

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

Highway Number (ON) 5D: 470A

Mile Post (ON)11: 17.106 mi

Bridge Key: F-16-KG      Inspection Date: 1/31/2013      Sufficiency Rating: 0

Rgn/Sectn 2E/2M:	68	Hist Signif 37:	5	UW Inspection Date 93B:	
Trans Region 2T:	02	Posting status 41:	A	SI Date 93C:	
County Code 3:	035	Service on/un 42A/B:	2   1	Bridge Cost 94:	\$ 0
DOUGLAS		Main Mat/Desgn 43A/B:	5   5	Roadway Cost 95:	\$ 0
Place Code 4:	00000	Appr Mat/Desgn 44A/B:	0   0	Total Cost 96:	\$ 0
non-city		Main Spans Unit 45:	6	Year of Cost Estimate 97:	
Rte.(On/Under)5A:	2	Approach Spans 46:	0	Brdr Brdg Code/% 98A/B:	
Signing Prefix 5B:	3	Horiz Clr 47:	38.0 ft	Border Bridge Number 99:	
Level of Service 5C:	1	Max Span 48:	83.3 ft	Defense Highway 100:	0
Directional Suffix 5E:	0	Str Length 49:	418.2 ft	Parallel Structure 101:	R
Feature Intersected 6:		Curb Wdth L/R 50A/B:	2.6 ft   2.6 ft	Direction of Traffic 102:	0
SH 470 ML		Width Curb to Curb 51:	13.0 ft	Temporary Structure 103:	
Facility Carried 7:		Width Out to Out 52:	20.4 ft	Highway System 104:	1
UP RR		Deck Area:	8,568.1 sq. ft	Fed Lands Hiway 105:	0
Alias Str No.8A:		Min Clr Ovr Brdg 53:	99.99	Year Reconstructed 106:	0000
		Min Undrclr Ref 54A:	H	Deck Type 107:	1
Prll Str No. 8P		Min Undrclr 54B:	16.5 ft	Wearing Surface 108A:	9
F-16-KF		Min Lat Clrnce Ref R 55A:	H	Membrane 108B:	0
Location 9:	17.0013128611	Min Lat Undrclr R 55B:	4.0 ft	Deck Protection 108C:	0
0.11 MI E OF JCT US 85		Min Lat Undrclr L 56:	3.99934377%	Truck ADT 109:	5 %
Max Clr 10:	5.18	Deck 58:	7	Trk Net 110:	1
BaseHiway Net12:	1	Super 59:	5	Pier Protection 111:	
IrsinvRout 13A:	000000470A	Sub 60:	7	NBIS Length 112:	Y
IrssubRout No13B:	00	Channel/Protection 61:	N	Scour Critical 113:	N
Latitude 16:	39d 33' 50"	Culvert 62:	N	Scour Watch 113M:	
Longitude 17:	105d 01' 55"	Oprtng Rtg Method 63:	5 No rating	Future ADT 114:	110,260
Range18A:	68	Operating Rating 64:	0.0	Year of Future ADT 115:	2025
Township18B:	68	Inv Rtnng Method 65:	5	CDOT Str Type 120A:	CBGP
Section18C:	5	Inventory Rating 66:	0.0	CDOT Constr Type 120B:	3.
Detour Length 19:	0.6 mi	Asph/Fill Thick 66T:	000 "in"	Inspection Indic 122A:	
Toll Facility 20:	3	Str. Evaluation 67:	7	Inspection Trip 122AA:	
Custodian 21:	1	Deck Geometry 68:		Scheduling Status 122B:	
Owner 22:	1	Undrclr Vert/Hor 69:		Maintenance Patrol 123:	17
Functional Class 26:	12	Posting 70:	5	Expansion Dev/Type124:	O
Year Built 27:	1986	Waterway Adequacy 7:	N	Brdg Rail Type/Mod 125A/B:	N   1
Lanes on 28A:	00	Approach Alignment 72:	8	Posting Trucks 129A/B/C:	0   0   0
Lanes Under 28B:	6	Type of Work 75A:		Str Rating Date 130:	1/1/1901
ADT 29:	74,000	Work Done By 75B:		Special Equip 133:	-1
Year of ADT 30:	2005	Length of Improvment 76:	0.0 ft	Vert Clr N/E 134A/B/C:	E   17.16   17.08
Design Load 31:	8	Insp Team Indicator 90B:	RED TEAM	Vert Clr S/W 135A/B/C:	W   16.75   16.75
Apr Rdwy Width 32:	128.0 ft	Inspector Name 90C:	MACIASA	Vertical Clr Date:	2/5/2011
Median 33:	1	Frequency 91:	24 months	Weight Limit Color: 139:	0
Skew 34:	0.00 °	FC Frequency 92A:	-1	Str Billing Type:	U
Structure Flared 35:	0	UW Frequency 92B:	-1	Userkey 1 - System:	ONSYS
Sfty Rail 36a/b/c/d:	N   N   N   N	SI Frequency 92C:	-1	Userkey 7-Update Indic:	
Rail ht36h:	34 "in"	FC Inspection Date 93A:			

