

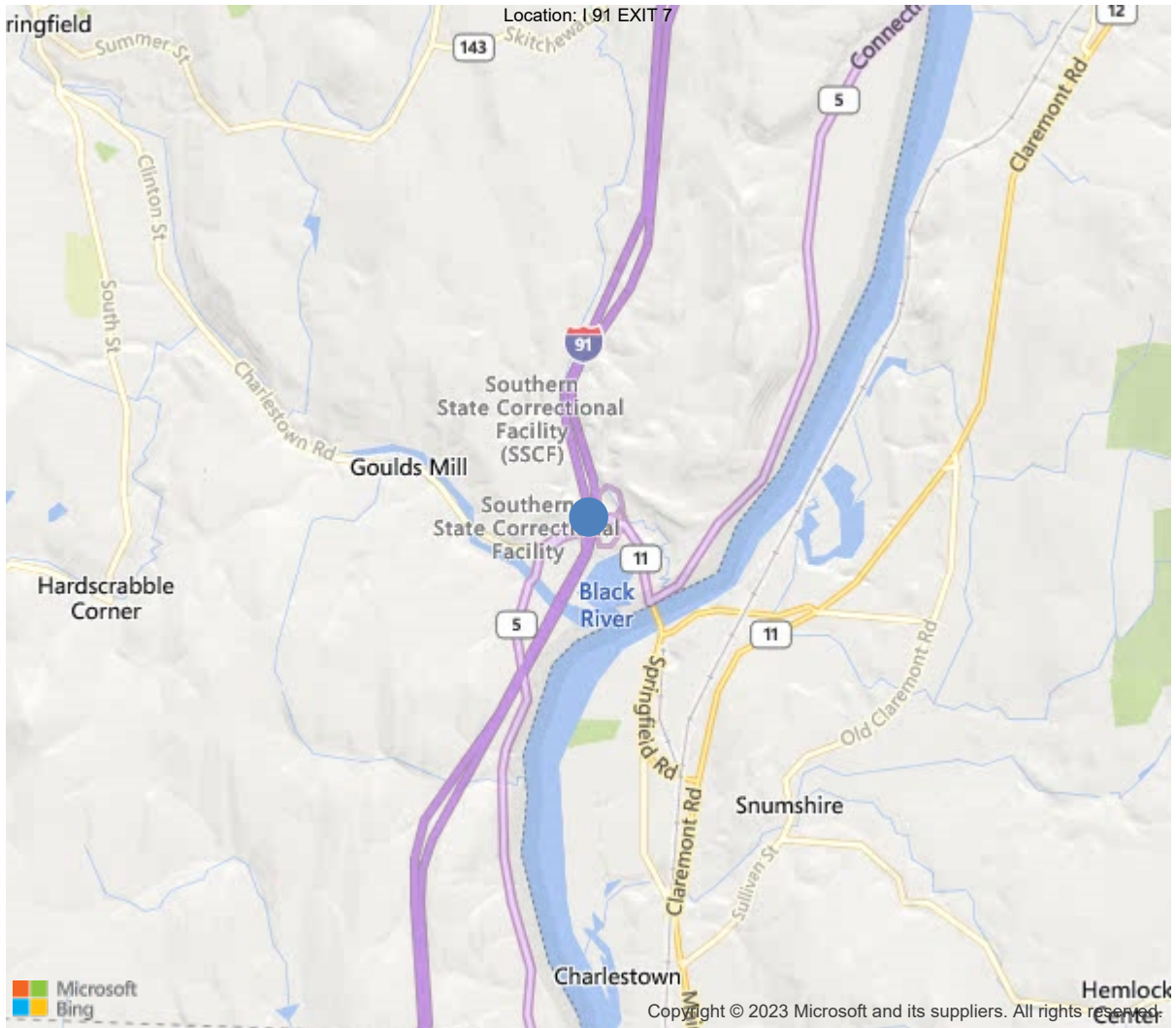


Town: 206 - SPRINGFIELD

District 2, 27 - WINDSOR County

Owner: 1 - State Highway Agency

Maintenance Responsibility: 1 - State Highway Agency



43.26680, -72.43306

IDENTIFICATION	
(1) State Names	50 - Vermont
(8) Structure Number	200091028S14182
(5) Inventory Route	1
(2) Highway Agency District	2 - District 2
(3) County Code	27 - WINDSOR
(4) Place Code	69550
(6) Features Intersected	I 91 OVER US 5
(7) Facility Carried	I 00091 ML
(9) Location	I 91 EXIT 7
(11) Mile Point	41.681 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	0270000091
(16) Latitude	43.2668
(17) Longitude	-72.4330611111111
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	32
Material	3 - Steel
Type	2 - Stringer/Multi-beam or girder
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	4
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6 - Bituminous
Type of Membrane	2 - Preformed Fabric
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1965
(106) Year Reconstructed	0
(42) Type of Service	11
On	1 - Highway
Under	1 - Highway, with or without pedestrian
(28) Lane	
On	2
Under	4
(29) Average Daily Traffic	13000
(30) Year of ADT	2018
(109) Truck ADT	13 %
(19) Bypass, Detour Length	0 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	56 ft
(49) Structure Length	207 ft
(50) Curb or Sidewalk Width	
Left	0.7 ft
Right	0.7 ft
(51) Bridge Roadway Width Curb to Curb	30 ft
(52) Deck Width Out to Out	35 ft
(32) Approach Roadway Width (W/Shoulders)	36 ft
(33) Bridge Median	1 - Open median
(34) Skew	12 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	30 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	17.33 ft
Ref:	
(55) Min Lat Underclear RT	11 ft
Ref:	
(56) Min Lat Underclear LT	6 ft
NAVIGATION DATA	
(38) Navigation Control	N - Not applicable, no waterwa
(111) Pier Protection	
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	1
(26) Functional Class	1 - Rural Principal Arterial -
(100) Defense Highway	1 - The inventory route is on
(101) Parallel Structure	L - The left structure of para
(102) Direction of Traffic	1 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	1 - The inventory route is par
(20) Toll	3 - On free road. The structu
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	5
(59) Superstructure	6
(60) Substructure	6
(61) Channel & Channel Protection	N
