

Routine Inspection Report

Date: 8/9/2017

Br No 605 SNOW RIVER CNTR CHANNEL

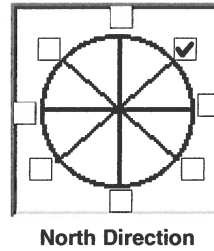
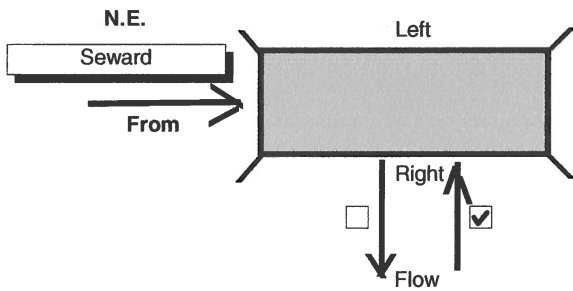
Overcast 57 F

INSPECTOR: Nick Murray

ASSISTANT: Diane Murph

Initials NWM

Initials _____



Apprh Rdwy Width (ft)	36.00
Est Camber (inch)	0.50
Bridge Length (ft)	649.00
Bridge Width O-O (ft)	34.00
CDS Route	130000
CDS Mile	17.5

Left							
Type	BRIDGE RAIL	Ht (in)	Curb Height (in)	Transition Type	Ht (in)	Approach Type/Post	Leading End Treat
Parapet w/ top mount & curb		37.00	6.50	W - Beam	29.00	W - Beam/Wood	Continuous
Right							
Type	BRIDGE RAIL	Ht (in)	Curb Height (in)	Transition Type	Ht (in)	Approach Type/Post	Leading End Treat
Parapet w/ top mount & curb		37.00	6.50	Thrie - Beam	29.50	W - Beam/Wood	SRT

Near End		SIGNS		Far End	
Lt.	Rt.	Load Limit Wording or Other Sign		Lt.	Rt.
<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
		Load Limit Wording or Other Signs			

Deck Material	Thk(Inches)
Concrete	8.00
Location Measured	
Estimated	

Wear Surface	Thk (Inches)
Same	
Wear Location	

Drive Condition

Satisfactory

Locality

Kenai Lake

Route

SEWARD HIGHWAY

Utilities

Kind	Size	Location	Owner
Stream gage box	14x12x10	downstream, midspan	USGS

Bridge No. 0605, SNOW RIVER CNTR CHANNEL

Work Candidates

Inspected on: 08/09/2017

<i>Priority</i>	<i>Description</i>	<i>Quantity</i>	<i>Work Needed</i>
High	Deck-Rehab (SF)	2053	Rehabilitate deck.
High	Misc-Install Sign (EA)	5	Install name place signs. Install NE bridge number plate. Replace FE object markers and posts.
High	Drainage-Correct Deck Drainage (EA)	1	Install DS drainage swales under approach rail to prevent roadway runoff onto bridge.
High	Approach Railing-Repair (EA)	1	Replace damaged approach rail posts and spacers at FE.
High	Approach Railing-Repair (EA)	1	Replace damaged post and spacer blocks. Replace sliced w-beam sections.
High	Channel-Remove Debris (EA)	1	Remove pier debris.

