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**Basic Information**

Washington [53]	Chelan County [007]	Chelan [99007]	01.0W CASHMERE	47-31-40.60 = 47.527944	120-29-22.20 = -120.489500
84309000000000	Highway agency district 2	Owner County Highway Agency [02]	Maintenance responsibility	County Highway Agency [02]	
Route 28570	GOODWIN ROAD	Toll On free road [3]	Features intersected	WENATCHEE R. BNRR RT.285	
Design - main Steel [3]	Design - approach Concrete [1]	Kilometerpoint 26 km = 16.1 mi	Year built 1929	Year reconstructed N/A [0000]	
2	Truss - Deck [09]	6	Mixed types [20]	Skew angle 99	Structure Flared
			Historical significance	Bridge is not eligible for the NRHP. [5]	
Total length 153.3 m = 503.0 ft	Length of maximum span 37.8 m = 124.0 ft	Deck width, out-to-out 7.7 m = 25.3 ft	Bridge roadway width, curb-to-curb 6.1 m = 20.0 ft		
Inventory Route, Total Horizontal Clearance 6.1 m = 20.0 ft	Curb or sidewalk width - left 0.1 m = 0.3 ft	Curb or sidewalk width - right 0.1 m = 0.3 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 0.3 km = 0.2 mi	Method to determine inventory rating	Load Factor(LF) [1]	Inventory rating	9.9 metric ton = 10.9 tons
	Method to determine operating rating	Load Factor(LF) [1]	Operating rating	17.1 metric ton = 18.8 tons
Bridge posting			Design Load	M 13.5 / H 15 [2]

### Functional Details

Average Daily Traffic	2238	Average daily truck traffi	4	%	Year	2011	Future average daily traffic	3579	Year	2029
Road classification	Major Collector (Rural) [07]	Lanes on structure	2	Approach roadway width	8.5 m = 27.9 ft					
Type of service on bridge	Highway [1]	Direction of traffic	2 - way traffic [2]		Bridge median					
Parallel structure designation	No parallel structure exists. [N]									
Type of service under bridge	Highway-waterway-railroad [	Lanes under structure	2	Navigation control						
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	Highway beneath structure [H]									
Minimum lateral underclearance on right	0.7 m = 2.3 ft			Minimum lateral underclearance on left	0 = N/A					
Minimum Vertical Underclearance	4.5 m = 14.8 ft		Minimum vertical underclearance reference feature	Highway beneath structure [H]						
Appraisal ratings - underclearances	Basically intolerable requiring high priority of replacement [2]									

### 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	212000	Roadway improvement cost	21000						
	Length of structure improvement	153.9 m = 504.9 ft		Total project cost	318000					
	Year of improvement cost estimate	2013								
	Border bridge - state				Border bridge - percent responsibility of other state					
	Border bridge - structure number									

## Inspection and Sufficiency

Structure status	Posted for load [P]	Appraisal ratings - structural	Basically intolerable requiring high priority of replacement [2]
Condition ratings - superstructure	Satisfactory [6]	Appraisal ratings - roadway alignment	Basically intolerable requiring high priority of corrective action [3]
Condition ratings - substructure	Fair [5]	Appraisal ratings - deck geometry	Basically intolerable requiring high priority of replacement [2]
Condition ratings - deck	Poor [4]		
Scour	Countermeasures have been installed to mitigate an existing problem with scour. [7]		
Channel and channel protection	Bank protection is being eroded. River control devices and/or embankment have major damage. Trees and rush restrict the channel. [5]		
Appraisal ratings - water adequacy	Equal to present desirable criteria [8]	Status evaluation	Structurally deficient [1]
Pier or abutment protection		Sufficiency rating	25.1
Culverts	Not applicable. Used if structure is not a culvert. [N]		
Traffic safety features - railings			
Traffic safety features - transitions			
Traffic safety features - approach guardrail			
Traffic safety features - approach guardrail ends			
Inspection date	June 2012 [0612]	Designated inspection frequency	12 Months
Underwater inspection	Unknown [Y60]	Underwater inspection date	August 2012 [0812]
Fracture critical inspection	Every two years [Y24]	Fracture critical inspection date	June 2011 [0611]
Other special inspection	Not needed [N]	Other special inspection date	

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Ver Date: 09/24/2014

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Program Mgr: Roman G. Peralta

