

# RICHLAND County 2020 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

2/9/2021

## Inventory Data - NBIS Bridges Only

	<u>NBIS COUNT</u>
NBIS Bridges > 20'	184
Bridges 10'-20'	175
	359

Item 221 Inspection Responsibility	<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab Col BV,BW County	2	184	359
Item 21 Maintenance responsibility	<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab County	2	184	359
Col D City or other local	4	0	0
Railroad	27	0	0
Private (tohter than RR)	26	0	0
State Park	11	0	0
Local Park	23	0	0
Township	3	0	0
		184	359
Item 42A Type service on bridge	<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab Other	0	0	0
Col Q Highway	1	181	356
Railroad	2	0	0
Ped/Bikeway	3	0	0
Hwy/RR	4	0	0
Hwy/Ped	5	3	3
		184	359
Item 42B Type service under bridge	<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab Other	0	0	0
Col R Hwy w/ or w/o Ped	1	0	0
Railroad	2	4	4
Ped/Bkwy	3	0	0
Hwy w/ RR	4	0	0
Waterway	5	180	355
Hwy/Waterway	6	0	0
RR/Waterway	7	0	0
Hwy/Waterway/RR	8	0	0
Relief (for waterways)	9	0	0
		184	359

<b>ITEMS 43A,B,C Structure Type</b>	Data (Col M,N,O)	<b>CODE</b>	<b># NBIS</b>	<b># ALL</b>
Concrete Slab		101	9	49
Concrete Girder		103	1	1
Concrete Tee Beam		104	3	6
Concrete Frame		107	15	51
Concrete Deck Arch		111	1	1
Concrete Culvert (incl frame culverts)		119	9	44
Concrete Continuous Slab		201	14	14
Steel Beam or Girder		302	33	51
Steel Thru Truss (includes Pony)		310	7	7
Steel Deck Arch		311	1	3
Steel Culvert (incl frame culverts)		319	1	6
Steel Continuous Beam or Girder		402	5	5
Prestr. Conc. Cont. Box Beam/Girder Multiple		505	72	76
Prestressed Concrete Continuous Thru Arch		602	1	1
Prestr. Conc. Cont. Box Beam/Girder Multiple		605	1	1
Timber Slab		701	1	12
Timber Culvert (incl frame culverts)		719	0	1
Aluminum or Iron Culvert (incl frame culverts)		919	10	30
			<b>184</b>	<b>359</b>

<b>Item 92A Fracture Critical</b>		<b>CODE</b>	<b># NBIS</b>	<b># ALL</b>
Data Tab	Requires FC Inspection	Y	7	n/a
Col U,V,Y	Requires FC Inspection	N	176	n/a
			<b>183</b>	n/a
	FC date blank but FC=Y		<b>1</b>	n/a
missing Y/N switch RIC-T0258-0040 _(7031093)				

<b>Item 113 Scour</b>			<b># NBIS</b>	<b># ALL</b>
Data Tab	Bridge not over waterway	N	4	4
Col AA	unknown foundation	U	0	0
	over tidal waters	T	0	0
	foundations on dry land	9	0	0
	stable above footing	8	131	220
	countermeasures installed	7	8	17
	no scour evaluation made	6	0	0
	stable within footer limits	5	41	118
	stable action needed	4	0	0
	scour critical - unstable	3	0	0
	scour critical - scour present	2	0	0
	scour critical - failure imminent	1	0	0
	scour critical - bridge failed	0	0	0
			<b>184</b>	<b>359</b>



Item 63	Documented Engineering Judgment	# NBIS	# ALL
	Field Eval & Doc EJ	15	n/a

BR\_100 for these bridges?

Item 92B	Underwater	CODE	# NBIS	# ALL
Data Tab	requires dive inspection	N	183	n/a
Col W,X,Z	requires dive inspection	Y	0	n/a
			183	
	dive insp date blank but Dive=Y		0	n/a

Item 709	Plan Information	CODE	# NBIS	# ALL
Data Tab	plans not avail	0	25	51
Col. AW	plan avail	1	130	274
	field measured	2	29	34
	Field Testing	3	0	0
	not applicable	N	0	0
			184	359

Item 63	Method of Analysis	CODE	# NBIS	# ALL
Data Tab	Field Eval & Doc. Eng Judgment	0	15	35
Col. AV	Load testing	4	0	0
	No Rating done	5	0	0
	Load Factor (LF)	6	102	0
	WS or AS	7	12	0
	Load & Resistance Factor	8	55	34
	Assigned Rating (LFR) HS20	D	0	158
	Assigned Rating (LRFR) HL93	F	0	53
	Not applicable (Ped, RR, Bldg)	X	0	77
			184	357

**REMINDER:**

Load Factor required for bridges built after 1993

(exceptions: timber, etc,)

LRFR required for bridges built after 2010

## Inspection Condition Data - NBIS Bridges Only

Item 41	Operating Status	<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab	Open, No restriction	A	144	281
Col AM	Open, posting recommended	B	0	0
	Open, Half width constr.	C	0	0
	Open because of temp. fix	D	0	0
	Open using temp. structure	E	0	0
	New struture not yet open	G	0	0
	closed for load cap. reason	K	0	0
	Posted for load capacity	P	40	78
	Posted for other than load	R	0	0
	Closed for other than load	X	0	0
			184	359

