Appendix F – Structure Inventory and Appraisal Sheets

Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 10843 Agency ID: 090B00028N SR: 45.5 SD/FO: SD

IDENTIFICATION

State 1:	21 Kentucky	Struc Num 8:	090B00028N
Facility Carried 7:	US-150	Location 9:	ON WASHINGTON - NELSON CL
Rte.(On/Under)5A:	Route On Structure	Rte. Signing Prefix 5B:	2 U.S. Numbered Hwy
Level of Service 5C:	1 Mainline	Rte. Number 5D:	00150
Directional Suffix 5E:	0 N/A (NBI)	% Responsibility :	Unknown
SHD District 2:	District 4	County Code 3:	Nelson (090)
Place Code 4:	FIPS 0000	Mile Post 11:	7.656 mi
Feature Intersected 6:	BEECH FORK		
Latitude 16:	37d 45' 47"	Longitude 17:	085d 20' 43"
Border Bridge Code 98:	Unknown (P)		
Border Bridge Number 99:			

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 46: 0 Number of Spans Main Unit 45: 5

Main Span Material/Design 43A/B:

2 Concrete Continuous 04 Tee Beam

Deck Type 107:	1 Concrete-Cast-in-Place
Wearing Surface 108A:	3 Latex Concrete/Similar
Membrane 108B:	0 None
Deck Protection 108C:	None

AGE AND SERVICE

Year Built 27: 1957 Year Reconstructed 106: 0

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: 8.1 mi

ADT 29: 8,290 Truck ADT 109: % Year of ADT 30: 2009

GEOMETRIC DATA

Length Max Span 48: 89.9 ft Structure Length 49: 404.9 ft

Curb/Sdwlk Width L 50A: 2.5 ft Curb/Sidewalk Width R 50B: 2.5 ft

Width Curb to Curb 51: 27.9 ft Width Out to Out 52: 33.1 ft

Approach Roadway Width 32: 25.9 ft (w/ shoulders) Median 33: 0 No median

Deck Area: 13,415.5 sq. ft

Skew 34: 15.00 ° Structure Flared 35: 0 No flare

Vertical Clearance 10: 99.99 ft Horiz. Clearance 47: 27.89 ft

Minimum Vertical Clearance Over Bridge 53: 328.1 ft

Minimum Vertical Underclearance Reference 54A: N Feature not hwy or RR

Minimum Vertical Underclearance 54B: 0.0 ft

Minimum Lateral Underclearance Reference R 55A: N Feature not hwy or RR

Minimum Lateral Underclearance R 55: 0.0 ft

Minimum Lateral Underclearance L 56: 0.0 ft

INSPECTION

Frequency 91:	24 months	Inspection Date 90:	2/22/2010	Next Inspection:	02/22/2012
FC Frequency 92A:	NA	FC Inspection Date 93A:	NA	Next FC Inspection:	NA
UW Frequency 92B:	NA	UW Inspection Date 93B:	NA	Next UW Inspection:	NA
SI Frequency 92C:	NA	SI Date 93C:	NA	Next SI:	NA
Element Frequency:	24 months	Element Inspection Date:	02/22/2010	Next Elem. Insp. Due:	02/22/2012

CLASSIFICATION

Defense Highway 100:	0 Not a STRAHNET hwy	Parallel Structure 101:	No || bridge exists
Direction of Traffic 102:	2 2-way traffic	Temporary Structure 103:	Not Applicable (P)
Highway System 104:	0 Not on NHS	NBIS Length 112:	Long Enough
Toll Facility 20:	3 On free road	Functional Class 26:	06 Rural Minor Arterial
Defense Hwy 110:	0	Historical Significance 37:	5 Not eligible for NRHP
Owner 22:	01 State Highway Agency		
Custodian 21:	01 State Highway Agency		

CONDITION

Deck 58: 6 Satisfactory Super 59: 4 Poor Sub 60: 6 Satisfactory

Culvert 62: N N/A (NBI) Channel/Channel Protection 61: 7 Minor Damage

LOAD RATING AND POSTING

Inventory Rating Method 65: 2 AS Allowable Stress Operating Rating Method 63: 2 AS Allowable Stress

Inventory Rating 66:	HS22.2	Operating Rating 64:	HS22.2
Design Load 31:	4 M 18 (H 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:	1 Meets Standards	Approach Rail Ends 36D:	1 Meets Standards
Str. Evaluation 67:	4	Deck Geometry 68:	4 Tolerable
Underclearance, Vertical and Horizontal 69:	N Not applicable (NBI)		
Waterway Adequacy 71:	7 Above Minimum	Approach Alignment 72:	6 Equal Min Criteria
Scour Critical 113:	4 Stable, needs action		