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	5 - MS 18 / HS 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	74
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	44
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	A - Open, no restriction
APPRAISAL	
(67) Structural Evaluation	6
(68) Deck Geometry	4
(69) Clearances, Vertical/Horizontal	4
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	6
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(113) Scour Critical Bridges	N - Bridge not over waterway.
PROPOSED IMPROVEMENTS	
(75) Type of Work	35 - Bridge rehabilitation bec
(76) Length of Structure Improvement	207 ft
(94) Bridge Improvement Cost	\$ 2536
(95) Roadway Improvement Cost	\$ 50
(96) Total Project Cost	\$ 2586
(97) Year of Improvement Cost Estimate	2020
(114) Future ADT	13650
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			05/25/2022
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection			
* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.			

Team Lead: Martin Kelley, Inspection Date: 05/25/2022

Deck

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	7245	5200	1550	475	20
1080	Delamination/Spall/Patched Area	SF	1620	0	1200	400	20
1120	Efflorescence/Rust Staining	SF	175	0	150	25	0
1130	Cracking (RC and Other)	SF	250	0	200	50	0
510	Wearing Surfaces	SF	6210	5960	250	0	0
3230	Effectiveness (Wearing Surface)	SF	250	0	250	0	0
301	Pourable Joint Seal	LF	31	31	0	0	0
305	Assembly Joint without Seal	LF	62	0	56	6	0
2360	Adjacent Deck or Header	LF	62	0	56	6	0
330	Metal Bridge Railing	LF	414	274	140	0	0
7000	Damage	LF	140	0	140	0	0
804	Concrete Fascia	LF	414	214	125	65	10
1080	Delamination/Spall/Patched Area	LF	30	0	0	20	10
1120	Efflorescence/Rust Staining	LF	45	0	25	20	0
1130	Cracking (RC and Other)	LF	125	0	100	25	0

58 - Deck (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

Reinforced concrete deck is in fair condition having multiple scattered concrete patches present throughout the bays and spans. Other scattered areas of transverse cracking with efflorescence leakage, small delaminations and spalls are present. Large area of severe spalling is present along the southwest corner of structure that has penetrated from fascia of structure past top flange of beam #1. Area surrounding joint over pier #2 along the West side also has severe spalling present that has also penetrated over the top flange of beam ends.

