DC	Line	0.125	0.000	0.125	132.580	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
8.31	1.00
8.31	132.33

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	132.580	ft
Release length	132.580	ft
Design length	132.580	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment (2+ lanes loaded)	0.925	(Calculated)
Live Moment (1 lane loaded)	0.995	(Calculated)
Live Shear (2+ lanes loaded)	0.926	(Calculated)
Live Shear (1 lane loaded)	0.995	(Calculated)

(#) Lever rule (C4.6.2.2.1)



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Pedestrian	0.111	(Calculated)
Comp. DC	0.111	(Calculated)
Comp. DW	0.111	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

SECTION PROPERTIES:

	PRECAST		COMPOSITE	
Area	1100.6	in2	1861.8	in2
Total Height	78.00	in	87.50	in
Mom. of Inertia (Ixx)	904567	in4	1963337	in4
Ht. of c.g.	34.60	in	54.38	in
Density	150.00	pcf	150.00	pcf
Self-weight	1146.5	plf	2271.5	plf
Mom. of Inertia (Iyy)	82367.0	in4		
Poisson's Ratio	0.2			
Thermal Coeff.	0.000006000	1/°F		

(#) Of Total Section using Ecl/Ec = 0.7048
Use transformed strand and rebar: Strand Only

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4499.3ksi)	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Area, Yb, Mil(Ixx), Composite: (At Final, using Ec = 5456.2ksi)	ft							
	in2	1146.7	1146.7	1146.7	1146.7	1146.7	1146.7	1146.7
	in	33.51	33.51	33.49	33.46	33.43	33.40	33.40
	in4	937016	937123	938373	940134	941940	943792	943792
	in	1861.8	1861.8	1898.3	1898.3	1898.3	1898.3	1898.3
	in	54.38	53.48	53.47	53.46	53.44	53.43	53.43

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Sheet # 7
Job #
Job #

ENDS

MIDSPAN

Strands

Dist. from bottom (in)

Number	7	5	3	1
	11	13	15	17

Strands

Dist. from bottom (in)

Number	10	12	6	1
	3	5	7	9

ESTIMATED QUANTITIES

Span:1, Beam:1

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol (C.Y.)	Concrete Wt (LB)	Stirrups (LB)	Longitudinal Bars (LB)
5966.233	651	3884.018	151997.766	9322.611	0.000

Tension steel:

fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	12.00	0.0000	2.0440	No

ESTIMATED QUANTITIES

Span:1, Beam:1

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol (C.Y.)	Concrete Wt (LB)	Stirrups (LB)	Longitudinal Bars (LB)
5966.233	651	3884.018	151997.766	9322.611	0.000

Tension steel:

fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	12.00	0.0000	2.0440	No

Units: U.S. Units

Design Code: AASHTO LRFD

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ENDS

MIDSPAN

Strands

Dist. from bottom (in)

Number	7	5	3	1
	11	13	15	17

Strands

Dist. from bottom (in)

Number	10	12	6	1
	3	5	7	9

ESTIMATED QUANTITIES

Span:1, Beam:1

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol (C.Y.)	Concrete Wt (LB)	Stirrups (LB)	Longitudinal Bars (LB)
5966.233	651	3884.018	151997.766	9322.611	0.000

Tension steel:

fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	12.00	0.0000	2.0440	No

ESTIMATED QUANTITIES

Span:1, Beam:1

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol (C.Y.)	Concrete Wt (LB)	Stirrups (LB)	Longitudinal Bars (LB)
5966.233	651	3884.018	151997.766	9322.611	0.000

Tension steel:

fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi


Stirrups:

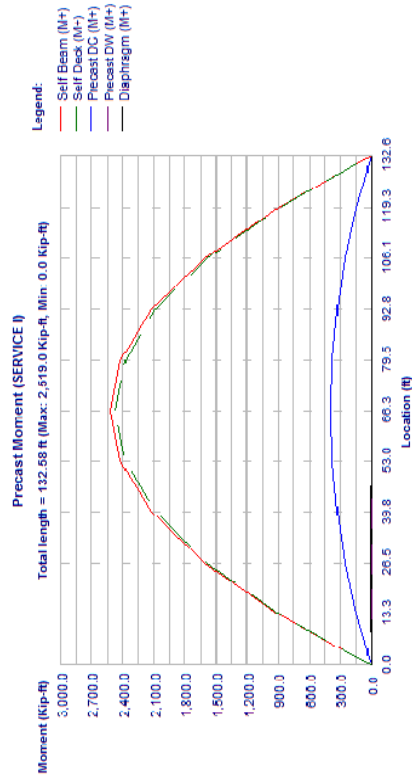
# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	12.00	0.0000	2.0440	No

Units: U.S. Units


Design Code: AASHTO LRFD

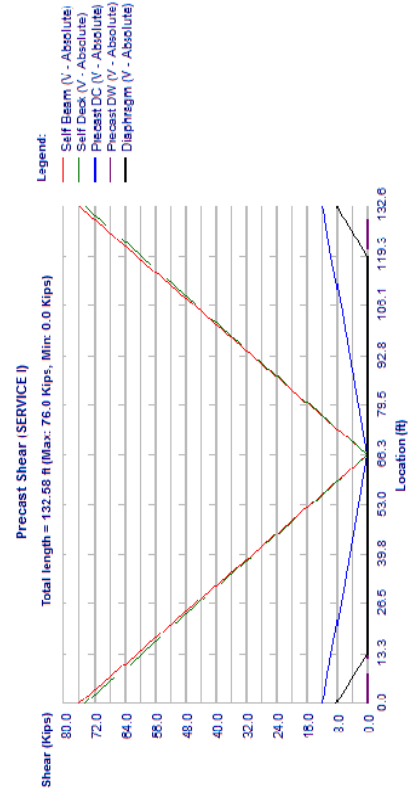
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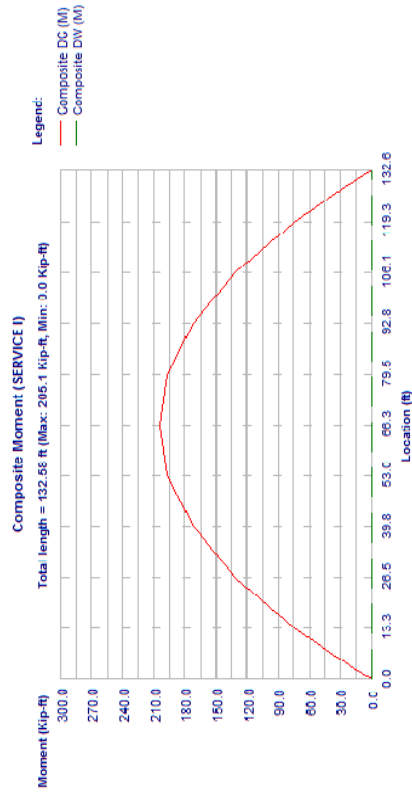
Precast Moment, Span 1, Beam 1, SERVICE I

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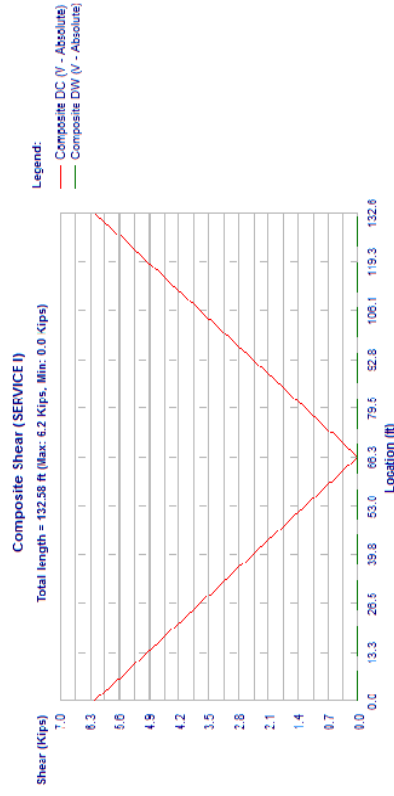
Precast Shear, Span 1, Beam 1, SERVICE I

		Sheet # 13	
		Job #	
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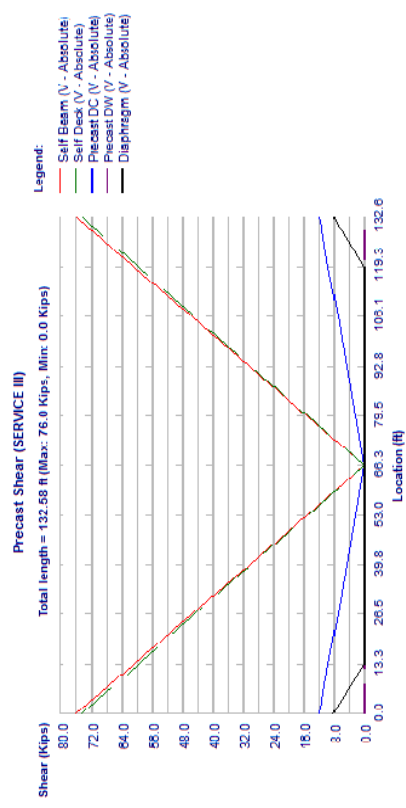
Composite Moment, Span 1, Beam 1, SERVICE I

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		Job #	
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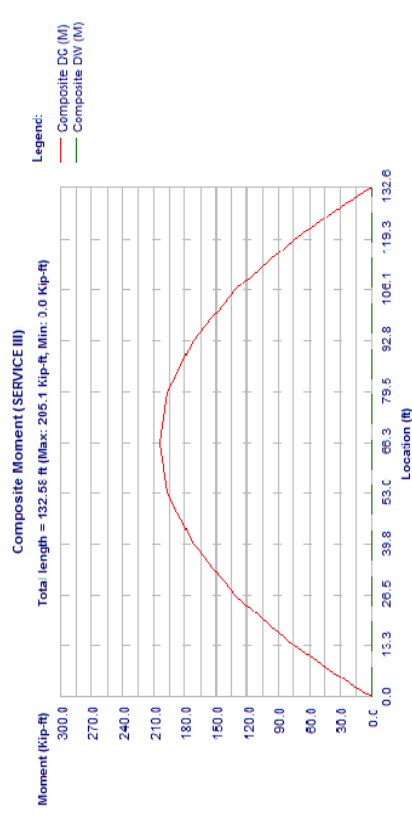
Composite Shear, Span 1, Beam 1, SERVICE I

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		Job #	
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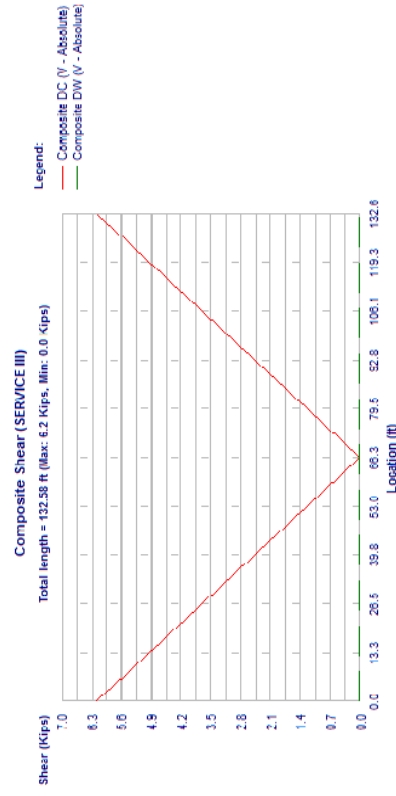
Precast Shear, Span 1, Beam 1, SERVICE III

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		Job #	
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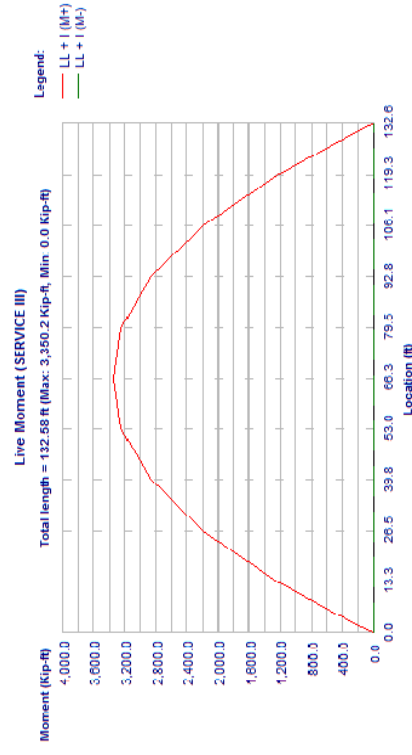
Composite Moment, Span 1, Beam 1, SERVICE III

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		Job #	
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		Date	



Composite Shear, Span 1, Beam 1, SERVICE III

		Sheet #	22
		Job #	
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Live Moment, Span 1, Beam 1, SERVICE III

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Sheet # 25
Job #

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	7087.2	6233.8	4794.0	2716.1	810.5	629.5
LL + I :	M-	90.4	134.6	166.0	197.5	220.3	222.3
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	114.9	141.2	169.0	198.2	220.5	222.4
LL + I :	M	6094.9	5616.6	4480.5	2627.9	799.9	622.3
Total :	M+	13802.6	12109.6	9271.3	5235.6	1559.3	1210.9
Total :	V	132.7	219.0	292.6	366.2	427.1	432.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	157.2	225.6	295.6	367.0	427.3	432.6
Total :	Vmx	12810.2	11492.5	8957.8	5147.4	1548.8	1203.7
Total :	M						450.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	93.2	93.2
Diaphragm	10.3	10.4
DL-Prec(DC)	14.9	14.9
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	69.6	69.6
DL-Comp(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Sheet # 26
Job #

Precast Moment (STRENGTH I)


Total length = 132.58 ft (Max: 3,148.7 Kip-ft, Min: 0.0 Kip-ft)

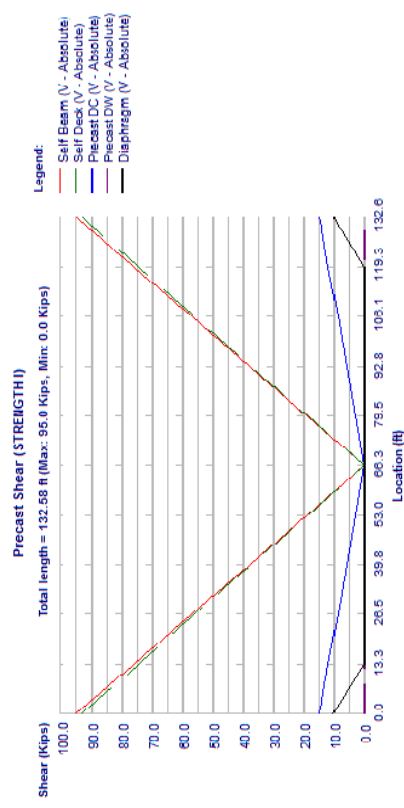
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 1, STRENGTH I

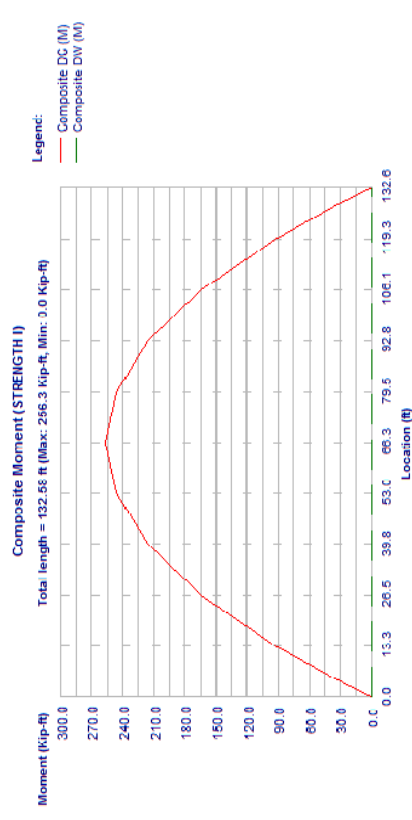
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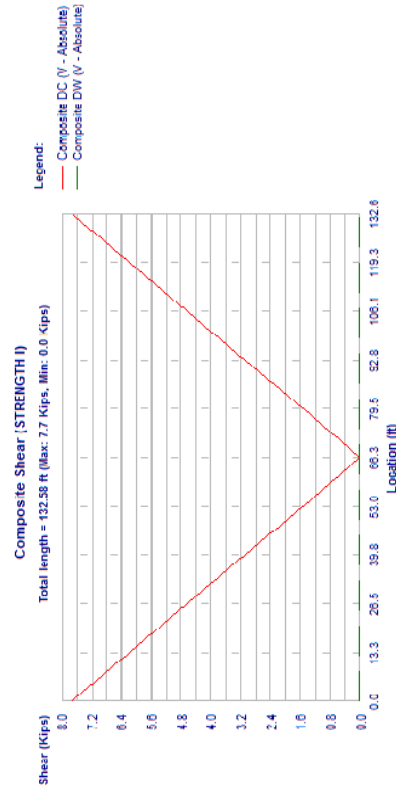
Precast Shear, Span 1, Beam 1, STRENGTH I

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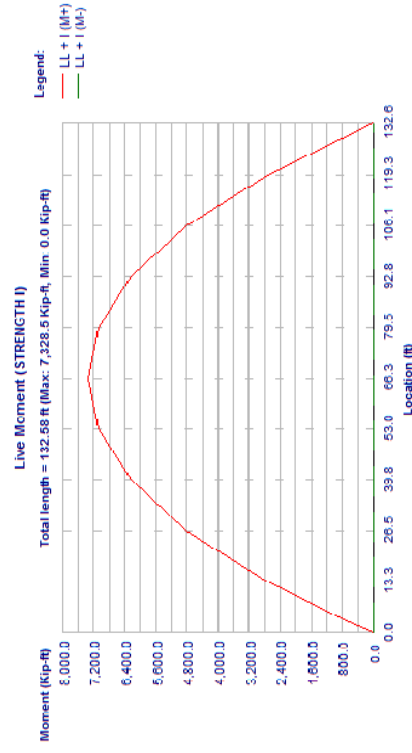
Composite Moment, Span 1, Beam 1, STRENGTH I

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Composite Shear, Span 1, Beam 1, STRENGTH I

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Live Moment, Span 1, Beam 1, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	2632.1	2343.7	1809.7	1041.4	313.6	243.7	0.0
M+	47.6	57.9	68.2	78.5	86.0	86.7	88.8
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	47.6	57.9	68.2	78.5	86.0	86.7	88.8
M	2526.8	2304.8	1809.7	1041.4	313.6	243.7	0.0
Total :	8004.4	7044.4	5391.5	3057.0	912.7	708.9	0.0
M+	75.0	119.0	169.5	213.6	251.5	254.8	265.9
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	81.4	125.5	169.5	213.6	251.5	254.8	265.9
Total :	7899.1	7005.5	5391.5	3057.0	912.7	708.9	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 132.58 ft (Max: 2,519.0 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 1, FATIGUE I

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 132.58 ft (Max: 76.0 Kips, Min: 0.0 Kips)

Location (ft)

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 1, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:42 A.M.

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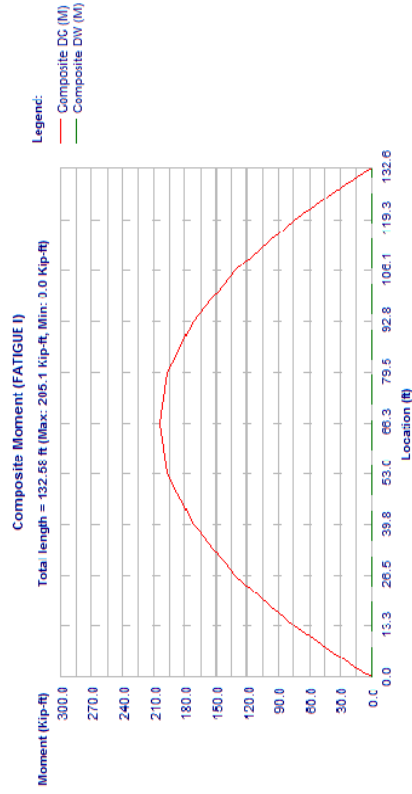
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Composite Moment, Span 1, Beam 1, FATIGUE I

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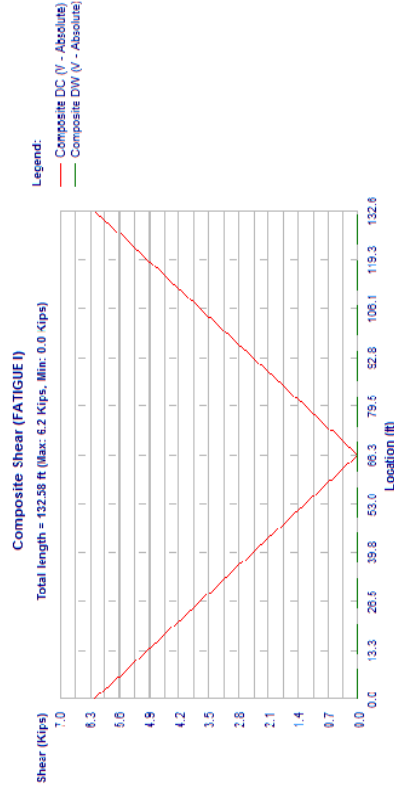
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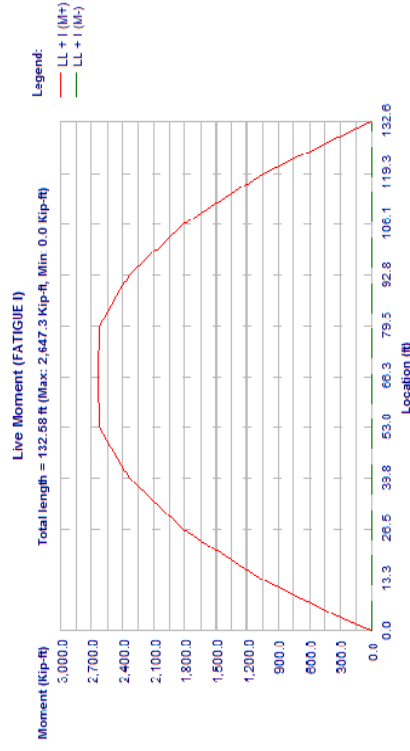
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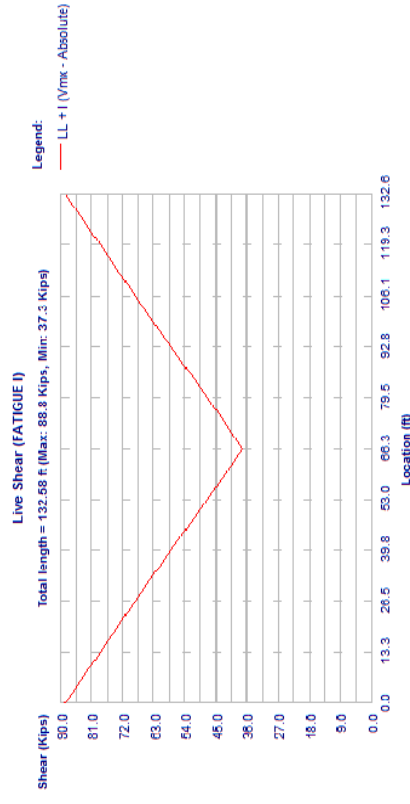
Composite Shear, Span 1, Beam 1, FATIGUE I

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Live Moment, Span 1, Beam 1, FATIGUE I

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Live Shear, Span 1, Beam 1, FATIGUE I



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File Name:	Span20 ModifiedSpacing.csl
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Comp. DC	0.111	(Calculated)
Comp. DW	0.111	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	1897.8
Total Height	78.00	87.50
Mom. of Inertia (Ixx)	904567	1992940
Ht. of c.g.	34.60	54.93
Density	150.00	150.00
Self-weight	1146.5	2352.6
Mom. of Inertia (Iyy)	82367.0	150.00
Poisson's Ratio	0.000006	0.000006
Thermal Coeff.	0.000006	0.000006

(#) Of Total Section using $E_t/E_c = 0.7048$
Use transformed strand and rebar: Strand Only

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast (At Release, using	Ec = 4,499.3ksi)	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Area, in ²	1100.6		1144.6	1144.6	1144.6	1144.6	1144.6	1144.6	1144.6
Yb, in	34.60		33.56	33.56	33.54	33.51	33.48	33.45	33.45
MI(1xx), in ⁴	904567		935575	935682	936933	938699	940511	942371	942371
Composite (At Final, using	Ec = 5456.2ksi)	5456.2ksi)	1932.7	1932.7	1932.7	1932.7	1932.7	1932.7	1932.7
Area, in ²	1897.8		54.08	54.08	54.07	54.04	54.02	54.02	54.02
Yb, in	54.93		2069836	2069836	2071750	2074214	2076716	2079256	2079256
MI(1xx), in ⁴	1992940		2069836	2069836	2071750	2074214	2076716	2079256	2079256



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Deck Haunch:	Thickness	8.500 in
	Thickness	1.000 in
	Width	60.000 in
Effective	width	126.000 in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.110	0.000	0.110	132.580	SIP
DC	Line	0.125	0.000	0.125	132.580	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.61	1.00
16.61	132.33

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	132.580	ft
Release length	132.580	ft
Design length	132.580	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Live Moment	(2+ lanes loaded)	0.827	(Calculated)
Live Moment	(1 lane loaded)	0.549	(Calculated)
Live Shear	(2+ lanes loaded)	1.000	(Calculated)
Live Shear	(1 lane loaded)	0.781	(Calculated)

Pedestrian	0.111	(Calculated)
------------	-------	--------------



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Sheet # 5

Job #

Span1: Beam:2

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.80*	ksi
Max comp	4499.3	ksi
Outer	4.08	ksi
15.00 %		
Max tens	-0.25	ksi
Max tens, wireinf	-0.99	ksi
Center	70.00 %	
Max tens	-0.25	ksi
Max tens, wireinf	-0.63	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	10.00 ksi	5.50 ksi
Max comp	5456.24 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	6.00 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	4.50 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK
	4.00 ksi	-

SERVICE III (Tension):


Max tens	PRECAST	DECK
	-0.60 ksi	-0.45 ksi

Span1: Beam:2

PRESTRESSED STEEL:

43 strands, 9/16-270K-LL, Low relaxation strands

Depressed at 0.40L (53.03 ft from member end)



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Sheet # 6

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END PATTERN (Vcg = 7.70 in):

10 @ 3,000 in	12 @ 5,000 in	4 @ 7,000 in	1 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Vcg = 4.72 in):

(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	4 @ 7,000 in	1 @ 9,000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	8.256 in ²
Trans. Len. bonded	2.812 ft
Trans. Len. debonded	2.812 ft
Dev. Len. bonded	10.747 ft
Dev. Len. debonded	13.434 ft
Holddown Force	7.820 kips
Tensile Strength(fpu)	270.0 ksi
Initial Prestress = 0.75fpu	202.5 ksi
Initial Pull	1671.8 kips
Beam Shing (PU/AE)	0.516 in

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ENDS

MIDSPAN

Draped strands		Dist. from bottom(in)	
Number			
7		11	
5		13	
3		15	
1		17	

Straight strands		Dist. from bottom(in)	
Number			
10		3	
12		5	
4		7	
1		9	

All strands		Dist. from bottom(in)	
Number			
17		3	
7		5	
7		7	
2		9	

Strand Pattern, Span 1, Beam 2

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
5701.074	651	3711.399	151997.766	918.896	0.000

Span:1, Beam:2
ESTIMATED QUANTITIES

Tension steel:	fy	E	fs
	60.0 ksi	29000 ksi	24.0 ksi

Span:1, Beam:2
REINFORCING STEEL:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	12.00	0.0000	2.4508	No

Units: U.S. Units

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legs

Size

fy (ksi)

Area (in2)

Spacing (in)

Start (ft)

End (ft)

Extends into Deck

2	US#5(M16)	60.0	0.62	12.00	130.1293	132.5801	No
2	US#5(M16)	60.0	0.62	24.00	2.4508	130.1293	No

LOSSES

Note: Values are calculated at Midspan

Str. area	Ycg	P_init	Ecc	Days to release	Rel. Humid (RH)	ES	Ecl
8.2560 in2	4.72 in	1671.8 kips	29.88 in	0.75	75.0 %	28500.0 ksi	4499 ksi

AASHTO LOSSES

Elastic Shortening ** 11.62 ksi (Eq 5.9.5.2.3a-1). (fcgp= 1.834 ksi)

Elastic Gains	Gains	Adjustment
due to Precast Loads	-5.95 ksi	0.00 ksi
due to Composite Loads	-0.30 ksi	0.00 ksi
due to Live Loads	-4.14 ksi	0.00 ksi

Time Dependent Losses (Approximate Method (Art 5.9.5.3))

	Initial	Final
Steel relaxation	0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi	7.31 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00 ksi	9.25 ksi (Eq 5.9.5.3-1)
Sub-total	11.62 ksi	8.56 ksi (4.23 %)
Total Prestress Losses		20.18 ksi (9.97 %)

Prestressing Stress Limit Check (Table 5.9.3.1)


initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 182.3 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units

Design Code: AASHTO LRFD

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Sheet # 9
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE I
Shears: kips, Moments: kft

Location, Self wt. : (Max) DL-Prec. : DC(Max) DL-Prec. : DW(Max) Deck + : Haunch (Max) Diaphragm : (Max) DL-Comp : DC(Max) DL-Comp : DW(Max) LL + I : LL + I : LL + I : Total : Total : Total :	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
ft	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
M	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2	2519.0
V	76.0	72.8	71.8	60.8	45.6	30.4	15.2	0.0
M	0.0	42.9	55.2	185.9	330.5	433.7	495.7	516.3
V	15.6	14.9	14.7	12.5	9.3	6.2	3.1	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	215.0	276.9	931.9	1656.7	2174.4	2485.0	2588.6
V	78.1	74.8	73.8	62.5	46.9	31.2	15.6	0.0
M	0.0	4.6	5.9	15.4	14.1	12.9	11.6	10.4
V	16.5	13.0	12.0	0.1	0.1	0.1	0.1	0.1
M	0.0	17.0	21.9	73.8	131.2	172.3	196.9	205.1
V	6.2	5.9	5.8	4.9	3.7	2.5	1.2	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	298.9	384.8	1289.5	2276.0	2959.6	3364.8	3479.3
M+	0.0	131.4	127.6	113.3	95.3	77.2	51.9	33.9
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	131.4	127.6	126.5	113.8	97.0	81.0	66.0	51.7
Vmx	0.0	295.4	379.8	1247.6	2127.2	2666.6	2893.6	2836.4
M	0.0	787.6	1014.2	3403.3	6020.7	7868.8	8972.2	9318.6
M+	323.8	309.0	304.6	254.1	200.9	147.7	87.2	33.9
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	323.8	309.1	304.7	254.5	202.6	151.5	101.2	51.8
M	0.0	784.2	1009.2	3361.4	5871.8	7575.7	8501.1	8675.7

Location, Self wt. : (Max) DL-Prec. : DC(Max) DL-Prec. : DW(Max) Deck + : Haunch (Max) Diaphragm : (Max) DL-Comp : DC(Max) DL-Comp : DW(Max) LL + I : LL + I : LL + I : Total : Total : Total :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
ft	79.55	92.81	106.06	119.32	128.93	129.77	132.58
M	2418.2	2115.9	1612.1	906.8	269.5	209.2	0.0
V	15.2	30.4	45.6	60.8	71.8	72.8	76.0
M	495.7	433.7	330.5	185.9	55.2	42.9	0.0
V	3.1	6.2	9.3	12.5	14.7	14.9	15.6
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	2485.0	2174.4	1656.7	931.9	276.9	215.0	0.0
V	15.6	31.2	46.9	62.5	73.8	74.8	78.1
M	9.1	7.9	6.6	5.4	1.9	1.5	0.0
V	0.1	0.1	0.1	0.1	12.1	13.2	16.7
M	196.9	172.3	131.2	73.8	21.9	17.0	0.0
V	1.2	2.5	3.7	4.9	5.8	5.9	6.2
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M+	3364.8	2959.6	2276.0	1289.5	384.8	298.9	-0.0



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Sheet # 10
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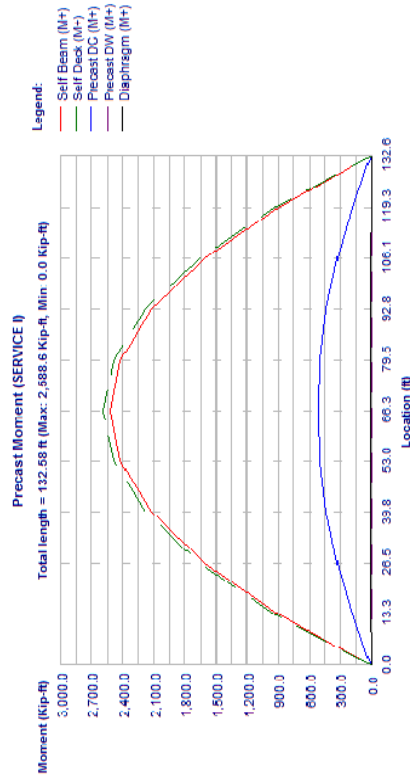
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
V	51.9	77.2	95.3	113.3	126.4	127.6	131.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	66.0	81.0	97.0	113.8	126.5	127.6	131.4
M	2893.6	2666.6	2127.2	1247.6	379.8	295.4	-0.0
M+	8969.7	7863.8	6013.2	3393.3	1010.2	784.5	0.0
V	87.2	147.7	200.9	254.1	304.7	309.1	323.9
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	101.2	151.5	202.6	254.5	304.9	309.2	323.9
M	8498.6	7570.8	5864.4	3351.5	1005.2	781.0	0.0

REACTIONS (kips), SERVICE I



Load Type	Left Support	Right Support
Self Wt.	76.0	76.0
Deck+Haunch	78.1	78.1
Diaphragm	16.5	16.7
DL-Prec.(DC)	15.6	15.6
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	55.7	55.7
DL-Comp.(DW)	0.0	0.0
Live	109.4	109.4
Pedestrian	0.0	0.0

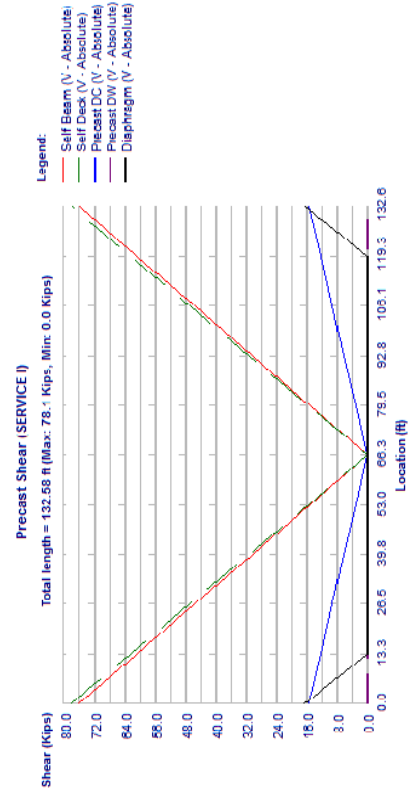
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Precast Moment, Span 1, Beam 2, SERVICE I

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Precast Shear, Span 1, Beam 2, SERVICE I

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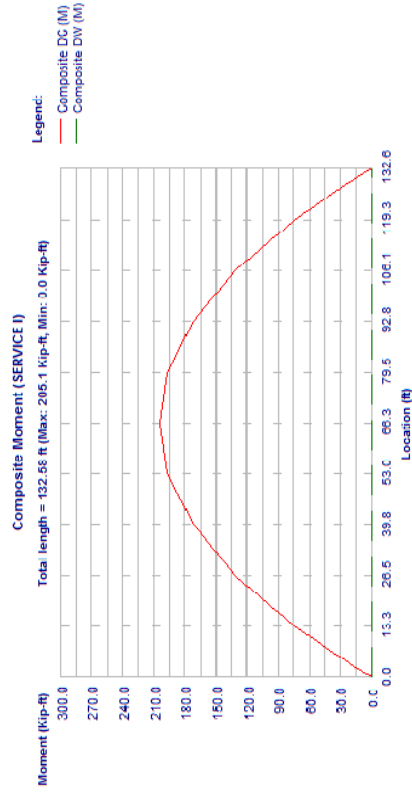
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Composite Moment, Span 1, Beam 2, SERVICE I

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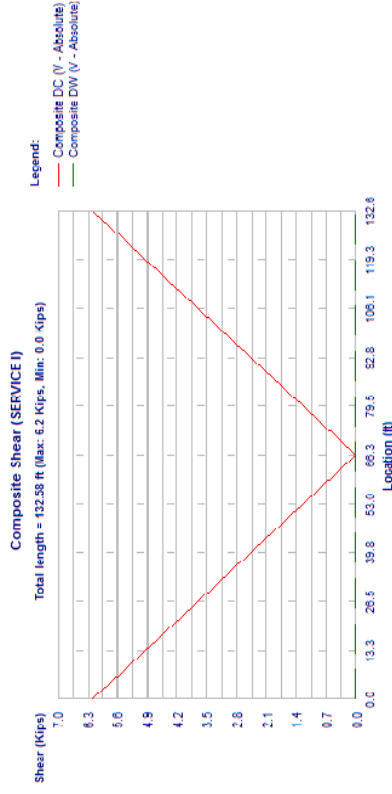
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Composite Shear, Span 1, Beam 2, SERVICE I

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Sheet # 15
Job #

Live Moment (SERVICE I)

Total length = 132.58 ft (Max: 3,479.3 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
13.3	1,000.0
26.5	2,000.0
39.8	3,000.0
53.0	3,479.3
66.3	3,479.3
79.5	3,000.0
92.8	2,000.0
106.1	1,000.0
119.3	0.0
132.6	0.0

Live Moment, Span 1, Beam 2, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:43 A.M.

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Sheet # 16
Job #

Live Shear (SERVICE I)

Total length = 132.58 ft (Max: 131.4 Kips, Min: 51.7 Kips)

Legend:
— LL + I (Vmk - Absolute)


Location (ft)	Shear (Kips)
0.0	131.4
13.3	110.0
26.5	90.0
39.8	70.0
53.0	51.7
66.3	51.7
79.5	70.0
92.8	90.0
106.1	110.0
119.3	131.4
132.6	131.4

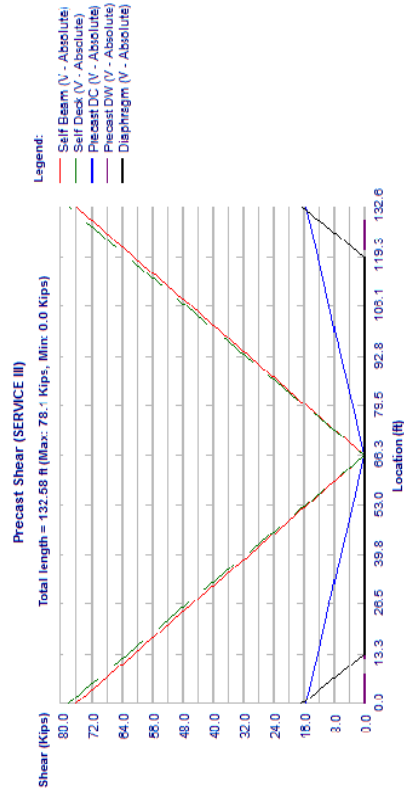
Live Shear, Span 1, Beam 2, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, SERVICE III
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location, ft	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt. : M	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2	2519.0
(Max) V	76.0	72.8	71.8	60.8	45.6	30.4	15.2	0.0
DL-Prec. : M	0.0	42.9	55.2	185.9	330.5	433.7	495.7	516.3
DC(Max) V	15.6	14.9	14.7	12.5	9.3	6.2	3.1	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	215.0	276.9	931.9	1656.7	2174.4	2485.0	2588.6
Haunch (Max) V	78.1	74.8	73.8	62.5	46.9	31.2	15.6	0.0
Diaphragm : M	0.0	4.6	5.9	15.4	14.1	12.9	11.6	10.4
(Max) V	16.5	13.0	12.0	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	0.0	17.0	21.9	73.8	131.2	172.3	196.9	205.1
DC(Max) V	6.2	5.9	5.8	4.9	3.7	2.5	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	0.0	239.1	307.8	1031.6	1820.8	2367.7	2691.8	2783.5

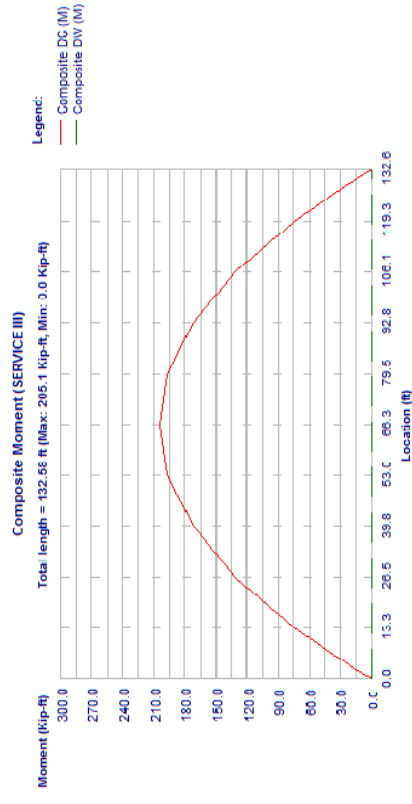
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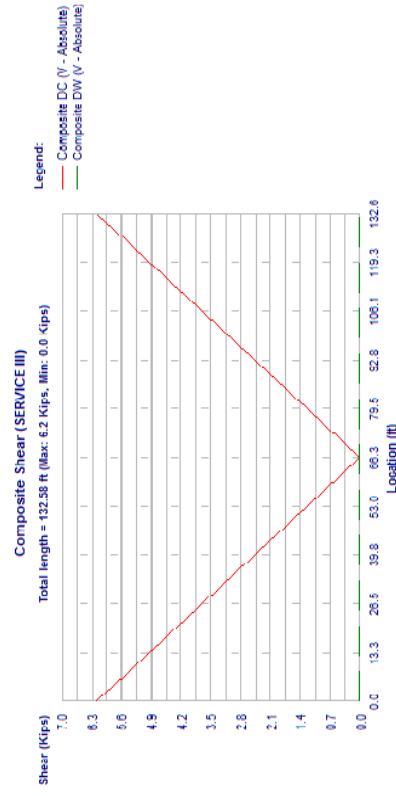
Precast Shear, Span 1, Beam 2, SERVICE III

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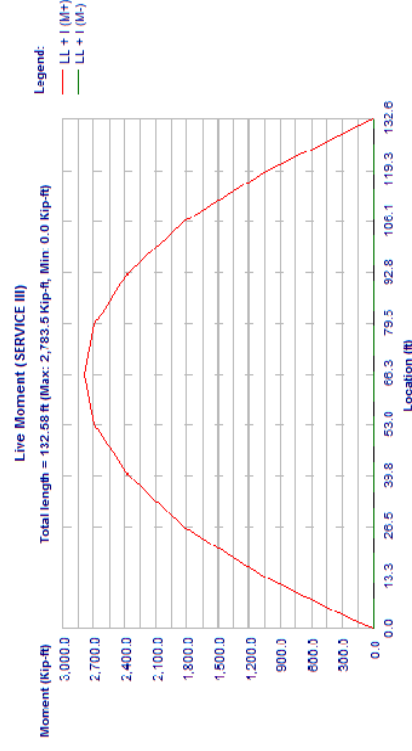
Composite Moment, Span 1, Beam 2, SERVICE III

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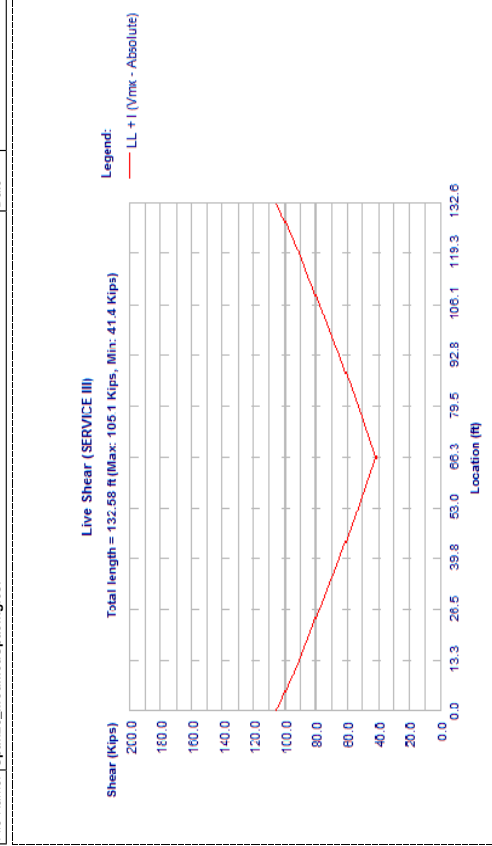
Composite Shear, Span 1, Beam 2, SERVICE III

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Live Moment, Span 1, Beam 2, SERVICE III


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Live Shear. Span 1. Beam 2. SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 2, STRENGTH I
Shears: kips, Moments: kft

	ft	Bearing	Trans	H ₂	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	M	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt.,	M	0.00	2615	336.8	1133.5	2015.2	2644.9	3022.8	3148.7
(Max)	M	95.0	91.0	89.8	76.0	57.0	38.0	19.0	0.0
Self wt.,	M	0.00	188.3	242.5	816.1	1450.9	1904.3	2176.4	2267.1
(Min)	M	68.4	65.5	64.6	54.7	41.0	27.4	13.7	0.0
DL-Pre-c.	M	0.00	53.6	69.0	200.2	413.1	542.2	619.6	645.4
DC(Max)	V	19.5	18.6	18.4	15.6	11.7	7.8	3.9	0.0
DL-Pre-c.	M	0.00	38.6	49.7	167.3	297.4	390.4	446.1	464.7
DC(Min)	V	14.0	13.4	13.2	11.2	8.4	5.6	2.8	0.0
DL-Pre-c.	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Pre-c.	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck +	M	0.00	268.7	346.1	1164.8	2070.8	2718.0	3106.3	3235.7
Heunch (Max)	V	97.6	93.5	92.3	78.1	58.6	39.0	19.5	0.0
Deck +	M	0.00	193.5	242.7	838.7	1491.0	1956.9	2236.5	2329.7

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	Beating	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	70.3	67.3	66.4	56.2	42.2	28.1	14.1
Diaphragm :	M	0.0	5.8	7.4	19.2	17.6	16.1	14.5
Diaphragm (Max)	V	20.6	16.3	15.0	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	4.2	5.3	13.8	12.7	11.6	10.5
Diaphragm (Min)	V	14.9	11.7	10.8	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	21.3	27.4	92.3	164.1	215.3	256.3
DL-Comp (Max)	V	7.7	7.4	7.3	6.2	4.6	3.1	1.5
DL-Comp :	M	0.0	15.3	19.7	66.4	118.1	155.0	177.2
DL-Comp (Min)	V	5.6	5.3	5.3	4.5	3.3	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp (Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	523.0	673.4	2256.6	3983.1	5179.3	5888.4
LL + I :	V	229.9	223.2	221.2	198.3	166.7	135.1	90.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Mmx	229.9	223.4	221.4	199.1	169.7	141.8	115.4
LL + I :	Vmx	0.0	517.0	664.6	2183.4	3722.6	4666.5	5063.9
Total :	M+	0.0	1134.0	1460.2	4898.9	8663.9	11315.7	12897.6
Total :	V	470.4	450.0	444.0	374.3	298.8	232.2	134.9
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Mmx	470.4	450.2	444.2	375.1	301.7	229.9	159.5
Total :	M	0.0	1128.0	1451.4	4825.6	8403.4	10803.0	12073.1

Location, Self wt. :	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. (Max)	M	3022.8	2644.9	2056.2	1133.5	336.8	261.5	132.58
Self wt. (Min)	V	19.0	38.0	57.0	76.0	89.8	91.0	95.0
DL-Prec. :	M	619.6	542.2	413.1	232.4	69.0	53.6	68.4
DC(Max)	V	3.9	7.8	11.7	15.6	18.4	18.6	19.5
DL-Prec. :	M	446.1	390.4	297.4	167.3	49.7	38.6	0.0
DC(Min)	V	2.8	5.6	8.4	11.2	13.2	13.4	14.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3106.3	2718.0	2070.8	1164.8	346.1	268.7	0.0
Haunch (Max)	V	19.5	39.0	58.6	78.1	92.3	93.5	97.6
Deck + :	M	2236.5	1956.9	1491.0	838.7	249.2	193.5	0.0
Haunch (Min)	V	14.1	28.1	42.2	56.2	66.4	67.3	70.3
Diaphragm :	M	11.4	9.9	8.3	6.7	2.4	1.9	0.0
(Max)	V	0.1	0.1	0.1	0.1	15.2	16.5	20.9
Diaphragm :	M	8.2	7.1	6.0	4.9	1.7	1.3	0.0
(Min)	V	0.1	0.1	0.1	0.1	10.9	11.9	15.0
DL-Comp :	M	246.1	215.3	164.1	92.2	27.4	21.3	0.0
DC(Max)	V	1.5	3.1	4.6	6.2	7.3	7.4	7.7
DL-Comp :	M	177.2	155.0	118.1	66.4	19.7	15.3	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5888.4	5179.3	3983.1	2256.6	673.4	523.0
LL + I :	M-	90.8	135.1	166.7	198.3	221.2	223.2
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	115.4	141.8	169.7	199.1	221.4	223.4
LL + I :	M	5063.9	4666.5	3722.6	2183.4	664.6	517.0
Total :	M+	12894.5	11309.5	8654.5	4886.4	1455.2	1130.0
Total :	V	134.9	223.2	298.8	374.3	444.1	450.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	159.5	229.9	301.7	375.1	444.3	450.4
Total :	M	12070.0	10796.7	8394.1	4813.1	1446.4	1124.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	97.6	97.6
Diaphragm	20.6	20.9
DL-Prec.(DC)	19.5	19.5
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	69.6	69.6
DL-Comp.(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:43 A.M.

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Precast Moment (STRENGTH I)


Total length = 132.58 ft (Max: 3,235.7 Kip-ft, Min: 0.0 Kip-ft)

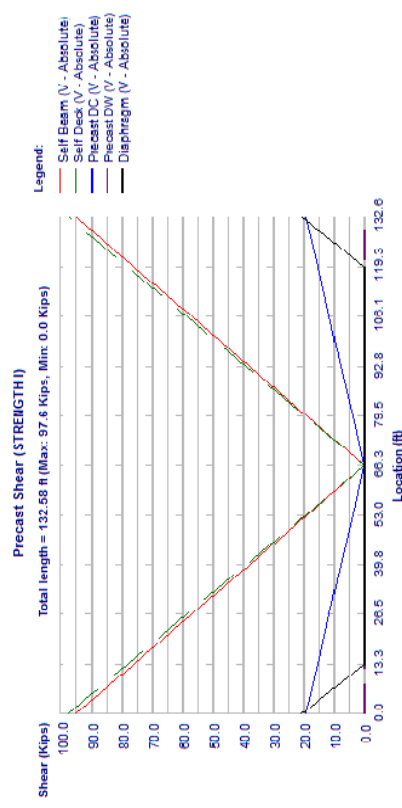
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 2, STRENGTH I

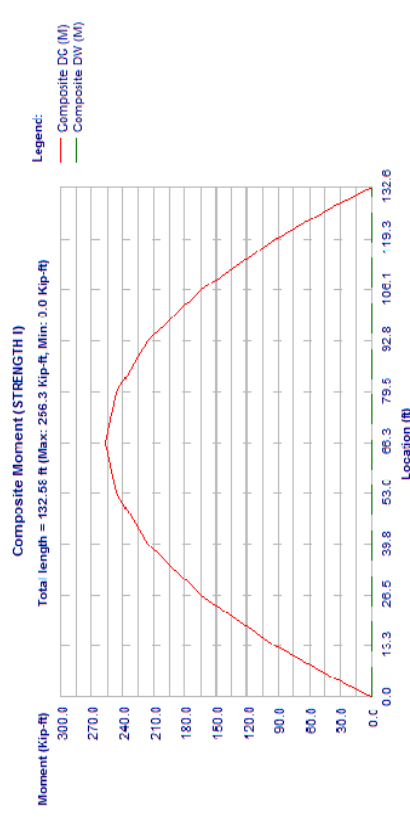
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		Job #	
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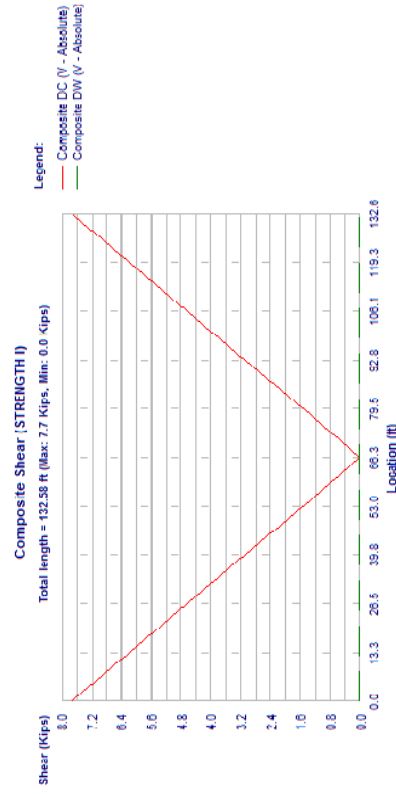
Precast Shear, Span 1, Beam 2, STRENGTH I

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		Job #	
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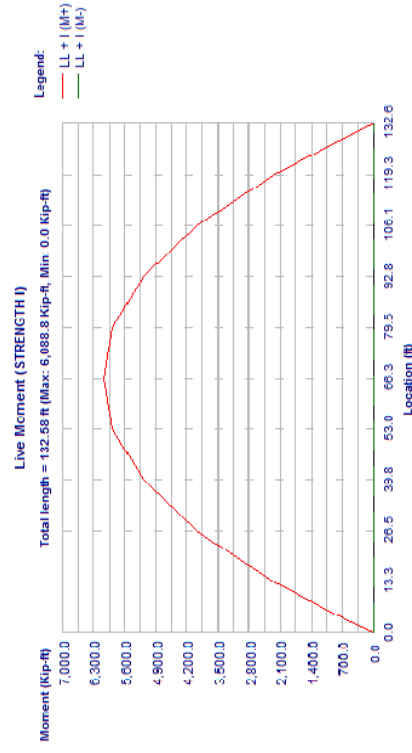
Composite Moment, Span 1, Beam 2, STRENGTH I

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Composite Shear, Span 1, Beam 2, STRENGTH I

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Live Moment, Span 1, Beam 2, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1451.1	1292.1	997.7	574.1	172.9	134.4	0.0
M+	32.3	40.4	53.6	61.6	67.5	68.0	69.7
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	37.4	45.5	53.6	61.6	67.5	68.0	69.7
M	1393.1	1270.7	997.7	574.1	172.9	134.4	0.0
M+	7056.0	6196.3	4734.9	2678.0	798.3	620.0	0.0
V	67.6	110.9	159.2	202.4	245.8	249.6	262.3
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	72.7	115.9	159.2	202.4	245.8	249.6	262.3
Vmx	6998.0	6174.9	4734.9	2678.0	798.3	620.0	0.0
M							

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 132.58 ft (Max: 2,588.6 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 2, FATIGUE I

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Sheet # 34

Job #

Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 132.58 ft (Max: 78.1 Kips, Min 0.0 Kips)

Location (ft)

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 2, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:43 A.M.

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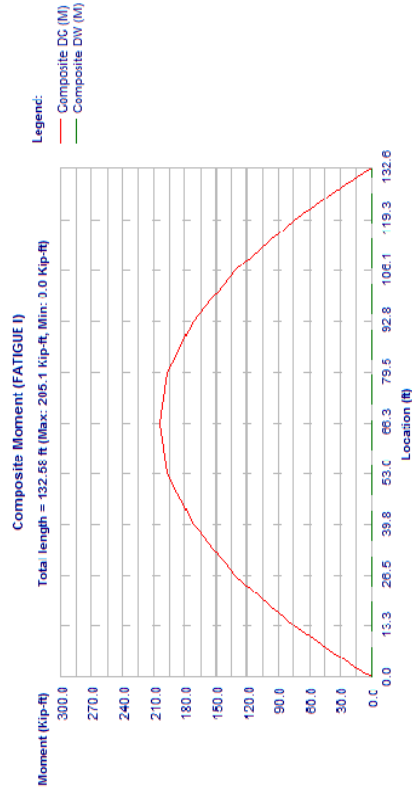
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Composite Moment, Span 1, Beam 2, FATIGUE I

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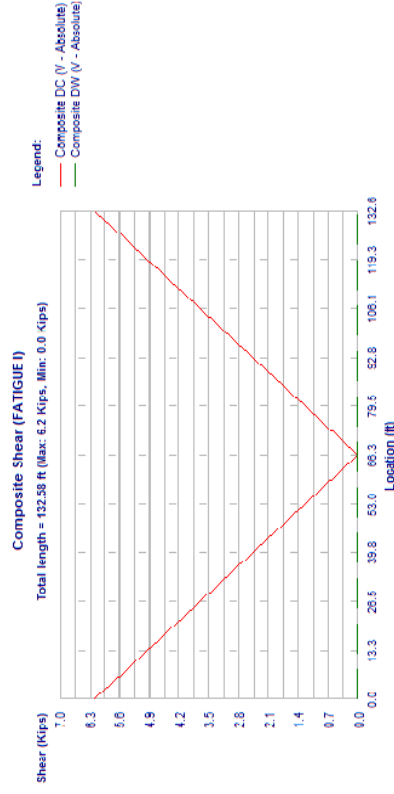
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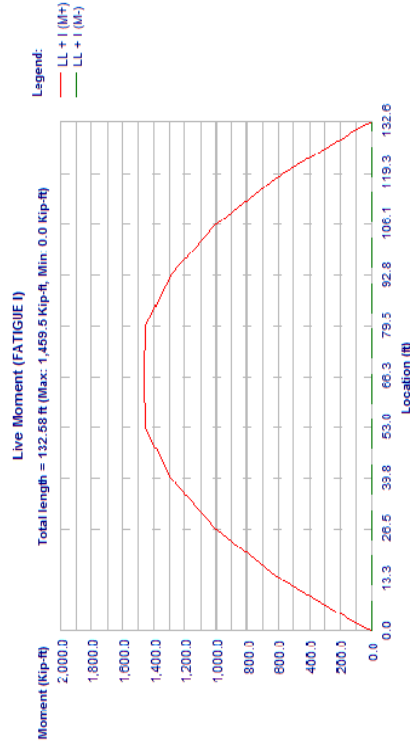
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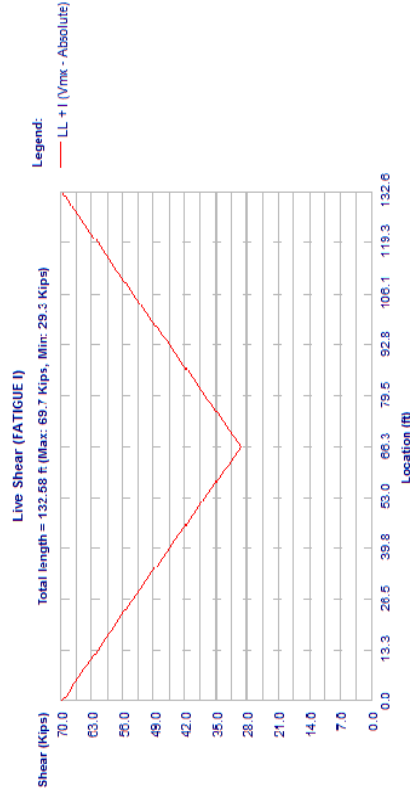
Composite Shear, Span 1, Beam 2, FATIGUE I

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		Job #	
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Live Moment, Span 1, Beam 2, FATIGUE I

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Live Shear, Span 1, Beam 2, FATIGUE I



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Comp. DC	0.111	(Calculated)
Comp. DW	0.111	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	1897.8
Total Height	78.00	87.50
Mom. of Inertia (Ixx)	904567	1992940
Ht. of c.g.	34.60	54.93
Density	150.00	150.00
Self-weight	1146.5	2352.6
Mom. of Inertia (Iyy)	82367.0	150.00
Poisson's Ratio	0.000006	0.000006
Thermal Coeff.	0.000006	0.000006

(#) Of Total Section using $E_c/E_c = 0.7048$
Use transformed strand and rebar: Strand Only

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast (At Release, using	Ec = 4,499.3ksi)	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Area, in ²	1100.6		1144.6	1144.6	1144.6			1144.6	1144.6
Yb, in	34.60		33.56	33.56	33.54	33.51	33.48	33.45	33.45
MI(1xx), in ⁴	904567		935575	935682	936933	938699	940511	942371	942371
Composite (At Final, using	Ec = 5456.2ksi)								
Area, in ²	1897.8		1932.7	1932.7	1932.7	1932.7	1932.7	1932.7	1932.7
Yb, in	54.93	54.08	54.07	54.07	54.06	54.05	54.04	54.02	54.02
MI(1xx), in ⁴	1992940	2069836	2069836	2069887	2071750	2074214	2076716	2079256	2079256



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Deck Haunch:	Thickness	8.500 in
	Thickness	1.000 in
	Width	60.000 in
Effective	width	126.000 in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips, Location: ft. Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.110	0.000	0.110	132.580	SIP
DC	Line	0.125	0.000	0.125	132.580	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
16.61	1.00
16.61	132.33

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	132.580	ft
Release length	132.580	ft
Design length	132.580	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Live Moment	(2+ lanes loaded)	0.827	(Calculated)
Live Moment	(1 lane loaded)	0.549	(Calculated)
Live Shear	(2+ lanes loaded)	1.000	(Calculated)
Live Shear	(1 lane loaded)	0.781	(Calculated)

Pedestrian	0.111	(Calculated)
------------	-------	--------------



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Span1: Beam:3

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.80*	ksi
Max comp	4499.3	ksi
Outer	4.08	ksi
15.00 %		
Max tens	-0.25	ksi
Max tens, wireinf	-0.99	ksi
Center	70.00 %	
Max tens	-0.25	ksi
Max tens, wireinf	-0.63	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	10.00 ksi	5.50 ksi
Max comp	5456.24 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	6.00 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	4.50 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK
	4.00 ksi	-

SERVICE III (Tension):


Max tens	PRECAST	DECK
	-0.60 ksi	-0.45 ksi

Span1: Beam:3

PRESTRESSED STEEL:

43 strands, 9/16-270K-LL, Low relaxation strands

Depressed at 0.40L (53.03 ft from member end)



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END PATTERN (Vcg = 7.70 in):

10 @ 3,000 in	12 @ 5,000 in	4 @ 7,000 in	1 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Vcg = 4.72 in):


(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	4 @ 7,000 in	1 @ 9,000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	8.256 in ²
Trans. Len.bonded	2.812 ft
Trans. Len.debonded	2.812 ft
Dev. Len. bonded	10.747 ft
Dev. Len. debonded	13.434 ft
Holddown Force	7.820 kips
Tensile Strength(fpu)	270.0 ksi
Initial Prestress = 0.75fpu	202.5 ksi
Initial Pull	1671.8 kips
Beam Shing (PU/AE)	0.516 in



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
(Max)	M	0.00	209.2	269.5	906.8	1612.1	2115.9	2418.2
DL-Prec. :	V	76.0	72.8	71.8	60.8	45.6	30.4	15.2
DC(Max)	M	0.0	42.9	55.2	185.9	330.5	433.7	495.7
DL-Prec. :	V	15.6	14.9	14.7	12.5	9.3	6.2	3.1
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	215.0	276.9	931.9	1656.7	2174.4	2485.0
Haunch (Max)	V	78.1	74.8	73.8	62.5	46.9	31.2	15.6
Diaphragm :	M	0.0	4.6	5.9	15.4	14.1	12.9	11.6
(Max)	V	16.5	13.0	12.0	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	17.0	21.9	73.8	131.2	172.3	196.9
DC(Max)	V	6.2	5.9	5.8	4.9	3.7	2.5	1.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	298.9	384.8	1289.5	2276.0	2959.6	3364.8
LL + :	V	131.4	127.6	126.4	113.3	95.3	77.2	51.9
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	131.4	127.6	126.5	113.8	97.0	81.0	66.0
Total :	M+	0.0	298.9	384.8	1289.5	2276.0	2959.6	3364.8
Total :	V	323.8	309.1	304.6	254.1	200.9	147.7	87.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	323.8	309.1	304.7	254.5	202.6	151.5	101.2
Total :	M	0.0	784.2	1009.2	3361.4	5871.8	7575.7	8501.1

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	79.55	92.81	106.06	119.32	128.93	129.77	132.58
(Max)	M	2418.2	2115.9	1612.1	906.8	269.5	209.2
DL-Prec. :	V	15.2	30.4	45.6	60.8	71.8	72.8
DC(Max)	M	495.7	433.7	330.5	185.9	55.2	42.9
DL-Prec. :	V	3.1	6.2	9.3	12.5	14.7	14.9
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2485.0	2174.4	1656.7	931.9	276.9	215.0
Haunch (Max)	V	15.6	31.2	46.9	62.5	73.8	74.8
Diaphragm :	M	9.1	7.9	6.6	5.4	1.9	1.5
(Max)	V	0.1	0.1	0.1	0.1	12.1	13.2
DL-Comp. :	M	196.9	172.3	131.2	73.8	21.9	17.0
DC(Max)	V	1.2	2.5	3.7	4.9	5.8	5.9
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3364.8	2959.6	2276.0	1289.5	384.8	298.9
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0



Program: LEAPb CONSPAN® V8i (SELECTseries 5)
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LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	51.9	77.2	95.3	113.3	126.4	127.6	131.4
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	66.0	81.0	97.0	113.8	126.5	131.4
DL-Prec. :	V	8993.6	2666.6	2127.2	1247.6	379.8	295.4
DC(Max)	M	8969.7	7863.8	6013.2	3393.3	1010.2	784.5
DL-Comp. :	V	87.2	147.7	200.9	254.1	304.7	323.9
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	101.2	151.5	202.6	254.5	304.9	309.2
Haunch (Max)	V	8498.6	7570.8	5864.4	3351.5	1005.2	781.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	8498.6	7570.8	5864.4	3351.5	1005.2	781.0
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	8498.6	7570.8	5864.4	3351.5	1005.2	781.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	76.0	76.0
Deck+Haunch	78.1	78.1
Diaphragm	16.5	16.7
DL-Prec.(DC)	15.6	15.6
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	55.7	55.7
DL-Comp.(DW)	0.0	0.0
Live	109.4	109.4
Pedestrian	0.0	0.0


Upward reactions are positive.

