DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0121
Facility Carried: BREA CANYON BLVD.
Location : 0.4 MI N/O CENTRAL AVENU
City :
Inspection Date : 11/01/2017

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: BREA CANYON CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1920
Year Modified: 1929
Length (m) : 9.1
Skew (degrees): 32
No. of Joints : 0
No. of Hinges : 0

Structure Description: Continuous 2-span CIP/RC deck slab under 5.00 ft of fill with an RC pier and RC closed end backfilled strutted abutments. Foundation type is unknown.

Span Configuration : (S) 2 @ 13.60 ft (N) c/c

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=1.00 =>32.4 metric tons Calculation Method: LOAD FACTOR
Operating Rating: RF=1.67 =>54.1 metric tons Calculation Method: LOAD FACTOR
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 11.00 ft ea., 37.00 ft, 3.00 ft ea., 0.33 ft MBGR, 5.00 ft ea. (E)
Total Width: 17.1 m Net Width: 11.3 m No. of Lanes: 2 Speed: 55 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 12.0 inches

Rail Code: 0000

Rail Type	Location	Length (ft)	Rail Modifications
MBGR on Fill	Right	30	
Safety Feature Missing	Left		

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal with heavy bushes and trees in the channel bed.

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 inspection was performed by walking on and under the bridge. There was 2 feet of

INSPECTION COMMENTARY

stagnant water in span #1 (south) and there was 2.5'of dirt accumulated in span #2 (north). A full visual inspection is performed for the visible substructure elements. Inspection access to underside bridge is from northeast quadrant.

MISCELLANEOUS

Ten year routine underside photograph was taken during this inspection and is included with this report. (see the attached photos no. 4 & 5)

DECK AND ROADWAY

Roadway erosion 12 feet long X 5 feet wide X 3 feet deep is noticed at the west shoulder at southbound lane. (see the attached photo no. 2)

WATERWAY

The channel has bushes and the trees at the channel bed at both ends.

SAFE LOAD CAPACITY

The load rating for this structure is being reviewed by SM&I Rating Branch. An updated Load Rating Summary Sheet will be archived when this review is completed. The current load rating is based on BDS computer output dated 11/21/1979.

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
38			**Slab-RC**	2	156	sq.m	156	0	0	0
(38) There were no significant defects noted. (under 5 feet of fill)										
210			**Pier Wall-RC**	2	17	m	10	4	3	0
	1080		**Delamination/Spall/Patched Area**	2	6		0	3	3	0
	1130		**Cracking (RC and Other)**	2	1		0	1	0	0

(210-1080)
Pie wall 2 has the following defects:
At the west end , there is a spall 1.5 feet X 5 inches X 2 inches with exposed rebar at the west end. (see the attached photo no. 2)
At the southerly face, there is a spall 2 feet high X 5 inches wide X 2 inches deep at East end.
At the northerly face, there is an unsound concrete area 1.5 feet high X 6 inches wide at 15 feet from the east end.
At the northerly face, there is spall with unsound concrete area combined size is 10 feet long X 1.5 feet wide X 2 inches at the west end. (see the attached photo no. 6)

(210-1130)
Pierwall 2 has two vertical cracks, up to 0.05 inches wide.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
215		Abutment-RC	2	34	m	34	0	0	0
(215) There were no significant defects noted.									
313		Bearing-Fixed	2	21	each	21	0	0	0
(313) There were no significant defects noted.									

WORK RECOMMENDATIONS

RecDate: 11/01/2017
Action : Appr. Roadway-Repair
Work By: LOCAL AGENCY
Status : PROPOSED
EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Repair the roadway erosion 12 feet long X 5 feet wide X 3 feet deep is noticed at the west shoulder at southbound lane.

RecDate: 05/18/2012
Action : Sub-Patch spalls
Work By: LOCAL AGENCY
Status : PROPOSED
EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Repair Pier wall 2 that has a spall with unsound concrete area combined size is 10 feet long X 1.5 feet wide X 2 inches at the west end.

Remove unsound concrete and patch the delamination area of Pier wall 2. Revised by A. Shenouda 05/06/2018

RecDate: 06/05/2001
Action : Remove Vegetation
Work By: LOCAL AGENCY
Status : PROPOSED
EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Clean the channel to improve the water flow by remove the bushes and the trees from the channel bed within 50 feet of the bridge.

