

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 470A

Mile Post (ON)11: 16.559 mi

Bridge Name: F-16-HV Inspection Date: 4/4/2013 Sufficiency Rating: 94.4 Not Eligible

NBI Reporting ID:	F-16-HV	Hist Signif 37:	5	UW Inspection Date 93B:	
Rgn/Sectn 2E/2M:	68	Posting status 41:	A	SI Date 93C:	
Trans Region 2T:	02	Service on/un 42A/B:	1 5	Bridge Cost 94:	\$ 0
County Code 3:	035	Main Mat/Desgn 43A/B:	2 4	Roadway Cost 95:	\$ 0
DOUGLAS		Appr Mat/Desgn 44A/B:	0 0	Total Cost 96:	\$ 0
Place Code 4:	00000	Main Spans Unit 45:	3	Year of Cost Estimate 97:	
non-city		Approach Spans 46:	0	Brdr Brdg Code/% 98A/B:	
Rte.(On/Under)5A:	1	Horiz Clr 47:	38.0 ft	Border Bridge Number 99:	
Signing Prefix 5B:	3	Max Span 48:	68.6 ft	Defense Highway 100:	0
Level of Service 5C:	1	Str Length 49:	173.3 ft	Parallel Structure 101:	L
Directional Suffix 5E:	0	Curb Wdth L/R 50A/B:	0.0 ft 0.0 ft	Direction of Traffic 102:	1
Feature Intersected 6:		Width Curb to Curb 51:	38.0 ft	Temporary Structure 103:	
SOUTH PLATTE RIVER		Width Out to Out 52:	40.4 ft	Highway System 104:	1
Facility Carried 7:		Deck Area:	7,007.3 sq. ft	Fed Lands Hiway 105:	0
SH 470 ML WBND		Min Clr Ovr Brdg 53:	99.99	Year Reconstructed 106:	0000
Alias Str No.8A:		Min Undrclr Ref 54A:	N	Deck Type 107:	1
		Min Undrclr 54B:	0.0 ft	Wearing Surface 108A:	6
Pril Str No. 8P		Min Lat Clrnce Ref R 55A:	N	Membrane 108B:	0
F-16-HW		Min Lat Undrclr R 55B:	0.0 ft	Deck Protection 108C:	0
Location 9:		Min Lat Undrclr L 56:	0.0 ft	Truck ADT 109:	3 %
0.4 MI W OF JCT US 85		Deck 58:	6	Trk Net 110:	1
Max Clr 10:	328.1 ft	Super 59:	7	Pier Protection 111:	
BaseHiway Net12:	1	Sub 60:	7	NBIS Length 112:	Y
IrsinvRout 13A	000000470A	Channel/Protection 61:	8	Scour Critical 113:	5
IrrsubRout No13B:	00	Culvert 62:	N	Scour Watch 113M:	
Latitude 16:	39d 33' 55"	Oprrtg Rtg Method 63:	1 LF Load Factr	Future ADT 114:	49,896
Longitude 17:	105d 02' 27"	Operating Rating 64:	50.0	Year of Future ADT 115:	2027
Range18A:	68	Inv Rtg Method 65:	1	CDOT Str Type 120A:	CSGC
Township18B:	68	Inventory Rating 66:	30.0	CDOT Constr Type 120B:	5.
Section18C:	31	Asph/Fill Thick 66T:	006 "in"	Inspection Indic 122A:	
Detour Length 19:	0.6 mi	Str. Evaluation 67:	6	Inspection Trip 122AA:	
Toll Facility 20:	3	Deck Geometry 68:	6	Inspection Schedule ID:	ODD MAR E17
Custodian 21:	1	Undrclr Vert/Hor 69:	N	Maintenance Patrol 123:	17
Owner 22:	1	Posting 70:	5	Expansion Dev/Type124:	0
Functional Class 26:	12	Waterway Adequacy 7:	9	Brdg Rail Type/Mod 125A/B:	W 0
Year Built 27:	1968	Approach Alignment 72:	8	Posting Trucks 129A/B/C:	0 0 0
Lanes on 28A:	2	Type of Work 75A:		Str Rating Date 130:	4/15/2005
Lanes Under 28B:	0	Work Done By 75B:		Special Equip 133:	-1
ADT 29:	34,650	Length of Improvment 76:	0.0 ft	Vert Clr N/E 134A/B/C:	X 99.99 0
Year of ADT 30:	2007	Insp Team Indicator 90B:	RED TEAM	Vert Clr S/W 135A/B/C:	X 99.99 0
Design Load 31:	5	Inspector Name 90C:	TATALASKIT	Vertical Clr Date:	1/1/1901
Apr Rdwy Width 32:	38.0 ft	Frequency 91:	24 months	Weight Limit Color: 139:	0
Median 33:	1	FC Frequency 92A:		Str Billing Type:	U
Skew 34:	30.00 °	UW Frequency 92B:		Userkey 1 - System:	ONSYS
Structure Flared 35:	0	SI Frequency 92C:		Userkey 7-Update Indic:	
Sfty Rail 36a/b/c/d:	1 0 1 1	FC Inspection Date 93A:			
Rail ht36h:	29 "in"				

