

Routine Inspection Report

Date: 5/17/2019

Br No 445

GOOD RIVER

Cloudy

60 F

INSPECTOR: Mary McRae

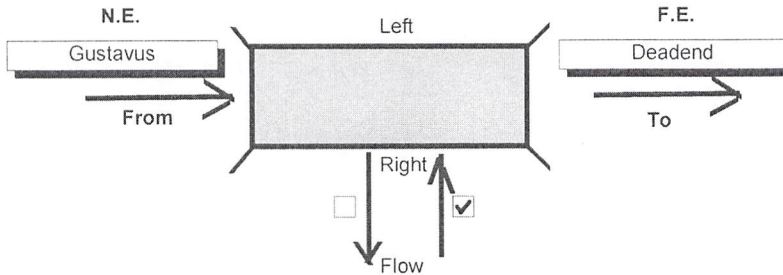
ASSISTANT: Nicholas Murray

Initials

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Initials

NWM



Apprh Rdwy Width (ft)
 Est Camber (inch)
 Bridge Length (ft)
 Bridge Width O-O (ft)
 CDS Route
 CDS Mile

Left

Type	BRIDGE RAIL	Ht (in)	Curb Height (in)	Transition Type	Ht (in)	Approach Type/Post	Leading End Treat
W-Beam/Side Mount/Bull 7.5 x 7.5		<input type="text" value="45.00"/>	<input type="text" value="11.00"/>	W- Beam	<input type="text" value="27.00"/>	W-Beam	<input type="text" value="BCT"/>

Right

Type	BRIDGE RAIL	Ht (in)	Curb Height (in)	Transition Type	Ht (in)	Approach Type/Post	Leading End Treat
W- Beam/Side Mount/Bull 7.5 x 7.5		<input type="text" value="45.00"/>	<input type="text" value="11.00"/>	W Beam	<input type="text" value="27.00"/>	W-Beam	<input type="text" value="BCT"/>

Near End		SIGNS		Far End	
Lt.	Rt.			Lt.	Rt.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Markers	Load Limit Wording or Other Sign	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Restricted Width		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Vertical Clear		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Load Limit		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Name Place		<input type="checkbox"/>	<input type="checkbox"/>

Deck Material Thk(Inches)

Timber

Location Measured

Edge of Deck

Wear Surface Thk (Inches)

Timber Run Pl

Wear Location

Midspan

Drive Condition

Good

Locality

Gustavus

Route

GOOD RIVER ROAD

Utilities

Kind	Size	Location	Owner
Electric	3" Diameter Metal	First US Bay	
Electric	2 2-1/2" Dia PVC	Attached to DS Rail Posts	

Bridge No. 0445, GOOD RIVER

Work Candidates

Inspected on: 05/17/2019

Priority	Description	Quantity	Work Needed
High	Bridge Rail-Replace	24	FE US bull rail: Replace last 24 feet. DS: Replace posts 7 and 10.
High	Approach Railing (EA)	5	NE US: Repair 1 W-beam lapped in wrong direction and loose end treatment cable. NE DS: Replace 1 rotted post. FE DS: Replace 1 post rotted. FE DS: Repair damaged end treatment and tighten cable. FE US: Replace 6 rotted posts and 2 damaged spacers.
High	Misc-Install Sign (EA)	3	Install FE name place sign and one lane bridge sign at FE.
High	Channel-Repair Washouts / Erosion	1	Place material behind FE US soldier pile wall. Fill erosion hole with riprap at FE US embankment
Medium	Substructure-Repair (EA)	1	Replace rotten and loose lagging.