200 - Existing pavement depth on bridge (3")

A21 - Deck Wearing Surface Condition (3 - Satisfactory)

Asphalt is in satisfactory condition with minor wearing in travel lanes and some very small cracks. Patches are present around abutment joints. Large area of distress is present along the abutment #1 joint on the western side with asphalt having heavy break up and full depth hole beneath curb

A24 - Deck Curb Condition (4 - Fair)

Concrete curbing with granite block facing is in fair condition having areas of moderate to heavy concrete scaling and cracking behind granite blocks. A few of the granite blocks have slight translation pushing away from concrete curbing. Heavy spalling exposing steel reinforcing is present at each joint area along fascia's.

A28 - Deck Rail Condition (3 - Satisfactory)

Galvanized two (2) tier box beam rail is in fair condition having some minor scrapes, gouges and dents with scrapes starting to rust. Impact damage is present along the northwest corner of structure with rail being bent and twisted. Western side of rail is missing six (6) connection bolts along the top section of rail. Snow fence has heavy rusting around connections with some connections missing over US-5

A31 - Deck Post Condition (3 - Satisfactory)

Team Lead: Martin Kelley, **Inspection Date:** 05/25/2022

Pedestal mounted galvanized steel tube posts are satisfactory condition with some minor rusting along the bases and minor wear.

A34 - Deck Joint Condition (3 - Satisfactory)

Steel finger plate joints are present over both abutments with steel plates having minor pitting and rusting along the outer portions and with gouges and scrapes in travel lanes. Steel plate spacing has roughly 1/2" at both joints. Steel housing below has heavy rusting. Areas along the western side of both steel finger plates have been previously patched. Asphaltic plug joint is present over pier #2 is in fairly good condition.

A36 - Deck Joint Trough Condition (3 - Satisfactory)

Fabric troughs are over both abutments are half full of debris. Steel plate connectors are loose and pulling away from deck and backwall allowing leakage to structure below. Heavy rust scaling is present in old steel housing sections.

A38 - Deck Drain Condition (3 - Satisfactory)

Weep tubes are present along both fascias but are short and drop onto superstructure.

A39 - Deck Fascia Condition (4 - Fair)

Concrete fascia is in fair to poor condition having heavy spalling exposing thinning steel reinforcing at each joint along the fascias. Other minor cracking with rust stains and efflorescence leakage are scattered throughout.

APPROACH

72 - Approach Roadway Alignment (6 - Equal to present minimum criteria)

Roadway alignment has a minor curve throughout and is fairly flat.

A13 - Approach Rail Condition (3 - Satisfactory)

Galvanized steel beam rail is in satisfactory condition having areas of flattened out rail with minor scrapes and dents. Older sections of rail have surface corrosion present.

A16 - Approach Post Condition (3 - Satisfactory)

Galvanized steel posts with steel offsets are in satisfactory condition having minor dents and bends.

Superstructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
107	Steel Open Girder/Beam	LF	1035	667	210	155	3
1000	Corrosion	LF	368	0	210	155	3
515	Steel Protective Coating	SF	8254	7254	0	200	800
3420	Peeling/Bubbling/Cracking	LF	1000	0	0	200	800
311	Movable Bearing	EA	20	0	16	4	0
1000	Corrosion	EA	20	0	16	4	0
313	Fixed Bearing	EA	10	0	0	10	0
1000	Corrosion	EA	10	0	0	10	0

59 - Superstructure (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

Five (5) painted steel rolled beams are present per span are in fair condition having areas of heavy rust scaling and thinning with beam #1 in spans #2 and #3 having heaviest corrosion and section loss at pier #2. Beam #1 at Pier #2 in Span #3 has section loss along the lower portion of web with large perforation that continues to corrode causing lower flange to bend upwards. Fascia beams have lighter corrosion from weathering. Beams have neutral to slightly positive camber. Protective layer has failed at both abutments and at pier #2 along the beam ends below deck joints that continually allow leakage to structure below causing progressive corrosion.

