

The National Bridge Inventory contains data submitted by state transportation departments to the Federal Highway Administration in coded format.
 Form Interface Design: www.historicbridges.org. Data Conversion Assistance By www.bridgehunter.com. None of the involved parties make any guarantee of accuracy.

Basic Information

Washington [53]	King County [033]	Seattle [63000]	1700 W Garfield St	47-38-00.55 = 47.633486	122-23-09.91 = -122.386086
85408000000000	Highway agency district 1	Owner City or Municipal Highway Agency [04]	Maintenance responsibility City or Municipal Highway Agency [04]		
Route 1140	W GARFIELD ST	Toll On free road [3]	Features intersected MARINA PL, RR, RAVINE		
Design - main Concrete continuous [2]	Design - approach Concrete continuous [2]	Kilometerpoint 3733 km = 2314.5 mi	Year built 1929	Year reconstructed N/A [0000]	
15	Truss - Deck [09]	50	Girder and floorbeam system [03]	Skew angle 0	Structure Flared Yes, flared [1]
		Historical significance	Bridge is not eligible for the NRHP. [5]		
Total length 916.8 m = 3008.0 ft	Length of maximum span 26.5 m = 86.9 ft	Deck width, out-to-out 15.4 m = 50.5 ft	Bridge roadway width, curb-to-curb 11 m = 36.1 ft		
Inventory Route, Total Horizontal Clearance 12.8 m = 42.0 ft	Curb or sidewalk width - left 0 m = 0.0 ft	Curb or sidewalk width - right 1.8 m = 5.9 ft			
Deck structure type	Concrete Cast-in-Place [1]				
Type of wearing surface	Monolithic Concrete (concurrently placed with structural deck) [1]				
Deck protection					
Type of membrane/wearing surface					

Weight Limits

Bypass, detour length 0.5 km = 0.3 mi	Method to determine inventory rating	Load Factor(LF) [1]	Inventory rating	16.2 metric ton = 17.8 tons
	Method to determine operating rating	Load Factor(LF) [1]	Operating rating	27 metric ton = 29.7 tons
Bridge posting	Equal to or above legal loads [5]	Design Load	MS 22.5 / HS 25 or greater [9]	

Functional Details

Average Daily Traffic	16351	Average daily truck traffi	10	%	Year	2008	Future average daily traffic	25784	Year	2031
Road classification	Other Principal Arterial (Urban) [14]		Lanes on structure	3		Approach roadway width	11 m = 36.1 ft			
Type of service on bridge	Highway-pedestrian [5]		Direction of traffic	2 - way traffic [2]		Bridge median				
Parallel structure designation	No parallel structure exists. [N]									
Type of service under bridge	Railroad [2]		Lanes under structure	0		Navigation control	Not applicable, no waterway. [N]			
Navigation vertical clearanc	0 = N/A		Navigation horizontal clearance	0 = N/A						
Minimum navigation vertical clearance, vertical lift bridge						Minimum vertical clearance over bridge roadway	99.99 m = 328.1 ft			
Minimum lateral underclearance reference feature	Railroad beneath structure [R]									
Minimum lateral underclearance on right	25.9 m = 85.0 ft					Minimum lateral underclearance on left	0 = N/A			
Minimum Vertical Underclearance	6.71 m = 22.0 ft		Minimum vertical underclearance reference feature	Railroad beneath structure [R]						
Appraisal ratings - underclearances	Equal to present minimum criteria [6]									

Repair and Replacement Plans

Type of work to be performed	Work done by	Work to be done by contract [1]								
Replacement of bridge or other structure because of substandard load carrying capacity or substantial bridge roadway geometry. [31]	Bridge improvement cost	3000000	Roadway improvement cost	1000000						
	Length of structure improvement	916.8 m = 3008.0 ft		Total project cost	5000000					
	Year of improvement cost estimate	2020								
	Border bridge - state					Border bridge - percent responsibility of other state				
	Border bridge - structure number									

Inspection and Sufficiency

Structure status	Open, no restriction [A]	Appraisal ratings - structural	Meets minimum tolerable limits to be left in place as is [4]
Condition ratings - superstructure	Poor [4]	Appraisal ratings - roadway alignment	Equal to present minimum criteria [6]
Condition ratings - substructure	Fair [5]	Appraisal ratings - deck geometry	Basically intolerable requiring high priority of replacement [2]
Condition ratings - deck	Satisfactory [6]		
Scour	Bridge not over waterway. [N]		
Channel and channel protection	Not applicable. [N]		
Appraisal ratings - water adequacy	N/A [N]	Status evaluation	Structurally deficient [1]
Pier or abutment protection		Sufficiency rating	17.8
Culverts	Not applicable. Used if structure is not a culvert. [N]		
Traffic safety features - railings	Inspected feature meets currently acceptable standards. [1]		
Traffic safety features - transitions	Not applicable or a safety feature is not required. [N]		
Traffic safety features - approach guardrail	Not applicable or a safety feature is not required. [N]		
Traffic safety features - approach guardrail ends	Not applicable or a safety feature is not required. [N]		
Inspection date	March 2012 [0312]	Designated inspection frequency	24 Months
Underwater inspection	Unknown [Y60]	Underwater inspection date	November 2010 [1110]
Fracture critical inspection	Every two years [Y24]	Fracture critical inspection date	March 2012 [0312]
Other special inspection	Not needed [N]	Other special inspection date	