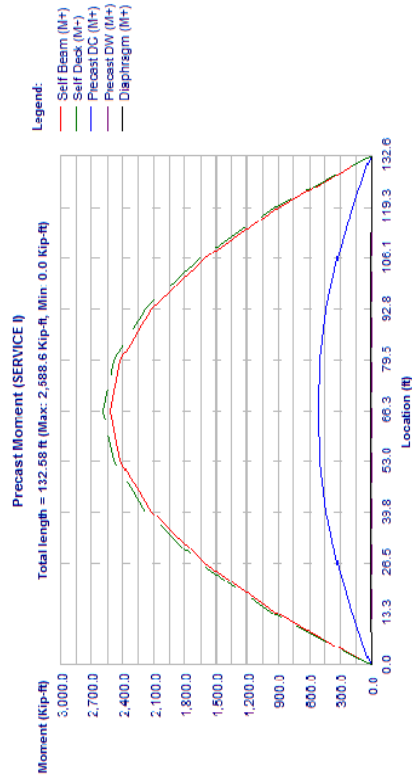
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

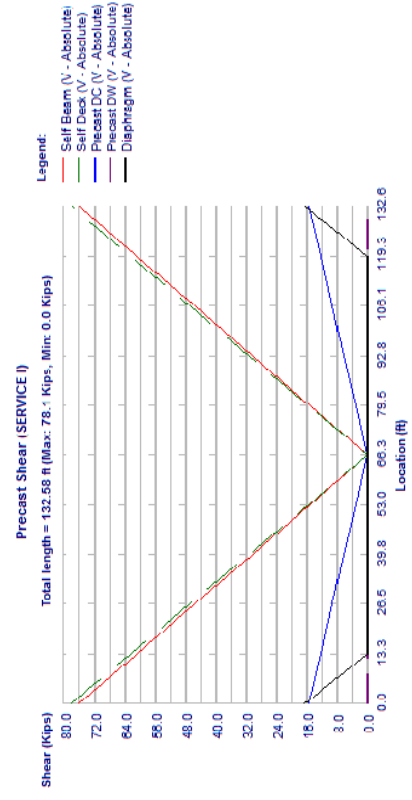
Composite and Pedestrian load types are per total bridge width.

		Sheet # 11	
Job #		Job #	
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Precast Moment, Span 1, Beam 3, SERVICE I

		Sheet # 12	
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Precast Shear, Span 1, Beam 3, SERVICE I

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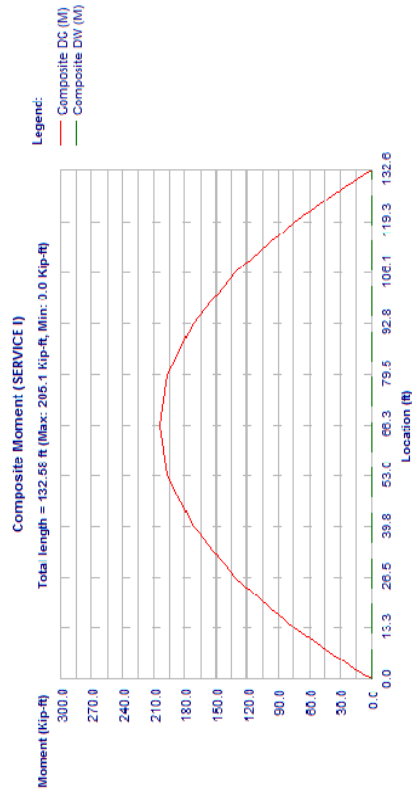
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Composite Moment, Span 1, Beam 3, SERVICE I

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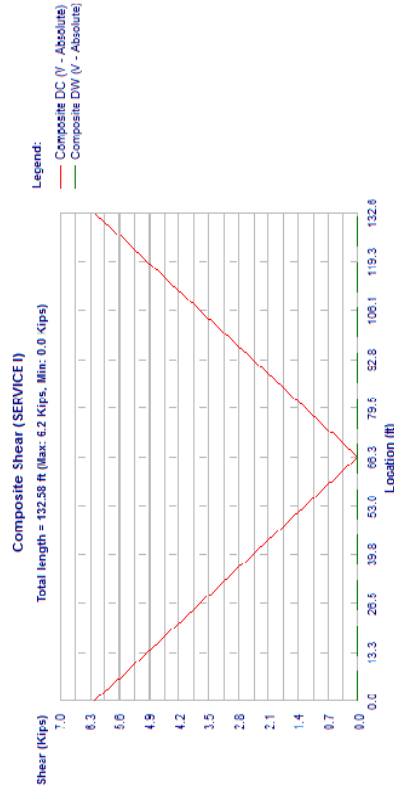
Program: LEAP® CONSPAN® V8i (SELECTseries 5)
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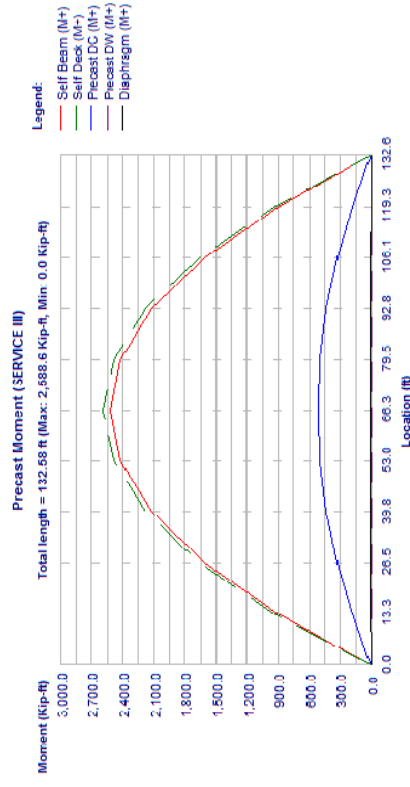
Composite Shear, Span 1, Beam 3, SERVICE I



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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
V	105.1	102.0	101.1	90.7	76.2	61.8	41.5	27.1
LL + I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	105.1	102.1	101.2	91.0	77.6	64.8	52.8	41.4
LL + I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	236.3	303.8	998.1	1701.8	2133.3	2314.9	2269.1
M+	0.0	727.9	937.3	3145.4	5565.5	7276.8	8299.2	8622.8
V	297.5	283.5	279.3	231.4	181.8	132.2	76.8	27.2
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	297.5	283.5	279.4	231.8	183.2	135.3	88.0	41.5
LL + I	0.0	725.1	933.2	3111.9	5446.4	7042.4	7922.3	8108.4
M	0.0	725.1	933.2	3111.9	5446.4	7042.4	7922.3	8108.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	79.55	92.81	106.06	119.32	128.93	129.77	132.58
Self wt. :	2418.2	2115.9	1612.1	906.8	269.5	209.2	0.0
(Max)	152	30.4	45.6	60.8	71.8	72.8	76.0
DL-Prec. :	495.7	433.7	330.5	185.9	55.2	42.9	0.0
DC(Max)	3.1	6.2	9.3	12.5	14.7	14.9	15.6
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	2485.0	2174.4	1656.7	931.9	276.9	215.0	0.0
Haunch (Max)	15.6	31.2	46.9	62.5	73.8	74.8	78.1
Diaphragm :	9.1	7.9	6.6	5.4	1.9	1.5	0.0
(Max)	0.1	0.1	0.1	0.1	12.1	13.2	16.7
DL-Comp :	196.9	172.3	131.2	73.8	21.9	17.0	0.0
DC(Max)	1.2	2.5	3.7	4.9	5.8	5.9	6.2
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	2691.8	2367.7	1820.8	1031.6	307.8	239.1	-0.0
LL + 1 :	41.5	61.8	76.2	90.7	101.1	102.0	105.1
LL + 1 :	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	52.8	64.8	77.6	91.0	101.2	102.1	105.1
M	2314.9	2133.3	1701.8	998.1	303.8	236.3	-0.0
Total :	8296.7	7271.9	5558.0	3135.4	933.3	724.7	0.0
M	76.8	132.2	181.8	231.4	279.5	283.6	297.7
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	88.0	135.3	183.2	231.8	279.6	283.7	297.7
Total :	7919.8	7037.5	5438.9	3101.9	929.3	722.0	0.0
M							0.0



Precast Moment. Span 1. Beam 3. SERVICE III

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Sheet # 19

Job #

Precast Shear (SERVICE III)

Total length = 132.58 ft (Max: 78.1 Kips, Min: 0.0 Kips)

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Location (ft)	Self Beam (V - Absolute) (Kips)	Self Deck (V - Absolute) (Kips)	Precast DC (V - Absolute) (Kips)	Precast DW (V - Absolute) (Kips)
0.0	0.0	0.0	0.0	0.0
13.3	11.5	11.5	10.5	10.5
26.5	23.0	23.0	21.0	21.0
39.8	34.5	34.5	31.5	31.5
53.0	46.0	46.0	42.0	42.0
66.3	78.1	78.1	72.0	72.0
79.5	66.6	66.6	60.5	60.5
92.8	55.1	55.1	49.0	49.0
106.1	43.6	43.6	37.5	37.5
119.3	32.1	32.1	26.0	26.0
132.6	0.0	0.0	0.0	0.0

Precast Shear, Span 1, Beam 3, SERVICE III

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:44 A.M.

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Sheet # 20

Job #

Composite Moment (SERVICE III)

Total length = 132.58 ft (Max: 205.1 kip-ft, Min: 0.0 kip-ft)


Legend:

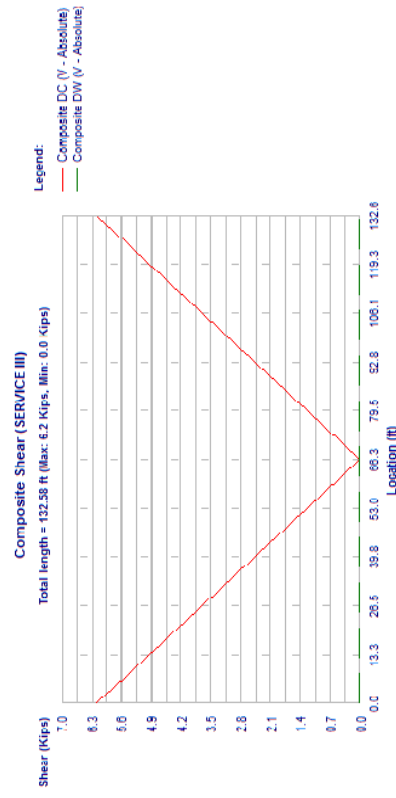
- Composite DC (M)
- Composite DV (M)
- Composite DW (M)

Location (ft)	Composite DC (M) (kip-ft)	Composite DV (M) (kip-ft)	Composite DW (M) (kip-ft)
0.0	0.0	0.0	0.0
13.3	15.0	15.0	14.0
26.5	60.0	60.0	56.0
39.8	135.0	135.0	126.0
53.0	195.0	195.0	186.0
66.3	205.1	205.1	196.0
79.5	195.0	195.0	186.0
92.8	135.0	135.0	126.0
106.1	60.0	60.0	56.0
119.3	15.0	15.0	14.0
132.6	0.0	0.0	0.0


Composite Moment, Span 1, Beam 3, SERVICE III

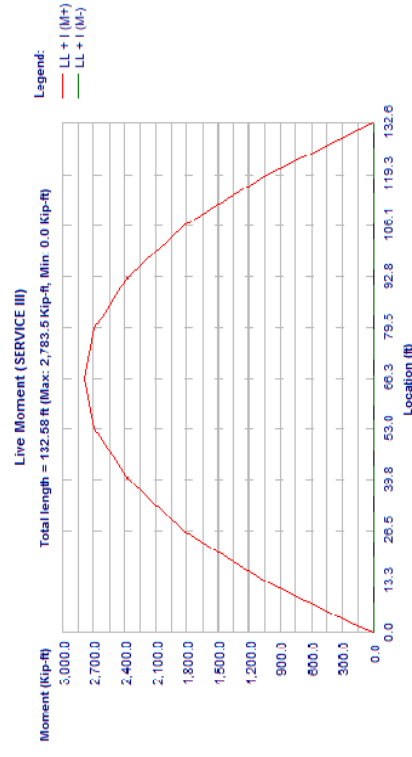
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:44 A.M.

		Sheet #	21
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span20_ModifiedSpacing.csl		Designed	KSM
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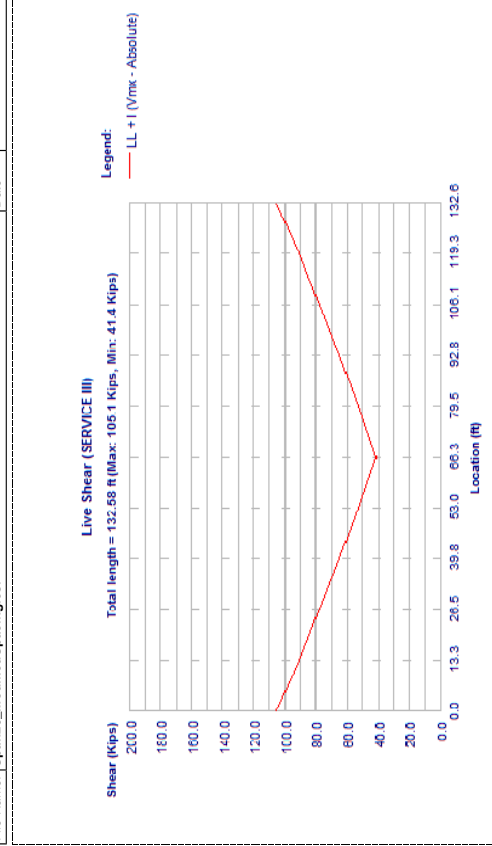
Composite Shear, Span 1, Beam 3, SERVICE III

		Sheet #	22
		Job #	
Program: LEAP@ CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span20_ModifiedSpacing.csl		Designed	KSM
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Live Moment, Span 1, Beam 3, SERVICE III


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Live Shear. Span 1. Beam 3. SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 3, STRENGTH I
Shears: kips, Moments: kft

	ft	Bearing	Trans	H ₂	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	M	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt.,	M	0.00	261.5	336.8	1133.5	2015.2	2644.9	3022.8	3148.7
(Max)	M	95.0	91.0	89.8	76.0	57.0	38.0	19.0	0.0
Self wt.,	M	0.00	188.3	242.5	816.1	1450.9	1904.3	2176.4	2267.1
(Min)	M	68.4	65.5	64.6	54.7	41.0	27.4	13.7	0.0
DL-Pre-c.	M	0.00	53.6	69.0	232.4	413.1	542.2	619.6	645.4
DC(Max)	V	19.5	18.6	18.4	15.6	11.7	7.8	3.9	0.0
DL-Pre-c.	M	0.00	38.6	49.7	167.3	297.4	390.4	446.1	464.7
DC(Min)	V	14.0	13.4	13.2	11.2	8.4	5.6	2.8	0.0
DL-Pre-c.	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Pre-c.	M	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck +	M	0.00	268.7	346.1	1164.8	2070.8	2718.0	3106.3	3235.7
Heunch (Max)	V	97.6	93.5	92.3	78.1	58.6	39.0	19.5	0.0
Deck +	M	0.00	193.5	242.7	838.7	1491.0	1956.9	2236.5	2329.7

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	Beating	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Haunch (Min)	V	70.3	67.3	66.4	56.2	42.2	28.1	14.1
Diaphragm :	M	0.0	5.8	7.4	19.2	17.6	16.1	14.5
(Max)	V	20.6	16.3	15.0	0.1	0.1	0.1	0.1
Diaphragm :	M	0.0	4.2	5.3	13.8	12.7	11.6	10.5
(Min)	V	14.9	11.7	10.8	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	21.3	27.4	92.3	164.1	215.3	286.3
DC(Max)	V	7.7	7.4	7.3	6.2	4.6	3.1	1.5
DL-Comp :	M	0.0	15.3	19.7	66.4	118.1	155.0	177.2
DC(Min)	V	5.6	5.3	5.3	4.5	3.3	2.2	1.1
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	229.9	223.2	221.2	198.3	166.7	135.1	90.8
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	229.9	223.2	221.2	198.3	166.7	135.1	90.8
LL + I :	Mmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	0.0	517.0	664.6	2183.4	3722.6	4666.5	5063.9
Total :	M-	0.0	1134.0	1460.2	4898.9	8663.9	11315.7	12897.6
Total :	V	470.4	450.0	444.0	374.3	298.8	232.2	134.9
Total :	Mmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	0.0	1128.0	1451.4	4825.6	8403.4	10803.0	12073.1

Location, Self wt. :	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. (Max)	M	3022.8	2644.9	2056.2	1133.5	336.8	261.5	132.58
Self wt. (Min)	V	19.0	384.0	571.0	76.0	89.8	91.0	95.0
DL-Prec. :	M	619.6	542.2	413.1	232.4	69.0	53.6	68.4
DC(Max)	V	3.9	7.8	11.7	15.6	18.4	18.6	19.5
DL-Prec. :	M	446.1	390.4	297.4	167.3	49.7	38.6	0.0
DC(Min)	V	2.8	5.6	8.4	11.2	13.2	13.4	14.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3106.3	2718.0	2070.8	1164.8	346.1	268.7	0.0
Haunch (Max)	V	19.5	39.0	58.6	78.1	92.3	93.5	97.6
Deck + :	M	2236.5	1956.9	1491.0	838.7	249.2	193.5	0.0
Haunch (Min)	V	14.1	28.1	42.2	56.2	66.4	67.3	70.3
Diaphragm :	M	11.4	9.9	8.3	6.7	2.4	1.9	0.0
(Max)	V	0.1	0.1	0.1	0.1	15.2	16.5	20.9
Diaphragm :	M	8.2	7.1	6.0	4.9	1.7	1.3	0.0
(Min)	V	0.1	0.1	0.1	0.1	10.9	11.9	15.0
DL-Comp :	M	246.1	215.3	164.1	92.2	27.4	21.3	0.0
DC(Max)	V	1.5	3.1	4.6	6.2	7.3	7.4	7.7
DL-Comp :	M	177.2	155.0	118.1	66.4	19.7	15.3	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :							
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5888.4	5179.3	3983.1	2256.6	673.4	523.0
LL + I :	M-	90.8	135.1	166.7	198.3	221.2	223.2
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	115.4	141.8	169.7	199.1	221.4	223.4
LL + I :	M	5063.9	4666.5	3722.6	2183.4	664.6	517.0
Total :	M+	12894.5	11309.5	8654.5	4886.4	1455.2	1130.0
Total :	V	134.9	223.2	298.8	374.3	444.1	450.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	159.5	229.9	301.7	375.1	444.3	450.4
Total :	M	12070.0	10796.7	8394.1	4813.1	1446.4	1124.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	97.6	97.6
Diaphragm	20.6	20.9
DL-Prec.(DC)	19.5	19.5
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	69.6	69.6
DL-Comp.(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

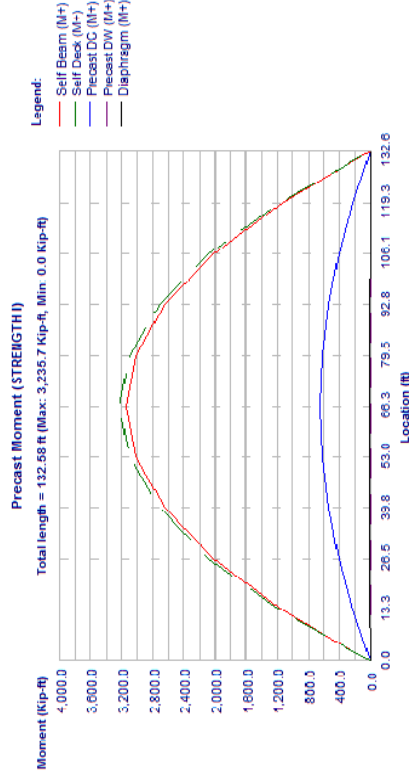
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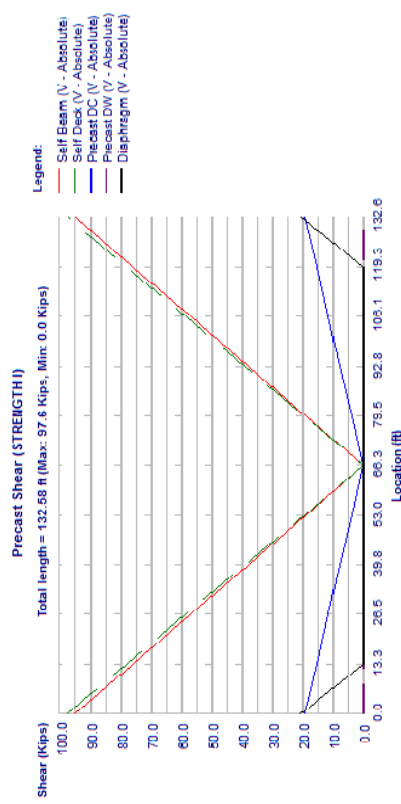
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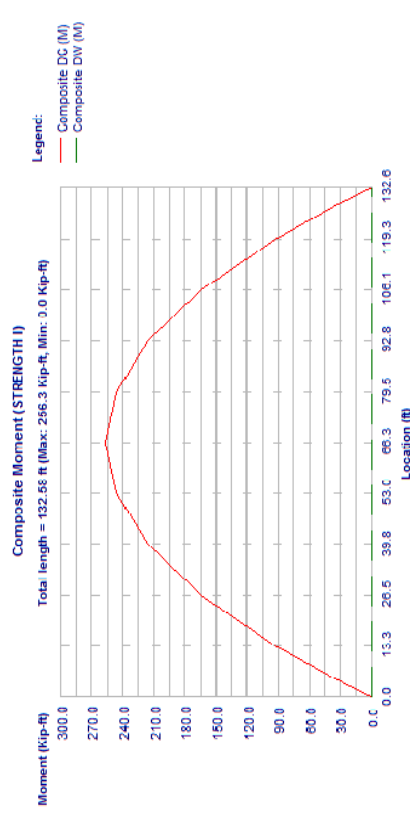
Precast Moment, Span 1, Beam 3, STRENGTH I

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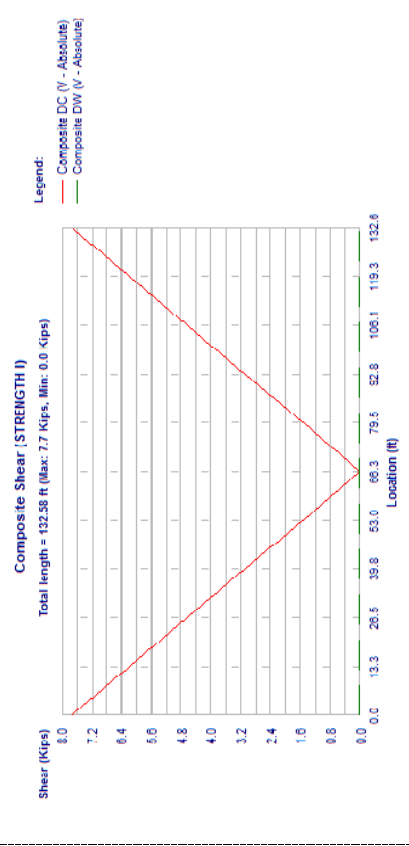
Precast Shear, Span 1, Beam 3, STRENGTH I

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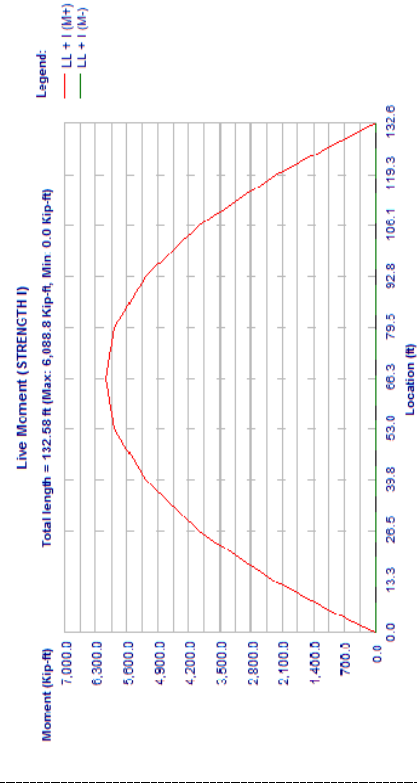
Composite Moment, Span 1, Beam 3, STRENGTH I

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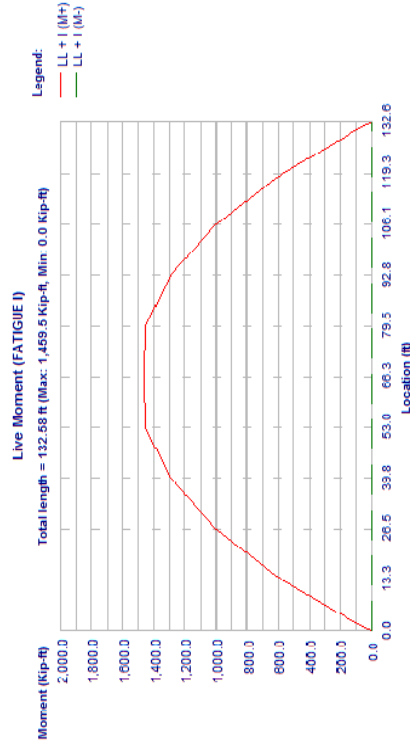
Composite Shear, Span 1, Beam 3, STRENGTH I

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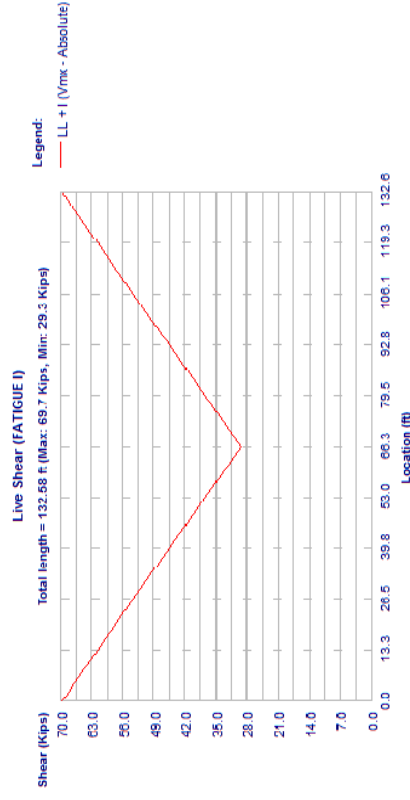
Live Moment, Span 1, Beam 3, STRENGTH I

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Live Moment, Span 1, Beam 3, FATIGUE I

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Live Shear, Span 1, Beam 3, FATIGUE I



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Job #

Span1: Beam:4

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.80*	ksi
Max comp	4499.3	ksi
Outer	4.08	ksi
15.00 %		
Max tens	-0.25	ksi
Max tens, wireinf	-0.99	ksi
Center	70.00 %	
Max tens	-0.25	ksi
Max tens, wireinf	-0.63	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	10.00 ksi	5.50 ksi
Max comp	5456.24 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	6.00 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	4.50 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK
	4.00 ksi	- ksi

SERVICE III (Tension):


Max tens	PRECAST	DECK
	-0.60 ksi	-0.45 ksi

Span1: Beam:4

PRESTRESSED STEEL:

43 strands, 9/16-270K-LL, Low relaxation strands

Depressed at 0.40L (53.03 ft from member end)



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Sheet # 6

Job #

END PATTERN (Vcg = 7.70 in):

10 @ 3,000 in	12 @ 5,000 in	4 @ 7,000 in	1 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Vcg = 4.72 in):


(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	4 @ 7,000 in	1 @ 9,000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	8.256 in ²
Trans. Len.bonded	2.812 ft
Trans. Len.debonded	2.812 ft
Dev. Len. bonded	10.747 ft
Dev. Len. debonded	13.434 ft
Holddown Force	7.820 kips
Tensile Strength(fpu)	270.0 ksi
Initial Prestress = 0.75fpu	202.5 ksi
Initial Pull	1671.8 kips
Beam Shing (PU/AE)	0.516 in



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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: kips, Moments: kft

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.0	2.81	3.65	13.26	26.52	39.77	53.03	66.29	
(Max)	M	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2	2519.0
DL-Prec. :	V	76.0	72.8	71.8	60.8	45.6	30.4	15.2	0.0
DC(Max)	M	0.0	42.9	55.2	185.9	330.5	433.7	495.7	516.3
DL-Prec. :	V	15.6	14.9	14.7	12.5	9.3	6.2	3.1	0.0
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	215.0	276.9	931.9	1656.7	2174.4	2485.0	2588.6
Haunch (Max)	V	78.1	74.8	73.8	62.5	46.9	31.2	15.6	0.0
Diaphragm :	M	0.0	4.6	5.9	15.4	14.1	12.9	11.6	10.4
(Max)	V	16.5	13.0	12.0	0.1	0.1	0.1	0.1	0.1
DL-Comp :	M	0.0	17.0	21.9	73.8	131.2	172.3	196.9	205.1
DC(Max)	V	6.2	5.9	5.8	4.9	3.7	2.5	1.2	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	298.9	384.8	1289.5	2276.0	2959.6	3364.8	3479.3
LL + :	V	131.4	127.6	126.4	113.3	95.3	77.2	51.9	33.9
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	131.4	127.6	126.5	113.8	97.0	81.0	66.0	51.7
Total :	M	0.0	295.4	379.8	1247.6	2127.2	2666.6	2893.6	2836.4
Total :	V	323.8	309.0	304.6	254.1	200.9	147.7	87.2	33.9
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	323.8	309.1	304.7	254.5	202.6	151.5	101.2	51.8
Total :	M	0.0	784.2	1009.2	3361.4	5871.8	7575.7	8501.1	8675.7

Location,	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	0.0	79.55	92.81	106.06	119.32	128.93	129.77	132.58
(Max)	M	2418.2	2115.9	1612.1	906.8	269.5	209.2	0.0
DL-Prec. :	V	15.2	30.4	45.6	60.8	71.8	72.8	76.0
DC(Max)	M	495.7	433.7	330.5	185.9	55.2	42.9	0.0
DL-Prec. :	V	3.1	6.2	9.3	12.5	14.7	14.9	15.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2485.0	2174.4	1656.7	931.9	276.9	215.0	0.0
Haunch (Max)	V	15.6	31.2	46.9	62.5	73.8	74.8	78.1
Diaphragm :	M	9.1	7.9	6.6	5.4	1.9	1.5	0.0
(Max)	V	0.1	0.1	0.1	0.1	12.1	13.2	16.7
DL-Comp :	M	196.9	172.3	131.2	73.8	21.9	17.0	0.0
DC(Max)	V	1.2	2.5	3.7	4.9	5.8	5.9	6.2
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3364.8	2959.6	2276.0	1289.5	384.8	298.9	-0.0



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LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
V	51.9	77.2	95.3	113.3	126.4	127.6	131.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	66.0	81.0	97.0	113.8	126.5	127.6	131.4
Total :	M	2893.6	2666.6	2127.2	1247.6	379.8	295.4
Total :	M+	8969.7	7863.8	6013.2	3393.3	1010.2	784.5
Total :	V	87.2	147.7	200.9	254.1	304.7	323.9
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	101.2	151.5	202.6	254.5	304.9	323.9
Total :	M	8498.6	7570.8	5864.4	3351.5	1005.2	781.0

REACTIONS (kips), SERVICE I

Load Type	Left Support	Right Support
Self Wt.	76.0	76.0
Deck+Haunch	78.1	78.1
Diaphragm	16.5	16.7
DL-Prec.(DC)	15.6	15.6
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	55.7	55.7
DL-Comp.(DW)	0.0	0.0
Live	109.4	109.4
Pedestrian	0.0	0.0


Upward reactions are positive.

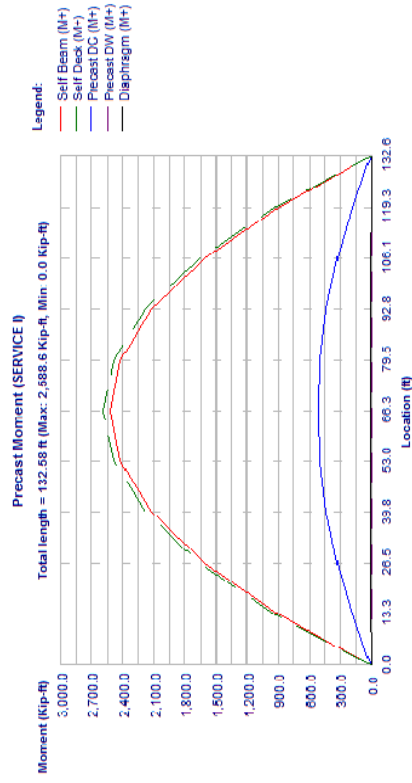
Live Load reactions are per lane with no distribution factor and no impact.

Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).


Non-composite load types are per beam.

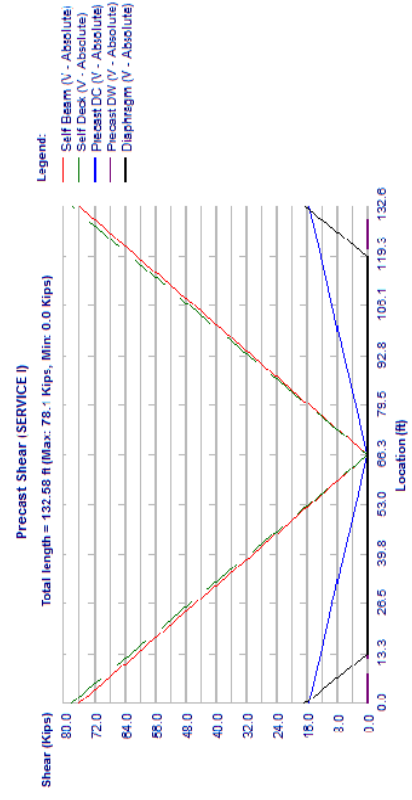
Composite and Pedestrian load types are per total bridge width.

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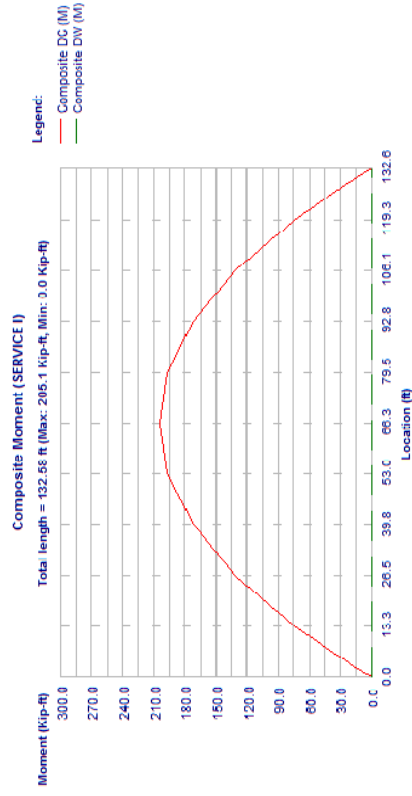
Precast Moment, Span 1, Beam 4, SERVICE I

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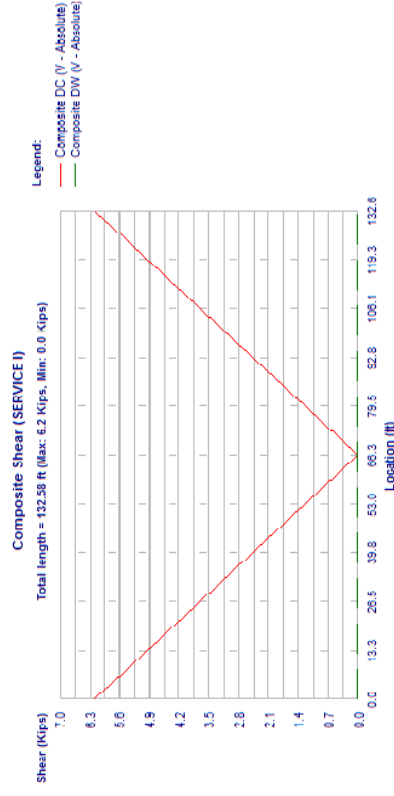
Precast Shear, Span 1, Beam 4, SERVICE I

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Composite Moment, Span 1, Beam 4, SERVICE I

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Composite Shear, Span 1, Beam 4, SERVICE I

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Live Moment (SERVICE I)

Total length = 132.58 ft (Max: 3,479.3 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Live Moment, Span 1, Beam 4, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:52 A.M.

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Live Shear (SERVICE I)

Total length = 132.58 ft (Max: 131.4 Kips, Min: 51.7 Kips)

Legend:
— LL + I (V/mk - Absolute)


Live Shear, Span 1, Beam 4, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt. :	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2	2519.0
(Max)	76.0	72.8	71.8	60.8	45.6	30.4	15.2	0.0
DL-Prec. :	0.0	42.9	55.2	185.9	330.5	433.7	495.7	516.3
DC(Max)	15.6	14.9	14.7	12.5	9.3	6.2	3.1	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	215.0	276.9	931.9	1656.7	2174.4	2485.0	2588.6
Haunch (Max)	78.1	74.8	73.8	62.5	46.9	31.2	15.6	0.0
Diaphragm :	0.0	4.6	5.9	15.4	14.1	12.9	11.6	10.4
(Max)	16.5	13.0	12.0	0.1	0.1	0.1	0.1	0.1
DL-Comp :	0.0	17.0	21.9	73.8	131.2	172.3	196.9	205.1
DC(Max)	6.2	5.9	5.8	4.9	3.7	2.5	1.2	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	239.1	307.8	1031.6	1820.8	2367.7	2691.8	2783.5

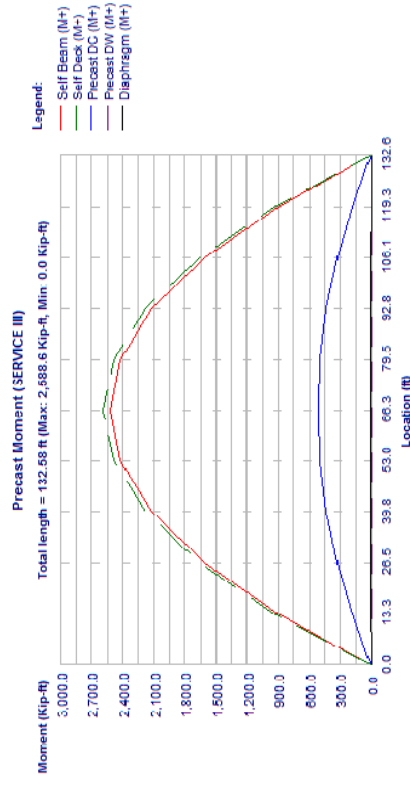
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:52 A.M.




	Bentley		Sheet # 17
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)			Job #
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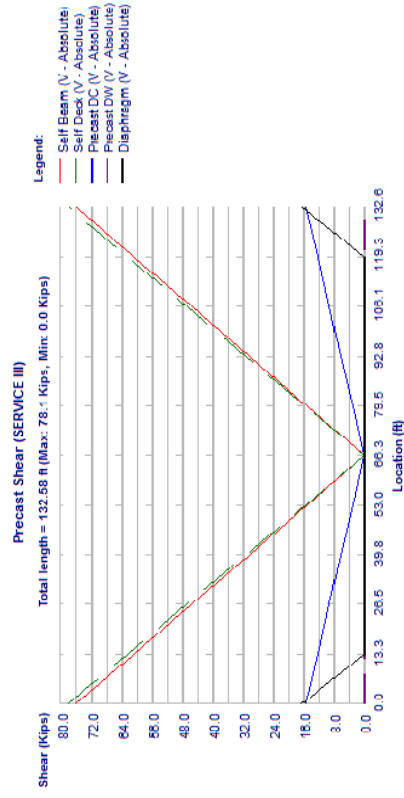
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
V	105.1	102.0	101.1	90.7	76.2	61.8	41.5	27.1
LL + I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	105.1	102.1	101.2	91.0	77.6	64.8	52.8	41.4
LL + I	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	0.0	236.3	303.8	998.1	1701.8	2133.3	2314.9	2269.1
M+	0.0	727.9	937.3	3145.4	5565.5	7276.8	8299.2	8622.8
V	297.5	283.5	279.3	231.4	181.8	132.2	76.8	27.2
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	297.5	283.5	279.4	231.8	183.2	135.3	88.0	41.5
LL + I	0.0	725.1	933.2	3111.9	5446.4	7042.4	7922.3	8108.4
M	0.0	725.1	933.2	3111.9	5446.4	7042.4	7922.3	8108.4

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	79.55	92.81	106.06	119.32	128.93	129.77	132.58
Self wt. :	2418.2	2115.9	1612.1	906.8	269.5	209.2	0.0
(Max)	152	30.4	45.6	60.8	71.8	72.8	76.0
DL-Prec. :	495.7	433.7	330.5	185.9	55.2	42.9	0.0
DC(Max)	3.1	6.2	9.3	12.5	14.7	14.9	15.6
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	2485.0	2174.4	1656.7	931.9	276.9	215.0	0.0
Haunch (Max)	15.6	31.2	46.9	62.5	73.8	74.8	78.1
Diaphragm :	9.1	7.9	6.6	5.4	1.9	1.5	0.0
(Max)	0.1	0.1	0.1	0.1	12.1	13.2	16.7
DL-Comp :	196.9	172.3	131.2	73.8	21.9	17.0	0.0
DC(Max)	1.2	2.5	3.7	4.9	5.8	5.9	6.2
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	2691.8	2367.7	1820.8	1031.6	307.8	239.1	-0.0
LL + 1 :	41.5	61.8	76.2	90.7	101.1	102.0	105.1
LL + 1 :	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + 1 :	52.8	64.8	77.6	91.0	101.2	102.1	105.1
M	2314.9	2133.3	1701.8	998.1	303.8	236.3	-0.0
Total :	8296.7	7271.9	5558.0	3135.4	933.3	724.7	0.0
M	76.8	132.2	181.8	231.4	279.5	283.6	297.7
Total :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M	88.0	135.3	183.2	231.8	279.6	283.7	297.7
Total :	7919.8	7037.5	5438.9	3101.9	929.3	722.0	0.0
M							




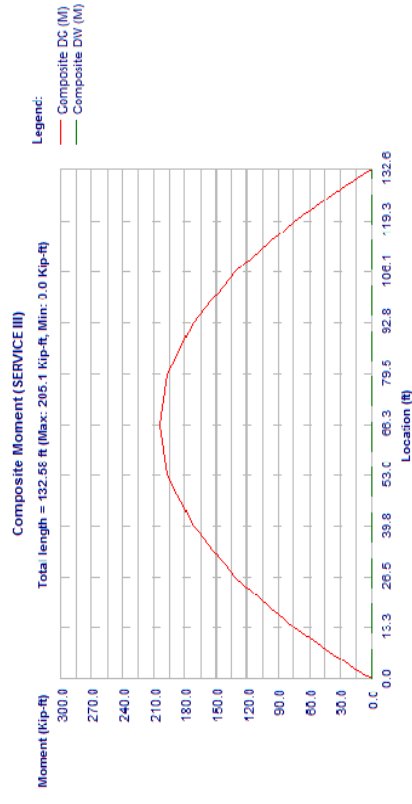
Precast Moment. Span 1. Beam 4. SERVICE III

		Sheet # 19	
		Job #	
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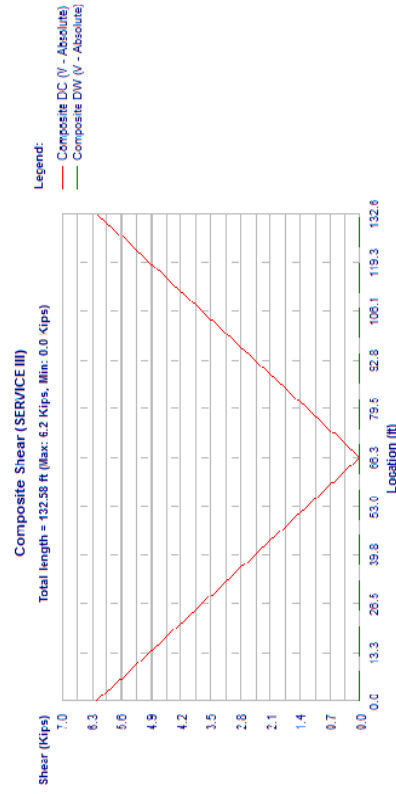
Precast Shear, Span 1, Beam 4, SERVICE III

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		Job #	
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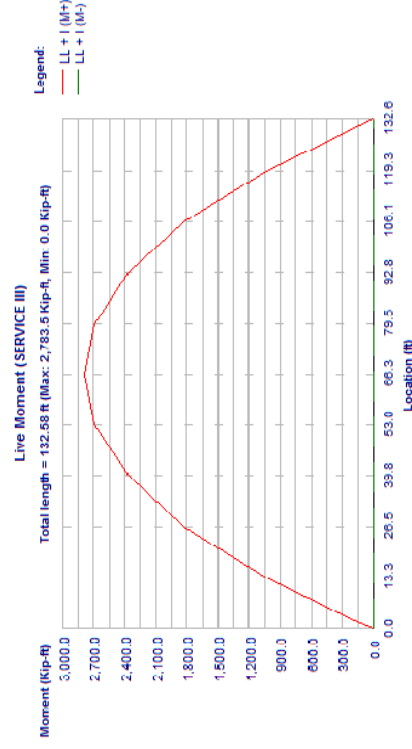
Composite Moment, Span 1, Beam 4, SERVICE III

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		Job #	
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Composite Shear, Span 1, Beam 4, SERVICE III

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		Job #	
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Live Moment, Span 1, Beam 4, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	5888.4	5179.3	3983.1	2256.6	673.4	523.0
LL + I :	M-	90.8	135.1	166.7	198.3	221.2	223.2
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	115.4	141.8	169.7	199.1	221.4	223.4
LL + I :	M	5063.9	4666.5	3722.6	2183.4	664.6	517.0
Total :	M+	12894.5	11309.5	8654.5	4886.4	1455.2	1130.0
Total :	V	134.9	223.2	298.8	374.3	444.1	450.2
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	159.5	229.9	301.7	375.1	444.3	450.4
Total :	M	12070.0	10796.7	8394.1	4813.1	1446.4	1124.0

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	97.6	97.6
Diaphragm	20.6	20.9
DL-Prec.(DC)	19.5	19.5
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	69.6	69.6
DL-Comp.(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:52 A.M.

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Precast Moment (STRENGTH I)


Total length = 132.58 ft (Max: 3,235.7 Kip-ft, Min: 0.0 Kip-ft)

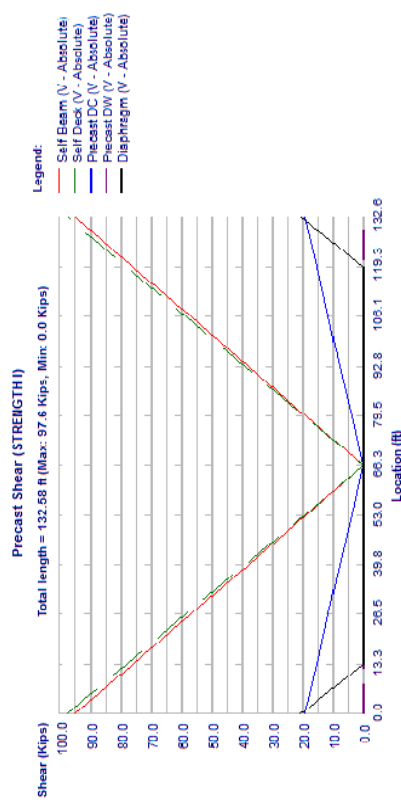
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 4, STRENGTH I

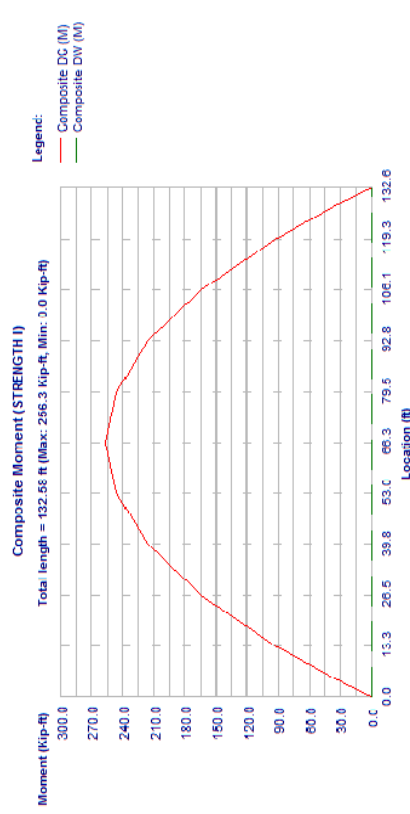
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:52 A.M.

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		Job #	
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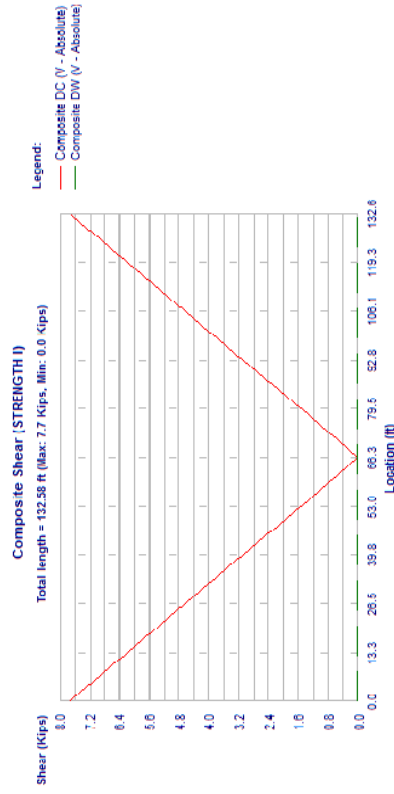
Precast Shear, Span 1, Beam 4, STRENGTH I

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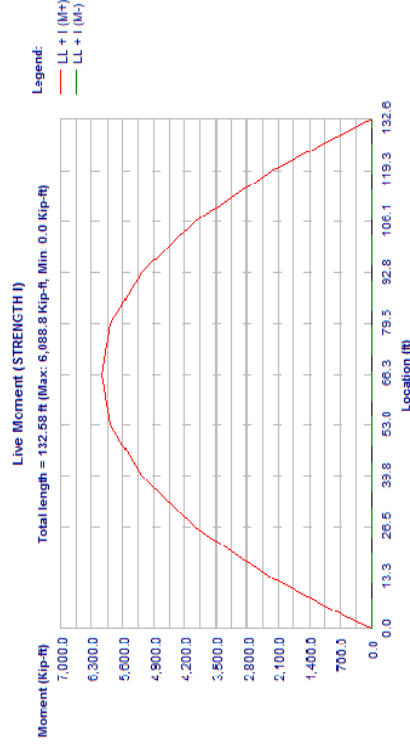
Composite Moment, Span 1, Beam 4, STRENGTH I

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Composite Shear, Span 1, Beam 4, STRENGTH I

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Live Moment, Span 1, Beam 4, STRENGTH I

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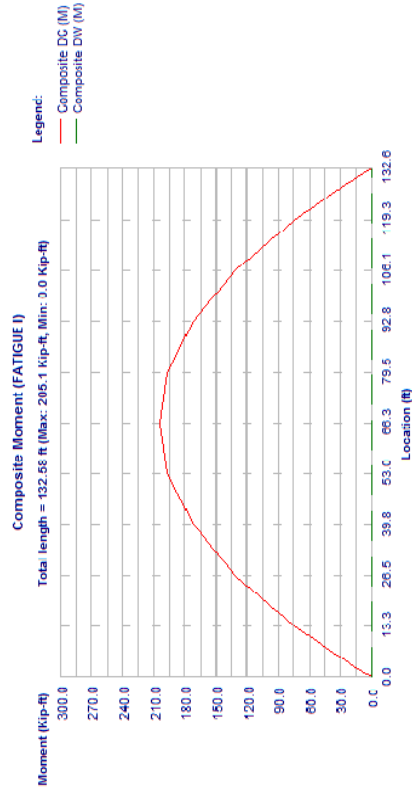
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Composite Moment, Span 1, Beam 4, FATIGUE I

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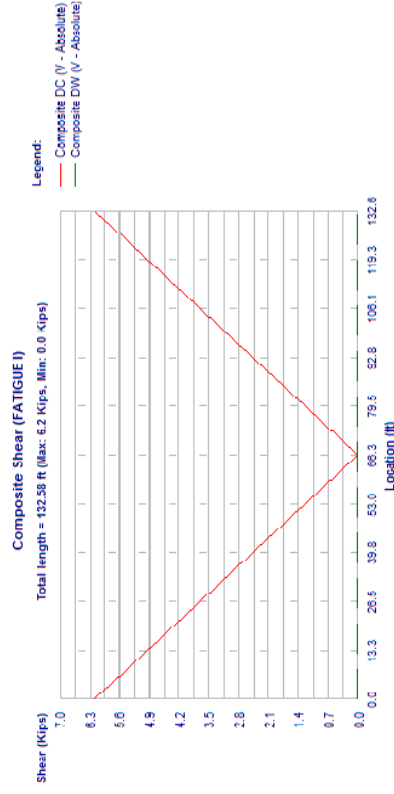
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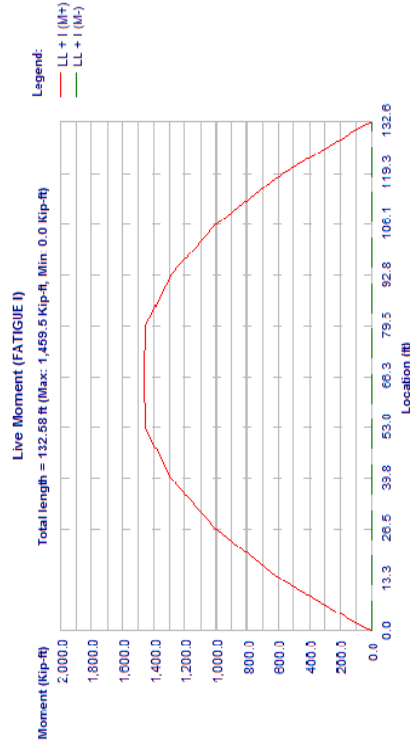
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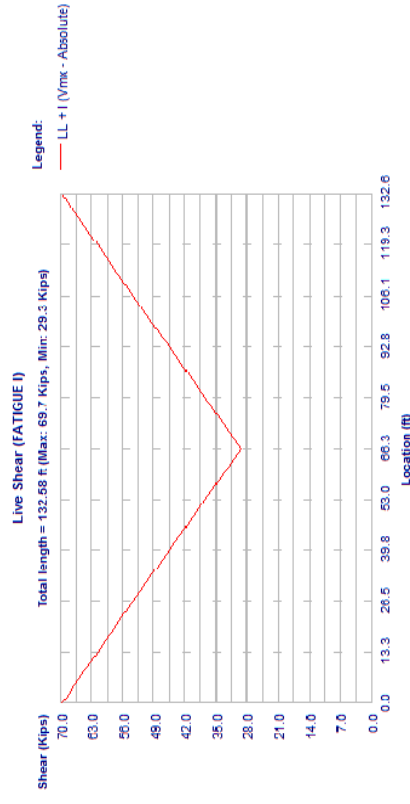
Composite Shear, Span 1, Beam 4, FATIGUE I

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Live Moment, Span 1, Beam 4, FATIGUE I

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Live Shear, Span 1, Beam 4, FATIGUE I



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Comp DC	0.111	(Calculated)
Comp DW	0.111	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	
Flexure Prestressed	0.75
Compression controlled sections	1.00
Tension controlled sections	
Shear	0.90

SECTION PROPERTIES:

	PRECAST		COMPOSITE	
Area	1100.6	in ²	1983.9	in ²
Total Height	78.00	in	87.50	in
Mom. of Inertia (xxx)	904567	in ⁴	2059532	in ⁴
Ht. of c.g.	34.60	in	56.16	in
Density	150.00	pcf	150.00	pcf
Self-weight	1146.5	plf	2451.9	plf
Mom. of Inertia (yyy)	82367.0	in ⁴		
Poisson's Ratio	0.2			
Thermal Coeff.	0.000060/°F			

(#) Of Total Section using $E_t/E_c = 0.7048$
Use transformed strand and rebar: Strand Only

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast:(At Release, using	E _c =	4499.3ksi)	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Area,	In ²	1100.6	1148.7	1148.7	1148.7	1148.7	1148.7	1148.7	1148.7
Yb,	In	34.60	33.46	33.46	33.44	33.41	33.38	33.36	33.36
M/I(x),	In ⁴	904567	938453	938560	939807	941565	943365	945208	945208
Composite:(At Final, using	E _c =	5456.2ksi)	2022.0	2022.0	2022.0	2022.0	2022.0	2022.0	2022.0
Area,	In ²	1983.9	2022.0	2022.0	2022.0	2022.0	2022.0	2022.0	2022.0
Yb,	In	56.16	55.24	55.24	55.23	55.22	55.21	55.19	55.19
M/I(x),	In ⁴	2059532	2148092	2152578	2150055	2152578	2155135	2157727	2157727



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TOPPING DATA:

Deck Haunch:	Thickness	8.500 in	
	Thickness	1.000 in	
	Width	60.000 in	
Effective	width	140.375 in	(Art. 4.6.2.6.1)

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.134	0.000	0.134	132.580	SIP
DC	Line	0.125	0.000	0.125	132.580	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
18.62	1.00
18.62	132.33

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	132.580	ft
Release length	132.580	ft
Design length	132.580	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Live Moment	(2+ lanes loaded)	0.895	(Calculated)
Live Moment	(1 lane loaded)	0.587	(Calculated)
Live Shear	(2+ lanes loaded)	1.079	(Calculated)
Live Shear	(1 lane loaded)	0.829	(Calculated)

Pedestrian	0.111	(Calculated)
------------	-------	--------------



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Sheet # 5

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Span:1 Beam:5

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.80*	ksi
Max comp	4499.3	ksi
Outer	4.08	ksi
15.00 %		
Max tens	-0.25	ksi
Max tens, wireinf	-0.99	ksi
Center	70.00 %	
Max tens	-0.25	ksi
Max tens, wireinf	-0.63	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	10.00 ksi	5.50 ksi
Max comp	5456.24 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	6.00 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	4.50 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK
	4.00 ksi	- ksi

SERVICE III (Tension):

Max tens	PRECAST	DECK
	-0.60 ksi	-0.45 ksi

Span:1 Beam:5

PRESTRESSED STEEL:


47 strands, 9/16-270K-LL, Low relaxation strands

Depressed at 0.40L (53.03 ft from member end)

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 10:53 A.M.



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Sheet # 6

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END PATTERN (Vcg = 7.64 in):

10 @ 3,000 in	12 @ 5,000 in	8 @ 7,000 in	1 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Vcg = 4.91 in):

(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	8 @ 7,000 in	1 @ 9,000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	9.024 in ²
Trans. Len.bonded	2.812 ft
Trans. Len.debonded	2.812 ft
Dev. Len. bonded	10.796 ft
Dev. Len. debonded	13.495 ft
Holddown Force	7.820 kips
Tensile Strength(fpu)	270.0 ksi
Initial Prestress = 0.75fpu	202.5 ksi
Initial Pull	1827.4 kips
Beam Shring (P/AE)	0.562 in

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 10:53 A.M.

