

SCDOT BRIDGE INSPECTION FORM

(008) BRIDGE ID: 4070003100100			(005) ROUTE: RICHLAND S-31		
(420) ASSET NO: 7937			(006) CROSSING: I-26		
(419) RAMP NO:			(009) LOCATION: 3MI W COLA		
(026) FUNCTIONAL CLASS: 14			(016) LAT: 34d 1m 49.82s (017) LON: 81d 6m 13.48s		
GENERAL BRIDGE DATA					
EXISTING REVISED			EXISTING REVISED		
(027) Year Built	1985		(042) Type Serv; On(A) Und(B)	5	1
(106) Year Recon	1987		(028) Lanes; On(A) Und(B)	5	11
(031) Design Load	5		(107) Deck Struct	1	
(36A) Railings	1		(108) Wear Surf/Membrane/Prot	1 8 8	
(36B) Transitions	0			MAT-SUP-SUB	MAT-SUP-SUB
(36C) Appr Guard	1		(043) Main Original (A)	4 2 1	
(36D) Appr Guard End	1		Main Reconst (B)		
(037) History	4		(044) Appr Orginal (A)	0 00 0	
(319) Last Paint Date			Appr Reconst (B)		
GEOMETRIC DATA					
EXISTING REVISED			EXISTING REVISED		
(032) Appr Rdway	67		FT IN	FT IN	
(033) Bridge Median	2		(053) Vert Clr Above Deck	99 99	
(034) Skew	45		(54A) Vert Clear Ref	H	
(035) Flared	0		(54B) Vert Clear Right	16 11	
(045) # Main Spans	4		(54C) Vert Clear Left	19 4	
(046) # Appr Spans	0		(10A) Great Min Clr Over/Und	99 99	
(048) Max Span Lgth	165		(10B) Great Min Right	17 1	
(308) Appr Span Lgth	0		(10C) Great Min Left	19 6	
(049) Struct Length	613				
(47A) Horz Clear Right	67		(55A) Lat Clear Ref	H	
(47B) Horz Clear Left	0		(55B) Lat Clear Right	17	
(47UA) Horz Clear Right	46.70		(55C) Lat Clear Left	5	
(47UB) Horz Clear Left	46.70				
(50B) Sidewalk Right	0		(038) Navigation Cont	N	
(50A) Sidewalk Left	5		(039) Nav Vert Clear	0	
(051) Curb to Curb	67		(040) Nav Horz Clear	0	
(052) Deck Out-Out	74		(111) Nav Pier Port		
RATINGS DATA					
EXISTING REVISED			EXISTING REVISED		
(58) Deck	5	6	(041) Traffic Status	A	
(59) Super Str	7		(063) Rating Method	2	
(60) Sub Str	7		(064) Operating Method	50	
(061) Channel	N		(065) Rating Method	2	
(062) Culv Ret	N		(066) Inventory Rating	36	
(071) Water Adeq	N		(411) Date Rated		
(072) Appr Rdway	8		(418) Conditions During Rating		
(113) Scour Critical	N		Freq Mth/Year	Freq Mth/Year	
(067) Structure	7		(091, 090) Routine Insp	24 02/2017	24 02/2019
(068) Deck Geom	5		(92A, 93A) Fracture Critical	N	
(069) Underclear	5		(92B, 93B) Underwater Insp	N	
(070) Bridge Post	5		(92C, 93C) Special Insp	N	
Inspection Leader: BOZARD JAMES B			Reviewed By: POINTER WILLIAM D		
Date:			Date: 2/27/2019		

Bridge Element Group Textual Data

Bridge ID: 40-7-00031-0-01-00

27 Feb 2019

Abutments and/or Headwalls:

Vertical hairline cracks with efflorescence in abutments. Water seal is falling out from between wingwall and headwall, West end, both sides. Ther-o-coat peeling from abutments. Numerous snap-tie patches falling out in both abutments. Hairline to 0.125" diagonal cracks in wingwalls.

Bents and/or Piers:

(7) Hairline cracks in caps, (see sketch sheet). Column 6, bent 4 has scrape marks.

Bearings:

Several loose anchor bolt nuts, (see sketch sheet). Beam 9, bent 4 has a cracked weld in sole plate, left side, (see photo). Minor rust on bearings, (see photo).

Girders/Floor Beams/Stringers and/or Beams:

(7) Several loose splice plate bolts, (see sketch sheet). Minor rust on steel beams and diaphragms, (see photo).

Truss Members:

Expansion Joints:

Steel plates on modular joints have broken loose, both ends, (see photo). Expansion material cracked, torn, and pulled loose, (see photo).