A55 - Lateral Bracing Condition (3 - Satisfactory)

Each span has three (3) painted steel c-channels present per bay that are bolted to plates that are welded to the webs of the rolled beams. C-Channel diaphragms at abutments and over pier #2 have minor to moderate rusting and rust scaling from joint leakage with heaviest corrosion is on the western side of each joint. Remaining diaphragms are in satisfactory condition having some small areas of surface rusting where paint has started to peel. Additional w-shape diaphragms are present over piers #1 and #3 (two (2) total) having minor rusting.

A63 - Bearing Condition (3 - Satisfactory)

Rocker bearings are present over both abutments and piers #1 and #3. Pier #2 has fixed bearings. Both abutments and pier #2 have joints present allowing leakage with bearings having moderate to heavy rust scaling and anchor bolts thinning. Rockers over abutments and pier #1 and #3 have allowable rotation.

Substructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
205	Reinforced Concrete Column	EA	9	4	3	2	0
1080	Delamination/Spall/Patched Area	EA	2	0	1	1	0
1130	Cracking (RC and Other)	EA	3	0	2	1	0
215	Reinforced Concrete Abutment	LF	72	11	28	31	2
1080	Delamination/Spall/Patched Area	LF	11	0	0	9	2
1120	Efflorescence/Rust Staining	LF	18	0	6	12	0
1130	Cracking (RC and Other)	LF	32	0	22	10	0
234	Reinforced Concrete Pier Cap	LF	105	81	14	10	0
1080	Delamination/Spall/Patched Area	LF	5	0	0	5	0
1120	Efflorescence/Rust Staining	LF	9	0	4	5	0
1130	Cracking (RC and Other)	LF	10	0	10	0	0
800	Reinforced Concrete Wing/Retaining Wall	EA	4	2	2	0	0
1130	Cracking (RC and Other)	EA	2	0	2	0	0

60 - Substructure (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)

Reinforced concrete abutment #1 is in satisfactory condition having minor cracking with rust stains scattered throughout the stem face. Outer portions of abutment stem / bridge seat have areas of concrete scaling / spalling. Minor sediment build up is present along bridge seat.

Reinforced concrete abutment #2 is in satisfactory condition having minor cracking with rust stains scattered throughout the stem face. Outer portions of abutment stem / bridge seat have areas of concrete scaling / spalling. Minor sediment build up is present along bridge seat.

A71 - Abutment End Walls Condition (4 - Satisfactory)

Reinforced concrete backwalls are in satisfactory condition having minor cracking and areas of rust staining. Areas of minor concrete scaling are present at edges of backwalls below curb lines from leakage at joints.

A77 - Retaining/Wingwall Condition (4 - Satisfactory)

Concrete wingwalls are in fairly good condition having light map cracking.

A81 - Pier Seat/Cap Condition (4 - Satisfactory)

Pier caps are in satisfactory condition with piers #1 and #3 being fairly clean. Pier #2 has a few small delaminations along the cap with rust staining mainly along the western side.

A85 - Pier Columns Condition (4 - Satisfactory)

All three (3) piers have three (3) columns a piece. Pier #1 columns are in good condition. Pier #2 column #1 and #2 have delaminations and spalls present along the lower portions with column #3 in good condition. Pier #3 column #1 has small delamination along the lower portion with remaining columns in good condition.

CHANNEL

61 - Channel/Channel Protection (N - Not applicable.)