<b>Bridge No.</b> 401	Page: 1/9	<b>Structure Type</b>
<b>Bridge Name</b> WEST CASHMERE	<b>Route</b> 28570	<b>Location</b> 01.0W CASHMERE
<b>Structure ID</b> 08430900	<b>MilePost</b> 0.16	<b>Intersecting</b> WENATCHEE R. BNRR RT.285

Inspector's Signature    PHC                      IDent# G0114                      Co-Inspector's Signature

										Inspections Performed				
2		Structural Adqcy (657)	N		Pier/Abut/Protect (679)	1929	Year Built (332)	IT	NT	HRS	Date	Rep	Type	
2		Deck Geometry (658)	7		Scour (680)	0	Year Rebuilt (336)	Y	12	1.5	06/25/2014	Routine		
2		Underclearance (659)	9		Retaining Walls (682)	19	Oper Rating (551)	Y	24	5.5	06/27/2013	Fract Crit		
0		Operating Level (660)	9		Pier Protection (683)	11	Inv Rating (554)	D	60	1.5	08/21/2012	Underwater		
3		Alignment Adqcy (661)	0		Bridge Rails (684)	P	Open Close (293)					Special		
8		WaterwayAdqcy (662)	0		Transition (685)	9999	Vert Over Deck (360)					Interim		
4		Deck Overall (663)	1		Guardrails (686)	1409	Vert Under (374)					Equipment		
7		Drains Condition (664)	0		Terminals (687)	H	Vert Und Code (378)					Damage		
5		Superstructure (671)	N		Revise Rating (688)	1.00	Asphalt Depth					Safety		
0		Number Utilities (675)			Photos Flag (691)	30	Speed Limit					Short Span		
5		Substructure (676)	Y		Soundings Flag (693)									
5		Chan/Protection (677)			Measure Clearance (694)									
9		Culvert (678)												
											Total: 0.0			
											Suff Rating: 25.18 SD		25.18 SD	

BMS Elements							
Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
12	Concrete Deck	10030	SF	9649	350	21	10
35	Concrete Deck Soffit	0	SF	0	0	0	0
107	Steel Open Girder	168	LF	113	55	0	0
110	Concrete Girder	784	LF	709	75	0	0
113	Steel Stringer	1642	LF	832	800	10	0
131	Steel Deck Truss	468	LF	208	250	10	0
133	Truss Gusset Plates	128	EA	125	0	3	0
135	Timber Truss	0	LF	0	0	0	0
152	Steel Floor Beam	983	LF	679	144	160	0
205	Concrete Pile/Column	20	EA	8	7	5	0
214	Concrete Web Wall between Columns	54	LF	54	0	0	0
215	Concrete Abutment	92	LF	82	10	0	0

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<b>Bridge No.</b> 401	Page: 2/9	<b>Structure Type</b>
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220	Concrete Submerged Pile Cap/Footing	1	EA	1	0	0	0
227	Concrete Submerged Pile/Column	4	EA	4	0	0	0
234	Concrete Pier Cap / Crossbeam	110	LF	70	0	40	0
311	Moveable Bearing (roller, sliding, etc)	6	EA	6	0	0	0
313	Fixed Bearing	6	EA	4	2	0	0
330	Metal Bridge Railing	496	LF	396	100	0	0
331	Concrete Bridge Railing	370	LF	314	56	0	0
357	Pack Rust	2	EA	1	1	0	0
361	Scour	2	EA	1	0	1	0
362	Impact Damage	1	EA	1	0	0	0
402	Hot Poured and/or Premolded Joint Filler	51	LF	0	51	0	0
408	Steel Sliding Plate	68	LF	68	0	0	0
800	Asphaltic Concrete (AC) Overlay	2200	SF	2200	0	0	0
901	Red Lead Alkyd Paint System	29315	SF	20315	6000	3000	0
8362	Impact Damage	0	EA	0	0	0	0