BRIDGE INSPECTION REPORT

Ver Date: 06/30/2014

Agency: SEATTLE

Status: Released

Printed On: 10/03/20

Program Mgr: Roman G. Peralta

Bridge No. BRG-023A

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Structure Type

Bridge Name MAGNOLIA BR VIADUCT

Route 01140

Location 1700 W Garfield St

Structure ID 08540800

MilePost 23.20

Intersecting MARINA PL, RR, RAVINE

Inspector's Signature

HWT

IDent# G0506

Co-Inspector's Signature

AM

										Inspections Performed					
#	Item	Code	N	Description	Code	Val	Unit	Code	Val	IT	NT	HRS	Date	Rep	Type
4	Structural Adqcy	(657)	N	Pier/Abut/Protect	(679)	1929		Year Built	(332)						
2	Deck Geometry	(658)	N	Scour	(680)	0		Year Rebuilt	(336)	Y	24	2.5	03/27/2013	Routine	
6	Underclearance	(659)	9	Retaining Walls	(682)	30		Oper Rating	(551)	Y	24	4.0	03/27/2013	Fract Crit	
5	Operating Level	(660)	9	Pier Protection	(683)	18		Inv Rating	(554)	D	60	5.0	11/04/2010	Underwater	
6	Alignment Adqcy	(661)	1	Bridge Rails	(684)	A		Open Close	(293)					Special	
9	WaterwayAdqcy	(662)	N	Transition	(685)	9999		Vert Over Deck	(360)	Y	24	5.0	03/06/2014	Interim	
5	Deck Overall	(663)	N	Guardrails	(686)	2200		Vert Under	(374)	Y	24	3.0	03/06/2014	Equipment	
7	Drains Condition	(664)	N	Terminals	(687)	R		Vert Und Code	(378)					Damage	
4	Superstructure	(671)		Revise Rating	(688)	0.00		Asphalt Depth						Safety	
9	Number Utilities	(675)		Photos Flag	(691)	30		Speed Limit						Short Span	
5	Substructure	(676)		Soundings Flag	(693)										
9	Chan/Protection	(677)		Measure Clearance	(694)										
9	Culvert	(678)													
										Total: 8.0					
										Suff Rating: 16.78 SD 16.78 SD					

BMS Elements

Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
12	Concrete Deck	127480	SF	0	127480	0	0
29	Steel Deck-Concrete Filled Grid	1243	SF	1243	0	0	0
35	Concrete Deck Soffit	127480	SF	10000	117480	0	0
107	Steel Open Girder	334	LF	334	0	0	0
113	Steel Stringer	3388	LF	3228	160	0	0
116	Concrete Stringer	2961	LF	0	2961	0	0
119	Concrete Truss	9265	LF	0	9265	0	0
152	Steel Floor Beam	7751	LF	7751	0	0	0
202	Steel Pile/Column	94	EA	94	0	0	0
205	Concrete Pile/Column	276	EA	276	0	0	0
215	Concrete Abutment	121	LF	0	121	0	0
231	Steel Pier Cap/Crossbeam	2423	LF	2423	0	0	0

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Bridge No. BRG-023A

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Structure Type

Bridge Name MAGNOLIA BR VIADUCT

Route 01140

Location 1700 W Garfield St

Structure ID 08540800

MilePost 23.20

Intersecting MARINA PL, RR, RAVINE

234	Concrete Pier Cap / Crossbeam	3764	LF	0	3764	0	0
266	Concrete Sidewalk & Supports	18048	SF	18048	0	0	0
311	Moveable Bearing (roller, sliding, etc)	16	EA	16	0	0	0
313	Fixed Bearing	8	EA	8	0	0	0
330	Metal Bridge Railing	6901	LF	6901	0	0	0
331	Concrete Bridge Railing	6901	LF	0	6901	0	0
341	Concrete Pedestrian Railing	3008	LF	3008	0	0	0
402	Hot Poured and/or Premolded Joint Filler	74	LF	74	0	0	0
407	Steel Angle Header	36	LF	36	0	0	0
416	Assembly Joint Seal (Modular)	867	LF	867	0	0	0
800	Asphaltic Concrete (AC) Overlay	127480	SF	0	127480	0	0
901	Red Lead Alkyd Paint System	0	SF	0	0	0	0

Notes

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Bridge No. BRG-023A	Page: 3/5	Structure Type
Bridge Name MAGNOLIA BR VIADUCT	Route 01140	Location 1700 W Garfield St
Structure ID 08540800	MilePost 23.20	Intersecting MARINA PL, RR, RAVINE