Bridge No. 0605, SNOW RIVER CNTR CHANNEL

Element Inspection

Inspected on: 08/09/2017

<i>Element</i>	<i>Description</i>	<i>Observations</i>
12	Reinforced Concrete Deck	<p>From 2015 In-Depth Insp: Span 1 US - 43SF delams, 63SF sound patch material, 0SF exposed rebar Span 2 US - 100SF delams, 125SF sound patch material, 97SF exposed rebar Span 3 US - 75SF delams, 124SF sound patch material, 12SF exposed rebar Span 4 US - 52SF delams, 51SF sound patch material, 3SF exposed rebar Span 5 US - 23SF delams, 21SF sound patch material, 1SF exposed rebar Span 6 US - 46SF delams, 31SF sound patch material, 1SF exposed rebar Span 1 DS - 82SF delams, 62SF sound patch material, 2SF exposed rebar Span 2 DS - 132SF delams, 188SF sound patch material, 17SF exposed rebar Span 3 DS - 92SF delams, 240SF sound patch material, 9SF exposed rebar Span 4 DS - 72SF delams, 132SF sound patch material, 3SF exposed rebar Span 5 DS - 17SF delams, 40SF sound patch material, 5SF exposed rebar Span 6 DS - 42SF delams, 62SF sound patch material, 3SF exposed rebar</p> <p>Several patched areas are delaminated or have adjacent delaminations. Delaminations adjacent to many spalled areas.</p>
109	Prestressed Concrete Open Girder/Beam	<p>Span 1 NE Girder 3 from DS, 2 inch x 8 inch spall with exposed stirrup. Steel has surface rust. Span 2 NE Girder 2 from DS, 6 inch diam. spall with two exposed stirrups. Steel has surface rust. Span 3 DS girder has multiple vertical cracks with efflorescence.</p>
205	Reinforced Concrete Column	None.
215	Reinforced Concrete Abutment	Dirt and debris on abutment caps from leaking joints.
234	Reinforced Concrete Pier Cap	NE Pier 6 minor spall at bridge centerline.
301	Pourable Joint Seal	<p>NE 2ft failed. FE 1ft failed. Remainder of seals are cracking.</p>
303	Assembly Joint With Seal	<p>18ft NEDS and 14ft FEUS sliding plate replaced with pourable joint seal. FEDS nosing torn. Surface rust throughout.</p>
311	Movable Bearing	<p>100% surface rust on abutment bearings. Laminar rust up to 3/8 inch thick on 75% of abutment bearings. Binocular inspection indicates remainder of bearings have surface rust.</p>
> 515	Steel Protective Coating	
313	Fixed Bearing	Binocular inspection indicates pier bearings have surface rust.

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> 515	<i>Steel Protective Coating</i>	
333	Other Bridge Railing	Span 2 US top tube bent about 2 inches US. Span 6 DS parapet, 45ft from Pier 7, 12 inch x 18 inch spall. Approximately 50ft of minor parapet cracking with efflorescence.
600	Signs Smart Flag	No name place signs. No NE bridge number plate. NE DS and FE DS object markers are missing.
602	Approach Rail Smart Flag	5th post from FEUS, split spacer block. FEUS transition w-beam sliced. Up to 100ft from FEUS, broken post and 3 broken spacers. 5th post from FEUS, broken timber post and 2 w-beam sections sliced.
603	Stay-in-Place Form Smart Flag	5% surface rust in Span 6. Less than 1% surface rust on remainder of SIP forms.
605	Debris Smart Flag	Debris and logs at Piers 2-3, 6-7. Minor debris at Piers 4-5.
606	Approach Fill Erosion Smart Flag	6-9 inch gap under NE abutment, piles are visible underneath. 5-8 inch gap under FE abutment, piles are visible underneath.
608	Wingwall Smart Flag	FE wingwall spalls with exposed 1/2 inch wide timber.

Br No 605

SNOW RIVER CNTR CHANNEL

Date: 8/9/2017

ID

07 Odd 2017 605

INSPECTOR: Nick Murray

ASSISTANT: Diane Murph

Weather
Overcast

Temperature
57 F

HYDRAULICS REPORT

Inspection To Mudline At All Piers and Abuts?

No

Apparent HW

No

Stream
Bottom
Material

Pier/Abut Not
Inspected. Why

Piers 4 and 5.

AHW Comments

Current or
Visibility

Pier 4 is mostly in the dry but
unaccessible. Pier 5 is deep, murky and
silty.