### Notes

0	<p>ORIENTATION: The bridge is oriented from the south to the north, upstream left. The south abutment is closest to Cashmere and the north abutment is closest to US 2.</p> <p>BRIDGE LAYOUT: Spans 1, 3, 6, 7, and 8 are concrete girders. Span 2 is a steel through girder. Spans 4 and 5 are steel deck trusses. Span 3 is over BNSF railroad tracks. Spans 4 and 5 are over the river. Span 7 is over a looped approach road.</p> <p>ROUTINE FREQUENCY: The routine inspection frequency is set at 12 months in order to monitor the spalls in the columns and the Pier 3 cap.</p> <p>SIGNS: 4-object markers in-place;                  (2) No Jumping/Diving signs in-place;                  (2) Weight Limit signs in-place. (Weight Limit: 14T/22T/26T)                  (2) 14'-6" Height restriction signs in-place.</p> <p>RR has cut slope, in summer 2012, to near vertical between Piers 3 and 4.</p>
1	<p>FRACTURE CRITICAL NOTES: A full fracture critical inspection of the steel open girders and all tension truss members was performed in 2007. See FILE #2 for a layout of the fracture critical truss members.</p>
9	<p>Underwater inspection of the West Cashmere Bridge was conducted by Echelon Engineering on August 21, 2012. Pier 5 was the only pier in the channel at the time of the inspection. Based on the observed condition, all inspected substructure components appear sound. No evidence of any cracking, spalling or other significant deterioration of the concrete was noted. However, one area on the south side of the web wall was noted to have an area of form void and scale that appears to have resulted from poorly consolidated concrete during the original construction. Monitoring of this defect is recommended. Additionally, exposure of the footing was noted at the upstream end of the pier (i.e. max. vertical height of 6 inches). No exposure of the foundation piles was found. Moderate debris build-up was evident at the upstream end of the pier in the area where the footing is exposed. Although localized scour was found in the area of the debris build-up, no significant general or localized scour patterns were identified. Conditions appear similar to that reported in the 2007 underwater inspection report.</p>

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Ver Date: 09/24/2014

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<b>Bridge No.</b> 401	Page: 3/9	<b>Structure Type</b>
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12	<p>DECK: Spans 6 through 8 are covered with an AC overlay. See element note 800. There are transverse, longitudinal, and map cracks typical throughout the deck surface.</p> <p>Spans 1 through 5 have mudball voids and are worn in the wheel lines. Patch at Pier 6 has failed, Span 5 is failing with additional spalling in 2014.</p> <p>Span 1:</p> <ul style="list-style-type: none"> <li>• Near Pier 2, previous 110 sf of severe scaling, spalling and rebar exposure has been patched.</li> <li>• 2014 inspection observed that these patches are failing and rust has surfaced.</li> <li>• Prior to repair, twenty-four lines of transverse and longitudinal rebar were exposed</li> <li>• in 2014 there are 7 bars ~12-feet in length exposed.</li> <li>• Repair failure with exposed rebar (Photo 2013 and 2014).</li> <li>• Repairs to Span 1 were made on 7-30-2014. BMS was updated and photos added in the 8-1-2014 Informational Report.</li> </ul> <p>Span 2:</p> <ul style="list-style-type: none"> <li>• At the NW end of the span has 3-feet of longitudinal rebar exposed and a 1-foot longitudinal bar exposed.</li> <li>• North deck edge is deteriorating, rusting deck bars are exposed at the edge and visible from below.</li> <li>• Minor mudball popouts (2011).</li> </ul> <p>Span 3:</p> <ul style="list-style-type: none"> <li>• Near Pier 4 adjacent to the west rail, previously scaled 12-SF area with exposed rebar has been patched.</li> <li>• Repairs are failing in 2013 with new spalls and exposed rebar on Span 3 (Photo 2013).</li> <li>• At the centerline near Pier 4, a previous 20" x 1" deep spall with 47" exposed rebar has been patched.</li> </ul> <p>Span 4:</p> <ul style="list-style-type: none"> <li>• Wide full width deck cracking over U1.</li> <li>• Cracking over the rest of Span 4 and 5 top panel points is not as wide.</li> </ul> <p>Span 6: Spalled on south side of mid-span.</p> <p>Span 7: Asphalt overlay on south end has spalled in several locations.</p>
35	<p>SOFFIT: There are transverse, diagonal, and pattern cracks throughout with some efflorescence near the floor-beams. Deck fillet spalls are typical along the top flange of the floor-beams and stringers.</p> <p>Span 2, west edge from approximate Floor Beam 5 to Beam 6 is a 42"x1.75" spall. Span 2 near Pier 3 has hairline rust stained cracks. Span 8 soffit looks good with a few hairline cracks and some minor efflorescence and map cracking between girders B &amp; C.</p> <p>Efflorescence on soffit between Girders 6A and 6B (10' x 4').</p> <p>OVERHANGS: There are deck fillet spalls typical along the top flange of the exterior girders. The west overhang near Floor-beam 5-1 has a 3" diameter x 1-1/2" deep spall with 2" of exposed rebar. The west overhang at Pier 7 has spalling due to impact damage.</p> <p>EDGES: There are some narrow spalls along the exterior stringer top flanges. The east side near Floor-beam 4-2 has an 8" x 4" x 1" deep spall with 3" of exposed rebar.</p>
107	<p>STEEL GIRDERS: Rust pits of 1/2" diameter are typical throughout the inside web faces. The outside web faces have a few rust pits as well.</p> <p>The inside knee braces and vertical stiffeners have several minor tears and bends from vehicle impact. Girder 2B has the worst damage to the first, second and third knee braces from Pier 2. See element note 901.</p>
110	<p>CONCRETE GIRDERS: There are four concrete girder lines. There are several hairline vertical and diagonal cracks throughout the girders of Spans 1, 6 and 7.</p> <p>Pier 6 diaphragm between Girders C and D has a hairline diagonal crack.</p> <p>Girder 7A has two high load spalls: West face has a 18" x 7" x 2" deep spall and east face has a 7" x 3" x 3/4" deep spall.</p> <p>Girder 7B has three high load spalls on the west face, the largest of which is 8" x 6" x 1-1/2" deep. See photo #39.</p> <p>All Span 8 girders have vertical hairline cracks.</p>