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Sheet # 7

Job #

ENDS

MIDSPAN

Number	Dist. from bottom(in)
7	11
5	13
3	15
1	17

Number	Dist. from bottom(in)
10	3
17	5
12	7
8	9
1	9

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.V.) (LB)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
6231.395	651	4056.638	37.530	151997.766	905.181

Span:1, Beam:5

REINFORCING STEEL:

Tension steel:	fy	Es	fs
60.0 ksi	29000 ksi	24.0 ksi	

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	12.00	0.0000	1.8012	No

Units: U.S. Units

Design Code: AASHTO LRFD

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Sheet # 8

Job #

legs

Size

fy (ksi)

Area (in2)

Spacing (in)

Start (ft)

End (ft)

Extends into Deck

2

US#5(M16)

60.0

0.62

18.00

1.8012

3.9272

No

2

US#5(M16)

60.0

0.62

24.00

3.9272

128.6529

No

2

US#5(M16)

60.0

0.62

18.00

128.6529

130.7789

No

2

US#5(M16)

60.0

0.62

12.00

130.7789

132.5801

No

LOSSES

Note: Values are calculated at Midspan

Str. area	Ycg	P_init	Ecc	Days to release	Rel. Humid (RH)	Es	Eci
9.0240 in2	4.91 in	1827.4 kips	29.69 in	0.75	75.0 %	28500.0 ksi	4499 ksi

AASHTO LOSSES

Elastic Shortening ** 12.94 ksi (Eq 5.9.5.2.3a-1), (fcgsp= 2.042 ksi)	
due to Precast Loads	due to Composite Loads
-6.50 ksi	-0.30 ksi
-6.50 ksi	-4.40 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Elastic Gains	Gains	Adjustment	Initial	Final
Steel relaxation	0.00	0.00	0.00	ksi	2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00	0.00	0.00	ksi	7.31 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00	0.00	0.00	ksi	10.11 ksi (Eq 5.9.5.3-1)
Sub-total	12.94		(6.39 %)	ksi	8.62 ksi (4.25 %)
Total Prestress Losses					21.55 ksi (10.64 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

Initial fpi = 202.5 ksi < 0.75 fpu, OK


Initial fpe = 180.9 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

Units: U.S. Units

Design Code: AASHTO LRFD

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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE I
Shears: kips, Moments: kft

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Self wt. :	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
(Max)	M	0.0	209.2	906.8	1612.1	2115.9	2418.2	2519.0
DL-Prec. :	V	76.0	72.8	71.8	60.8	45.6	30.4	15.2
DC(Max)	M	0.0	47.3	60.9	204.9	364.2	478.0	546.3
DL-Prec. :	V	17.2	16.4	16.2	13.7	10.3	6.9	3.4
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	238.2	306.8	1032.6	1835.7	2409.3	2753.5
Haunch (Max)	V	86.5	82.9	81.8	69.2	51.9	34.6	17.3
Diaphragm :	M	0.0	5.2	6.6	17.2	15.8	14.4	13.0
(Max)	V	18.5	14.6	13.5	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	17.0	21.9	73.8	131.2	172.3	196.9
DC(Max)	V	6.2	5.9	5.8	4.9	3.7	2.5	1.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	323.4	416.4	1395.4	2462.9	3202.5	3641.0
LL + :	V	141.9	137.7	136.5	122.4	102.9	83.4	56.1
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	141.9	137.8	136.6	122.8	104.7	87.5	71.2
Total :	M+	0.0	840.3	1082.1	1350.1	2301.8	2885.4	3131.2
Total :	V	346.3	330.4	325.6	271.2	214.5	157.9	93.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M	346.3	330.5	325.8	271.7	216.4	162.0	108.5
Total :	M	0.0	836.6	1076.6	1358.5	2460.9	3207.4	3641.0

Location,	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	79.55	92.81	106.06	119.32	128.93	129.77	132.58
(Max)	M	2418.2	2115.9	1612.1	906.8	269.5	209.2
DL-Prec. :	V	15.2	30.4	45.6	60.8	71.8	72.8
DC(Max)	M	546.3	478.0	364.2	204.9	60.9	47.3
DL-Prec. :	V	3.4	6.9	10.3	13.7	16.2	16.4
DC(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	2753.5	2409.3	1835.7	1032.6	306.8	238.2
Haunch (Max)	V	17.3	34.6	51.9	69.2	81.8	82.9
Diaphragm :	M	10.2	8.8	7.4	6.1	2.1	1.7
(Max)	V	0.1	0.1	0.1	0.1	13.6	14.8
DL-Comp. :	M	196.9	172.3	131.2	73.8	21.9	17.0
DC(Max)	V	1.2	2.5	3.7	4.9	5.8	5.9
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3641.0	3202.5	2462.9	1395.4	476.4	323.4
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0



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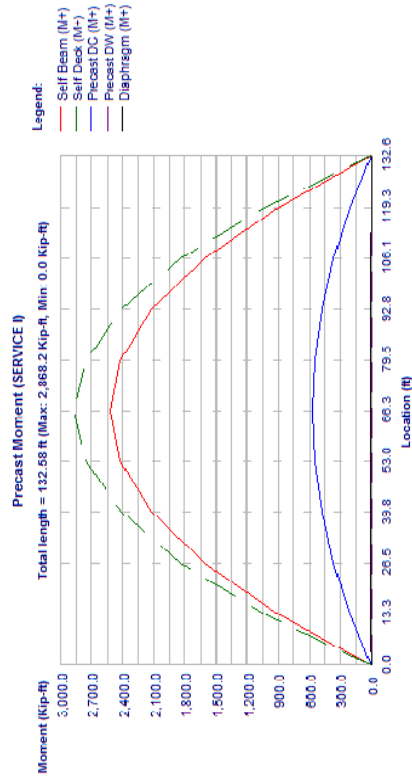
LL + I :	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. :	56.1	83.4	102.9	122.4	136.5	137.7	141.9
(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	M	71.2	87.5	104.7	122.8	136.6	141.9
DL-Prec. :	V	3131.2	2885.4	2301.8	1350.1	411.0	319.7
DC(Max)	M	956.1	8386.9	6413.6	3619.5	1077.6	836.8
DL-Comp. :	V	93.3	157.9	214.5	271.2	325.8	346.5
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	108.5	162.0	216.4	271.7	325.9	330.6
Haunch (Max)	V	9056.3	8069.8	6252.5	3574.2	1072.2	833.1
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M	0.0	0.0	0.0	0.0	0.0	0.0

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	76.0	76.0
Deck+Haunch	86.5	86.5
Diaphragm	18.5	18.7
DL-Prec.(DC)	17.2	17.2
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	55.7	55.7
DL-Comp.(DW)	0.0	0.0
Live	109.4	109.4
Pedestrian	0.0	0.0

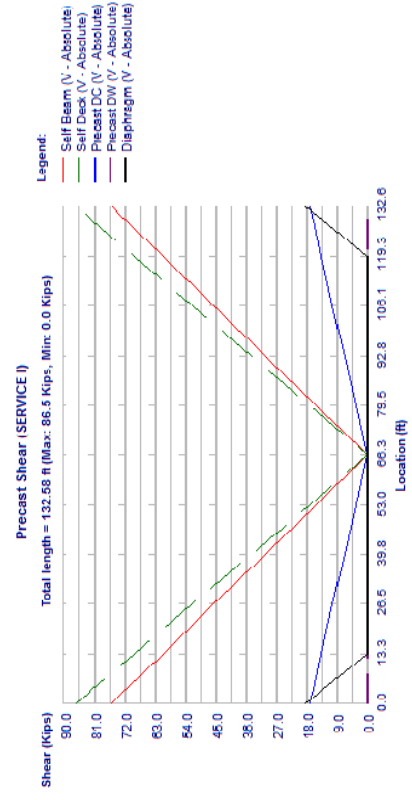
Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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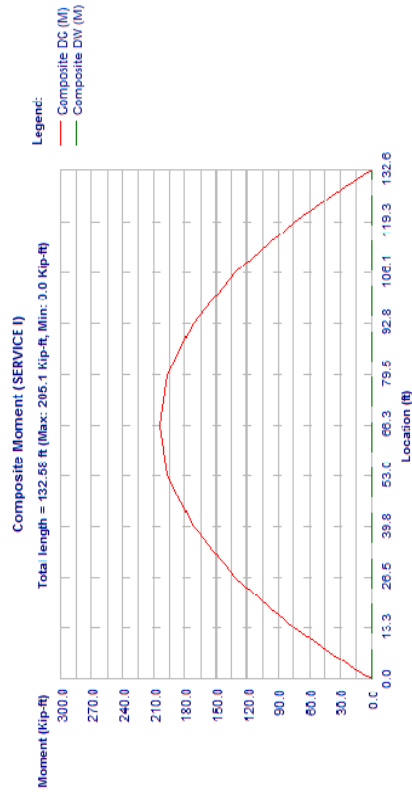
Precast Moment, Span 1, Beam 5, SERVICE I

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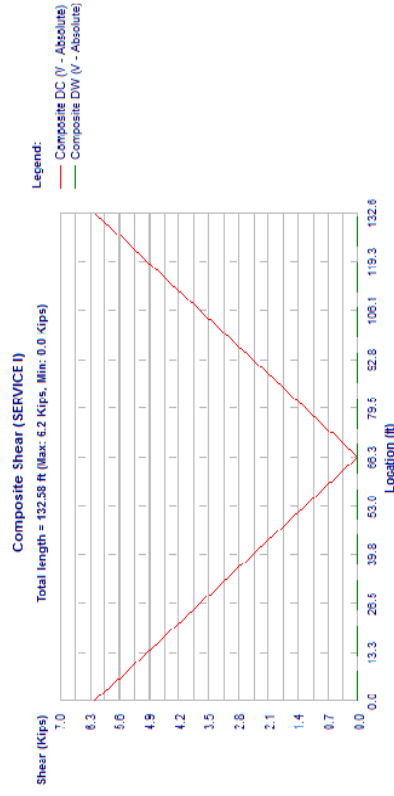
Precast Shear, Span 1, Beam 5, SERVICE I

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Composite Moment, Span 1, Beam 5, SERVICE I

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Composite Shear, Span 1, Beam 5, SERVICE I

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Sheet # 15

Job #

Live Moment (SERVICE I)

Total length = 132.58 ft (Max: 3,764.9 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
13.3	1,000.0
26.5	2,000.0
39.8	3,000.0
53.0	3,764.9
66.3	3,764.9
79.5	3,000.0
92.8	2,000.0
106.1	1,000.0
119.3	0.0
132.6	0.0

Live Moment, Span 1, Beam 5, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:53 A.M.

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Sheet # 16

Job #

Live Shear (SERVICE I)

Total length = 132.58 ft (Max: 141.9 Kips, Min: 55.9 Kips)

Legend:
— LL + I (Vmk - Absolute)


Location (ft)	Shear (Kips)
0.0	141.9
13.3	120.0
26.5	98.1
39.8	76.2
53.0	54.3
66.3	55.9
79.5	77.8
92.8	99.7
106.1	121.6
119.3	143.5
132.6	141.9

Live Shear, Span 1, Beam 5, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, SERVICE III
Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspace
Location,	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt. :	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2	2519.0
(Max)	76.0	72.8	71.8	60.8	45.6	30.4	15.2	0.0
DL-Pre. :	0.0	47.3	60.9	204.9	364.2	478.0	546.3	569.1
DC(Max)	17.2	16.4	16.2	13.7	10.3	6.9	3.4	0.0
DL-Pre. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	238.2	306.8	1032.6	1835.7	2409.3	2753.5	2868.2
Haunch (Max)	86.5	82.9	81.8	69.2	51.9	34.6	17.3	0.0
Diaphragm :	0.0	5.2	6.6	17.2	15.8	14.4	13.0	11.6
(Max)	18.5	14.6	13.5	0.1	0.1	0.1	0.1	0.1
DL-Comp :	0.0	17.0	21.9	73.8	131.2	172.3	196.9	205.1
DC(Max)	6.2	5.9	5.8	4.9	3.7	2.5	1.2	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	258.7	333.1	1116.3	1970.3	2562.0	2912.8	3011.9

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:53 A.M.



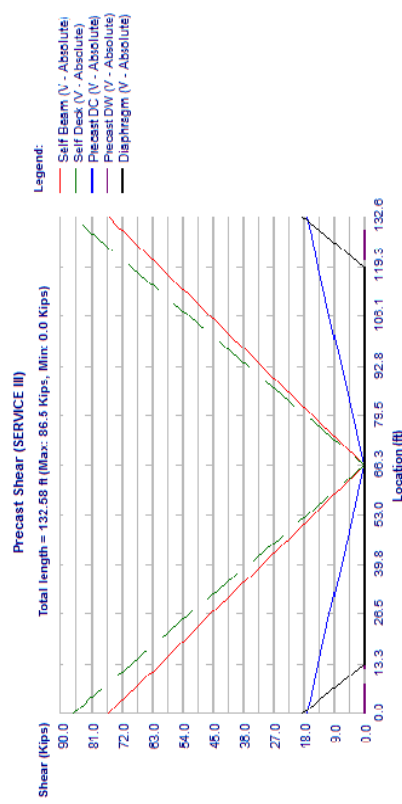
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Precast Shear, Span 1, Beam 5, SERVICE III



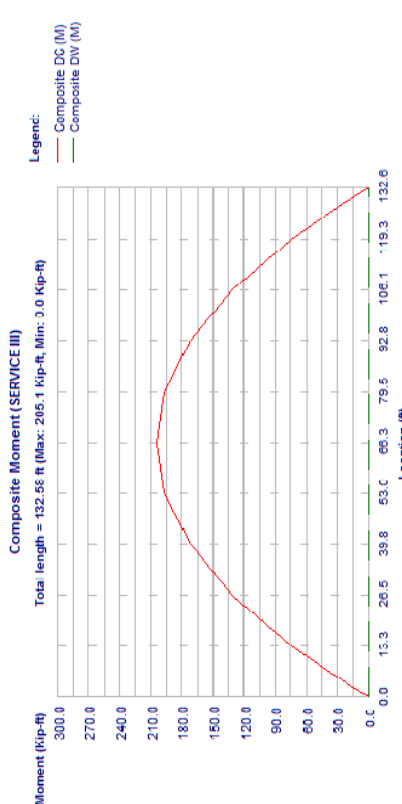
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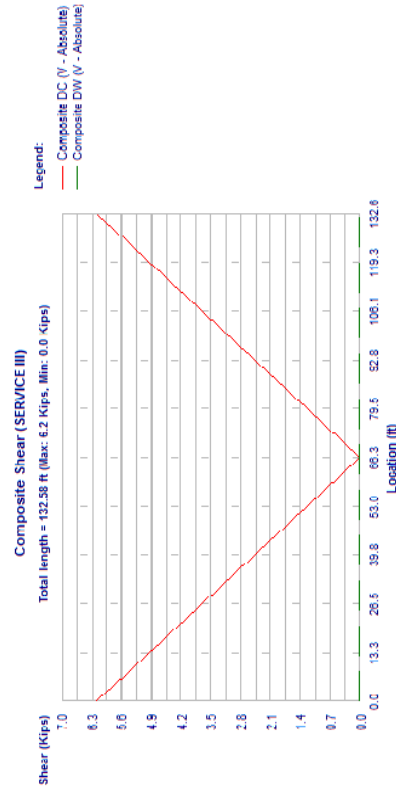
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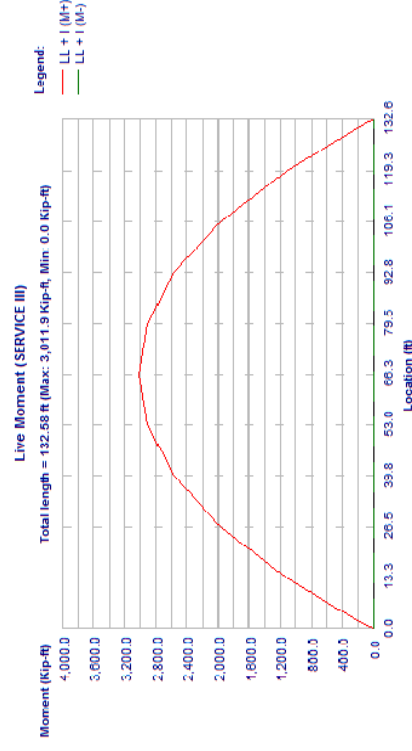
Composite Moment, Span 1, Beam 5, SERVICE III

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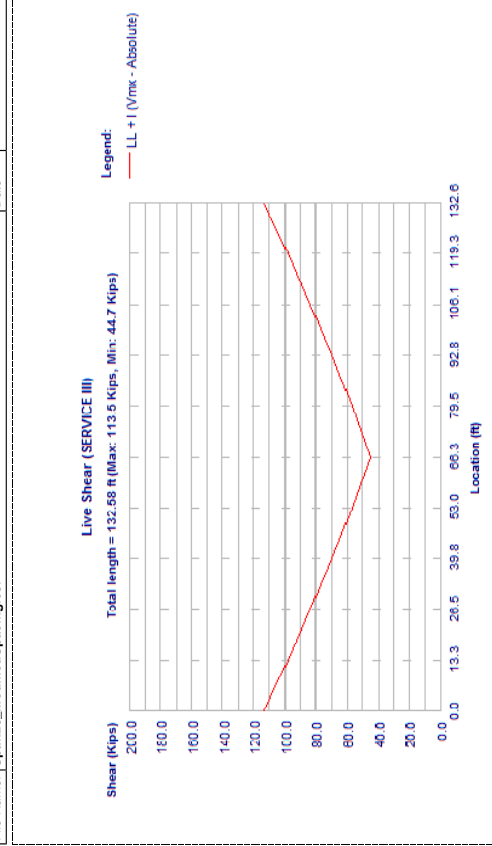
Composite Shear, Span 1, Beam 5, SERVICE III

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Live Moment, Span 1, Beam 5, SERVICE III


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Live Shear. Span 1. Beam 5. SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 5, STRENGTH I
Shears: kips, Moments: kft

	ft	Bearing	Trans	H ₂	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	M	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt.,	M	0.00	2615	3368	1133.5	2015.2	2644.9	3022.8	3148.7
(Max)	M	95.0	91.0	89.8	76.0	57.0	38.0	19.0	0.0
Self wt.,	M	0.00	188.3	242.5	816.1	1450.9	1904.3	2176.4	2267.1
(Min)	M	68.4	65.5	64.6	54.7	41.0	27.4	13.7	0.0
DL-Pre-c.	M	0.00	59.1	76.1	256.1	455.3	597.5	682.9	711.3
DC(Max)	V	21.5	20.6	20.3	17.2	12.9	8.6	4.3	0.0
DL-Pre-c.	M	0.00	42.5	54.8	184.4	327.8	430.2	491.7	512.2
DC(Min)	V	15.5	14.8	14.6	12.4	9.3	6.2	3.1	0.0
DL-Pre-c.	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Max)	V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DL-Pre-c.	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DW(Min)	V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deck +,	M	0.00	297.8	383.5	1290.7	2294.6	3011.6	3441.8	3585.3
Heunch (Max)	V	108.2	103.6	102.2	86.5	64.9	43.3	21.6	0.0
Deck +,	M	0.00	214.4	276.1	929.3	1652.1	2168.4	2478.1	2581.4

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	Beating	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
V	77.9	74.6	73.6	62.3	46.7	31.2	15.6	0.0
M	0.0	6.5	8.2	21.5	19.8	18.0	16.3	14.5
Diphragm : (Max)	23.1	18.3	16.8	0.1	0.1	0.1	0.1	0.1
Diphragm :	0.0	4.7	5.9	15.5	14.2	13.0	11.7	10.5
(Min)	16.7	13.1	12.1	0.1	0.1	0.1	0.1	0.1
DL-Comp :	0.0	21.3	27.4	92.3	164.1	215.3	246.1	256.3
DC(Max)	7.7	7.4	7.3	6.2	4.6	3.1	1.5	0.0
DL-Comp :	0.0	15.3	19.7	66.4	118.1	155.0	177.2	184.6
DC(Min)	5.6	5.3	5.3	4.5	3.3	2.2	1.1	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	566.0	728.7	2441.9	4310.0	5604.4	6371.7	6588.6
M+	248.3	241.1	238.9	214.2	180.1	145.9	98.1	64.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	248.3	241.2	239.1	215.0	183.3	153.2	124.6	97.7
LL + I :	0.0	559.4	719.2	2362.6	4028.2	5049.5	5479.5	5371.1
M+	0.0	1212.1	1560.8	5236.0	9258.8	12091.8	13781.6	14304.8
Total :	503.8	481.8	475.3	400.2	319.6	239.0	144.7	64.1
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	503.8	482.0	475.5	401.0	322.8	246.2	171.3	97.9
Total :	0.0	1205.6	1551.3	5156.7	8977.0	11537.0	12899.4	13087.3

Location, Self wt. :	ft	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Self wt. (Max)	M	3022.8	2644.9	2065.2	1133.5	336.8	261.5	132.58
Self wt. (Min)	V	19.0	38.0	57.0	76.0	89.8	91.0	95.0
DL-Prec. :	M	682.9	597.5	455.3	256.1	76.1	59.1	68.4
DC(Max)	V	4.3	8.6	12.9	17.2	20.3	20.6	21.5
DL-Prec. :	M	491.7	430.2	327.8	184.4	54.8	42.5	0.0
DC(Min)	V	3.1	6.2	9.3	12.4	14.6	14.8	15.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3441.8	3011.6	2294.6	1290.7	383.5	297.8	0.0
Haunch (Max)	V	21.6	43.3	64.9	86.5	102.2	103.6	108.2
Deck + :	M	2478.1	2168.4	1652.1	929.3	276.1	214.4	0.0
Haunch (Min)	V	15.6	31.2	46.7	62.3	73.6	74.6	77.9
Diaphragm :	M	12.8	11.1	9.3	7.6	2.7	2.1	0.0
(Max)	V	0.1	0.1	0.1	0.1	17.0	18.5	23.4
Diaphragm :	M	9.2	8.0	6.7	5.4	1.9	1.5	0.0
(Min)	V	0.1	0.1	0.1	0.1	12.2	13.3	16.8
DL-Comp :	M	246.1	215.3	164.1	92.2	27.4	21.3	0.0
DC(Max)	V	1.5	3.1	4.6	6.2	7.3	7.4	7.7
DL-Comp :	M	177.2	155.0	118.1	66.4	19.7	15.3	0.0

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6371.7	5604.4	4310.0	2441.9	728.7	566.0
LL + I :	M-	98.1	145.9	180.1	214.2	238.9	241.1
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	124.6	153.2	183.3	215.0	239.1	241.2
LL + I :	M	5479.5	5049.5	4028.2	2362.6	719.2	559.4
Total :	M+	13778.1	12084.8	9248.4	5222.0	1555.2	1207.7
Total :	V	144.7	239.0	319.6	400.2	475.5	482.0
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	171.3	246.2	322.8	401.0	475.7	482.2
Total :	M	12885.9	11530.0	8966.5	5142.8	1545.7	1201.2

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	108.2	108.2
Diaphragm	23.1	23.4
DL-Prec(DC)	21.5	21.5
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	69.6	69.6
DL-Comp(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units
Design Code: AASHTO LRFD

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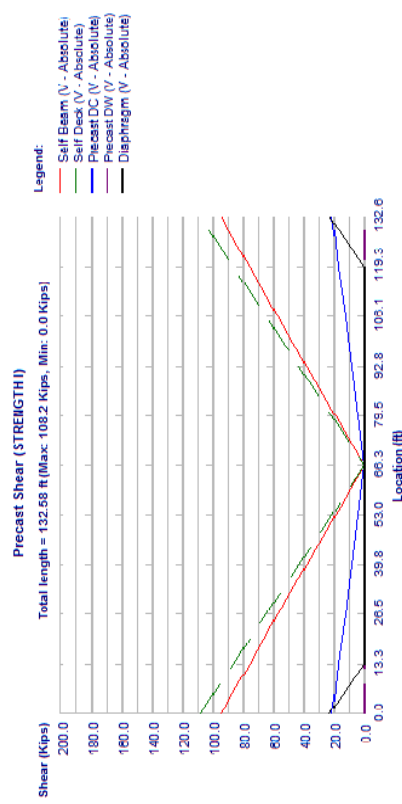
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Job #

Precast Moment, Span 1, Beam 5, STRENGTH I


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Design Code: AASHTO LRFD

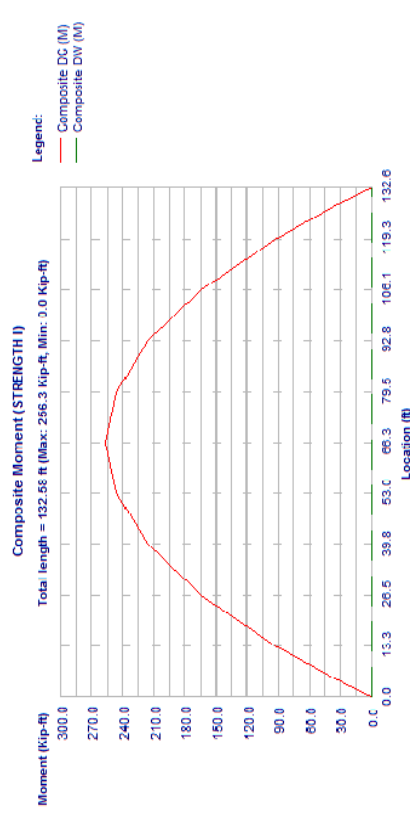
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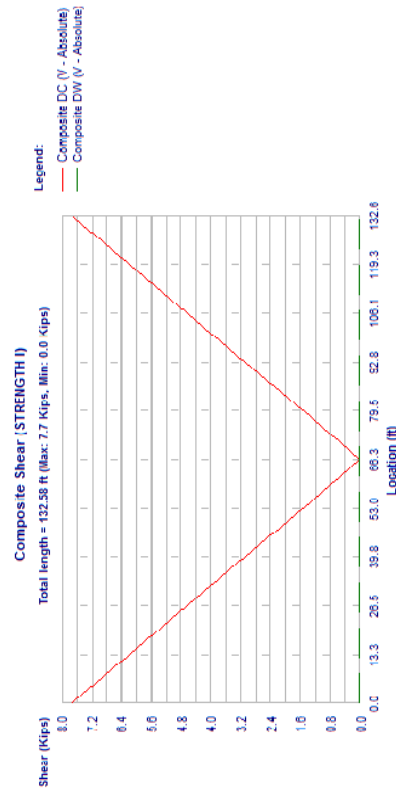
Precast Shear, Span 1, Beam 5, STRENGTH I

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		Job #	
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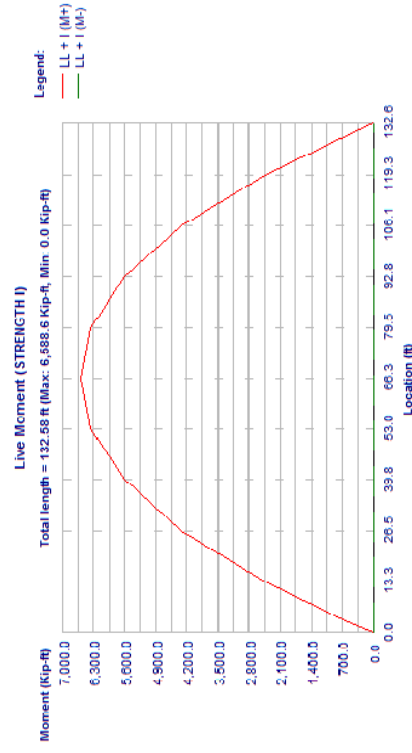
Composite Moment, Span 1, Beam 5, STRENGTH I

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		Job #
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Composite Shear, Span 1, Beam 5, STRENGTH I


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Live Moment, Span 1, Beam 5, STRENGTH I

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<div> <div>Program: LEAP@ CONSPAN® V8i (SELECTseries 5)</div> <div>Version: 12.01.00.57</div> <div>File Name: Span20_ModifiedSpacing.csl</div> </div>			<div> <div>SE Client Licenses</div> <div>Copyright © Bentley Systems, Inc. 1984 - 2012</div> <div>Designed KSM</div> </div>																																																																																																																																																		
			<div> <div>www.bentley.com</div> <div>Phone: 1-800-778-4277</div> </div>																																																																																																																																																		
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<div> <div>DC(Min)</div> <div>DL-Comp :</div> <div>DW(Max)</div> <div>DL-Comp :</div> <div>DW(Min)</div> <div>LL + I :</div> <div>LL + I :</div> <div>LL + I :</div> <div>Total :</div> <div>Total :</div> <div>Total :</div> </div>			<table> <tr> <th></th><th>0.60L</th><th>0.70L</th><th>0.80L</th><th>0.90L</th><th>H/2</th><th>Trans</th><th>Bearing</th></tr> <tr> <td>V</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>M</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>V</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>M</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>V</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>M+</td><td>1552.6</td><td>1382.5</td><td>1067.5</td><td>614.3</td><td>185.0</td><td>143.8</td><td>0.0</td></tr> <tr> <td>V</td><td>34.3</td><td>42.9</td><td>56.9</td><td>65.4</td><td>71.7</td><td>72.2</td><td>74.0</td></tr> <tr> <td>M-</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>V</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>Mx</td><td>39.7</td><td>48.3</td><td>56.9</td><td>65.4</td><td>71.7</td><td>72.2</td><td>74.0</td></tr> <tr> <td>M</td><td>1490.5</td><td>1359.6</td><td>1067.5</td><td>614.3</td><td>185.0</td><td>143.8</td><td>0.0</td></tr> <tr> <td>M+</td><td>7477.7</td><td>6566.9</td><td>5018.2</td><td>2838.4</td><td>846.2</td><td>657.2</td><td>0.0</td></tr> <tr> <td>V</td><td>71.6</td><td>117.4</td><td>168.5</td><td>214.3</td><td>260.9</td><td>265.0</td><td>278.6</td></tr> <tr> <td>M-</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>V</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr> <tr> <td>Mx</td><td>77.0</td><td>122.7</td><td>168.5</td><td>214.3</td><td>260.9</td><td>265.0</td><td>278.6</td></tr> <tr> <td>Total :</td><td>7415.6</td><td>6543.9</td><td>5018.2</td><td>2838.4</td><td>846.2</td><td>657.2</td><td>0.0</td></tr> </table>				0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M+	1552.6	1382.5	1067.5	614.3	185.0	143.8	0.0	V	34.3	42.9	56.9	65.4	71.7	72.2	74.0	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Mx	39.7	48.3	56.9	65.4	71.7	72.2	74.0	M	1490.5	1359.6	1067.5	614.3	185.0	143.8	0.0	M+	7477.7	6566.9	5018.2	2838.4	846.2	657.2	0.0	V	71.6	117.4	168.5	214.3	260.9	265.0	278.6	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Mx	77.0	122.7	168.5	214.3	260.9	265.0	278.6	Total :	7415.6	6543.9	5018.2	2838.4	846.2	657.2	0.0
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<div> <div>Moment (Kip-ft)</div> <div>Total length = 132.58 ft (Max: 2,868.2 Kip-ft, Min: 0.0 Kip-ft)</div> </div>			<div> <div>Precast Moment (FATIGUE I)</div> <div>Legend:</div> <ul style="list-style-type: none"> Self Beam (M+) Self Deck (M-) Precast DC (M+) Precast DW (M+) Diaphragm (M+) </div>																																																																																																																																																		
<div> <div>Location (ft)</div> <div>0.0 13.3 26.5 39.8 53.0 66.3 79.5 92.8 106.1 119.3 132.6</div> </div>			<div> <div>Precast Moment, Span 1, Beam 5, FATIGUE I</div> </div>																																																																																																																																																		

Units: U.S. Units
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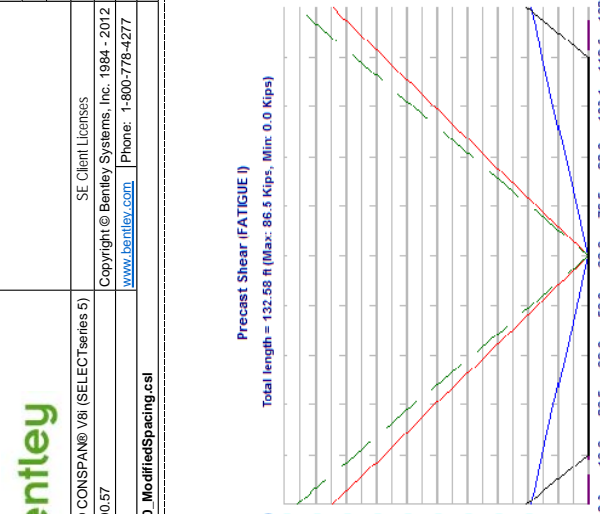


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Precast Shear (FATIGUE I)

Total length = 132.58 ft (Max: 86.5 Kips, Min: 0.0 Kips)



Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 5, FATIGUE I

Units: U.S. Units
Design Code: AASHTO LRFD
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Sheet # 35
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Composite Moment (FATIGUE I)

Total length = 132.58 ft (Max: 205.1 kip-ft, Min: 0.0 kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)

Location (ft)	Composite DC (M) (kip-ft)	Composite DW (M) (kip-ft)
0.0	0.0	0.0
13.3	10.0	0.0
26.5	40.0	0.0
39.8	100.0	0.0
53.0	180.0	0.0
66.3	205.1	0.0
79.5	180.0	0.0
92.8	100.0	0.0
106.1	40.0	0.0
119.3	10.0	0.0
132.6	0.0	0.0

Composite Moment, Span 1, Beam 5, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:53 A.M.

Bentley

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Designed KSM
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Sheet # 36
Job #

Composite Shear (FATIGUE I)

Total length = 132.58 ft (Max: 6.2 Kips, Min: 0.0 Kips)


Legend:

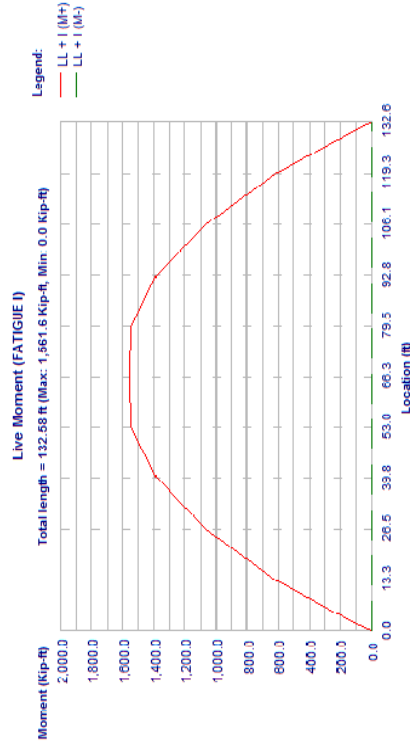
- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute) (Kips)	Composite DW (V - Absolute) (Kips)
0.0	6.2	0.0
13.3	5.5	0.0
26.5	4.8	0.0
39.8	4.1	0.0
53.0	3.4	0.0
66.3	2.7	0.0
79.5	2.0	0.0
92.8	1.3	0.0
106.1	0.6	0.0
119.3	0.0	0.0
132.6	6.2	0.0


Composite Shear, Span 1, Beam 5, FATIGUE I

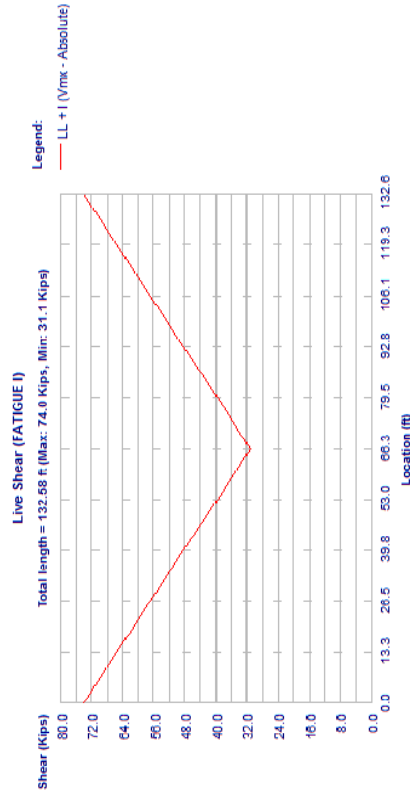
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:53 A.M.

			Sheet #	37
			Job #	
			Designed	KSM
			Date	Sept/9/2013
			Checked	
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Live Moment, Span 1, Beam 5, FATIGUE I

			Sheet #	38
			Job #	
			Designed	KSM
			Date	Sept/9/2013
			Checked	
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Live Shear, Span 1, Beam 5, FATIGUE I



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		Phone: 1-800-778-4277	Date

File Name:	Span20_ModifiedSpacing.csl
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Comp. DC	0.111	(Calculated)
Comp. DW	0.111	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	0.75
Compression controlled sections	0.90
Tension controlled sections	0.75
Flexure Prestressed	1.00
Compression controlled sections	0.90
Tension controlled sections	
Shear	

SECTION PROPERTIES:

	PRECAST	COMPOSITE
Area	1100.6	in ²
Total Height	78.00	in
Mom. of Inertia (I _{xx})	904567	in ⁴
Ht. of c.g.	34.60	in
Density	150.00	pcf
Self-weight	1146.5	plf
Mom. of Inertia (I _{yy})	82367.0	in ⁴
Poisson's Ratio	0.2	
Thermal Coeff.	0.000006	1/°F

(#) Of Total Section using $E_c/E_c = 0.7048$
Use transformed strand and rebar: Strand Only

Location,	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Pre-cast (At Release, using	Ec = 4,499.3ksi)	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Area,	In ²	1100.6	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8
Yb,	In	34.60	33.40	33.39	33.37	33.34	33.32	33.29	33.29
MI(1xx),	In ⁴	904567	940492	940599	941842	943590	945379	947208	947208
Composite (At Final, using	Ec = 5456.2ksi)	5456.2ksi)	2110.6	2110.6	2110.6	2110.6	2110.6	2110.6	2110.6
Area,	In ²	2070.0	56.33	56.33	56.32	56.31	56.30	56.28	56.28
Yb,	In	57.29	219176	2219335	221182	223758	226367	229008	229008
MI(1xx),	In ⁴	2120626							2229008



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	Span20 ModifiedSpacing.csl		Date

File Name:	Span20 ModifiedSpacing.csl
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TOPPING DATA:

Deck Haunch:	Thickness	8.500	in
Effective	Thickness	1.000	in
	Width	60.000	in
	width	154.750	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

GENERAL LOAD DATA:

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Line	0.158	0.000	0.158	132.580	SIP
DC	Line	0.125	0.000	0.125	132.580	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
20.62	1.00
20.62	132.33

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	132.580	ft
Release length	132.580	ft
Design length	132.580	ft

KERN POINTS:


Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k. with deck

Live Moment	(2+ lanes loaded)	0.961	(Calculated)
Live Moment	(1 lane loaded)	0.624	(Calculated)
Live Shear	(2+ lanes loaded)	1.157	(Calculated)
Live Shear	(1 lane loaded)	0.877	(Calculated)

Pedestrian	0.111	(Calculated)
------------	-------	--------------



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Sheet # 5
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Designed KSM
Date Sept/9/2013
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Span1: Beam:6

STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.80*	ksi
Max comp	4499.3	ksi
Outer	4.08	ksi
15.00 %		
Max tens	-0.25	ksi
Max tens, wireinf	-0.99	ksi
Center	70.00 %	
Max tens	-0.25	ksi
Max tens, wireinf	-0.63	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	10.00 ksi	5.50 ksi
Max comp	5456.24 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	6.00 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	4.50 ksi	2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art.5.5.3.1):


Max comp	PRECAST	DECK
	4.00 ksi	- ksi

SERVICE III (Tension):

Max tens	PRECAST	DECK
	-0.60 ksi	-0.45 ksi

Span1: Beam:6

PRESTRESSED STEEL:
50 strands, 9/16-270K-LL, Low relaxation strands
Depressed at 0.40L (53.03 ft from member end)



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END PATTERN (Vcg = 7.64 in):

10 @ 3,000 in	12 @ 5,000 in	10 @ 7,000 in	2 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Vcg = 5.08 in):
(A) Draped:


7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

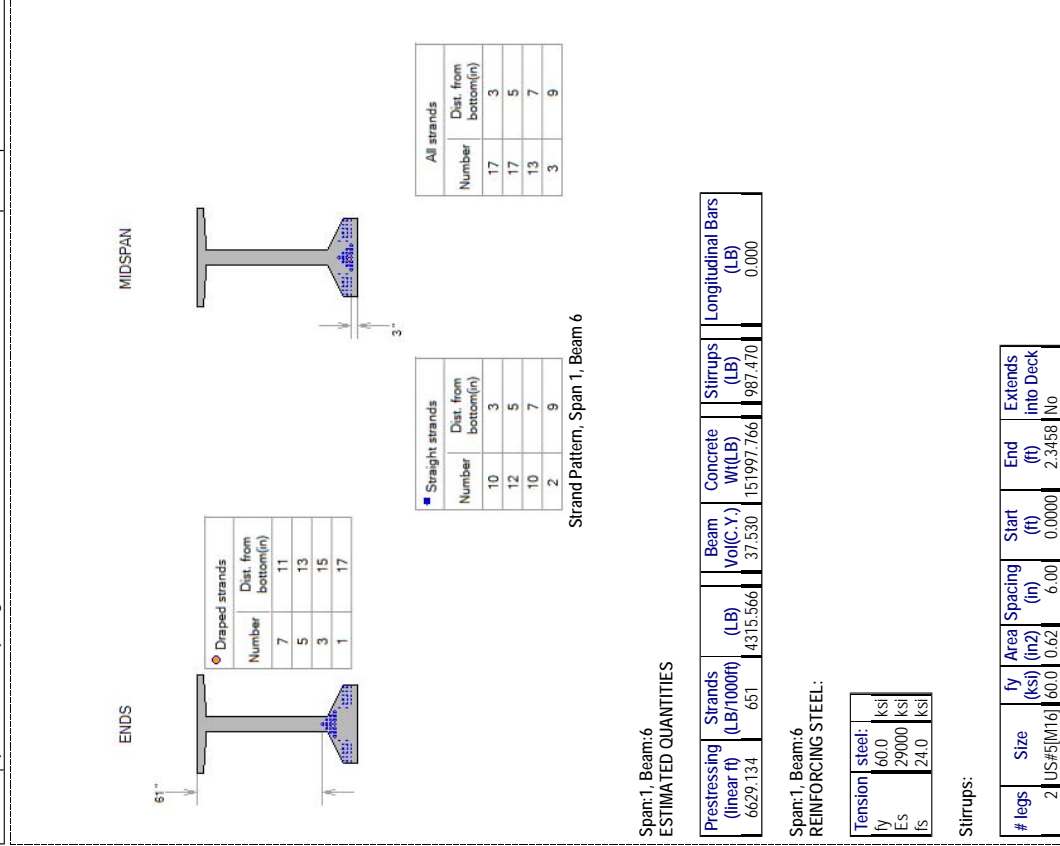
(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	10 @ 7,000 in	2 @ 9,000 in
---------------	---------------	---------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	9.600 in ²
Trans. Len.bonded	2.812 ft
Trans. Len.debonded	2.812 ft
Dev. Len. bonded	10.839 ft
Dev. Len. debonded	13.548 ft
Holddown Force	7.820 kips
Tensile Strength(fpu)	270.0 ksi
Initial Prestress = 0.75fpu	202.5 ksi
Initial Pull	1944.0 kips
Beam Shring (P/AE)	0.597 in

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:54 A.M.


		Sheet #	7
		Job #	
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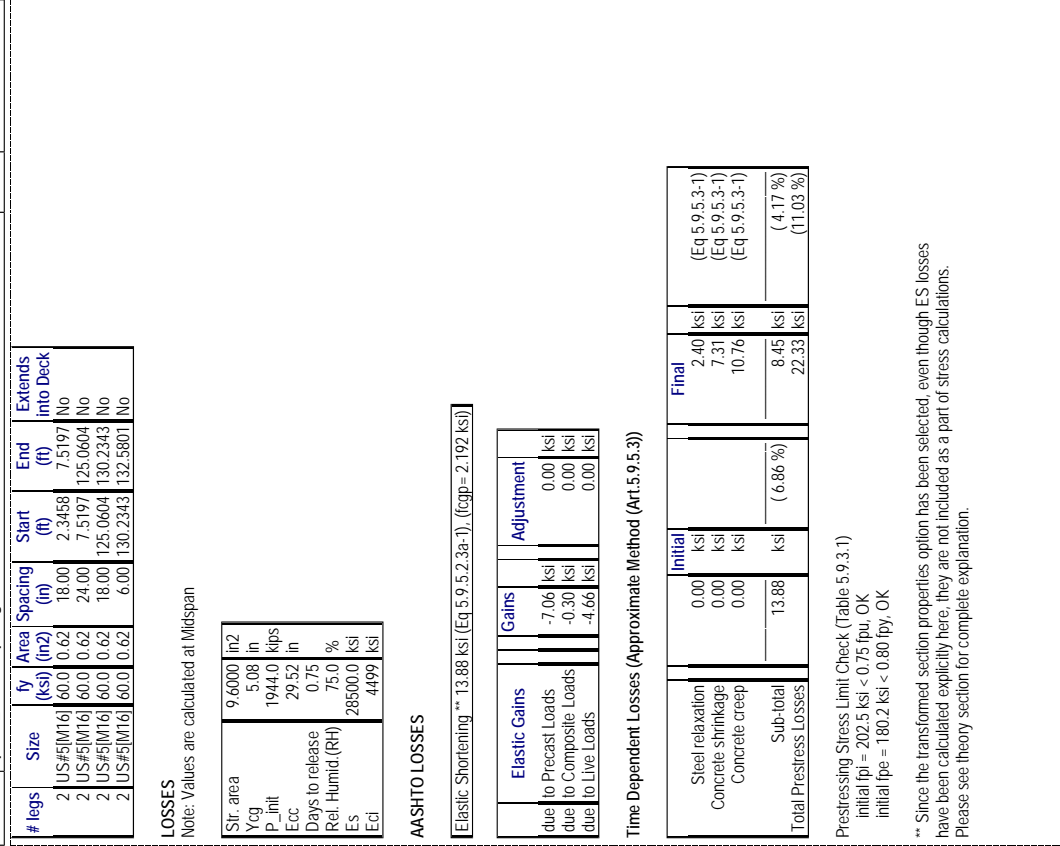


Span 1, Beam 6
ESTIMATED QUANTITIES

Span 1, Beam 6
REINFORCING STEEL:

Stirrups:

		Sheet #	8
		Job #	
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LOSSES
Note: Values are calculated at Midspan

Str. area	9.6000	in2
Ycg	5.08	in
P_init	1944.0	kips
Ecc	29.52	in
Days to release	0.75	%
Rel. Humid (RH)	75.0	%
Es	28500.0	ksi
Eci	4499	ksi

AASHTO LOSSES

Elastic Shortening ** 13.88 ksi (Eq 5.9.5.2.3a-1), (fcgpp = 2.192 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads	-7.06	ksi	0.00
due to Composite Loads	-0.30	ksi	0.00
due to Live Loads	-4.66	ksi	0.00


Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial	Final
Steel relaxation	0.00	ksi
Concrete shrinkage	0.00	ksi
Concrete creep	0.00	ksi
Sub-total	13.88	ksi
Total Prestress Losses		22.33
		(4.17 %)
		(11.03 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

Initial fpi = 202.5 ksi < 0.75 fpu, OK
Initial fpe = 180.2 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.


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		Designed KSM Date Sept/9/2013 Checked Date	
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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, SERVICE I
 Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.81	3.65	13.26	26.52	39.77	53.03
Self wt. :	M	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2
(Max)	V	76.0	72.8	71.8	60.8	45.6	30.4	15.2
DL-Prec. :	M	-0.0	51.6	66.5	223.8	398.0	522.3	596.9
DC(Max)	V	18.8	18.0	17.7	15.0	11.3	7.5	3.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	261.4	336.7	1133.2	2014.6	2644.2	3021.9
Haunch (Max)	V	95.0	90.9	89.7	76.0	57.0	38.0	19.0
Diaphragm :	M	-0.0	5.8	7.3	19.1	17.5	16.0	14.4
(Max)	V	20.5	16.2	14.9	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	17.0	21.9	73.8	131.2	172.3	196.9
DC(Max)	V	6.2	5.9	5.8	4.9	3.7	2.5	1.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	347.4	447.3	1499.1	2645.9	3440.5	3911.6
LL + :	V	152.1	147.6	146.3	131.2	110.3	89.4	60.1
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	Vmx	152.1	147.7	146.5	131.7	112.2	93.8	76.3
Total :	M	0.0	343.4	441.5	1450.4	2472.9	3099.9	3363.9
Total :	M+	0.0	892.5	1149.3	3855.9	6819.4	8911.2	10551.3
Total :	V	368.5	351.4	346.4	288.0	227.9	167.9	99.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	368.5	351.5	346.5	288.5	229.9	172.3	115.6
Total :	M	0.0	888.5	1143.4	3807.2	6646.4	8570.6	9612.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	79.55	92.81	106.06	119.32	128.93	129.77
Self wt. :	M	2418.2	2115.9	1612.1	906.8	269.5	209.2
(Max)	V	15.2	30.4	45.6	60.8	71.8	72.8
DL-Prec. :	M	596.9	522.3	398.0	223.8	64.5	51.6
DC(Max)	V	3.8	7.5	11.3	15.0	17.7	18.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3021.9	2644.2	2014.6	1133.2	336.7	261.4
Haunch (Max)	V	19.0	38.0	57.0	76.0	89.7	90.9
Diaphragm :	M	11.3	9.8	8.2	6.7	2.4	1.9
(Max)	V	0.1	0.1	0.1	0.1	15.1	16.4
DL-Comp. :	M	196.9	172.3	131.2	73.8	21.9	17.0
DC(Max)	V	1.2	2.5	3.7	4.9	5.8	5.9
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3911.6	3440.5	2645.9	1499.1	447.3	347.4


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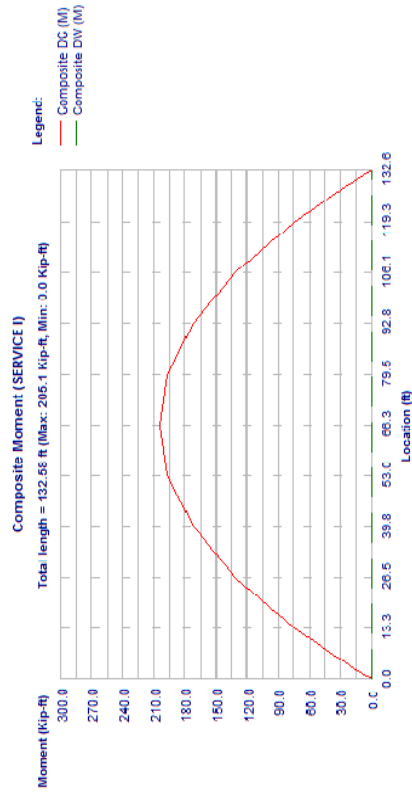
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	60.1	89.4	110.3	131.2	146.3	152.1
	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	76.3	93.8	112.2	131.7	146.5	147.7
Total :	M	3363.9	3099.9	2472.9	1450.4	441.5	343.4
Total :	M+	10156.9	8905.0	6810.1	3843.5	1144.3	888.6
Total :	V	99.4	167.9	227.9	288.0	346.5	351.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	115.6	172.3	229.9	288.5	346.7	351.7
Total :	M	9609.2	8564.4	6637.1	3794.8	1138.5	884.6

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	76.0	76.0
Deck+Haunch	95.0	95.0
Diaphragm	20.5	20.7
DL-Prec.(DC)	18.8	18.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	55.7	55.7
DL-Comp.(DW)	0.0	0.0
Live	109.4	109.4
Pedestrian	0.0	0.0

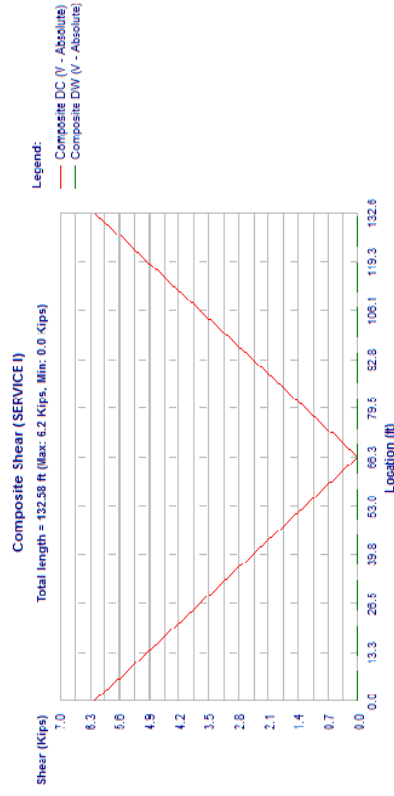
Upward reactions are positive.
 Live Load reactions are per lane with no distribution factor and no impact.
 Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
 Non-composite load types are per beam.
 Composite and Pedestrian load types are per total bridge width.

		Sheet # 13	
		Job #	
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Composite Moment, Span 1, Beam 6, SERVICE I

		Sheet # 14	
		Job #	
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Composite Shear, Span 1, Beam 6, SERVICE I



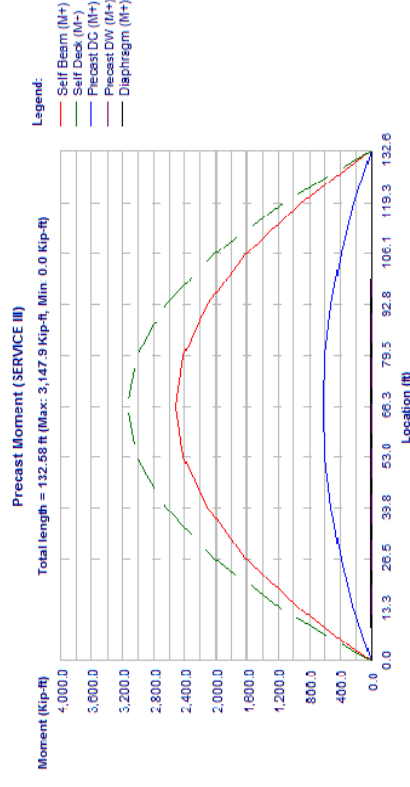
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	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
LL + I :	V	121.7	118.1	117.1	104.9	88.2	71.5	48.1
M-	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	Vmx	121.7	118.2	117.2	105.3	89.8	75.0	61.1
M	M	0.0	274.8	353.2	1160.3	1978.3	2479.9	2691.1
Total :	Total :	0.0	823.1	1059.8	3556.1	6290.2	8223.1	9377.6
M+	M+	338.1	321.9	317.1	261.8	205.9	150.0	87.4
V	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	Vmx	338.1	322.0	317.2	262.2	207.5	153.5	100.4
M	M	0.0	819.9	1055.1	3517.1	6151.8	7950.6	8939.5
Total :	Total :	0.0	819.9	1055.1	3517.1	6151.8	7950.6	8939.5


	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	79.55	92.81	106.06	119.32	128.93	132.58
Self wt. :	M	2418.2	2115.9	1612.1	906.8	269.5	209.2
(Max)	M	15.2	30.4	45.6	60.8	71.8	72.8
DL-Prec :	M	596.9	522.3	398.0	223.8	66.5	51.6
DC(Max)	M	3.8	7.5	11.3	15.0	17.7	18.0
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3021.9	2644.2	2014.6	1133.2	336.7	261.4
Haunch (Max)	M	19.0	38.0	57.0	76.0	89.7	90.9
Diaphragm :	M	11.3	9.8	8.2	6.7	2.4	1.9
(Max)	M	0.1	0.1	0.1	0.1	15.1	16.4
DL-Comp :	M	196.9	172.3	131.2	73.8	21.9	17.0
DC(Max)	M	1.2	2.5	3.7	4.9	5.8	5.9
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	3129.2	2752.4	2116.7	1199.2	357.9	277.9
M-	M-	48.1	71.5	88.2	104.9	117.1	118.1
LL + I :	M-	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	61.1	75.0	89.8	105.3	117.2	118.2
M	M	2691.1	2479.9	1978.3	1160.3	353.2	274.8
Total :	Total :	9374.5	8216.9	6280.9	3543.7	1054.9	819.1
V	V	87.4	150.0	205.9	261.8	317.3	322.1
M-	M-	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	Vmx	100.4	153.5	207.5	262.2	317.4	322.2
M	M	8938.4	7944.4	6142.5	3504.7	1050.2	815.9
Total :	Total :	0.0	0.0	0.0	0.0	0.0	0.0

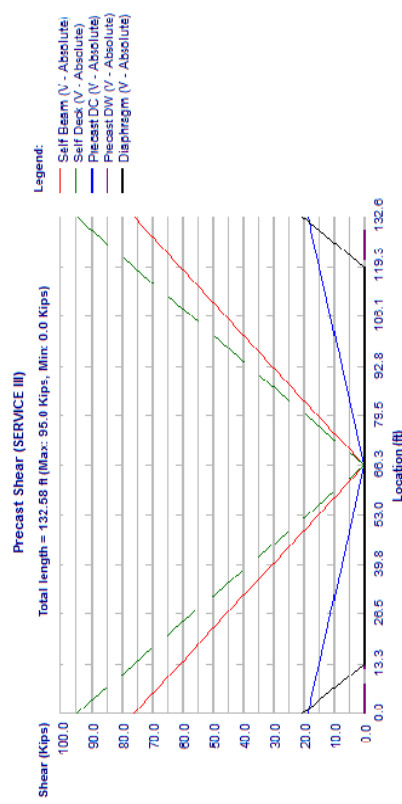


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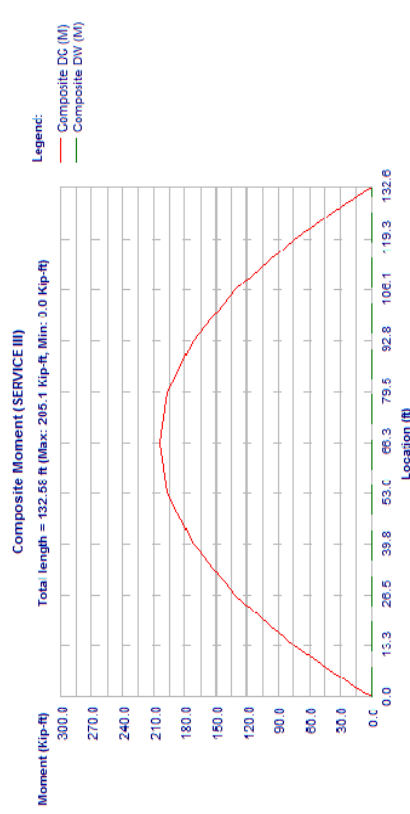
Precast Moment, Span 1, Beam 6, SERVICE III

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		Job #	
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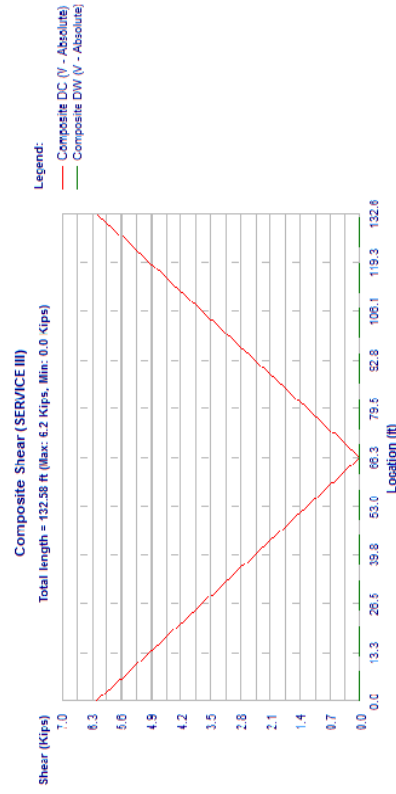
Precast Shear, Span 1, Beam 6, SERVICE III

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		Job #	
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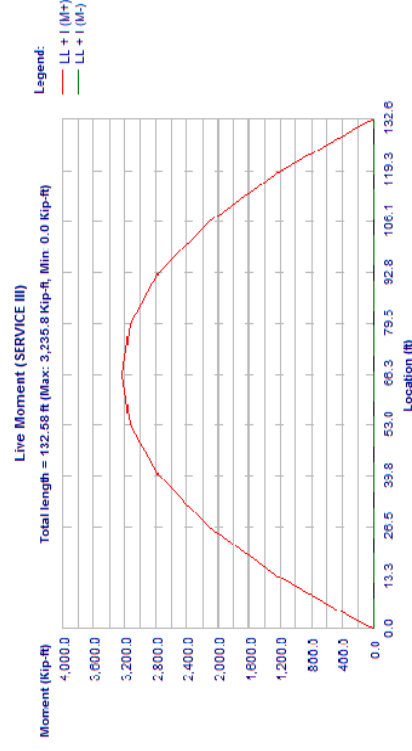
Composite Moment, Span 1, Beam 6, SERVICE III

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Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span20 ModifiedSpacing.csl		Designed	KSM
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		Date	



Composite Shear, Span 1, Beam 6, SERVICE III

		Sheet #	22
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span20 ModifiedSpacing.csl		Designed	KSM
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		Date	



Live Moment, Span 1, Beam 6, SERVICE III



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	Beating	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
V	85.5	81.8	80.8	68.4	51.3	34.2	17.1	0.0
Haunch (Min)								
Diaphragm: V	-0.0	7.2	9.1	23.8	21.9	20.0	18.0	16.1
(Max)								
Diaphragm: M	-0.0	20.2	18.6	0.1	0.1	0.1	0.1	0.1
(Min)								
V	18.5	14.6	13.4	0.1	0.1	0.1	0.1	0.1
DL-Comp: M	0.0	21.3	27.4	92.3	164.1	215.3	246.1	256.3
DC(Max)								
DL-Comp: V	7.7	7.4	7.3	6.2	4.6	3.1	1.5	0.0
DC(Min)								
V	5.6	5.3	5.3	4.5	3.3	2.2	1.1	0.0
DL-Comp: M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)								
DL-Comp: V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp: M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)								
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I: M+	0.0	608.0	782.8	2623.3	4630.3	6020.9	6845.2	7078.2
V	266.1	258.4	256.1	229.6	193.0	156.4	105.1	68.6
LL + I: M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I: Vmx	266.1	258.5	256.3	230.4	196.4	164.2	133.6	104.8
M	0.0	601.0	772.6	2538.2	4327.5	5424.8	5886.8	5770.2
Total: M+	0.0	1289.4	1660.3	5569.4	9847.2	12859.3	14655.7	15211.5
V	536.6	513.1	506.1	425.6	340.1	254.5	154.3	68.7
Total: M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total: Vmx	536.6	513.3	506.4	426.5	343.5	262.3	182.7	104.9
M	0.0	1282.4	1650.1	5484.2	9544.4	12263.2	13697.3	13903.5

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location, ft	79.55	92.81	106.06	119.32	128.93	129.77	132.58
Self wt., 3022.8	2644.9	2015.2	1133.5	336.8	261.5	0.0	0.0
(Max) V	19.0	38.0	57.0	76.0	89.8	91.0	95.0
Self wt., 2176.4	1904.3	1450.9	816.1	242.5	188.3	0.0	0.0
(Min) V	13.7	27.4	41.0	54.7	64.6	65.5	68.4
DL-Prec.: 746.2	652.9	497.4	279.8	83.1	64.6	-0.0	-0.0
DC(Max) V	4.7	9.4	14.1	18.8	22.2	22.5	23.5
DL-Prec.: 537.2	470.1	358.2	201.5	59.9	46.5	-0.0	-0.0
DC(Min) V	3.4	6.8	10.1	13.5	16.0	16.2	16.9
DL-Prec.: 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.: 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : 3777.4	3305.2	2518.3	1416.5	420.9	326.8	0.0	0.0
Haunch (Max) V	23.7	47.5	71.2	95.0	112.2	113.7	118.7
Deck + : 2719.7	2379.8	1813.2	1019.9	303.1	235.3	0.0	0.0
Haunch (Min) V	17.1	34.2	51.3	68.4	80.8	81.8	85.5
Diaphragm : 14.2	12.2	10.3	8.4	2.9	2.3	0.0	0.0
(Max) V	0.1	0.1	0.1	0.1	18.8	20.5	25.9
Diaphragm : 10.2	8.8	7.4	6.0	2.1	1.7	0.0	0.0
(Min) V	0.1	0.1	0.1	0.1	13.6	14.7	18.7
DL-Comp : 246.1	215.3	164.1	92.3	27.4	21.3	0.0	0.0
DC(Max) V	1.5	3.1	4.6	6.2	7.3	7.4	7.7
DL-Comp : 177.2	155.0	118.1	66.4	19.7	15.3	0.0	0.0

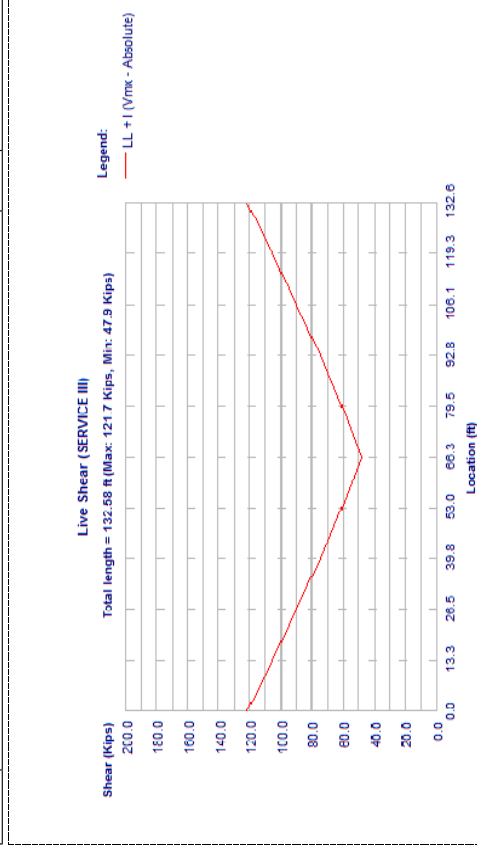
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Design Code: AASHTO LRFD
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Live Shear Span 1 Beam 6 SERVICE III

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 6, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.61	3.65	13.26	26.52	39.77	53.03	66.29
Self wt.:	M	0.00	261.5	336.8	1133.5	2015.2	2644.9	3022.8	3148.7
(Max)	V	95.0	91.0	89.8	76.0	57.0	38.0	19.0	0.0
Self wt.:	M	0.00	188.3	242.5	816.1	1450.9	1904.3	2176.4	2267.1
(Min)	V	68.4	65.5	64.6	54.7	41.0	27.4	13.7	0.0
DL-Prec.:	M	-0.0	64.6	83.1	279.8	497.4	652.9	746.2	777.3
DC(Max)	V	23.5	22.5	22.2	18.8	14.1	9.4	4.7	0.0
DL-Prec.:	M	-0.0	46.5	59.9	201.5	358.2	470.1	537.2	559.6
DC(Min)	V	16.9	16.2	16.0	13.5	10.1	6.8	3.4	0.0
DL-Prec.:	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec.:	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck +:	M	0.0	326.8	420.9	1416.5	2518.3	3305.2	3777.4	3934.8
Haunch (Max)	V	118.7	113.7	112.2	95.0	71.2	47.5	23.7	0.0
Deck +:	M	0.0	235.3	303.1	1019.9	1813.2	2379.8	2719.7	2833.1

Units: U.S. Units
Design Code: AASHTO LRFD
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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6845.2	6020.9	4630.3	2623.3	782.8	608.0
LL + I :	M-	105.1	156.4	193.0	229.6	256.1	258.4
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	133.6	164.2	196.4	230.4	256.3	258.5
Total :	M	5886.8	5424.8	4327.5	2538.2	772.6	601.0
Total :	M+	14651.9	12851.5	9835.6	5553.9	1654.1	1284.5
Total :	V	154.3	254.5	340.1	425.6	506.3	513.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	182.7	262.3	343.5	426.5	506.6	513.5
Total :	M	13693.4	12255.4	9532.8	5468.7	1643.9	1277.5

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	118.7	118.7
Diaphragm	25.6	25.9
DL-Prec(DC)	23.5	23.5
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	69.6	69.6
DL-Comp(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:54 A.M.