0	<p>03/06/2014, Interim Walk-through and UBIT Inspection, HWT & AM, 9:30 A.M. UBIT Inspection, 12:30 Walk-through Inspection, Overcast with sprinkles, 40°F +/-.</p> <p>Orientation Bridge is oriented East to West, where East end is closest to Downtown. Bridge extends from Bent 18 to Bent 81 to West Abutment 82. Magnolia Bridge Extension ties into Bridge East of Bent 18. Elliott Bay Marina Ramps tie into Bridge at Bent 45.</p> <p>UBIT The UBIT inspection started at between Bent 53 and Bent 54 and went Westbound to between Bent 78 and Bent 79.</p> <p>Walk-through The Walk-through inspection started at Bent 1 and went Westbound to Bent 76.</p> <p>Miscellaneous Notes from prior inspections are in bridge file. All open crack and spall slips can be found on a spreadsheet located in the bridge file or on O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23. Walkway under the bridge appears to have a high load hit near the center line of the bridge. Walkway belongs to the Port of Seattle. Continue to observe. West end, associated with the slide repair project, three ecology blocks have slid down the slope and into a steel column. See Work Order #8542. There is graffiti on the East Abutment and cross braces of the old bridge. See Work Order #8165. On the South Ramp, between Bent 22 and Bent 23 there has been a high-load hit. Continue to observe. At Bent 38 there has been a high-load hit. The North span of the transverse steel support has a dent. Continue to observe. At Bent 39 there has been a high-load hit. The North span of the transverse steel support has a dent. Continue to observe. At Bent 44 there has been a high-load hit. The steel column that bears on the footing of the North column has been hit. The transverse beam is also bent. The stiffener at the North end of the transverse beam is cracked. Continue to observe. At Bent 59, on the South side of the bridge, there is a light pole whose base is severely corroded. Called City Light at 684 7056 in 2013. At Bent 64, on the South side of the bridge, there was a light pole whose base was completely corroded. It was separated from its base and leaning. This light pole has been removed.</p>
12	<p>Concrete Deck Between Bent 7 and Bent 8 there is cracking and spalling with exposed rebar on the South face of the North curb. See Work Order #10432. Westbound, at Elliott Bay Marina Off Ramp, deck patch shows signs of breaking up. Continue to observe. At Bent 44 there are transverse cracks and delamination on the deck. See Work Order #10650. Bent 48, Westbound Curb Lane the Urefast patch is failing. 4' x 8' area. See Work Order #197835. At the West end of the bridge, in the outside Westbound lane, there is a failed deck repair. See Work Order #10421.</p>
29	<p>Steel Deck Concrete Filled Grid</p>
35	<p>Concrete Deck Soffit Bent 75, there are forms left from a previous repair. See Work Order #6977.</p>
107	<p>Steel Open Girder At Bent 12, the through girder adjacent to the Eastbound lane has been hit. Continue to observe.</p>
113	<p>Steel Stringer See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23</p>
116	<p>Concrete Stringer See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23</p>
119	<p>Concrete Truss Many spalls on the truss members, see O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23 At Bent 68 and Bent 69, at the column locations, the concrete braces between the trusses are new rectangular reinforced concrete members.</p>

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Structure ID 08540800	MilePost 23.20	Intersecting MARINA PL, RR, RAVINE

152	Steel Floor Beam
202	Steel Column/Pile The steel columns are in the bents beyond Bent 76.
205	Concrete Column / Pile Cracks and spalls typical throughout. See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
215	Concrete Abutment West abutment has vertical and horizontal cracks. Continue to observe. West abutment, Wing wall, South side, has an 1-1/2" gap. Continue observe.
231	Steel Pier Cap/Crossbeam
234	Concrete Pier Cap / Crossbeam Spalls on Caps and Crossbeams, typical throughout. See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
266	Concrete Sidewalk & Supports Sidewalk exists only on the South side of the bridge, except for a portion on the North side near Anthony's Cold Storage. East of Bent 38 the South sidewalk has ponding. The sidewalk is sloped towards the closed rail. An overlay was placed in the past to slope the sidewalk toward the roadway, which is seperated from the sidewalk by a through girder/vehicle rail. Most of the overlay is missing. There are drains but they are small and easily clogged. Continue to observe. East of Bent 43 the South sidewalk has ponding. The sidewalk is sloped towards the closed rail. An overlay was placed in the past to slope the sidewalk toward the roadway, which is seperated from the sidewalk by a through girder/vehicle rail. Most of the overlay is missing. There are drains but they are small and easily clogged. Continue to observe.
311	Moveable Bearing (roller, sliding, etc)
313	Fixed Bearing
330	Metal Bridge Railing Bent 82, West end, there is a bent baluster. Continue to observe.
331	Concrete Bridge Railing Bent 30-31, Ramp to Pier 91, South side, Rail post has been formed by not poured. See Work Order #8163. Center Ramp to Pier 91, cracks and spalls on concrete rail posts, typical throughout. Continue to observe.
341	Concrete Pedestrian Railing Jersey Barrier Style railing on South Side of the bridge only.
402	Poured or Premolded Joint Filler
407	Steel Angle Header
416	Assembly Joint Seal (Modular) Bent 43, both Eastbound lanes, the expansion joint is very loose. See Work Order #197836. Bent 54, the expansion joint is loose. See Work Order #197837. At Bent 58, Eastbound lane, the expansion joint is loose. See Work Order #199082. Between Bent 67 and Bent 68, Westbound lane, the expansion joint is loose and the header is cracked and part of the header is missing. The expansion joint is starting to become loose in the outside Westbound lane. See Work Order #199083. At Bent 69 the expansion joint is loose in the Eastbound lane. See Work Order #199084. Between Bent 71 and Bent 72 the expansion joint is loose and tilted in the Eastbound lane. See Work Order #199085. Between Bent 71 and Bent 72 the expansion joint is tilted opposite to the grade of the bridge. Continue to observe. Between Bent 75 and Bent 76 the middle three expansion joint supports need shimming. See Work Order #7253.

