

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION - BRIDGE MAINTENANCE

ANALYSIS SECTION

 Bridge Number: 800040 Date Of Rating: 08-31-2023
 County: RUTHERFORD Rated By: ETCABELL1
 Date Of Inspection: 07-18-2023 Checked By: DSHACKELFORD
 Roadway Width(Inspection) :26.0 Deck Out to Out : 29.5

DSHACKELFORD
 09/14/2023

Rating Summary Sheet
 Non-Interstate Highway Bridge

Member:	Int.bms	Ext.Beam
Span Length:	43.3	43.3
Beam spacing:	7.5	5.5
HS inv 15.00	17.0	18.5
HS opr 15.00	28.3	30.8
SNSH 13.50	37.4	40.8
SNGARBS2 20.00	44.3	48.3
SNAGRIS2 22.00	47.5	51.7
SNCOTTS3 27.25	37.8	41.2
SNAGGRS4 34.92	42.7	46.6
SNS5A 35.55	42.5	46.4
SNS6A 39.95	45.0	49.0
SNS7B 42.00	45.1	49.3
TNAGRIT3 33.00	45.7	49.8
TNT4A 33.08	45.9	50.1
TNT6A 41.60	48.9	53.3
TNT7A 42.00	50.1	54.7
TNT7B 42.00	51.6	56.3
TNAGRIT4 43.00	50.9	55.5
TNAGT5A 45.00	49.8	54.3
TNAGT5B 45.00	48.3	52.7
EV2 28.75	45.5	49.6
EV3 43.00	44.4	48.5

CALCULATED POSTING:	DESIGN LOAD:
No Posting Required	HS 15

CONTROLLING MEMBER:	INVENTORY RATING:
Int.bms	HS 17.0

EXISTING POSTING:	OPERATING RATING:
SV 99.0 tons - TTST 99.0 tons	HS 28.3

RECOMMENDED POSTING:	ITEM 70 - BRIDGE POSTING
No posting required	CODE: 5

EMERGENCY VEHICLE RATING:

RECOMMENDED EMERGENCY
VEHICLE RATING
No Posting Required

REASON FOR POSTING CHANGE:

OVERLOADED BRIDGE : HS Operating dropped 3 tons or more? No

ANALYSIS METHOD : Inventory Rating : LF Operating Rating : LF

COMMENTS: Increased corrosion on multiple beams, but only on the ends. Bridge is acceptable for Greenline loads.

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Load Factor Method
Noncomposite Beam Rating

Truck	Weight tons	Operating tons	Inventory tons	LLmoment K-ft	Section	Controls
HS	15.00	28.3	17.0	380.67	Compact	Serviceability
SNSH	13.50	37.4	22.4	257.99	Compact	Serviceability
SNGARBS2	20.00	44.3	26.6	324.71	Compact	Serviceability
SNAGRIS2	22.00	47.5	28.5	334.21	Compact	Serviceability
SNCOTTS3	27.25	37.8	22.7	514.80	Compact	Serviceability
SNAGGRS4	34.92	42.7	25.6	584.71	Compact	Serviceability
SNS5A	35.55	42.5	25.5	597.24	Compact	Serviceability
SNS6A	39.95	45.0	27.0	634.83	Compact	Serviceability
SNS7B	42.00	45.1	27.1	664.09	Compact	Serviceability
TNAGRIT3	33.00	45.7	27.4	515.63	Compact	Serviceability
TNT4A	33.08	45.9	27.6	515.25	Compact	Serviceability
TNT6A	41.60	48.9	29.3	608.09	Compact	Serviceability
TNT7A	42.00	50.1	30.1	599.52	Compact	Serviceability
TNT7B	42.00	51.6	31.0	584.26	Compact	Serviceability
TNAGRIT4	43.00	50.9	30.5	604.56	Compact	Serviceability
TNAGT5A	45.00	49.8	29.9	645.58	Compact	Serviceability
TNAGT5B	45.00	48.3	29.0	666.91	Compact	Serviceability

EV2	28.75	45.5	27.3	454.75	Compact	Serviceability
EV3	43.00	44.4	26.7	691.62	Compact	Serviceability

Non-Interstate Traffic

Component: I-beam Int.bms Input:

Target Beam: Interior

I-Beam = W33 x 130.0 % Effect = 98.000 % Fy = 33000 psi
f'c = 0.000 psi

Span = 43.250 ft

Rdwy width = 26.000 ft Deck mat'l = NC conc AWS thick = 2.000 in

Deck width = 29.417 ft Deck thick = 6.750 in Lt ovrhng = 3.458 ft

Beam Spcng (ft): 7.5 Buildup thick = 0.0in Buildup width = 0.0in

Analyse At = Max moment Brace pt 1 = 0.000 ft

Brace pt 2 = 0.000 ft

Dist fact = 1.364

Computed by the program:

Non-compDL (#/ft)	Beam	Deck	Rails	WSurf	Diaph	BU	SIP/Ex	Total
	130	633	82	180	13	0	0	1038

Impact + 1 = 1.297

Girder:

Area = 38.3000 in² Ix = 6710.0000 in⁴

Sx = 405.4381 in³ Zx = 467.0000 in³

	Ix (in ⁴)	NA bot (in)	S bot (in ³)
Non-composite	6710.00	16.55	405.44

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Beam Spcng (ft): 7.5 Buildup thick = 0.0in Buildup width = 0.0in

Analyse At = Max moment Brace pt 1 = 0.000 ft

Brace pt 2 = 0.000 ft

Dist fact = 1.277

Computed by the program:

Non-compDL (#/ft)	Beam	Deck	Rails	WSurf	Diaph	BU	SIP/Ex	Total
	130	608	82	132	13	0	15	980

Impact + 1 = 1.297

Girder:

Area = 38.3000 in² Ix = 6710.0000 in⁴

Sx = 405.4381 in³ Zx = 467.0000 in³

	Ix (in ⁴)	NA bot (in)	S bot (in ³)
Non-composite	6710.00	16.55	405.44