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Precast Moment (STRENGTH I)

Total length = 132.58 ft (Max: 3,934.8 Kip-ft, Min: 0.0 Kip-ft)

Legend:


- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

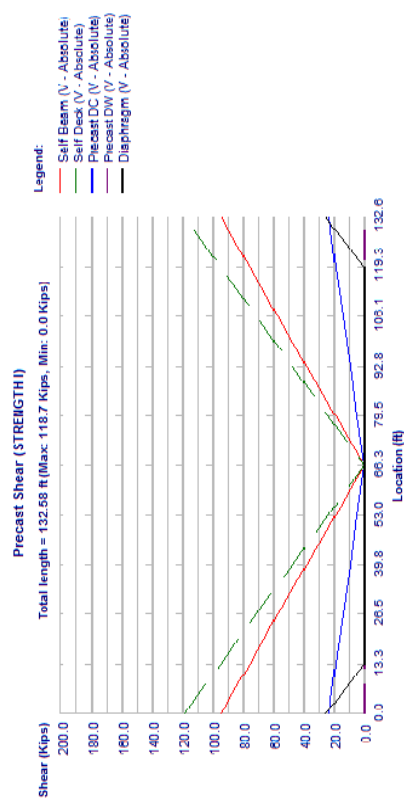
Moment (Kip-ft)

Location (ft)


Precast Moment, Span 1, Beam 6, STRENGTH I

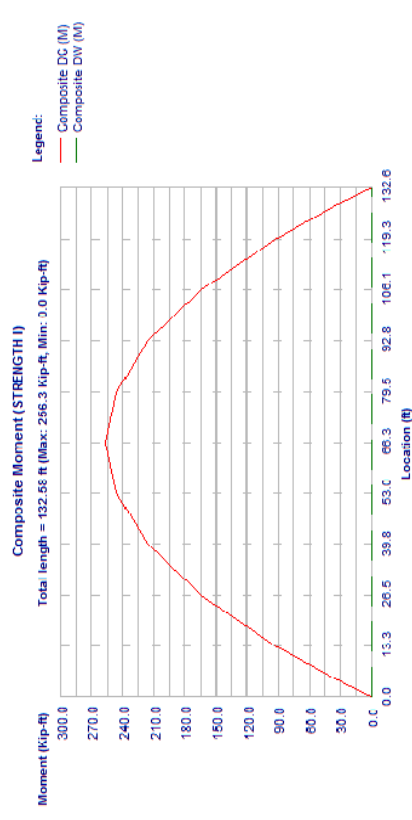
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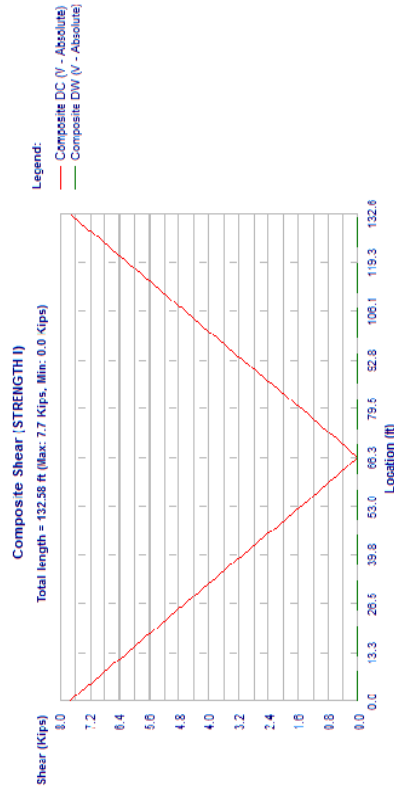
Precast Shear, Span 1, Beam 6, STRENGTH I

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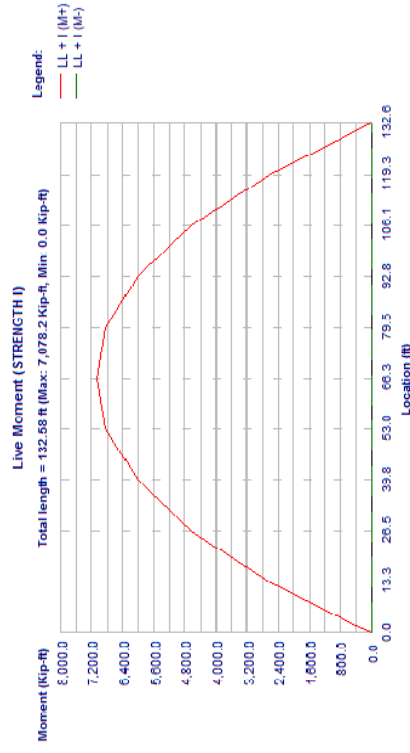
Composite Moment, Span 1, Beam 6, STRENGTH I

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Composite Shear, Span 1, Beam 6, STRENGTH I

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Live Moment, Span 1, Beam 6, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1651.1	1470.2	1135.2	653.3	196.7	152.9	0.0
LL + I :	36.3	45.4	60.2	69.2	75.8	76.4	78.3
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	42.0	51.1	60.2	69.2	75.8	76.4	78.3
M	1585.0	1445.8	1135.2	653.3	196.7	152.9	0.0
Total :	7896.4	6934.7	5299.4	2997.7	893.7	694.1	0.0
Total :	75.6	123.9	177.8	226.1	276.0	280.4	295.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	81.3	129.6	177.8	226.1	276.0	280.4	295.0
Total :	7830.3	6910.3	5299.4	2997.7	893.7	694.1	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 132.58 ft (Max: 3,147.9 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 6, FATIGUE I

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 132.58 ft (Max: 95.0 Kips, Min: 0.0 Kips)

Location (ft)

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 6, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:54 A.M.

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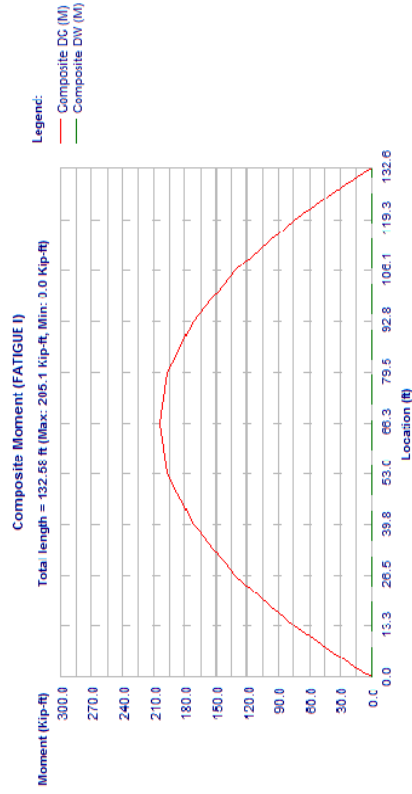
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Composite Moment, Span 1, Beam 6, FATIGUE I

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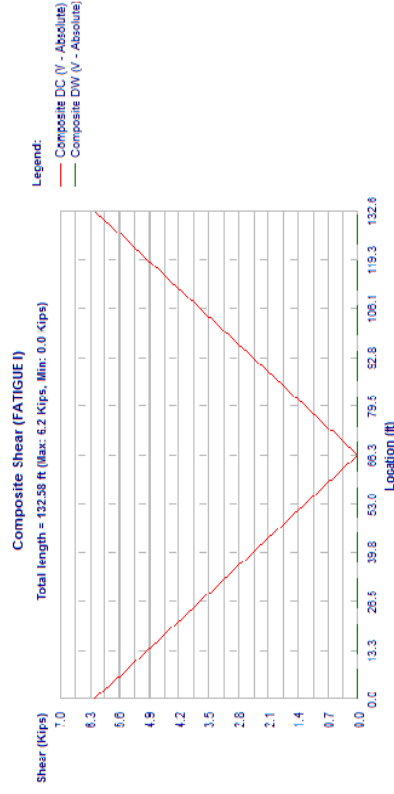
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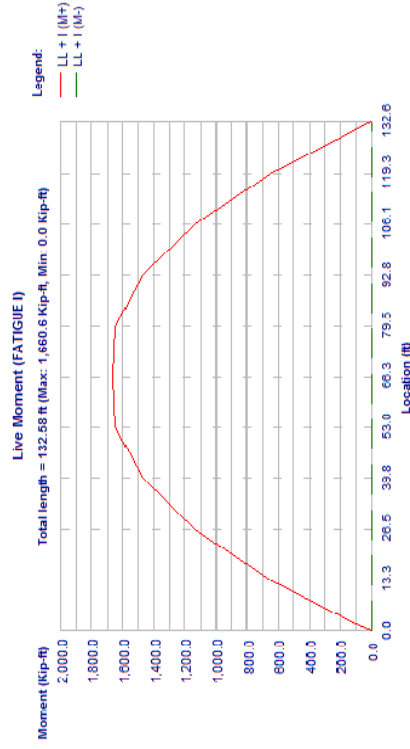
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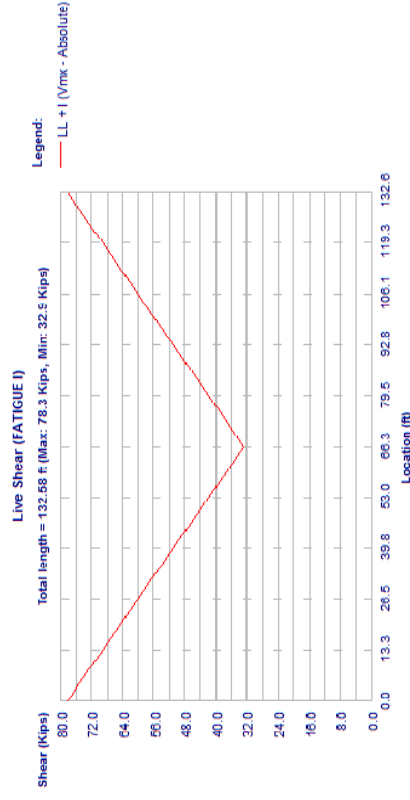
Composite Shear, Span 1, Beam 6, FATIGUE I

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Live Moment, Span 1, Beam 6, FATIGUE I

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Live Shear, Span 1, Beam 6, FATIGUE I

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Sheet # 1
Job #
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PROPERTIES

Span:1, Beam:7

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

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Span 1 Beam 7 cross section

GENERAL BRIDGE DATA:

Bridge Width	103.07 ft
Curb-to-curb	99.99 ft
Beam Spac. LL/RT	12.90 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees

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Span:1 Beam:7

STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.80*	ksi
Max comp	4499.3	ksi
Outer	4.08	ksi
15.00 %		
Max tens	-0.25	ksi
Max tens, wireinf	-0.99	ksi
Center	70.00 %	
Max tens	-0.25	ksi
Max tens, wireinf	-0.63	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.
STRESS LIMITS AT FINAL AFTER LOSSES:

Strength	PRECAST	DECK
Elasticity	10.00 ksi	5.50 ksi
Max comp	5456.24 ksi	3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

Max comp	PRECAST	DECK
	6.00 ksi	3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

Max comp	PRECAST	DECK
	4.50 ksi	2.47 ksi


FATIGUE I STRESS LIMITS AT FINAL 3 (50% PS + 50% DL + F_LL) (Art.5.5.3.1):

Max comp	PRECAST	DECK
	4.00 ksi	- ksi

SERVICE III (Tension):

Max tens	PRECAST	DECK
	-0.60 ksi	-0.45 ksi

Span:1 Beam:7
PRESTRESSED STEEL:
50 strands, 9/16-270K-LL, Low relaxation strands
Depressed at 0.40L (53.03 ft from member end)

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END PATTERN (Vcg = 7.64 in):

10 @ 3,000 in	12 @ 5,000 in	10 @ 7,000 in	2 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Vcg = 5.08 in):

(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	10 @ 7,000 in	2 @ 9,000 in
---------------	---------------	---------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	9.600 in ²
Trans. Len.bonded	2.812 ft
Trans. Len.debonded	2.812 ft
Dev. Len. bonded	10.839 ft
Dev. Len. debonded	13.548 ft
Holddown Force	7.820 kips
Tensile Strength(fpu)	270.0 ksi
Initial Prestress = 0.75fpu	202.5 ksi
Initial Pull	1944.0 kips
Beam Shring (PL/AE)	0.597 in

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Sheet # 7

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ENDS

MIDSPAN

Draped strands		Dist. from bottom (in)	
Number			
7		11	
5		13	
3		15	
1		17	

Straight strands		Dist. from bottom (in)	
Number			
10		3	
17		5	
10		7	
2		9	

All strands		Dist. from bottom (in)	
Number			
17		3	
17		5	
13		7	
3		9	

Span 1, Beam 7

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol (C.Y.)	Concrete Wt (LB)	Stirrups (LB)	Longitudinal Bars (LB)
6629.134	651	4315.566	37.530	151997.766	987.470
					0.000

Span 1, Beam 7
REINFORCING STEEL:

Tension steel:	
fy	60.0 ksi
Es	29000 ksi
fs	24.0 ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	6.00	0.0000	2.3458	No

Units: U.S. Units

Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 10:55 A.M.

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Sheet # 8

Job #

LOSSES

Note: Values are calculated at Midspan

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	18.00	2.3458	7.5197	No
2	US#5(M16)	60.0	0.62	24.00	7.5197	125.0604	No
2	US#5(M16)	60.0	0.62	18.00	125.0604	130.2343	No
2	US#5(M16)	60.0	0.62	6.00	130.2343	132.5801	No

LOSSES

Note: Values are calculated at Midspan

Str. area	Ycg	P_init	Ecc	Days to release	Rel. Humid (RH)	Es	Eci
9.6000 in2	5.08 in	1944.0 kips	29.52 in	0.75	75.0 %	28500.0 ksi	4499 ksi

AASHTO LOSSES

Elastic Shortening ** 13.88 ksi (Eq 5.9.5.2.3a-1), (fcgpp = 2.192 ksi)

Elastic Gains		Gains		Adjustment	
due to Precast Loads	due to Composite Loads	due to Live Loads			
-7.06 ksi	-0.30 ksi	-4.66 ksi		0.00 ksi	0.00 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial	Final
Steel relaxation	0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi	7.31 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00 ksi	10.76 ksi (Eq 5.9.5.3-1)
Sub-total	13.88 ksi	8.45 ksi (4.17 %)
Total Prestress Losses		22.33 ksi (11.03 %)


Prestressing Stress Limit Check (Table 5.9.3.1)
Initial fpi = 202.5 ksi < 0.75 fpu, OK
Initial fpe = 180.2 ksi < 0.80 fpy, OK

** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations.
Please see theory section for complete explanation.

Units: U.S. Units

Design Code: AASHTO LRFD

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SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE I
 Shears: kips, Moments: kft

	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.81	3.65	13.26	26.52	39.77	53.03
Self wt. :	M	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2
(Max)	V	76.0	72.8	71.8	60.8	45.6	30.4	15.2
DL-Prec. :	M	-0.0	51.6	66.5	223.8	398.0	522.3	596.9
DC(Max)	V	18.8	18.0	17.7	15.0	11.3	7.5	3.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	261.4	336.7	1133.2	2014.6	2644.2	3021.9
Haunch (Max)	V	95.0	90.9	89.7	76.0	57.0	38.0	19.0
Diaphragm :	M	-0.0	5.8	7.3	19.1	17.5	16.0	14.4
(Max)	V	20.5	16.2	14.9	0.1	0.1	0.1	0.1
DL-Comp. :	M	0.0	17.0	21.9	73.8	131.2	172.3	196.9
DC(Max)	V	6.2	5.9	5.8	4.9	3.7	2.5	1.2
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	0.0	347.4	447.3	1499.1	2645.9	3440.5	3911.6
LL + :	V	152.1	147.6	146.3	131.2	110.3	89.4	60.1
LL + :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	Vmx	152.1	147.7	146.5	131.7	112.2	93.8	76.3
Total :	M	0.0	343.4	441.5	1450.4	2472.9	3099.9	3363.9
Total :	M+	0.0	892.5	1149.3	3855.9	6819.4	8911.2	10160.0
Total :	V	368.5	351.4	346.4	288.0	227.9	167.9	99.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	368.5	351.5	346.5	288.5	229.9	172.3	115.6
Total :	M	0.0	888.5	1143.4	3807.2	6646.4	8570.6	9612.3

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	79.55	92.81	106.06	119.32	128.93	129.77
Self wt. :	M	2418.2	2115.9	1612.1	906.8	269.5	209.2
(Max)	V	15.2	30.4	45.6	60.8	71.8	72.8
DL-Prec. :	M	596.9	522.3	398.0	223.8	64.5	51.6
DC(Max)	V	3.8	7.5	11.3	15.0	17.7	18.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	3021.9	2644.2	2014.6	1133.2	336.7	261.4
Haunch (Max)	V	19.0	38.0	57.0	76.0	89.7	90.9
Diaphragm :	M	11.3	9.8	8.2	6.7	2.4	1.9
(Max)	V	0.1	0.1	0.1	0.1	15.1	16.4
DL-Comp. :	M	196.9	172.3	131.2	73.8	21.9	17.0
DC(Max)	V	1.2	2.5	3.7	4.9	5.8	6.2
DL-Comp. :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + :	M+	3911.6	3440.5	2645.9	1499.1	447.3	347.4


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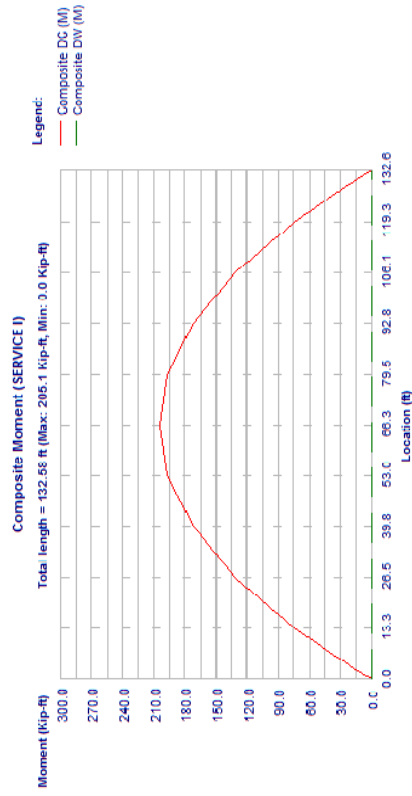
	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
LL + I :	V	60.1	89.4	110.3	131.2	146.3	152.1
	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	76.3	93.8	112.2	131.7	146.5	147.7
	M	3363.9	3099.9	2472.9	1450.4	441.5	343.4
Total :	M+	10156.9	8905.0	6810.1	3843.5	1144.3	888.6
	V	99.4	167.9	227.9	288.0	346.5	351.6
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	115.6	172.3	229.9	288.5	346.7	351.7
	M	9609.2	8564.4	6637.1	3794.8	1138.5	884.6

REACTIONS (kips), SERVICE I


Load Type	Left Support	Right Support
Self Wt.	76.0	76.0
Deck+Haunch	95.0	95.0
Diaphragm	20.5	20.7
DL-Prec.(DC)	18.8	18.8
DL-Prec.(DW)	0.0	0.0
DL-Comp.(DC)	55.7	55.7
DL-Comp.(DW)	0.0	0.0
Live	109.4	109.4
Pedestrian	0.0	0.0

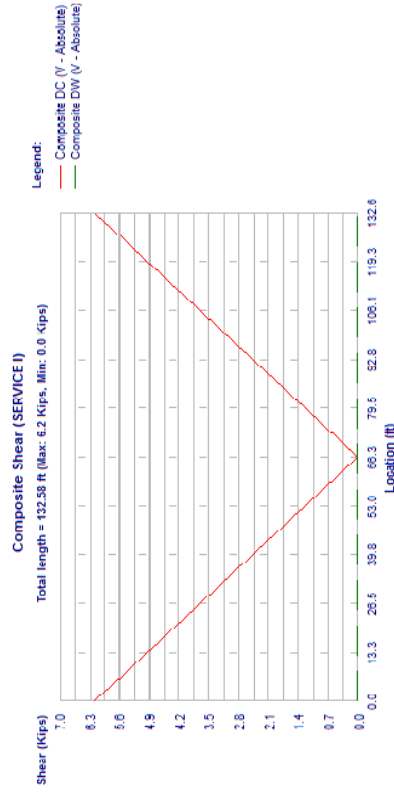
Upward reactions are positive.
 Live Load reactions are per lane with no distribution factor and no impact.
 Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
 Non-composite load types are per beam.
 Composite and Pedestrian load types are per total bridge width.

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Composite Moment, Span 1, Beam 7, SERVICE I

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Composite Shear, Span 1, Beam 7, SERVICE I

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Sheet # 15
Job #
Job #
Job #

Live Moment (SERVICE I)
Total length = 132.58 ft (Max: 4,044.7 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
13.3	1,000.0
26.5	2,000.0
39.8	3,000.0
53.0	4,000.0
66.3	4,044.7
79.5	3,000.0
92.8	2,000.0
106.1	1,000.0
119.3	0.0
132.6	0.0

Live Moment, Span 1, Beam 7, SERVICE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.

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Sheet # 16
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Live Shear (SERVICE I)
Total length = 132.58 ft (Max: 152.1 Kips, Min: 59.9 Kips)


Legend:
— LL + I (Vmk - Absolute)

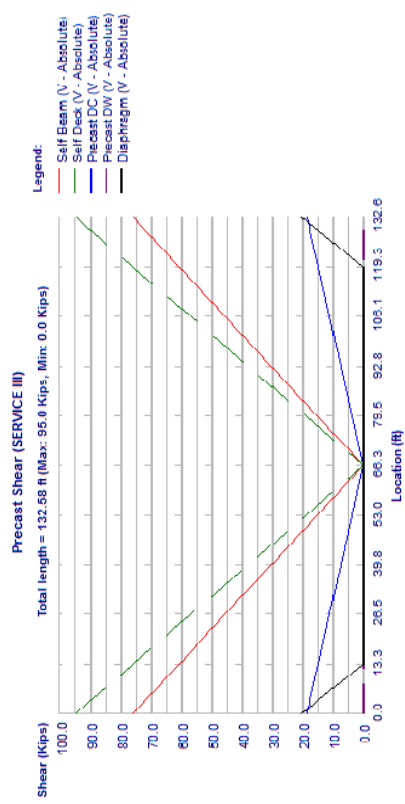
Location (ft)	Shear (Kips)
0.0	152.1
13.3	132.0
26.5	112.0
39.8	92.0
53.0	72.0
66.3	59.9
79.5	72.0
92.8	92.0
106.1	112.0
119.3	132.0
132.6	152.1

Live Shear, Span 1, Beam 7, SERVICE I


SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, SERVICE III
Shears: kips, Moments: kft

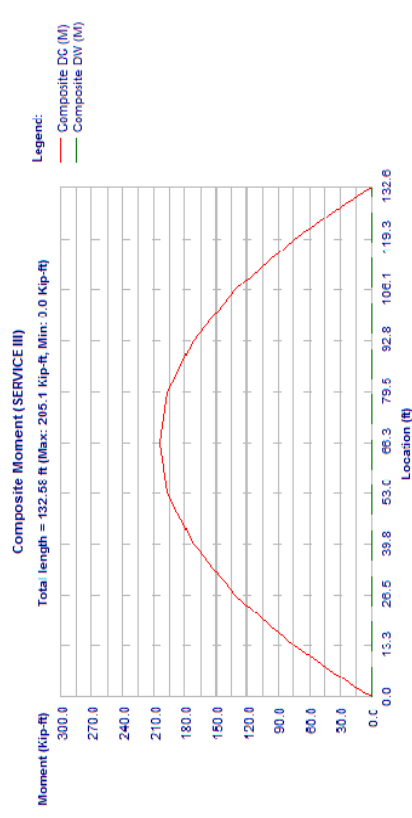
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt. :	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2	2519.0
(Max)	76.0	72.8	71.8	60.8	45.6	30.4	15.2	0.0
DL-Prec. :	-0.0	51.6	66.5	223.8	398.0	522.3	596.9	621.8
DC(Max)	18.8	18.0	17.7	15.0	11.3	7.5	3.8	0.0
DL-Prec. :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	0.0	261.4	336.7	1133.2	2014.6	2644.2	3021.9	3147.9
Haunch (Max)	95.0	90.9	89.7	76.0	57.0	38.0	19.0	0.0
Diaphragm :	-0.0	5.8	7.3	19.1	17.5	16.0	14.4	12.9
(Max)	20.5	16.2	14.9	0.1	0.1	0.1	0.1	0.1
DL-Comp :	0.0	17.0	21.9	73.8	131.2	172.3	196.9	205.1
DC(Max)	6.2	5.9	5.8	4.9	3.7	2.5	1.2	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	277.9	357.9	1199.2	2116.7	2752.4	3129.2	3235.8

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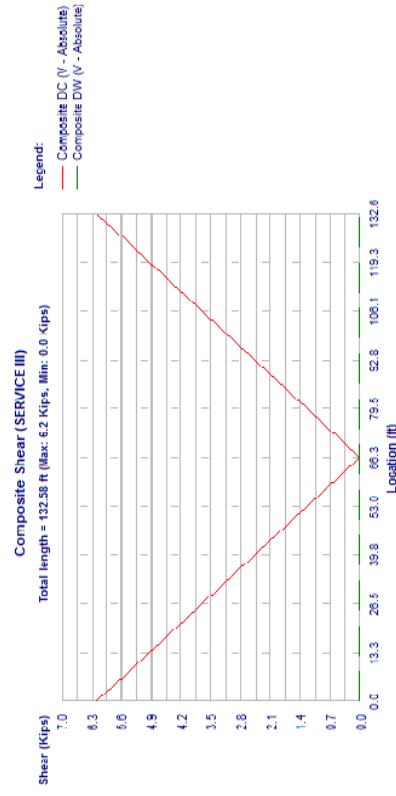
Precast Shear, Span 1, Beam 7, SERVICE III

		Sheet # 20	
		Job #	
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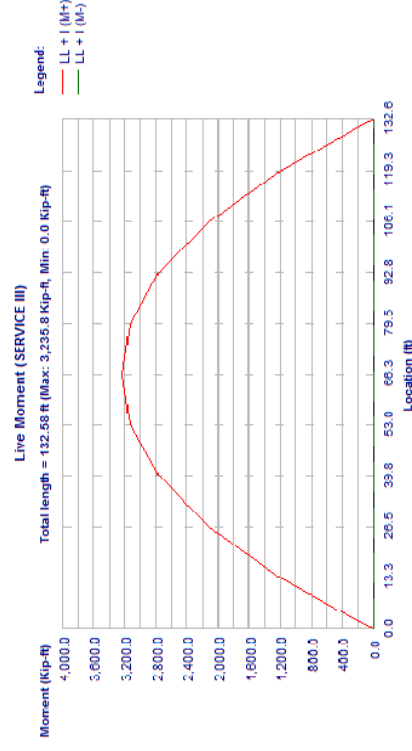
Composite Moment, Span 1, Beam 7, SERVICE III

		Sheet #	21
		Job #	
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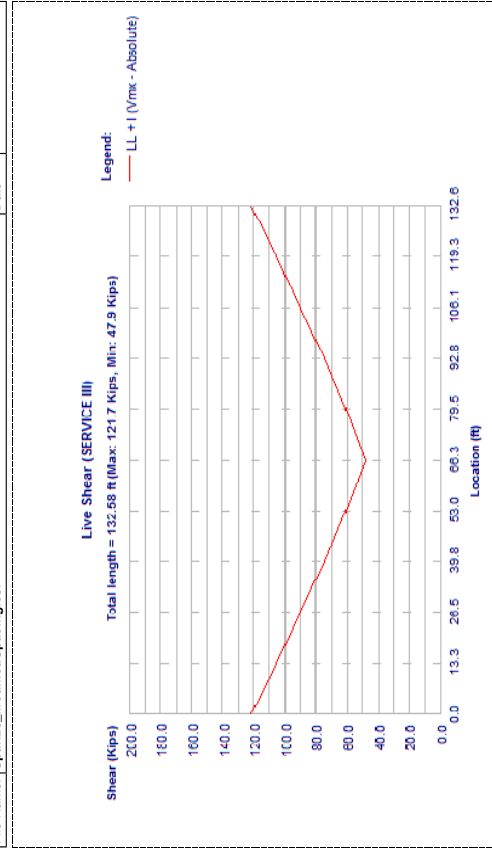
Composite Shear, Span 1, Beam 7, SERVICE III

		Sheet #	22
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 File Name: Span20 ModifiedSpacing.csl		SE Client Licenses	
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Live Moment, Span 1, Beam 7, SERVICE III

	Bentley		Sheet # 23
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File Name: Span20 Modified Spacing.cs1			



SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 7, STRENGTH I										
Shears: Kips, Moments: kt										
Location, Self wt. : (Max)	ft	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan	
Self wt. :		0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29	
(Max)	M	0.0	261.5	336.8	1133.5	2015.2	2644.9	3022.8	3148.7	
Self wt. :	V	95.0	91.0	89.8	76.0	57.0	38.0	19.0	0.0	
(Min)	M	0.0	186.3	242.5	816.1	1450.9	1904.3	2176.4	2267.1	
DL-Prec. :	V	68.4	65.5	64.6	54.7	41.0	27.4	13.7	0.0	
DC(Max)	M	-0.0	64.6	83.1	279.8	497.4	652.9	746.2	777.3	
DL-Prec. :	V	23.5	22.5	22.2	18.8	14.1	9.4	4.7	0.0	
DC(Min)	M	-0.0	46.5	59.9	201.5	358.2	470.1	537.2	559.6	
DL-Prec. :	V	16.9	16.2	16.0	13.5	10.1	6.8	3.4	0.0	
DW(Max)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DL-Prec. :	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DW(Min)	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Deck + :	M	0.0	326.8	420.9	1416.5	2518.3	3305.2	3777.4	3934.8	
Haunch (Max)	V	118.7	113.7	112.2	95.0	71.2	47.5	23.7	0.0	
Deck + :	M	0.0	235.3	303.1	1019.9	1813.2	2379.8	2719.7	2833.1	

 Bentley	Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	SE Client Licenses Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com	Sheet #	24
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File Name: Span20 ModifiedSpacing.csl			Phone: 1-800-778-4277		

		Bearing		Trans		H/2		0.10L		0.30L		0.40L		Midspan	
Haunch (Min)	V	85.5	81.8	80.8	68.4	51.3	34.2	17.1	0.0						
Diaphragm : (Max)	M	-0.0	7.2	9.1	23.8	21.9	20.0	18.0	16.1						
Diaphragm : (Min)	M	-0.0	5.2	6.6	17.2	15.8	14.4	13.0	11.6						
DL-Comp :	M	0.0	21.3	27.4	92.3	164.1	215.3	246.1	256.3						
DC(Max)	V	7.7	7.4	7.3	6.2	4.6	3.1	1.5	0.0						
DL-Comp :	M	0.0	15.3	19.7	66.4	118.1	155.0	177.2	184.6						
DC(Min)	V	5.6	5.3	5.3	4.5	3.3	2.2	1.1	0.0						
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
LL + I :	M+	0.0	608.0	782.8	2623.3	4630.3	6020.9	6845.2	7078.2						
LL + I :	V	266.1	258.4	256.1	229.6	193.0	156.4	105.1	68.6						
LL + I :	Vmx	266.1	258.5	256.3	230.4	196.4	164.2	133.6	104.8						
Total :	M+	0.0	601.0	772.6	2538.2	4327.5	5424.8	5886.8	5770.2						
Total :	V	536.6	513.1	506.1	425.6	340.1	254.5	154.3	68.7						
Total :	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Total :	Vmx	536.6	513.3	506.4	426.5	343.5	262.3	182.7	104.9						
Total :	M	0.0	1282.4	1650.1	5484.2	9544.4	12263.2	13697.3	13903.5						

		Bearing		Trans		H/2		0.90L		0.80L		0.70L		0.60L	
Location,	ft	79.55	92.81	106.06	119.32	128.93	129.77	132.58							
Self wt. :	M	3022.8	2644.9	2015.2	1133.5	336.8	261.5	0.0							
(Max)	M	19.0	38.0	57.0	76.0	89.8	91.0	95.0							
Self wt. :	V	2176.4	1904.3	1450.9	816.1	242.5	188.3	0.0							
(Min)	M	13.7	27.4	41.0	54.7	64.6	65.5	68.4							
DL-Prec :	M	746.2	652.9	497.4	279.8	83.1	64.6	-0.0							
DC(Max)	V	4.7	9.4	14.1	18.8	22.2	22.5	23.5							
DL-Prec :	M	537.2	470.1	358.2	201.5	59.9	46.5	-0.0							
DC(Min)	V	3.4	6.8	10.1	13.5	16.0	16.2	16.9							
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
DL-Prec :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Deck + :	M	3777.4	3305.2	2518.3	1416.5	420.9	326.8	0.0							
Haunch (Max)	M	23.7	47.5	71.2	95.0	112.2	113.7	118.7							
Deck + :	M	2719.7	2379.8	1813.2	1019.9	303.1	235.3	0.0							
Haunch (Min)	V	17.1	34.2	51.3	68.4	80.8	81.8	85.5							
Diaphragm :	M	14.2	12.2	10.3	8.4	2.9	2.3	0.0							
(Max)	V	0.1	0.1	0.1	0.1	18.8	20.5	25.9							
Diaphragm :	M	10.2	8.8	7.4	6.0	2.1	1.7	0.0							
(Min)	V	0.1	0.1	0.1	0.1	13.6	14.7	18.7							
DL-Comp :	M	246.1	215.3	164.1	92.3	27.4	21.3	0.0							
DC(Max)	V	1.5	3.1	4.6	6.2	7.3	7.4	7.7							
DL-Comp :	M	177.2	155.0	118.1	66.4	19.7	15.3	0.0							

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	1.1	2.2	3.3	4.5	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6845.2	6020.9	4630.3	2623.3	782.8	608.0
LL + I :	M-	105.1	156.4	193.0	229.6	256.1	258.4
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	133.6	164.2	196.4	230.4	256.3	258.5
Total :	M	5886.8	5424.8	4327.5	2538.2	772.6	601.0
Total :	M+	14651.9	12851.5	9835.6	5553.9	1654.1	1284.5
Total :	V	154.3	254.5	340.1	425.6	506.3	513.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	182.7	262.3	343.5	426.5	506.6	513.5
Total :	M	13693.4	12255.4	9532.8	5468.7	1643.9	1277.5

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	118.7	118.7
Diaphragm	25.6	25.9
DL-Prec(DC)	23.5	23.5
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	69.6	69.6
DL-Comp(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.

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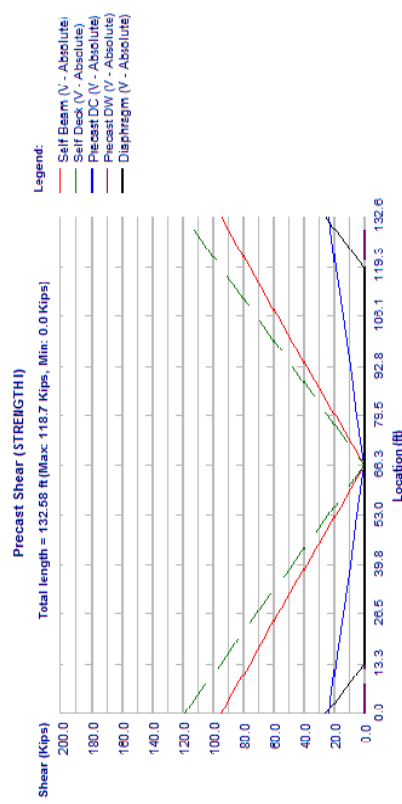
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Precast Moment, Span 1, Beam 7, STRENGTH I

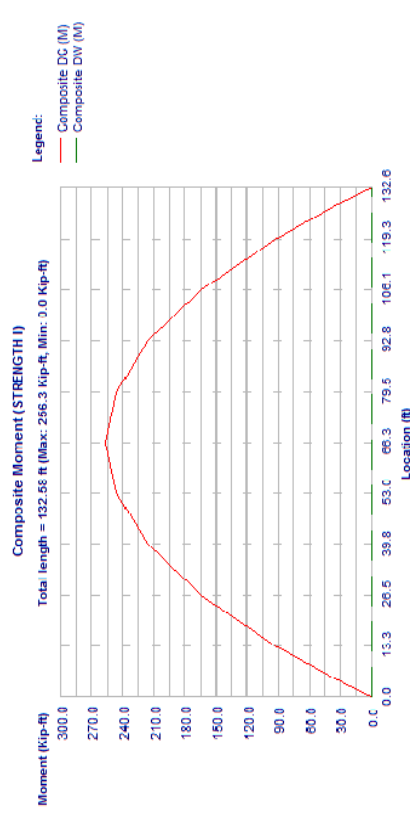
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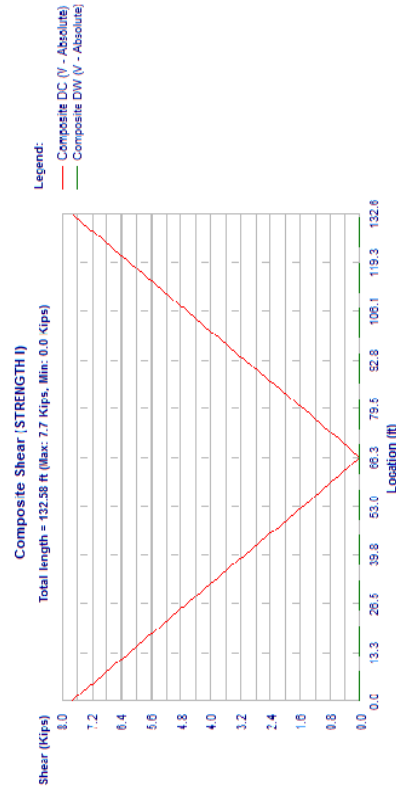
Precast Shear, Span 1, Beam 7, STRENGTH I

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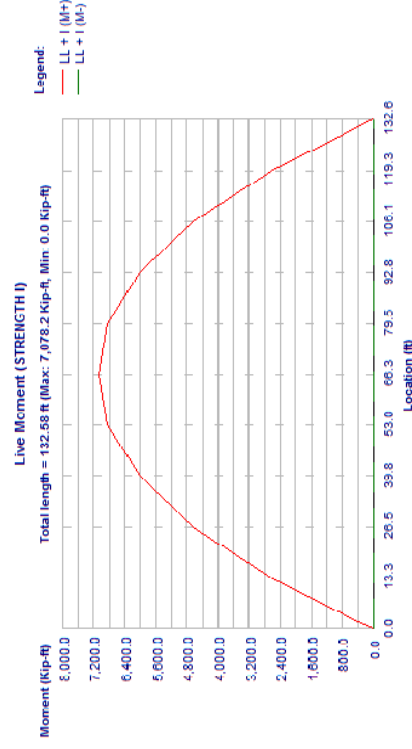
Composite Moment, Span 1, Beam 7, STRENGTH I

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Composite Shear, Span 1, Beam 7, STRENGTH I

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Live Moment, Span 1, Beam 7, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	1651.1	1470.2	1135.2	653.3	196.7	152.9
LL + I :	M-	36.3	45.4	60.2	69.2	75.8	76.4
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	42.0	51.1	60.2	69.2	75.8	76.4
LL + I :	M	1585.0	1445.8	1135.2	653.3	196.7	152.9
Total :	M+	7896.4	6934.7	5299.4	2997.7	893.7	694.1
Total :	V	75.6	123.9	177.8	226.1	276.0	280.4
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	81.3	129.6	177.8	226.1	276.0	280.4
Total :	M	7830.3	6910.3	5299.4	2997.7	893.7	694.1

Precast Moment (FATIGUE I)

Total length = 132.58 ft (Max: 3,147.9 Kip-ft, Min 0.0 Kip-ft)

Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 7, FATIGUE I

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Sheet # 34

Job #

Precast Shear (FATIGUE I)

Total length = 132.58 ft (Max: 95.0 Kips, Min: 0.0 Kips)

Legend:


- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

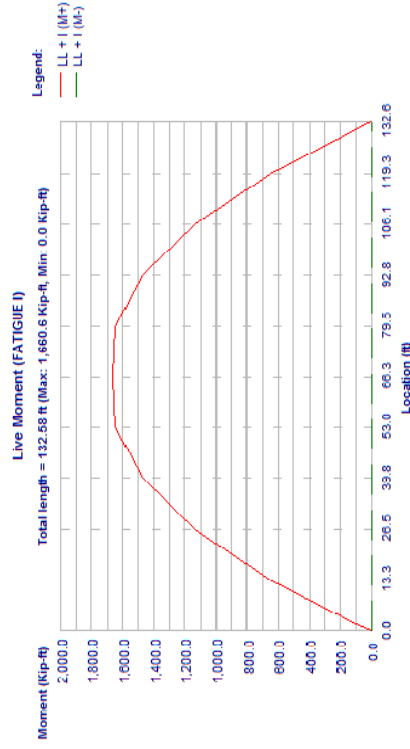
Precast Shear, Span 1, Beam 7, FATIGUE I

Units: U.S. Units


Design Code: AASHTO LRFD

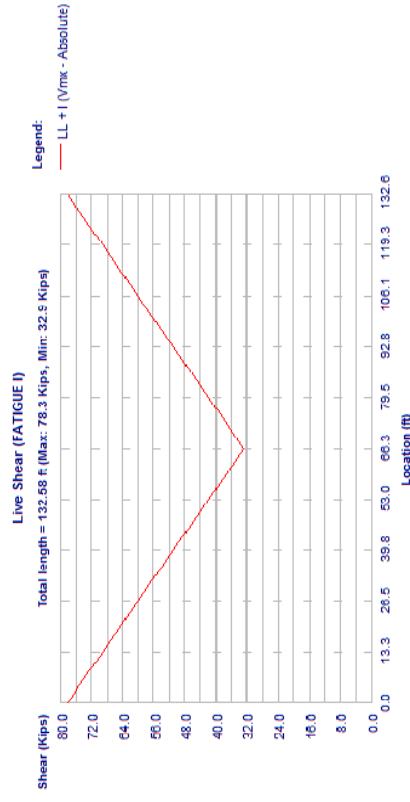
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Live Moment, Span 1, Beam 7, FATIGUE I

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Live Shear, Span 1, Beam 7, FATIGUE I



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PROPERTIES

Span:1, Beam:8

PRECAST DATA:

Section Id	FIB-78				
Type	I-Girder				
Fing width	Top 48,000 in	Bot 38,000 in			
thick	Top 3,000 in	Bot 7,000 in			
Stems	No 1				
	Top 7,000 in				
	Bot 7,000 in				
Shear width					

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.



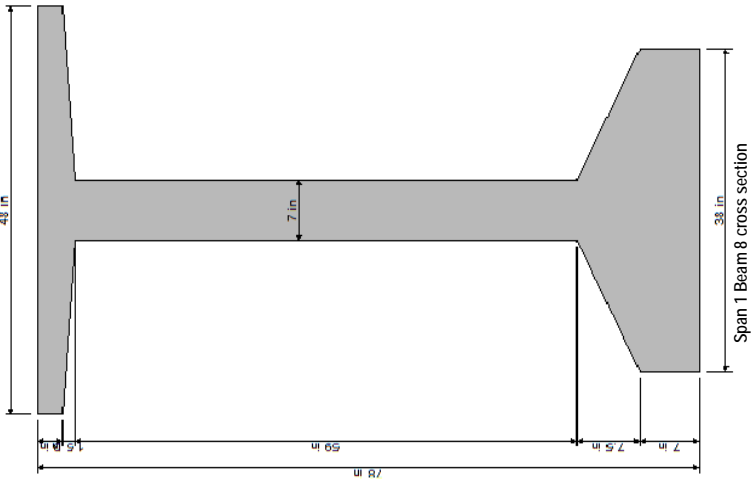
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Span 1 Beam 8 cross section

GENERAL BRIDGE DATA:

Bridge Width	103.07 ft
Curb-to-curb	99.99 ft
Beam Spac. LL/RT	12.90 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Interior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees

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Span1: Beam:8

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

Strength	PRECAST	ksi
Elasticity	6.80*	ksi
Max comp	4499.3	ksi
Outer	4.08	ksi
15.00 %		
Max tens	-0.25	ksi
Max tens, wireinf	-0.99	ksi
Center	70.00 %	
Max tens	-0.25	ksi
Max tens, wireinf	-0.63	ksi

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.

STRESS LIMITS AT FINAL AFTER LOSSES:

PRECAST	DECK
Strength	10.00 ksi 5.50 ksi
Elasticity	5456.24 ksi 3845.83 ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

PRECAST	DECK
Max comp	6.00 ksi 3.30 ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

PRECAST	DECK
Max comp	4.50 ksi 2.47 ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

PRECAST	DECK
Max comp	4.00 ksi - ksi


SERVICE III (Tension):

PRECAST	DECK
Max tens	-0.60 ksi -0.45 ksi

Span1: Beam:8

PRESTRESSED STEEL:

50 strands, 9/16-270K-LL, Low relaxation strands
Depressed at 0.40L (53.03 ft from member end)

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END PATTERN (Vcg = 7.64 in):

10 @ 3,000 in	12 @ 5,000 in	10 @ 7,000 in	2 @ 9,000 in
7 @ 11,000 in	5 @ 13,000 in	3 @ 15,000 in	1 @ 17,000 in

MID PATTERN (Vcg = 5.08 in):

(A) Draped:

7 @ 3,000 in	5 @ 5,000 in	3 @ 7,000 in	1 @ 9,000 in
--------------	--------------	--------------	--------------

(B) Straight:

10 @ 3,000 in	12 @ 5,000 in	10 @ 7,000 in	2 @ 9,000 in
---------------	---------------	---------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	9.600 in ²
Trans. Len. bonded	2.812 ft
Trans. Len. debonded	2.812 ft
Dev. Len. bonded	10.839 ft
Dev. Len. debonded	13.548 ft
Holddown Force	7.820 kips
Tensile Strength(fpu)	270.0 ksi
Initial Prestress = 0.75fpu	202.5 ksi
Initial Pull	1944.0 kips
Beam Shring (PL/AE)	0.597 in

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Sheet # 7
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ENDS

MIDSPAN

Strand Pattern, Span 1, Beam 8

Span1, Beam:8

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.V.) (LB)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
6629.134	651	4315.566	37.530	151997.766	987.470
					0.000

Span1, Beam:8

REINFORCING STEEL:

Tension steel:	fy	Es	fs
	60.0 ksi	29000 ksi	24.0 ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	6.00	0.0000	2.3458	No

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ENDS

MIDSPAN

Strand Pattern, Span 1, Beam 8

Span1, Beam:8

ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	Beam Vol(C.V.) (LB)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
6629.134	651	4315.566	37.530	151997.766	987.470
					0.000

Span1, Beam:8

REINFORCING STEEL:

Tension steel:	fy	Es	fs
	60.0 ksi	29000 ksi	24.0 ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	6.00	0.0000	2.3458	No

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#5(M16)	60.0	0.62	18.00	2.3458	7.5197	No
2	US#5(M16)	60.0	0.62	24.00	7.5197	125.0604	No
2	US#5(M16)	60.0	0.62	18.00	125.0604	130.2343	No
2	US#5(M16)	60.0	0.62	6.00	130.2343	132.5801	No

LOSSES

Note: Values are calculated at Midspan

Str. area	9.6000 in2
Ycg	5.08 in
P_init	1944.0 kips
Ecc	29.52 in
Days to release	0.75
Rel. Humid (RH)	75.0 %
Es	28500.0 ksi
Eci	4499 ksi

AASHTO LOSSES

Elastic Shortening ** 13.88 ksi (Eq 5.9.5.2.3a-1), (fcgpp = 2.192 ksi)

	Elastic Gains	Gains	Adjustment
due to Precast Loads		-7.06 ksi	0.00 ksi
due to Composite Loads		-0.30 ksi	0.00 ksi
due to Live Loads		-4.66 ksi	0.00 ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))


	Initial	Final
Steel relaxation	0.00 ksi	2.40 ksi (Eq 5.9.5.3-1)
Concrete shrinkage	0.00 ksi	7.31 ksi (Eq 5.9.5.3-1)
Concrete creep	0.00 ksi	10.76 ksi (Eq 5.9.5.3-1)
Total Prestress Losses		8.45 ksi (4.17 %)
		22.33 ksi (11.03 %)

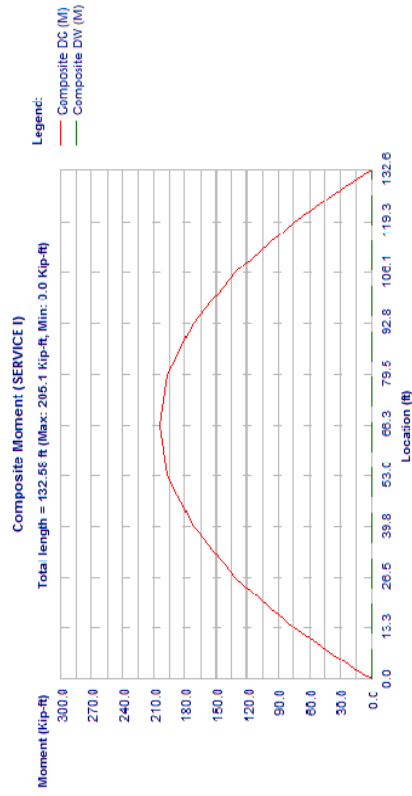
Prestressing Stress Limit Check (Table 5.9.3.1)

Initial fpi = 202.5 ksi < 0.75 fpu, OK
Initial fpe = 180.2 ksi < 0.80 fpy, OK


** Since the transformed section properties option has been selected, even though ES losses have been calculated explicitly here, they are not included as a part of stress calculations. Please see theory section for complete explanation.

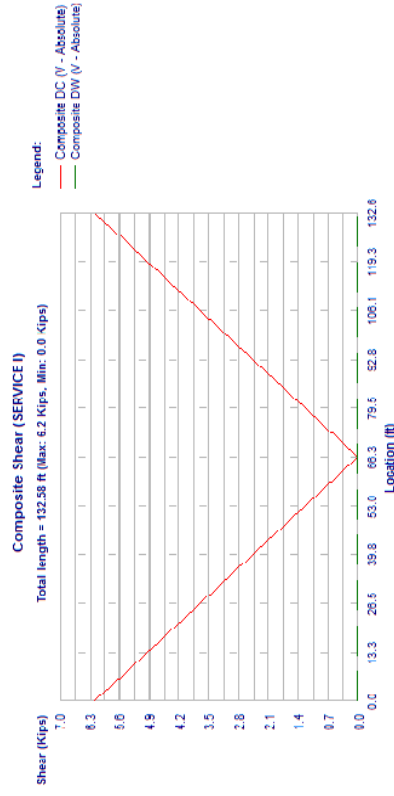
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Composite Moment, Span 1, Beam 8, SERVICE I

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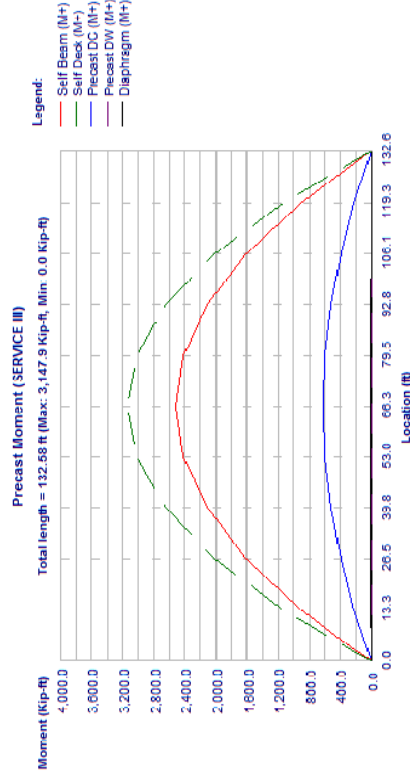
Composite Shear, Span 1, Beam 8, SERVICE I




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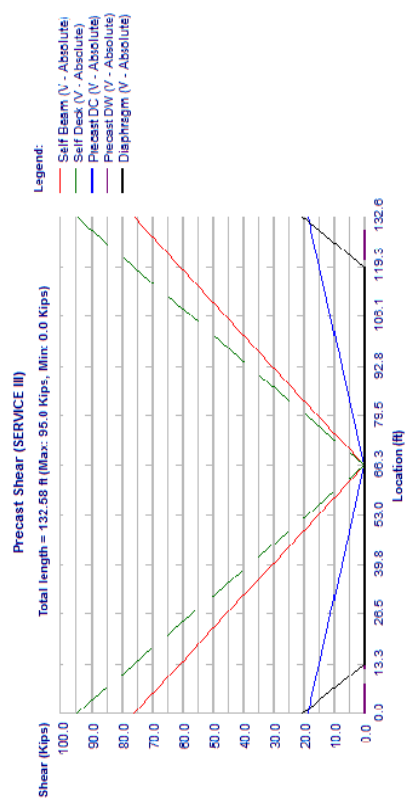
	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
V	121.7	118.1	117.1	104.9	88.2	71.5	48.1	31.3
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	121.7	118.2	117.2	105.3	89.8	75.0	61.1	47.9
LL + I:	0.0	274.8	353.2	1160.3	1978.3	2479.9	2691.1	2637.8
M	0.0	823.1	1059.8	3556.1	6290.2	8223.1	9377.6	9742.4
M+	0.0	338.1	321.9	317.1	261.8	205.9	150.0	87.4
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
V	338.1	322.0	317.2	262.2	207.5	153.5	100.4	48.0
Vmx	338.1	322.0	317.2	262.2	207.5	153.5	100.4	48.0
Total:	0.0	819.9	1055.1	3517.1	6151.8	7950.6	8939.5	9144.4

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	79.55	92.81	106.06	119.32	128.93	129.77	132.58
Self wt.:		2418.2	2115.9	1612.1	906.8	269.5	209.2	
(Max)	V	152	30.4	45.6	60.8	71.8	72.8	76.0
DL-Prec.:	V	596.9	522.3	398.0	223.8	66.5	51.6	40.0
DC(Max)	V	3.8	7.5	11.3	15.0	17.7	18.0	18.8
DL-Prec.:	M	0	0	0	0	0	0	0
DW(Max)	V	0	0	0	0	0	0	0
Deck +:	M	3021.9	2644.2	2014.6	1133.2	336.7	261.4	0
Haunch (Max)	V	19.0	38.0	57.0	76.0	89.7	90.9	95.0
Diaphragm:	M	11.3	9.8	8.2	6.7	2.4	1.9	0
(Max)	V	0.1	0.1	0.1	0.1	15.1	16.4	20.7
DL-Comp:	M	196.9	172.3	131.2	73.8	21.9	17.0	0
DC(Max)	V	1.2	2.5	3.7	4.9	5.8	5.9	6.2
DL-Comp:	M	0	0	0	0	0	0	0
DW(Max)	V	3129.2	2752.4	2116.7	1199.2	357.9	277.9	0
LL + 1:	M+	V	48.1	71.5	88.2	104.9	117.1	118.1
LL + 1:	M-	0	0	0	0	0	0	0
	V	0	0	0	0	0	0	0
LL + 1:	M	61.1	75.0	89.8	105.3	117.2	118.2	121.7
Total:	M+	2691.1	2479.9	1978.3	1160.3	353.2	274.8	0
	V	9374.5	8216.9	6280.9	3543.7	1054.9	819.1	0
Total:	M-	V	87.4	150.0	205.9	261.8	317.3	338.3
	V	0	0	0	0	0	0	0
Total:	M	100.4	153.5	207.5	262.2	317.4	322.2	338.3
	V	8936.4	7944.4	6142.5	3504.7	1050.2	815.9	0




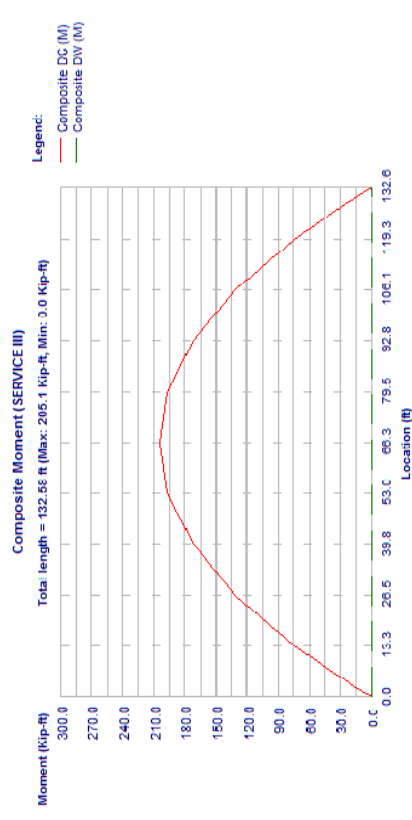
Precast Moment. Span 1, Beam 8, SERVICE III

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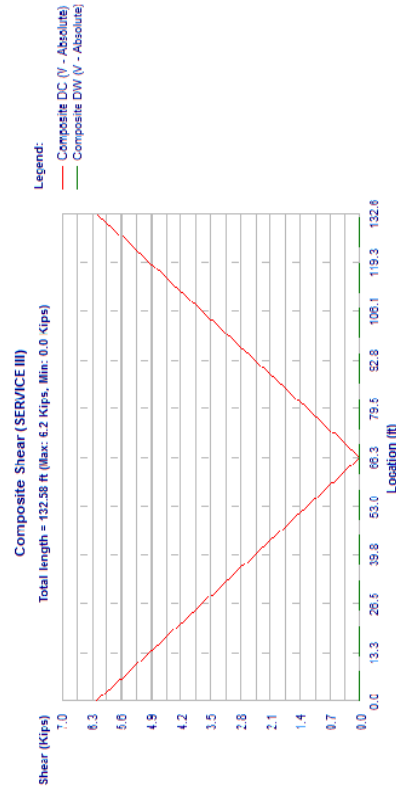
Precast Shear, Span 1, Beam 8, SERVICE III

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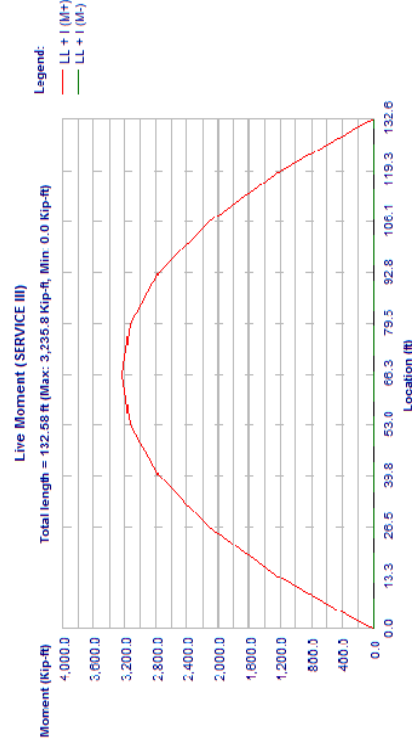
Composite Moment, Span 1, Beam 8, SERVICE III

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Composite Shear, Span 1, Beam 8, SERVICE III

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Live Moment, Span 1, Beam 8, SERVICE III

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	6845.2	6020.9	4630.3	2623.3	782.8	608.0
LL + I :	M-	105.1	156.4	193.0	229.6	256.1	258.4
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M	133.6	164.2	196.4	230.4	256.3	258.5
Total :	M	5886.8	5424.8	4327.5	2538.2	772.6	601.0
Total :	M+	14651.9	12851.5	9835.6	5553.9	1654.1	1284.5
Total :	V	154.3	254.5	340.1	425.6	506.3	513.3
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	182.7	262.3	343.5	426.5	506.6	513.5
Total :	M	13693.4	12255.4	9532.8	5468.7	1643.9	1277.5

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	118.7	118.7
Diaphragm	25.6	25.9
DL-Prec(DC)	23.5	23.5
DL-Prec(DW)	0.0	0.0
DL-Comp(DC)	69.6	69.6
DL-Comp(DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

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Precast Moment (STRENGTH I)


Total length = 132.58 ft (Max: 3,934.8 Kip-ft, Min: 0.0 Kip-ft)

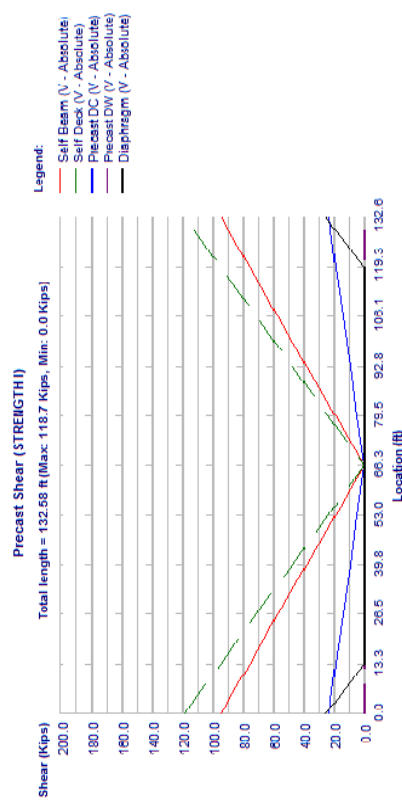
Legend:

- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)


Precast Moment, Span 1, Beam 8, STRENGTH I

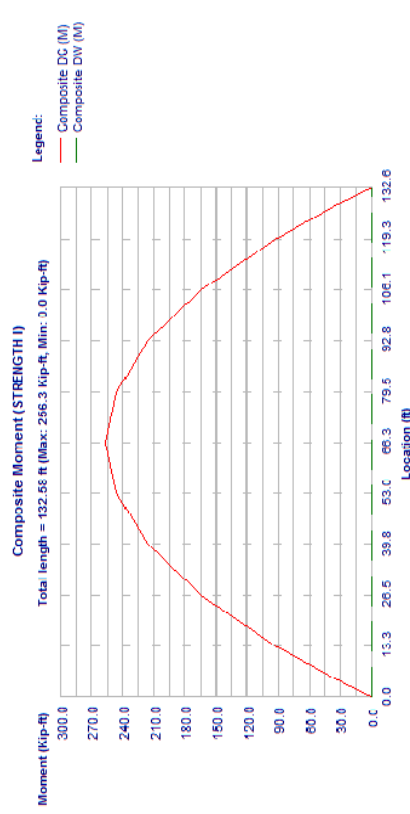
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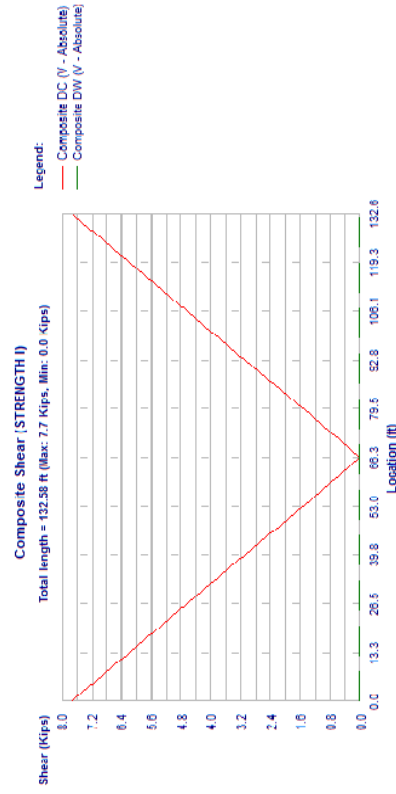
Precast Shear, Span 1, Beam 8, STRENGTH I

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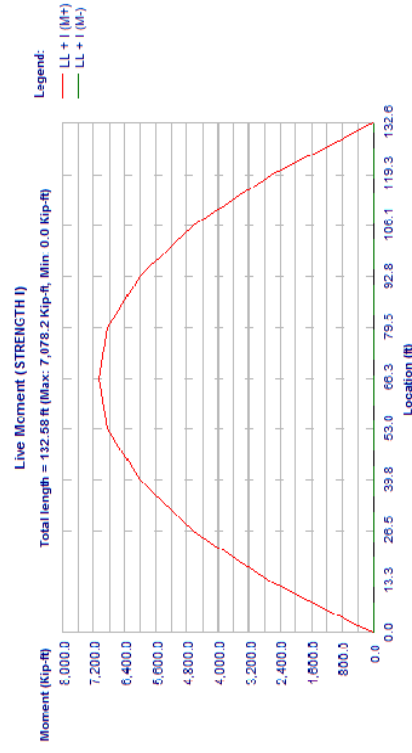
Composite Moment, Span 1, Beam 8, STRENGTH I

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Composite Shear, Span 1, Beam 8, STRENGTH I

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Live Moment, Span 1, Beam 8, STRENGTH I

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	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	1651.1	1470.2	1135.2	653.3	196.7	152.9	0.0
LL + I :	36.3	45.4	60.2	69.2	75.8	76.4	78.3
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	42.0	51.1	60.2	69.2	75.8	76.4	78.3
M	1585.0	1445.8	1135.2	653.3	196.7	152.9	0.0
Total :	7896.4	6934.7	5299.4	2997.7	893.7	694.1	0.0
Total :	75.6	123.9	177.8	226.1	276.0	280.4	295.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vmx	81.3	129.6	177.8	226.1	276.0	280.4	295.0
M	7830.3	6910.3	5299.4	2997.7	893.7	694.1	0.0

Moment (Kip-ft)

Precast Moment (FATIGUE I)

Total length = 132.58 ft (Max: 3,147.9 Kip-ft, Min 0.0 Kip-ft)

Location (ft)

Precast Moment, Span 1, Beam 8, FATIGUE I

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Shear (Kips)

Precast Shear (FATIGUE I)

Total length = 132.58 ft (Max: 95.0 Kips, Min: 0.0 Kips)

Location (ft)

Precast Shear, Span 1, Beam 8, FATIGUE I

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Job #

Composite Moment (FATIGUE I)

Total length = 132.58 ft (Max: 205.1 kip-ft, Min: 0.0 kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)
- Composite DW (M)

Location (ft)	Composite DC (M)	Composite DW (M)	Composite DW (M)
0.0	0.0	0.0	0.0
13.3	10.0	5.0	2.0
26.5	40.0	20.0	8.0
39.8	100.0	50.0	20.0
53.0	180.0	90.0	35.0
66.3	205.1	100.0	40.0
79.5	180.0	90.0	35.0
92.8	100.0	50.0	20.0
106.1	40.0	20.0	8.0
119.3	10.0	5.0	2.0
132.6	0.0	0.0	0.0

Composite Moment, Span 1, Beam 8, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.