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664	Drains Bent 64, the cover of the cleanout is missing. See Work Order #9112. Bent 66, the lower end of the drain spout is missing. See Work Order #9112. West end, some of the drain grates are installed backwards. See Work Order #10653. Bent 80 - Bent 81, South side, there is a broken drain line. See Work Order #8539. On the ramp to Pier 90 the drain inlets are clogged. E-mailed Sarah Miller at SPU.
800	Asphaltic Concrete (AC) Overlay Asphalt appears to be rutting, typical throughout. Continue to observe. Bent 44, South side, asphalt shim is unraveling. Continue to observe.
901	Red Lead Alkyd Paint System Between Bent 65 and Bent 66 the paint is peeling and the steel is starting to rust. Continue to observe.

Repairs

Repair No	Pr	R	Repair Description	Noted	Maint	Verified

Inspections Performed and Resources Required

Report Type	Date	IT	Frq	Hrs	Insp	CertNo	Coinsp	Note
Routine	03/27/13		24	2.5	HWT	G0506	AM	03/27/2013, HWT & AM, Routine and Fracture Critical Inspection with UBIT, 9:00 A.M., Overcast, 50°F +/- 05/08/2013, HWT & AM, Walk-Through Inspection, 12:00 P.M., Partly Cloudy, 55°F +/-
Resources			Use	Hour	Min	Req	Max	Notes
Fracture Critical	03/27/13		24	4.0	HWT	G0506	AM	03/27/2013, HWT & AM, Routine and Fracture Critical Inspection with UBIT, 9:00 A.M., Overcast, 50°F +/-
Resources			Use	Hour	Min	Req	Max	Notes
UBIT			60	4.50		ANY	ANY	west Bound
Underwater	11/04/10	D	60	5.0	DAA	G0205		Underwater inspection by Echelon Engineering 11/4/10
Resources			Use	Hour	Min	Req	Max	Notes
Interim	03/06/14		24	5.0	HWT	G0506	AM	03/06/2014, Interim Walk-through and UBIT Inspection, HWT & AM, 9:30 A.M. UBIT Inspection, 12:30 Walk-through Inspection, Overcast with sprinkles, 40°F +/-
Resources			Use	Hour	Min	Req	Max	Notes
Equipment	03/06/14		24	3.0	HWT	G0506	AM	03/06/2014, Interim Walk-through and UBIT Inspection, HWT & AM, 9:30 A.M. UBIT Inspection, 12:30 Walk-through Inspection, Overcast with sprinkles, 40°F +/-
Resources			Use	Hour	Min	Req	Max	Notes
UBIT			60	4.50				

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Structure Type

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Structure ID 08540800

MilePost 23.20

Intersecting MARINA PL, RR, RAVINE

Inspector's Signature

HWT

IDent# G0506

Co-Inspector's Signature

										Inspections Performed					
#	Item	Code	N	Description	Code	Value	Unit	Rating	Code	IT	NT	HRS	Date	Rep	Type
4	Structural Adqcy	(657)	N	Pier/Abut/Protect	(679)	1929	Year Built	(332)							
2	Deck Geometry	(658)	N	Scour	(680)	0	Year Rebuilt	(336)	Y	24	2.5	03/27/2013	Routine		
6	Underclearance	(659)	9	Retaining Walls	(682)	30	Oper Rating	(551)	Y	24	4.0	03/27/2013	Fract Crit		
5	Operating Level	(660)	9	Pier Protection	(683)	18	Inv Rating	(554)	D	60	5.0	11/04/2010	Underwater		
6	Alignment Adqcy	(661)	1	Bridge Rails	(684)	A	Open Close	(293)						Special	
9	WaterwayAdqcy	(662)	N	Transition	(685)	9999	Vert Over Deck	(360)						Interim	
5	Deck Overall	(663)	N	Guardrails	(686)	2200	Vert Under	(374)	Y	24	2.5	03/27/2013	Equipment		
7	Drains Condition	(664)	N	Terminals	(687)	R	Vert Und Code	(378)						Damage	
4	Superstructure	(671)		Revise Rating	(688)	0.00	Asphalt Depth							Safety	
9	Number Utilities	(675)		Photos Flag	(691)	30	Speed Limit							Short Span	
5	Substructure	(676)		Soundings Flag	(693)										
9	Chan/Protection	(677)		Measure Clearance	(694)										
9	Culvert	(678)													
										Total: 0.0					
										Suff Rating: 16.78 SD 16.78 SD					