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<b>Bridge No.</b> 401	<b>Page:</b> 4/9	<b>Structure Type</b>
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113	<p>STEEL STRINGERS: There are seven steel stringer lines. There is some rusting along the top flanges at the deck interface with less than 5 percent section loss, especially in Span 5. Pack rust up to 1/4" thick is forming on the outside edges of the stringer top flanges. The concrete is spalling at the west edge of the deck in these locations.</p>
131	<p>STEEL DECK TRUSS: The bottom chords and gusset plates have surface rust spots typical throughout the exterior surfaces. Pigeon guano at the lower panel points interferes with inspection access. See photo #27. REPAIR 3844.</p> <p>Span 4 near U2 east has excessive vibration and squeaking noises in the floor system cross-bracing. In 2007 squeaking noises were noticed on the west side of Floor-beam 4-2.</p> <p>Specific defects noted:</p> <p>East Truss</p> <ul style="list-style-type: none"> <li>Span 5 at L7-L9 near L9 has surface rust with less than 5 percent section loss.</li> <li>Span 5 at U8-U9 in the top flange at the U9 connection to Floor beam 5-10 has two extra holes drilled.</li> </ul> <p>West Truss</p> <ul style="list-style-type: none"> <li>Span 4 at L0-U0 has laminar rust with less than 5 percent section loss.</li> <li>Span 4 at the L6 west gusset has a rust bloom with less than 5 percent section loss.</li> <li>Span 4 at L9-U9 near L9 at the SW flange is bent 1/2" over 6".</li> </ul>
133	<p>GUSSET PLATES: Most have patches of failed or blistering paint. Surface rusting is present as well as some seam and pack rust along the joints between plates and intersecting truss members. More prevalent on plates in the NW quadrants. Maximum section loss due to corrosion is &lt; 5% of plate thickness. Heavy guano accumulation inside of many panel points is inhibiting inspection and accelerating corrosion.</p>
135	
152	<p>STEEL FLOOR BEAMS: Span 2 has 21 floor-beams. The Span 2 floor-beam top flanges typically have laminar rust, some with up to 5% section loss. Most prevalent on NW bottom flanges, more noticeably on Floor beams 3, 7, and 10.</p> <p>The Spans 4 and 5 floor-beam top flanges typically have laminar rust with less than 5% section loss. These floor-beam webs have some areas of rust blooms.</p> <p>Specific defects noted:</p> <ul style="list-style-type: none"> <li>Floor-beam 4-0 in the top flange has laminar rust with up to 5% section loss.</li> <li>Floor-beam 4-(2, 3, 4, 8, and 9) at cantilevered ends have some top flange rust with &lt; 5% section loss.</li> <li>Floor-beam 5-1 in the top flange has up to 1/8" of laminar rust with 5% section loss.</li> <li>Floor-beam 5-9 west end and north face of web at gusset has up to 5% section loss.</li> <li>Floor-beam 5-10 in the top flange has laminar rust with up to 5% section loss.</li> <li>Floor-beam 5-14 east end and south face of web at gusset has up to 5% section loss.</li> </ul>