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Sheet # 36

Job #

Composite Shear (FATIGUE I)

Total length = 132.58 ft (Max: 6.2 Kips, Min: 0.0 Kips)


Legend:

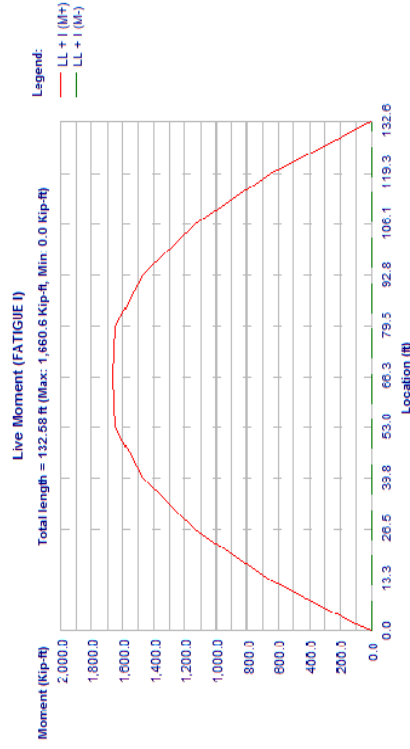
- Composite DC (V - Absolute)
- Composite DW (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Composite DC (V - Absolute)	Composite DW (V - Absolute)	Composite DW (V - Absolute)
0.0	6.2	3.0	1.0
13.3	5.0	2.0	0.5
26.5	3.0	1.0	0.2
39.8	1.0	0.5	0.1
53.0	0.0	0.0	0.0
66.3	0.0	0.0	0.0
79.5	0.0	0.0	0.0
92.8	0.0	0.0	0.0
106.1	0.0	0.0	0.0
119.3	0.0	0.0	0.0
132.6	0.0	0.0	0.0


Composite Shear, Span 1, Beam 8, FATIGUE I

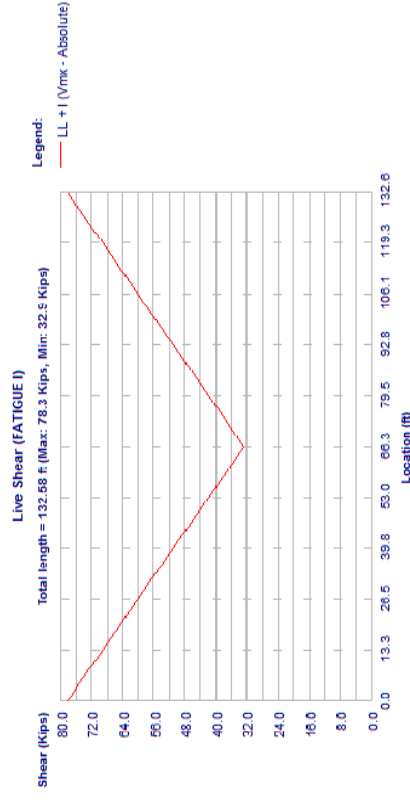
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.

			Sheet #	37
			Job #	
			Designed	KSM
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Live Moment, Span 1, Beam 8, FATIGUE I

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Live Shear, Span 1, Beam 8, FATIGUE I

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Sheet # 1

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PROPERTIES

Span:1, Beam:9

PRECAST DATA:

Section Id	FIB-78			
Type	I-Girder			
Fing width	Top 48,000 in	Bot 38,000 in		
thick	Top 3,000 in	Bot 7,000 in		
Stems	No 1			
	Top 7,000 in			
	Bot 7,000 in			
Shear width				

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

Units: U.S. Units

Design Code: AASHTO LRFD

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Span 1 Beam 9 cross section

GENERAL BRIDGE DATA:

Bridge Width	103.07 ft
Curb-to-curb	99.99 ft
Beam Spac. LL/RT	12.90/4.74 ft
Lane width	12.00 ft
Number of lanes	8
Interior/Exterior	Exterior
Start Skew Angle	0.00 degrees
End Skew Angle	0.00 degrees

Units: U.S. Units

Design Code: AASHTO LRFD

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TOPPING DATA:

Deck	Thickness	8.500	in
Haunch:	Thickness	1.000	in
	Width	60.000	in
Effective	width	134.252	in (Art. 4.6.2.6.1)

GENERAL LOAD DATA:

DEAD LOADS ON PRECAST

UNITS: (Point: kips, Localon: ft, Line: klf, Trapez: klf)

DC/DW	Type	Mag.1	Loc.1	Mag.2	Loc.2	Description
DC	Point	0.079	0.000	-	-	SIP
DC	Point	0.125	0.000	-	-	Haunch

Diaphragm loads - using Wizard:
(kips, ft)

Mag.	Loc.
10.31	1.00
10.31	132.33

Dead loads on composite: See Project Info for composite loads

GENERAL SPAN DATA:

Overall length	132.580	ft
Release length	132.580	ft
Design length	132.580	ft

KERN POINTS:

Upper	58.35	in
Lower	15.66	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Type k, with deck

Live Moment	(2+ lanes loaded)	1.075	(Calculated)
Live Moment	(1 lane loaded)	1.032	(Calculated)
Live Shear	(2+ lanes loaded)	1.070	(Calculated)
Live Shear	(1 lane loaded)	1.032	(Calculated)

(#) Lever rule (C4.6.2.2.1)

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Pedestrian	0.111	(Calculated)
Comp. DC	0.111	(Calculated)
Comp. DW	0.111	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90


SECTION PROPERTIES:

	PRECAST		COMPOSITE	
Area	1100.6	in2	1947.2	in2
Total Height	78.00	in	87.50	in
Mom. of Inertia (Ixx)	904567	in4	2031885	in4
Ht. of c.g.	34.60	in	55.65	in
Density	150.00	pcf	150.00	pcf
Self-weight	1146.5	plf	2397.7	plf
Mom. of Inertia (Iyy)	82367.0	in4		
Poisson's Ratio	0.2			
Thermal Coeff.	0.000006000	1/°F		

(#) Of Total Section using Ecl/Ec = 0.7048
Use transformed strand and rebar: Strand Only

Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Precast: (At Release, using Ec = 4499.3ksi)	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Area, Yb,	in2	1100.6	1146.7	1146.7	1146.7	1146.7	1146.7	1146.7
M(Ixx),	in4	34.60	33.51	33.49	33.46	33.43	33.40	33.40
Composite: (At Final, using Ec = 5456.2ksi)		904567	937123	938373	940134	941940	943792	943792
Area, Yb,	in2	1947.2	1983.7	1983.7	1983.7	1983.7	1983.7	1983.7
	in	55.65	54.76	54.75	54.74	54.73	54.71	54.71

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.



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Location,	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
M(l)(xx),	ft	ft	ft	ft	ft	ft	ft	ft
	in4	in4	in4	in4	in4	in4	in4	in4
	2031884	2114870	2115024	2116813	2119312	2121847	2124418	2124418

Span1: Beam-9
STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES (Using Advanced Settings):

	PRECAST	DECK
Strength	6.80*	
Elasticity	4499.3	5.50
Max comp	4.08	3.30
Outer	15.00 %	
Max tens	-0.25	
Max tens, wireinf	-0.99	
Center	70.00 %	
Max tens	-0.25	
Max tens, wireinf	-0.63	

* FDOT section 4.3.1, C4 requires that concrete strength at release be lesser than 0.8 * f_c or 6.0 ksi.
STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST	DECK
Strength	10.00	5.50
Elasticity	5456.24	3845.83

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST	DECK
Max comp	6.00	3.30

STRESS LIMITS AT FINAL 2 (P/S + DL):


	PRECAST	DECK
Max comp	4.50	2.47

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST	DECK
Max comp	4.00	-

SERVICE III (Tension):

	PRECAST	DECK
Max tens	-0.60	-0.45



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Span1: Beam-9
PRESTRESSED STEEL:
45 strands, 9/16-270K-LI, Low relaxation strands
Depressed at 0.40L (53.03 ft from member end)

END PATTERN (Ycg = 7.67 in):

10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
7 @ 11.000 in	5 @ 13.000 in	3 @ 15.000 in	1 @ 17.000 in

MID PATTERN (Ycg = 4.82 in):
(A) Draped:

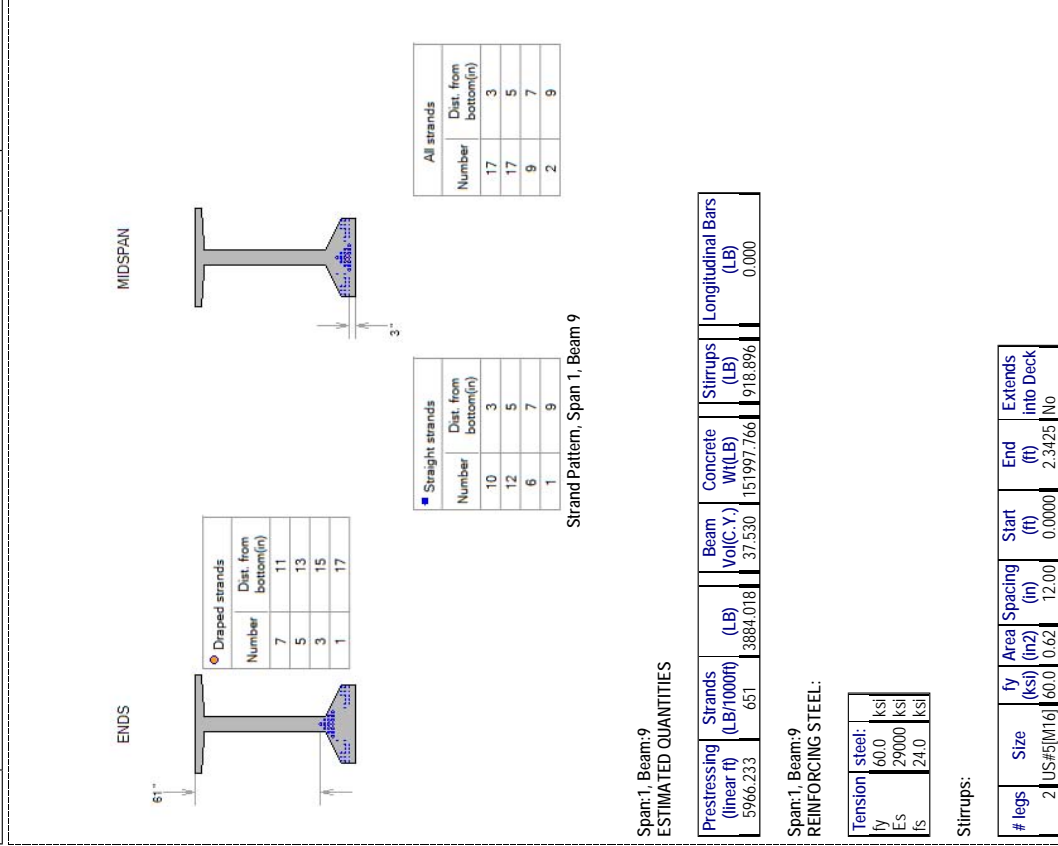
7 @ 3.000 in	5 @ 5.000 in	3 @ 7.000 in	1 @ 9.000 in
--------------	--------------	--------------	--------------

(B) Straight:

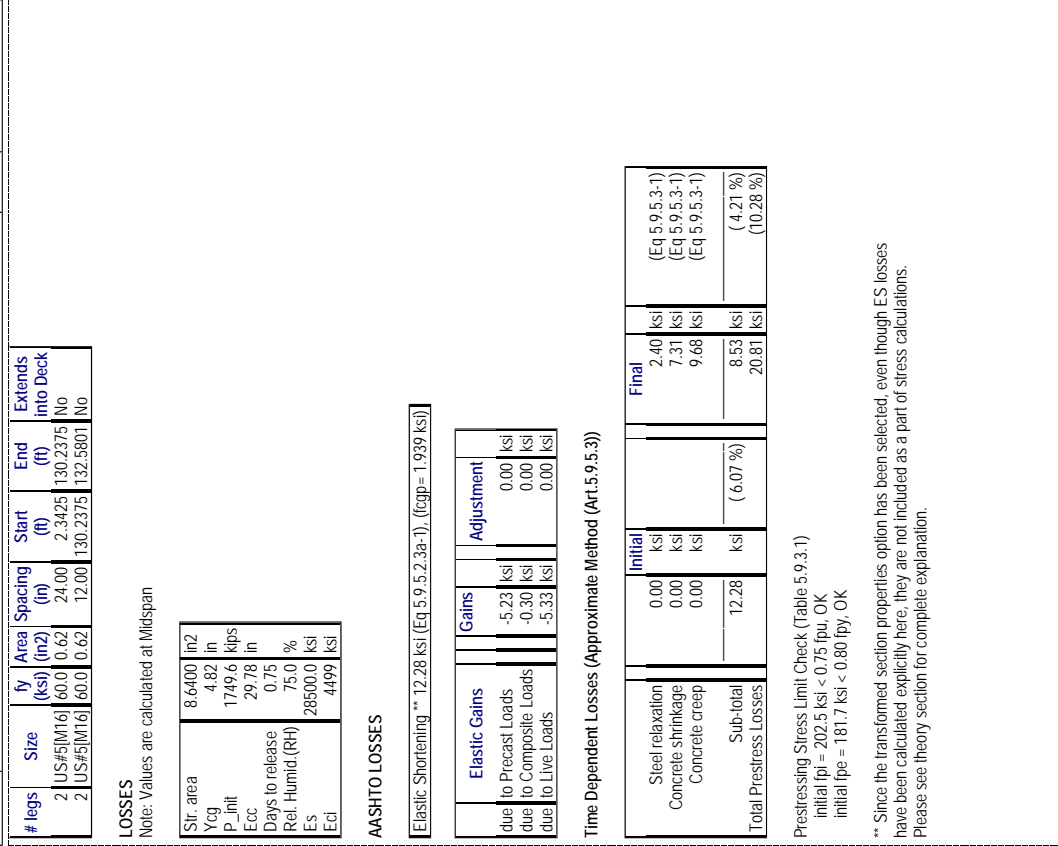
10 @ 3.000 in	12 @ 5.000 in	6 @ 7.000 in	1 @ 9.000 in
---------------	---------------	--------------	--------------

Strand Diameter	0.562 in
Strand Area	0.192 in ²
Total Strand Area	8.640 in ²
Trans. Len. bonded	2.812 ft
Trans. Len. debonded	2.812 ft
Dev. Len. bonded	10.774 ft
Dev. Len. debonded	13.468 ft
Holddown Force	7.820 kips
Tensile Strength(pu)	270.0 ksi
Initial Prestress = 0.75pu	202.5 ksi
Initial Pull	1749.6 kips
Beam String (P/A/E)	0.540 in

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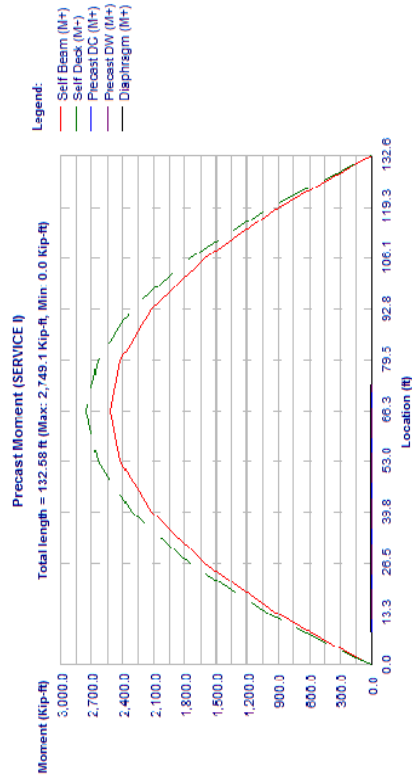
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Precast Moment, Span 1, Beam 9, SERVICE I

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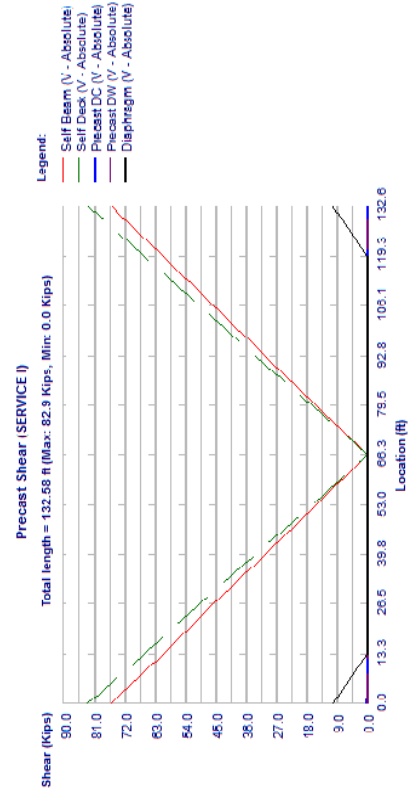
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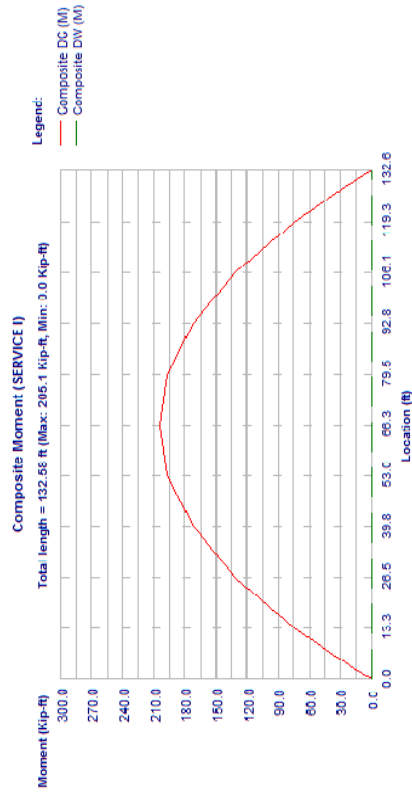
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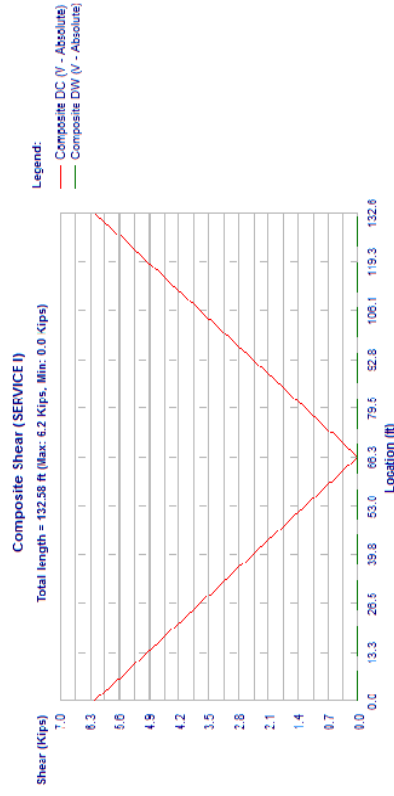
Precast Shear, Span 1, Beam 9, SERVICE I

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Composite Moment, Span 1, Beam 9, SERVICE I

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Composite Shear, Span 1, Beam 9, SERVICE I

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Sheet # 15
Job #

Live Moment (SERVICE I)
Total length = 132.58 ft (Max: 4,922.5 Kip-ft, Min: 0.0 Kip-ft)

Legend:
— LL + I (M+)
— LL + I (M-)

Location (ft)	Moment (Kip-ft)
0.0	0.0
13.3	1,000.0
26.5	2,000.0
39.8	3,000.0
53.0	4,000.0
66.3	4,922.5
79.5	4,000.0
92.8	3,000.0
106.1	2,000.0
119.3	1,000.0
132.6	0.0

Live Moment, Span 1, Beam 9, SERVICE I

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Sheet # 16
Job #

Live Shear (SERVICE I)
Total length = 132.58 ft (Max: 140.7 Kips, Min: 55.4 Kips)

Legend:
— LL + I (Vmk - Absolute)


Location (ft)	Shear (Kips)
0.0	140.7
13.3	125.0
26.5	109.3
39.8	93.6
53.0	77.9
66.3	62.2
79.5	46.5
92.8	30.8
106.1	15.1
119.3	-0.6
132.6	140.7

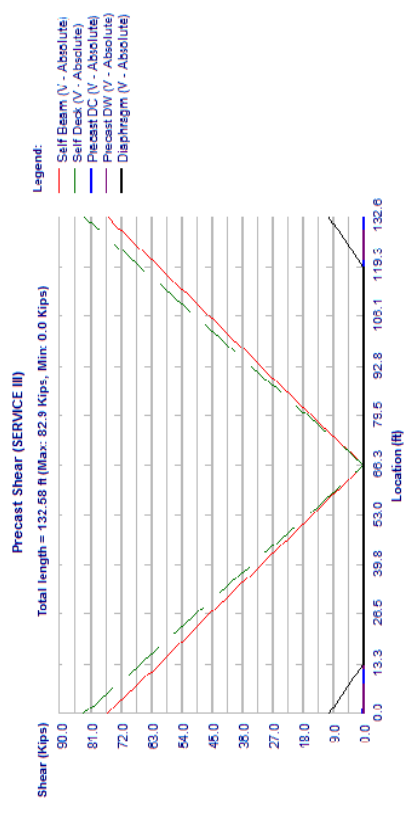
Live Shear, Span 1, Beam 9, SERVICE I

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 9, SERVICE III
Shears: kips, Moments: kft


	Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location, ft	0.00	2.81	3.65	13.26	26.52	39.77	53.03	66.29
Self wt. : M	0.0	209.2	269.5	906.8	1612.1	2115.9	2418.2	2519.0
(Max) V	76.0	72.8	71.8	60.8	45.6	30.4	15.2	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max) V	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0
DL-Prec. : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + : M	0.0	228.3	294.1	989.7	1759.4	2309.2	2639.1	2749.1
Haunch (Max) V	82.9	79.4	78.4	66.4	49.8	33.2	16.6	0.0
Diaphragm : M	-0.0	2.9	3.7	9.5	8.8	8.0	7.2	6.4
(Max) V	10.3	8.1	7.4	0.1	0.1	0.1	0.1	0.1
DL-Comp : M	0.0	17.0	21.9	73.8	131.2	172.3	196.9	205.1
DC(Max) V	6.2	5.9	5.8	4.9	3.7	2.5	1.2	0.0
DL-Comp : M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max) V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I : M+	0.0	310.8	400.1	1340.9	2366.8	3077.6	3498.9	3618.0

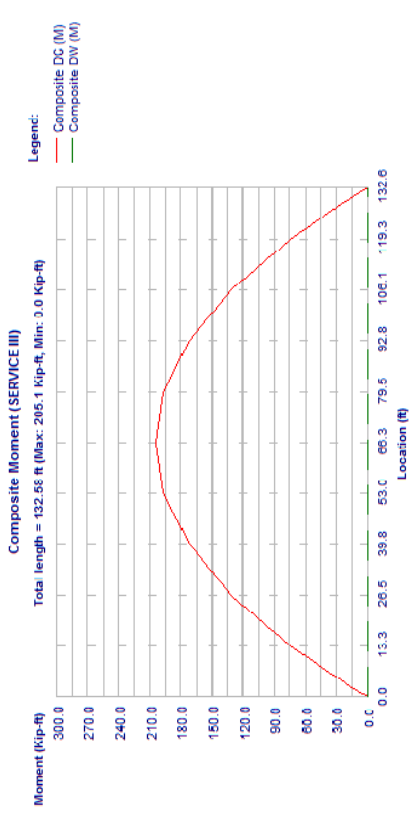
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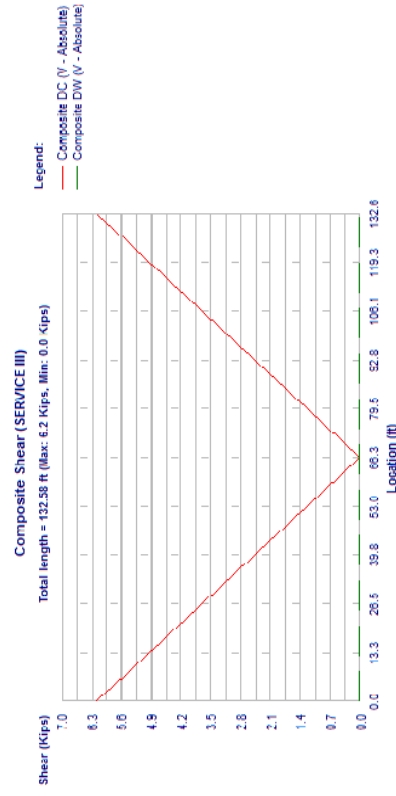
Precast Shear, Span 1, Beam 9, SERVICE III

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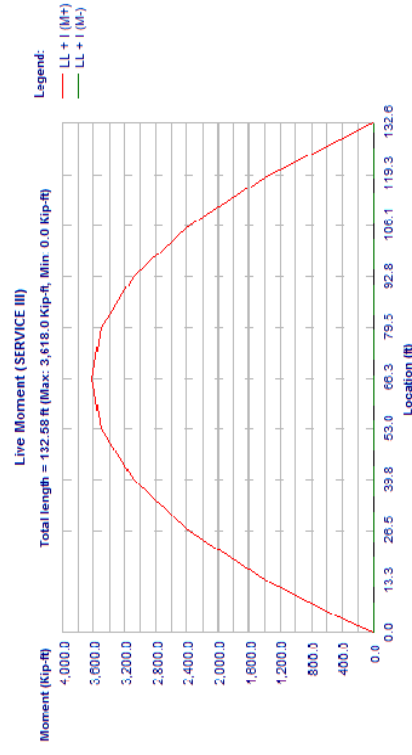
Composite Moment, Span 1, Beam 9, SERVICE III

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		Job #	
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Composite Shear, Span 1, Beam 9, SERVICE III

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Live Moment, Span 1, Beam 9, SERVICE III

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Sheet # 25
Job #
Job #

	0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
DC(Min)	1.1	2.2	3.3	4.5	5.3	5.3	5.6
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	7653.9	6732.2	5177.3	2933.3	875.3	679.8
LL + I :	M-	97.2	144.7	178.5	212.3	236.8	239.0
LL + I :	V	0.0	0.0	0.0	0.0	-0.0	-0.0
LL + I :	V	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	Vmx	123.6	151.8	181.7	213.1	237.1	239.1
LL + I :	M	6582.2	6065.7	4838.8	2838.0	863.9	672.0
Total :	M+	14228.8	12485.1	9561.0	5400.4	1608.6	1249.2
Total :	V	138.6	227.3	302.4	377.5	441.3	446.8
Total :	M-	0.0	0.0	0.0	0.0	0.0	0.0
Total :	V	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	164.9	234.5	305.6	378.3	441.5	447.0
Total :	M	13157.1	11818.6	9222.4	5305.1	1597.2	1241.4

REACTIONS (kips), STRENGTH I

Load Type	Left Support	Right Support
Self Wt.	95.0	95.0
Deck+Haunch	103.7	103.7
Diaphragm	12.8	13.0
DL-Prec (DC)	0.3	0.0
DL-Prec (DW)	0.0	0.0
DL-Comp (DC)	69.6	69.6
DL-Comp (DW)	0.0	0.0
Live	191.4	191.4
Pedestrian	0.0	0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Units: U.S. Units
Design Code: AASHTO LRFD

Printed on: October 21, 2013 @ 10:55 A.M.

Bentley

Program: LEAPb CONSPAN® V8i (SELECTseries 5)
Version: 12.01.00.57
File Name: Span20 ModifiedSpacing.csl

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Designed KSM
Date Sept/9/2013
Checked
Date

Sheet # 26
Job #
Job #

Precast Moment (STRENGTH I)

Total length = 132.58 ft (Max: 3,436.4 Kip-ft, Min: 0.0 Kip-ft)


Legend:

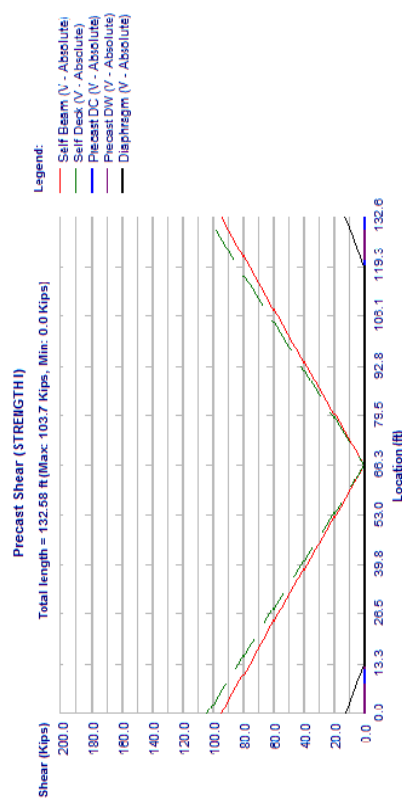
- Self Beam (M+)
- Self Deck (M+)
- Precast DC (M+)
- Precast DW (M+)
- Diaphragm (M+)

Precast Moment, Span 1, Beam 9, STRENGTH I


Units: U.S. Units
Design Code: AASHTO LRFD

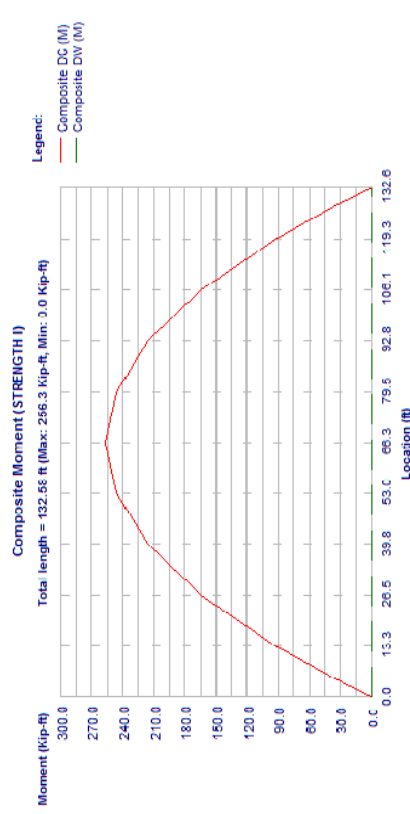
Printed on: October 21, 2013 @ 10:55 A.M.

		Sheet # 27	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
Copyright © Bentley Systems, Inc. 1984 - 2012		Checked	
www.bentley.com		Date	
Phone: 1-800-778-4277			
File Name: Span20 ModifiedSpacing.csl			




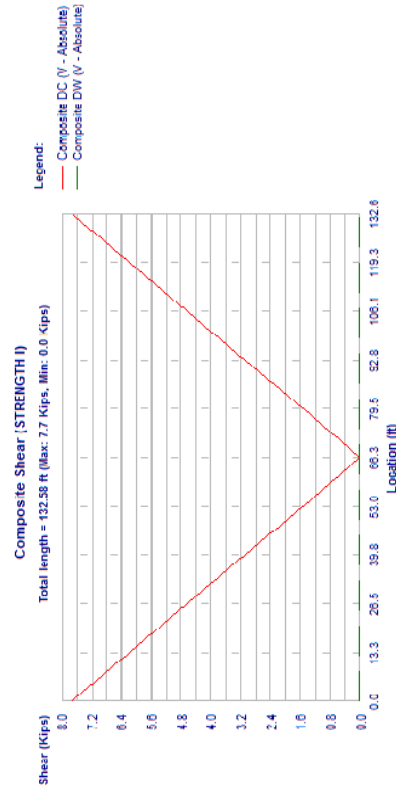
Precast Shear, Span 1, Beam 9, STRENGTH I

		Sheet # 28	
		Job #	
Program: LEAP® CONSPAN® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sept/9/2013	
Copyright © Bentley Systems, Inc. 1984 - 2012		Checked	
www.bentley.com		Date	
Phone: 1-800-778-4277			
File Name: Span20 ModifiedSpacing.csl			




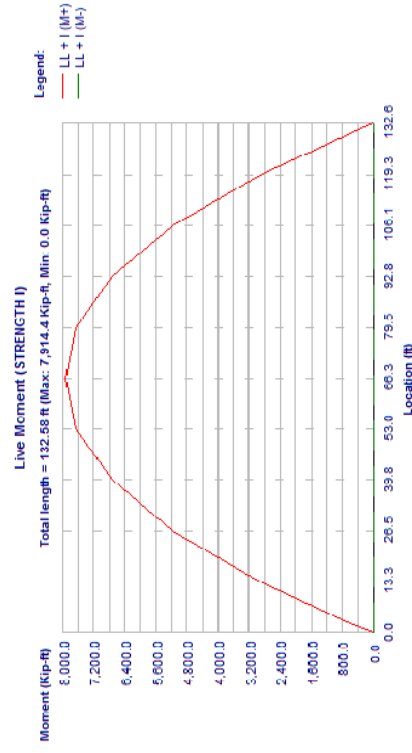
Composite Moment, Span 1, Beam 9, STRENGTH I

		Sheet # 29
		Job #
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM
Version: 12.01.00.57		Date Sept/9/2013
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Phone: 1-800-778-4277		
File Name: Span20 ModifiedSpacing.csl		




Composite Shear, Span 1, Beam 9, STRENGTH I


		Sheet # 30
		Job #
Program: LEAP@ CONSPAN® V8i (SELECTseries 5)		Designed KSM
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Phone: 1-800-778-4277		
File Name: Span20 ModifiedSpacing.csl		



Live Moment, Span 1, Beam 9, STRENGTH I

<div>  Bentley </div>			<div> <div>Sheet # 33</div> <div>Job #</div> </div>		
<div> <div>Program: LEAP@CONSPAN® V8i (SELECTseries 5)</div> <div>Version: 12.01.00.57</div> <div>File Name: Span20_ModifiedSpacing.csl</div> </div>			<div> <div>SE Client Licenses</div> <div>Copyright © Bentley Systems, Inc. 1984 - 2012</div> <div>Designed KSM</div> </div>		
			<div> <div>www.bentley.com</div> <div>Phone: 1-800-778-4277</div> </div>		
			<div> <div>Date</div> <div>Checked</div> <div>Date</div> </div>		
			<div> <div>DC(Min)</div> <div>DL-Comp :</div> <div>DW(Max)</div> <div>DL-Comp :</div> <div>DW(Min)</div> <div>LL + I :</div> <div>LL + I :</div> <div>LL + I :</div> <div>Total :</div> <div>Total :</div> <div>Total :</div> </div>		
			<div> <div>0.60L</div> <div>0.70L</div> <div>0.80L</div> <div>0.90L</div> <div>H/2</div> <div>Trans</div> <div>Bearing</div> </div>		
			<div> <div>V</div> <div>M</div> <div>V</div> <div>M</div> <div>M+</div> <div>V</div> <div>V</div> <div>M-</div> <div>V</div> <div>V</div> <div>Vmx</div> <div>M-</div> <div>V</div> <div>Vmx</div> <div>M</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>2730.2</div> <div>2431.1</div> <div>1877.1</div> <div>1080.2</div> <div>325.3</div> <div>252.8</div> <div>0.0</div> <div>92.2</div> <div>81.5</div> <div>89.2</div> <div>89.9</div> <div>92.2</div> <div>81.5</div> <div>89.2</div> <div>89.9</div> <div>92.2</div> </div>		
			<div> <div>42.7</div> <div>53.4</div> <div>70.8</div> <div>81.5</div> <div>89.2</div> <div>89.9</div> <div>92.2</div> <div>81.5</div> <div>89.2</div> <div>89.9</div> <div>92.2</div> <div>81.5</div> <div>89.2</div> <div>89.9</div> <div>92.2</div> <div>81.5</div> </div>		
			<div> <div>2621.0</div> <div>2390.7</div> <div>1877.1</div> <div>1080.2</div> <div>325.3</div> <div>252.8</div> <div>0.0</div> <div>92.2</div> <div>81.5</div> <div>89.2</div> <div>89.9</div> <div>92.2</div> <div>81.5</div> <div>89.2</div> <div>89.9</div> <div>92.2</div> <div>81.5</div> </div>		
			<div> <div>7990.1</div> <div>7033.4</div> <div>5384.0</div> <div>3053.9</div> <div>911.9</div> <div>708.3</div> <div>0.0</div> <div>708.3</div> <div>213.6</div> <div>252.8</div> <div>256.2</div> <div>267.7</div> <div>213.6</div> <div>252.8</div> <div>256.2</div> <div>267.7</div> <div>213.6</div> </div>		
			<div> <div>7880.9</div> <div>6993.0</div> <div>5384.0</div> <div>3053.9</div> <div>911.9</div> <div>708.3</div> <div>0.0</div> <div>708.3</div> <div>213.6</div> <div>252.8</div> <div>256.2</div> <div>267.7</div> <div>213.6</div> <div>252.8</div> <div>256.2</div> <div>267.7</div> <div>213.6</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> <div>0.0</div> </div>		
			<div> <div>0.0</div> <div>0.0</div> </div>		

Units: U.S. Units
Design Code: AASHTO LRFD
Printed on: October 21, 2013 @ 10:55 A.M.

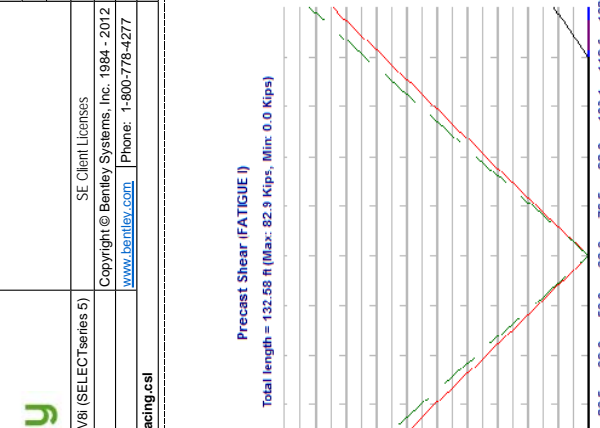


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Version: 12.01.00.57	www.bentley.com	Checked: _____
File Name: Span 20 ModifiedSpacing.csl		Date: _____

Sheet # 34
Job #

Precast Shear (FATIGUE I)

Total length = 132.58 ft (Max: 82.9 Kips, Min: 0.0 Kips)



Location (ft)

Legend:

- Self Beam (V - Absolute)
- Self Deck (V - Absolute)
- Precast DC (V - Absolute)
- Precast DW (V - Absolute)
- Diaphragm (V - Absolute)

Precast Shear, Span 1, Beam 9, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.

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Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span20 ModifiedSpacing.csl

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Date Sept/9/2013

Checked

Date

Sheet # 35

Job #

Composite Moment (FATIGUE I)

Total length = 132.58 ft (Max: 205.1 kip-ft, Min: 0.0 kip-ft)

Legend:

- Composite DC (M)
- Composite DW (M)

Location (ft)	Moment (kip-ft)
0.0	0.0
13.3	30.0
26.5	60.0
39.8	90.0
53.0	120.0
66.3	150.0
79.5	180.0
92.8	210.0
106.1	240.0
119.3	270.0
132.6	300.0

Composite Moment, Span 1, Beam 9, FATIGUE I

Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.

Bentley

Program: LEAP® CONSPAN® V8i (SELECTseries 5)

Version: 12.01.00.57

File Name: Span20 ModifiedSpacing.csl

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Phone: 1-800-778-4277

Designed KSM

Date Sept/9/2013

Checked

Date

Sheet # 36

Job #

Composite Shear (FATIGUE I)

Total length = 132.58 ft (Max: 6.2 Kips, Min: 0.0 Kips)


Legend:

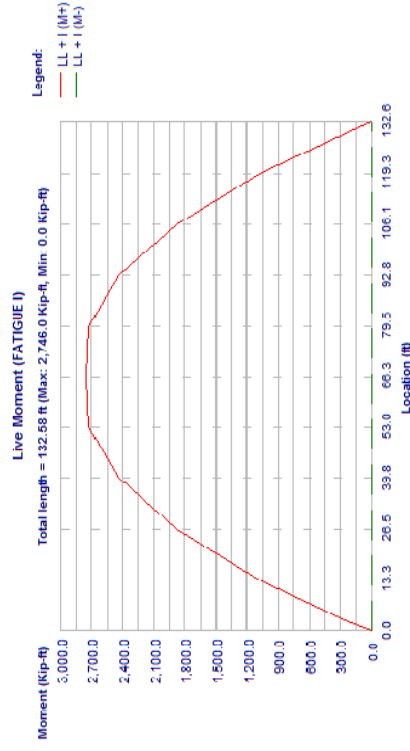
- Composite DC (V - Absolute)
- Composite DW (V - Absolute)

Location (ft)	Shear (Kips)
0.0	0.0
13.3	0.7
26.5	1.4
39.8	2.1
53.0	2.8
66.3	3.5
79.5	4.2
92.8	4.9
106.1	5.6
119.3	6.3
132.6	7.0


Composite Shear, Span 1, Beam 9, FATIGUE I

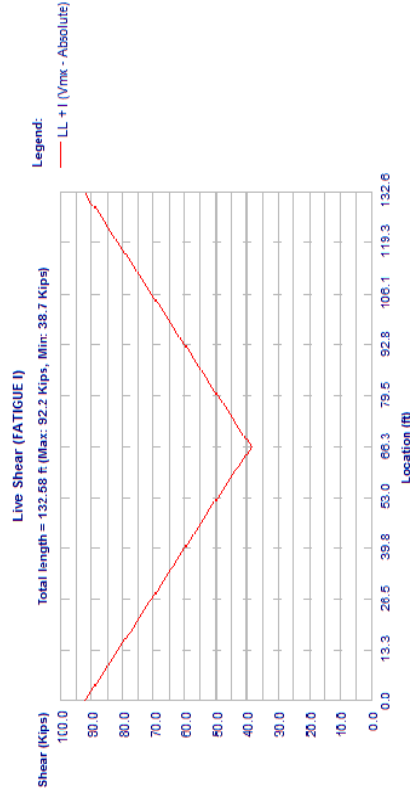
Units: U.S. Units Design Code: AASHTO LRFD Printed on: October 21, 2013 @ 10:55 A.M.

		Sheet #	37
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com Phone: 1-800-778-4277		Designed KSM	
File Name: Span20 ModifiedSpacing.csl		Date	Sept/9/2013
		Checked	
		Date	



Live Moment, Span 1, Beam 9, FATIGUE I

		Sheet #	38
		Job #	
Program: LEAPb CONSPAN® V8i (SELECTseries 5) Version: 12.01.00.57 Copyright © Bentley Systems, Inc. 1984 - 2012 www.bentley.com Phone: 1-800-778-4277		Designed KSM	
File Name: Span20 ModifiedSpacing.csl		Date	Sept/9/2013
		Checked	
		Date	



Live Shear, Span 1, Beam 9, FATIGUE I

Export File Generated by CONSPAN v12.1.0
File Name: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4
Over St. Johns River\Alternative 1 - Interior Widening\1. Superstructure\Span 1WB\Span01WB_ModifiedSpacing.csl
Code: AASHTO LRFD
Units: US Units, (KIPS, ft)
Number of Spans: 1
Left Curb Width : 1.5417
Right Curb Width: 1.5417

Span #	Span length	Number Of beams	Bridge Width
1	87.2306	10	115.1350

Abutment #: 1
Self Weight
Line 1 Girder 1 : 50.0031
Line 1 Girder 2 : 50.0031
Line 1 Girder 3 : 50.0031
Line 1 Girder 4 : 50.0031
Line 1 Girder 5 : 50.0031
Line 1 Girder 6 : 50.0031
Line 1 Girder 7 : 50.0031
Line 1 Girder 8 : 50.0031
Line 1 Girder 9 : 50.0031
Line 1 Girder 10 : 50.0031
Self + Deck
Line 1 Girder 1 : 54.2086
Line 1 Girder 2 : 61.6674
Line 1 Girder 3 : 61.6674
Line 1 Girder 4 : 61.6674
Line 1 Girder 5 : 61.6674
Line 1 Girder 6 : 56.5490
Line 1 Girder 7 : 51.4306
Line 1 Girder 8 : 51.4306
Line 1 Girder 9 : 51.4306
Line 1 Girder 10 : 49.0905
Dead Load DC on Precast
Line 1 Girder 1 : 8.8103
Line 1 Girder 2 : 12.1687
Line 1 Girder 3 : 12.1687
Line 1 Girder 4 : 12.1687
Line 1 Girder 5 : 12.1687
Line 1 Girder 6 : 11.2091
Line 1 Girder 7 : 10.2496
Line 1 Girder 8 : 10.2496
Line 1 Girder 9 : 10.2496
Line 1 Girder 10 : 7.8508
Dead Load DW on Precast
Line 1 Girder 1 : 0.0000
Line 1 Girder 2 : 0.0000
Line 1 Girder 3 : 0.0000

Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 3.6637
Line 1 Girder 2	: 3.6637
Line 1 Girder 3	: 3.6637
Line 1 Girder 4	: 3.6637
Line 1 Girder 5	: 3.6637
Line 1 Girder 6	: 3.6637
Line 1 Girder 7	: 3.6637
Line 1 Girder 8	: 3.6637
Line 1 Girder 9	: 3.6637
Line 1 Girder 10	: 3.6637
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 64.2959
Live Load Max +ve, Lane	: 27.9138

Abutment #: 2

Self Weight

Line 1 Girder 1	: 50.0031
Line 1 Girder 2	: 50.0031
Line 1 Girder 3	: 50.0031
Line 1 Girder 4	: 50.0031
Line 1 Girder 5	: 50.0031
Line 1 Girder 6	: 50.0031
Line 1 Girder 7	: 50.0031
Line 1 Girder 8	: 50.0031
Line 1 Girder 9	: 50.0031
Line 1 Girder 10	: 50.0031

Self + Deck

Line 1 Girder 1	: 54.2086
Line 1 Girder 2	: 61.6674
Line 1 Girder 3	: 61.6674
Line 1 Girder 4	: 61.6674
Line 1 Girder 5	: 61.6674
Line 1 Girder 6	: 56.5490
Line 1 Girder 7	: 51.4306
Line 1 Girder 8	: 51.4306

Line 1 Girder 9	: 51.4306
Line 1 Girder 10	: 49.0905
Dead Load DC on Precast	
Line 1 Girder 1	: 8.8103
Line 1 Girder 2	: 12.1687
Line 1 Girder 3	: 12.1687
Line 1 Girder 4	: 12.1687
Line 1 Girder 5	: 12.1687
Line 1 Girder 6	: 11.2091
Line 1 Girder 7	: 10.2496
Line 1 Girder 8	: 10.2496
Line 1 Girder 9	: 10.2496
Line 1 Girder 10	: 7.8508
Dead Load DW on Precast	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 3.6637
Line 1 Girder 2	: 3.6637
Line 1 Girder 3	: 3.6637
Line 1 Girder 4	: 3.6637
Line 1 Girder 5	: 3.6637
Line 1 Girder 6	: 3.6637
Line 1 Girder 7	: 3.6637
Line 1 Girder 8	: 3.6637
Line 1 Girder 9	: 3.6637
Line 1 Girder 10	: 3.6637
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 64.2959
Live Load Max +ve, Lane	: 27.9138

Export File Generated by CONSPAN v12.1.0
File Name: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4
Over St. Johns River\Alternative 1 - Interior Widening\1. Superstructure\Span
2WB\Span02WB_ModifiedSpacing_CAM.csl
Code: AASHTO LRFD
Units: US Units, (KIPS, ft)
Number of Spans: 1
Left Curb Width : 1.5417
Right Curb Width: 1.5417

Span #	Span length	Number Of beams	Bridge Width
1	114.2820	10	115.1350

Abutment #: 1
Self Weight
Line 1 Girder 1 : 65.5098
Line 1 Girder 2 : 65.5098
Line 1 Girder 3 : 65.5098
Line 1 Girder 4 : 65.5098
Line 1 Girder 5 : 65.5098
Line 1 Girder 6 : 65.5098
Line 1 Girder 7 : 65.5098
Line 1 Girder 8 : 65.5098
Line 1 Girder 9 : 65.5098
Line 1 Girder 10 : 65.5098
Self + Deck
Line 1 Girder 1 : 71.0635
Line 1 Girder 2 : 80.8786
Line 1 Girder 3 : 80.8786
Line 1 Girder 4 : 80.8786
Line 1 Girder 5 : 80.8786
Line 1 Girder 6 : 74.1648
Line 1 Girder 7 : 67.4510
Line 1 Girder 8 : 67.4510
Line 1 Girder 9 : 67.4510
Line 1 Girder 10 : 63.6287
Dead Load DC on Precast
Line 1 Girder 1 : 11.5425
Line 1 Girder 2 : 15.9423
Line 1 Girder 3 : 15.9423
Line 1 Girder 4 : 15.9423
Line 1 Girder 5 : 15.9423
Line 1 Girder 6 : 14.6852
Line 1 Girder 7 : 13.4281
Line 1 Girder 8 : 13.4281
Line 1 Girder 9 : 13.4281
Line 1 Girder 10 : 10.2854
Dead Load DW on Precast
Line 1 Girder 1 : 0.0000
Line 1 Girder 2 : 0.0000

Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 4.7998
Line 1 Girder 2	: 4.7998
Line 1 Girder 3	: 4.7998
Line 1 Girder 4	: 4.7998
Line 1 Girder 5	: 4.7998
Line 1 Girder 6	: 4.7998
Line 1 Girder 7	: 4.7998
Line 1 Girder 8	: 4.7998
Line 1 Girder 9	: 4.7998
Line 1 Girder 10	: 4.7998
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 66.1195
Live Load Max +ve, Lane	: 36.5702

Abutment #: 2

Self Weight

Line 1 Girder 1	: 65.5098
Line 1 Girder 2	: 65.5098
Line 1 Girder 3	: 65.5098
Line 1 Girder 4	: 65.5098
Line 1 Girder 5	: 65.5098
Line 1 Girder 6	: 65.5098
Line 1 Girder 7	: 65.5098
Line 1 Girder 8	: 65.5098
Line 1 Girder 9	: 65.5098
Line 1 Girder 10	: 65.5098

Self + Deck

Line 1 Girder 1	: 71.0635
Line 1 Girder 2	: 80.8786
Line 1 Girder 3	: 80.8786
Line 1 Girder 4	: 80.8786
Line 1 Girder 5	: 80.8786
Line 1 Girder 6	: 74.1648
Line 1 Girder 7	: 67.4510

Line 1 Girder 8	: 67.4510
Line 1 Girder 9	: 67.4510
Line 1 Girder 10	: 63.6287
Dead Load DC on Precast	
Line 1 Girder 1	: 11.5425
Line 1 Girder 2	: 15.9423
Line 1 Girder 3	: 15.9423
Line 1 Girder 4	: 15.9423
Line 1 Girder 5	: 15.9423
Line 1 Girder 6	: 14.6852
Line 1 Girder 7	: 13.4281
Line 1 Girder 8	: 13.4281
Line 1 Girder 9	: 13.4281
Line 1 Girder 10	: 10.2854
Dead Load DW on Precast	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 4.7998
Line 1 Girder 2	: 4.7998
Line 1 Girder 3	: 4.7998
Line 1 Girder 4	: 4.7998
Line 1 Girder 5	: 4.7998
Line 1 Girder 6	: 4.7998
Line 1 Girder 7	: 4.7998
Line 1 Girder 8	: 4.7998
Line 1 Girder 9	: 4.7998
Line 1 Girder 10	: 4.7998
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 66.1195
Live Load Max +ve, Lane	: 36.5702

Export File Generated by CONSPAN v12.1.0

File Name: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4
Over St. Johns River\Alternative 1 - Interior Widening\1. Superstructure\Span 4WB\Span04WB_ModifiedSpacing.csl
Code: AASHTO LRFD

Units: US Units, (KIPS, ft)

Number of Spans: 1

Left Curb Width : 1.5417

Right Curb Width: 1.5417

Span #	Span length	Number Of beams	Bridge Width
1	126.6670	10	113.1370

Abutment #: 1

Self Weight

Line 1 Girder 1	: 72.6092
Line 1 Girder 2	: 72.6092
Line 1 Girder 3	: 72.6092
Line 1 Girder 4	: 72.6092
Line 1 Girder 5	: 72.6092
Line 1 Girder 6	: 72.6092
Line 1 Girder 7	: 72.6092
Line 1 Girder 8	: 72.6092
Line 1 Girder 9	: 69.8384
Line 1 Girder 10	: 72.6092

Self + Deck

Line 1 Girder 1	: 71.9904
Line 1 Girder 2	: 82.8210
Line 1 Girder 3	: 89.5468
Line 1 Girder 4	: 89.5468
Line 1 Girder 5	: 89.5468
Line 1 Girder 6	: 82.1145
Line 1 Girder 7	: 74.6821
Line 1 Girder 8	: 74.6821
Line 1 Girder 9	: 74.6821
Line 1 Girder 10	: 71.2905

Dead Load DC on Precast

Line 1 Girder 1	: 11.5267
Line 1 Girder 2	: 16.4034
Line 1 Girder 3	: 17.6700
Line 1 Girder 4	: 17.6700
Line 1 Girder 5	: 17.6700
Line 1 Girder 6	: 16.2767
Line 1 Girder 7	: 14.8834
Line 1 Girder 8	: 14.8834
Line 1 Girder 9	: 14.8834
Line 1 Girder 10	: 11.4000

Dead Load DW on Precast

Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000

Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 5.3200
Line 1 Girder 2	: 5.3200
Line 1 Girder 3	: 5.3200
Line 1 Girder 4	: 5.3200
Line 1 Girder 5	: 5.3200
Line 1 Girder 6	: 5.3200
Line 1 Girder 7	: 5.3200
Line 1 Girder 8	: 5.3200
Line 1 Girder 9	: 5.3200
Line 1 Girder 10	: 5.3200
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 66.6945
Live Load Max +ve, Lane	: 40.5334

Abutment #: 2

Self Weight

Line 1 Girder 1	: 72.6092
Line 1 Girder 2	: 72.6092
Line 1 Girder 3	: 72.6092
Line 1 Girder 4	: 72.6092
Line 1 Girder 5	: 72.6092
Line 1 Girder 6	: 72.6092
Line 1 Girder 7	: 72.6092
Line 1 Girder 8	: 72.6092
Line 1 Girder 9	: 69.8384
Line 1 Girder 10	: 72.6092

Self + Deck

Line 1 Girder 1	: 71.9904
Line 1 Girder 2	: 82.8210
Line 1 Girder 3	: 89.5468
Line 1 Girder 4	: 89.5468
Line 1 Girder 5	: 89.5468
Line 1 Girder 6	: 82.1145
Line 1 Girder 7	: 74.6821
Line 1 Girder 8	: 74.6821

Line 1 Girder 9	: 74.6821
Line 1 Girder 10	: 71.2905
Dead Load DC on Precast	
Line 1 Girder 1	: 11.5267
Line 1 Girder 2	: 16.4034
Line 1 Girder 3	: 17.6700
Line 1 Girder 4	: 17.6700
Line 1 Girder 5	: 17.6700
Line 1 Girder 6	: 16.2767
Line 1 Girder 7	: 14.8834
Line 1 Girder 8	: 14.8834
Line 1 Girder 9	: 14.8834
Line 1 Girder 10	: 11.4000
Dead Load DW on Precast	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 5.3200
Line 1 Girder 2	: 5.3200
Line 1 Girder 3	: 5.3200
Line 1 Girder 4	: 5.3200
Line 1 Girder 5	: 5.3200
Line 1 Girder 6	: 5.3200
Line 1 Girder 7	: 5.3200
Line 1 Girder 8	: 5.3200
Line 1 Girder 9	: 5.3200
Line 1 Girder 10	: 5.3200
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 66.6945
Live Load Max +ve, Lane	: 40.5334

Export File Generated by CONSPAN v12.1.0
File Name: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4
Over St. Johns River\Alternative 1 - Interior Widening\1. Superstructure\Span 5WB\Span05WB_ModifiedSpacing.csl
Code: AASHTO LRFD
Units: US Units, (KIPS, ft)
Number of Spans: 1
Left Curb Width : 1.5417
Right Curb Width: 1.5417

Span #	Span length	Number Of beams	Bridge Width
1	126.6670	10	109.1280

Abutment #: 1
Self Weight
Line 1 Girder 1 : 72.6092
Line 1 Girder 2 : 72.6092
Line 1 Girder 3 : 72.6092
Line 1 Girder 4 : 72.6092
Line 1 Girder 5 : 72.6092
Line 1 Girder 6 : 72.6092
Line 1 Girder 7 : 72.6092
Line 1 Girder 8 : 72.6092
Line 1 Girder 9 : 72.6092
Line 1 Girder 10 : 72.6092
Self + Deck
Line 1 Girder 1 : 69.2987
Line 1 Girder 2 : 77.4310
Line 1 Girder 3 : 84.1500
Line 1 Girder 4 : 84.1500
Line 1 Girder 5 : 84.1500
Line 1 Girder 6 : 79.4161
Line 1 Girder 7 : 74.6821
Line 1 Girder 8 : 74.6821
Line 1 Girder 9 : 74.6821
Line 1 Girder 10 : 71.2838
Dead Load DC on Precast
Line 1 Girder 1 : 18.9367
Line 1 Girder 2 : 15.3900
Line 1 Girder 3 : 16.6567
Line 1 Girder 4 : 16.6567
Line 1 Girder 5 : 16.6567
Line 1 Girder 6 : 15.7700
Line 1 Girder 7 : 14.8834
Line 1 Girder 8 : 14.8834
Line 1 Girder 9 : 14.8834
Line 1 Girder 10 : 11.4000
Dead Load DW on Precast
Line 1 Girder 1 : 0.0000
Line 1 Girder 2 : 0.0000
Line 1 Girder 3 : 0.0000

Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 5.3200
Line 1 Girder 2	: 5.3200
Line 1 Girder 3	: 5.3200
Line 1 Girder 4	: 5.3200
Line 1 Girder 5	: 5.3200
Line 1 Girder 6	: 5.3200
Line 1 Girder 7	: 5.3200
Line 1 Girder 8	: 5.3200
Line 1 Girder 9	: 5.3200
Line 1 Girder 10	: 5.3200
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 66.6945
Live Load Max +ve, Lane	: 40.5334

Abutment #: 2

Self Weight

Line 1 Girder 1	: 72.6092
Line 1 Girder 2	: 72.6092
Line 1 Girder 3	: 72.6092
Line 1 Girder 4	: 72.6092
Line 1 Girder 5	: 72.6092
Line 1 Girder 6	: 72.6092
Line 1 Girder 7	: 72.6092
Line 1 Girder 8	: 72.6092
Line 1 Girder 9	: 72.6092
Line 1 Girder 10	: 72.6092

Self + Deck

Line 1 Girder 1	: 69.2987
Line 1 Girder 2	: 77.4310
Line 1 Girder 3	: 84.1500
Line 1 Girder 4	: 84.1500
Line 1 Girder 5	: 84.1500
Line 1 Girder 6	: 79.4161
Line 1 Girder 7	: 74.6821
Line 1 Girder 8	: 74.6821

Line 1 Girder 9	: 74.6821
Line 1 Girder 10	: 71.2838
Dead Load DC on Precast	
Line 1 Girder 1	: 18.9367
Line 1 Girder 2	: 15.3900
Line 1 Girder 3	: 16.6567
Line 1 Girder 4	: 16.6567
Line 1 Girder 5	: 16.6567
Line 1 Girder 6	: 15.7700
Line 1 Girder 7	: 14.8834
Line 1 Girder 8	: 14.8834
Line 1 Girder 9	: 14.8834
Line 1 Girder 10	: 11.4000
Dead Load DW on Precast	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 5.3200
Line 1 Girder 2	: 5.3200
Line 1 Girder 3	: 5.3200
Line 1 Girder 4	: 5.3200
Line 1 Girder 5	: 5.3200
Line 1 Girder 6	: 5.3200
Line 1 Girder 7	: 5.3200
Line 1 Girder 8	: 5.3200
Line 1 Girder 9	: 5.3200
Line 1 Girder 10	: 5.3200
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 66.6945
Live Load Max +ve, Lane	: 40.5334