Team Leader : Ashraf Shenouda

Report Author : Ashraf Shenouda

Inspected By : A.Shenouda/KD.Henderson

5/11/18

Ashraf Shenouda (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0121**
(5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- BREA CANYON CHANNEL
(7) FACILITY CARRIED- BREA CANYON BLVD.
(9) LOCATION- 0.4 MI N/O CENTRAL AVENUE
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 56 MIN 16.26 SEC
(17) LONGITUDE 117 DEG 53 MIN 29.83 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
TYPE- SLAB CODE 101
(44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 2
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- GRAVEL CODE 8
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

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

(27) YEAR BUILT 1920
(106) YEAR RECONSTRUCTED 1929
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 19000
(30) YEAR OF ADT 2009 (109) TRUCK ADT 2 %
(19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 4.3 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 11.3 M
(52) DECK WIDTH OUT TO OUT 17.1 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 11.0 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 32 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 8.5 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

****

SUFFICIENCY RATING = 81.9
STATUS
HEALTH INDEX 98.2
PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- MINOR ARTERIAL URBAN 16
(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 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- LOAD FACTOR 1
(64) OPERATING RATING- 54.1
(65) INVENTORY RATING METHOD- LOAD FACTOR 1
(66) INVENTORY RATING- 32.4
(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 4
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 8
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 0000
(113) SCOUR CRITICAL BRIDGES U

********** 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 41217
(115) YEAR OF FUTURE ADT 2035

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

(90) INSPECTION DATE 11/17 (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)

BREA CANYON CHANNEL

0.4 MI N/O CENTRAL AVENUE | 11/01/2017 [AAAK] | 55C0121

104 - PHOTO-Deck-Unusual Conditions

Photo No. 2

Roadway erosion 12 ft X 5 ft X 3 ft at west shoulder of SB lane.

113 - PHOTO-Sub-Damage/Deterioration

Photo No. 3

Spall at the west end of pier wall 2.

BREA CANYON CHANNEL

0.4 MI N/O CENTRAL AVENUE | 11/01/2017 [AAAK] | 55C0121

135 - PHOTO-Routine-Underside View

Photo No. 4

Underside View looking East. (north span)

135 - PHOTO-Routine-Underside View

Photo No. 5

Underside View looking East. (south span)

BREA CANYON CHANNEL

0.4 MI N/O CENTRAL AVENUE | 11/01/2017 [AAAK] | 55C0121

113 - PHOTO-Sub-Damage/Deterioration

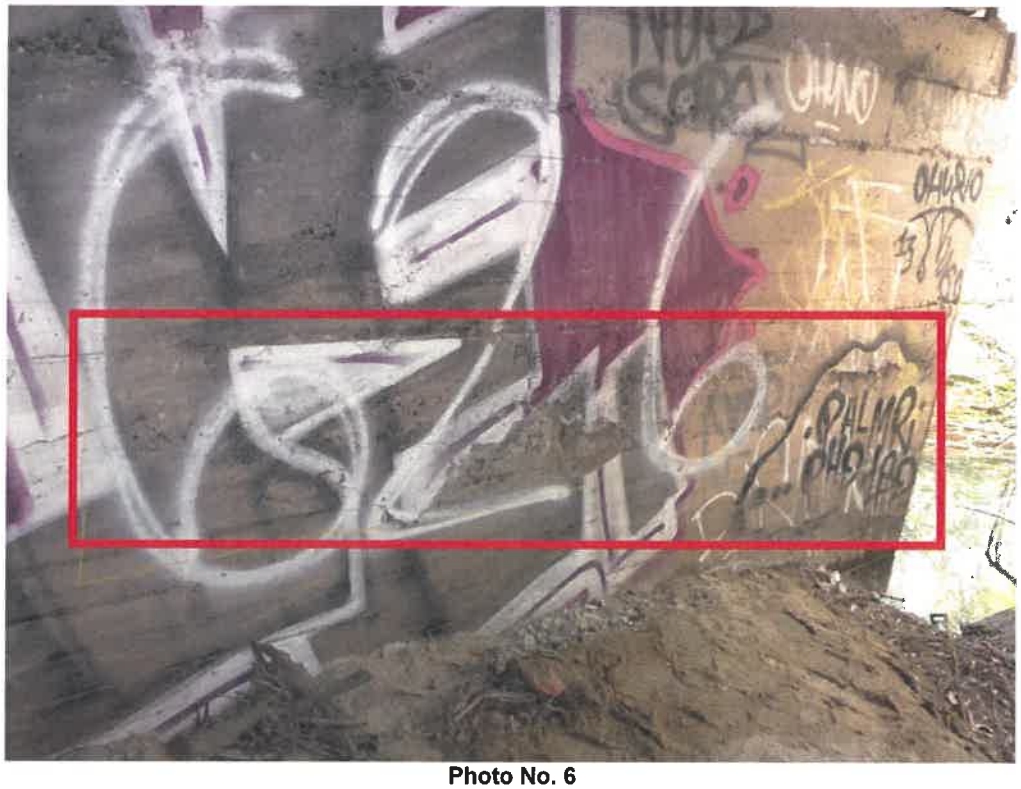

Photo No. 6

Spall and delamination 10 ft X 1.5 ft X 2 in. at north face , westerly end.