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<b>Bridge No.</b> 401	Page: 5/9	<b>Structure Type</b>
<b>Bridge Name</b> WEST CASHMERE	<b>Route</b> 28570	<b>Location</b> 01.0W CASHMERE
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205	<p>CONCRETE PILE/COLUMNS: Piers 5 and 6 each have four columns resting on the submerged columns and cap that support the deck truss.</p> <p>The columns have hairline vertical, horizontal, and pattern cracking throughout, with horizontal cracking at the construction joints and column/girder interfaces. The columns have spalls with exposed rebar throughout.</p> <p>Specific defects noted:</p> <p>Column 3A: Top SW edge near the bearing surface: Severe exfoliation over a 2-ft x 2-ft x 10" deep area. See Photo #28.</p> <p>Column 3B: SE edge near the base: Two 12" x 12" x 5" deep corner spalls with 3" of exposed bar. The concrete quality is poor and deteriorating.</p> <p>Column 4A: NW edge: 24" x 3" deep spall with 20" exposed rebar. Above this spall is a 12" x 10" x 3" deep spall with 3" of exposed rebar. See photo #6. REPAIR 1341. NE edge: Spalled in several locations of note is: 2'-10" from ground surface has 1'-6" x 9" x 1'-3" tall x 3" deep spall. Also, near the top has a wide crack 10" long.</p> <p>Column 4B: Near the base: Spalls with four exposed rebar.</p> <p>Column 4C: Near the base has edge spalls and delaminations.</p> <p>Column 4D: At mid height has a 36" x 6-1/2" x 4-1/2" deep edge spall with 42" of exposed rebar with delamination at the bottom on east face. See photo #7. REPAIR 1341. This column near the top haunch on the east face also has a 14" x 9" x 3/4" deep spall with one exposed transverse rebar.</p> <p>Column 6A: On the SE edge at the mid-height construction joint: 2 ft. x 6" spall with 18" of exposed rebar. See photo #14. REPAIR 1341. Spall on NE corner ~12" x 4" x 1".</p> <p>Column 6B: On the NE edge at the construction joint: 1/2" open crack with an exposed rebar. On the west face of this column are narrow vertical cracks.</p> <p>Column 6C: On the SE edge at top has a delamination cracking ~ 2' long.</p> <p>Diaphragm between 6C and 6D: Delamination on bottom face.</p> <p>Column 6D: Five rectangular ties at base exposed due to lack of cover. NW edge is delamination cracking ~ 3' long.</p> <p>Column 7A: NW edge: 55" x 9" x 3" deep spall with 50" of exposed rebar and four exposed hoops with approximately 35% to 50% section loss on vertical bar. See photo #41. REPAIR 1341. Bottom NE edge: 12"x6"x1" spall.</p> <p>Column 7B: Bottom of SE corner has 5"x3"x4" spalled.</p> <p>Column 7C: NE edge: Delamination and full height vertical crack (looks like it may have been fixed), westerly and southerly faces.</p> <p>Diaphragm between 7C and 7D: Bottom face: Delamination up to 1/2 the width.</p> <p>Column 7A through D: Vertical cracks on easterly and westerly faces and propagating down to ground surface on northerly edge of west face.</p> <p>Column 8A: SW edge: 3 ft. x up to 5" x 1" deep traffic impact spalls.</p> <p>Diaphragm 8B: Top edge of the SW face has diagonal crack.</p> <p>Column 8D: SW edge near the base: 18" x 16" x 2" deep spall with 10" of exposed corroding rebar and 10" of exposed rebar hoops along with an associated narrow crack. See photo #40. REPAIR 1341. SW edge on the south face: Spall 10" long.</p> <p>Diaphragms at Pier 8: South face between all girders have horizontal cracks full width with efflorescence (Photos SI-8 and SI-9 - 2012).</p>
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<b>Bridge No.</b> 401	Page: 6/9	<b>Structure Type</b>
<b>Bridge Name</b> WEST CASHMERE	<b>Route</b> 28570	<b>Location</b> 01.0W CASHMERE