### Load Rating Data

<u>Load Rating Tab</u>	<u># OF ERRORS</u>
Col. AN	Op RF greater than Inv RF? 0
Col. AO	Posting and % Legal OK? 0
Col. AP	"0" used instead of blank 0
Col. AT	% legal <> lowest RF 0
Col.A V	Item 70 correct? 0
Col. AW	Method of Rating Alike? 0
Col. AX	Op & Inv RF in Tons as req'd? 0
Col. AY	Item 575 correct? 0
Col. AZ	Depth of fill completed? 0

# KEY METRICS

<b>(C)</b>	<b>Compliant</b>	<b>(CC)</b>	<b>Conditionally Compliant</b>
<b>(SC)</b>	<b>Substantially Compliant</b>	<b>(NC)</b>	<b>Non- Compliant</b>
		<b>(NC)</b>	<b>(SC) If corrected within 6/12 months Refresher=6 mo, Comprehensive=12 mo</b>

**METRIC 2 - Program Manager Qualification** (from files examination)

From Files review	Missing	#sampled	% PASS	COMPLIANCE
PE /Experience	0	1	100.0%	(C)
Comprehensive	0	1	100.0%	(C)
Refresher	0	1	100.0%	(C)

**METRIC 3 - Team Leader Qualification** (from files examination)

From Files review	Missing	#sampled	% PASS	COMPLIANCE
Degree /Experience	0	2	100.0%	(C)
Comprehensive	0	2	100.0%	(C)
Refresher	0	2	100.0%	(C)

**METRIC 6 Insp. Frequency Routine**

Bridge Inspections Overdue	# OVERDUE	% PASS	COMPLIANCE
Data Tab NBIS - 24 months	0	100.0%	(C)
Col. AB ORC - Calendar Year	0	100.0%	(C)
BIM - 18 months	0	100.0%	(C)

**METRIC 8 - Insp. Frequency Underwater**

Dive Inspections Overdue	# OVERDUE	# UW	% PASS	COMPLIANCE
Data Tab Col. Z 60 months	0	0	100.0%	(C)

**METRIC 10 - Insp. Frequency FC Member**

FC Inspections Overdue	# OVERDUE	# FC	% PASS	COMPLIANCE
Data Tab Col. Y 24 months	0	7	100.0%	(C)

**METRIC 12 - Routine Inspection**

Field Ratings	# > +/-1	# Ratings	% PASS	COMPLIANCE
field ratings	0	24	100.0%	(C)
Comments	<b>Missing</b>	<b># &lt; 6</b>	<b>% PASS</b>	
Tab Comments when Rating < 6	30	184	83.7%	(SC)
Comments	<b>Error</b>	<b>Total Scour</b>	<b>% PASS</b>	
Tab Rating should be = Scour	1	180	99.4% within tolerance +/- 1	
Tab Noncompliant Scour Rating Err	1	180	99.4%	(C)

**METRIC 14 - Posting** Load rating data tab

From Files review	# errors	#sampled	% PASS	COMPLIANCE
Op RF < 3 tons but not closed	0	184	100.0%	(C)
Op RF = 0 but not closed	0	184	100.0%	(C)
% Legal < 100 but not posted	0	184	100.0%	(C)

Item 41 = B	0	184	100.0%	(C)
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**METRIC 16 - Fracture Critical Inspection**

<b>From Files review</b>	<b>Missing</b>	<b># FC</b>	<b>% PASS</b>	<b>COMPLIANCE</b>
Fract Critical Member ID	0	2	100.0%	(C)
Fatigue Prone Detail	2	2	0.0%	(NC)
Gusset Plate Calculations	0	2	100.0%	(C)
FC Inspection Procedure	2	2	0.0%	(NC)

**METRIC 17 - Underwater Inspection**

<b>From Files review</b>	<b>Missing</b>	<b># UW</b>	<b>% PASS</b>	<b>COMPLIANCE</b>
UW Inspection Procedure	0	1	100.0%	(C)
Location of UW elements	0	1	100.0%	(C)
UW frequency identified	0	1	100.0%	(C)

# PRELIMINARY FHWA 23 Metric Matrix

23 metrics used by FHWA to measure NBIS compliance

## Compliance Codes for the following Metrics:

- (C) Compliant
- (SC) Substantially Compliant
- (CC) Conditionally Compliant (Adhering to approved PCA)
- (NC) Not Compliant

Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection Frequency - High Risk				
8	UW Inspection Frequency - Low Risk				
9	UW Inspection Frequency - High Risk				
10	FC Inspection Frequency				
11	Frequency Criteria				
12	Inspection Quality				
13	Load Rating				
14	Posted or Restricted Bridges				
15	Bridge Files				
16	FC Bridges				
17	UW inspection procedures				
18	Scour Critical Bridges				
19	Complex Bridges				
20	QC/QA				
21	Critical Findings				
22	Inventory **				
23	Updating of Data				

\*\* based on results of Field Review

Metric	Action Needed
12	Channel comments missing and Scour Rating should control Substructure or Deck
16	Supply Risk Factors for FC Insp Procedure for each FC bridge