Decks and/or Slabs:

(6) Large spalls, that have been patched and hairline transverse and map cracking on deck with several transverse and diagonal cracks at .05"-.07" mid-span in WBL, (see photos). Transverse hairline cracks with efflorescence on underside of deck between beams 5 and 6 and at soffit. Deck chain drag performed, Jan 2017, 5,800 square feet of spalls and delamination, patched as of this inspection, Feb 2019, (see photo).

Curbs:

Transverse hairline cracks and minor settlement in sidewalk, East end, left side. Sidewalk on left side only.

Bridge Railing/Parapets and/or Median Barriers:

Bridge and approach rail in place. Hairline cracks with effloresce and minor spalls in concrete parapet walls. Minor damage to approach rail, East end, left side. Continuous concrete median barrier at bents 3, 4, and 5 and guardrail at bent 2 on I-26 EBL. Hairline cracks in continuous concrete median barrier on I-2. Raised median barrier in center of bridge between lanes on S-31, with minor spalls and upheaving at bent 1, (see photos).

Paint Systems:

Paint is starting to peel from steel beams, diaphragms, and bearings, (see photos).

Waterway and Scour:**Fender System:****Roadway Alignment:**

Hairline diagonal and map cracking in approach slab, West end. Approach slab East end covered with asphalt overlay with minor spalls, (see photo).

Traffic Signs:

2ea bridge end signs in place on S-31. No bridge end signs on I-26. Clearance sign of 16'11" above EBL of I-26 in place. Directional sign in place above EBL of I-26.

Encroachments:

Numerous encroachments, (see sketch sheet).

Miscellaneous Notes:

Bush River Road X-I-26 M/M 108.

Bridge Element Level Data

27 Feb 2019

Element No	Element Name/Description	Units	Env	Defect	Quantity in Each Condition State				Total Qty
					<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
107	Steel Open Girder/Beam	feet	4	Yes					
107	Corrosion	feet	4	1000	0	290	0	0	290
107	Connection	feet	4	1020	0	6	0	0	6
107	Damage	feet	4	7000	0	1	0	0	1
107	Steel Open Girder/Beam	feet	4	Yes	5833	297	0	0	6130
12	Reinforced Concrete Deck	sq feet	4	Yes					
12	Delamination/Spall/Patched Area	sq feet	4	1080	0	5800	0	0	5800
12	Efflorescence/Rust Staining	sq feet	4	1120	0	350	0	0	350
12	Cracking (RC and Other)	sq feet	4	1130	2465	72	50	0	2587
12	Reinforced Concrete Deck	sq feet	4	Yes	39090	6222	50	0	45362
205	Reinforced Concrete Column	each	4	No	18	0	0	0	18
215	Reinforced Concrete Abutment	feet	4	Yes					
215	Efflorescence/Rust Staining	feet	4	1120	0	6	0	0	6
215	Cracking (RC and Other)	feet	4	1130	2	0	0	0	2
215	Reinforced Concrete Abutment	feet	4	Yes	266	6	0	0	272
234	Reinforced Concrete Pier Cap	feet	4	Yes					
234	Cracking (RC and Other)	feet	4	1130	7	0	0	0	7
234	Reinforced Concrete Pier Cap	feet	4	Yes	408	0	0	0	408
301	Pourable Joint Seal	feet	3	No	209	0	0	0	209
303	Assembly Joint With Seal	feet	4	Yes					
303	Seal Damage	feet	4	2330	0	0	13	31	44
303	Metal Deterioration or Damage	feet	4	2370	0	0	0	21	21
303	Assembly Joint With Seal	feet	4	Yes	144	0	13	52	209
311	Movable Bearing	each	3	Yes					
311	Corrosion	each	3	1000	0	24	0	0	24
311	Movable Bearing	each	3	Yes	16	24	0	0	40
313	Fixed Bearing	each	3	Yes					
313	Connection	each	3	1020	0	1	0	0	1
313	Fixed Bearing	each	3	Yes	9	1	0	0	10
321	Reinforced Concrete Approach Slab	sq feet	2	Yes					

321	Cracking (RC and Other)	sq feet	2	1130	280	0	0	0	280
321	Reinforced Concrete Approach Slab	sq feet	2	Yes	2680	0	0	0	2680
331	Reinforced Concrete Bridge Railing	feet	2	Yes					
331	Delamination/Spall/Patched Area	feet	2	1080	0	1	0	0	1
331	Efflorescence/Rust Staining	feet	2	1120	0	61	0	0	61
331	Cracking (RC and Other)	feet	2	1130	83	0	0	0	83
331	Reinforced Concrete Bridge Railing	feet	2	Yes	1164	62	0	0	1226
515	Steel Protective Coating	sq feet	1	Yes					
515	Peeling/Bubbling/Cracking (Steel Protective Coatings)	sq feet	1	3420	0	0	0	12	12
515	Effectiveness (Steel Protective Coatings)	sq feet	1	3440	0	0	0	2453	2453
515	Steel Protective Coating	sq feet	1	Yes	49385	0	0	2465	51850

Sketch Sheet

DATE 27 Feb 2019

STRUCTURE NUMBER 4070003100100

ROAD NUMBER S-31

COUNTY Richland

CROSSING I-26

RESTRICTION

Caps

Cap bent 2 has a 1' vert. h/l crack between beams 2 & 3, West side.