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214	<p><b>WEB WALLS:</b> Pier 5 has hairline vertical cracks in the web wall with some hairline pattern cracks and some abrasion at the ordinary high waterline.  Pier 6 has web wall hairline pattern cracks.</p>
215	<p><b>CONC. ABUTMENT:</b> The BMS concrete abutment quantity includes the wingwall lengths.  SW and SE wingwalls have hairline vertical cracks. South abutment is partially visible and has a few hairline pattern cracks. Unable to see during 2014 inspection. North abutment has hairline vertical cracks in the backwall.</p>
220	<p><b>SUBM. PILE CAP:</b> Pier 5 footing on the north side is slightly visible.</p>
227	<p><b>CONC SUBMERGED PILE/COLUMN:</b> Piers 5, and 6 each have two concrete submerged columns with a web wall between them.  There is hairline pattern cracking and light abrasion in the columns at the OHWL. Pier 5 has debris lodged on it.</p>
234	<p><b>PIER CAP:</b> Pier 3: Spalling and exfoliating along the bottom edge exposing four transverse rebar the entire length of the cap. See photo #19. Repair 1337. South face: There is delamination at the east and west springlines. North face: There is delamination at the east springline.  Pier 4: West side has a 14" x 6" x 3" deep top edge spall.  Pier 5: Bottom has a hairline longitudinal crack. East side has top edge spalls the largest of which is 10" x 6" x 1" deep.  Piers 6, 7, and 8 in the cap to web wall interfaces have medium vertical, diagonal, and horizontal cracks. See 2014 Photo.  Pier 7: Underside of diaphragm has longitudinal cracks.</p>
311	<p><b>MOVEABLE BEARINGS:</b> Pier 2, Pier 4, and Pier 6 each have two rockers. The edges of the moveable bearing plates and shoes have light rust.  Pier 2 rockers have surface rust and are tilted to the south. No evidence of any movement. See 2014 photo. Pier 4 rockers are vertical. Unable to inspection in 2014. Pier 6 rockers are rusty and are tilted to the north. No evidence of any movement.</p>
313	<p><b>FIXED BEARING:</b> Pier 3 has two fixed bearings and Pier 5 has four fixed bearings.  Pier 5 fixed bearing pins have rust spots and some failed paint. These bearings also have cracked grout pad corners.</p>
330	<p><b>METAL BRIDGE RAILING:</b> The truss span curbs at the rail bases have narrow vertical cracks.  Span 2 has loss of paint and is bent from impact in several sections (NE has up to 60% paint loss).  Spans 4 and 5 metal lattice rails have rust spots and loose flaking paint throughout. The rail vertical end angles have traffic hits.  Span 5, east rail near Pier 4, has the lower horizontal member bent 4" over 11 feet. See photo #33. REPAIR 1000.</p>
331	<p><b>CONCRETE BRIDGE RAILS:</b> The concrete bridge rails are cracked and exfoliated with minor traffic damage. The bottom of the rail to deck interfaces (at posts) have vertical and horizontal cracks.</p> <p>West rail:</p> <ul style="list-style-type: none"> <li>• Near north abutment, has been patched over an 8-feet length. See photo #35.</li> <li>• End rail was hit by traffic at junction with guardrail; concrete end post and rail is tilted.</li> <li>• South end of Span 4 is broken.</li> <li>• At Span 8 appears to have traffic damage on top edge of rail.</li> </ul> <p>East rail:</p> <ul style="list-style-type: none"> <li>• NE concrete rail was hit by traffic on 1/06/2011; there appeared to be no damage.</li> <li>• Curb, 1-foot from the end of Span 4 has full height crack.</li> </ul>
357	<p><b>PACK RUST:</b> The exterior stringers in the top flanges have pack rust. See element note 113. Span 2 NW plates have minor pack rust.</p>