BMS Elements

Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
12	Concrete Deck	127480	SF	0	127480	0	0
29	Steel Deck-Concrete Filled Grid	1243	SF	1243	0	0	0
35	Concrete Deck Soffit	127480	SF	10000	117480	0	0
107	Steel Open Girder	334	LF	334	0	0	0
113	Steel Stringer	3388	LF	3228	160	0	0
116	Concrete Stringer	2961	LF	0	2961	0	0
119	Concrete Truss	9265	LF	0	9265	0	0
152	Steel Floor Beam	7751	LF	7751	0	0	0
202	Steel Pile/Column	94	EA	94	0	0	0
205	Concrete Pile/Column	276	EA	276	0	0	0
215	Concrete Abutment	121	LF	0	121	0	0
231	Steel Pier Cap/Crossbeam	2423	LF	2423	0	0	0

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234	Concrete Pier Cap / Crossbeam	3764	LF	0	3764	0	0
266	Concrete Sidewalk & Supports	18048	SF	18048	0	0	0
311	Moveable Bearing (roller, sliding, etc)	16	EA	16	0	0	0
313	Fixed Bearing	8	EA	8	0	0	0
330	Metal Bridge Railing	6901	LF	6901	0	0	0
331	Concrete Bridge Railing	6901	LF	0	6901	0	0
341	Concrete Pedestrian Railing	3008	LF	3008	0	0	0
402	Hot Poured and/or Premolded Joint Filler	74	LF	74	0	0	0
407	Steel Angle Header	36	LF	36	0	0	0
416	Assembly Joint Seal (Modular)	867	LF	867	0	0	0
800	Asphaltic Concrete (AC) Overlay	127480	SF	0	127480	0	0
901	Red Lead Alkyd Paint System	0	SF	0	0	0	0

Notes

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Structure ID 08540800	MilePost 23.20	Intersecting MARINA PL, RR, RAVINE

0	<p>03/27/2013, HWT & AM, Routine and Fracture Critical Inspection with UBIT, 9:00 A.M., Overcast, 50°F +/- 05/08/2013, HWT & AM, Walk-Through Inspection, 12:00 P.M., Partly Cloudy, 55°F +/-.</p> <p>Orientation Bridge is oriented East to West, where East end is closest to Downtown. Bridge extends from Bent 18 to Bent 81 to West Abutment 82. Magnolia Bridge Extension ties into Bridge East of Bent 18. Elliott Bay Marina Ramps tie into Bridge at Bent 45.</p> <p>UBIT The UBIT inspection started at Bent 59 and went Westbound to Bent 80.</p> <p>Miscellaneous Notes from prior inspections are in bridge file. All open crack and spall slips can be found on a spreadsheet located in the bridge file or on O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23. Walkway under the bridge appears to have a high load hit near the center line of the bridge. Walkway belongs to the Port of Seattle. Continue to observe. West end, associated with the slide repair project, three ecology blocks have slid down the slope and into a steel column. See Work Order #8542. Because of brush, it is not possible to inspect bents 72-80 from the ground. Area was inspected from the UBIT. Recommend to clear the brush from under the bridge. See Work Order #76821. There is graffiti on the East Abutment and cross braces of the old bridge. See Work Order #8165. On the South Ramp, between Bent 22 and Bent 23 there has been a high-load hit. Continue to observe. At Bent 38 there has been a high-load hit. The North span of the transverse steel support has a dent. Continue to observe. At Bent 39 there has been a high-load hit. The North span of the transverse steel support has a dent. Continue to observe. At Bent 44 there has been a high-load hit. The steel column that bears on the footing of the North column has been hit. The transverse beam is also bent. The stiffener at the North end of the transverse beam is cracked. Continue to observe. At Bent 59, on the South side of the bridge, there is a light pole whose base is severely corroded. Called City Light at 684 7056. At Bent 64, on the South side of the bridge, there is a light pole that is completely corroded at its base. It is separated from its base and is leaning. Called City Light at 684 7056.</p>
12	<p>Concrete Deck Westbound, at Elliott Bay Marina Off Ramp, deck patch shows signs of breaking up. Continue to observe. Bent 48, Westbound Curb Lane the Urefast patch is failing. 4' x 8' area. See Work Order #197835.</p>
29	<p>Steel Deck Concrete Filled Grid</p>
35	<p>Concrete Deck Soffit Bent 75, there are forms left from a previous repair. See Work Order #6977.</p>
107	<p>Steel Open Girder At Bent 12, the through girder adjacent to the Eastbound lane has been hit. Continue to observe.</p>
113	<p>Steel Stringer See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23</p>
116	<p>Concrete Stringer See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23</p>
119	<p>Concrete Truss Many spalls on the truss members, see O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23 At Bent 68 and Bent 69, at the column locations, the concrete braces between the trusses are new rectangular reinforced concrete members.</p>
152	<p>Steel Floor Beam</p>
202	<p>Steel Column/Pile The steel columns are in the bents beyond Bent 76.</p>