GENERAL OBSERVATION

Structure is in need of a major rehabilitation project or replacement in the near future due to progressive deterioration from continuous leakage and wearing. Deck has large areas of full depth concrete patches and newly forming delaminations and spalls that have exposed the steel reinforcing. Heavy concrete scaling is present along the deck fascia surrounding joints over both abutments and at pier #2 with heaviest spalling present near the southwest corner of structure. Beam #1 in span #3 should be plated or be fully replaced due to large perforation along the lower portion with measurable section loss. Beam ends at abutments and at pier #2 have protective layer failure from continuous joint leakage which has allowed for progressive corrosion and are in need of repairs. Joints still allow heavy leakage to structure below with the heaviest near the outer portions and should be replaced. Heavy spalling / scaling and delaminations with rust staining are present over pier #2 along the cap and are in need of repairs. Abutment #2 stem /bridge seat also have deep spalling that has exposed the steel reinforcing and should be cleaned and patched. Pier columns along pier #2 have spalling / delaminations and/or cracking along the face of columns that should be cleaned and patched. Snow fence has heavy corrosion around connections with a few sections of fence being loose.

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
12	Reinforced Concrete Deck	SF	7245	5200	1550	475	20
1080	Delamination/Spall/Patched Area	SF	1620	0	1200	400	20
1120	Efflorescence/Rust Staining	SF	175	0	150	25	0
1130	Cracking (RC and Other)	SF	250	0	200	50	0
510	Wearing Surfaces	SF	6210	5960	250	0	0
3230	Effectiveness (Wearing Surface)	SF	250	0	250	0	0
107	Steel Open Girder/Beam	LF	1035	667	210	155	3
1000	Corrosion	LF	368	0	210	155	3
515	Steel Protective Coating	SF	8254	7254	0	200	800
3420	Peeling/Bubbling/Cracking	LF	1000	0	0	200	800
205	Reinforced Concrete Column	EA	9	4	3	2	0
1080	Delamination/Spall/Patched Area	EA	2	0	1	1	0
1130	Cracking (RC and Other)	EA	3	0	2	1	0
215	Reinforced Concrete Abutment	LF	72	11	28	31	2
1080	Delamination/Spall/Patched Area	LF	11	0	0	9	2
1120	Efflorescence/Rust Staining	LF	18	0	6	12	0
1130	Cracking (RC and Other)	LF	32	0	22	10	0
234	Reinforced Concrete Pier Cap	LF	105	81	14	10	0
1080	Delamination/Spall/Patched Area	LF	5	0	0	5	0
1120	Efflorescence/Rust Staining	LF	9	0	4	5	0
1130	Cracking (RC and Other)	LF	10	0	10	0	0
301	Pourable Joint Seal	LF	31	31	0	0	0
305	Assembly Joint without Seal	LF	62	0	56	6	0
2360	Adjacent Deck or Header	LF	62	0	56	6	0
311	Movable Bearing	EA	20	0	16	4	0
1000	Corrosion	EA	20	0	16	4	0
313	Fixed Bearing	EA	10	0	0	10	0
1000	Corrosion	EA	10	0	0	10	0
330	Metal Bridge Railing	LF	414	274	140	0	0
7000	Damage	LF	140	0	140	0	0

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
800	Reinforced Concrete Wing/Retaining Wall	EA	4	2	2	0	0
1130	Cracking (RC and Other)	EA	2	0	2	0	0
804	Concrete Fascia	LF	414	214	125	65	10
1080	Delamination/Spall/Patched Area	LF	30	0	0	20	10
1120	Efflorescence/Rust Staining	LF	45	0	25	20	0
1130	Cracking (RC and Other)	LF	125	0	100	25	0