Export File Generated by CONSPAN v12.1.0

File Name: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4
Over St. Johns River\Alternative 1 - Interior Widening\1. Superstructure\Span 11EB\Span11EB_Modified Spacing.csl
Code: AASHTO LRFD

Units: US Units, (KIPS, ft)

Number of Spans: 1

Left Curb Width : 1.5417

Right Curb Width: 1.5417

Span #	Span length	Number Of beams	Bridge Width
1	120.2095	11	101.3070
		98.8333	

Abutment #: 1

Self Weight

Line 1 Girder 1	: 73.1298
Line 1 Girder 2	: 74.6477
Line 1 Girder 3	: 76.1655
Line 1 Girder 4	: 77.6833
Line 1 Girder 5	: 79.2012
Line 1 Girder 6	: 80.5383
Line 1 Girder 7	: 81.8754
Line 1 Girder 8	: 83.2126
Line 1 Girder 9	: 84.5497
Line 1 Girder 10	: 85.6037
Line 1 Girder 11	: 86.6578

Self + Deck

Line 1 Girder 1	: 71.7610
Line 1 Girder 2	: 76.7095
Line 1 Girder 3	: 78.2693
Line 1 Girder 4	: 79.8290
Line 1 Girder 5	: 76.8012
Line 1 Girder 6	: 73.4328
Line 1 Girder 7	: 74.6520
Line 1 Girder 8	: 75.8712
Line 1 Girder 9	: 69.4178
Line 1 Girder 10	: 62.5152
Line 1 Girder 11	: 72.1497

Dead Load DC on Precast

Line 1 Girder 1	: 8.3243
Line 1 Girder 2	: 15.3012
Line 1 Girder 3	: 15.6123
Line 1 Girder 4	: 15.9235
Line 1 Girder 5	: 15.4056
Line 1 Girder 6	: 14.7524
Line 1 Girder 7	: 14.9974
Line 1 Girder 8	: 15.2423
Line 1 Girder 9	: 14.0122
Line 1 Girder 10	: 12.7682
Line 1 Girder 11	: 12.6987

Dead Load DW on Precast

Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Line 1 Girder 11	: 0.0000

Dead Load DC on Composite

Line 1 Girder 1	: 4.5898
Line 1 Girder 2	: 4.5898
Line 1 Girder 3	: 4.5898
Line 1 Girder 4	: 4.5898
Line 1 Girder 5	: 4.5898
Line 1 Girder 6	: 4.5898
Line 1 Girder 7	: 4.5898
Line 1 Girder 8	: 4.5898
Line 1 Girder 9	: 4.5898
Line 1 Girder 10	: 4.5898
Line 1 Girder 11	: 4.5898

Dead Load DW on Composite

Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Line 1 Girder 11	: 0.0000

Live Load

Live Load Max +ve, Truck	: 66.4095
Live Load Max +ve, Lane	: 38.4670

Abutment #: 2

Self Weight

Line 1 Girder 1	: 73.1298
Line 1 Girder 2	: 74.6477
Line 1 Girder 3	: 76.1655
Line 1 Girder 4	: 77.6833
Line 1 Girder 5	: 79.2012
Line 1 Girder 6	: 80.5383
Line 1 Girder 7	: 81.8754
Line 1 Girder 8	: 83.2126
Line 1 Girder 9	: 84.5497
Line 1 Girder 10	: 85.6037
Line 1 Girder 11	: 86.6578

Self + Deck

Line 1 Girder 1	: 71.7610
Line 1 Girder 2	: 76.7095
Line 1 Girder 3	: 78.2693
Line 1 Girder 4	: 79.8290
Line 1 Girder 5	: 76.8012
Line 1 Girder 6	: 73.4328
Line 1 Girder 7	: 74.6520
Line 1 Girder 8	: 75.8712
Line 1 Girder 9	: 69.4178
Line 1 Girder 10	: 62.5152
Line 1 Girder 11	: 72.1498

Dead Load DC on Precast

Line 1 Girder 1	: 8.3243
Line 1 Girder 2	: 15.3012
Line 1 Girder 3	: 15.6123
Line 1 Girder 4	: 15.9235
Line 1 Girder 5	: 15.4056
Line 1 Girder 6	: 14.7524
Line 1 Girder 7	: 14.9974
Line 1 Girder 8	: 15.2423
Line 1 Girder 9	: 14.0122
Line 1 Girder 10	: 12.7682
Line 1 Girder 11	: 12.6987

Dead Load DW on Precast

Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Line 1 Girder 11	: 0.0000

Dead Load DC on Composite

Line 1 Girder 1	: 4.5898
Line 1 Girder 2	: 4.5898
Line 1 Girder 3	: 4.5898
Line 1 Girder 4	: 4.5898
Line 1 Girder 5	: 4.5898
Line 1 Girder 6	: 4.5898
Line 1 Girder 7	: 4.5898
Line 1 Girder 8	: 4.5898
Line 1 Girder 9	: 4.5898
Line 1 Girder 10	: 4.5898
Line 1 Girder 11	: 4.5898

Dead Load DW on Composite

Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000

Line 1 Girder 7	:	0.0000
Line 1 Girder 8	:	0.0000
Line 1 Girder 9	:	0.0000
Line 1 Girder 10	:	0.0000
Line 1 Girder 11	:	0.0000
Live Load		
Live Load Max +ve, Truck	:	66.4094
Live Load Max +ve, Lane	:	38.4670

Export File Generated by CONSPAN v12.1.0

File Name: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4
Over St. Johns River\Alternative 1 - Interior Widening\1. Superstructure\Span 12EB\Span12EB_ModifiedSpacing.csl
Code: AASHTO LRFD

Units: US Units, (KIPS, ft)

Number of Spans: 1

Left Curb Width : 1.5417

Right Curb Width: 1.5417

Span #	Span length	Number Of beams	Bridge Width
1	140.2730	10	105.1770
			105.1770

Abutment #: 1

Self Weight

Line 1 Girder 1	: 80.4086
Line 1 Girder 2	: 80.4086
Line 1 Girder 3	: 80.4086
Line 1 Girder 4	: 80.4086
Line 1 Girder 5	: 80.4086
Line 1 Girder 6	: 80.4086
Line 1 Girder 7	: 80.4086
Line 1 Girder 8	: 80.4086
Line 1 Girder 9	: 80.4086
Line 1 Girder 10	: 80.4086

Self + Deck

Line 1 Girder 1	: 64.9095
Line 1 Girder 2	: 82.6988
Line 1 Girder 3	: 82.6988
Line 1 Girder 4	: 82.6988
Line 1 Girder 5	: 82.0190
Line 1 Girder 6	: 81.3391
Line 1 Girder 7	: 81.3391
Line 1 Girder 8	: 81.3391
Line 1 Girder 9	: 81.3391
Line 1 Girder 10	: 92.1725

Dead Load DC on Precast

Line 1 Girder 1	: 12.6246
Line 1 Girder 2	: 16.4821
Line 1 Girder 3	: 16.4821
Line 1 Girder 4	: 16.4821
Line 1 Girder 5	: 16.3418
Line 1 Girder 6	: 16.2015
Line 1 Girder 7	: 16.2015
Line 1 Girder 8	: 16.2015
Line 1 Girder 9	: 16.2015
Line 1 Girder 10	: 12.4843

Dead Load DW on Precast

Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000

Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 5.8915
Line 1 Girder 2	: 5.8915
Line 1 Girder 3	: 5.8915
Line 1 Girder 4	: 5.8915
Line 1 Girder 5	: 5.8915
Line 1 Girder 6	: 5.8915
Line 1 Girder 7	: 5.8915
Line 1 Girder 8	: 5.8915
Line 1 Girder 9	: 5.8915
Line 1 Girder 10	: 5.8915
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 67.2091
Live Load Max +ve, Lane	: 44.8874

Abutment #: 2

Self Weight

Line 1 Girder 1	: 80.4086
Line 1 Girder 2	: 80.4086
Line 1 Girder 3	: 80.4086
Line 1 Girder 4	: 80.4086
Line 1 Girder 5	: 80.4086
Line 1 Girder 6	: 80.4086
Line 1 Girder 7	: 80.4086
Line 1 Girder 8	: 80.4086
Line 1 Girder 9	: 80.4086
Line 1 Girder 10	: 80.4086

Self + Deck

Line 1 Girder 1	: 64.9095
Line 1 Girder 2	: 82.6988
Line 1 Girder 3	: 82.6988
Line 1 Girder 4	: 82.6988
Line 1 Girder 5	: 82.0190
Line 1 Girder 6	: 81.3391
Line 1 Girder 7	: 81.3391

Line 1 Girder 8	: 81.3391
Line 1 Girder 9	: 81.3391
Line 1 Girder 10	: 92.1725
Dead Load DC on Precast	
Line 1 Girder 1	: 12.6246
Line 1 Girder 2	: 16.4821
Line 1 Girder 3	: 16.4821
Line 1 Girder 4	: 16.4821
Line 1 Girder 5	: 16.3418
Line 1 Girder 6	: 16.2015
Line 1 Girder 7	: 16.2015
Line 1 Girder 8	: 16.2015
Line 1 Girder 9	: 16.2015
Line 1 Girder 10	: 12.4843
Dead Load DW on Precast	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 5.8915
Line 1 Girder 2	: 5.8915
Line 1 Girder 3	: 5.8915
Line 1 Girder 4	: 5.8915
Line 1 Girder 5	: 5.8915
Line 1 Girder 6	: 5.8915
Line 1 Girder 7	: 5.8915
Line 1 Girder 8	: 5.8915
Line 1 Girder 9	: 5.8915
Line 1 Girder 10	: 5.8915
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Line 1 Girder 10	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 67.2091
Live Load Max +ve, Lane	: 44.8874

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File Name: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4
Over St. Johns River\Alternative 1 - Interior Widening\1. Superstructure\Span
20EB\Span20_ModifiedSpacing_Rev1.csl

Code: AASHTO LRFD

Units: US Units, (KIPS, ft)

Number of Spans: 1

Left Curb Width : 1.5417

Right Curb Width: 1.5417

Span #	Span length	Number Of beams	Bridge Width
--------	-------------	-----------------	--------------

1	132.5800	9	103.0730
---	----------	---	----------

Abutment #: 1

Self Weight

Line 1 Girder 1 : 75.9987

Line 1 Girder 2 : 75.9987

Line 1 Girder 3 : 75.9987

Line 1 Girder 4 : 75.9987

Line 1 Girder 5 : 75.9987

Line 1 Girder 6 : 75.9987

Line 1 Girder 7 : 75.9987

Line 1 Girder 8 : 75.9987

Line 1 Girder 9 : 75.9987

Self + Deck

Line 1 Girder 1 : 74.5763

Line 1 Girder 2 : 78.0979

Line 1 Girder 3 : 78.0979

Line 1 Girder 4 : 78.0979

Line 1 Girder 5 : 86.5351

Line 1 Girder 6 : 94.9723

Line 1 Girder 7 : 94.9723

Line 1 Girder 8 : 94.9723

Line 1 Girder 9 : 82.9417

Dead Load DC on Precast

Line 1 Girder 1 : 11.9322

Line 1 Girder 2 : 15.5782

Line 1 Girder 3 : 15.5782

Line 1 Girder 4 : 15.5782

Line 1 Girder 5 : 17.1691

Line 1 Girder 6 : 18.7601

Line 1 Girder 7 : 18.7601

Line 1 Girder 8 : 18.7601

Line 1 Girder 9 : 0.2040

Dead Load DW on Precast

Line 1 Girder 1 : 0.0000

Line 1 Girder 2 : 0.0000

Line 1 Girder 3 : 0.0000

Line 1 Girder 4 : 0.0000

Line 1 Girder 5 : 0.0000

Line 1 Girder 6 : 0.0000
 Line 1 Girder 7 : 0.0000
 Line 1 Girder 8 : 0.0000
 Line 1 Girder 9 : 0.0000
 Dead Load DC on Composite
 Line 1 Girder 1 : 6.1871
 Line 1 Girder 2 : 6.1871
 Line 1 Girder 3 : 6.1871
 Line 1 Girder 4 : 6.1871
 Line 1 Girder 5 : 6.1871
 Line 1 Girder 6 : 6.1871
 Line 1 Girder 7 : 6.1871
 Line 1 Girder 8 : 6.1871
 Line 1 Girder 9 : 6.1871
 Dead Load DW on Composite
 Line 1 Girder 1 : 0.0000
 Line 1 Girder 2 : 0.0000
 Line 1 Girder 3 : 0.0000
 Line 1 Girder 4 : 0.0000
 Line 1 Girder 5 : 0.0000
 Line 1 Girder 6 : 0.0000
 Line 1 Girder 7 : 0.0000
 Line 1 Girder 8 : 0.0000
 Line 1 Girder 9 : 0.0000
 Live Load
 Live Load Max +ve, Truck : 66.9311
 Live Load Max +ve, Lane : 42.4256

Abutment #: 2

Self Weight

Line 1 Girder 1 : 75.9987
 Line 1 Girder 2 : 75.9987
 Line 1 Girder 3 : 75.9987
 Line 1 Girder 4 : 75.9987
 Line 1 Girder 5 : 75.9987
 Line 1 Girder 6 : 75.9987
 Line 1 Girder 7 : 75.9987
 Line 1 Girder 8 : 75.9987
 Line 1 Girder 9 : 75.9987

Self + Deck

Line 1 Girder 1 : 74.5763
 Line 1 Girder 2 : 78.0979
 Line 1 Girder 3 : 78.0979
 Line 1 Girder 4 : 78.0979
 Line 1 Girder 5 : 86.5351
 Line 1 Girder 6 : 94.9723
 Line 1 Girder 7 : 94.9723
 Line 1 Girder 8 : 94.9723
 Line 1 Girder 9 : 82.9417

Dead Load DC on Precast

Line 1 Girder 1 : 11.9322
 Line 1 Girder 2 : 15.5782
 Line 1 Girder 3 : 15.5782
 Line 1 Girder 4 : 15.5782

Line 1 Girder 5	: 17.1691
Line 1 Girder 6	: 18.7601
Line 1 Girder 7	: 18.7601
Line 1 Girder 8	: 18.7601
Line 1 Girder 9	: 0.0000
Dead Load DW on Precast	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Dead Load DC on Composite	
Line 1 Girder 1	: 6.1871
Line 1 Girder 2	: 6.1871
Line 1 Girder 3	: 6.1871
Line 1 Girder 4	: 6.1871
Line 1 Girder 5	: 6.1871
Line 1 Girder 6	: 6.1871
Line 1 Girder 7	: 6.1871
Line 1 Girder 8	: 6.1871
Line 1 Girder 9	: 6.1871
Dead Load DW on Composite	
Line 1 Girder 1	: 0.0000
Line 1 Girder 2	: 0.0000
Line 1 Girder 3	: 0.0000
Line 1 Girder 4	: 0.0000
Line 1 Girder 5	: 0.0000
Line 1 Girder 6	: 0.0000
Line 1 Girder 7	: 0.0000
Line 1 Girder 8	: 0.0000
Line 1 Girder 9	: 0.0000
Live Load	
Live Load Max +ve, Truck	: 66.9311
Live Load Max +ve, Lane	: 42.4256

APPENDIX B-4

SUBSTRUCTURE ANALYSIS

EOR:	I-4 PD&E St. Johns River Veterans Memorial Bridge		JOB NO.: 59219 SHEET NO.:
MADE BY:	CAM	CHECKED BY:	BACKCHECKED BY:
DATE:	9/20/2013	DATE:	DATE:




Pier 2 WB Dead Load Bearing Reactions

Bearing Line	Girder	Reaction (kips)
1	1	-168.69
1	2	-175.86
1	3	-175.86
1	4	-175.86
1	5	-185.89
1	6	-195.92
1	7	-195.92
1	8	-195.92
1	9	-165.13

Notes:

Reaction sign convention taken as positive upwards


		Sheet # 1
		Job #
		Designed CAM
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Version: 12.01.00.57	Copyright © Bentley Systems, Inc. 2012	Date Sep/10/2013
	www.bentley.com	Checked
File Name: EndBent2EB_ModifiedSpacing.rcp		Date

PROJECT DATA

Project:	I4 Over St. John's River
User Job No.:	CAM
Designer:	Sep/10/2013
Date:	
Checked date:	FL
State:	Pier
State Job No.:	Upstation
Structure type:	AAASHTO LRFD (6th Edition, 2012)
Pier View:	I4 Over St. John's River Bridge - End Bent 2 EB
Comments:	

Units: US (English)

Design Code: AASHTO LRFD

		Sheet # 2
		Job #
		Designed CAM
Program: LEAP® RC-PIER® V8i (SELECTseries 5)	SE Client Licenses	
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	www.bentley.com	Checked
File Name: EndBent2EB_ModifiedSpacing.rcp		Date

PIER GEOMETRY

Pier Info:	Upstation
Pier View:	Pile Bent
Pier Type:	

Cap Shape	Straight
Top Elevations: start = 34.39 ft end = 33.66 ft	
Depth(Z) = 48.00 in Skew angle = 0.00 Reduction of I = 1.000	
Length(X) = 103.08 ft Height(Y) = 36.00 in	

Column Shape : Rectangular	
Number of columns: 9	

Column number 1	
Location from the left edge of the cap(X): 1.75 ft	
Elevations: bottom = -28.62 ft top = 32.88 ft Reduction of I = 1.000	
Column Bottom is Fixed	

Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	

Column number 2	
Location from the left edge of the cap(X): 10.75 ft	
Elevations: bottom = -28.69 ft top = 32.81 ft Reduction of I = 1.000	
Column Bottom is Fixed	

Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	


Column number 3	
Location from the left edge of the cap(X): 22.75 ft	
Elevations: bottom = -28.77 ft top = 32.73 ft Reduction of I = 1.000	
Column Bottom is Fixed	

Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	

Column number 4	
Location from the left edge of the cap(X): 34.75 ft	
Elevations: bottom = -28.86 ft top = 32.64 ft Reduction of I = 1.000	
Column Bottom is Fixed	

Units: US (English)

Design Code: AASHTO LRFD



Program:

Version:

File Name:

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3

Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	
Column number 5	
Location from the left edge of the cap(X): 46.75 ft	
Elevations: bottom = -28.94 ft top = 32.56 ft Reduction of I = 1.000	
Column Bottom is Fixed	
Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	
Column number 6	
Location from the left edge of the cap(X): 59.38 ft	
Elevations: bottom = -29.03 ft top = 32.47 ft Reduction of I = 1.000	
Column Bottom is Fixed	
Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	
Column number 7	
Location from the left edge of the cap(X): 72.00 ft	
Elevations: bottom = -29.12 ft top = 32.38 ft Reduction of I = 1.000	
Column Bottom is Fixed	
Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	
Column number 8	
Location from the left edge of the cap(X): 84.63 ft	
Elevations: bottom = -29.21 ft top = 32.29 ft Reduction of I = 1.000	
Column Bottom is Fixed	
Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	
Column number 9	
Location from the left edge of the cap(X): 97.25 ft	
Elevations: bottom = -29.30 ft top = 32.20 ft Reduction of I = 1.000	
Column Bottom is Fixed	
Column Section Dimensions	
Width(X) = 24.00 in Depth(Z) = 24.00 in	



Program:

Version:

File Name:

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4

SUPERSTRUCTURE INFO	
Superstructure info:	
Total number of spans:	
Span number rear to current pier:	
Number of traffic lanes:	
Barrier height :	
Depth of slab :	
Curb to curb distance: 0.000	
Beam Info:	
Height in	Section area in^2
78.00	1105.00
Inertia (Ixx) in^4	Inertia (Iyy) in^4
935544.00	99.34
Beam CG in	
40.39	
Span #	Span length ft
1	136.000
	Bridge Width ft
	103.070
	103.070



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File Name: EndBent2EB_ModifiedSpacing.rcp

MATERIAL PROPERTIES

	Cap	Column	Footing
Concrete Type	normal	normal	normal
Concrete Strength (psi)	5500.00	5500.00	5500.00
Concrete Density (lb/ft3)	150.00	150.00	150.00
Concrete Modulus Ec (ksi)	3845.80	3845.80	3845.80
Steel Strength Fy (ksi)	60.00	60.00	60.00



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DESIGN PARAMETERS

Resistance factors for reinf. concrete	
Flexure and tension	0.90
Shear and torsion (normal)	0.90
Shear and torsion (lightweight)	0.70
Axial compression (ties)	0.75
Axial compression (spiral)	0.75
Compression in STM	0.70

Multi presence factors for live load	
1 Lane	1.20
2 Lanes	1.00
3 Lanes	0.85
more than 3 Lanes	0.65

Dynamic load allowance IM

Truck	Lane	Fatigue
Cap	0.33	0.00
Column	0.33	0.00
Footing	0.00	0.00

Exposure factors	Clear cover in	Clear side cover in
Cap	1.00	2.00
Column	1.00	2.00
Footing	1.00	3.00

Degree of fixity in foundations for Moment Magnify Method: Ga = 5.00

SEISMIC DESIGN PARAMETERS

Strength Reduction factors for reinf. Concrete Seismic Design

Seismic Overstrength

Flexure and tension	1.30
Axial compression (ties)	1.30
Axial compression (spiral)	1.30

Response Modification Factor 5.00

Use core area for plastic hinging calculations.

Design Factors

Cap Design Factor	1.20
Footing Design Factor	1.20

Plastic Hinge Moment

Use actual computed Plastic Hinging Moment for each column in all combinations.

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Pile	X in	Z in	Batter degree	X degree	Z degree	Comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips
1	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
2	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
3	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
4	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
5	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
6	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
7	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
8	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
9	74	---	---	---	---	---	74	---	-1982.09	0.00	8491.26
1	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
2	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
3	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
4	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
5	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
6	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
7	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
8	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
9	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
1	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
2	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
3	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
4	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
5	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
6	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
7	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
8	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
9	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
1	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
2	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
3	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
4	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
5	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
6	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
7	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
8	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
9	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
1	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
2	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
3	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
4	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
5	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
6	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
7	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
8	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
9	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
1	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
2	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
3	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
4	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
5	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
6	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
7	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
8	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
9	35	---	---	---	---	---	35	---	-2923.85	0.00	-17045.90
1	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
2	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
3	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
4	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
5	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
6	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
7	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
8	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34
9	71	---	---	---	---	---	71	---	-2136.92	0.00	13205.34

Pile Reactions: Notes

* Service Force in pile is greater than service pile capacity.
Pile reaction calculation is based on the assumption that pile cap is infinitely rigid. Load effects on pile are calculated at CG of pile group.
Both the max. and min. pile reaction are reported for each individual pile.
Positive pile reaction represents pile subject to compression load; negative pile reaction represents pile subject to uplift.
Coordinate system of pile layout see Geometry Tab-Footing Pile-Edit Pile.

Units: US (English)

Design Code: AASHTO LRFD

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Program: LEAP® RC-PIER® V8i (SELECTseries 5)

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Sheet # 14

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Pile Lateral Resistance Check X	
Controlling load combination number	43
Lateral loads on all piles(kips)	-0.000
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct shear resistance of all piles(kips)	0.000
Total pile lateral resistance(kips)	0.000
Is the lateral resistance due to batter greater than lateral load on all piles?	NO
Is the total pile lateral resistance greater than the lateral load on all piles?	NO

Pile Lateral Resistance Check Z	
Controlling load combination number	%
Lateral loads on all piles(kips)	0.000
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct shear resistance of all piles(kips)	0.000
Total pile lateral resistance(kips)	0.000
Is the lateral resistance due to batter greater than lateral load on all piles?	NO
Is the total pile lateral resistance greater than the lateral load on all piles?	NO

Max. Pile Reaction Used in Design (without selfweight and surcharge)

Factored pile reaction	420.56 kips	Comb 35
Service pile reaction	328.51 kips	Comb 272


Flexure	Loc ft	Mmax kft	Mmin kft	Comb	Asb_req in^2	Asb_prov in^2	Asl_req in^2	Asl_prov in^2	Ast_eff in^2
X direction	0.00	0.0	0.0	35	0.00	0.00	0.00	0.00	0.00
Z direction	0.00	0.0	0.0	35	0.00	0.00	0.00	0.00	0.00

Cracking check as per AASHTO LRFD (6th Edition, 2012)

Cracking/Fatigue		Cracking		Cracking		Cracking		Fatigue		Fatigue	
Loc ft	Mmax kft	Mmin kft	Comb	Is-t ksi	Comb	Is-b ksi	Comb	Mmax kft	Mmin kft	Is-t ksi	Is-b ksi
X direction	0.00	0.0	0.0	35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Z direction	0.00	0.0	0.0	35	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Units: US (English)

Design Code: AASHTO LRFD



Program: LEAP® RC-PIER® V8i (SELECTseries 5)

Version: 12.01.00.57

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Checked

Date

File Name: EndBent2EB_ModifiedSpacing.rcp

Loc	Cracking	Cracking	Cracking	Fatigue	Fatigue	Fatigue
Loc	Mmax	fs-t	Sqrt	Mmax	Comb	fs-t
ft	ksi	ksi	in	ksi	ksi	ksi
0.00	0.0	272	1237.00	0.00	0	0.00
0.00	0.0	272	1237.00	0.00	0	0.00

One Way Shear (Beta-Theta Method)


Col	Dist	Comb	dv	Mu	theta	beta	phi*Vc
ft	ft	in	in	ksi	deg		ksi
1	2.79	Outside of Footing	...	...	...	...	...
1	-3.79	35	0.00	0.0	0.00	0.00	0.0
2	-3.79	35	0.00	0.0	0.00	0.00	0.0
2	-3.79	35	0.00	0.0	0.00	0.00	0.0
3	-3.79	35	0.00	0.0	0.00	0.00	0.0
3	-3.79	35	0.00	0.0	0.00	0.00	0.0
4	-3.79	35	0.00	0.0	0.00	0.00	0.0
4	-3.79	35	0.00	0.0	0.00	0.00	0.0
5	-3.79	35	0.00	0.0	0.00	0.00	0.0
5	-3.79	35	0.00	0.0	0.00	0.00	0.0
6	-3.79	35	0.00	0.0	0.00	0.00	0.0
6	-3.79	35	0.00	0.0	0.00	0.00	0.0
7	-3.79	35	0.00	0.0	0.00	0.00	0.0
7	-3.79	35	0.00	0.0	0.00	0.00	0.0
8	-3.79	35	0.00	0.0	0.00	0.00	0.0
8	-3.79	35	0.00	0.0	0.00	0.00	0.0
9	-1.79	Outside of Footing	...	...	...	...	...
Z direction							
	0.00	35	0.00	0.0	0.00	0.00	0.0
	0.00	35	0.00	0.0	0.0	0.00	0.0

Two Way Shear

#	Bo	Ao	Comb	Avg.dv	Vu	phi*Vc
	ft	ft ²	in	in	ksi	ksi
Columns	No Two Way Shear					
1	No Two Way Shear					
2	No Two Way Shear					
3	No Two Way Shear					
4	No Two Way Shear					
5	No Two Way Shear					
6	No Two Way Shear					
7	No Two Way Shear					
8	No Two Way Shear					
9	No Two Way Shear					
Piles - max	No Two Way Shear					

Units: US (English)

Design Code: AASHTO LRFD



Program: LEAP® RC-PIER® V8i (SELECTseries 5)

Version: 12.01.00.57

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File Name: EndBent2EB_ModifiedSpacing.rcp

#	Bo	Ao	Comb	Avg.dv	Vu	phi*Vc
	ft	ft ²	in	in	ksi	ksi
0	0.00	0.00	35	0.10	0.0	0.0
Piles - min	0.00	0.00	35	0.10	0.0	0.0
0	0.00	0.00	35	0.10	0.0	0.0

Two Way Shear Note

TWO WAY SHEAR IN FOOTING IS NOT DESIGNED AND STIRRUPS ARE NOT CONSIDERED.

Units: US (English)

Design Code: AASHTO LRFD

EOR:	I-4 PD&E St. Johns River Veterans Memorial Bridge		JOB NO.: 59219 SHEET NO.:
MADE BY:	CAM	CHECKED BY:	BACKCHECKED BY:
DATE:	9/20/2013	DATE:	DATE:




Pier 2 WB Dead Load Bearing Reactions

Bearing Line	Girder	Reaction (kips)
1	1	-116.69
1	2	-127.50
1	3	-127.50
1	4	-127.50
1	5	-127.50
1	6	-121.42
1	7	-115.35
1	8	-115.35
1	9	-115.35
1	10	-110.61
2	1	-152.92
2	2	-167.13
2	3	-167.13
2	4	-167.13
2	5	-167.13
2	6	-159.16
2	7	-151.19
2	8	-151.19
2	9	-151.19
2	10	-144.22

Notes:

Reaction sign conventioned taken as positive upwards



Sheet # 1

Job #

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File Name: **Pier2L_ModifiedSpacing.rcp**

PIER GEOMETRY

Checked

Date

Pier Info:

Pier View: Upstation

Pier Type: Multi Column

Cap Shape

Cap Shape: Variable

Top Elevations: start = 32.41 ft end = 32.41 ft

Depth(Z) = 54.00 ft Slew angle = 15.66 Reduction of I = 1.000

Variable Cap Properties

Distance(X) ft	Height(Y) in
0.00	0.01
1.25	72.00
1.25	72.00
	0.01

Column Shape : Rectangular Chamfered

Number of columns: 3

Column number 1

Location from the left edge of the cap(X): 11.92 ft

Elevations: bottom = 4.25 ft top = 32.41 ft Reduction of I = 1.000

Column Bottom is Fixed

Column Section Dimensions

Dist from last(Y) ft	Width(X) in	Depth(Z) in	Chamfer(X) in	Chamfer(Z) in	Variation
0.00	72.00	48.00	12.00	12.00	-----
28.16	72.00	48.00	12.00	12.00	Linear

Column number 2

Location from the left edge of the cap(X): 46.08 ft

Elevations: bottom = 4.25 ft top = 32.41 ft Reduction of I = 1.000

Column Bottom is Fixed


Column Section Dimensions

Dist from last(Y) ft	Width(X) in	Depth(Z) in	Chamfer(X) in	Chamfer(Z) in	Variation
0.00	72.00	48.00	12.00	12.00	-----
28.16	72.00	48.00	12.00	12.00	Linear

Column number 3

Units: US (English)

Design Code: AASHTO LRFD



Sheet # 2

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PIER GEOMETRY

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Date

Location from the left edge of the cap(X): 86.08 ft

Elevations: bottom = 4.25 ft top = 32.41 ft Reduction of I = 1.000


Column Bottom is Fixed

Column Section Dimensions

Dist from last(Y) ft	Width(X) in	Depth(Z) in	Chamfer(X) in	Chamfer(Z) in	Variation
0.00	72.00	48.00	12.00	12.00	-----
28.16	72.00	48.00	12.00	12.00	Linear

Units: US (English)

Design Code: AASHTO LRFD

		Sheet # 3	
		Job #	
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SUPERSTRUCTURE INFO

Superstructure Info:

Total number of spans:	2
Span number rear to current pier:	1
Number of traffic lanes:	9
Barrier height :	32.00 in
Depth of slab :	8.50 in
Curb to curb distance:	112.040 ft


Beam Info:

Height in	Section area in ²	Inertia (Ixx) in ⁴	Inertia (Iyy) in ⁴	Beam CG in
78.00	1100.58	903861.00	82270.00	34.63

Span #	Span length ft	Bridge Width ft
1	90.000	115.150
2	118.000	115.150

Units: US (English)

Design Code: AASHTO LRFD


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		Job #	
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File Name: Pier2L_ModifiedSpacing.rcp			

MATERIAL PROPERTIES

Concrete Type	Cap normal	Column normal	Footing normal
Concrete Strength (psi)	5500.00	5500.00	5500.00
Concrete Density (lb/ft ³)	150.00	150.00	150.00
Concrete Modulus Ec (ksi)	3845.80	3845.80	3845.80
Steel Strength Fy (ksi)	60.00	60.00	60.00

Units: US (English)

Design Code: AASHTO LRFD



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Sheet # 5
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File Name: **Pier2L_ModifiedSpacing.rpt**

DESIGN PARAMETERS

Resistance factors for reinf. concrete	
Flexure and tension	0.90
Shear and torsion (normal)	0.90
Shear and torsion (lightweight)	0.70
Axial compression (ties)	0.75
Axial compression (spiral)	0.75
Compression in STM	0.70

Multi presence factors for live load	
1 Lane	1.20
2 Lanes	1.00
3 Lanes	0.85
more than 3 Lanes	0.65

Dynamic load allowance IM		
	Truck	Lane Fatigue
Cap	0.33	0.00 0.15
Column	0.33	0.00 0.15
Footing	0.00	0.00 0.00

Exposure factors		Clear cover	Clear side cover
Cap	1.00	in	in
Column	1.00	2.00	2.00
Footing	1.00	3.00	3.00

Degree of fixity in foundations for Moment Magnify Method: $C_a = 5.00$

SEISMIC DESIGN PARAMETERS

Strength Reduction factors for reinf. Concrete Seismic Design

Seismic Overstrength

Flexure and tension	1.30
Axial compression (ties)	1.30
Axial compression (spiral)	1.30

Response Modification Factor 5.00

Use core area for plastic hinging calculations.

Design Factors


Cap Design Factor	1.20
Footing Design Factor	1.20

Plastic Hinge Moment

Use actual computed Plastic Hinging Moment for each column in all combinations.

Units: US (English)

Design Code: AASHTO LRFD



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Sheet # 6
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File Name: **Pier2L_ModifiedSpacing.rpt**

FOOTING DESIGN

ISOLATED FOOTING DESIGN
Code: AASHTO LRFD (6th Edition, 2012)
Units: US
Pier View: Upstation.

GEOMETRY

Name : Footing1
Shape : Rectangular, Type : Pile/Shaft Cap
B(X) = 10.50 ft, H(Z) = 16.00 ft, Thickness(V) = 72.00 in
A_g = 168.00 ft², I_x = 144.00 ft², I_y = 63.38 ft²
Footing concentric.
Columns located on the footing:
Column No. 1 at x = 0.00 ft Rectangular Chamfered
Width : 72.00 in
Depth : 48.00 in
Chamfer(X): 12.00 in
Chamfer(Z): 12.00 in
Piles: Square Size: W = 24.00 in
Service Capacity: 100.00 kips
Factored Capacity: 270.00 kips
Lateral Resistance: 50.00 kips
Piles Section Properties: Area = 4.00 ft² I_x = 27648.00 in⁴ I_y = 27648.00 in⁴
Pile Pattern Name: N06P1
Pile Pattern Type: Grid-based
Number of Piles: 6
Grid distances:
X1 = 39.000
Z1 = 72.000
1 1
1 1
1 1

DESIGN PARAMETERS

$f'_c = 5500.00$ psi ϕ flex = 0.90 $E_c = 3845.8$ ksi Crack check as per 2005 Interims Crack control Exposure = 1.00 Concrete Type: Normal Weight.	$f_y = 60000.00$ psi ϕ shear = 0.90 $E_s = 29000.0$ ksi
--	--

Reinforcement Schedule

Units: US (English)

Design Code: AASHTO LRFD

Bentley

Program:

LEAP® RC-PIER® V8i (SELECTseries 5)

Version:

12.01.00.57

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File Name:

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reaction represents pile subject to uplift

Coordinate system of pile layout see Geometry Tab>Footling Pile>Edit Pile.

Sheet #

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Job #

Designed

KSM

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Date

Dir	Quantity	Size	Bar dist. As total Spacing				Hook
			in	in	in	in	
X	20	US#11(M36)	15.70	31.20	9.72	Both 90	
X	5	US#6(M19)	50.29	2.20	46.31	None	
Z	30	US#9(M29)	17.20	30.00	4.10	Both 90	
Z	5	US#6(M19)	46.79	2.20	29.81	None	

Pile Reactions, Service									
Load Effect @ Footing Bot.									
Pile	Dir	X	Z	Batter X	Batter Z	Comb	Ovs	P	Pile Reac.
1		24.00	-72.00	0	0	6884	1.000	-1511.33	-1703.29
						6325	1.000	-1157.06	-627.44
2		102.00	-72.00	0	0	6876	1.000	-1449.65	-1638.93
						6982	1.000	-1231.33	-1411.72
3		24.00	0.00	0	0	7040	1.000	-1536.53	-161.57
						5791	1.000	-1156.43	-551.69
4		102.00	0.00	0	0	6885	1.000	-1597.89	-704.25
						5456	1.000	-1230.34	-771.62
5		24.00	72.00	0	0	7022	1.000	-1499.37	-1379.14
						6895	1.000	-1151.44	-944.57
6		102.00	72.00	0	0	6971	1.000	-1663.58	-761.88
						6896	1.000	-1218.03	-1648.32

Pile Reactions, Factored									
Load Effect @ Footing Bot.									
Pile	Dir	X	Z	Batter X	Batter Z	Comb	Ovs	P	Pile Reac.
1		24.00	-72.00	0	0	20	...	-1920.85	-2282.15
						271	...	-1046.28	-1695.95
2		102.00	-72.00	0	0	12	...	-1837.82	-2195.51
						298	...	-1130.33	-1950.24
3		24.00	0.00	0	0	176	...	-1954.77	-1035.93
						3631	...	-1030.84	-705.55
4		102.00	0.00	0	0	21	...	-2037.38	-1058.44
						375	...	-1082.99	-39.12
5		24.00	72.00	0	0	188	...	-1904.75	-1867.27
						211	...	-1022.79	-2035.60
6		102.00	72.00	0	0	107	...	-2125.80	-1035.92
						212	...	-1112.43	-2169.04

Pile Reactions: Notes

* Service Force in pile is greater than service pile capacity.

* Factored Force in pile is greater than factored pile capacity.

Load effects on pile are calculated at centroid of the bottom of the footing.

Both the max. and min. pile reaction are reported for each individual pile.

Positive pile reaction represents pile subject to compression load; negative pile

Units: US (English)

Design Code: AASHTO LRFD

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reaction represents pile subject to uplift

Coordinate system of pile layout see Geometry Tab>Footling Pile>Edit Pile.

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Job #

Designed

KSM

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Pile Lateral Resistance Check X									
Controlling load combination number									
									3
									115.847
									0.000
									0.000
									300.000
									300.000
									NO
									YES

Pile Lateral Resistance Check Z									
Controlling load combination number									
									102
									43.429
									0.000
									0.000
									300.000
									300.000
									NO
									YES

Max. Pile Reaction Used in Design: (without selfweight and surcharge)			
Factored pile reaction	445.86 kips	Comb 12	
Service pile reaction	345.12 kips	Comb 6876	

Flexure									
Dir	Loc	d	Mmax	Comb	Asb req	Asb prv	Asb off	Asl req	Asl prv
		ft	in	kft	in ²	in ²	in ²	in ²	in ²
X	-2.87	55.29	505.2	12	10.37	31.20	10.37	2.20	2.20
X	2.87	55.29	505.2	12	10.37	31.20	10.37	2.20	2.20
Z	-1.91	54.79	3642.8	12	20.02	30.00	6.80	2.20	2.20
Z	1.91	54.79	3642.8	12	20.02	30.00	6.80	2.20	2.20

Flexure Note


* The provided reinforcement is not adequate, either less than required or larger than maximum allowed.

Cracking check as per AASHTO LRFD (6th Edition, 2012)

Cracking/Fatigue

Units: US (English)

Design Code: AASHTO LRFD



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Pier2L_ModifiedSpacing.rcp											
Dir	Loc	d	Cracking	Cracking	Cracking	Fatigue	Fatigue	Fatigue	Fatigue	Fatigue	Fatigue
		ft	in	ft	in	ksi	ksi	ksi	ksi	ksi	ratio
X	2.87	56.29	391.1	6876	2.82	145.9	9.7	0.0	0.0	0.00	0.00
X	2.87	56.29	391.1	6876	2.82	145.9	9.7	0.0	0.0	0.00	0.00
Z	-1.91	54.79	2819.7	6876	22.00	...	...	0.0	0.0	0.00	0.00
Z	1.91	54.79	2819.7	6876	22.00	...	...	0.0	0.0	0.00	0.00

Cracking/Fatigue Note

* Provided rebar spacing is not adequate for crack control.

*** Spacing is negative.

One Way Shear (Beta-Theta Method)											
Col	Dir	Dist	ft	Comb	in	dv	Vu	Mu	theta	beta	phi*Vc
						in	kips	kft	deg	...	kips
1	X	-7.48	Outside of Footing	...	...	...	...	...	...	...	...
X	7.48	Outside of Footing	...	...	...	...	...	...	...	...	...
Z	-6.40	12	53.88	265.3	0.0	31.26	3.23	1464.4	...	...	...
Z	6.40	12	53.88	265.3	0.0	31.26	3.23	1464.4	...	...	...

Two Way Shear											
#	Bo	ft	Ao	ft²	Comb	in	Avg. dv	Vu	phi*Vc		
							in	kips	kips		
Columns	1	37.34	86.21	12	54.57	1783.5	6502.0	...	...	...	...
Piles - max	3	17.09	34.53	12	54.57	445.9	2976.8	...	...	...	...
Piles - min	1	10.55	27.81	12	54.57	445.9	1836.7	...	...	...	...

Two Way Shear Note


TWO WAY SHEAR IN FOOTING IS NOT DESIGNED AND STIRRUPS ARE NOT CONSIDERED.

ISOLATED FOOTING DESIGN

Code: AASHTO LRFD (6th Edition, 2012)

Units: US

Pier View: Upstation.



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Sheet # 10

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File Name: Pier2L_ModifiedSpacing.rcp

GEOMETRY

Name: Footing2

Shape: Rectangular Type: Pile/Shaft Cap

BT(X) = 10.50 ft, HT(Z) = 16.00 ft, Thickness(Y) = 72.00 in

Ag = 168.00 ft², Ix = 144.00 ft², Iz = 63.38 ft²

Footing concentric.

Columns located on the footing:

Column No. 2 at x = 0.00 ft Rectangular Chamfered

Width : 72.00 in

Depth : 48.00 in

Chamfer(X): 12.00 in

Chamfer(Z): 12.00 in

Piles: Square Size: W = 24.00 in

Service Capacity: 270.00 kips

Factored Capacity: 270.00 kips

Lateral Resistance: 50.00 kips

Piles Section Properties: Area = 4.00 ft², Ix = 27648.00 in⁴, Iz = 27648.00 in⁴

Pile Pattern Name: NXP1

Pile Pattern concentric.

Pile Pattern Type: Grid-Based

Number of Piles: 6

Grid distances:

X1 = 39.000

X2 = 72.000


X3 = 11

X4 = 11

X5 = 11

DESIGN PARAMETERS	
f'c = 5500.00 psi	f'y = 60000.00 psi
phi flex = 0.90	phi shear = 0.90
Ec = 3845.8 ksi	Es = 29000.0 ksi
Crack check as per 2005 Interims	
Crack control Exposure = 1.00	
Concrete Type : Normal Weight.	

Reinforcement Schedule					
Dir	Quantity	Size	Bar dist. in	As total in²	Spacing in
X	20	US#11(M56)	15.70	31.20	9.72
X	5	US#6(M19)	50.29	2.20	46.31
Z	30	US#9(M29)	17.20	30.00	4.10
Z	5	US#6(M19)	48.79	2.20	29.81
					Both 90
					None
					Both 90
					None



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Version: 12.01.00.57
File Name: **Pier2L_ModifiedSpacing.rpt**

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Job #

Cracking/Fatigue Note
* Provided rebar spacing is not adequate for crack control.
*** Spacing is negative.

One Way Shear (Beta-Theta Method)									
Col	Dir	Dist ft	Comb	dv in	Vu kips	Mu kft	theta deg	beta	phi*Vu kips
1	X	-7.48	Outside of Footing	...	...	...	...	...	...
	X	7.48	Outside of Footing	...	...	...	...	...	...
	Z	-6.40	101	53.88	268.6	0.0	31.29	3.22	1458.5
	Z	6.40	101	53.88	268.6	0.0	31.29	3.22	1458.5


Two Way Shear							
#	Bo ft	Ao ft²	Comb	Avg dv in	Vu kips	phi*Vu kips	
Columns							
1	37.34	86.21	101	54.57	1805.7	1602.0	
Piles - max							
3	17.09	34.53	101	54.57	451.4	2976.8	
Piles - min							
1	10.55	27.81	101	54.57	451.4	1836.7	

Two Way Shear Note
TWO WAY SHEAR IN FOOTING IS NOT DESIGNED AND STIRRUPS ARE NOT CONSIDERED.

ISOLATED FOOTING DESIGN
Code: AASHTO LRFD (6th Edition, 2012)
Units: US
Pier View: Upstation.

GEOMETRY

Name: Footing3
Shape: Rectangular, Type: Pier/Shaft Cap



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Version: 12.01.00.57
File Name: **Pier2L_ModifiedSpacing.rpt**

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BR(X) = 10.50 ft, BR(Z) = 16.00 ft, Thickness(V) = 72.00 in
Ag = 168.00 ft², Ix = 144.00 ft², Iz = 63.38 ft²
Footing concentric.
Columns located on the footing:
Column No.3 at x = 0.00 ft Rectangular Chamfered
Width : 72.00 in
Depth : 48.00 in
Chamfer(X): 12.00 in
Chamfer(Z): 12.00 in
Piles: Square Size: W = 24.00 in
Service Capacity: 100.00 kips
Factored Capacity: 270.00 kips
Lateral Resistance: 50.00 kips
Piles Section Properties: Area = 4.00 ft² Ix = 27648.00 in⁴ Iz = 27648.00 in⁴
Pile Pattern Name: NXP1
Pile Pattern concentric.
Pile Pattern Type: Grid based
Number of Piles: 6
Grid distances:
X1 = 39.000
Z1 = 72.000
1 1
1 1
1 1

DESIGN PARAMETERS
fc = 5500.00 psi
phi flex = 0.90
Ee = 3845.8 ksi
Crack check as per 2005 Interims
Crack control Exposure = 1.00
Concrete Type : Normal Weight.

Reinforcement Schedule						
Dir	Quantity	Size	Bar dist. in	As total in ²	Spacing in	Hook
X	19	US#11(M36)	15.71	29.64	10.26	None
X	5	US#11(M36)	50.29	7.80	46.15	None
Z	21	US#11(M36)	17.21	32.76	5.93	None
Z	5	US#11(M36)	48.79	7.80	29.65	None

Pile Reactions, Service Load Effect @ Footing Bot.

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Version:

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File Name:

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Is the lateral resistance due to batter greater than lateral load on all piles?

NO

Is the total pile lateral resistance greater than the lateral load on all piles?

YES

Sheet #

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Job #

Designed

KSM

Date

Sep/10/2013

Checked

Date

Pile	X	Z	Batter	X	Batter	Z	Comb	Ovs	P	Mxx	Mzz	Pile Reac.
	in	in	degree	in	degree	in			kips	kft	kft	kips
1	24.00	-72.00	0	0	0	0	6888	1.000	-2005.67	-1205.70	1002.16	435.91
2	102.00	-72.00	0	0	0	0	6897	1.000	-1562.06	1655.05	42.91	193.58
3	24.00	0.00	0	0	0	0	6895	1.000	-2016.47	-1791.32	243.92	398.21
4	102.00	0.00	0	0	0	0	6972	1.000	-1490.12	1613.49	529.14	153.99
5	24.00	72.00	0	0	0	0	6961	1.000	-1927.30	710.89	1434.54	394.78
6	102.00	72.00	0	0	0	0	5973	1.000	-1603.56	-1288.18	-483.65	242.46
							6865	1.000	-2018.08	-1628.53	242.69	323.90
							5265	1.000	-1431.13	425.01	792.89	197.86
							6878	1.000	-1858.53	929.28	1581.10	429.56
							6878	1.000	-1599.96	-1849.71	-335.90	172.36
							6955	1.000	-2002.21	1465.75	560.74	366.02
							4724	1.000	-1442.67	-1504.68	386.63	157.92

Pile Reactions, Factored

Pile	X	Z	Batter	X	Batter	Z	Comb	Ovs	P	Mxx	Mzz	Pile Reac.
	in	in	degree	in	degree	in			kips	kft	kft	kips
1	24.00	-72.00	0	0	0	0	24	---	-2555.68	-1615.00	1328.35	561.36
2	102.00	-72.00	0	0	0	0	303	---	-1433.43	2265.34	-38.30	142.55
3	24.00	0.00	0	0	0	0	31	---	-2570.23	-2403.33	307.64	512.73
4	102.00	0.00	0	0	0	0	288	---	-1336.59	2209.39	616.23	99.10
5	24.00	72.00	0	0	0	0	97	---	-2450.18	965.03	1970.41	506.33
6	102.00	72.00	0	0	0	0	381	---	-1366.68	-142.68	-407.83	206.87
							1	---	-2572.39	-2184.20	305.99	413.04
							373	---	-1076.23	-386.70	645.33	146.28
							93	---	-2357.62	1259.01	2107.70	553.48
							194	---	-1484.46	-2452.61	-548.24	117.10
							91	---	-2551.03	1981.19	734.13	470.07
							2564	---	-1274.60	-1980.16	400.83	109.37

Pile Reactions: Notes

* Service Force in pile is greater than service pile capacity.
* Factored Force in pile is greater than factored pile capacity.
Load effects on pile are calculated at centroid of the bottom of the footing.
Both the max. and min. pile reaction are reported for each individual pile.
Positive pile reaction represents pile subject to compression load; negative pile reaction represents pile subject to uplift.
Coordinate system of pile layout see Geometry Tab-Footing Pile-Edit Pile.

Pile Lateral Resistance Check X

Controlling load combination number	97
Lateral loads on all piles(kips)	-152.693
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct Shear resistance of all piles(kips)	300.000
Total pile lateral resistance(kips)	300.000

Units: US (English)

Design Code: AASHTO LRFD

Bentley

Program:

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Version:

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Is the lateral resistance due to batter greater than lateral load on all piles?

NO

Is the total pile lateral resistance greater than the lateral load on all piles?

YES

Sheet #

16

Job #

Designed

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Date

Sep/10/2013

Checked

Date

Controlling load combination number	48
Lateral loads on all piles(kips)	-53.038
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct Shear resistance of all piles(kips)	300.000
Total pile lateral resistance(kips)	300.000

Is the lateral resistance due to batter greater than lateral load on all piles?
NO

Is the total pile lateral resistance greater than the lateral load on all piles?
YES

Max. Pile Reaction Used in Design: (without selfweight and surcharge)

Factored pile reaction	529.86 kips	Comb 24
Service pile reaction	410.71 kips	Comb 6888

Flexure

Dir	Loc	d	Mmax	Comb	Asb_req	Asb_prv	Asb_eff	Asb_req	Asb_prv	Asb_eff
ft	in	in	kft	in ²	in ²	in ²	in ²	in ²	in ²	in ²
X	-2.87	56.29	600.4	24	10.37	29.64	16.95	10.37	7.80	7.80
X	2.87	56.29	600.4	24	10.37	29.64	16.95	10.37	7.80	7.80
Z	-1.91	54.79	4329.1	24	23.88	32.76	32.76	6.80	7.80	7.80
Z	1.91	54.79	4329.1	24	23.88	32.76	32.76	6.80	7.80	7.80

Flexure Note

* The provided reinforcement is not adequate, either less than required or larger than maximum allowed.

Cracking check as per AASHTO LRFD (6th Edition, 2012)

Cracking/Fatigue


Dir	Loc	d	Mmax	Comb	Cracking	Cracking	Cracking	Fatigue	Fatigue	Fatigue
ft	in	in	kft	in ²	ksi	Sq	in	Mmax	Comb	fs ratio fs
X	-2.87	56.29	465.4	6888	5.99	52.1	10.3	0.0	0.00	0.00
X	2.87	56.29	465.4	6888	5.99	52.1	10.3	0.0	0.00	0.00
Z	-1.91	54.79	3355.6	6888	23.50	5.9	5.9	0.0	0.00	0.00
Z	1.91	54.79	3355.6	6888	23.50	5.9	5.9	0.0	0.00	0.00

Cracking/Fatigue Note

* Provided rebar spacing is not adequate for crack control.
*** Spacing is negative.

Units: US (English)

Design Code: AASHTO LRFD

				Sheet #	17
				Job #	
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				Date	

One Way Shear (Beta-Theta Method)

Col	Dir	Dist ft	Comb	dv in	Vu kips	Mu kft	theta deg	beta	phi*Vc kips
1	X	7.48	Outside of Footing	---	---	---	---	---	---
X	X	7.48	Outside of Footing	---	---	---	---	---	---
Z	Z	6.43	24	54.16	302.8	0.0	32.00	2.92	1330.5
Z	Z	6.43	24	54.16	302.8	0.0	32.00	2.92	1330.5

Two Way Shear

#	Bo ft	Ao ft^2	Comb	Avg. dv in	Vu kips	phi*Vc kips
Columns	37.39	86.47	24	54.73	2119.4	6531.8
Piles - max	17.12	34.65	24	54.73	529.9	2990.9
Piles - min	10.56	27.88	24	54.73	529.9	1844.8

Two Way Shear Note

TWO WAY SHEAR IN FOOTING IS NOT DESIGNED AND STIRRUPS ARE NOT CONSIDERED.

FOR:	I-4 PD&E St. Johns River Veterans Memorial Bridge		JOB NO.: 59219 SHEET NO.:
MADE BY:	CAM	CHECKED BY:	BACKCHECKED BY:
DATE:	9/20/2013	DATE:	DATE:




Pier 5 WB Dead Load Bearing Reactions

Bearing Line	Girder	Reaction (kips)
1	1	-161.45
1	2	-177.15
1	3	-185.15
1	4	-185.15
1	5	-185.15
1	6	-176.32
1	7	-167.49
1	8	-167.49
1	9	-164.72
1	10	-160.62
2	1	-166.16
2	2	-170.75
2	3	-178.74
2	4	-178.74
2	5	-178.74
2	6	-173.12
2	7	-167.49
2	8	-167.49
2	9	-167.49
2	10	-160.61

Notes:

Reaction sign conventioned taken as positive upwards



LEAP® RC-PIER® V8i (SELECTseries 5)

Program:

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Designed KSM

Date Sep/10/2013

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File Name: **Pier5L_ModifiedSpacing.rcp**

PROJECT DATA

PROJECT DATA

Project:

User Job No.:

Designer:

Date:

Checker:

Checked date:

State:

State Job No.:

Structure type:

Pier View:

Code:

Comments:

14 Widening Over St. John's River

KSM


Sep/10/2013

FL

Upstation.

AAASHTO LRFD (6th Edition, 2012)

14 Over St. John's River Bridge - Pier 5L (WB)



LEAP® RC-PIER® V8i (SELECTseries 5)

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Date Sep/10/2013

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File Name: **Pier5L_ModifiedSpacing.rcp**

PIER GEOMETRY

Pier Info:

Pier View:

Pier Type:

Upstation

Multi Column

Cap Shape:

Cap Shape: Variable

Top Elevations: start = 39.38 ft end = 39.38 ft

Depth(Z) = 54.00 ft Skew angle = 15.66 Reduction of I = 1.000

Variable Cap Properties	
Distance(X) ft	Height(Y) in
0.00	0.01
1.25	72.00
103.31	72.00
1.25	0.01

Column Shape : Rectangular Chamfered

Number of columns: 3

Column number 1

Location from the left edge of the cap(X): 11.17 ft

Elevations: bottom = 4.25 ft top = 39.38 ft Reduction of I = 1.000

Column Bottom is Fixed

Column Section Dimensions					
Dist from last(Y) ft	Width(X) in	Depth(Z) in	ChamferX in	ChamferZ in	Variation
0.00	72.00	48.00	12.00	12.00	-----
35.13	72.00	48.00	12.00	12.00	Linear

Column number 2


Location from the left edge of the cap(X): 52.58 ft

Elevations: bottom = 4.25 ft top = 39.38 ft Reduction of I = 1.000

Column Bottom is Fixed

Column Section Dimensions					
Dist from last(Y) ft	Width(X) in	Depth(Z) in	ChamferX in	ChamferZ in	Variation
0.00	72.00	48.00	12.00	12.00	-----
35.13	72.00	48.00	12.00	12.00	Linear

Column number 3



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File Name: **Pier5L_ModifiedSpacing.rcp**

Location from the left edge of the cap(X): 88.58 ft
Elevations: bottom = 4.25 ft top = 39.38 ft Reduction of I = 1.000
Column Bottom is Fixed

Column Section Dimensions					
Dist from last(Y) ft	Width(X) in	Depth(Z) in	Chamfer(X) in	Chamfer(Z) in	Variation
0.00	72.00	48.00	12.00	12.00	----
35.13	72.00	48.00	12.00	12.00	Linear



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Date Sep/10/2013

Checked

Date


File Name: **Pier5L_ModifiedSpacing.rcp**

SUPERS STRUCTURE INFO

Superstructure info:
Total number of spans: 2
Span number rear to current pier: 1
Number of traffic lanes: 9
Barrier height : 32.00 in
Depth of slab : 8.50 in
Curb to curb distance: 0.000
109.247 ft

Beam Info:			
Height in	Section area in ²	Inertia (Ixx) in ⁴	Inertia (Iyy) in ⁴
78.00	1100.58	903861.00	82270.00
			Beam CG in
			34.63

Span #	Span length ft	Bridge Width ft
1	129.083	113.080
2	129.083	113.080



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Sheet # 5

Job #

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Date

File Name: **Pier5L_ModifiedSpacing.rcp**

MATERIAL PROPERTIES

	Cap	Column	Footing
Concrete Type	normal	normal	normal
Concrete Strength (psi)	5500.00	5500.00	5500.00
Concrete Density (lb/ft³)	150.00	150.00	150.00
Concrete Modulus Ec (ksi)	3845.80	3845.80	3845.80
Steel Strength Fy (ksi)	60.00	60.00	60.00



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Sheet # 6

Job #

Designed KSM

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File Name: **Pier5L_ModifiedSpacing.rcp**

DESIGN PARAMETERS

Resistance factors for reinf. concrete	
Flexure and tension	0.90
Shear and torsion (normal)	0.90
Shear and torsion (lightweight)	0.70
Axial compression (ties)	0.75
Axial compression (spiral)	0.75
Compression in STM	0.70

Multi presence factors for live load	
1 Lane	1.20
2 Lanes	1.00
3 Lanes	0.85
more than 3 Lanes	0.65

Dynamic load allowance IM		Truck	Lane	Fatigue
	Cap	0.33	0.00	0.15
	Column	0.33	0.00	0.15
	Footings	0.00	0.00	0.00

	Exposure factors	Clear cover in	Clear side cover in
Cap	1.00	2.00	2.00
Column	1.00	2.00	2.00
Footings	1.00	3.00	3.00

Degree of fixity in foundations for Moment Magnify Method: Ga = 5.00

SEISMIC DESIGN PARAMETERS

Strength Reduction factors for reinf. Concrete Seismic Design

Seismic Overstrength

Flexure and tension	1.30
Axial compression (ties)	1.30
Axial compression (spiral)	1.30

Response Modification Factor 5.00

Use core area for plastic hinging calculations.

Design Factors

Cap Design Factor	1.20
Footing Design Factor	1.20

Plastic Hinge Moment

Use actual computed Plastic Hinging Moment for each column in all combinations.



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				Date	

FOOTING DESIGN

ISOLATED FOOTING DESIGN

Code: AASHTO LRFD (6th Edition, 2012)
Units: US
Pier View: Upstation

GEOMETRY

Name: Footing1	
Shape: Rectangular Type: Pile/Shaft Cap	
B(X) = 16.00 ft, H(Z) = 16.00 ft, Thickness(Y) = 72.00 in	
Ag = 256.00 ft ² , W = 216.00 ft ² , Iz = 216.00 ft ⁴	
Footing eccentricity:	
Columns located on the footing:	
Column No. 1 ax = 0.00 ft Rectangular Chamfered	
Width: 72.00 in	
Depth: 48.00 in	
Chamfer(X): 12.00 in	
Chamfer(Z): 12.00 in	
Piles: Square Size: W = 24.00 in	
Service Capacity: 100.00 kips	
Factored Capacity: 270.00 kips	
Lateral Resistance: 50.00 kips	
Piles Section Properties: Area = 4.00 ft ² W = 27648.00 in ⁴ Iz = 27648.00 in ⁴	
Pile Pattern Name: N0P93	
Pile Pattern concentric Yc:	
Pile Pattern Type: Grid-based	
Number of Piles: 9	
Grid distances:	
X1 = 72.000	
Z1 = 72.000	
1 1 1	
1 1 1	
1 1 1	

DESIGN PARAMETERS

f'c = 5500.00 psi phi flex = 0.90 Ec = 3845.8 ksi Crack check as per 2005 Interims Crack control Exposure = 1.00 Concrete Type = Normal Weight	fy = 60000.00 psi phi shear = 0.90 Es = 29000.0 ksi
---	---

Reinforcement Schedule

Units: US (English)

Design Code: AASHTO LRFD



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File Name:	Pier5L_ModifiedSpacing.rcp
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Dir	Quantity	Size	Bar dist. in	As total in ²	Spacing in	Hook
X	20	US#11M36	15.70	31.20	9.72	Both 90
X	X	US#6M19	50.29	2.20	46.31	None
Z	30	US#9M29	17.20	30.00	6.37	Both 90
Z	5	US#6M19	48.79	2.20	46.31	None

Pile Reactions. Service Load Effect @ Footing Bot.


Pile	X in	in	Batter in degree	Batter in degree	comb	Ovs	p kps	Mxx kft	Mzz kft	Pile Reac.
1	24.00	-72.0	0	0	5910	1000	954.53	-2278.87	478.01	293.75
2	96.00	-72.0	0	0	5805	1000	1483.81	3011.99	-355.13	71.35
3	168.00	-72.0	0	0	5805	1000	954.53	-2278.87	478.01	280.47
4	24.00	0.0	0	0	5910	1000	954.53	-2278.87	478.01	267.19
5	96.00	0.0	0	0	5805	1000	1504.24	2951.65	-73.66	87.19
6	168.00	0.0	0	0	5813	1000	1974.59	1526.96	-227.80	231.78
7	24.00	72.0	0	0	5871	1000	1942.56	2329.13	121.19	143.57
8	96.00	72.0	0	0	5878	1000	1500.73	-2968.59	33.50	200.61
9	168.00	72.0	0	0	5878	1000	1942.56	2329.13	121.19	252.73
10	24.00	0.0	0	0	5910	1000	954.53	-2278.87	478.01	152.48
11	96.00	0.0	0	0	5805	1000	1483.81	3011.99	-355.13	283.90
12	168.00	0.0	0	0	5805	1000	954.53	-2278.87	478.01	280.54
13	24.00	-72.0	0	0	5910	1000	954.53	-2278.87	478.01	85.50
14	96.00	-72.0	0	0	5805	1000	1483.81	3011.99	-355.13	280.54
15	168.00	-72.0	0	0	5805	1000	954.53	-2278.87	478.01	297.55
16	24.00	0.0	0	0	5910	1000	954.53	-2278.87	478.01	79.82

Pile Reactions. Factored Load Effect @ Footing Bot.