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:	12,352
Year of Cost Estimate 97:	Unknown	Year of Future ADT 115:	2029

NAVIGATION DATA

Navigation Control 38: 0 0

Vertical Clearance 39: 0.0 ft Horizontal Clearance 40: 0.0 ft

Pier Protection 111: 1 Not Required Lift Bridge Vertical Clearance 116:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	18/1	P Conc Deck/Thin Ovl	(SF)	11,969	0 %	0	100 %	11,969	0 %	0	0 %	0	0 %	0
1	110/1	R/Conc Open Girder	(LF)	1,612	0 %	0	0 %	0	99 %	1,600	1 %	12	0 %	0
1	205/1	R/Conc Column	(EA)	12	100 %	12	0 %	0	0 %	0	0 %	0	0 %	0
1	215/1	R/Conc Abutment	(LF)	75	0 %	0	76 %	57	24 %	18	0 %	0	0 %	0
1	234/1	R/Conc Cap	(LF)	141	100 %	141	0 %	0	0 %	0	0 %	0	0 %	0
1	302/1	Compressn Joint Seal	(LF)	59	100 %	59	0 %	0	0 %	0	0 %	0	0 %	0

Structure Inventory and Appraisal Sheet (English Units)

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	311/1	Moveable Bearing	(EA)	20	0 %	0	60 %	12	40 %	8	0 %	0	0 %	0
1	313/1	Fixed Bearing	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
1	331/1	Conc Bridge Railing	(LF)	806	1 %	6	74 %	595	25 %	205	0 %	0	0 %	0
1	359/1	Soffit Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
1	361/1	Scour Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
1	363/1	Section Loss SmFlag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
1	503/1	RC Curb	(LF)	806	7 %	56	50 %	400	43 %	350	0 %	0	0 %	0
1	505/1	RC Sidewalk	(LF)	806	26 %	206	74 %	600	0 %	0	0 %	0	0 %	0
1	606/1	Drains	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0

Str Unit	Elm/Env	Description	Element Notes
1	18/1	Concrete Deck - Protected w/ Thin	< none >
1	110/1	Reinforced Conc Open Girder/Bea	Concrete beams have been retofitted with a void filling material, High Strength Steel Sheets, Resin, and Coating. There was three (3) twelve (12) inch wide by sixty (60)-ft long high strength steel wire sheets applied on each girder. Girder 2 & 3 span 1 hardwire is debonding in small areas from the bottom and a small area from the inside of Girder 3 span 1. Girder 3 span 3, hardwire is debonding in small areas from the bottom of the girders.
1	205/1	Reinforced Conc Column or Pile E	< none >
1	215/1	Reinforced Conc Abutment	Abutments have minor to moderate cracking with leaching and minor spalls.
1	234/1	Reinforced Conc Cap	< none >
1	302/1	Compression Joint Seal	< none >
1	311/1	Moveable Bearing (roller, sliding, e	Rockers at Abutment 1 are slightly expanded. Bearings at abutments have minor section loss.
1	313/1	Fixed Bearing	
1	331/1	Reinforced Conc Bridge Railing	Concrete railing have moderate cracking, scaling, and minor spalls.
1	359/1	Soffit of Concrete Deck or Slab	Deck underside has minor cracking with leaching. Span 1 and span 5 has hardwire placed on soffit near abutment 1 and abutment 5.
1	361/1	Scour	Moderate sour at piers 2, 3, and 4.
1	363/1	Section Loss	Minor section loss at the abutment bearings.
1	503/1	Reinforced Concrete Curb	Curbs have moderate cracking, scaling and minor spalls.
1	505/1	Reinforced Concrete Sidewalk	Sidewalk has minor cracking and scaling.
1	606/1	Drains	< none >

BRIDGE NOTES

All of the repairs made to the girders will maintain the weight capacity at the current level before the repairs were made. Crack gauges were installed on this structure where vertical cracks were repaired on the girders. Diaphragms over piers 4 & 5 have hardwire applied to them.

Structure Inventory and Appraisal Sheet (English Units)

PAST INSPECTION

Inspection Date: 02/22/2010 Type: 2 Standard (24 months)

Inspector: TLAWLER Pontis User Key: TLAWLER - Todd

Scope:

NBI: ü Other: ☐ Element: ü

Underwater: ☐ Fracture Critical: ☐

INSPECTION NOTES

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PAST INSPECTION

Inspection Date: 03/12/2008 Type: 2 Standard (24 months)

Inspector: EHARDIN Pontis User Key: EHARDIN - Ernest

Scope:

NBI: ü Other: ☐ Element: ü

Underwater: ☐ Fracture Critical: ☐

INSPECTION NOTES

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Structure Inventory and Appraisal Sheet (English Units)