Span #2 Protective Coating



Span #3 Protective Coating



Span #4 Protective Coating



Span #4 Deck Bays 3-4



Span #4 Deck Bays 1-2



Pier #2 Span #3



Western Fascia



Erosion along Northwest Embankment



Abutment #2



Bearings at Abutment #2



Pier #3 Span #4



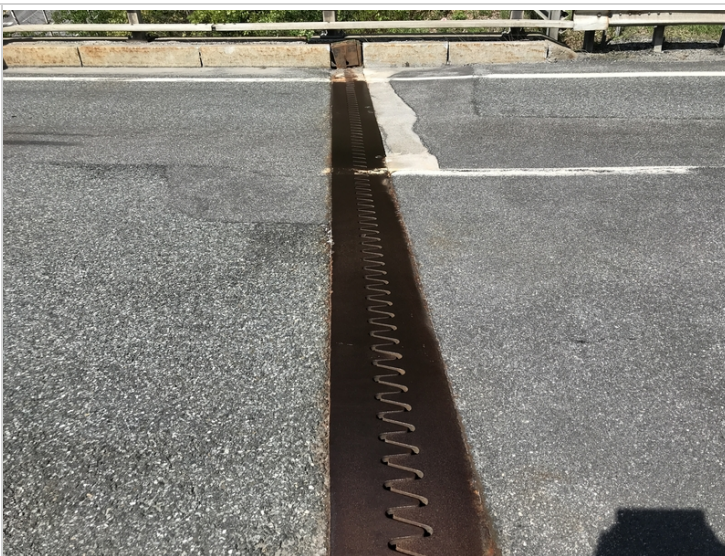
Eastern Fascia from North End



Eastern Curb at Abutment #2



Northern Approach



Steel Finger Plate Joint over Abutment #2



Sheared Connections Bolts along Snow Fence on West Side



Asphaltic Plug Joint over Pier #2



Eastern Curb at Joint over Pier #2



Western Snow Fence with Rusted Brackets and Frame



Wearing Surface



Steel Finger Plate Joint over Abutment #1



Southeast Corner of Abutment #1



Western Curb



Eastern Curb



Southern Approach



Southwest Corner of Deck at Abutment #1



Western Fascia from South End



Southwest Corner of Deck at Abutment #1



Abutment #1



Bearings at Abutment #1



Span #1 Protective Coating



Pier #1 Span #1



Abutment #1



Pier #2 Column #1



Pier #2 Span #2



Span #1 Deck



Pier #2 Column #3



Pier #2 Columns #1-2



Span #3 Deck



Span #2 Deck



Western Elevation



Beam #1 in Span #2 with Heavy Rust Scaling



Pier #2 Joint Fascia



Pier #2 Beam #1



Heavy Debris on Pier #2 West End



Beams #1 over Pier #2



Span #2 Beams #1 Section Loss



Pier #2 Joint Fascia



Pier #3 Span #3



Pier #1 Span #2



Eastern Side

Maintenance Needs

Date Reported: 05/25/2022
Priority: 4 - Maintenance Finding - Next Inspection Cycle
Type of Work: 3 - General - Replacement project
Status: Open
Component: General

Deficiency Description

Structure is in need of a major rehabilitation project or replacement in the near future due to progressive deterioration from continuous leakage and wearing. Deck has large areas of full depth concrete patches and newly forming delaminations and spalls that have exposed the steel reinforcing. Heavy concrete scaling is present along the deck fascia surrounding joints over both abutments with heaviest spalling present near the southwest corner of structure. Beam #1 in span #3 should be plated or be fully replaced due to large perforation along the lower portion with measurable section loss. Beam ends at abutments and at pier #2 have protective layer failure from continuous joint leakage which has allowed for progressive corrosion and are in need of repairs. Joints still allow heavy leakage to structure below with the heaviest near the outer portions and should be replaced. Heavy spalling / scaling and delaminations with rust staining are present over pier #2 along the cap and are in need of repairs. Abutment #2 stem /bridge seat also have deep spalling that has exposed the steel reinforcing and should be cleaned and patched. Pier columns along pier #2 have spalling / delaminations and/or cracking along the face of columns that should be cleaned and patched. Snow fence has heavy corrosion around connections with a few sections of fence being loose.

Remarks



Abutment #2



Eastern Curb at Joint over Pier #2



Southwest Corner of Deck at Abutment #1



Southwest Corner of Deck at Abutment #1



Abutment #1



Pier #2 Joint Fascia



Beams #1 over Pier #2



Span #2 Beams #1 Section Loss

Team Lead: Martin Kelley, Inspection Date: 05/25/2022

Date Reported: 05/25/2022
Priority: 4 - Maintenance Finding - Next Inspection Cycle
Type of Work: 1 - General - Maintenance/preservation work
Status: Open
Component: General

Deficiency Description

Erosion along embankments should be repaired

Remarks



Erosion along Northwest Embankment