Inspector Name: MACIASA

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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
60/4	RR Dk	(EA)	8,572	0 %	0	100 %	8,572	0 %	0	0 %	0	0 %	0
104/4	P/S Conc Box Girder	(LF)	1,657	99 %	1,629	0 %	6	1 %	22	0 %	0	0 %	0
210/4	R/Conc Pier Wall	(LF)	79	100 %	79	0 %	0	0 %	0	0 %	0	0 %	0
215/4	R/Conc Abutment	(LF)	33	100 %	33	0 %	0	0 %	0	0 %	0	0 %	0
304/4	Open Expansion Joint	(LF)	144	100 %	144	0 %	0	0 %	0	0 %	0	0 %	0
310/4	Elastomeric Bearing	(EA)	48	100 %	48	0 %	0	0 %	0	0 %	0	0 %	0
325/4	Slope Prot/Berms	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
326/4	Bridge Wingwalls	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
333/4	Other Bridge Railing	(LF)	837	99 %	825	1 %	12	0 %	0	0 %	0	0 %	0
340/4	Superstr Cnc Coating	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
341/4	Substr Conc Coating	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0

Elem/Env	Description	Element Notes
60/4	RR Dk	Ballast over the tops of concrete box girders. Some leakage through joints between girders. Both overhangs have light trans & vert. cracks with efflorescence.
104/4	P/S Conc Box Girder	Leakage between box girders. Active leaking between girders spans 2 and 5 in 2012. Spall at exterior web of girs. 1D and 5D. Spalling with exposed rebar on bottom flange of Girders 2D, 3D, 4C and 4D, (See Photos). Map cracking, w/ scale, efflor., moisture on right web of Girder D at Piers. (See Photos) Minor spall end of girder 5D at P5.
210/4	R/Conc Pier Wall	All are waterstained. Some map cracking with efflorescence at exterior lt. side of all piers. Some minor scrapes and nicks on Pier 3 and Pier 4.
215/4	R/Conc Abutment	Look good.
304/4	Open Expansion Joint	Much leakage through joint onto substructure units. Joints are open 1/2 inch to 1 3/8 inches.
310/4	Elastomeric Bearing	No visible distortion.
325/4	Slope Prot/Berms	Concrete paving on both abutment slopes. Light horiz. cracks in most panels at Abutment 7. At Abutment 1, 1/16 inch crack along with very light horiz. cracks. Base of concrete slope at Pier 6 is separating about 3 inches in all directions due to water run off from ditch. A1 slope cut back stabilized for new bike path.
326/4	Bridge Wingwalls	U-Type, monolithic with abutments. Look good.
333/4	Other Bridge Railing	Steel handrail on narrow concrete parapet. 1.5 Ft. diam. areas of delam. on exterior face of lt. concrete rail above Span 2, Pier 4, and Pier 5. Rt. handrail is bent above Span 6. Some spots of map cracking with delam. and efflorescence. Some spots of spalling at joints in Span 3 on rt. side.
340/4	Superstr Cnc Coating	Minor staining on exterior from leakage through joints. Some blotted out graffiti at Abutment 7 end of girders. Some peeling on Span 2 girders near Pier 2.
341/4	Substr Conc Coating	Heavy staining on all pier walls from leakage through joints, starting to peel in spots.

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**Maintenance Activity Summary**

<b>MMS Activity</b>	<b>Description</b>	<b>Recommended</b>	<b>Status</b>	<b>Target Year</b>	<b>Est Cost</b>
354.02	Suprstr	1/31/2013	-1	2013	8000

Patch areas that are spalling at bottom flange of Girders 2D, 3D, 4C, and 4D.

**Bridge Notes**

U.S Sprint phone line 4 inch diam. steel pipe rt. side. 8 inch diam. drain on slope from wingwall. An inlet has been added on the uphill side east of Str. F-16-KF, to catch run off. A1 slope has been cut back, stablized for new bike path. Ramp in span 2 has been widened with asph. which is temp., Vert clear. taken under all but will need to be taken again in span 2. Construction under way for new flyover from S.B. 85 to E.B. 470.

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**Inspection Notes**

Previous comments > Time: 10:20      Temp: 42      Weather: Clear

**Scope:**

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

Inspector: MACIASA

Inspection Team:

Inspection Date: 01/31/2013

\_\_\_\_\_  
Inspector

\_\_\_\_\_  
Inspector