Bridge No. 0445, GOOD RIVER

Element Inspection

Inspected on: 05/17/2019

Element	Description	Observations
31	Timber Deck	Sand and gravel accumulated between planks, depth of running planks on most of deck. Approximately 25% of deck planks split at ends full depth. Bottom of deck water stained with isolated areas of minor section loss.
> 510	Wearing Surfaces	Typical: Running planks split and gouged. Nail heads are starting to protrude. Rot initiating at some of the splits. NE: 1 board rotted for 5 feet.
111	Timber Open Girder/Beam	Beam 1 S3: 6 inch x 1 inch deep split at 2/3 height. Beam 3 S1: 7 foot long x 1 inch deep x 3 inch wide split at bottom. Minor section loss (1 inch or less) to bottom corners on approximately 5 percent of beams.
206	Timber Column	The pier piles sound a little soft near the water level. Lower ends of diagonal braces are starting to rot. P2 Center Pile: Split at NE bottom third with 1/2 inch probe penetration. P2 DS Pile: Old pile immediately adjacent to current pile. P3 US Pile: Split NE and below cross bracing.
216	Timber Abutment	NE US: Non-intersecting vertical and horizontal splits in end of cap. NE DS: Pile 1 split with 4 inches penetration with probe. NE DS: Cap split full height. NE DS: Pile rotted at top with 1/2 inch geopick penetration and split. FE US: Wingwall lagging rotated and undermined by flow from secondary channel. FE US: Void under abutment US bay 1 to 1.5 feet deep. FE DS Wingwall: Minor section loss in lagging. Pile split, shakes at top. Over 4 inches probe penetration. FE: All piles have loss of bearing: P1 & 2, over 50%, P3, 10%. Pile 3 split at bottom bolt with 1/4 inch section loss. Cap split full length.
235	Timber Pier Cap	Horizontal splits at mid-height typical on both piers. P2: Bottom face, split full length.
330	Metal Bridge Railing	NE US bull rail: Split 6 feet between posts 3 and 4. FE US bull rail: Last 24 feet is split and starting to rot. FE DS: Last 3 feet has impact damage but still appears functional. DS: Posts 7 and 10 have full height vertical splits.
> 515	Steel Protective Coating	
600	Signs Smart Flag	Name place sign missing at FE. No One Lane Bridge Sign at either end.

Bridge No. 0445, GOOD RIVER

602	Approach Rail Smart Flag	<p>DS: 6 inch berm at bottom of W-beam.</p> <p>NE US: 1 W-beam lapped in wrong direction and end treatment cable loose.</p> <p>NE DS: 1 rotted post. End treatment 16.5 inches at top.</p> <p>FE DS: 1 post rotted.</p> <p>FE DS: End treatment damaged and cable loose. Retaining wall piles all rotten at top with approx. 2 inches remaining section of a 12 inch diameter pile.</p> <p>FE US: 6 rotted posts and 2 damaged spacers.</p>
606	Approach Fill Erosion Smart Flag	<p>FE US embankment erosion and settlement behind wingwall. It appears an attempt was made to place some material in the erosion area; however, the material looks to be susceptible to further erosion. Riprap appears to be needed at this location.</p> <p>Retaining wall and soldier pile retaining wall lagging displaced and losing fill. Vegetation growing from cracks and piles rotting at top. 15 feet x 8 feet of erosion behind US soldier pile retaining wall with tie backs. Some planks show deterioration, vegetation and moss growth on and between planks.</p>

Br No 445	GOOD RIVER	Date: 5/17/2019	ID	09 Odd 2019 445
INSPECTOR: Mary McRae		ASSISTANT: Nicholas Murray		Weather: Cloudy Temperature: 60 F

HYDRAULICS REPORT

Inspection To Mudline At All Piers and Abuts? <input checked="" type="checkbox"/> Yes	Apparent HW <input checked="" type="checkbox"/> No	Stream Bottom Material
	AHW Comments <input type="text"/>	
	Bank Erosion <input checked="" type="checkbox"/> Yes	<input type="text"/> Sand
	Erosion Comments <input type="text"/>	<input type="text"/> Silt
	NE and FE banks cut and sloughing, extending far US and DS. Secondary channel at FE DS has undercut the FE US wingwall.	
Activities <input type="text"/> None.	Drift Comments <input type="text"/>	<input type="text"/>
Drift <input type="text"/> None		
Riprap Condition <input type="text"/> None visible.	Other Hydraulic Comments	
	Losing fill at FE US from wingwall to Pile 2; lagging is undermined. FE approaches have retaining walls; FE US wall has erosion ~ 15 feet x 8 feet; the lagging is split, separated, and vegetated.	