Pile	X	in	Z	Batter Z	comb	Ovs	P	Max kft	Mzz kft	Pile Rcs.
1	24.0	72.0	0	110	---	---	-246.94	3070.27	536.67	379.35
2	96.0	72.0	0	110	---	---	-1328.51	4042.18	500.31	71.43
3	168.0	72.0	0	110	---	---	-2486.94	3070.27	636.67	361.61
4	24.0	0.0	0	208	---	---	-2486.94	3070.27	500.31	35.33
5	96.0	0.0	0	323	---	---	-1356.01	3961.49	636.67	343.87
6	168.0	0.0	0	313	---	---	-2495.28	2968.79	677.89	14.00
7	24.0	72.0	0	317	---	---	-1311.42	447.09	976.87	295.86
8	96.0	72.0	0	230	---	---	-2528.63	1936.35	28.25	188.52
9	168.0	72.0	0	240	---	---	-1311.42	447.09	976.87	146.71
							-2515.94	2052.96	-371.45	287.98
							-1387.35	495.02	1068.63	124.47
							-2470.82	3132.80	158.35	39.82
							-1351.28	3994.59	22.85	365.96
							-2470.82	3132.80	158.35	361.56
							-1351.28	3994.59	22.85	39.18
							-2292.96	3500.05	-300.99	360.36

Units: US (English)

Design Code: AASHTO LRFD

		Sheet #	13
		Job #	
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		Date	Sep/10/2013
File Name: Pier5L_ModifiedSpacing.rpt		Checked	
		Date	

Pile	X	Z	In	Batter	Angle	Comb	Ovs	P	Mxx	Mzz	Pile Reac.
7	96.0	72.0	0	0	0	66	---	2545.95	15399.55	-1633.74	746.01*
8	168.0	72.0	0	0	0	230	---	1734.65	15672.43	-273.98	218.51
						230	---	-2563.22	15206.66	-1879.04	795.00*
								-1734.65	-15672.43	-773.98	-197.01

Pile Reactions: Notes

* Service Force in pile is greater than service pile capacity.
 * Factored Force in pile is greater than factored pile capacity.
 Load effects on pile are calculated at centroid of the bottom of the footing.
 Both the max. and min. pile reaction are reported for each individual pile.
 Positive pile reaction represents pile subject to compression load; negative pile reaction represents pile subject to uplift.
 Coordinate system of pile layout see Geometry Tab-Footing Pile-Edit Pile.

Pile Lateral Resistance Check X

Controlling load combination number	1250
Lateral loads on all piles(kips)	165.653
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct shear resistance of all piles(kips)	400.000
Total pile lateral resistance(kips)	400.000
Is the lateral resistance due to batter greater than lateral load on all piles?	NO
Is the total pile lateral resistance greater than the lateral load on all piles?	YES

Pile Lateral Resistance Check Z


Controlling load combination number	157
Lateral loads on all piles(kips)	428.430
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct shear resistance of all piles(kips)	400.000
Total pile lateral resistance(kips)	400.000
Is the lateral resistance due to batter greater than lateral load on all piles?	NO
Is the total pile lateral resistance greater than the lateral load on all piles?	NO

Max. Pile Reaction Used in Design: (without selfweight and surcharge)

Factored pile reaction	759.00 kips
Service pile reaction	578.76 kips
	Comb 5811

Units: US (English)

Design Code: AASHTO LRFD

		Sheet #	14
		Job #	
Program: LEAP® RC-PIER® V8i (SELECTseries 5) Version: 12.01.00.57 Copyright © Bentley Systems, Inc. 2012 www.bentley.com		Designed	KSM
		Date	Sep/10/2013
File Name: Pier5L_ModifiedSpacing.rpt		Checked	
		Date	

Dir	Loc	d	Mmax	Comb	Asb req	Asb prv	Asb off	Asl req	Asl prv	Asl off
		in	kip		in ²	in ²	in ²	in ²	in ²	in ²
X	-2.87	56.29	7121.9	11	37.25	31.20	31.20	10.37	2.20	2.20
X	-2.87	56.29	7121.9	11	37.25	31.20	31.20	10.37	2.20	2.20
Z	-1.91	54.79	9301.9	11	38.63	30.00	30.00	10.37	2.20	2.20
Z	-1.91	54.79	9301.9	11	38.63	30.00	30.00	10.37	2.20	2.20

Flexure Note

* The provided reinforcement is not adequate, either less than required or larger than maximum allowed.

Cracking check as per AASHTO LRFD (6th Edition, 2012)

Dir	Loc	d	Mmax	Comb	Cracking	Cracking	Cracking	Fatigue	Fatigue	Fatigue
		in	kip		ksi	ksi	ksi	ksi	ksi	ksi
X	-2.87	56.29	5430.6	5811	39.19	9.7	9.7	0.0	0.0	0.0
X	-2.87	56.29	5430.6	5811	39.19	9.7	9.7	0.0	0.0	0.0
Z	-1.91	54.79	7092.9	5811	54.46	6.4	6.4	0.0	0.0	0.0
Z	-1.91	54.79	7092.9	5811	54.46	6.4	6.4	0.0	0.0	0.0

Cracking/Fatigue Note

* Provided rebar spacing is not adequate for crack control.
 *** Spacing is negative.

One Way Shear (Beta-Theta Method)

Col	Dir	Dist	d	Comb	Vu	theta	beta	phi*Vc
		ft	in	kip	deg	deg	deg	kip
1	X	-7.55	11	56.18	0.0	0.0	29.00	4.80
X	X	7.55	11	56.2	0.0	0.0	29.00	4.80
Z	X	-6.43	11	54.21	646.7	0.0	34.61	2.18
Z	X	6.43	11	54.21	646.7	0.0	34.61	2.18


Two Way Shear

#	Bo	Ao	Comb	Avg dv	Vu	phi*Vc
	ft	ft ²		in	kip	kip
Columns	37.55	87.19	11	55.19	6072.0	6613.6
Piles - max	17.20	34.98	11	55.19	759.0	3029.5
Piles - min	10.60	28.09	11	55.19	759.0	1867.0

Units: US (English)

Design Code: AASHTO LRFD



			Sheet # 15
			Job #
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		www.bentley.com	Checked
File Name:	Pier5L_ModifiedSpacing.rcp		Date

Two Way Shear Note

TWO WAY SHEAR IN FOOTING IS NOT DESIGNED AND STIRRUPS ARE NOT CONSIDERED.

ISOLATED FOOTING DESIGN

Code: AASHTO LRFD (6th Edition, 2012)
Units: US
Pier View: 110station

GEOMETRY

Name: Footing3
Shape: Rectangular, Type - Pile/Shaft Cap
BX(X) = 16.00 ft, H(Z) = 16.00 ft, Thickness(Y) = 72.00 in
AG = 256.00 ft*2, W = 216.00 ft*2, Lz = 216.00 ft*2
Footing concentric.
Columns located on the footing:
Column No. 3 at x = 0.00 ft Rectangular Chamfered
Width : 72.00 in
Depth : 48.00 in
Chamfer(X): 12.00 in
Chamfer(Z): 12.00 in
Piles: Square Size: W = 24.00 in
Service Capacity: 100.00 kips
Factored Capacity: 270.00 kips
Lateral Resistance: 50.00 kips
Piles Section Properties: Area = 4.00 ft*2 Ix = 27648.00 in^4
Pile Profile Name: N90p3.


DESIGN PARAMETERS

f'c = 5500.00 psi phi flex = 0.90 Ec = 3945.8 ksi Crack check as per 2005 Interims Crack control Exposure = 1.00 Concrete Type : Normal Weight.	fy = 60000.00 psi phi shear = 0.90 Es = 29000.0 ksi
--	---

Units: US (English)

Design Code: AASHTO LRFD



				Sheet # 16
				Job #
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		www.bentley.com	Phone:	1-800-778-4277
File Name:	Pier5L_ModifiedSpacing.rcp			Checked
				Date

Reinforcement Schedule

Dir	Quantity	Size	Bar dist. in	As total in ²	Spacing in	Hook
X	20	US#11[M36]	15.70	31.20	9.72	Both 90
X	5	US#6[M19]	50.29	2.20	46.31	None
X	30	US#9[M29]	17.20	30.00	6.37	Both 90
Z	5	US#6[M19]	48.79	2.20	46.3	None

Pile Reactions. Service Load Effect @ Footing Bot.


Pile	X	Z	Batter X degree	Batter Z degree	comb	Ovs	p	kps	Mx kft	Mz kft	Pile Recs.
1	24.00	-72.0	0	0	5978	1,000	-2053.30	1699.37	779.19	707.39	
2	96.00	-72.0	0	0	5978	1,000	-1760.34	-1673.58	614	248.39	
3	168.00	-72.0	0	0	5969	1,000	-1707.37	-1578.88	140.08	685.74	
4	24.00	0	0	0	5978	1,000	-2053.30	-1673.58	779.19	664.10	
5	96.00	0	0	0	5977	1,000	-2232.27	-8850.18	1245.83	256.94	
6	168.00	0	0	0	5055	1,000	-1680.52	6908.44	48.47	188.67	
7	24.00	72.0	0	0	5901	1,000	-2245.14	8464.34	994.14	249.46	
8	96.00	72.0	0	0	6105	1,000	-1509.45	1573.26	836.48	167.74	
9	168.00	72.0	0	0	4919	1,000	-2177.55	8976.69	190.03	234.50	
10	24.00	-72.0	0	0	6105	1,000	-1509.45	1573.26	836.48	146.77	
11	96.00	-72.0	0	0	5905	1,000	-2072.69	-16508.51	395.19	699.85	
12	168.00	-72.0	0	0	5988	1,000	-1741.09	-1954.25	391.10	238.86	
13	24.00	72.0	0	0	5905	1,000	-2072.69	-16508.51	395.19	688.87	
14	96.00	72.0	0	0	5988	1,000	-1741.09	-1954.25	391.10	247.72	
15	168.00	72.0	0	0	5905	1,000	-2072.69	-16508.51	395.19	677.89	
16	24.00	-72.0	0	0	5990	1,000	-1662.21	-15574.67	75	276.93	

Pile Reactions: Factored Load Effect @ Footing Bot.

Pile	X	Z	Batter X degree	Batter Z degree	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips
1	24.0	-72.0	0	0	78	...	-2602.30	-22177.67	1004.34	933.09
2	96.0	-72.0	0	0	163	...	-1619.16	-19855.30	1004.34	933.09
3	24.0	-72.0	0	0	78	...	-2602.30	-22177.67	1004.34	905.19
4	96.0	-72.0	0	0	221	...	-1547.86	-21246.40	-18.25	905.19
5	24.0	-72.0	0	0	78	...	-2602.30	-22177.67	1004.34	877.29
6	96.0	-72.0	0	0	163	...	-1513.27	-21007.89	284.25	877.29
7	24.0	0.0	0	0	77	...	-2843.22	-11915.40	1632.51	361.26
8	96.0	0.0	0	0	325	...	1543.53	518.61	528.71	361.26
9	24.0	0.0	0	0	...	...	-2860.56	11392.55	1293.69	171.87
10	96.0	0.0	0	0	317	...	-1168.86	3127.14	1630.5	171.87

Units: US (English)

Design Code: AASHTO LRFD

				Sheet #	19
				Job #	
				Designed	KSM
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		www.bentley.com		Date	
File Name: Pier5L_ModifiedSpacing.rcp					

#	Bo	Ao	Comb	Avg. dv	Vu	phi*Vu
	ft	ft ²	in	in	kips	kips
5	26.40	43.55	78	55.19	901.1	4649.9
Piles - min	10.60	28.09	78	55.19	901.1	1867.0
1						

Two Way Shear Note
* Shear resistance is less than applied punching force
TWO WAY SHEAR IN FOOTING IS NOT DESIGNED AND STIRRUPS ARE NOT CONSIDERED.

FOR:	I-4 PD&E St. Johns River Veterans Memorial Bridge		JOB NO.: 59219 SHEET NO.:
MADE BY:	CAM	CHECKED BY:	BACKCHECKED BY:
DATE:	9/20/2013	DATE:	DATE:




Pier 12 EB Dead Load Bearing Reactions

Bearing Line	Girder	Reaction (kips)
1	1	-157.80
1	2	-171.25
1	3	-174.64
1	4	-178.03
1	5	-176.00
1	6	-173.31
1	7	-176.11
1	8	-178.92
1	9	-172.57
1	10	-165.48
1	11	-176.10
2	1	-169.92
2	2	-169.46
2	3	-170.03
2	4	-178.57
2	5	-180.44
2	6	-177.72
2	7	-173.84
2	8	-174.40
2	9	-175.87
2	10	-169.66

Notes:

Reaction sign conventioned taken as positive upwards



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Phone: 1-800-778-4277

File Name: **Pier12EB_ModifiedSpacing.rcp**

PROJECT DATA

PROJECT DATA

Project: I4 Over St. John's River

User Job No.: KSM

Designer: KSM

Date: Sep/10/2013

Checker:

Checked date: FL

State:


State Job No.:

Structure type: Pier

Pier View: Upstation

Code: AASHTO LRFD (6th Edition, 2012)

Comments: I4 Over St. John's River Bridge - Pier 12R (EB)



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File Name: **Pier12EB_ModifiedSpacing.rcp**

PIER GEOMETRY

Pier Info:

Pier View: Upstation

Pier Type: Multi Column

Cap Shape

Cap Shape: Variable
Top Elevations: start = 47.28 ft end = 47.28 ft
Depth(Z) = 54.00 ft Slew angle = 14.15 Reduction of I = 1.000

Variable Cap Properties	
Distance(X) ft	Height(Y) in
0.00	0.01
1.25	72.00
98.81	72.00
1.25	0.01

Column Shape : Rectangular Chamfered

Number of columns: 3

Column number 1

Location from the left edge of the cap(X): 18.14 ft
Elevations: bottom = 4.25 ft top = 47.28 ft Reduction of I = 1.000
Column Bottom is Fixed


Column Section Dimensions					
Dist from last(Y) ft	Width(X) in	Depth(Z) in	ChamferX in	ChamferZ in	Variation
0.00	72.00	48.00	12.00	12.00	-----
43.03	72.00	48.00	12.00	12.00	Linear

Column number 2

Location from the left edge of the cap(X): 55.23 ft
Elevations: bottom = 4.25 ft top = 47.28 ft Reduction of I = 1.000
Column Bottom is Fixed

Column Section Dimensions					
Dist from last(Y) ft	Width(X) in	Depth(Z) in	ChamferX in	ChamferZ in	Variation
0.00	72.00	48.00	12.00	12.00	-----
43.03	72.00	48.00	12.00	12.00	Linear

Column number 3



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Sheet # 3
Job #

File Name: **Pier12EB_ModifiedSpacing.rcp**

Location from the left edge of the cap(X): 89.39 ft
Elevations: bottom = 4.25 ft top = 47.28 ft Reduction of I = 1.000
Column Bottom is Fixed

Column Section Dimensions					
Dist from last(Y) ft	Width(X) in	Depth(Z) in	Chamfer(X) in	Chamfer(Z) in	Variation
0.00	72.00	48.00	12.00	12.00	-----
43.03	72.00	48.00	12.00	12.00	Linear

Struts


Strut Shape : Rectangular
Number of struts: 1

Struts properties

Strut number: 1
Elevations: start = 10.25 ft end = 10.25 ft
Depth(Z) = 24.00 in Height(Y) = 62.00 in Reduction of I = 1.000

Units: US (English)

Design Code: AASHTO LRFD



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Sheet # 4
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File Name: **Pier12EB_ModifiedSpacing.rcp**

SUPERS STRUCTURE INFO

Superstructure info:
Total number of spans: 2
Span number rear to current pier: 1
Number of traffic lanes: 8
Barrier height : 32.00 in
Depth of slab : 8.50 in
Curb to curb distance: 0.000
99.990 ft


Beam Info:

Height in	Section area in ²	Inertia (Ixx) in ⁴	Inertia (Iyy) in ⁴	Beam CG in
78.00	1100.58	903861.00	82270.00	34.63

Span #	Span length ft	Bridge Width ft
1	141.844	103.070
2	142.333	103.070

Units: US (English)

Design Code: AASHTO LRFD



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Date

Sheet # 5


Job #

File Name: **Pier12EB_ModifiedSpacing.rcp**

MATERIAL PROPERTIES

	Cap	Column	Footing
Concrete Type	normal	normal	normal
Concrete Strength (psi)	5500.00	5500.00	5500.00
Concrete Density (lb/ft3)	150.00	150.00	150.00
Concrete Modulus Ec (ksi)	3845.80	3845.80	3845.80
Steel Strength Fy (ksi)	60.00	60.00	60.00

MATERIAL PROPERTIES



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Checked

Date

Sheet # 6

Job #

File Name: **Pier12EB_ModifiedSpacing.rcp**

DESIGN PARAMETERS

Resistance factors for reinf. concrete	
Flexure and tension	0.90
Shear and torsion (normal)	0.90
Shear and torsion (lightweight)	0.70
Axial compression (ties)	0.75
Axial compression (spiral)	0.75
Compression in STM	0.70

Multi presence factors for live load	
1 Lane	1.20
2 Lanes	1.00
3 Lanes	0.85
more than 3 Lanes	0.65

Dynamic load allowance IM	
Truck	0.33
Lane	0.00
Fatigue	0.15
Cap	0.33
Column	0.33
Footing	0.00

Exposure factors	Clear cover	Clear side cover
Cap	1.00	2.00
Column	1.00	2.00
Footing	1.00	3.00

Degree of fixity in foundations for Moment Magnify Method: Ga = 5.00

SEISMIC DESIGN PARAMETERS

Strength Reduction factors for reinf. Concrete Seismic Design

Seismic Overstrength

Flexure and tension	1.30
Axial compression (ties)	1.30
Axial compression (spiral)	1.30

Response Modification Factor 5.00

Use core area for plastic hinging calculations.

Design Factors

Cap Design Factor	1.20
Footing Design Factor	1.20

Plastic Hinge Moment

Use actual computed Plastic Hinging Moment for each column in all combinations.

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File Name: Pier12EB_ModifiedSpacing.rcp													
Pile	X in	Z in	Batter X degree	Batter Z degree	col#	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips		
9	170.3	-108.0	0	0	2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24	93.38		
					1	7249	1,000	-6826.90	-5602.92	-9273.14			
					2	7249	1,000	-6826.90	-5602.92	-9273.14			
					3	7249	1,000	-6826.90	-5602.92	-9273.14	158.45		
					1	7331	1,000	-7063.76	-4851.53	19800.99			
10	170.3	-36.0	0	0	2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99	94.63		
					1	7341	1,000	-6826.02	5989.79	-7765.05			
					2	7341	1,000	-6826.02	5989.79	-7765.05			
					3	7341	1,000	-6826.02	5989.79	-7765.05	146.90		
					1	7331	1,000	-7063.76	-4851.53	19800.99			
11	170.3	36.0	0	0	2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24	105.05		
					1	7278	1,000	-6783.74	-3183.79	-16415.30			
					2	7278	1,000	-6783.74	-3183.79	-16415.30			
					3	7278	1,000	-6783.74	-3183.79	-16415.30	104.93		
					1	7426	1,000	-7063.76	5357.94	21293.24			
12	170.3	108.0	0	0	2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24	161.39		
					1	7426	1,000	-7063.76	5357.94	21293.24			
					2	7249	1,000	-6826.90	-5602.92	-9273.14			
					3	7249	1,000	-6826.90	-5602.92	-9273.14	94.88		
					1	7331	1,000	-7063.76	-4851.53	19800.99			
13	244.5	-108.0	0	0	2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99	155.23		
					1	7341	1,000	-6826.02	5989.79	-7765.05			
					2	7341	1,000	-6826.02	5989.79	-7765.05	95.89		
					3	7341	1,000	-6826.02	5989.79	-7765.05			
					1	7331	1,000	-7063.76	-4851.53	19800.99			
14	244.5	-36.0	0	0	2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99	143.68		
					1	6707	1,000	-6614.94	2567.30	-12941.38			
					2	6707	1,000	-6614.94	2567.30	-12941.38			
					3	6707	1,000	-6614.94	2567.30	-12941.38	107.38		
					1	7426	1,000	-7063.76	5357.94	21293.24			
15	244.5	36.0	0	0	2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24	145.17		
					1	6440	1,000	-6542.58	-3226.99	-9761.58			
					2	6440	1,000	-6542.58	-3226.99	-9761.58	107.19		
					3	6440	1,000	-6542.58	-3226.99	-9761.58			
					1	7426	1,000	-7063.76	5357.94	21293.24			
16	244.5	108.0	0	0	2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24	157.93		
					1	7249	1,000	-6826.90	-5602.92	-9273.14			
					2	7249	1,000	-6826.90	-5602.92	-9273.14	96.39		
					3	7249	1,000	-6826.90	-5602.92	-9273.14			
					1	7331	1,000	-7063.76	-4851.53	19800.99			
17	318.8	-108.0	0	0	2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99	152.02		
					1	7341	1,000	-6826.02	5989.79	-7765.05			
					2	7341	1,000	-6826.02	5989.79	-7765.05	97.15		
					3	7341	1,000	-6826.02	5989.79	-7765.05			
					1	7331	1,000	-7063.76	-4851.53	19800.99			

Units: US (English)

Design Code: AASHTO LRFD


Bentley												Sheet # 10	
Program: LEAP® RC-PIER® V8i (SELECTseries 5)												Job #	
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Phone: 1-800-778-4277												Date	
File Name: Pier12EB_ModifiedSpacing.rcp													
Pile	X in	Z in	Batter X degree	Batter Z degree	col#	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips		
18	318.8	-36.0	0	0	3	7341	1,000	-6826.02	5989.79	-7765.05			
					1	7331	1,000	-7063.76	-4851.53	19800.99	140.47		
					2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99			
					1	6058	1,000	-6542.14	4060.13	-6834.53	109.04		
					2	6058	1,000	-6542.14	4060.13	-6834.53			
19	318.8	36.0	0	0	3	6058	1,000	-6542.14	4060.13	-6834.53			
					1	7426	1,000	-7063.76	5357.94	21293.24	141.72		
					2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24			
					1	6630	1,000	-6542.58	-3672.74	-8816.84	108.65		
					2	6630	1,000	-6542.58	-3672.74	-8816.84			
20	318.8	108.0	0	0	3	6630	1,000	-6542.58	-3672.74	-8816.84			
					1	7426	1,000	-7063.76	5357.94	21293.24	154.47		
					2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24			
					1	6584	1,000	-6694.89	-5216.29	-7320.89	97.76		
					2	6584	1,000	-6694.89	-5216.29	-7320.89			
21	393.0	-108.0	0	0	3	6584	1,000	-6694.89	-5216.29	-7320.89			
					1	7331	1,000	-7063.76	-4851.53	19800.99	148.81		
					2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99			
					1	6011	1,000	-6694.22	5603.40	-4943.82	98.19		
					2	6011	1,000	-6694.22	5603.40	-4943.82			
22	393.0	-36.0	0	0	3	6011	1,000	-6694.22	5603.40	-4943.82			
					1	7331	1,000	-7063.76	-4851.53	19800.99	137.26		
					2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99			
					1	6035	1,000	-6480.18	3431.39	-5997.67	110.01		
					2	6035	1,000	-6480.18	3431.39	-5997.67			
23	393.0	36.0	0	0	3	6035	1,000	-6480.18	3431.39	-5997.67			
					1	7426	1,000	-7063.76	5357.94	21293.24	138.26		
					2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24			
					1	6608	1,000	-6480.53	-3043.89	-7816.69	109.99		
					2	6608	1,000	-6480.53	-3043.89	-7816.69			
24	393.0	108.0	0	0	3	6608	1,000	-6480.53	-3043.89	-7816.69			
					1	7426	1,000	-7063.76	5357.94	21293.24	151.02		
					2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24			
					1	6584	1,000	-6694.89	-5216.29	-7320.89	98.95		
					2	6584	1,000	-6694.89	-5216.29	-7320.89			
25	467.3	-108.0	0	0	3	6584	1,000	-6694.89	-5216.29	-7320.89			
					1	7331	1,000	-7063.76	-4851.53	19800.99	145.59		
					2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99			
					1	6011	1,000	-6694.22	5603.40	-4943.82	99.00		
					2	6011	1,000	-6694.22	5603.40	-4943.82			
26	467.3	-36.0	0	0	3	6011	1,000	-6694.22	5603.40	-4943.82			
					1	7331	1,000	-7063.76	-4851.53	19800.99	134.04		
					2	7331	1,000	-7063.76	-4851.53	19800.99			
					3	7331	1,000	-7063.76	-4851.53	19800.99			
					1	7625	1,000	-6049.85	-1358.77	9950.38	109.26		
					2	7625	1,000	-6049.85	-1358.77	9950.38			
27	467.3	36.0	0	0	3	7625	1,000	-6049.85	-1358.77	9950.38			
					1	7426	1,000	-7063.76	5357.94	21293.24	134.81		
					2	7426	1,000	-7063.76	5357.94	21293.24			
					3	7426	1,000	-7063.76	5357.94	21293.24			
					1	6011	1,000	-6694.22	5603.40	-4943.82			
					2	6011	1,000	-6694.22	5603.40	-4943.82			

Bentley										Sheet # 11	
Program: LEAP® RC-PIER® V8i (SELECTseries 5)										Designed KSM	
Version: 12.01.00.57										Date Sep/10/2013	
File Name: Pier12EB_ModifiedSpacing.rcp										Checked	
Pier12EB_ModifiedSpacing.rcp										Date	
Pile	X in	Z in	Batter X degree	Batter Z degree	col#	comb	Ovs	P kips	Mxx kt	Mzz kt	Pile Reac. kips
28	467.3	108.0	0	0	1	7625	1,000	-6049.85	-135.87	9950.38	108.94
					2	7625	1,000	-6049.85	-135.87	9950.38	
					3	7625	1,000	-6049.85	-135.87	9950.38	147.56
					1	7426	1,000	-7063.76	5357.94	21293.24	
					2	7426	1,000	-7063.76	5357.94	21293.24	100.13
					3	7426	1,000	-7063.76	5357.94	21293.24	
29	541.5	-108.0	0	0	1	6584	1,000	-6694.89	-5216.29	7320.89	
					2	6584	1,000	-6694.89	-5216.29	7320.89	143.72
					3	7306	1,000	-7063.73	-4972.01	3116.73	98.81
					1	6026	1,000	-6694.22	5603.40	13175.61	
					2	6026	1,000	-6694.22	5603.40	13175.61	131.97
					3	7301	1,000	-7063.76	-4851.53	-1050.06	107.65
30	541.5	-36.0	0	0	1	7301	1,000	-7063.76	-4851.53	-1050.06	
					2	7301	1,000	-7063.76	-4851.53	-1050.06	
					3	7625	1,000	-6049.85	-135.87	9950.38	132.49
31	541.5	36.0	0	0	1	7396	1,000	-7063.76	5357.94	442.19	
					2	7396	1,000	-7063.76	5357.94	442.19	107.33
					3	7625	1,000	-6049.85	-135.87	9950.38	145.25
32	541.5	108.0	0	0	1	7396	1,000	-7063.76	5357.94	442.19	
					2	7396	1,000	-7063.76	5357.94	442.19	100.33
					3	6999	1,000	-6694.89	-5216.29	10826.33	144.36
33	624.2	-108.0	0	0	1	7303	1,000	-6866.37	-5497.77	8969.67	
					2	7303	1,000	-6866.37	-5497.77	8969.67	96.42
					3	6026	1,000	-6694.22	5603.40	13175.61	132.16
34	624.2	-36.0	0	0	1	7301	1,000	-7063.76	-4851.53	1050.06	
					2	7301	1,000	-7063.76	-4851.53	1050.06	105.85
					3	7625	1,000	-6049.85	-135.87	9950.38	132.41
35	624.2	36.0	0	0	1	7396	1,000	-7063.76	5357.94	442.19	
					2	7396	1,000	-7063.76	5357.94	442.19	105.53
					3	7625	1,000	-6049.85	-135.87	9950.38	145.17
36	624.2	108.0	0	0	1	7396	1,000	-7063.76	5357.94	442.19	
					2	7396	1,000	-7063.76	5357.94	442.19	98.29
					3	4984	1,000	-6607.02	-4476.82	15712.59	145.98
37	706.9	-108.0	0	0	1	7303	1,000	-6866.37	-5497.77	8969.67	

Units: US (English)



Design Code: AASHTO LRFD

<div><div><div></div><div>Bentley</div></div></div>										Sheet # 12			
										Job #			
Program: LEAP® RC-PIER® V8i (SELECTseries 5)										Designed KSM			
Version: 12.01.00.57										Date Sep/10/2013			
File Name: Pier12EB_ModifiedSpacing.rcp										Checked			
										Date			
										SE Client Licenses			
										Copyright © Bentley Systems, Inc. 2012			
										www.bentley.com			
										Phone: 1-800-778-4277			
Pile	X in	Z in	Batter X degree	Batter Z degree	col#	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips		
38	706.9	-36.0	0	0	2	7303	1,000	-6866.37	-5497.77	-8969.67			
					3	7303	1,000	-6866.37	-5497.77	-8969.67			
					1	7356	1,000	-6826.02	5989.79	15790.22	93.93		
					2	7356	1,000	-6826.02	5989.79	15790.22			
					3	7356	1,000	-6826.02	5989.79	15790.22	132.89		
39	706.9	36.0	0	0	1	7303	1,000	-6866.37	-5497.77	-8969.67			
					2	7303	1,000	-6866.37	-5497.77	-8969.67			
					3	7303	1,000	-6866.37	-5497.77	-8969.67	104.05		
					1	7625	1,000	-6049.85	-135.87	9950.38			
					2	7625	1,000	-6049.85	-135.87	9950.38			
40	706.9	108.0	0	0	3	7625	1,000	-6049.85	-135.87	9950.38			
					1	7341	1,000	-6826.02	5989.79	-7765.05			
					2	7341	1,000	-6826.02	5989.79	-7765.05			
					3	7341	1,000	-6826.02	5989.79	-7765.05	95.45		
					1	4984	1,000	-6607.02	-4476.82	15712.59			
41	789.6	-108.0	0	0	2	4984	1,000	-6607.02	-4476.82	15712.59			
					3	4984	1,000	-6607.02	-4476.82	15712.59			
					1	7303	1,000	-6866.37	-5497.77	-8969.67	147.60		
					2	7303	1,000	-6866.37	-5497.77	-8969.67			
					1	7356	1,000	-6826.02	5989.79	15790.22	91.07		
42	789.6	-36.0	0	0	2	7356	1,000	-6826.02	5989.79	15790.22			
					3	7356	1,000	-6826.02	5989.79	15790.22			
					1	7278	1,000	-6783.74	-3183.79	-16415.30	134.73		
					2	7278	1,000	-6783.74	-3183.79	-16415.30			
					3	7278	1,000	-6783.74	-3183.79	-16415.30	101.07		
43	789.6	36.0	0	0	1	5550	1,000	-6573.84	2579.60	22187.30			
					2	5550	1,000	-6573.84	2579.60	22187.30			
					3	5550	1,000	-6573.84	2579.60	22187.30			
					1	7340	1,000	-6783.76	3570.41	-15440.29	134.61		
					2	7340	1,000	-6783.76	3570.41	-15440.29			
44	789.6	108.0	0	0	3	7340	1,000	-6783.76	3570.41	-15440.29			
					1	4980	1,000	-6573.84	-2555.35	21436.76	101.55		
					2	4980	1,000	-6573.84	-2555.35	21436.76			
					3	4980	1,000	-6573.84	-2555.35	21436.76	147.92		
					1	7341	1,000	-6826.02	5989.79	17165.05			
45	872.3	-108.0	0	0	2	7341	1,000	-6826.02	5989.79	17165.05			
					3	7341	1,000	-6826.02	5989.79	17165.05			
					1	4984	1,000	-6607.02	-4476.82	15712.59	92.61		
					2	4984	1,000	-6607.02	-4476.82	15712.59			
					3	4984	1,000	-6607.02	-4476.82	15712.59	149.23		
46	872.3	-36.0	0	0	1	7303	1,000	-6866.37	-5497.77	-8969.67			
					2	7303	1,000	-6866.37	-5497.77	-8969.67			
					3	7303	1,000	-6866.37	-5497.77	-8969.67	88.22		
					1	7356	1,000	-6826.02	5989.79	15790.22			
					2	7356	1,000	-6826.02	5989.79	15790.22	137.70		
					1	7278	1,000	-6783.74	-3183.79	-16415.30			
					2	7278	1,000	-6783.74	-3183.79	-16415.30			
					3	7278	1,000	-6783.74	-3183.79	-16415.30	97.06		
					1	5550	1,000	-6573.84	2579.60	22187.30			
					2	5550	1,000	-6573.84	2579.60	22187.30			

						Sheet # 15	
						Job #	

Units: US (English)

Design Code: AASHTO LRFD

				Sheet # 16						
Program: LEAP® RC-PIER® V8i (SELECTseries 5)		Version: 12.01.00.57		Job #						
File Name: Pier12EB_ModifiedSpacing.rcp		SE Client Licenses		Designed KSM						
Copyright © Bentley Systems, Inc. 2012		Date Sep/10/2013								
www.bentley.com		Phone: 1-800-778-4277		Checked						
				Date						
Pile	X in	Z in	Batter X degree	col#	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips
19	318.75	36.0	0	1	3778	---	-6017.19	5295.53	-10110.66	96.78
				2	3778	---	-6017.19	5295.53	-10110.66	
				3	3778	---	-6017.19	5295.53	-10110.66	
				1	182	---	-8907.48	7193.97	28488.65	
				2	182	---	-8907.48	7193.97	28488.65	
20	318.75	108.0	0	1	4350	---	-6017.79	4947.12	-12659.79	96.10
				2	4350	---	-6017.79	4947.12	-12659.79	
				3	4350	---	-6017.79	4947.12	-12659.79	
				1	182	---	-8907.48	7193.97	28488.65	
				2	182	---	-8907.48	7193.97	28488.65	
21	393.00	-108.0	0	1	195	---	-6399.42	-7628.93	-13296.62	81.28
				2	195	---	-6399.42	-7628.93	-13296.62	
				3	195	---	-6399.42	-7628.93	-13296.62	
				1	87	---	-8907.48	-6549.55	26479.85	
				2	87	---	-8907.48	-6549.55	26479.85	
22	393.00	-36.0	0	1	3731	---	-6222.50	7378.94	-7558.20	82.72
				2	3731	---	-6222.50	7378.94	-7558.20	
				3	3731	---	-6222.50	7378.94	-7558.20	
				1	87	---	-8907.48	-6549.55	26479.85	
				2	87	---	-8907.48	-6549.55	26479.85	
23	393.00	36.0	0	1	398	---	-5629.39	3457.88	3733.79	97.42
				2	398	---	-5629.39	3457.88	3733.79	
				3	398	---	-5629.39	3457.88	3733.79	
				1	182	---	-8907.48	7193.97	28488.65	
				2	182	---	-8907.48	7193.97	28488.65	
24	393.00	108.0	0	1	404	---	-5629.39	3108.74	-451.58	96.70
				2	404	---	-5629.39	3108.74	-451.58	
				3	404	---	-5629.39	3108.74	-451.58	
				1	182	---	-8907.48	7193.97	28488.65	
				2	182	---	-8907.48	7193.97	28488.65	
25	467.25	-108.0	0	1	4304	---	-6223.41	-7030.91	-10640.25	83.15
				2	4304	---	-6223.41	-7030.91	-10640.25	
				3	4304	---	-6223.41	-7030.91	-10640.25	
				1	87	---	-8907.48	-6549.55	26479.85	
				2	87	---	-8907.48	-6549.55	26479.85	
26	467.25	-36.0	0	1	3731	---	-6222.50	7378.94	-7558.20	83.95
				2	3731	---	-6222.50	7378.94	-7558.20	
				3	3731	---	-6222.50	7378.94	-7558.20	
				1	87	---	-8907.48	-6549.55	26479.85	
				2	87	---	-8907.48	-6549.55	26479.85	
27	467.25	36.0	0	1	393	---	-5219.33	-485.10	17894.95	95.70
				2	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
				1	182	---	-8907.48	7193.97	28488.65	
				2	182	---	-8907.48	7193.97	28488.65	
28	467.25	108.0	0	1	393	---	-5219.33	-485.10	17894.95	94.55
				2	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
				1	182	---	-8907.48	7193.97	28488.65	
				2	182	---	-8907.48	7193.97	28488.65	
29	467.25	108.0	0	1	182	---	-8907.48	7193.97	28488.65	187.82
				2	182	---	-8907.48	7193.97	28488.65	
				3	182	---	-8907.48	7193.97	28488.65	
				1	87	---	-8907.48	-6549.55	26479.85	
				2	87	---	-8907.48	-6549.55	26479.85	

Bentley				Sheet # 17						
				Job #						
Program: LEAP® RC-PIER® V8i (SELECTseries 5)				SE Client Licenses						
Version: 12.01.00.57				Copyright © Bentley Systems, Inc. 2012						
				www.bentley.com | Phone: 1-800-778-4277						
File Name: Pier12EB_ModifiedSpacing.rcp										
Pile	X in	Z in	Batter degree	col#	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips
				2	182	---	-8907.48	7193.97	28488.65	84.88
				3	182	---	-8907.48	7193.97	28488.65	
				1	4304	---	-6223.41	-7030.91	-10640.25	
				2	4304	---	-6223.41	-7030.91	-10640.25	
29	541.50	-108.0	0	3	4304	---	-6223.41	-7030.91	-10640.25	182.81
				1	62	---	-8907.44	-6711.74	4020.27	
				2	62	---	-8907.44	-6711.74	4020.27	
				3	3746	---	-6222.50	7378.94	16903.03	
30	541.50	-36.0	0	2	3746	---	-6222.50	7378.94	16903.03	83.84
				3	3746	---	-6222.50	7378.94	16903.03	
				1	57	---	-8907.48	-6549.55	-1588.88	
				2	57	---	-8907.48	-6549.55	-1588.88	
31	541.50	36.0	0	1	393	---	-5219.33	-485.10	17894.95	92.80
				2	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
				2	152	---	-8907.48	7193.97	419.92	
32	541.50	108.0	0	1	152	---	-8907.48	7193.97	419.92	91.64
				2	152	---	-8907.48	7193.97	419.92	
				3	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
33	624.20	-108.0	0	1	152	---	-8907.48	7193.97	419.92	184.73
				2	152	---	-8907.48	7193.97	419.92	
				3	152	---	-8907.48	7193.97	419.92	
				1	4319	---	-6223.41	-7030.91	13858.49	
34	624.20	-36.0	0	2	4319	---	-6223.41	-7030.91	13858.49	85.26
				3	4319	---	-6223.41	-7030.91	13858.49	
				1	59	---	-8641.76	-7419.49	-12249.90	
				2	59	---	-8641.76	-7419.49	-12249.90	
35	624.20	36.0	0	3	59	---	-8641.76	-7419.49	-12249.90	80.78
				2	3746	---	-6222.50	7378.94	16903.03	
				1	3746	---	-6222.50	7378.94	16903.03	
				3	3746	---	-6222.50	7378.94	16903.03	
36	624.20	108.0	0	1	57	---	-8907.48	-6549.55	-1588.88	167.23
				2	57	---	-8907.48	-6549.55	-1588.88	
				3	57	---	-8907.48	-6549.55	-1588.88	
				2	393	---	-5219.33	-485.10	17894.95	
37	706.90	-108.0	0	1	393	---	-5219.33	-485.10	17894.95	89.57
				2	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
				2	152	---	-8907.48	7193.97	419.92	
38	624.20	36.0	0	3	152	---	-8907.48	7193.97	419.92	167.53
				2	152	---	-8907.48	7193.97	419.92	
				3	152	---	-8907.48	7193.97	419.92	
				1	393	---	-5219.33	-485.10	17894.95	
39	624.20	108.0	0	1	393	---	-5219.33	-485.10	17894.95	88.41
				2	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
				2	152	---	-8907.48	7193.97	419.92	
40	624.20	36.0	0	3	152	---	-8907.48	7193.97	419.92	184.66
				2	152	---	-8907.48	7193.97	419.92	
				3	152	---	-8907.48	7193.97	419.92	
				1	393	---	-5219.33	-485.10	17894.95	
41	624.20	108.0	0	1	393	---	-5219.33	-485.10	17894.95	82.52
				2	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
				2	152	---	-8907.48	7193.97	419.92	
42	624.20	36.0	0	3	152	---	-8907.48	7193.97	419.92	185.91
				2	152	---	-8907.48	7193.97	419.92	
				3	152	---	-8907.48	7193.97	419.92	
				1	393	---	-5219.33	-485.10	17894.95	
43	624.20	108.0	0	1	393	---	-5219.33	-485.10	17894.95	77.26
				2	393	---	-5219.33	-485.10	17894.95	
				3	393	---	-5219.33	-485.10	17894.95	
				2	152	---	-8907.48	7193.97	419.92	

Units: US (English)

Design Code: AASHTO LRFD

Bentley				Sheet # 18									
				Job #									
				Designed KSM									
Program: LEAP® RC-PIER® V8i (SELECTseries 5)				SE Client Licenses									
Version: 12.01.00.57				Copyright © Bentley Systems, Inc. 2012									
File Name: Pier12EB_ModifiedSpacing.rcp				www.bentley.com Phone: 1-800-778-4277									
Pile	X in	Z in	Batter X degree	Batter Z degree	col#	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips		
38	706.90	-36.0	0	0	3	302	---	---	7976.64	20442.53	168.25		
					1	59	---	-8641.76	-7419.49	-12249.90			
					2	59	---	-8641.76	-7419.49	-12249.90			
					3	59	---	-8641.76	-7419.49	-12249.90			
					1	393	---	-5219.33	-485.10	17894.95			
39	706.90	36.0	0	0	3	393	---	---	-5219.33	-485.10	86.33		
					2	393	---	-5219.33	-485.10	17894.95			
					3	393	---	-5219.33	-485.10	17894.95			
					1	152	---	-8907.48	7193.97	419.92			
					2	152	---	-8907.48	7193.97	419.92			
40	706.90	108.0	0	0	3	393	---	---	-5219.33	-485.10	186.50		
					2	393	---	-5219.33	-485.10	17894.95			
					3	393	---	-5219.33	-485.10	17894.95			
					1	97	---	-8587.45	8044.53	-10628.28			
					2	97	---	-8587.45	8044.53	-10628.28			
41	789.60	-108.0	0	0	1	2704	---	---	-6106.25	-6104.03	78.89		
					2	2704	---	-6106.25	-6104.03	20055.21			
					3	2704	---	-6106.25	-6104.03	20055.21			
					1	59	---	-8641.76	-7419.49	-12249.90			
					2	59	---	-8641.76	-7419.49	-12249.90			
42	789.60	-36.0	0	0	1	302	---	---	-6398.24	7976.64	73.56		
					2	302	---	-6398.24	7976.64	20442.53			
					3	302	---	-6398.24	7976.64	20442.53			
					1	34	---	-8530.53	4304.52	-22272.84			
					2	34	---	-8530.53	4304.52	-22272.84			
43	789.60	36.0	0	0	3	393	---	---	-5219.33	-485.10	170.54		
					2	393	---	-5219.33	-485.10	17894.95			
					3	393	---	-5219.33	-485.10	17894.95			
					1	96	---	-8530.56	4787.67	-20960.34			
					2	96	---	-8530.56	4787.67	-20960.34			
44	789.60	108.0	0	0	1	393	---	---	-5219.33	-485.10	81.94		
					2	393	---	-5219.33	-485.10	17894.95			
					3	393	---	-5219.33	-485.10	17894.95			
					1	97	---	-8587.45	8044.53	-10628.28			
					2	97	---	-8587.45	8044.53	-10628.28			
45	872.30	-108.0	0	0	1	2704	---	---	-6106.25	-6104.03	75.27		
					2	2704	---	-6106.25	-6104.03	20055.21			
					3	2704	---	-6106.25	-6104.03	20055.21			
					1	59	---	-8641.76	-7419.49	-12249.90			
					2	59	---	-8641.76	-7419.49	-12249.90			
46	872.30	-36.0	0	0	1	302	---	---	-6398.24	7976.64	174.78		
					2	302	---	-6398.24	7976.64	20442.53			
					3	302	---	-6398.24	7976.64	20442.53			
					1	34	---	-8530.53	4304.52	-22272.84			
					2	34	---	-8530.53	4304.52	-22272.84			
47	872.30	36.0	0	0	3	393	---	---	-5219.33	-485.10	79.86		
					2	393	---	-5219.33	-485.10	17894.95			
					3	393	---	-5219.33	-485.10	17894.95			
					1	96	---	-8530.56	4787.67	-20960.34			
					2	96	---	-8530.56	4787.67	-20960.34			


Units: US (English)

Design Code: AASHTO LRFD

Bentley					Sheet # 19					
Job #					Job #					
Program: LEAP® RC-PIER® V8i (SELECTseries 5)					Designed KSM					
Version: 12.01.00.57					Date Sep/10/2013					
Copyright © Bentley Systems, Inc. 2012					Checked					
www.bentley.com					Date					
Phone: 1-800-778-4277					Date					
SE Client Licenses										
File Name: Pier12EB_ModifiedSpacing.rcp										
Pile	X in	Z in	Batter X degree	Batter Z degree	comb	Ovs	P kips	Mxx kft	Mzz kft	Pile Reac. kips
48	872.30	108.0	0	0	1	393	5219.33	485.10	17894.95	78.71
					2	393	5219.33	485.10	17894.95	
					3	393	5219.33	485.10	17894.95	
					1	97	8887.45	8044.53	-10628.28	190.34
					3	97	8887.45	8044.53	-10628.28	
					1	2704	6106.25	-6104.03	20055.21	71.64
49	955.00	-108.0	0	0	3	2704	6106.25	-6104.03	20055.21	
					1	59	8641.76	7419.49	12249.90	192.56
					2	59	8641.76	7419.49	12249.90	
					3	59	8641.76	7419.49	12249.90	
					1	302	6398.24	7976.64	20442.53	66.17
					2	302	6398.24	7976.64	20442.53	
50	955.00	-36.0	0	0	3	302	6398.24	7976.64	20442.53	
					1	34	8530.53	-4304.52	-22772.84	178.80
					2	34	8530.53	-4304.52	-22772.84	
					3	34	8530.53	-4304.52	-22772.84	
					1	3270	6061.46	3422.12	28796.08	76.56
					2	3270	6061.46	3422.12	28796.08	
51	955.00	36.0	0	0	3	3270	6061.46	3422.12	28796.08	
					1	96	8530.56	4787.67	-20960.34	178.12
					2	96	8530.56	4787.67	-20960.34	
					3	96	8530.56	4787.67	-20960.34	
					1	393	5219.33	485.10	17894.95	75.47
					2	393	5219.33	485.10	17894.95	
52	955.00	108.0	0	0	3	393	5219.33	485.10	17894.95	
					1	97	8887.45	8044.53	-10628.28	192.27
					2	97	8887.45	8044.53	-10628.28	
					3	97	8887.45	8044.53	-10628.28	
					1	2704	6106.25	-6104.03	20055.21	68.02
					2	2704	6106.25	-6104.03	20055.21	
53	1027.00	-108.0	0	0	3	2704	6106.25	-6104.03	20055.21	
					1	5	8888.63	-7561.05	-12658.41	194.50
					2	5	8888.63	-7561.05	-12658.41	
					3	5	8888.63	-7561.05	-12658.41	
					1	302	6398.24	7976.64	20442.53	62.95
					2	302	6398.24	7976.64	20442.53	
54	1027.00	-36.0	0	0	3	302	6398.24	7976.64	20442.53	
					1	34	8530.53	-4304.52	-22772.84	182.31
					2	34	8530.53	-4304.52	-22772.84	
					3	34	8530.53	-4304.52	-22772.84	
					1	3270	6061.46	3422.12	28796.08	72.03
					2	3270	6061.46	3422.12	28796.08	
55	1027.00	36.0	0	0	3	3270	6061.46	3422.12	28796.08	
					1	96	8530.56	4787.67	-20960.34	181.42
					2	96	8530.56	4787.67	-20960.34	
					3	96	8530.56	4787.67	-20960.34	
					1	393	5219.33	485.10	17894.95	72.66
					2	393	5219.33	485.10	17894.95	
56	1027.00	108.0	0	0	3	393	5219.33	485.10	17894.95	
					1	97	8887.45	8044.53	-10628.28	193.94
					2	97	8887.45	8044.53	-10628.28	
					3	97	8887.45	8044.53	-10628.28	
					1	2700	6061.46	-3510.05	27782.86	64.70
					2	2700	6061.46	-3510.05	27782.86	
					3	2700	6061.46	-3510.05	27782.86	

Units: US (English)

Design Code: AASHTO LRFD

		Sheet # 20	
Job #		Job #	
Program: LEAP® RC-PIER® V8i (SELECTseries 5)		Designed KSM	
Version: 12.01.00.57		Date Sep/10/2013	
Copyright © Bentley Systems, Inc. 2012		Checked	
www.bentley.com		Date	
File Name: Pier12EB_ModifiedSpacing.rcp		Phone: 1-800-778-4277	

Pile Reactions: Notes

* Service Force in pile is greater than service pile capacity.
 Load effects on pile are calculated at centroid of the bottom of the footing.
 Both the max. and min. pile reaction are reported for each individual pile.
 Positive pile reaction represents pile subject to compression load; negative pile reaction represents pile subject to uplift.
 Coordinate system of pile layout see Geometry Tab-Footing Pile-Edit Pile.

Pile Lateral Resistance Check X

Controlling load combination number	381
Lateral loads on all piles(kips)	-119.177
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct shear resistance of all piles(kips)	2800.000
Total pile lateral resistance(kips)	2800.000
Is the lateral resistance due to batter greater than lateral load on all piles?	NO
Is the total pile lateral resistance greater than the lateral load on all piles?	YES

Pile Lateral Resistance Check Z

Controlling load combination number	100
Lateral loads on all piles(kips)	119.121
Batter angle(deg)	0.000
Available lateral resistance due to batter(kips)	0.000
Direct shear resistance of all piles(kips)	2800.000
Total pile lateral resistance(kips)	2800.000
Is the lateral resistance due to batter greater than lateral load on all piles?	NO
Is the total pile lateral resistance greater than the lateral load on all piles?	YES

Max. Pile Reaction Used in Design: (without selfweight and surcharge)

Factored pile reaction	178.41 kips	Comb 182
Service pile reaction	138.58 kips	Comb 7426

Flexure

	Loc ft	Mmax kft	Comb	Asb_req in^2	Asb_prov in^2	Asb_eff in^2	Ast_req in^2	Ast_prov in^2	Ast_eff in^2
X direction	-8.00	-0.0	182	14.26	0.00	0.00	14.26	84.24	0.00
		-0.0	182	14.26	0.00	0.00	14.26	84.24	0.00

Units: US (English)

Design Code: AASHTO LRFD



File Name:	Pier12EB_ModifiedSpacing.rcp
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[illegible]

Date	Sep/10/2013
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Checked	
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Date	
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APPENDIX B-5

QUANTITIES AND COST ESTIMATE

BRIDGE QUANTITY COMPUTATIONS

I-4 OVER ST. JOHNS RIVER

Bridge NoS.

Financial Project Number:
Seminole/Volusia Counties, Florida

Prepared for:
FDOT DISTRICT 5

Engineer of Record:



HNTB Corporation

610 Crescent Executive Court, Suite 400
Lake Mary, Florida 32746
(407) 805-0355 (Phone)
(407) 805-0227 (Fax)

	SUMMARY OF QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11-07-13</i>
		Checked by:	Date:
		Backchecked by:	Date:
		Item No.	Page No. <i>i</i>

JOB NAME *I-4 PD&E*

JOB NO. *HNTB 59219*

BRIDGE NO. _____

ITEM NAME *Table of Contents*

ESTIMATED QUANTITIES		
0		
ITEM No.	ITEM DESCRIPTION	PAGE No.
	Table of Contents	<i>i</i>
	Summary of Bridge Pay Items	<i>ii</i>
	Plan and Elevation Drawing	<i>1</i>
400-2-4	Concrete Class II (Superstructure)	<i>2</i>
400-2-10	Concrete Class II (Approach Slabs)	<i>3</i>
400-4-5	Concrete Class IV (Substructure)	<i>4</i>
400-4-25	Concrete Class IV (Mass-Substructure)	<i>5</i>
400-9	Bridge Deck Grooving and Planning (Deck Thickness >= 8.5")	<i>6</i>
400-147	Composite Neoprene Pads	<i>7</i>
415-1-4	Reinforcing Steel (Superstructure)	<i>2</i>
415-1-5	Reinforcing Steel (Substructure)	<i>4</i>
415-1-9	Reinforcing Steel (Approach Slabs)	<i>3</i>
455-34-5	Prestressed Concrete Piling (24" Sq.)	<i>9</i>
455-143-5	Test Piles - Prestressed Concrete (24" Sq.)	<i>10</i>
458-1-11	Bridge Deck Expansion Joint (New Construction F&I) (Poured Joint with Backer Rod)	<i>11</i>
466-2-13	Post Tensioning Tendons (Substructure)	<i>12</i>
521-5-4	Concrete Traffic Railing Barrier - Bridge (32" Vertical-shape)	<i>13</i>

h \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4 Over St

Printed: 11-10-13 4:38 PM

**SUMMARY OF QUANTITY
CALCULATIONS**

Made by:	CAM	Date:	11/7/2013
Checked by:	0	Date:	1/0/1900
Backchecked by:	0	Date:	1/0/1900
Item No.		Page No.	ii

JOB NAME I-4 PD&EJOB NO. HNTB 59219BRIDGE NO. 0ITEM NAME Summary of Bridge Pay Items**ESTIMATED QUANTITIES****0**

ITEM No.	ITEM DESCRIPTION	UNITS	TOTAL
400-2-4	Concrete Class II (Superstructure)	CY	6,028.2
400-2-10	Concrete Class II (Approach Slabs)	CY	212.1
400-4-5	Concrete Class IV (Substructure)	CY	281.3
400-4-25	Concrete Class IV (Mass-Substructure)	CY	3,809.5
400-9	Bridge Deck Grooving and Planning (Deck Thickness >= 8.5")	SY	23,965
400-147	Composite Neoprene Pads	CF	79.7
415-1-4	Reinforcing Steel (Superstructure)	LB	1,235,785
415-1-5	Reinforcing Steel (Substructure)	LB	703,035
415-1-9	Reinforcing Steel (Approach Slabs)	LB	43,481
455-34-5	Prestressed Concrete Piling (24" Sq.)	LF	13,120
455-143-5	Test Piles - Prestressed Concrete (24" Sq.)	LF	880
458-1-11	Bridge Deck Expansion Joint (New Construction F&I) (Poured Joint with Backer Rod)	LF	1,724
466-2-13	Post Tensioning Tendons (Substructure)	LB	0
521-5-4	Concrete Traffic Railing Barrier - Bridge (32" Vertical-shape)	LF	5,253

Filename: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4 Over St

Printed: 11-10-13 4:38 PM

HNTB <i>Companies</i>	QUANTITY CALCULATIONS	Made by:	CAM	Date:	11/7/2013
		Checked by:	0	Date:	1/0/1900
		Backchecked by:	0	Date:	1/0/1900
		Item No.		Page No.	1

JOB NAME <u>I-4 PD&E</u>	JOB NO. <u>HNTB 59219</u>
BRIDGE NO. <u>0</u>	ITEM NAME <u>Plan and Elevation Sheet</u>

DRAWING PROVIDED FOR REFERENCE ONLY -- NOT FOR CONSTRUCTION

CONCRETE AND REINFORCING STEEL COMPUTATIONS

PAY ITEM NO. **400-2-4**

PAY ITEM NO. **415-1-4**

		PAY ITEM DESCRIPTION		Class II Concrete (Superstructure)				PAY ITEM DESCRIPTION		Reinforcing Steel (Superstructure)			
COMPONENT NAME	NO. REQ.	DESIGN ORIGINAL		CONSTRUCTION FINAL				DESIGN ORIGINAL		CONSTRUCTION FINAL			
		VOLUME (CY)	REFERENCE/REMARKS	VOLUME (CY)	DYER/UNDER RUN	REF.	REMARKS.	WEIGHT (LB)	REFERENCE/REMARKS	WEIGHT (LB)	DYER/UNDER RUN	REF.	REMARKS.
Bridge		6,028						1,235,785					
			</										

If the above item is under the **Plan Quantity Concept** , then the block below **must** be appropriately filled out.

Plan Quantity Concept Signature Block
Design Engineers Responsible for Calculations: _____ All support measurements and computations have been included for this Plan Quantity item. **Signature:** _____ **Print Name:** _____

NOTES FOR EXPLANATION OF OVER/UNDER RUN	
CONCRETE:	STEEL:

EXTRA NOTES / REMARKS:

 <i>The HNTB Companies</i>	QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11-07-13</i>
		Checked by: <i>0</i>	Date: <i>1-00-00</i>
		Backchecked by <i>0</i>	Date: <i>1-00-00</i>
		Item No. <i>400-2-4</i>	Page No. 2A

JOB NAME I-4 PD&E JOB NO. HNTB 59219

BRIDGE NO. 0 ITEM NAME Concrete Class II (Superstructure)

LOCATION	CY
<div> <div>Superstructure</div> <div>Entire Bridge</div> <div>####</div> </div>	6,028.2
Total	6,028.2

Filename: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\engPrinted: #####

JOB NAME: I-4 PD&E

JOB NO. HNTB 59219

BRIDGE NO. 0

ITEM NAME Concrete Class II (Superstructure)

LOCATION Deck, Build-up & Sidewalk

TOTAL BRIDGE

DECK

Skew = 0.00 degrees

Span Length = 2566.25 ft

Deck Width = 84.00 ft

Slab Area = 215565.00 ft²

Slab Thickness = 8.50 in

Deck Vol = 152691.9 ft³

CF

CY

152,691.9

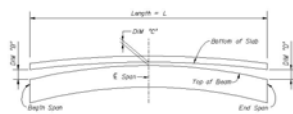
5655.3

BUILD-UP FOR CREST VERTICAL CURVE SPANS (CASE 3)

Beam	L (ft)	B (in)	C (in)	D (in)	Area (ft ²)	Width of Build-Up (ft)	Volume ft ³
1-1	2566.25	2.00	1.00	2.00	284.93	4.00	1139.70
1-2	2566.25	2.00	1.00	2.00	285.07	4.00	1140.27
1-3	2566.25	2.00	1.00	2.00	285.07	4.00	1140.27
1-4	2566.25	2.00	1.00	2.00	284.93	4.00	1139.70
1-5	2566.25	2.00	1.00	0.00	0.00	4.00	0.00
Total Volume =							9119.9

9,119.9

337.8



BUILD-UP DIAGRAM FOR CREST VERTICAL CURVE SPANS
- CONTROL AT MIDSPAN
(TALING 6 BEAM) (CASE 3)

$$\text{Area of Parabolic} = \left[\frac{L}{2} \left(\frac{B}{2} + D \right) + \frac{C}{2} \right] L$$

BUILD-UP BETWEEN BEAMS (Thickened End Slab)

Build Up = 4.00 in
Beam Width = 4.00 ft
Beam Spacing = 12.90 ft

Haunch (Dim "B") = 2.00 in
2.00 in
2.00 in
2.00 in
0.00 in

Beam 1-1
Beam 1-2
Beam 1-3
Beam 1-4
Beam 1-5

Length of Thickened End Slab = 2.50 ft

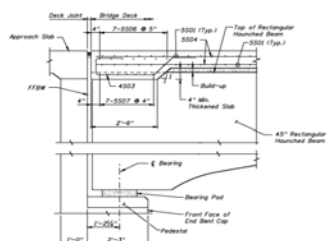
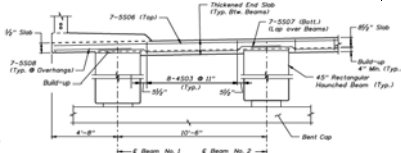
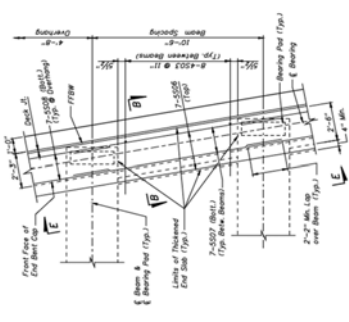
Number of Bays = 4 ← No. bays = 3 New + 1 Existing = 4

Bay 1 Area = 0.89 ft²
Bay 2 Area = 0.89 ft²
Bay 3 Area = 0.89 ft²
Bay 4 Area = 0.89 ft²

Volume = 7.91 ft³
(For One End)

948.9

35.1



SIDEWALK VOLUME


(Microstation)

Span Length = 0.00 ft
Side Walk Width = 0 ft
Cross Sectional Area = 0 ft²
Total Volume = 0 ft³

0.0

0.0

TOTAL = 162,760.6 6,028.2

 <i>The HNTB Companies</i>	SUMMARY OF QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11-07-13</i>
		Checked by: <i>0</i>	Date: <i>1-00-00</i>
		Backchecked by: <i>0</i>	Date: <i>1-00-00</i>
		Item No. <i>415-1-4</i>	Page No. 20

JOB NAME I-4 PD&E

JOB NO. HNTB 59219

BRIDGE NO. 0

ITEM NAME Reinforcing Steel (Superstructure)

MEMBER	LBS
<div> <div>Superstructure</div> <div>Based on FDOT SDG BDR Table 9.2.3</div> <div> <div>Bridge</div> <div>1,235,785</div> </div> <div> <div>Total</div> <div>1,235,785</div> </div> </div>	
<div>Total</div>	1,235,785

CONCRETE AND REINFORCING STEEL COMPUTATIONS

FORM 700-050-
07
CONSTRUCTION
N

PAY ITEM NO. **400-2-10**

PAY ITEM NO. **415-1-9**

[illegible]

If the above item is under the **Plan Quantity Concept** , then the block below **must** be appropriately filled out.