Cap bent 3 has:

2ea 6" vert. h/l crack under beam 2, West side.

6" vert. h/l crack between beams 9 & 10, West side.

Cap bent 4 has a:

2' vert. h/l crack between beams 3 & 4, East side.

H/l map cracking bottom between column 6 & end of cap.

Sketch Sheet

DATE 27 Feb 2019

STRUCTURE NUMBER 4070003100100

ROAD NUMBER S-31

COUNTY Richland

CROSSING I-26

RESTRICTION

Splice Plate

Beam 10, span 1, splice plate bolts loose.

Beams 5, 6, 8, & 10 span 2 have splice plate bolts loose.

Beams 6 & 10, span 3, splice plate bolts loose.

Loose Anchor Bolt Nuts

Beam Bent Span

1-10	1	1	Loose
9	3	2	Loose, both sides.
1	4	4	Loose
6	4	4	Loose
8	4	4	Loose
9	4	4	Loose

Sketch Sheet

DATE 27 Feb 2019

STRUCTURE NUMBER 4070003100100

ROAD NUMBER S-31

COUNTY Richland

CROSSING I-26

RESTRICTION

Encroachments

4ea lights & att. 1" conduit at bents 2, 3, & 4, 2ea per. side.

2ea lights & att. 1" conduit at bents 1 & 5.

1-1" metal pipe, right side att. to beam 10, spans 1 & 2 w/metal clamps.

1-1" metal pipe, left side att. to beam 1, span 4 w/metal clamps, some loose, hanging approx. 7".

1-2" metal pipe & elec. box att. to column 6, bent 2, West side.

27 Feb 2019: Large spalls on deck have been patched, typical.



27 Feb 2019: Large spalls on deck have been patched, typical.



27 Feb 2019: Minor spalls in asphalt overlay on East approach, typical.



27 Feb 2019: Minor spalls in raised median between lanes on S-31, typical.



27 Feb 2019: Steel plate on modular joint has broken loose, typical.



27 Feb 2019: Paint peeling from beams, typical.



27 Feb 2019: Minor rust on beams and diaphragms, typical.



27 Feb 2019: Minor rust on beams and bearings, typical.



27 Feb 2019: Minor rust on bearings, typical.



27 Feb 2019: Bearing at beam 9, bent 4 sole plate has broken welds, left side.



27 Feb 2019: Clearance sign in place above EBL of I-26.



SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
HIGHWAY MAINTENANCE MANAGEMENT SYSTEM

Bridge Deficiency Report

District	Work County	Type	Route	Aux	Off	Sys	Asset ID	Priority	Activity	Status	Work Inspection	
											From Date	To Date
1	RICHLAND	S	31				7937	D		INCOMPLETE		
Structure		Type		Route	Aux	Milepoint	Direction	Off System Description				
Insp.Date	Activity	Priority	Comp.Date	Org.Unit		Work	Insp.Date	Cleared	Name Of Inspector			
Deficiency Comment												

District: 1 - ONE

Work County: RICHLAND

7937 - 70003100100-I-26				S		31	00		.18	N		
03/15/2005	805	D										N
(303) REPAIR STEEL PLATES IN MODULAR JOINTS, (SEE PHOTO).												
7937 - 70003100100-I-26				S		31	00		.18	N		
02/27/2019	504	D										N
PATCH SPALLS IN CONCRETE MEDIAN BARRIER ON DECK, (SEE PHOTO).												
7937 - 70003100100-I-26				S		31	00		.18	N		
02/27/2019	102	D										N
PATCH SPALLS IN ASPHALT OVERLAY ON WEST APPROACH, (SEE PHOTO).												
7937 - 70003100100-I-26				S		31	00		.18	N		
02/27/2019	805	D										N
(303) REPLACE EXPANSION MATERIAL IN MODULAR JOINTS, (SEE PHOTO).												
7937 - 70003100100-I-26				S		31	00		.18	N		
03/19/2003	807	D										N
(215) REPLACE WATER SEAL AT WINGWALL AND HEADWALL.												
7937 - 70003100100-I-26				S		31	00		.18	N		
02/11/2015	504	D										N
REPAIR CONCRETE MEDIAN BARRIER ON DECK, (SEE PHOTO).												

Bridge Deficiency Report

7937 - 70003100100-I-26	S	31	00	.18	N
02/27/2019	802	D			N
(331) PATCH SPALLS IN CONCRETE PARAPET WALL ON S-31.					