Bank Erosion

Yes

Silt

Erosion Comments

Island between piers 3-5 has vertical
banks with undercutting. Does not
appear to be a detriment to bridge or
channel.

Sand

Activities

Drift Comments

Large build up of trees, logs, etc. at every
pier except for pier 5. Scour holes 2-3ft
deep at all piers in the dry, particularly
pier 2.

Gravel

Drift

Heavy

Riprap Condition

Appears adequate at both
abutments.

Comments

Channel migration at FE US. Area around electrical
poles has been armored with large riprap.

SOUNDINGS

Measured At Surface

Top Parapet

Location

Upstream

Soundings Report

All measurements in feet

07 Odd 2017 605

Horiz Dist from NE	Substr Unit No.	Vert Dist to Water Surface	Vert Dist to Stream Bottom	Remarks
0 00	1	0.0	6.6	Beam Bridge
16 00	1	0.0	14.7	
32 20	1	0.0	15.7	
55 10	1	0.0	17.0	
82 40	1	0.0	20.0	
93 40	1	0.0	19.6	Pier 2
104 90	1	0.0	19.0	
129 20	1	0.0	16.8	
151 30	1	0.0	18.6	
179 80	1	0.0	20.5	EQW
187 10	1	0.0	21.7	Pier 3
191 70	1	0.0	22.7	
216 70	1	0.0	23.4	
269 20	1	0.0	22.5	EQW
176 90	1	0.0	18.0	
279 90	1	0.0	18.0	Pier 4
297 80	1	0.0	17.9	
311 00	1	0.0	20.0	EQW
329 50	1	0.0	26.3	
337 90	1	0.0	27.0	
360 70	1	0.0	25.6	
372 90	1	0.0	25.3	
381 20	1	0.0	26.0	
413 20	1	0.0	24.0	
440 10	1	0.0	19.3	EQW
457 20	1	0.0	19.2	
466 20	1	0.0	19.2	Pier 6
487 00	1	0.0	19.2	
524 50	1	0.0	19.2	
561 30	1	0.0	18.0	Pier 7
594 60	1	0.0	18.0	
616 40	1	0.0	17.0	
636 20	1	0.0	16.0	
643 90	1	0.0	11.0	
654 40	1	0.0	5.9	End Bridge

Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 0605 Agency ID: 0605 SR: 65.8 SD/FO: SD

IDENTIFICATION			
State 1:	02 Alaska	Struc Number 8:	0605
Facility Carried 7:	SEWARD HIGHWAY	Location 9:	MILE POINT 17.5
Rte. (On/Under)5A:	Route On Structure	Rte Signing Prefix 5B:	3 State Hwy
Level of Service 5C:	1 Mainline	Rte. Number 5D:	00031
Directional Suffix 5E:	0 N/A (NBI)	% Responsibility:	
SHD District 2:	01 Central	County Code 3:	Kenai Peninsula Borough
Place Code 4:	Seward	Mile Post 11:	17.529 mi
Feature Intersected 6:	SNOW RIVER CNTR CHANNEL		
Latitude 16:	60d 19' 60.0 "	Longitude 17:	149d 21' 9.0 "
Border Bridge Code 98:	Unknown (P)		
Border Bridge No. 99:	NA		

INSPECTION			
Frequency 91:	24 months	Inspection Date 90:	08/09/2017
Next Inspection:	08/09/2019		
FC Freq. 92A:	NA	FC Insp. Date 93A:	NA
Next FC Inspection:	NA		
UW Freq. 92B:	NA	UW Insp. Date 93B:	NA
Next UW Inspection:	NA		
SI Freq. 92C:	NA	SI Date 93C:	NA
Next SI:	NA		