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Agency: SEATTLE

Status: Released

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Bridge No. BRG-023A	Page: 4/5	Structure Type
Bridge Name MAGNOLIA BR VIADUCT	Route 01140	Location 1700 W Garfield St
Structure ID 08540800	MilePost 23.20	Intersecting MARINA PL, RR, RAVINE

205	Concrete Column / Pile Cracks and spalls typical throughout. See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
215	Concrete Abutment West abutment has vertical and horizontal cracks. Continue to observe. West abutment, Wing wall, South side, has an 1-1/2" gap. Continue observe.
231	Steel Pier Cap/Crossbeam
234	Concrete Pier Cap / Crossbeam Spalls on Caps and Crossbeams, typical throughout. See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
266	Concrete Sidewalk & Supports Sidewalk exists only on the South side of the bridge, except for a portion on the North side near Anthony's Cold Storage. Bent 17, South side, the steel strip over the sidewalk needs to be replaced. See Work Order #7745.
311	Moveable Bearing (roller, sliding, etc)
313	Fixed Bearing
330	Metal Bridge Railing Bent 82, West end, there is a bent baluster. Continue to observe.
331	Concrete Bridge Railing Bent 30-31, Ramp to Pier 91, South side, Rail post has been formed by not poured. See Work Order #8163. 50' East of center ramp to Pier 91, North side, the steel tube has been bent by traffic. See Work Order #6215. Center Ramp to Pier 91, cracks and spalls on concrete rail posts, typical throughout. Continue to observe.
341	Concrete Pedestrian Railing Jersey Barrier Style railing on South Side of the bridge only.
402	Poured or Premolded Joint Filler
407	Steel Angle Header
416	Assembly Joint Seal (Modular) Bent 43, Westbound inner lane, the expansion joint is very loose. See Work Order #197836. Bent 54, the expansion joint is loose. See Work Order #197837. At Bent 58, Eastbound lane, the expansion joint is loose. See Work Order #199082. Between Bent 67 and Bent 68, Eastbound lane, the expansion joint is loose and the header is cracked and part of the header is missing. The expansion joint is starting to become loose in the outside Westbound lane. See Work Order #199083. At Bent 69 the expansion joint is loose in the Eastbound lane. See Work Order #199084. Between Bent 71 and Bent 72 the expansion joint is loose in the Eastbound lane. See Work Order #199085. Between Bent 75 and Bent 76 the middle three expansion joint supports need shimming. See Work Order #7253.
664	Drains Bent 64, the cover of the cleanout is missing. See Work Order #9112. Bent 66, the lower end of the drain spout is missing. See Work Order #9112. West end, some of the drain grates are installed backwards. See Work Order #10653. Bent 80 - Bent 81, South side, there is a broken drain line. See Work Order #8539. On the ramp to Pier 90 the drain inlets are clogged. E-mailed Sarah Miller at SPU.
800	Asphaltic Concrete (AC) Overlay Asphalt appears to be rutting, typical throughout. Continue to observe. Bent 44, South side, asphalt shim is unraveling. Continue to observe.
901	Red Lead Alkyd Paint System Between Bent 65 and Bent 66 the paint is peeling and the steel is starting to rust. Continue to observe.

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Structure Type

Bridge Name MAGNOLIA BR VIADUCT

Route 01140

Location 1700 W Garfield St

Structure ID 08540800

MilePost 23.20

Intersecting MARINA PL, RR, RAVINE

Repairs

Repair No	Pr	R	Repair Description	Noted	Maint	Verified

Inspections Performed and Resources Required

<u>Report Type</u>	<u>Date</u>	<u>IT</u>	<u>Frg</u>	<u>Hrs</u>	<u>Insp</u>	<u>CertNo</u>	<u>Coinsp</u>	<u>Note</u>
Routine	03/27/13		24	2.5	HWT	G0506	AM	03/27/2013, HWT & AM, Routine and Fracture Critical Inspection with UBIT, 9:00 A.M., Overcast, 50°F +/- 05/08/2013, HWT & AM, Walk-Through Inspection, 12:00 P.M., Partly Cloudy, 55°F +/-
Resources			Use Hour	Min	Req	Max	Notes	
Fracture Critical	03/27/13		24	4.0	HWT	G0506	AM	03/27/2013, HWT & AM, Routine and Fracture Critical Inspection with UBIT, 9:00 A.M., Overcast, 50°F +/-
Resources			Use Hour	Min	Req	Max	Notes	
UBIT			60	4.50		ANY ANY	west Bound	
Underwater	11/04/10	D	60	5.0	DAA	G0205		Underwater inspection by Echelon Engineering 11/4/10
Resources			Use Hour	Min	Req	Max	Notes	
Equipment	03/27/13		24	2.5	HWT	G0506	AM	03/27/2013, HWT & AM, Routine and Fracture Critical Inspection with UBIT, 9:00 A.M., Overcast, 50°F +/-
Resources			Use Hour	Min	Req	Max	Notes	
UBIT			60	4.50				
Informational	11/18/13				HWT	G0506		Added Items 467 and 477.
Resources			Use Hour	Min	Req	Max	Notes	