SOUNDINGS Measured At Surface ☐ Top Rail Location ☐ Upstream

Soundings Report				
All measurements in feet				
09 Odd 2019 445				
Horiz Dist from NE	Substr Unit No.	Vert Dist to Water Surface	Vert Dist to Stream Bottom	Remarks
0.00	1	0.0	6.0	Begin Bridge
5.50	1	0.0	6.9	
11.10	1	0.0	9.7	
18.90	1	0.0	11.5	
20.30	1	0.0	14.3	
25.20	1	0.0	17.0	P2 EOW
30.30	1	0.0	17.8	
35.50	1	0.0	17.9	
40.20	1	0.0	18.3	
44.70	1	0.0	18.5	
49.30	1	0.0	18.6	P3
54.40	1	0.0	18.3	
59.30	1	0.0	17.0	EOW
61.50	1	0.0	15.0	
65.40	1	0.0	13.2	
69.90	1	0.0	12.6	
74.40	1	0.0	12.2	End Bridge

Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 0445		Agency ID: 0445		SR: 75.9		SD/FO: ND	
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IDENTIFICATION			
State 1:	02 Alaska	Struc Number 8:	0445
Facility Carried 7:	GOOD RIVER ROAD	Location 9:	MILE POINT 0.1
Rte.(On/Under)5A:	Route On Structure	Rte Signing Prefix 5B:	8
Level of Service 5C:	0	Rte. Number 5D:	NSP00
Directional Suffix 5E:	0 N/A (NBI)	% Responsibility:	
SHD District 2:	03 Southcoast	County Code 3:	Hoonah-Angoon Census
Place Code 4:	Gustavus	Mile Post 11:	0.039 mi
Feature Intersected 6:	GOOD RIVER		
Latitude 16:	58d 24' 45.0 "	Longitude 17:	135d 46' 19.6 "
Border Bridge Code 98:	Unknown (P)		
Border Bridge No. 99:	NA		

STRUCTURE TYPE AND MATERIALS			
Number of Approach Spans 46:	0	Number of Spans Main Unit 45:	3
Main Span 43A/B:			
	7 Wood or Timber		2 Stringer/Girder
Appr Span 44A/B:			
	0 Other		00 Other
Deck Type 107:			8 Wood or Timber
Wearing Surface 108A:			7 Wood or Timber
Membrane 108B:			0 None
Deck Protection 108C:			0 None

AGE AND SERVICE			
Year Built 27:	1984	Year Reconstructed 106:	
Type of Service on 42A:	5 Highway-pedestrian		
Type of Service under 42B:	5 Waterway		
Lanes on 28A:	1	Lanes under 28B:	0
ADT 29:	10	Truck ADT 109:	1%
		Detour Length 19:	124 mi
		Year of ADT 30:	2017

GEOMETRIC DATA			
Length Max Span 48:	25 ft	Structure Length 49:	77 ft
Curb/Sdwk Width L 50A:	0.0 ft	Curb/Sidewalk Width R 50B:	0.0 ft
Width Curb to Curb 51:	14.1 ft	Width Out to Out 52:	15.3 ft
Approach Roadway Width 32:		Median 33:	0 No median
(w/ shoulders)			
Deck Area:	1,175.6 sq ft		
Skew 34:	0	Structure Flared 35:	0 No flare
Vertical Clearance 10:	99.99 ft	Horizontal Clearance 47:	14.10 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		

INSPECTION			
Frequency 91:	24 months	Inspection Date 90:	05/17/2019
Next Inspection:			05/17/2021
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:	0 Not a STRAHNET hwy	Parallel Structure 101:	No bridge exists
Traffic Direction 102:	3 1-lane Br for 2-way	Temporary Structure 103:	Unknown (NBI)
Highway System 104:	0 Not on NHS	NBIS Length 112:	Long Enough
Toll Facility 20:	3 On free road	Functional Class 26:	09
Natl. Network 110:	0 Not on truck network	Historical Sig. 37:	5 Not eligible for NRHP
Owner 22:	City or Municipal Highway Agency		
Custodian 21:	City or Municipal Highway Agency		

CONDITION			
Deck 58: 6 Satisfactory	Super 59: 6 Satisfactory	Sub 60:	6 Satisfactory
Channel/Ch. Protection 61:	5 Eroding	Culvert 62:	N N/A (NBI)