PAST INSPECTION

Inspection Date: 02/01/2006 Type: 2 Standard (24 months)

Inspector: DKEMPER Pontis User Key: DKEMPER - David

Scope:

NBI: ☑ Other: ☐ Element: ☐

Underwater: ☐ Fracture Critical: ☐

INSPECTION NOTES

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INSPECTOR WORK CANDIDATES

Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 13486 **Agency ID:** 115B00022N **SR:** 40.8 **SD/FO:** SD

IDENTIFICATION

State 1:	21 Kentucky	Struc Num 8:	115B00022N
Facility Carried 7:	US-150	Location 9:	.1 MI E OF NELSON CL
Rte.(On/Under)5A:	Route On Structure	Rte. Signing Prefix 5B:	2 U.S. Numbered Hwy
Level of Service 5C:	1 Mainline	Rte. Number 5D:	00150
Directional Suffix 5E:	0 N/A (NBI)	% Responsibility :	Unknown
SHD District 2:	District 4	County Code 3:	Washington (115)
Place Code 4:	FIPS 0000	Mile Post 11:	0.085 mi
Feature Intersected 6:	CARTWRIGHT CREEK		
Latitude 16:	37d 45' 48"	Longitude 17:	085d 20' 37"
Border Bridge Code 98:	Unknown (P)		
Border Bridge Number 99:			

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 46: 0 Number of Spans Main Unit 45: 3

Main Span Material/Design 43A/B:

2 Concrete Continuous 04 Tee Beam

Deck Type 107:	1 Concrete-Cast-in-Place
Wearing Surface 108A:	3 Latex Concrete/Similar
Membrane 108B:	0 None
Deck Protection 108C:	None

AGE AND SERVICE

Year Built 27:	1951	Year Reconstructed 106:	0
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: 8.7 mi
ADT 29:	8,290	Truck ADT 109: %	Year of ADT 30: 2009

GEOMETRIC DATA

Length Max Span 48:	89.9 ft	Structure Length 49:	225.1 ft
Curb/Sdwlk Width L 50A:	2.6 ft	Curb/Sidewalk Width R 50B:	2.6 ft
Width Curb to Curb 51:	27.6 ft	Width Out to Out 52:	30.5 ft
Approach Roadway Width 32: (w/ shoulders)	25.9 ft	Median 33:	0 No median
Deck Area:	6,867.2 sq. ft		
Skew 34:	0.00 °	Structure Flared 35:	0 No flare
Vertical Clearance 10:	99.99 ft	Horiz. Clearance 47:	27.56 ft

Minimum Vertical Clearance Over Bridge 53: 328.1 ft

Minimum Vertical Underclearance Reference 54A: N Feature not hwy or RR

Minimum Vertical Underclearance 54B: 0.0 ft

Minimum Lateral Underclearance Reference R 55A: N Feature not hwy or RR

Minimum Lateral Underclearance R 55: 0.0 ft

Minimum Lateral Underclearance L 56: 0.0 ft

INSPECTION

Frequency 91:	24 months	Inspection Date 90:	3/3/2010	Next Inspection:	03/03/2012
FC Frequency 92A:	NA	FC Inspection Date 93A:	NA	Next FC Inspection:	NA
UW Frequency 92B:	NA	UW Inspection Date 93B:	NA	Next UW Inspection:	NA
SI Frequency 92C:	NA	SI Date 93C:	NA	Next SI:	NA
Element Frequency:	24 months	Element Inspection Date:	03/03/2010	Next Elem. Insp. Due:	03/03/2012

CLASSIFICATION

Defense Highway 100:	0 Not a STRAHNET hwy	Parallel Structure 101:	No || bridge exists
Direction of Traffic 102:	2 2-way traffic	Temporary Structure 103:	Not Applicable (P)
Highway System 104:	0 Not on NHS	NBIS Length 112:	Long Enough
Toll Facility 20:	3 On free road	Functional Class 26:	06 Rural Minor Arterial
Defense Hwy 110:	0	Historical Significance 37:	5 Not eligible for NRHP
Owner 22:	01 State Highway Agency		
Custodian 21:	01 State Highway Agency		

CONDITION

Deck 58: 5 Fair Super 59: 4 Poor Sub 60: 6 Satisfactory

Culvert 62: N N/A (NBI) Channel/Channel Protection 61: 7 Minor Damage

LOAD RATING AND POSTING

Inventory Rating Method 65: 2 AS Allowable Stres Operating Rating Method 63: 2 AS Allowable Stress