CLASSIFICATION			
Defense Highway 100:	1 STRAHNET hwy	Parallel Structure 101:	No bridge exists
Traffic Direction 102:	2 2-way traffic	Temporary Structure 103:	Unknown (NBI)
Highway System 104:	1 On the NHS	NBIS Length 112:	Long Enough
Toll Facility 20:	3 On free road	Functional Class 26:	02 Rural Arterial-Other
Natl. Network 110:	0 Not on truck network	Historical Sig. 37:	5 Not eligible for NRHP
Owner 22:	01 State Highway Agency		
Custodian 21:	01 State Highway Agency		

STRUCTURE TYPE AND MATERIALS			
Number of Approach Spans 46:	0	Number of Spans Main Unit 45:	7
Main Span 43A/B:	5 Prestressed concrete		
	2 Stringer/Girder		
Appr Span 44A/B:	0 Other		
Deck Type 107:	1 Concrete Cast-in-Place		
Wearing Surface 108A:	1 Monolithic Concrete		
Membrane 108B:	0 None		
Deck Protection 108C:	0 None		

CONDITION			
Deck 58:	4 Poor	Super 59:	7 Good
Sub 60:	7 Good		
Channel/Ch. Protection 61:	7 Minor repairs needed		
Culvert 62:	N N/A (NBI)		

LOAD RATING AND POSTING			
Inventory Method 65:	1 LF Load Factor	Operating Method 63:	1 LF Load Factor
Inventory Rating 66:	HS 18	Operating Rating 64:	HS 40
Design Load 31:	4	Posting 70:	5 At/Above legal loads
Posting Status 41:	A Open, no restriction		

AGE AND SERVICE			
Year Built 27:	1965	Year Reconstructed 106:	Unknown
Type of Service on 42A:	1 Highway		
Type of Service under 42B:	5 Waterway		
Lanes on 28A:	2	Lanes under 28B:	0
Detour Length 19:	124 mi		
ADT 29:	1,942	Truck ADT 109:	9%
Year of ADT 30:	2015		

APPRAISAL			
Bridge Rail 36A:	1 Meets Standards	Approach Rail 36C:	1 Meets Standards
Transition 36B:	0 Substandard	Approach Rail Ends 36D:	1 Meets Standards
Str Evaluation 67:	7 Better than Min	Deck Geometry 68:	5 Somewhat Better than Min
Underclearance, Vertical and Horizontal 69:	N Not applicable (NBI)		
Waterway Adequacy 71:	8 Equal Desirable	Approach Alignment 72:	8 Equal Desirable Crit
Scour Critical 113:	8 Stable Above Footing		

GEOMETRIC DATA			
Length Max Span 48:	90 ft	Structure Length 49:	649 ft
Curb/Sdwk Width L 50A:	0.0 ft	Curb/Sidewalk Width R 50B:	0.0 ft
Width Curb to Curb 51:	30.2 ft	Width Out to Out 52:	34.0 ft
Approach Roadway Width 32:	36 ft	Median 33:	0 No median
(w/ shoulders)			
Deck Area:	22,141.4 sq ft		
Skew 34:	0	Structure Flared 35:	0 No flare
Vertical Clearance 10:	99.99 ft	Horizontal Clearance 47:	23.95 ft
Minimum Vertical Clearance Over Bridge 53:	100.0 ft		
Minimum Vertical Underclearance 54A:	N Feature not hwy or RR		
Minimum Vertical Underclearance 54B:	0.0 ft		
Minimum Lateral Underclearance 55A:	N Feature not hwy or RR		
Minimum Lateral Underclearance R 55A:	99.9 ft		
Minimum Lateral Underclearance L 56:	0.0 ft		

PROPOSED IMPROVEMENTS			
Bridge Cost 94:	\$0	Type of Work 75:	Unknown (P)
Roadway Cost 95:	\$0	Length of Improvement 76:	0.0 ft
Total Cost 96:	\$0	Future ADT 114:	2,200
Year of Cost Estimate 97:	Unknown	Year of Future ADT 115:	2035