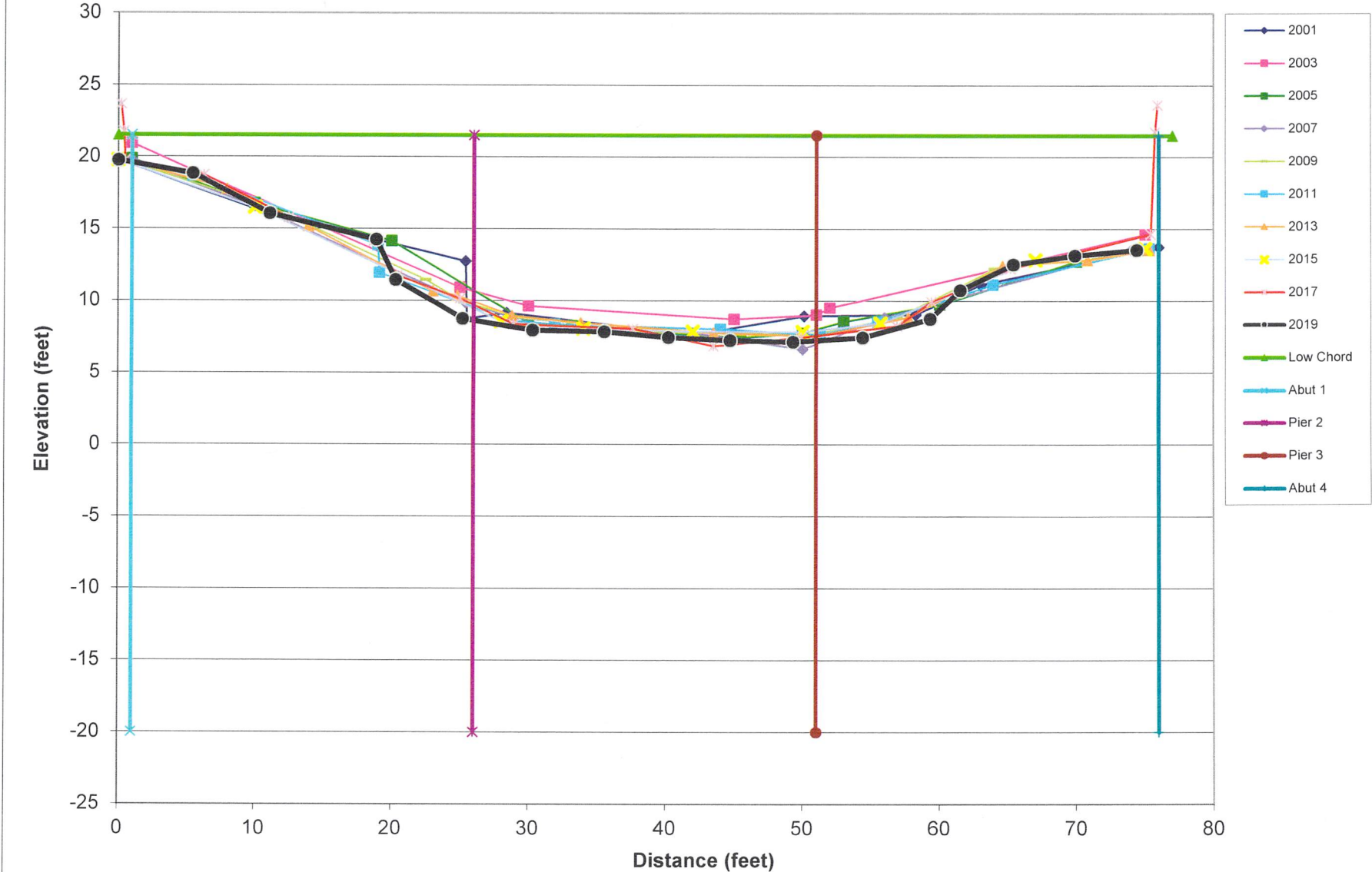
LOAD RATING AND POSTING			
Inventory Method 65:	1 LF Load Factor	Operating Method 63:	1 LF Load Factor
Inventory Rating 66:	HS 21	Operating Rating 64:	HS 28
Design Load 31:	5 MS 18 (HS 20)	Posting 70:	5 At/Above legal loads
Posting Status 41:	A Open, no restriction		

APPRAISAL			
Bridge Rail 36A:	0 Substandard	Approach Rail 36C:	1 Meets Standards
Transition 36B:	0 Substandard	Approach Rail Ends 36D:	0 Substandard
Str Evaluation 67:	6 Equal Min Criteria	Deck Geometry 68:	6 Equal Min Criteria
Underclearance, Vertical and Horizontal 69:	N Not applicable (NBI)		
Waterway Adequacy 71:	7 Better than Min	Approach Alignment 72:	4
Scour Critical 113:	6		

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:	12
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