Plan Quantity Concept Signature Block
Design Engineers Responsible for Calculations: All support measurements and computations have been included for this Plan Quantity item. **Signature:** _____ **Print Name:** _____

NOTES FOR EXPLANATION OF OVER/UNDER RUN	
CONCRETE:	STEEL:

EXTRA NOTES / REMARKS:



Made by:	CAM	Date:	11-07-13
Checked by:	O	Date:	1-00-00
Backchecked by	O	Date:	1-00-00
Item No.	400-2-10	Page No	3A

JOB NO. HNTB 59219

ITEM NAME Concrete Class II (Approach Slabs)

212.1

Filename: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\ePrinted: 11-10-13 4:38 PM



QUANTITY
CALCULATIONS

Made by:	CAM	Date:	11-07-13
Checked by:	0	Date:	1-00-00
Backchecked	0	Date:	1-00-00
Item No.	400-2-10	Page No	3B


JOB NAME I-4 PD&E

JOB NO. HNTB 59219

BRIDGE NO. 0

ITEM NAME Concrete Class II (Approach Slabs)

		CY																																										
<p>Skew = 15.656 deg</p> <p>Approach Slab No.1</p> <p>No. of Locations = 1</p> <p>Length 1 (ft)= 30.00 Length for Approach Slabs beyond the backwall of end bent</p> <p>Length 2 (ft)= 2.00 Length for Approach Slabs on backwall of end bent</p> <p>Width (ft)= 84.00 Width of widening for Approach Slabs</p> <p>Thickness 1 (ft)= 1.00 Thickness of approach slab beyond end bent backwall</p> <p>Thickness 2 (ft)= 1.146 Thickness of approach slab on end bent backwall</p> <p>volume = width * (length 1 * thickness 1 + length 2 /cos(Skew)* thickness 2) * number of locations</p> <p>SIDEWALK VOLUME</p> <table><tr><td>Span Length =</td><td>32.00 ft</td><td rowspan="3">Sidewalks are located at end limits of deck (See Detail)</td></tr><tr><td>Side Walk Width =</td><td>7.08 ft</td></tr><tr><td>ss Sectional Area =</td><td>4.5 ft²</td></tr><tr><td colspan="2">Total Volume=</td><td>288 ft³</td></tr><tr><td>Volume =</td><td>3007.92 CF</td><td></td></tr><tr><td>Volume =</td><td>111.4 CY</td><td></td></tr><tr><td colspan="2">Approach Slab No.1</td><td>111.4</td></tr><tr><td colspan="2"><p>Approach Slab No. 2</p><p>No. of Locations = 1</p><p>Length 1 (ft)= 30.00 Length for Approach Slabs beyond the backwall of end bent</p><p>Length 2 (ft)= 2.00 Length for Approach Slabs on backwall of end bent</p><p>Width (ft)= 84.00 Width of widening for Approach Slabs</p><p>Thickness 1 (ft)= 1.00 Thickness of approach slab beyond end bent backwall</p><p>Thickness 2 (ft)= 1.146 Thickness of approach slab on end bent backwall</p><p>volume = width * (length 1 * thickness 1 + length 2 /cos(Skew)* thickness 2) * number of locations</p><p>SIDEWALK VOLUME</p><table><tr><td>Span Length =</td><td>0.00 ft</td><td rowspan="3">Sidewalks are located at end limits of deck (See Detail)</td></tr><tr><td>Side Walk Width =</td><td>0.00 ft</td></tr><tr><td>ss Sectional Area =</td><td>0 ft²</td></tr><tr><td colspan="2">Total Volume=</td><td>0 ft³</td></tr><tr><td>Volume =</td><td>2719.92 CF</td><td></td></tr><tr><td>Volume =</td><td>100.7 CY</td><td></td></tr><tr><td colspan="2">Approach Slab No. 2</td><td>100.7</td></tr><tr><td colspan="2">TOTAL =</td><td>212.1</td></tr></table></td></tr></table>		Span Length =	32.00 ft	Sidewalks are located at end limits of deck (See Detail)	Side Walk Width =	7.08 ft	ss Sectional Area =	4.5 ft ²	Total Volume=		288 ft ³	Volume =	3007.92 CF		Volume =	111.4 CY		Approach Slab No.1		111.4	<p>Approach Slab No. 2</p> <p>No. of Locations = 1</p> <p>Length 1 (ft)= 30.00 Length for Approach Slabs beyond the backwall of end bent</p> <p>Length 2 (ft)= 2.00 Length for Approach Slabs on backwall of end bent</p> <p>Width (ft)= 84.00 Width of widening for Approach Slabs</p> <p>Thickness 1 (ft)= 1.00 Thickness of approach slab beyond end bent backwall</p> <p>Thickness 2 (ft)= 1.146 Thickness of approach slab on end bent backwall</p> <p>volume = width * (length 1 * thickness 1 + length 2 /cos(Skew)* thickness 2) * number of locations</p> <p>SIDEWALK VOLUME</p> <table><tr><td>Span Length =</td><td>0.00 ft</td><td rowspan="3">Sidewalks are located at end limits of deck (See Detail)</td></tr><tr><td>Side Walk Width =</td><td>0.00 ft</td></tr><tr><td>ss Sectional Area =</td><td>0 ft²</td></tr><tr><td colspan="2">Total Volume=</td><td>0 ft³</td></tr><tr><td>Volume =</td><td>2719.92 CF</td><td></td></tr><tr><td>Volume =</td><td>100.7 CY</td><td></td></tr><tr><td colspan="2">Approach Slab No. 2</td><td>100.7</td></tr><tr><td colspan="2">TOTAL =</td><td>212.1</td></tr></table>		Span Length =	0.00 ft	Sidewalks are located at end limits of deck (See Detail)	Side Walk Width =	0.00 ft	ss Sectional Area =	0 ft ²	Total Volume=		0 ft ³	Volume =	2719.92 CF		Volume =	100.7 CY		Approach Slab No. 2		100.7	TOTAL =		212.1
Span Length =	32.00 ft	Sidewalks are located at end limits of deck (See Detail)																																										
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TOTAL =		212.1																																										

 <i>The HNTB Companies</i>	SUMMARY OF QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11-07-13</i>
		Checked by: <i>0</i>	Date: <i>1-00-00</i>
		Backchecked by: <i>0</i>	Date: <i>1-00-00</i>
		Item No. <i>415-1-9</i>	Page No. 3C

JOB NAME I-4 PD&E

JOB NO. HNTB 59219

BRIDGE NO. 0

ITEM NAME Reinforcing Steel (Approach Slab)

MEMBER	LBS
<div> <div>Reinforcing Steel (Approach Slab)</div> <div>Based on FDOT SDG BDR Table 9.2.3</div> <div> <div>Approach Slab 122837</div> <div>Approach Slab 220644</div> <div>Total43481</div> </div> </div>	
Total	43,481

PAY ITEM NO. 400-4-5

PAY ITEM NO. 415-1-5

COMPONENT NAME	NO. R E Q.	PAY ITEM DESCRIPTION Class IV Concrete (Substructure)						PAY ITEM DESCRIPTION Reinforcing Steel (Substructure)					
		DESIGN ORIGINAL		CONSTRUCTION FINAL				DESIGN ORIGINAL		CONSTRUCTION FINAL			
		VOLUME (CY)	REFERENCE/REMARKS	VOLUME (CY)	OVER/UNDER RUN	REF.	REMARKS.	WEIGHT (LB)	REFERENCE/REMARKS	WEIGHT (LB)	OVER/UNDER RUN	REF.	REMARKS.
End Bent No.1		11.0						1,485					
Pier No. 2		0.7						56,078					
Pier No. 3		0.7						56,078					
Pier No. 4		0.7						56,078					
Pier No. 5		0.7						56,078					
Pier No. 6		28.0						19,521					
Pier No. 7		28.0						19,521					
Pier No. 8		28.0						19,521					
Pier No. 9		28.0						19,521					
Pier No. 10		28.0						19,521					
Pier No. 11		28.0						19,521					
Pier No. 12		28.3						19,595					
Pier No. 13		28.3						19,595					
Pier No. 14		28.0						19,521					
Pier No. 15		0.7						19,521					
Pier No. 16		0.7						56,078					
Pier No. 17		0.7						56,078					
Pier No. 18		0.7						56,078					
Pier No. 19		0.7						56,078					
Pier No. 20		0.7						56,078					
End Bent No.21		11.0						1,485					
		281.3	<PAGE TOTAL>					703,035	<PAGE TOTAL>				
			<PROJECT GRAND TOTAL>						<PROJECT GRAND TOTAL>				

If the above item is under the **Plan Quantity Concept** , then the block below **must** be appropriately filled ou

Plan Quantity Concept Signature Block Design Engineers Responsible for Calculations: _____ All support measurements and computa Plan Quantity Item: _____	signature: _____	Print name: _____
--	-------------------------	--------------------------

NOTES FOR EXPLANATION OF OVER/UNDER RUN	
CONCRETE:	STEEL:

EXTRA NOTES / REMARK: _____

HNTB <i>The HNTB Companies</i>	SUMMARY OF QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11-07-13</i>
		Checked by: <i>O</i>	Date: <i>1-00-00</i>
		Backchecked by: <i>O</i>	Date: <i>1-00-00</i>
		Item No. <i>400-4-5</i>	Page No. 4A

JOB NAME I-4 PD&E JOB NO. HNTB 59219

BRIDGE NO. 0.00 ITEM NAME Concrete Class IV (Substructure)

LOCATION	CY
<u>Substructure</u> (Does not include Mass Concrete. See Sheets 5-5A for Mass Concrete Quantities)	
<i>End Bent No.1</i>	<i>11.0</i>
<i>Note: Old piles still in place at Piers 2 & 3</i>	<i>Pier No. 2</i>
<i>Note: Old piles still in place at Piers 2 & 3</i>	<i>Pier No. 3</i>
	<i>Pier No. 4</i>
	<i>Pier No. 5</i>
	<i>Pier No. 6</i>
	<i>Pier No. 7</i>
	<i>Pier No. 8</i>
	<i>Pier No. 9</i>
	<i>Pier No. 10</i>
	<i>Pier No. 11</i>
	<i>Pier No. 12</i>
	<i>Pier No. 13</i>
	<i>Pier No. 14</i>
	<i>Pier No. 15</i>
	<i>Pier No. 16</i>
	<i>Pier No. 17</i>
	<i>Pier No. 18</i>
	<i>Pier No. 19</i>
	<i>Pier No. 20</i>
<i>End Bent No.21</i>	<i>11.0</i>
<i>Total =</i>	<i>281.3</i>
<i>Total</i>	281.3

 <i>The HNTB Companies</i>	QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11-07-13</i>
		Checked by: <i>0</i>	Date: <i>1-00-00</i>
		Backchecked: <i>0</i>	Date: <i>1-00-00</i>
		Item No. <i>400-4-5</i>	Page No. 48

JOB NAME <i>I-4 PD&E</i>	JOB NO. <i>HNTB 59219</i>
BRIDGE NO. <i>0</i>	ITEM NAME <i>Concrete Class IV (Substructure)</i>
	LOCATION <i>End Bent No.1</i>

	CF	CY												
END BENT NO.1														
<p><u>End Bent Cap</u></p> <p>Cap Width = <i>4.000</i> ft Cap Depth = <i>3.000</i> ft Cap Length = <i>7.000</i> ft</p> <p>Cap Volume = Width * Depth * [Cap Length] = <i>84.000</i> ft³</p> <p>No. of Piles in Bent = <i>1</i> Square Pile Size = <i>24</i> in Embed = <i>12</i> in</p> <p>Deduct Volume = No. Piles * [Size^2] * Embed = <i>-4.000</i> ft³</p> <p>End Bent Cap</p>	160.00	5.9												
<p>Check Cap for Mass Concrete:</p> <p>Minimum Dimension = <i>3.00</i> ft Surface Area = <i>122.00</i> ft² Surface Area = 2 * (width * depth + depth * cap length + width * cap length) Volume = <i>160.00</i> ft³ V/A Ratio = <i>1.31</i> ft Mass Concrete? No</p> <p><u>End Bent Backwall</u></p> <p>T_{Backwall} = <i>1.000</i> ft L_{Backwall} = <i>7.000</i> ft</p> <p>T_{BkwallCoping} (Thickness Btwn Coping & Gutter) = <i>0.000</i> ft L_{BkwallCoping} (Length Btwn Coping & Gutter) = <i>0.000</i> ft</p> <p>Angle = <i>90</i> deg</p> <p>Area = <i>7.000</i> ft²</p> <p>Area = T_{Backwall} * L_{Backwall} + T_{BkwallCoping} * L_{BkwallCoping} + 1/2 * T_{Backwall}² * tan(angle-90°)</p> <p>Backwall Height</p> <table border="1"> <tr> <td>Elev at Top of Wall (Pt. 1)</td> <td>Elev at Top of Wall (Pt. 2)</td> <td>Elev at Top of Wall (Pt. 3)</td> <td>Elev at Top of Cap (Pt. 1)</td> <td>Elev at Top of Cap (Pt. 2)</td> <td>Elev at Top of Cap (Pt. 3)</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </table> <p>Backwall Height (Avg.) = <i>8.000</i> ft</p> <p>Backwall Volume = Area * average height of backwall = <i>56.000</i> ft³</p> <p>End Bent Backwall</p>	Elev at Top of Wall (Pt. 1)	Elev at Top of Wall (Pt. 2)	Elev at Top of Wall (Pt. 3)	Elev at Top of Cap (Pt. 1)	Elev at Top of Cap (Pt. 2)	Elev at Top of Cap (Pt. 3)	-	-	-	-	-	-	112.00	4.1
Elev at Top of Wall (Pt. 1)	Elev at Top of Wall (Pt. 2)	Elev at Top of Wall (Pt. 3)	Elev at Top of Cap (Pt. 1)	Elev at Top of Cap (Pt. 2)	Elev at Top of Cap (Pt. 3)									
-	-	-	-	-	-									

End Bent Pedestals

Pedestal @ Beam	Avg. Top of Ped. EL.	Cap EL.	PED (ft)
1-1	-	-	
1-2	-	-	
1-3	-	-	
1-4	-	-	
1-5	-	-	
TOTAL			0.000

W= 3.000 Pedestal width (ft)
 L= 2.750 Pedestal length (ft)
 H= 3.000 Total Pedestal Height (ft) <--Requires reconstruction of existing pedestals

$$W \times L \times H = 24.75 \text{ ft}^3$$

End Bent Pedestals

Cheekwall

Cap Width = 0.000 ft
 Cap Depth = 0.000 ft
 L1 (Average cheekwall Length) = 6.184 ft
 L2 (Length from Back face of Backwall to Front of cap) = 0.000 ft

$$\text{Vol.} = 0.000 \text{ ft}^3$$

$$\text{Vol.} = [\text{Width} \times (L1 - L2) + T_{\text{wingwall}} \times L2 + 1/2 \times L2^2 \tan(\text{Angle} - 90^\circ)] \times \text{Depth}$$

$$\text{No. of Piles in Bent} = 0$$

$$\text{Deduct Volume} = \text{No. Piles} \times [\text{Size}^2] \times \text{Embed} = 0.000 \text{ ft}^3$$

$T_{\text{Cheekwall}} = 0.000 \text{ ft}$
 $L_{\text{Cheekwall}} = 0.000 \text{ ft}$

	Elev at Top of Wall (Pt. 1)	Elev at Top of Wall (Pt. 2)	Elev at Bot of Cap (Pt. 1)	Elev at Top of Cap (Pt. 2)	Backwall Height (Avg.)
South	0.000	0.000	0.000	0.000	0.000 ft
North	0.000	0.000	0.000	0.000	0.000 ft

$$\text{Backwall Height (Avg.)} = 0.000 \text{ ft}$$

$$\text{Cheekwall Volume} = T_{\text{cheekwall}} \times L_{\text{Cheekwall}} \times \text{average height of backwall} = 0.000 \text{ ft}^3$$

2 Cheek walls

Total = 296.75 11.0

	CONCRETE QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11/7/2013</i>
		Checked by: <i>0</i>	Date: <i>1/0/1900</i>
		Backchecked By: <i>0</i>	Date: <i>1/0/1900</i>
		Item No. <i>400-4-5</i>	Page No. 4C

JOB NAME <i>I-4 PD&E</i>	JOB NO. <i>HNTB 59219</i>
BRIDGE NO. <i>0</i>	ITEM NAME <i>Concrete Class IV (Substructure)</i>
	LOCATION <i>Pier No. 2</i>

		CF	CY																																			
PIER NO. 12 & 13																																						
<u>Pier Pedestals</u>																																						
	<table border="1"> <thead> <tr> <th>Location</th> <th>Pedestal</th> <th>AVG EL.</th> <th>CAP EL</th> <th>PED (ft)</th> </tr> </thead> <tbody> <tr><td>Pier 12</td><td>1</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier 12</td><td>2</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier 12</td><td>3</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier 13</td><td>4</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier 14</td><td></td><td>-</td><td>-</td><td></td></tr> <tr> <td colspan="2">TOTAL</td> <td></td> <td></td> <td>1.500</td> </tr> </tbody> </table>	Location	Pedestal	AVG EL.	CAP EL	PED (ft)	Pier 12	1	-	-	0.375	Pier 12	2	-	-	0.375	Pier 12	3	-	-	0.375	Pier 13	4	-	-	0.375	Pier 14		-	-		TOTAL				1.500		
Location	Pedestal	AVG EL.	CAP EL	PED (ft)																																		
Pier 12	1	-	-	0.375																																		
Pier 12	2	-	-	0.375																																		
Pier 12	3	-	-	0.375																																		
Pier 13	4	-	-	0.375																																		
Pier 14		-	-																																			
TOTAL				1.500																																		
<u>Pier Cap</u>	W= <i>2.750</i> Pedestal width (ft) L= <i>2.250</i> Pedestal length (ft) H= <i>1.500</i> Total Pedestal Height (ft)	<i>Pedestals</i>	<i>18.56</i>	<i>0.7</i>																																		
	W = <i>4.5</i> ft L = <i>43.71</i> ft Depth 1= <i>6</i> ft Volume 1= <i>1180.13</i> ft ³ (per cap) Total= <i>2360.25</i> ft ³ (for both EB & WB Piers)																																					
<u>Cheek Walls</u>	No. of walls = <i>0</i> Angle = <i>0.000</i> deg Thickness = <i>0</i> in L = <i>0.000</i> ft	<i>Cap</i>	<i>2360.25</i>	<i>87.4</i>																																		
	<table border="1"> <thead> <tr> <th>Elev at Top of wall (Pt. 1)</th> <th>Elev at Top of wall (Pt. 2)</th> <th>Elev at Top of Flange (Pt. 1)</th> <th>Elev at Top of Flange (Pt. 2)</th> <th>Wall Height (Avg.)</th> </tr> </thead> <tbody> <tr> <td><i>0.000</i></td> <td><i>0.000</i></td> <td><i>0.000</i></td> <td><i>0.000</i></td> <td><i>0.000</i> ft</td> </tr> </tbody> </table>	Elev at Top of wall (Pt. 1)	Elev at Top of wall (Pt. 2)	Elev at Top of Flange (Pt. 1)	Elev at Top of Flange (Pt. 2)	Wall Height (Avg.)	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i> ft	<i>Cheekwall</i>	<i>0.00</i>	<i>0.0</i>																								
Elev at Top of wall (Pt. 1)	Elev at Top of wall (Pt. 2)	Elev at Top of Flange (Pt. 1)	Elev at Top of Flange (Pt. 2)	Wall Height (Avg.)																																		
<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i> ft																																		
<u>Column</u>	Number of Columns = <i>2</i> per pier Length of Column = <i>6</i> Length, (ft) Width of Column = <i>4</i> Width, (ft) Top Elevation = <i>41.125</i> ft Bottom Elevation = <i>4.25</i> ft Length Column = <i>36.875</i> Height, (ft) Initial Total = <i>1770</i> ft ³																																					
Volume = Number of Columns * Width of Column* Length column* Height of Column * Note: Chamfer edges on column																																						
	<u>Deductions</u> Chamfer = <i>73.75</i> ft ³ New Total = <i>1696.25</i> ft ³	<i>Column</i>	<i>1696.25</i>	<i>62.8</i>																																		
<u>Strut</u>	Strut 1 L = <i>31.0833</i> ft Strut 1 W = <i>2</i> ft Strut 1 H = <i>6</i> ft Strut 1 Volume = <i>372.9996</i> ft ³ (per strut)	<i>Strut 1</i>	<i>746.00</i>	<i>27.6</i>																																		
	Strut 2 L = <i>0</i> ft Strut 2 W = <i>0</i> ft Strut 2 H = <i>0</i> ft Strut 2 Volume = <i>0</i> ft ³	<i>Strut 2</i>	<i>0.00</i>	<i>0.0</i>																																		
	Total = <i>745.9992</i> ft ³																																					

Footings
(Footings already existing)

Number of Footings=

0

per pier

Lftg=

0

Length, (ft)

Wftg=

0

Width, (ft)

Dftg=

0

Depth, (ft)

Npile=

0

Number of Piles in Footing

Pile Size=

0

Pile Size (Square), (ft.)

Embed=

0

Pile Embedment, (ft.)

Total =

0

ft³

Volume = ((Lftg * Wftg * Dftg) - [Npiles * Pile Size * Pile Size * Embed]) * number of footings

Footings

0.00

0.0

Check for Mass Concrete

Segment	Min Dimension (FT)	Surface Area (SF)	V/A Ratio (FT)	Mass Concrete?
Cap	4.50	971.88	1.21	YES
Column	4.00	651.10	1.30	YES
Strut 1	2.00	521.33	0.72	NO
Strut 2	0.00	0.00	#DIV/0!	#DIV/0!
Footings	6.00	7964.00	1.45	YES

Total =

4821.06

178.6

	CONCRETE QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11/7/2013</i>
		Checked by: <i>0</i>	Date: <i>1/0/1900</i>
		Backchecked By: <i>0</i>	Date: <i>1/0/1900</i>
		Item No. <i>400-4-5</i>	Page No. 4C

JOB NAME <i>I-4 PD&E</i>	JOB NO. <i>HNTB 59219</i>
BRIDGE NO. <i>0</i>	ITEM NAME <i>Concrete Class IV (Substructure)</i>
	LOCATION <i>Pier No. 2</i>

		CF	CY																																			
Typical River Piers																																						
Pier Pedestals																																						
	<table border="1"> <thead> <tr> <th>Location</th> <th>Pedestal</th> <th>AVG EL.</th> <th>CAP EL</th> <th>PED (ft)</th> </tr> </thead> <tbody> <tr><td>Pier</td><td>1</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier</td><td>2</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier</td><td>3</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier</td><td>4</td><td>-</td><td>-</td><td>0.375</td></tr> <tr><td>Pier</td><td></td><td>-</td><td>-</td><td></td></tr> <tr> <td colspan="2"></td> <td>TOTAL</td> <td></td> <td>1.500</td> </tr> </tbody> </table>	Location	Pedestal	AVG EL.	CAP EL	PED (ft)	Pier	1	-	-	0.375	Pier	2	-	-	0.375	Pier	3	-	-	0.375	Pier	4	-	-	0.375	Pier		-	-				TOTAL		1.500		
Location	Pedestal	AVG EL.	CAP EL	PED (ft)																																		
Pier	1	-	-	0.375																																		
Pier	2	-	-	0.375																																		
Pier	3	-	-	0.375																																		
Pier	4	-	-	0.375																																		
Pier		-	-																																			
		TOTAL		1.500																																		
	W= <i>2.750</i> Pedestal width (ft) L= <i>2.250</i> Pedestal length (ft) H= <i>1.500</i> Total Pedestal Height (ft)																																					
Pier Cap	W = <i>4.5</i> ft L = <i>42</i> ft Depth 1= <i>6</i> ft ³ (per cap) Volume 1= <i>1134.00</i> ft ³ (for both EB & WB Piers) Total= <i>2268.00</i> ft ³	<i>Pedestals</i>	<i>9.28</i>																																			
			<i>0.3</i>																																			
		<i>Cap</i>	<i>2268.00</i>																																			
			<i>84.0</i>																																			
Cheek Walls																																						
	No. of walls = <i>0</i> Angle = <i>0.000</i> deg Thickness = <i>0</i> in L = <i>0.000</i> ft																																					
	<table border="1"> <thead> <tr> <th>Elev at Top of wall (Pt. 1)</th> <th>Elev at Top of wall (Pt. 2)</th> <th>Elev at Top of Flange (Pt. 1)</th> <th>Elev at Top of Flange (Pt. 2)</th> <th>Wall Height (Avg.)</th> </tr> </thead> <tbody> <tr> <td><i>0.000</i></td> <td><i>0.000</i></td> <td><i>0.000</i></td> <td><i>0.000</i></td> <td><i>0.000</i> ft</td> </tr> </tbody> </table>	Elev at Top of wall (Pt. 1)	Elev at Top of wall (Pt. 2)	Elev at Top of Flange (Pt. 1)	Elev at Top of Flange (Pt. 2)	Wall Height (Avg.)	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i> ft																											
Elev at Top of wall (Pt. 1)	Elev at Top of wall (Pt. 2)	Elev at Top of Flange (Pt. 1)	Elev at Top of Flange (Pt. 2)	Wall Height (Avg.)																																		
<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i> ft																																		
		<i>Cheekwall</i>	<i>0.00</i>																																			
			<i>0.0</i>																																			
Column																																						
	Number of Columns = <i>2</i> per pier Length of Column = <i>6</i> Length, (ft) Width of Column = <i>4</i> Width, (ft) Top Elevation = <i>41.125</i> ft Bottom Elevation = <i>4.25</i> ft Length Column = <i>36.875</i> Height, (ft) Initial Total = <i>1770</i> ft ³																																					
Volume = Number of Columns * Width of Column* Length column* Height of Column * Note: Chamfer edges on column																																						
	Deductions Chamfer = <i>73.75</i> ft ³ New Total = <i>1696.25</i> ft ³	<i>Column</i>	<i>1696.25</i>																																			
			<i>62.8</i>																																			
Strut																																						
	Strut 1 L = <i>31.0833</i> ft Strut 1 W = <i>2</i> ft Strut 1 H = <i>6</i> ft Strut 1 Volume = <i>372.9996</i> ft ³ (per strut)	<i>Strut 1</i>	<i>746.00</i>																																			
			<i>27.6</i>																																			
	Strut 2 L = <i>0</i> ft Strut 2 W = <i>0</i> ft Strut 2 H = <i>0</i> ft Strut 2 Volume = <i>0</i> ft ³	<i>Strut 2</i>	<i>0.00</i>																																			
			<i>0.0</i>																																			
	Total = <i>745,9992</i> ft ³																																					

Footings (Footings already existing)

Number of Footings= 0 per pier
Lftg= 0 Length, (ft)
Wftg= 0 Width, (ft)
Dftg= 0 Depth, (ft)
Npile= 0 Number of Piles in Footing
Pile Size= 0 Pile Size (Square), (ft.)
Embed= 0 Pile Embedment, (ft.)
Total = 0 ft³

Volume = ((Lftg * Wftg * Dftg) + (Npiles * Pile Size * Pile Size * Embed)) * number of footings

Footings

0.00

0.0

Check for Mass Concrete

Segment	Min Dimension (FT)	Surface Area (SF)	V/A Ratio (FT)	Mass Concrete?
Cap	4.50	936.00	1.21	YES
Column	4.00	651.10	1.30	YES
Strut 1	2.00	521.33	0.72	NO
Strut 2	0.00	0.00	#DIV/0!	#DIV/0!
Footings	6.00	7964.00	1.45	YES

per column

per strut

Total =

4719.53

174.8

Typical Land Piers					CF	CY				
<u>Pier Pedestals</u>										
Location	Pedestal	AVG EL.	CAP EL	PED (ft)						
Pier	1	-	-	0.375						
Pier	2	-	-	0.375						
Pier	3	-	-	0.375						
Pier	4	-	-	0.375						
Pier		-	-							
		TOTAL		1.500						
W=	2.750	Pedestal width (ft)								
L=	2.250	Pedestal length (ft)								
H=	1.500	Total Pedestal Height (ft)								
<u>Pier Cap</u>					Pedestals	18.56				
W =	4.5	ft								
L =	42	ft			(Based on existing pier caps)					
Depth 1=	6	ft								
Volume 1=	1134.00	ft ³ (per cap)								
Total=	2268.00	ft ³ (for both EB & WB Piers)								
					Cap	2268.00				
<u>Cheek Walls</u>						84.0				
No. of walls =	0									
Angle =	0.000	deg								
Thickness =	0	in								
L =	0.000	ft								
Elev at Top of wall (Pt. 1)	0.000	Elev at Top of wall (Pt. 2)	0.000	Elev at Top of Flange (Pt. 1)	0.000	Elev at Top of Flange (Pt. 2)	0.000	Wall Height (Avg.)	0.000	ft
					Cheekwall	0.00	0.0			
<u>Column</u>										
Number of Columns =	2	per pier								
Length of Column =	6	Length, (ft)								
Width of Column =	4	Width, (ft)								
Top Elevation=	38.387	ft (assume max. land pier elevation,								
Bottom Elevation=	1	ft (assum min. land pier elevation,								
Length Column=	37.387	Height, (ft)								
Initial Total =	1794.576	ft ³								
Volume = Number of Columns * Width of Column* Length column* Height of Column										
* Note: Chamfer edges on column										
<u>Deductions</u>										
Chamfer =	74.774	ft ³								
New Total =	1719.802	ft ³			Column	1719.80	63.7			
<u>Strut</u>										
<u>Struts not required on land piers</u>										
Strut 1 L =	0	ft								
Strut 1 W =	0	ft								
Strut 1 H =	0	ft								
Strut 1 Volume =	0	ft ³ (per strut)			Strut 1	0.00	0.0			
Strut 2 L =	0	ft								
Strut 2 W =	0	ft								
Strut 2 H =	0	ft								
Strut 2 Volume =	0	ft ³			Strut 2	0.00	0.0			
Total =	0	ft ³								

Footing

Number of Footings= 2 per pier
Lftg= 16 Length, (ft)
Wftg= 16 Width, (ft)
Dftg= 6 Depth, (ft)
Npile= 9 Number of Piles in Footing
Pile Size= 2 Pile Size (Square), (ft.)
Embed= 1 Pile Embedment, (ft.)
Total = 3036 ft³

Volume = ((Lftg * Wftg * Dftg) - [Npiles * Pile Size * Pile Size * Embed]) * number of footing

*Footing**3036.00**112.4***Check for Mass Concrete**


Segment	Min Dimension (FT)	Surface Area (SF)	V/A Ratio (FT)	Mass Concrete?
Cap	4.50	936.00	1.21	YES
Column	4.00	660.14	1.30	YES
Strut 1	0.00	0.00	#DIV/0!	#DIV/0!
Strut 2	0.00	0.00	#DIV/0!	#DIV/0!
Footing	6.00	896.00	3.39	YES

per column
per strut

Total =**7042.36****260.8**

Filename: \\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4 Over St. Johns River\Altern print :

2:34:02 PM

 <i>The HNTB Companies</i>	SUMMARY OF QUANTITY CALCULATIONS	Made by: CAM	Date: 11-07-13
		Checked by: 0	Date: 1-00-00
		Backchecked By 0	Date: 1-00-00
		Item No. 415-1-5	Page No. 4E

JOB NAME *I-4 PD&E*

JOB NO. *HNTB 59219*

BRIDGE NO. *0*

ITEM NAME *Reinforcing Steel (Substructure)*

MEMBER	LBS
<i>End Bent No.1</i>	1,485
<i>Pier No. 2</i>	56,078
<i>Pier No. 3</i>	56,078
<i>Pier No. 4</i>	56,078
<i>Pier No. 5</i>	56,078
<i>Pier No. 6</i>	19,521
<i>Pier No. 7</i>	19,521
<i>Pier No. 8</i>	19,521
<i>Pier No. 9</i>	19,521
<i>Pier No. 10</i>	19,521
<i>Pier No. 11</i>	19,521
<i>Pier No. 12</i>	19,595
<i>Pier No. 13</i>	19,595
<i>Pier No. 14</i>	19,521
<i>Pier No. 15</i>	19,521
<i>Pier No. 16</i>	56,078
<i>Pier No. 17</i>	56,078
<i>Pier No. 18</i>	56,078
<i>Pier No. 19</i>	56,078
<i>Pier No. 20</i>	56,078
<i>End Bent No.21</i>	1,485
<i>Total</i>	703,035

Filename: \\Lkmw00\pmwork3\Jobs\59219 - 14 SAMR\TECHPROD\43210012201\Segment 4\struct\enc Printed: 11-10-13 4:38 PM

Bridge No. 870196 (SB)

CONCRETE AND REINFORCING STEEL COMPUTATIONSPAY ITEM NO. **400-4-25**

PAY ITEM NO.

		PAY ITEM DESCRIPTION Class IV Concrete (Mass-Substructure)						PAY ITEM DESCRIPTION					
COMPONENT NAME	NO. REQ.	DESIGN ORIGINAL		CONSTRUCTION FINAL				DESIGN ORIGINAL		CONSTRUCTION FINAL			
		VOLUME (CY)	REFERENCE/REMARKS	VOLUME (CY)	OVER/UNDER RUN	REF.	REMARKS.	WEIGHT (LB)	REFERENCE/REMARKS	WEIGHT (LB)	OVER/UNDER RUN	REF.	REMARKS.
End Bent No.1		0.0											
Pier No. 2		260.1											
Pier No. 3		260.1											
Pier No. 4		260.1											
Pier No. 5		260.1											
Pier No. 6		146.8											
Pier No. 7		146.8											
Pier No. 8		146.8											
Pier No. 9		146.8											
Pier No. 10		146.8											
Pier No. 11		146.8											
Pier No. 12		146.8											
Pier No. 13		146.8											
Pier No. 14		146.8											
Pier No. 15		146.8											
Pier No. 16		260.1											
Pier No. 17		260.1											
Pier No. 18		260.1											
Pier No. 19		260.1											
Pier No. 20		260.1											
End Bent No.21		0.0											
		3,809.5	<PAGE TOTAL>						<PAGE TOTAL>				
			<PROJECT GRAND TOTAL>						<PROJECT GRAND TOTAL>				

If the above item is under the **Plan Quantity Concept**, then the block below **must** be appropriately filled out

Plan Quantity Concept Signature Block Design Engineers Responsible for Calculations: _____ All support measurements and computations are the responsibility of the design engineer. Signature: _____ Print Name: _____
--

NOTES FOR EXPLANATION OF OVER/UNDER RUN	
CONCRETE:	STEEL:

EXTRA NOTES / REMARKS:



Made by:	CAM	Date:	11/7/2013
Checked by:	O	Date:	1/0/1900
Backchecked	O	Date:	1/0/1900
Item No.	400-425	Page No.	5A

JOB NO. HNTB 59219

ITEM NAME Concrete Class IV (Mass-Substructure)

See Conc. Class IV (Substructure) for Calculations.

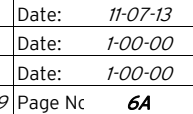
Filename: \\Lkmw00\pmwork3\Jobs\59219 - 14 SAMR\TECHPROD\43210012201\Segment 4\struct\eng Printed: #####

If the above item is under the **Plan Quantity Concept**, then the block below **must** be appropriate

Plan Quantity Concept Signature Block
Design Engineers Responsible for Calculations: _____ **Signature:** _____ **Print Name:** _____
included for this Plan Quantity item.

NOTES FOR EXPLANATION OF OVER/UNDER R _____

EXTRA NOTES / REI _____

ITEM NAME Bridge Deck Grooving and Planning (Deck Thickness $\geq 8.5"$)

Filename: \\LKMW00\pmwork3\Jobs\59219-14 SAMR\TECHPROD\4321001ZZ01\Segment 4\struct\eng_data\I-4 Over St. JohnsPrinted: #####

PAY ITEM NO. 400-147

PAY ITEM DESCRIPTION Composite Neoprene Pads					
LOCATION	DESIGN ORIGINAL		CONSTRUCTION FINAL		
	VOLUME MEASURE (CF)	REMARKS (No. of Pads)	VOLUME MEASURE (CF)	OVER/UNDER RUN	REMARKS
End Bent No.1	3.8	8			
Pier No. 2	3.8	8			
Pier No. 3	3.8	8			
Pier No. 4	3.8	8			
Pier No. 5	3.8	8			
Pier No. 6	3.8	8			
Pier No. 7	3.8	8			
Pier No. 8	3.8	8			
Pier No. 9	3.8	8			
Pier No. 10	3.8	8			
Pier No. 11	3.8	8			
Pier No. 12	3.8	8			
Pier No. 13	3.8	8			
Pier No. 14	3.8	8			
Pier No. 15	3.8	8			
Pier No. 16	3.8	8			
Pier No. 17	3.8	8			
Pier No. 18	3.8	8			
Pier No. 19	3.8	8			
Pier No. 20	3.8	8			
End Bent No.21	3.8	8			
	79.7	< PAGE TOTAL >			
		< PROJECT GRAND TOTAL >			

If the above item is under the **Plan Quantity Concept**, then the block below **must** be appropriately filled out:

Plan Quantity Concept Signature Block
Design Engineers Responsible for Calculations: ____ All support measurements and computations have been included for this Plan Quantity item. **Signature:** ____ **Print Name:** ____

NOTES FOR EXPLANATION OF OVER/UNDER RUN: _____

EXTRA NOTES / REMARKS: _____

HNTB <i>the h n t b Companies</i>	SUMMARY OF QUANTITY CALCULATIONS	Made by:	CAM	Date:	11-07-13
		Checked by:	0	Date:	1-00-00
		Backchecked by:	0	Date:	1-00-00
		Item No.	400-147	Page No.	7A

JOB NAME I-4 PD&E

JOB NO. HNTB 59219

BRIDGE NO. 0

ITEM NAME Composite Neoprene Bearing Pad

FDOT Standard Bearing Pad Type G

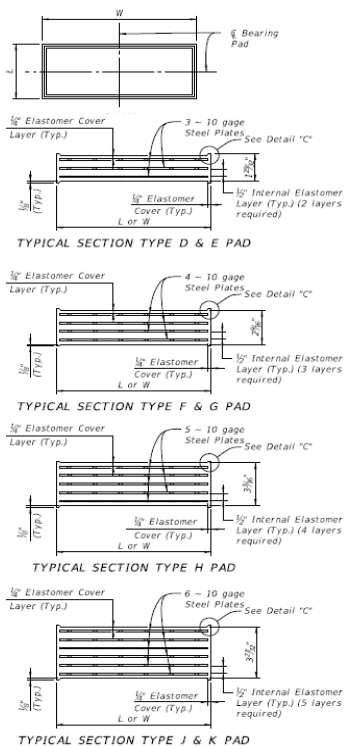
L = 10.00 Length (in)
 W = 32.00 Width (in)
 H = 2.56 Height (in)
 V = 0.47 Volume (ft³) (EACH)

Composite Neoprene Bearing Pad

Unit	No. of Pads	Volume (CF)
End Bent No. 1	8	3.80
Pier No. 2	8	3.80
Pier No. 3	8	3.80
Pier No. 4	8	3.80
Pier No. 5	8	3.80
Pier No. 6	8	3.80
Pier No. 7	8	3.80
Pier No. 8	8	3.80
Pier No. 9	8	3.80
Pier No. 10	8	3.80
Pier No. 11	8	3.80
Pier No. 12	8	3.80
Pier No. 13	8	3.80
Pier No. 14	8	3.80
Pier No. 15	8	3.80
Pier No. 16	8	3.80
Pier No. 17	8	3.80
Pier No. 18	8	3.80
Pier No. 19	8	3.80
Pier No. 20	8	3.80
End Bent No. 21	8	3.80
Sub-Totals	168	79.72

TOTALS

Volume (cf) = 79.7



PAD TYPE (See Note 1)	BEARING PAD DIMENSIONS		*BEVELED BEARING PLATE DIMENSIONS	
	L	W	C	D
D (G=110psi)	8"	2'-8"	1'-0"	3'-0"
E (G=110psi)	10"	2'-8"	1'-0"	3'-0"
F (G=110psi)	10"	2'-8"	1'-0"	3'-0"
G (G=150psi)	10"	2'-8"	1'-0"	3'-0"
H (G=150psi)	10"	2'-8"	1'-0"	3'-0"
J (G=150psi)	10"	2'-8"	1'-0"	3'-0"
K (G=150psi)	1'-0"	2'-8"	1'-1 1/2"	3'-0"

PILING TABULATION

FORM 700-050-

08

CADD FORM8

CONSTRUCTION

PAY ITEM NO. 455-34-5

PAY ITEM NO. _____

PAY ITEM DESCRIPTION Prestressed Concrete Piling (18" Sq.)					PAY ITEM DESCRIPTION						
DESIGN ORIGINAL QUANTITY					CONSTRUCTION FINAL QUANTITY						
STRUCTURE COMPONENT IDENTIFICATION	NO. REQ'D	LENGTH EACH	TOTAL LENGTH	REFERENCE/REMARKS	AUTHORIZED FURNISHED	PAY LENGTH			OVER OR UNDER RUN FROM DESIGN ORIGINAL		REMARKS
	EA	LINEAR* FT	LINEAR* FT		LENGTH* FT	FURNISHED* FT	DRIVEN* FT	REFERENCE	FURNISHED* FT	DRIVEN* FT	
End Bent No.1	1	80.00	80								
Pier No. 2	18	80.00	1,440								
Pier No. 3	18	80.00	1,440								
Pier No. 4	18	80.00	1,440								
Pier No. 5	18	80.00	1,440								
Pier No. 6											
Pier No. 7											
Pier No. 8											
Pier No. 9											
Pier No. 10											
Pier No. 11											
Pier No. 12											
Pier No. 13											
Pier No. 14											
Pier No. 15											
Pier No. 16	18	80.00	1,440								
Pier No. 17	18	80.00	1,440								
Pier No. 18	18	80.00	1,440								
Pier No. 19	18	80.00	1,440								
Pier No. 20	18	80.00	1,440								
End Bent No.21	1	80.00	80								
*PROVIDE APPROPRIATE UNITS FOR THIS ITEM IN CONTRACT (i.e. LF, MI).			13,120	< PAGE TOTAL >							
				< PROJECT GRAND TOTAL >							

EXPLANATION OF OVER/UNDER RUN (DESIGN ORIGINAL/FINAL PAY LENGTH)

PILING FURNISHED:	PILING DRIVEN:

EXTRA NOTES / REMARKS: _____



**QUANTITY
CALCULATIONS**

Made by:	CAM	Date:	11/7/2013
Checked by:	0	Date:	1/0/1900
Backchecked By:	0	Date:	1/0/1900
Item No.	455-34-3	Page No.	9A

JOB NAME I-4 PD&E

JOB NO. HNTB 59219

BRIDGE 0

ITEM NAME Prestr. Concr. Piling (18" Sq.)

Bent	Total Number of Piles *	Top of Pile Elev. (ft)	Estimated Tip Elev. (ft)	Pile Length (LF)	Subtotal Pile Length (LF)	Total Pile Length (LF)
	<i>Pile Batter =</i>	0.00	in per ft			
<i>End Bent No. 1</i>						
<i>Plumb</i>	1			80.0	80.0	80.0
<i>Battered</i>	0			0.0	0.0	0
<i>Pier No. 2</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	1
<i>Pier No. 3</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	2
<i>Pier No. 4</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	3
<i>Pier No. 5</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	4
<i>Pier No. 15</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	5
<i>Pier No. 16</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	6
<i>Pier No. 17</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	7
<i>Pier No. 18</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	8
<i>Pier No. 19</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	9
<i>Pier No. 20</i>						
<i>Plumb</i>	18			80.0	1440.0	1440.0
<i>Battered</i>	0			0.0	0.0	10
<i>End Bent No. 21</i>						
<i>Plumb</i>	1			80.0	80.0	80.0
<i>Battered</i>	0			0.0	0.0	0.0
*Not Including Test Piles					SUB-TOTAL =	13085
					TOTAL =	13085

\\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4 Over St. Johns River\Alternative 1 - Interior Widening


PAY ITEM NO. **455-143-3**
PAY ITEM NO.

PAY ITEM DESCRIPTION					Test Pile (Prestressed Concrete) (18" Sq.)					PAY ITEM DESCRIPTION				
DESIGN ORIGINAL QUANTITY					CONSTRUCTION FINAL QUANTITY									
STRUCTURE COMPONENT IDENTIFICATION	NO. REQ'D	LENGTH EACH LINEAR*	TOTAL LENGTH LINEAR*	REFERENCE/REMARKS	AUTHORIZED FURNISHED LENGTH*	PAY LENGTH			OVER OR UNDER RUN FROM DESIGN ORIGINAL		REMARKS			
	EA	FT	FT		FT	FURNISHED* FT	DRIVEN* FT	REFERENCE	FURNISHED* FT	DRIVEN* FT				
End Bent No.1	1	80	80											
Pier No. 2	1	80	80											
Pier No. 3	1	80	80											
Pier No. 4	1	80	80											
Pier No. 5	1	80	80											
Pier No. 6														
Pier No. 7														
Pier No. 8														
Pier No. 9														
Pier No.10														
Pier No. 11														
Pier No. 12														
Pier No. 13														
Pier No. 14														
Pier No. 15														
Pier No. 16	1	80	80											
Pier No. 17	1	80	80											
Pier No. 18	1	80	80											
Pier No. 19	1	80	80											
Pier No. 20	1	80	80											
End Bent No.21	1	80	80											
*PROVIDE APPROPRIATE UNITS FOR THIS ITEM IN CONTRACT (I.e. LF, MI).				880	< PAGE TOTAL >			0	0					
					< PROJECT GRAND TOTAL >			0	0					

NATION OF OVER/UNDER RUN (DESIGN ORIGINAL/FINAL PAY LE

PILING FURNISHED:	PILING DRIVEN:

EXTRA NOTES / REMARKS: _____

 <i>The HNTB Company</i>	QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11/7/2013</i>
		Checked by: <i>0</i>	Date: <i>1/0/1900</i>
		Backchecked <i>0</i>	Date: <i>1/0/1900</i>
		Item No. <i>455-143-3</i>	Page No. 10A

JOB NAME	<i>I-4 PD&E</i>	JOB NO.	<i>HNTB 59219</i>
BRIDGE	<i>0</i>	ITEM NAME	<i>Test Piles (Prestr Concr) (18" SQ.)</i>

Bent	Total Number of Test Piles	Test Pile Length (LF)		Total Test Pile Length (LF)
<i>End Bent No. 1</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 2</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 3</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 4</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 5</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 16</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 17</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 18</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 19</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>Pier No. 20</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
<i>End Bent No. 21</i>	<i>1</i>	<i>80.0</i>		<i>80</i>
Total =	9		SUBTOTAL =	720

\\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 4\struct\eng_data\I-4 Over St. Johns River\Alternative 1 - Interior Widening\I

STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION
LINEAR MEASUREMENT, COMPONENT WEIGHT, PER HOUR, PER DAY OR PER EACH COMPUTATIONS

Page No. 11

FORM 700-050-03
CONSTRUCTION
09/07

PAY ITEM NO. 458-1-11

PAY ITEM DESCRIPTION Bridge Deck Expansion Joint (F&I) (Poured Joint with Backer Rod)							
LOCATION	SIDE	DESIGN ORIGINAL		CONSTRUCTION FINAL			
		NGTH*, COMPONENT WEIGHT*, NUMBER PER HOUR, DAY, EACH	REFERENCES/REMARKS	NGTH*, COMPONENT WEIGHT*, NUMBER PER HOUR, DAY, EACH	REFERENCE	OVER/UNDER RUN	REMARKS
End Bent No.1		82 LF					
Pier No. 2		82 LF					
Pier No. 3		82 LF					
Pier No. 4		82 LF					
Pier No. 5		82 LF					
Pier No. 6		82 LF					
Pier No. 7		82 LF					
Pier No. 8		82 LF					
Pier No. 9		82 LF					
Pier No. 10		82 LF					
Pier No. 11		82 LF					
Pier No. 12		82 LF					
Pier No. 13		82 LF					
Pier No. 14		82 LF					
Pier No. 15		82 LF					
Pier No. 16		82 LF					
Pier No. 17		82 LF					
Pier No. 18		82 LF					
Pier No. 19		82 LF					
Pier No. 20		82 LF					
End Bent No.21		82 LF					
*PROVIDE APPROPRIATE UNITS FOR THIS SHOWN IN CONTRACT (i.e. LF, M1, LB, KG)		1,724 LF	< PAGE TOTAL >				
			< PROJECT GRAND TOTAL >				

If the above item is under the **Plan Quantity Concept**, then the block below **must** be appropriately filled out.

Plan Quantity Concept Signature Block
Design Engineers Responsible for Calculations: ____ All support measurements and computations have been
included for this Plan Quantity item. **Signature:** _____ **Print Name:** _____

NOTES FOR EXPLANATION OF OVER/UNDER RUN:

EXTRA NOTES / REMARKS:

STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION
LINEAR MEASUREMENT, COMPONENT WEIGHT, PER HOUR, PER DAY OR PER EACH COMPUTATIONS

Page No. 12

FORM 700-050-03
CONSTRUCTION
09/07

PAY ITEM NO. 462-2-13

PAY ITEM DESCRIPTION Post-Tensioning - Substructure							
LOCATION	SIDE	DESIGN ORIGINAL		CONSTRUCTION FINAL			
		WEIGHT (LB)	REFERENCES/REMARKS	WEIGHT (LB)	REFERENCE	OVER/UNDER RUN	REMARKS
End Bent No.1		LB					
Pier No. 2		LB					
Pier No. 3		LB					
Pier No. 4		LB					
Pier No. 5		LB					
Pier No. 6		LB					
Pier No. 7		LB					
Pier No. 8		LB					
Pier No. 9		LB					
Pier No. 10		LB					
Pier No. 11		LB					
Pier No. 12		LB					
Pier No. 13		LB					
Pier No. 14		LB					
Pier No. 15		LB					
Pier No. 16		LB					
Pier No. 17		LB					
Pier No. 18		LB					
Pier No. 19		LB					
Pier No. 20		LB					
End Bent No.21		LB					
*PROVIDE APPROPRIATE UNITS FOR SHOWN IN CONTRACT (i.e. LF, M1, LB)		LF	< PAGE TOTAL >				
			< PROJECT GRAND TOTAL >				

If the above item is under the **Plan Quantity Concept**, then the block below **must** be appropriately filled out.

Plan Quantity Concept Signature Block Design Engineers Responsible for Calculations: ____ All support measurements and computations have been included for this <u>Plan Quantity Item</u> . Signature: _____ Print Name: _____
--

NOTES FOR EXPLANATION OF OVER/UNDER RUN:

EXTRA NOTES / REMARKS:



QUANTITY CALCULATIONS

Made by:	CAM
Checked by:	O
Backchecked by:	O
Item No.	#VALUE!

Date:	11-07-13
Date:	1-00-00
Date:	1-00-00
Page No	12A

JOB NAME I-4 PD&E

JOB NO. HNTB 59219

BRIDGE NO. 0ITEM NAME Bridge Deck Exp Joint (F&I) (Poured Joint w Backer Rod)

Span	Area of Prestressing Steel (in ²)	Pier Cap Length (LF)	Volume of Prestressing Steel (CF)	Weight of Prestressing Steel (LB)
End Bent No.1	0.00	0.0	0.0	0.0
Pier No.2	0.00	0.0	0.0	0.0
Pier No.3	0.00	0.0	0.0	0.0
Pier No.4	0.00	0.0	0.0	0.0
Pier No.5	0.00	0.0	0.0	0.0
Pier No.6	0.00	42.0	0.0	0.0
Pier No.7	0.00	42.0	0.0	0.0
Pier No.8	0.00	42.0	0.0	0.0
Pier No.9	0.00	42.0	0.0	0.0
Pier No.10	0.00	42.0	0.0	0.0
Pier No.11	0.00	42.0	0.0	0.0
Pier No.12	0.00	43.7	0.0	0.0
Pier No.13	0.00	43.7	0.0	0.0
Pier No.14	0.00	42.0	0.0	0.0
Pier No.15	0.00	42.0	0.0	0.0
Pier No.16	0.00	0.0	0.0	0.0
Pier No.17	0.00	0.0	0.0	0.0
Pier No.18	0.00	0.0	0.0	0.0
Pier No.19	0.00	0.0	0.0	0.0
Pier No.20	0.00	0.0	0.0	0.0
End Bent No. 21	0.00	0.0	0.0	0.0
Total	0.00	423.4	0.0	0.0
	Total Weight =	0		

PAY ITEM NO. 521-5-4

		PAY ITEM DESCRIPTION Concrete Traffic Railing (Bridge) (32" Vertical-Shape)					
LOCATION	SIDE	DESIGN ORIGINAL		CONSTRUCTION FINAL			
		NGTH*, COMPONENT WEIGHT*, NUMBER PER HOUR, DAY, EACH	REFERENCES/REMARKS	NGTH*, COMPONENT WEIGHT*, NUMBER PER HOUR, DAY, EACH	REFERENCE	OVER/UNDER RUN	REMARKS
Approach Slab 1		60	LF				
Bridge		5133	LF				
Approach Slab 2		60	LF				
*PROVIDE APPROPRIATE UNITS FOR THIS ITEM		5253	LF	LF < PAGE TOTAL >			
SHOWN IN CONTRACT (I.e. LF, M, LB, KG.)			LF	LF < PROJ GRAND TOTAL >			

If the above item is under the Plan Quantity Concept , then the block below must be appropriately filled out.

Plan Quantity Concept Signature Block Design Engineers Responsible for Calculations: _____ All support measurements and computations have been included for this Plan Quantity item. Signature: _____ Print Name: _____

NOTES FOR EXPLANATION OF OVER/UNDER RUN: _____

EXTRA NOTES / REMARKS: _____

 <i>The HNTB Companies</i>	QUANTITY CALCULATIONS	Made by: <i>CAM</i>	Date: <i>11-07-13</i>
		Checked by:	Date:
		Backchecked by:	Date:
		Item No. <i>521-5-4</i>	Page No <i>13A</i>

JOB NAME <i>I-4 PD&E</i>	JOB NO. <i>HNTB 59219</i>
BRIDGE NO. <i>0</i>	ITEM NAME <i>Conc Traffic Rlg Barr (Bridge) (32" Vertical-Shape)</i>

			LF

Bridge Development Report Cost Estimating

Effective 7/01/2013

Step One: Estimate Component Items

Utilizing the cost provided herein, develop the cost estimate for each bridge type under consideration.

A. Bridge Substructure

1. Prestressed Concrete Piling, (furnished and installed)			
Size of Piling	Cost per Lin. Foot ¹	Quantity	Cost
18" (Driven Plumb or 1" Batter)	\$65		
18" (Driven Battered)	\$75		
24" (Driven Plumb or 1" Batter)	\$85	13120	\$1,115,200
24" (Driven Battered)	\$95	880	\$83,600
30" (Driven Plumb or 1" Batter)	\$120		
30" (Driven Battered)	\$140		
Heavy mild steel reinforcing in pile head (each)	\$250		
Subtotal			\$1,198,800

1 When silica fume, metakaolin or ultrafine fly ash is used add \$6/LF to the piling cost.

2. Steel Piling, (furnished and installed)			
Size of Piling	Cost per Lin. Foot	Quantity	Cost
14 x 73 H Section	\$70		
14 x 89 H Section	\$90		
20" Pipe Pile	\$105		
24" Pipe Pile	\$114		
30" Pipe Pile	\$160		
Subtotal			

3. Drilled Shaft (Total in-place cost)			
Dia. (on land, casing salvaged)	Cost per Lin. Foot	Quantity	Cost
3 ft	\$300		
4 ft	\$430		
5 ft	\$510		
6 ft	\$630		
7 ft	\$750		
8 ft	\$1,550		
9 ft	\$1,800		
Dia. (in water, casing salvaged)	Cost per Lin. Foot	Quantity	Cost
3 ft	\$320		
4 ft	\$500		
5 ft	\$600		
6 ft	\$690		
7 ft	\$900		
8 ft	\$1,650		
9 ft	\$1,900		
Dia. (in water, permanent casing)	Cost per Lin. Foot	Quantity	Cost
3 ft	\$460		
4 ft	\$625		
5 ft	\$750		
6 ft	\$990		
7 ft	\$1,250		
8 ft	\$2,200		
9 ft	\$2,400		

Subtotal

A. Bridge Substructure (continued)

4. Sheet Piling Walls			
Size (Prestressed Concrete)	Cost per Lin. Foot	Quantity	Cost
10" x 30"	\$100		
12" x 30"	\$110		
Type (Steel)	Cost per Sq. Foot	Quantity	Cost
Permanent Cantilever Wall	\$24		
Permanent Anchored Wall ¹	\$36		
Temporary Cantilever Wall	\$14		
Temporary Anchored Wall ¹	\$22		
Soil Anchors	Cost per Anchor	Quantity	Cost
Permanent	\$3,200		
Temporary	\$2,800		
¹ Includes the cost of waler steel, miscellaneous steel for permanent/temporary walls and concrete face for permanent walls.		Subtotal	

5. Cofferdam Footing (Cofferdam and Seal Concrete ¹)			
Prorate the cost provided herein based on area and depth of water. A cofferdam footing having the following attributes cost \$600,000: Area 63 ft x 37.25 ft; Depth of seal 5 ft; Depth of water over footing 16 ft			
Type	Cost per Footing	Quantity	Cost
Cofferdam Footing			
¹ Cost of seal concrete included in pay item 400-3-20 or 400-4-200.		Subtotal	

6. Substructure Concrete			
Type	Cost per Cubic Yard	Quantity	Cost
Concrete ¹	\$575	281.3	\$161,748
Mass Concrete ¹	\$512	3809.5	\$1,950,464
Seal Concrete ¹	\$412		
Bulkhead Concrete ¹	\$925		
Shell Fill ¹	\$30		
¹ Admixtures: For Calcium Nitrite add \$40/cy (@4.5 gal/cy) and for silica fume, metakaolin or ultrafine fly ash add \$40/cy (@ 60 lb./cy)		Subtotal	\$2,112,212

7. Reinforcing Steel			
Type	Cost per Pound	Quantity	Cost
Reinforcing Steel	\$0.90	703035	\$632,732
		Subtotal	\$632,732

Substructure Subtotal **\$3,943,743**

B. Bridge Superstructure

1. Bearing Material			
Type	Cost per Cubic Foot	Quantity	Cost
Neoprene Bearing Pads	\$900	79.7	\$71,730
Multitrotational Bearings (Capacity in kips)	Cost per Each	Quantity	Cost
1- 250	\$6,000		
251- 500	\$7,000		
501- 750	\$8,000		
751-1000	\$9,500		
1001-1250	\$9,900		
1251-1500	\$10,000		
1501-1750	\$11,000		
1751-2000	\$12,500		
>2000	\$15,000		
Subtotal			\$71,730

2. Bridge Girders			
Structural Steel (includes coating)	Cost per Pound	Quantity	Cost
Rolled Wide Flange Sections, straight ¹	\$1.70		
Rolled Wide Flange Sections, curved ¹	\$1.85		
Plate Girders, Straight ¹	\$1.70		
Plate Girders, Curved ¹	\$1.90		
Box Girders, Straight ¹	\$1.95		
Box Girders, Curved ¹	\$2.05		
Prestressed Concrete Girders	Cost per Lin. Foot	Quantity	Cost
Fl. Inverted Tee 16" ²	\$80		
Fl. Inverted Tee 20"	\$90		
Fl. Inverted Tee 24" ²	\$105		
Fl. Tub (U-Beam) 48" ²	\$700		
Fl. Tub (U-Beam) 54"	\$750		
Fl. Tub (U-Beam) 63"	\$800		
Fl. Tub (U-Beam) 72"	\$900		
Solid Flat Slab (<48"x12")	\$150		
Solid Flat Slab (<48"x15")	\$160		
Solid Flat Slab (48"x12")	\$160		
Solid Flat Slab (48"x15")	\$170		
Solid Flat Slab (60"x12")	\$170		
Solid Flat Slab (60"x15")	\$180		
AASHTO Type II	\$98		
Florida-I; 36	\$165		
Florida-I; 45	\$180		
Florida-I; 54	\$190		
Florida-I; 63	\$200		
Florida-I; 72	\$230		
Florida-I; 78	\$250	25662.5	\$6,415,625
Florida-I; 84	\$320		
Florida-I; 96	\$400		
Haunched Florida-I; 78	\$700		
Haunched Florida-I; 84	\$800		
Subtotal			\$6,415,625

1 When weathering steel (uncoated) is used reduce the price by \$0.04 per pound. Inorganic zinc coating systems have an expected life cycle of 20 years.

2 Price is based on ability to furnish products without any conversions of

casting beds and without purchasing of forms. If these conditions do not exist,
add the following cost: Inverted Tee - \$202,000: Fl. Tub - \$403,000

B. Bridge Superstructure (continued)

3. Cast-in-Place Superstructure Concrete			
Type	Cost per Cubic Yard	Quantity	Cost
Box Girder Concrete, Straight	\$950	6028.2	\$3,616,920
Box Girder Concrete, Curved	\$1,100		
Deck Concrete	\$600		
Precast Deck Overlay Concrete Class IV	\$600		
		Subtotal	\$3,616,920

4. Concrete for Precast Segmental Box Girders, Cantilever Construction				
Concrete Cost by Deck Area		Cost per Cubic Yard	Quantity	Cost
≤ 300,000 SF		\$1,250		
> 300,000 SF AND ≤ 500,000 SF		\$1,200		
> 500,000 SF		\$1,150		
			Subtotal	

5. Reinforcing Steel			
Type	Cost per Pound	Quantity	Cost
Reinforcing Steel	\$0.60	1279266	\$767,560
Subtotal			\$767,560

6. Post-Tensioning Steel			
Type	Cost per Pound	Quantity	Cost
Strand, Longitudinal	\$2.50		
Strand, Transverse	\$4.00		
Bars	\$6.00		
		Subtotal	

7. Railings and Barriers			
Type	Cost per Lin. Foot	Quantity	Cost
Traffic Railing ¹	\$70	5253	\$367,710
Pedestrian/Bicycle Railings:			
Concrete Parapet (27") ¹	\$65		
Single Bullet Railing ¹	\$27		
Double Bullet Railing ¹	\$36		
Triple Bullet Railing ¹	\$45		
Picket Railing (42") steel	\$65		
Picket Railing (42") aluminum	\$50		
Picket Railing (54") steel	\$95		
Picket Railing (54") aluminum	\$60		
1 Combine cost of Bullet Railings with Concrete Parapet or Traffic Railing, as appropriate.				Subtotal	$367,710

8. Expansion Joints			
Type	Cost per Lin. Foot	Quantity	Cost
Strip Seal	\$360	1724	\$620,640
Finger Joint <6"	\$850		
Finger Joint >6"	\$1,500		
Modular 6"	\$500		
Modular 8"	\$700		
Modular 12"	\$900		
		Subtotal	\$620,640

Superstructure Subtotal **\$11,860,185**

C. Miscellaneous Items

1. MSE Walls

Type	Cost per Sq. Foot	Quantity	Cost
Permanent	\$26		
Temporary	\$14		
		Walls Subtotal	

2. Sound Barriers

Type	Cost per Sq. Foot	Quantity	Cost
Post and Panel Sound Barriers	\$25		
		Sound Barrier Subtotal	

3. Detour Bridges

Type	Cost per Sq. Foot	Quantity	Cost
Acrow Detour Bridge ¹	\$55		
		Detour Bridge Subtotal	

¹ Using FDOT supplied components. The cost is for the bridge proper and does not include approach work, surfacing, or guardrail.

Unadjusted Total **\$15,803,928**

Step Two: Estimate Conditional Variables and Cost per Square Foot

After developing the total cost estimate utilizing the unit cost, modify the cost to account for site condition variables. If appropriate, the cost will be modified by the following variables:

Conditional Variables	% Increase/ Decrease	Cost (+/-)
For construction over water, increase cost by 3 %.	3%	\$474,118
Phased construction, increase by 20 %.	20%	\$3,160,786
1 Phased construction is defined as construction over traffic or construction requiring multiple phases to complete the construction of the entire cross section of the bridge. The 20 percent premium is applied to the affected units of the superstructure and/or substructure.	23%	\$3,634,903

Substructure Subtotal	\$3,943,743
Superstructure Subtotal	\$11,860,185
Walls Subtotal	
Sound Barrier Subtotal	
Detour Bridge Subtotal	
Conditional Variables	\$3,634,903
Total Cost	\$19,438,831

Total Square Feet of Deck **215565**

Cost per Square Foot \$90

Design Aid for Determination of Reinforcing Steel

In the absence of better information, use the following quantities of reinforcing steel per cubic yard of concrete.

Location	Pounds of Steel	Cubic Yds.	Tot. Pounds
Pile Abutments	135		
Pile Bents	145		
Single Column Piers >25'	210		
Single Column Piers <25'	150		
Multiple Column Piers >25'	215		
Multiple Column Piers <25'	195		
Bascule Piers	110		
Standard Deck Slabs	205		
Isotropic Deck Slabs	125		
Concrete Box Girders, Pier Seg	225		
Concrete Box Girders, Typ. Seg	165		
Flat Slabs @ 30ft & 15" Deep	220		

Step Three: Cost Estimate Comparison to Historical Bridge Cost

The final step is a comparison of the cost estimate by comparison with historic bridge cost based on a cost per square foot. These total cost numbers are calculated exclusively for the bridge cost as defined in the General Section of this chapter. Price computed by Steps 1 and 2 should be generally within the range of cost as supplied herein. If the cost falls outside the provided range, good justification must be provided.

Bridge Superstructure Type	Total Cost per Square Foot	
	Low	High
Short Span Bridges:		
Reinforced Concrete Flat Slab- Simple Span ¹	\$92	\$160
Pre-cast Concrete Slab - Simple Span ¹	\$81	\$200
Medium Span Bridges:		
Concrete Deck / Steel Girder - Simple Span ¹	\$125	\$142
Concrete Deck / Steel Girder - Continuous Span ¹	\$135	\$170
Concrete Deck / Prestressed Girder - Simple Span ¹	\$66	\$145
Concrete Deck / Prestressed Girder - Continuous Span ¹	\$83	\$211
Concrete Deck / Steel Box Girder ¹ - Span range from 150' to 280' (for curvature, add 15% premium)	\$100	\$165
Segmental Concrete Box Girders - Cantilever Construction Span range from 150' to 280'	\$130	\$160
Movable Bridge - Bascule Spans & Piers	\$1,800	\$2,000
Demolition Costs:		
Typical	\$35	\$60
Bascule	\$60	\$70
Project Type		
Widening (Construction Only)	\$85	\$160

¹ Increase the cost by twenty percent for phased construction

Estimated Cost per Square Foot \$90