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Printed On: 10/03/20

Program Mgr: Roman G. Peralta

<b>Bridge No.</b> 401	Page: 7/9	<b>Structure Type</b>
<b>Bridge Name</b> WEST CASHMERE	<b>Route</b> 28570	<b>Location</b> 01.0W CASHMERE
<b>Structure ID</b> 08430900	<b>MilePost</b> 0.16	<b>Intersecting</b> WENATCHEE R. BNRR RT.285

361	<p>SCOUR: The Wenatchee River flows from the west to the east. Piers 5 and 6 are considered to be in ordinary high water. There is heavy riprap partially covering the base of the pier walls.</p> <p>Pier 5 upstream large loose riprap is partially washed away and has woody debris against it. See photo #30.</p> <p>Pier 6 has no riprap.</p>																																																																															
362	<p>IMPACT DAMAGE: Span 2 steel open girder knee braces have impact damage. See element note 107. Span 7 concrete girders have impact damage. See element note 110.</p>																																																																															
402	<p>JOINT FILLER: Pier 3 joint is open and Pier 5 poured rubber joint is pushed down and filled with dirt and debris.</p>																																																																															
408	<p>STEEL SLIDING PLATE: The steel sliding plates are located at Pier 2, Pier 4, and Pier 6. Pier 3 is an open joint. See element note 402.</p> <p>The steel sliding plates typically have snow plow scrapes. There are 'D' spalls and patches throughout the deck joints. The deck soffit is spalling at the underside of all joints. See photo #23. All the joints have dirt and debris in them.</p> <p>Pier 2: header spall has been patched. See photos #18 and #31. REPAIR 1338 verified at this location on 8/27/2007.</p> <p>Pier 4: SB: Leading end has spalling about 6 ft. x up to 6" wide x 1" deep. NB: 12" x 4" x 1/4" deep spalled out patch.</p> <p>Pier 6: south side: Widespread spalling, the largest of which is in the northbound lane and is 3 ft. x 8" x 1" deep. 3ft. x 12" x 1" deep blown out patch. (photo #34 shows damage prior to repair, Repair 1338)</p> <p>The joints are measured along the centerline:</p> <table style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">YEAR</th> <th colspan="5"></th> <th colspan="2" style="text-align: center;">DECK</th> </tr> <tr> <th>PIER 2</th> <th>PIER 3</th> <th>PIER 4</th> <th>PIER 5</th> <th>PIER 6</th> <th>TEMPERATURE</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>2014</td> <td>1-7/16"</td> <td>3/4"</td> <td>2-1/2"</td> <td>1"</td> <td>2-1/8"</td> <td>90 degrees F</td> <td>2:30 pm</td> </tr> <tr> <td>2013</td> <td>1-9/16"</td> <td>3/4"</td> <td>2-3/8"</td> <td>0-7/8"</td> <td>2-1/4"</td> <td>85 degrees F</td> <td>8:00 am</td> </tr> <tr> <td>2009</td> <td>1-3/4"</td> <td>3/4"</td> <td>2-5/8"</td> <td>0-7/8"</td> <td>2-3/8"</td> <td>80 degrees F</td> <td>12:00 pm</td> </tr> <tr> <td>2007</td> <td>1-3/4"</td> <td></td> <td>2-1/2"</td> <td></td> <td>2-3/8"</td> <td>80 degrees F</td> <td>1:00 pm</td> </tr> <tr> <td>2005</td> <td>1-7/8"</td> <td>3/4"</td> <td>2-3/4"</td> <td></td> <td>2-1/2"</td> <td>70 degrees F</td> <td>11:45 am</td> </tr> <tr> <td>2004</td> <td>2"</td> <td>1/2"</td> <td>2-7/8"</td> <td></td> <td>2-5/8"</td> <td>50 degrees F</td> <td>08:00 am</td> </tr> <tr> <td>2002</td> <td>2-1/8"</td> <td>1/2"</td> <td>3"</td> <td></td> <td>2-1/2"</td> <td>85 degrees F</td> <td>12:00 pm</td> </tr> <tr> <td>2000</td> <td>2-1/4"</td> <td>1/2"</td> <td>3"</td> <td></td> <td>2-3/4"</td> <td>35 degrees F</td> <td></td> </tr> </tbody> </table>	YEAR						DECK		PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	TEMPERATURE	TIME	2014	1-7/16"	3/4"	2-1/2"	1"	2-1/8"	90 degrees F	2:30 pm	2013	1-9/16"	3/4"	2-3/8"	0-7/8"	2-1/4"	85 degrees F	8:00 am	2009	1-3/4"	3/4"	2-5/8"	0-7/8"	2-3/8"	80 degrees F	12:00 pm	2007	1-3/4"		2-1/2"		2-3/8"	80 degrees F	1:00 pm	2005	1-7/8"	3/4"	2-3/4"		2-1/2"	70 degrees F	11:45 am	2004	2"	1/2"	2-7/8"		2-5/8"	50 degrees F	08:00 am	2002	2-1/8"	1/2"	3"		2-1/2"	85 degrees F	12:00 pm	2000	2-1/4"	1/2"	3"		2-3/4"	35 degrees F	
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663	<p>DECK OVERALL: The NBI Deck Overall code is a '4' because of the exposed concrete deck rebar. See element note 12.</p>																																																																															
676	<p>SUBSTRUCTURE: The NBI Substructure code is a '5' because of the spalls with extensive exposed rebar in the columns and in Pier Cap 3.</p>																																																																															
681	<p>APPROACHES: South approach: Asphalt is starting to pothole. SB: 3/4" settlement at the bridge. CL: 12" diameter x 1" deep depression.</p> <p>North approach: Less than 1" settlement.</p> <p>The road under Span 7 along the Southeast bound lane shoulder, is sloughing below the guardrail. Sloughing is caused from pedestrians and roadway runoff. At the worst location, ground line to bottom of rail measures 31", ground line to top of guardrail measures 4-inches.</p>																																																																															
684	<p>BRIDGE RAILS: The bridge rails have not been crash tested and do not meet current standards.</p>																																																																															
685	<p>TRANSITION: South approaches have no transitions. North transitions are w-beam and do not meet current standards.</p>																																																																															