BN 445 Good River Soundings

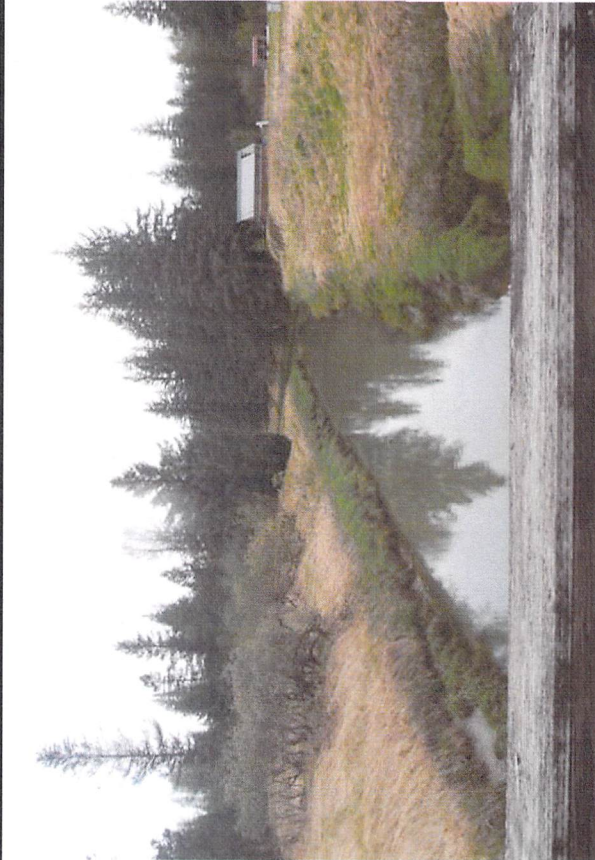




Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	1
	Ahead at Bridge			File	P5170602.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	2
	Back at bridge			File	P5170609.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	3
	Looking US			File	P5170605.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	4
	Looking DS			File	P5170606.JPG



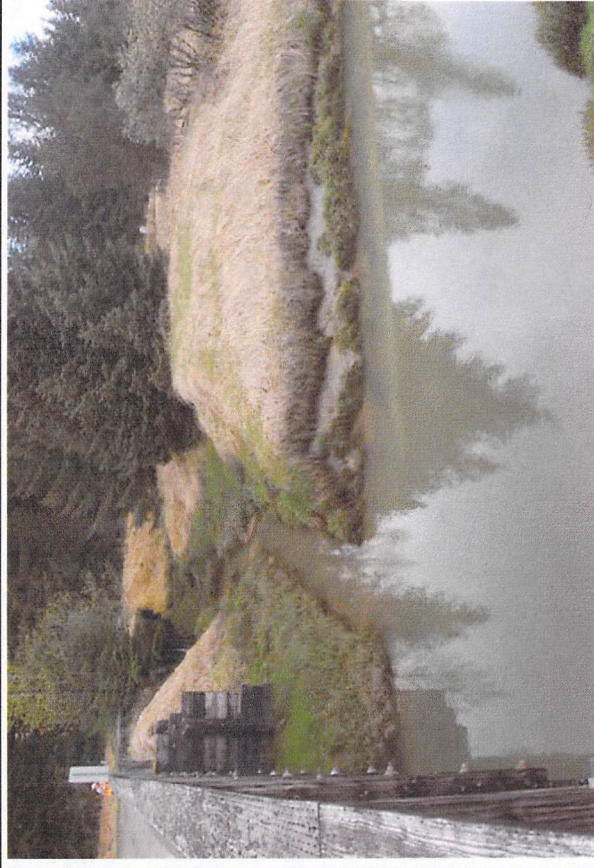
Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector	NE US bank	McRae / Murray		Frame	5
				File	P5170607.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector	NE DS bank	McRae / Murray		Frame	6
				File	P5170608.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector	FE DS bank	McRae / Murray		Frame	7
				File	P5170604.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector	FE US bank	McRae / Murray		Frame	8
				File	P5170603.JPG