Inventory Rating 66:	HS22.2	Operating Rating 64:	HS22.2
Design Load 31:	4 M 18 (H 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:	1 Meets Standards	Approach Rail Ends 36D:	1 Meets Standards
Str. Evaluation 67:	4	Deck Geometry 68:	3 Intolerable - Correct
Underclearance, Vertical and Horizontal 69:	N Not applicable (NBI)		
Waterway Adequacy 71:	7 Above Minimum	Approach Alignment 72:	7 Above Min Criteria
Scour Critical 113:	8 Stable Above Footing		

PROPOSED IMPROVEMENTS

Bridge Cost 94:	$ 861,000	Type of Work 75:	34 Widen w/ Deck Rehe
Roadway Cost 95:	$ 0	Length of Improvement 76:	22.6 ft
Total Cost 96:	$ 860,000	Future ADT 114:	12,352
Year of Cost Estimate 97:	1995	Year of Future ADT 115:	2029

NAVIGATION DATA

Navigation Control 38: 0 0

Vertical Clearance 39: 0.0 ft Horizontal Clearance 40: 0.0 ft

Pier Protection 111: 1 Not Required Lift Bridge Vertical Clearance 116:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	18/1	P Conc Deck/Thin Ovl	(SF)	6,160	0 %	0	100 %	6,160	0 %	0	0 %	0	0 %	0
1	110/1	R/Conc Open Girder	(LF)	880	0 %	0	100 %	876	0 %	4	0 %	0	0 %	0
1	205/1	R/Conc Column	(EA)	6	100 %	6	0 %	0	0 %	0	0 %	0	0 %	0
1	215/1	R/Conc Abutment	(LF)	110	0 %	0	0 %	0	100 %	110	0 %	0	0 %	0
1	234/1	R/Conc Cap	(LF)	70	100 %	70	0 %	0	0 %	0	0 %	0	0 %	0
1	302/1	Compressn Joint Seal	(LF)	66	100 %	66	0 %	0	0 %	0	0 %	0	0 %	0

Structure Inventory and Appraisal Sheet (English Units)

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
1	311/1	Moveable Bearing	(EA)	12	33 %	4	67 %	8	0 %	0	0 %	0	0 %	0
1	313/1	Fixed Bearing	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
1	331/1	Conc Bridge Railing	(LF)	440	0 %	0	0 %	0	100 %	440	0 %	0	0 %	0
1	359/1	Soffit Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
1	503/1	RC Curb	(LF)	440	0 %	0	100 %	438	0 %	2	0 %	0	0 %	0

Str Unit	Elm/Env	Description	Element Notes
1	18/1	Concrete Deck - Protected w/ Thin	Minor cracking and potholes.
1	110/1	Reinforced Conc Open Girder/Bea	Girders have minor to moderate cracking. Repairs have been made to deter any further cracking. Hardwire has been added to the bottoms and sides of all beams in each span. Girder 4 at abutment 4 bearing has a large spall exposing rebar which has moderate section loss.
1	205/1	Reinforced Conc Column or Pile E	< none >
1	215/1	Reinforced Conc Abutment	Abutments have minor to moderate cracking, spalling, and scaling exposing rebar.
1	234/1	Reinforced Conc Cap	< none >
1	302/1	Compression Joint Seal	
1	311/1	Moveable Bearing (roller, sliding, e	Abutment bearings have minor to moderate deterioration with minor to moderate section loss.
1	313/1	Fixed Bearing	
1	331/1	Reinforced Conc Bridge Railing	Rails have moderate deterioration.
1	359/1	Soffit of Concrete Deck or Slab	Deck underside has minor to moderate cracking with leaching. Hardwire has been added to the soffit in spans 1 and 3 from the abutments to 30' out, also added to the pier diaphrams.
1	503/1	Reinforced Concrete Curb	Curbs have minor to moderate cracking and spalling.

BRIDGE NOTES

PAST INSPECTION

Inspection Date: 03/03/2010 Type: 2 Standard (24 months)

Inspector: DKEMPER Pontis User Key: DKEMPER - Davic

Scope:

NBI: ☑ Other: ☐ Element: ☑

Underwater: ☐ Fracture Critical: ☐

INSPECTION NOTES

Structure Inventory and Appraisal Sheet (English Units)

PAST INSPECTION

Inspection Date: 03/17/2008 Type: 1 SIA (Initial Inventory)

Inspector: JNOBLIN Pontis User Key: JNOBLIN - Jim Nc

Scope:

NBI: ☑ Other: ☐ Element: ☑

Underwater: ☐ Fracture Critical: ☐

INSPECTION NOTES

PAST INSPECTION

Inspection Date: 03/01/2006 Type: 2 Standard (24 months)

Inspector: DKEMPER Pontis User Key: DKEMPER - Davic

Scope:

NBI: ☑ Other: ☐ Element: ☐

Underwater: ☐ Fracture Critical: ☐

INSPECTION NOTES

INSPECTOR WORK CANDIDATES