DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0179
Facility Carried: SILVERADO CANYN RD
Location : 5.4 MI E/O SANTIAGO CYN
City :
Inspection Date : 12/20/2015

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: SILVERADO CANYON CREEK

CONSTRUCTION INFORMATION

Year Built : 1947
Year Widened: N/A
Length (m) : 12.2

Skew (degrees): 45
No. of Joints : 0
No. of Hinges : 0

Structure Description: Simply supported single span steel girders (4 each) with RC open end seat abutments, all supported upon spread footings.

Span Configuration : (W) 1 @ 11.9 m (E) c/c

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.47 =>15.1 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=0.78 =>25.2 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : XXXXX
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 0.5 m br, 7.2 m, 0.5 m br (N)

Total Width: 8.2 m Net Width: 7.3 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 Inches

Rail Code: 1000

Rail Type	Location	Length (ft)	Rail Modifications
MBBR	Right/Left	78	

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal with a cobbled bottom.

NOTICE

The bridge inspection condition assessment used for this inspection is based on the American Association of State Highway and Transportation Officials (AASHTO) Bridge Element Inspection Manual 2013 as defined in Moving Ahead for Progress in the 21st Century (MAP-21) federal law. The new element inspection methodology may result in changes to related condition and appraisal ratings on the bridge without significant physical changes at the bridge.

The element condition information contained in this report represents the current condition of the bridge based on the most recent routine and special inspections. Some of the notes presented below may be from an inspection that occurred prior to the date noted in this report. Refer to the Scope and Access section of this inspection report for a description of which portions of the bridge were inspected on this date.

INSPECTION COMMENTARY

SCOPE AND ACCESS

The water in the channel is 8" deep, so all visible substructure elements were visually inspected.

MISCELLANEOUS

INSPECTION COMMENTARY

Ten-year bridge roadway, elevation and underside photos were taken during this inspection.

SUBSTRUCTURE

The wing wall adjacent to the north end of the east abutment has broken off at the base and tilted, this condition is old condition and does not appear to have any effect on the structure.

The west abutment exhibits a vertical crack, 0.5 mm wide under girder #3.

SAFE LOAD CAPACITY

This load rating was assigned temporarily on 03/11/2016 until calculations for this structure can be completed. The load rating for this bridge was assigned temporary in accordance with SMI procedures for bridge with as-built plans.

ELEMENT INSPECTION RATINGS AND NOTES

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
12			Deck-RC	2	60	sq.m	5	35	20	0
	1080		Delamination/Spall/Patched Area	2	2		0	2	0	0
	1120		Effloresecence/Rust Staining	2	3		0	3	0	0
	1130		Cracking (RC and Other)	2	30		0	10	20	0
	1190		Abrasion (PS Conc./RC)	2	20		0	20	0	0

(12-1080)
The concrete deck exhibits:
* two areas of unsound concrete -/+ 12" X 12" at the north shoulder at 10 ft and 20 ft from the east end.
* two spalls +/- 12" X 5" X 1" at east end of both lanes.

(12-1120)
There were transverse cracks with white efflorescence, two cracks in each bay of the soffit.

(12-1130)
The concrete deck exhibits few transverse cracks, up to 1.5 mm wide and up to 10 ft long in both lanes.

(12-1190)
Most of the concrete deck exhibits light abrasion.

107			Girder/Beam-Steel	2	48	m	7	41	0	0
	1000		Corrosion	2	40		0	40	0	0
	1900		Distortion	2	1		0	1	0	0
	515		Steel Coating-Paint	2	100	sq.m	50	40	10	0
		3440	Effectiveness (Steel PC)	2	50		0	40	10	0

(107-1000)
Freckled rust is forming on the steel girders (flanges and webs) without corrosion.

ELEMENT INSPECTION RATINGS AND NOTES

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
			Steel girder #2 has rust in the top flange (southerly edge), 5 ft long at the east end.							
			(107-1900) In steel girder #4 (south), the bottom flange is damaged and bent at three different locations at mid-span, the total length of this deterioration is 18" total.							
			(107-515-3440) The paint system is failed in many locations throughout the flanges and webs.							
215		**Abutment-RC**		2	24	m	22	2	0	0
	1190	**Abrasion (PS Conc./RC)**		2	2		0	2	0	0
			(215-1190) The west abutment exhibits few spots of segregatio at 1 ft from the ground, mostly at the southern half of the abutment.							
330		**Railing-Metal**		2	24	m	22	2	0	0
	1020	**Connection**		2	2		0	2	0	0
			(330-1020) Metal post #2 (counting from west) is missing, and two damaged metal posts #3 & #4 are noticed in the southerly bridge railing. At the north rail, the easterly post has deformation at the top bolt connection area.							

WORK RECOMMENDATIONS

RecDate: 05/18/2009 Action : Sub-Misc. Work By: LOCAL AGENCY Status : PROPOSED	EstCost: StrTarget: 2 YEARS DistTarget: EA:	Remove the broken wing wall at the north east corner and replace it within kind.
RecDate: 02/09/2005 Action : Railing-Repair Work By: LOCAL AGENCY Status : PROPOSED	EstCost: StrTarget: 2 YEARS DistTarget: EA:	Replace the missing metal post and the two damaged metal posts in the southerly bridge railing.

Team Leader : Ashraf Shenouda

Report Author : Ashraf Shenouda

Inspected By : A.Shenouda/KD.Henderson

Ashraf Shenouda 3/11/2016

Ashraf Shenouda (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0179**
(5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- SILVERADO CANYON CREEK
(7) FACILITY CARRIED- SILVERADO CANYN RD
(9) LOCATION- 5.4 MI E/O SANTIAGO CYN
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 44 MIN 45.56 SEC
(17) LONGITUDE 117 DEG 35 MIN 55.09 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- STEEL
TYPE- STRINGER/MULTI-BEAM OR GDR CODE 302
(44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 1
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- NONE CODE 0
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1947
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 2000
(30) YEAR OF ADT 2009 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 199 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 11.9 M
(49) STRUCTURE LENGTH 12.2 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.3 M
(52) DECK WIDTH OUT TO OUT 8.2 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 6.4 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 45 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.3 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- NOT APPLICABLE CODE N
(111) PIER PROTECTION- CODE
(39) NAVIGATION VERTICAL CLEARANCE 0.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

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SUFFICIENCY RATING = 41.6
STATUS
HEALTH INDEX 73.5
PAINT CONDITION INDEX = 80.1

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- COLLECTOR URBAN 17
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- COUNTY HIGHWAY AGENCY 02
(22) OWNER- COUNTY HIGHWAY AGENCY 02
(37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK 5
(59) SUPERSTRUCTURE 6
(60) SUBSTRUCTURE 7
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- UNKNOWN 0
(63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
(64) OPERATING RATING- 25.2
(65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUD 0
(66) INVENTORY RATING- 15.1
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 4
(68) DECK GEOMETRY 4
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 9
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 1000
(113) SCOUR CRITICAL BRIDGES 8

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT M
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114) FUTURE ADT 4204
(115) YEAR OF FUTURE ADT 2035

********** INSPECTIONS **********

(90) INSPECTION DATE 12/15 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- NO MO A)
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)