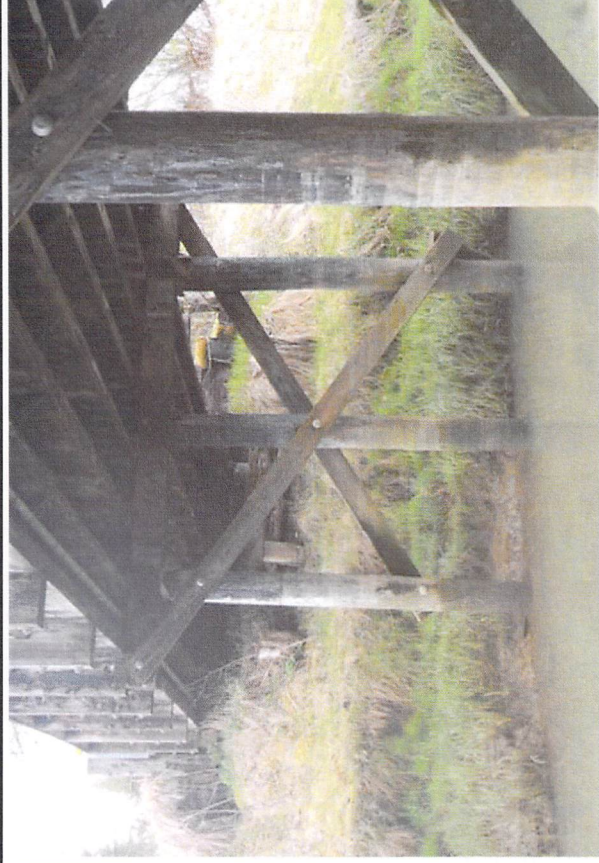
Bridge No. 0445 Br. Name Good River
Inspector McRae / Murray Date 05/17/19
Abutment 1 Frame File P5170616.JPG



Bridge No. 0445 Br. Name Good River
Inspector McRae / Murray Date 05/17/19
Abutment 4 Frame File P5170611.JPG



Bridge No. 0445 Br. Name Good River
Inspector McRae / Murray Date 05/17/19
P2, P3 NE face Frame File P5170618.JPG



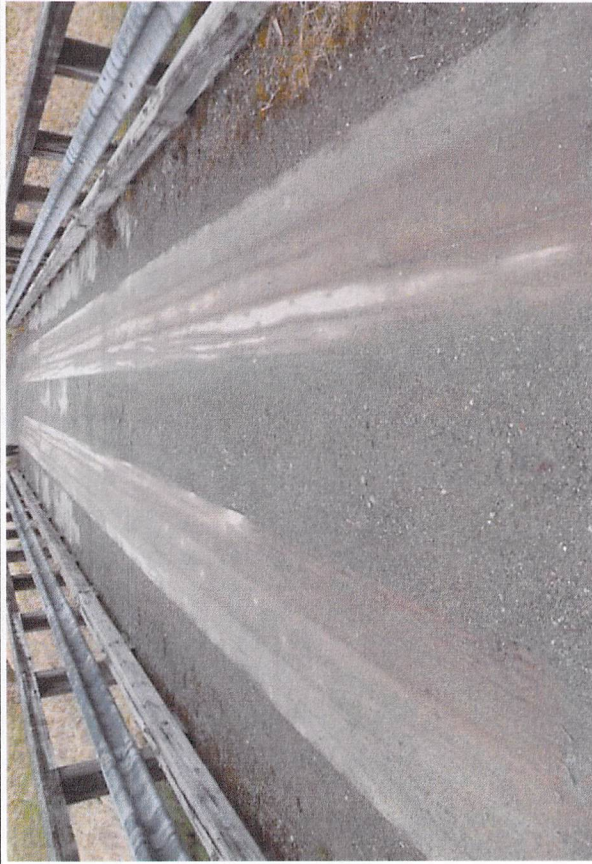
Bridge No. 0445 Br. Name Good River
Inspector McRae / Murray Date 05/17/19
P2 FE face Frame File P5170614.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	13
	P3 FE face			File	P5170612.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	14
	NE approach			File	P5170621.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	15
	Wearing surface, typ.			File	P5170610.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	16
	NE US approach railing post, typ.			File	P5170622.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	17
	FE DS wingwall pile			File	P5170623.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	18
	Span 1 beam 3			File	P5170619.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	19
	FE US backwall			File	P5170613.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	20
	Beam condition, typ.			File	P5170617.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	21
		FE DS split in beam		File	P5170624.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	22
		P3 DS pile vertical splits		File	P5170625.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	23
		FE US retaining wall		File	P5170626.JPG



Bridge No.	0445	Br. Name	Good River	Date	05/17/19
Inspector		McRae / Murray		Frame	24
		Elevation looking US		File	P5170620.JPG