NAVIGATION DATA			
Navigation Control 38:	0 Permit Not Required		
Vertical Clearance 39:	0.0 ft	Horizontal Clearance 40:	0.0 ft
Pier Protection 111:	1 Not required	Lift Bridge Vertical Clearance 116:	0.0 ft



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **1**
Ahead at bridge



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **2**
Back at bridge



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **3**
US elevation



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **4**
DS elevation



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **5**
Looking US 1



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **6**
Looking US 2



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **7**
Looking DS 1



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **8**
Looking DS 2



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **9**
Looking NE US



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **10**
Looking NE DS



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **11**
NE US island



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **12**
FE US island



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	13
	FE DS island				



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	14
	NE DS island				



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	15
	Looking FE US				



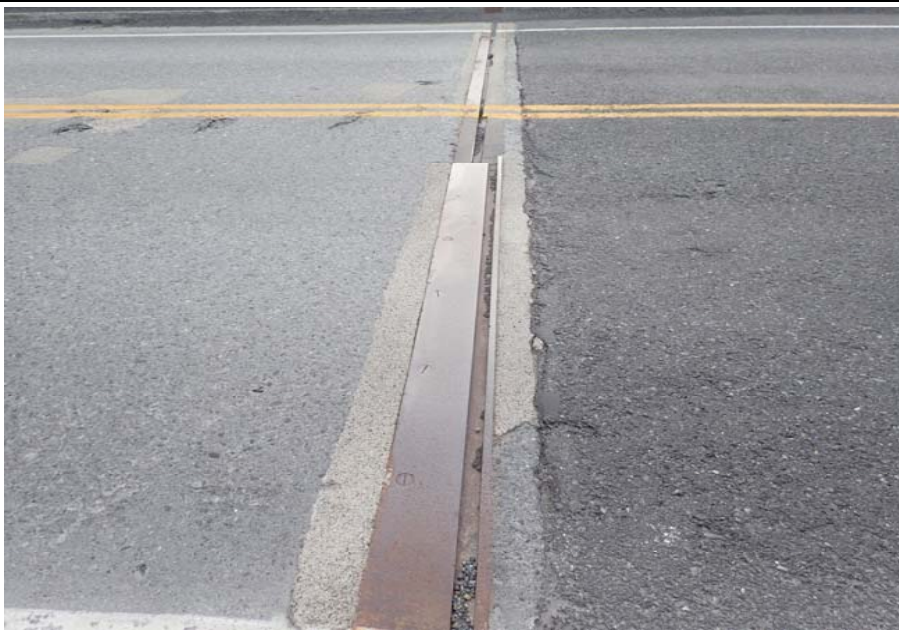
Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	16
	Wearing surface, typ.				



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	17
			US FE replacement rail		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	18
			FE US damaged rail		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	19
			NE DS expansion joint		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	20
			DS Pier 2 expansion joint		



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **21**
DS Pier 3 expansion joint



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **22**
DS pier 4 expansion joint



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **23**
DS pier 5 expansion joint



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
Inspector **Murray / Murph** Frame **24**
DS pier 6 expansion joint



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	25
			DS pier 7 expansion joint		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	26
			DS FE expansion joint		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	27
			Abutment 1		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	28
			Pier 2 NE face		



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **29**
Pier 2 FE face



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **30**
Pier 3 NE face



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **31**
DS Pier 3 end view



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **32**
FE pier 5



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **33**
NE pier 6



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **34**
FE Pier 7



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **35**
Abutment 8



Bridge No. **0605** Br. Name **Snow River Cntr Channel** Date **08/09/17**
 Inspector **Murray / Murph** Frame **36**
NE underside, typ.



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	37
			NE DS bearing, typ.		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	38
			NE piers 2, 3, 4		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	39
			DS span 3 girder efflorescence		



Bridge No.	0605	Br. Name	Snow River Cntr Channel	Date	08/09/17
Inspector			Murray / Murph	Frame	40
			Looking FE US, note new riprap		