

# DEFIANCE County 2020 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

2/9/2021

## Inventory Data - NBIS Bridges Only

	<u>NBIS COUNT</u>
NBIS Bridges > 20'	110
Bridges 10'-20'	120
	230

Item 221	Inspection Responsibility	<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab Col BV,BW	County	2	110	230
Item 21	Maintenance responsibility	<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab	County	2	110	230
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
			110	230
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	109	229
	Railroad	2	0	0
	Ped/Bikeway	3	1	1
	Hwy/RR	4	0	0
	Hwy/Ped	5	0	0
			110	230
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	0	0
	Ped/Bkwy	3	0	0
	Hwy w/ RR	4	0	0
	Waterway	5	110	230
	Hwy/Waterway	6	0	0
	RR/Waterway	7	0	0
	Hwy/Waterway/RR	8	0	0
	Relief (for waterways)	9	0	0
			110	230

<b>ITEMS 43A,B,C Structure Type</b>	Data (Col M,N,O)	<b>CODE</b>	<b># NBIS</b>	<b># ALL</b>
Other Beam or Girder		002	1	1
Concrete Slab		101	1	7
Concrete Box Beam/Girder Multiple		105	7	13
Concrete Frame		107	2	38
Concrete Culvert (incl frame culverts)		119	1	28
Concrete Continuous Slab		201	1	1
Steel Beam or Girder		302	17	27
Steel Thru Truss (includes Pony)		310	5	5
Steel Culvert (incl frame culverts)		319	4	25
Steel Continuous Beam or Girder		402	4	4
Prestressed Concrete Thru Arch		502	2	2
Prestr. Conc. Cont. Box Beam/Girder Multiple		505	65	69
Timber Culvert (incl frame culverts)		819	0	1
Aluminum or Iron Culvert (incl frame culverts)		919	0	9
			<u>110</u>	<u>230</u>

<b>Item 92A Fracture Critical</b>		<b>CODE</b>	<b># NBIS</b>	<b># ALL</b>
Data Tab	Requires FC Inspection	Y	4	n/a
Col U,V,Y	Requires FC Inspection	N	<u>106</u>	<u>n/a</u>
			110	n/a
	FC Switch Y/N is Blank		0	n/a

<b>Item 113 Scour</b>			<b># NBIS</b>	<b># ALL</b>
Data Tab	Bridge not over waterway	N	0	0
Col AA	unknown foundation	U	0	0
	over tidal waters	T	0	0
	foundations on dry land	9	4	11
	stable above footing	8	100	191
	countermeasures installed	7	1	1
	no scour evaluation made	6	0	0
	stable within footer limits	5	5	24
	stable action needed	4	0	3
	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
			<u>110</u>	<u>230</u>

Item 63	Documented Engineering Judgment	# NBIS	# ALL
	Field Eval & Doc EJ	4	n/a

BR\_100 for these bridges?

Item 92B	Underwater	CODE	# NBIS	# ALL
Data Tab	requires dive inspection	N	110	n/a
Col W,X,Z	requires dive inspection	Y	0	n/a
			110	

Item 709	Plan Information	CODE	# NBIS	# ALL
Data Tab	plans not avail	0	2	47
Col. AW	plan avail	1	106	155
	field measured	2	1	26
	Field Testing	3	0	0
	not applicable	N	1	1
			110	229

Item 63	Method of Analysis	CODE	# NBIS	# ALL
Data Tab	Field Eval & Doc. Eng Judgment	0	4	49
Col. AV	Load testing	4	0	0
	No Rating done	5	1	0
	Load Factor (LF)	6	88	0
	WS or AS	7	2	0
	Load & Resistance Factor	8	15	39
	Assigned Rating (LFR) HS20	D	0	120
	Assigned Rating (LRFR) HL93	F	0	2
	Not applicable (Ped, RR, Bldg)	X	0	19
			110	229

**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	106	226
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	1	1
	Posted for load capacity	P	3	3
	Posted for other than load	R	0	0
	Closed for other than load	X	0	0
			110	230

### 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	1	100.0%	(C)
Comprehensive	0	1	100.0%	(C)
Refresher	0	1	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	4	100.0%	(C)

### METRIC 12 - Routine Inspection

Field Ratings	# > +/-1	# Ratings	% PASS	COMPLIANCE
field ratings	0	24	100.0%	(C)
Comments	<b>Error</b>	<b># &lt; 6</b>	<b>% PASS</b>	
Tab Comments when Rating < 6	3	109	97.2%	(C)
Comments Field Review	3	6	50.0%	(NC)
Comments	<b>Error</b>	<b>Total Scour</b>	<b>% PASS</b>	
Tab Rating should be = Scour	1	108	99.1% within tolerance +/- 1	
Tab Noncompliant Scour Rating Err	1	108	99.1%	(C)

### METRIC 14 - Posting Load rating data tab

From Files review	# errors	#sampled	% PASS	COMPLIANCE
Op RF < 3 tons but not closed	0	110	100.0%	(C)
Op RF = 0 but not closed	0	110	100.0%	(C)

% Legal < 100 but not posted	0	110	100.0%	(C)
Item 41 = B	0	110	100.0%	(C)

**METRIC 16 - Fracture Critical Inspection** (from files examination)

<b>From Files review</b>	<b>Missing</b>	<b># FC</b>	<b>% PASS</b>	<b>COMPLIANCE</b>
Fract Critical Member ID	0	1	100.0%	(C)
Fatigue Prone Detail	1	1	0.0%	(NC)
Gusset Plate Calculations	0	1	100.0%	(C)
FC Inspection Procedure	1	1	0.0%	(NC)

**METRIC 17 - Underwater Inspection** (from files examination)

<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	improve comments
16	Supply FC Insp Procedure for each FC bridge