DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0176
Facility Carried: KITTERMAN DRIVE
Location : 0.1 MI. S/O SLVRDO CYN R
City :
Inspection Date : 05/07/2019

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
[X]	[ ]	[ ]	[ ]	[ ]

STRUCTURE NAME: SILVERADO CANYON CREEK

CONSTRUCTION INFORMATION

Year Built : 1970
Year Modified: 1983
Length (m) : 9.1

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

Structure Description: Simply supported single span treated timber stringers (8 each) with a timber deck, all supported by masonry rock abutments.

Span Configuration : (S) 29.00 feet (N)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.78 =>25.3 metric tons Calculation Method: ALLOWABLE STRESS
Operating Rating: RF=1.13 =>36.6 metric tons Calculation Method: ALLOWABLE STRESS
Permit Rating : GGGGG
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 0.50 feet br, 12.50 feet, 0.50 feet br (E)
Total Width: 4.3 m Net Width: 3.8 m No. of Lanes: 1 Speed: 25 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 2.0 inches
Rail Code: 0000

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal with a cobbled bottom, grouted rock slopes through the site.

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
A complete routine inspection was performed by walking on and around the bridge to inspect all visible elements of the bridge structure. Bridge deck was inspected by walking on shoulder. Soffit and all substructure were inspected by walking underneath the bridge with rain boots due to water at 4.0 inches deep inside the channel.

There is no need for a special equipment to inspect this structure except rain boots if it is in raining season.

INSPECTION COMMENTARY

DECK AND ROADWAY
The timber deck is covered by 3.0 inches thick of Asphalt with minor transverse cracks.

SUPERSTRUCTURE
There is a longitudinal horizontal check up to 0.05 inches wide, and about 30.0 percent of penetration inside of both exterior girders.

Timber beam #4 has two cracks at the bottom face at mid span approximately 9.0 ft long each.
Timber beam #6 has two cracks at the bottom face at mid span approximately 12.0 ft long each.

There are two cracks about 8.0 inches long at the middle of the easterly timber beam.

SUBSTRUCTURE
There is a wide horizontal crack at 6.0 feet long at the northerly abutment westerly end up to 1.0 inch wide.

The northerly abutment has numerous missing aggregate at westerly end (see the attached photo no. 1).

The grouted channel bed has undermining up to 2.5 feet deep, 5.0 feet deep with full channel (20.0 feet long) width at the downstream side at 10.0 feet from the west end of the bridge. (see the attached photos no. 2 and 3)

The channel bed is degraded in front of the grouted channel bed about 20.0 feet wide X 3.0 feet deep (see the attached photo no. 4).

SAFE LOAD CAPACITY
A Load Rating Summary Sheet is archeived dated 04/09/2019. The current rating has been assigned in accordance with SM&I Procedure Manual Section 5.10.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
31			**Deck-Timber**	2	40	sq.m	40	0	0	0
	510		**Deck Wearing Surface-Asphalt**	2	35	sq.m	31	4	0	0
		3220	**Cracking-AC (WS)**	2	4		0	4	0	0

(31)
There were no significant defects noted.

(31-510)
Minor cracks.

(31-510-3220)
AC roadway has random transverse cracks about 5.0 to 10.0 feet long and up to 0.5 inches wide.

111			**Girder/Beam-Timber**	2	70	m	57	13	0	0
	1150		**Check/Shake (Timber)**	2	11		0	11	0	0
	1160		**Crack (Timber)**	2	2		0	2	0	0

(111)

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
			Timber Girders have minor check, shake and cracks.							
			(111-1150)							
			There is a longitudinal horizontal check up to 0.05 inches wide, and about 30.0 percent of penetration inside of both exterior girders.							
			Timber beam #4 has two cracks at the bottom face at mid span approximately 9.0 ft long each. Timber beam #6 has two cracks at the bottom face at mid span approximately 12.0 ft long each.							
			(111-1160)							
			There are two cracks about 8.0 inches long at the middle of the easterly timber beam.							
215			**Abutment-RC**	2	9	m	5	4	0	0
	1130		**Cracking (RC and Other)**	2	2		0	2	0	0
	1190		**Abrasion (PS Conc./RC)**	2	2		0	2	0	0
			(215)							
			Cracks and abrasion on both of abutment walls.							
			(215-1130)							
			There is a wide horizontal crack at 6.0 feet long at the northerly abutment westerly end up to 1.0 inch wide.							
			(215-1190)							
			The northerly abutment has numerous missing aggregate at westerly end (see the attached photo no. 1).							
256			**Slope Protection**	2	2	ea.	2	0	0	0
			(256)							
			There were no significant defects noted.							
332			**Railing-Timber**	2	18	m	18	0	0	0
			(332)							
			There were no significant defects noted.							

WORK RECOMMENDATIONS

RecDate: 12/15/2017
Action : Sub-Misc.
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 1 YEAR
DistTarget:
EA:

Protect the grouted channel bed that has undermining up to 2.5 feet deep, 5.0 feet deep with full channel (20.0 feet long) width at the downstream side at 10.0 feet from the west end of the bridge.

Team Leader : Edwin Mah

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah

8/22/2019

Edwin Mah (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0176**
(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- KITTERMAN DRIVE
(9) LOCATION- 0.1 MI. S/O SLVRDO CYN RD
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 44 MIN 48.01 SEC
(17) LONGITUDE 117 DEG 38 MIN 15.53 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- WOOD OR TIMBER
TYPE- STRINGER/MULTI-BEAM OR GDR CODE 702
(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- TIMBER CODE 8
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

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

(27) YEAR BUILT 1970
(106) YEAR RECONSTRUCTED 1983
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 01 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 200
(30) YEAR OF ADT 2019 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 9.1 M
(49) STRUCTURE LENGTH 9.1 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 3.8 M
(52) DECK WIDTH OUT TO OUT 4.3 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 3.8 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 0 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 3.8 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 = 60.8

PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- MAJOR COLLECTOR RURAL 07
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 1 LANE, 2 WAY 3
(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 7
(59) SUPERSTRUCTURE 7
(60) SUBSTRUCTURE 5
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS N

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

(31) DESIGN LOAD- UNKNOWN 0
(63) OPERATING RATING METHOD- ALLOWABLE STRESS 2
(64) OPERATING RATING- 36.6
(65) INVENTORY RATING METHOD- ALLOWABLE STRESS 2
(66) INVENTORY RATING- 25.3
(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 5
(68) DECK GEOMETRY 2
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 8
(72) APPROACH ROADWAY ALIGNMENT 6
(36) TRAFFIC SAFETY FEATURES 0000
(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 210
(115) YEAR OF FUTURE ADT 2037

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

(90) INSPECTION DATE 05/19 (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)