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Ver Date: 01/09/2013

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Structure Type

Bridge Name MAGNOLIA BR VIADUCT

Route 01140

Location 1700 W Garfield St

Structure ID 08540800

MilePost 23.20

Intersecting MARINA PL, RR, RAVINE

Inspector's Signature GJK

IDent# G1003

Co-Inspector's Signature KL

										Inspections Performed						
#	Item	Code	N	Item	Code	N	Value	Item	Code	N	IT	NT	HRS	Date	Rep	Type
4	Structural Adqcy	(657)	N	Pier/Abut/Protect	(679)		1929	Year Built	(332)							
2	Deck Geometry	(658)	N	Scour	(680)		0	Year Rebuilt	(336)		Y	24	3.0	03/20/2012	Routine	
9	Underclearance	(659)	9	Retaining Walls	(682)		30	Oper Rating	(551)		Y	24	4.5	03/20/2012	Fract Crit	
5	Operating Level	(660)	9	Pier Protection	(683)		18	Inv Rating	(554)		D	60	5.0	11/04/2010	Underwater	
6	Alignment Adqcy	(661)	1	Bridge Rails	(684)		A	Open Close	(293)						Special	
9	WaterwayAdqcy	(662)	N	Transition	(685)		9999	Vert Over Deck	(360)						Interim	
6	Deck Overall	(663)	N	Guardrails	(686)		2200	Vert Under	(374)		Y	24	3.0	03/20/2012	Equipment	
7	Drains Condition	(664)	N	Terminals	(687)		R	Vert Und Code	(378)						Damage	
4	Superstructure	(671)		Revise Rating	(688)		0.00	Asphalt Depth							Safety	
9	Number Utilities	(675)		Photos Flag	(691)		30	Speed Limit							Short Span	
5	Substructure	(676)		Soundings Flag	(693)											
9	Chan/Protection	(677)		Measure Clearance	(694)											
9	Culvert	(678)														
											Total: 4.5					
											Suff Rating: 17.78 SD 17.78 SD					

BMS Elements

Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
12	Concrete Deck	127480	SF	0	127480	0	0
29	Steel Deck-Concrete Filled Grid	1243	SF	1243	0	0	0
35	Concrete Deck Soffit	127480	SF	10000	117480	0	0
107	Steel Open Girder	334	LF	334	0	0	0
113	Steel Stringer	3388	LF	3228	160	0	0
116	Concrete Stringer	2961	LF	0	2961	0	0
119	Concrete Truss	9265	LF	0	9265	0	0
152	Steel Floor Beam	7751	LF	7751	0	0	0
202	Steel Pile/Column	94	EA	94	0	0	0
205	Concrete Pile/Column	276	EA	276	0	0	0
215	Concrete Abutment	121	LF	0	121	0	0
231	Steel Pier Cap/Crossbeam	2423	LF	2423	0	0	0

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Bridge Name MAGNOLIA BR VIADUCT	Route 01140	Location 1700 W Garfield St
Structure ID 08540800	MilePost 23.20	Intersecting MARINA PL, RR, RAVINE

234	Concrete Pier Cap / Crossbeam	3764	LF	0	3764	0	0
266	Concrete Sidewalk & Supports	18048	SF	18048	0	0	0
311	Moveable Bearing (roller, sliding, etc)	16	EA	16	0	0	0
313	Fixed Bearing	8	EA	8	0	0	0
330	Metal Bridge Railing	6901	LF	6901	0	0	0
331	Concrete Bridge Railing	6901	LF	0	6901	0	0
341	Concrete Pedestrian Railing	3008	LF	3008	0	0	0
402	Hot Poured and/or Premolded Joint Filler	74	LF	74	0	0	0
407	Steel Angle Header	36	LF	36	0	0	0
416	Assembly Joint Seal (Modular)	867	LF	867	0	0	0
800	Asphaltic Concrete (AC) Overlay	127480	SF	0	127480	0	0