Inspector Name: TATALASKIT

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Element Inspection Report

Elm/En	Description	Units	Total Qty	% in 1	CS 1	% in 2	CS 2	% in 3	CS 3	% in 4	CS 4	% in 5	CS 5
13/4	Unp Conc Deck/AC Ovl	(SF)	7,019	100 %	7,019	0 %	0	0 %	0	0 %	0	0 %	0
110/4	R/Conc Open Girder	(LF)	857	99 %	847	1 %	10	0 %	0	0 %	0	0 %	0
210/4	R/Conc Pier Wall	(LF)	89	100 %	89	0 %	0	0 %	0	0 %	0	0 %	0
215/4	R/Conc Abutment	(LF)	95	82 %	78	18 %	17	0 %	0	0 %	0	0 %	0
302/4	Compressn Joint Seal	(LF)	95	0 %	0	100 %	95	0 %	0	0 %	0	0 %	0
321/4	R/Conc Approach Slab	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
325/4	Slope Prot/Berms	(EA)	2	50 %	1	50 %	1	0 %	0	0 %	0	0 %	0
326/4	Bridge Wingwalls	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
334/4	Metal Rail Coated	(LF)	344	0 %	0	0 %	0	0 %	0	29 %	100	71 %	244
338/4	Conc Curbs/SW	(LF)	344	42 %	143	57 %	197	1 %	5	0 %	0	0 %	0
358/1	Deck Cracking SmFlag	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
359/4	Soffit Smart Flag	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0
361/4	Scour Smart Flag	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
501/1	Channel Cond	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
502/1	ChannProtMatCond	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
504/1	BankCond	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0

Elem/Env	Description	Element Notes
13/4	Unp Conc Deck/AC Ovl	Up to 6 inches of Asphalt. Mod. longit. cracks along seams and a few mod. transverse cracks. Raveling and random cracking in MLs.
110/4	R/Conc Open Girder	Typical light flexure cracks. Few small nicks from bike path construction in Span 1. Light shear cracks on few girders near A1. Map cracking with light scale, efflor., and rust at end of Girder 1A at A1 (PHOTO 4/13).
210/4	R/Conc Pier Wall	Horizontal crack runs along construction joint with several small areas of spalls.
215/4	R/Conc Abutment	1/8 inch horizontal crack with up to 1/8 inch differential along areas of both abutment tops, just below deck.
302/4	Compressn Joint Seal	At both abuts. Covered with asph. but asph. is moderately cracking and D cracking with some impending potholes at both.
321/4	R/Conc Approach Slab	Asphalt overlay. D cracking, patched in the past but reopening.

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Elem/Env	Description	Element Notes
325/4	Slope Prot/Berms	Well placed riprap below bikepath at span 1. Flow fill at abutment 1 to retaining wall is separating up to 2 inches. Few rocks scattered, mainly near toe of slope below Span 3. Minor erosion under Span 3 left side. The erosion on the right side from 2001 inspection has been filled in prior to 03/24/05 inspection. Also, the Lt. fwd slope has large diameter rock riprap over large french drain.
326/4	Bridge Wingwalls	Short extensions of abutments, looks good.
334/4	Metal Rail Coated	Painted flexbeam with 2 backing tubes, type W. Heavy rust resulted in holes in flex beam, especially left rail, see 4-2003 and 3-2001 photos. Backing tubes R3 to R4 corr. R3 corr. at base of many rail posts. See photos. Rusting flex beam has been replaced with a Galv. Thrie beam prior to 03/24/05 inspection. One bridge post on Rt. bent from impact in Span 2 near P3.
338/4	Conc Curbs/SW	Several delams., spalls and spalls with exposed rebar at rail post conn. both exter. of curbs. Most spalls are from replacement of first guardrail. Typical vertical and horizontal cracks, some with efflorescence. Bridge rail impacted and Rt. curb spalled in Span 2 near P3 (PHOTO 4/13).
358/1	Deck Cracking SmFlag	See element 13 for comments.
359/4	Soffit Smart Flag	Light shrinkage and map cracking, few areas with light efflorescence. Most of the left overhang has light to moderate scale and efflorescence with rust stains. Light scale and rust stains around bridge anchor posts at Rt. overhang. Mod. delam. Bay A at A1. Couple large areas of efflor., stalactites 1-6 inch, scale and rust in Bays 1A and 2A. See pics.
361/4	Scour Smart Flag	Up to 2.5 - 3 ft. of localized scour to nose of P3, and approx. 1 ft. of localized scour to nose of P2 measured during 2013 inspection.
501/1	Channel Cond	S. Platte River. Concrete dam about 200 feet downstream, has been modified with a spill way and has large rock surface over concrete. Chatfield reservoir 3/4 mile upstream with large dam and controlled releases.
502/1	ChannProtMatCond	Riprap along banks, well placed and stable.
504/1	BankCond	Grass and bushes along gentle slopes to high vertical erodible banks upstream and downstream.

Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
**356.01	Curb & RI	2/1/2007	-1	2015	25000

Replace rusting rail posts and backing tubes. Not completed as of 2013 inspection.

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MMS Activity	Description	Recommended	Status	Target Year	Est Cost
356.00	Railing	4/4/2013	_	2015	1000

Repair or replace pedestrian posts that are broken along bike path in Span 1.

353.08	Br Dk Rpr	3/14/2001	-1	2015	1000
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Seal asphalt above abutment joints, and cracks throughout deck.

Bridge Notes

Two - 2.5 inch utility lines attached to bridge anchor bolts along Lt. overhang.

A few pedestrian rail posts along bike path in Span 1 are either corroded through or have broken due to corrosion.

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Inspection Notes

Time: 2:35 Temp: 70 Weather: Clear

Scope:

NBI: Element: Underwater: Fracture Critical: Other: Type: Regular NBI

Team Leader Inspection Check-off:

FCM's Vertical Clearance
 Posting Signs Stream Bed Profile
 Essential Repair Verification

Inspection Team:

Inspection Date: 04/04/2013

Inspector: TATALASKIT

Inspector (Team Leader)