## BRIDGE INSPECTION REPORT

Ver Date: 09/24/2014

Agency: Chelan County

Status: **Released**

Printed On: 10/03/20

Program Mgr: Roman G. Peralta

<b>Bridge No.</b> 401	Page: 8/9	<b>Structure Type</b>
<b>Bridge Name</b> WEST CASHMERE	<b>Route</b> 28570	<b>Location</b> 01.0W CASHMERE
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686	GUARDRAIL: There are no south approach guardrails.
687	TERMINALS: South approach does not have guardrail terminals. North approach terminals are not slotted and do not meet current standards.
694	CLEARANCE: The vertical clearance at Girder A measures 14'-09" and the bridge is posted at 14'-06" in both directions.
800	HMA OVERLAY: The AC overlay is 1" thick. In Spans 6 through 8 the overlay is cracked and worn in the wheel lines. ACP spalled at Pier 6, Span 6.
901	PAINT SYSTEM: All paint has lost its elasticity, and is brittle. See photo #26. Repair 1339. The steel stringer webs and flanges have a few scattered areas of peeled paint. The inside stringer surfaces have many paint chips.  Deck truss: Small areas of peeled paint top coat and flaking paint. Bottom chord has about 3% of affected area. Diagonals and bottom bracing have about 4% of affected area. Floor-beam top flange paint has failed throughout.  Span 2: Steel Floor Beams on the inside web surfaces below the deck have peeling paint and some rust pitting where about 50% of the paint has failed.
8362	ACCIDENTS: 12/14/2010: Two car accident at north end of bridge. One car scraped the NE concrete rail. There appears to be no damage except for a couple of scrape marks.  1/06/2011: The concrete rail on the Northeast end of bridge was hit by traffic; there appeared to be no damage.

### Repairs

Repair No	Pr	R	Repair Description	Noted	Maint	Verified
1338	1	B		09/17/98		
10004	1	B		06/20/12		
10005	1	J		06/20/12	07/10/13	
10009	1	B		07/02/14		
10010	1	B		07/02/14		
1000	2	B		08/28/07		
1337	2	B		09/17/98		
1339	2	B		09/17/98		
1341	2	B		09/17/98		
3844	2	B		09/07/05		
10002	2	B		12/03/09		

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10006 2 J	06/20/12 07/10/13
10007 2 B	06/27/13
10008 2 B	07/25/13
10011 2 B	07/02/14
1342 M B	09/17/98

### Inspections Performed and Resources Required

Report Type	Date	IT	Frq	Hrs	Insp	CertNo	Coinsp	Note
Routine	06/25/14		12	1.5	PHC	G0114	JH	
<b>Resources</b>			<b>Use</b>	<b>Hour</b>	<b>Min</b>	<b>Req</b>	<b>Max</b>	<b>Notes</b>
Fracture Critical	06/27/13		24	5.5	ALP	G0507	CAM	
<b>Resources</b>			<b>Use</b>	<b>Hour</b>	<b>Min</b>	<b>Req</b>	<b>Max</b>	<b>Notes</b>
Flagging			LA	3.00		LA	LA	Contact Paula Cox of Chelan County at 509-667-6415 to arrange local agency flagging. If inspecting Span 7 with a UBIT, three flaggers will be required. Two flaggers were used in 2007.
Flagging			BN	0.00	BN	BN	BN	RR-BN Flagging: Span 3, which crosses the track, is a concrete girder and does not require a UBIT to inspect. Railroad flagging is not required.
Special Equipment			OT					Fracture Critical members can be accessed by rope climbing, double hook lanyard and 54" anchor straps.
Underwater	08/21/12	D	60	1.5	SDS	G9912	SDS	
<b>Resources</b>			<b>Use</b>	<b>Hour</b>	<b>Min</b>	<b>Req</b>	<b>Max</b>	<b>Notes</b>
Informational	08/01/14				PHC	G0114		Informational created 8-1-2014 to input 7-30-2014 deck repair comments and photos.
<b>Resources</b>			<b>Use</b>	<b>Hour</b>	<b>Min</b>	<b>Req</b>	<b>Max</b>	<b>Notes</b>