Notes

0	<p>3/20/2012, 9:00AM; , Cloudy. UBIT & Fracture Critical Inspection, GJK/KL.</p> <p>Orientation * Bridge is oriented East to West, where East end is closest to Downtown. * Bridge extends from Bent 18 to Bent 81 to West Abutment 82. * Magnolia Bridge Extension ties into Bridge East of Bent 18. * Elliott Bay Marina Ramps tie into Bridge at Bent 45.</p> <p>UBIT * Due to inclement weather (sustained winds of 35MPH+ and gusts of 40MPH+) 3/20/2012 inspection includes UBIT from Bent 52 to Bent 63.</p> <p>Miscellaneous * Notes from prior inspections are in bridge file. All open crack and spall slips can be found on a spreadsheet located in the bridge file or on O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23. * Walkway under the bridge appears to have a high load hit near the center line of the bridge. Walkway belongs to the Port of Seattle. Continue to observe. * West end, associated with the slide repair project, three ecology blocks have slid down the slope and into a steel column. See WO #8542. * Because of brush, it is not possible to inspect bents 72-81 from the ground. Area was inspected from the UBIT. Recommend to clear the brush from under the bridge. See WO #76821.</p>
12	<p>Concrete Deck * Westbound, at Elliott Bay Marina Off Ramp, deck patch shows signs of breaking up. Continue to observe. * Bent 48, Eastbound, 16" x 16" deck spall. See WO #71476.</p>
29	<p>Steel Deck Concrete Filled Grid</p>
35	<p>Concrete Deck Soffit * Bent 75, there are forms left from a previous repair. See WO #6977.</p>
107	<p>Steel Open Girder</p>

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113	Steel Stringer * See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
116	Concrete Stringer * See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
119	Concrete Truss * Many spalls on the truss members, see O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
152	Steel Floor Beam
202	Steel Column/Pile
205	Concrete Column / Pile * Cracks and spalls typical throughout. See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
215	Concrete Abutment * West abutment has vertical and horizontal cracks. Continue to observe. * West abutment, Wing wall, South side, has an 1-1/2" gap. Continue observe.
231	Steel Pier Cap/Crossbeam
234	Concrete Pier Cap / Crossbeam * Spalls on Caps and Crossbeams, typical throughout. See O:\Images\Roadway Structures\Bridges\Bridge Inspections\Bridges 0-50\Br 23
266	Concrete Sidewalk & Supports * Sidewalk exists only on the South side of the bridge. * Bent 17, South side, the steel strip over the sidewalk needs to be replaced. See WO #7745. * Bent 37, South side, there is a steel sign post with no sign fastened to the sidewalk. See WO #71477.
311	Moveable Bearing (roller, sliding, etc)
313	Fixed Bearing
330	Metal Bridge Railing * Bent 82, West end, there is a bent baluster. Continue to observe. * 50' East of the center ramp to Pier 91, North side, rail is bent. See WO #6215.
331	Concrete Bridge Railing * Bent 30-31, Ramp to Pier 91, South side, Rail post has been formed by not poured. See WO #8163. * 50' East of center ramp to Pier 91, North side, the steel tube has been bent by traffic. See WO #6215. * Center Ramp to Pier 91, cracks and spalls on concrete rail posts, typical throughout. Continue to observe.
341	Concrete Pedestrian Railing * Jersey Barrier Style railing on South Side of the bridge only.
402	Poured or Premolded Joint Filler
407	Steel Angle Header
416	Assembly Joint Seal (Modular) * Bent 8, Eastbound curb lane, the expansion joint is loose. See WO #76835. * Bent 18, Westbound curb lane, the expansion joint is loose. See WO #76834. * Bent 43, Westbound inner lane, the expansion joint is loose. See WO #71475. * Bent 58, Eastbound and Westbound lanes, the expansion joint is loose. See WO #5937. * Bent 68, Eastbound lanes, the expansion joint is loose. See WO #76833.

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664	Drains * Bent 64, the cover of the cleanout is missing. See WO #9112. * Bent 66, the lower end of the drain spout is missing. See WO #9112. * West end, some of the drain grates are installed backwards. See WO #10653. * Bent 80 - Bent 81, South side, there is a broken drain line. See WO #8539.
800	Asphaltic Concrete (AC) Overlay * Asphalt appears to be rutting, typical throughout. Continue to observe. * Bent 44, South side, asphalt shim is unraveling. Continue to observe.

Repairs

Repair No	Pr	R	Repair Description	Noted	Maint	Verified

Inspections Performed and Resources Required

Report Type	Date	IT	Frq	Hrs	Insp	CertNo	Coinsp	Note
Routine	03/20/12		24	3.0	GJK	G1003	KL	3/20/2012, 9:00AM.Routine Inspection, GJK/KL.
Resources			Use	Hour	Min	Req	Max	Notes
Fracture Critical			24	4.5	GJK	G1003	KL	3/20/2012, 9:00AM.Fracture Critical Inspection, GK/KL.
Resources			Use	Hour	Min	Req	Max	Notes
UBIT			60	4.50		ANY	ANY	west Bound
Underwater	11/04/10	D	60	5.0	DAA	G0205		Underwater inspection by Echelon Engineering 11/4/10
Resources			Use	Hour	Min	Req	Max	Notes
Equipment			24	3.0	GJK	G1003	KL	3/20/2012, 9:00AM.UBIT Inspection, GJK/KL.
Resources			Use	Hour	Min	Req	Max	Notes
UBIT			60	4.50				
Informational	09/06/12				GJK	G1003		FC inspection was conducted with UBIT inspection, but report tab was not checked off.
Resources			Use	Hour	Min	Req	Max	Notes