DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0119
Facility Carried: TONNER CANYON ROAD
Location : 400' S/O BREA CANYON BLV
City :
Inspection Date : 11/01/2017
Inspection Type

Bridge Inspection Report

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

STRUCTURE NAME: BREA CANYON CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1971
Year Modified: N/A
Length (m) : 11.9
Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Structure Description: Triple 12.00 ft W x 10.00 ft H x 130.00 ft L RC box culvert (non-grade top) beneath 7.00 ft of earth fill.

Span Configuration : (W) 3 @ 12.00 ft (E) clear, normal

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.75 =>24.3 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=1.25 =>40.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 14.00 ft ea, 1.0 ft MBGR, 26.00 ft ea, 47.00 ft, 26.00 ft ea, 0.33 ft CL fence, 6.00 ft ea (N)

Total Width: 36.8 m Net Width: 14.6 m No. of Lanes: 4 Speed: 45 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 2.0 inches

Rail Code: NNNN

Rail Type	Location	Length (ft)	Rail Modifications
MBGR on Fill	Right	100	
Pedestrian	Left	100	CLF

DESCRIPTION UNDER STRUCTURE

Channel Description: RC rectangular upstream, natural earth trapezoidal downstream with heavy bushes and trees in the channel.

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 the deck and through the all barrels. A full visual inspection is performed for the visible substructure elements. Inspection access

INSPECTION COMMENTARY

to the underside of the culvert is from southwest quadrant. The water in the channel was 6 inches inside all barrels. Rain boots were used during the underside inspection. There are bushes and trees down stream obstructed the water flow.

MISCELLANEOUS

Ten year routine underside photograph was taken during this inspection and is included with this report. (see the attached photos no. 2 to 4)

SUBSTRUCTURE

Most culvert walls are covered with graffiti.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet is included with this bridge inspection report. The current rating has been assigned in accordance with SM&I procedures.

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
241			Culvert-RC	2	120	m	100	18	2	0
	1080		Delamination/Spall/Patched Area	2	1		0	0	1	0
	1090		Exposed Rebar (PS Conc./RC)	2	1		0	1	0	0
	1120		Efflorescence/Rust Staining	2	3		0	2	1	0
	1130		Cracking (RC and Other)	2	15		0	15	0	0

(241-1080)
There are spalls at the following locations:
Culvert wall 1 has a spall 12 inches X 12 inches X 2 inches at 10 feet from the south end. (see the attached photo no. 6)
Culvert wall 3 (west face) has a spall 5 inches x 5 inches x 1 inches at north end.

(241-1090)
There were six areas of exposed rebars in the invert of barrel #1 up to 15 inches long; and an exposed area 2 feet long rebar at the bottom of wall #4.

(241-1120)
The soffit of the culvert at all barrels has up to three longitudinal cracks with white and brown efflorescence. (see the attached photo no. 5)

(241-1130)
Culvert wall 1 has two vertical cracks, up to 0.04 inches wide and two horizontal cracks 10 feet long and up to 0.03 inches wide at the ends.
Culvert wall 2 has two vertical cracks, up to 0.04 inches wide.
Culvert wall 3 has five vertical cracks, up to 0.05 inches wide.
Culvert wall 4 has two vertical cracks, up to 0.04 inches wide and two horizontal cracks 10 feet long and up to 0.03 inches wide at the ends.

WORK RECOMMENDATIONS

WORK RECOMMENDATIONS

RecDate: 11/01/2017	EstCost:		Patch the spall 12 inches X 12 inches X 2 inches at culvert wall 1 at 10 feet from the south end. (see the attached photo no. 6)
Action : Sub-Patch spalls	StrTarget:	2 YEARS	
Work By: LOCAL AGENCY	DistTarget:		
Status : PROPOSED	EA:		
RecDate: 06/05/2001	EstCost:		Remove the bushes and trees from the channel bed within 30 meters of the bridge to allow the water to flow properly. It is growing back.
Action : Remove Vegetation	StrTarget:	2 YEARS	
Work By: LOCAL AGENCY	DistTarget:		
Status : PROPOSED	EA:		

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 **55C0119**
(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- TONNER CANYON ROAD
(9) LOCATION- 400' S/O BREA CANYON BLVD
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 56 MIN 21.19 SEC
(17) LONGITUDE 117 DEG 52 MIN 39.33 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
TYPE- CULVERT CODE 119
(44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 3
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- NOT APPLICABLE CODE N
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- NOT APPLICABLE CODE N
B) TYPE OF MEMBRANE- NOT APPLICABLE CODE N
C) TYPE OF DECK PROTECTION- NOT APPLICABLE CODE N

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

(27) YEAR BUILT 1971
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 04 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 2000
(30) YEAR OF ADT 2009 (109) TRUCK ADT 3 %
(19) BYPASS, DETOUR LENGTH 19 KM

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

(48) LENGTH OF MAXIMUM SPAN 3.7 M
(49) STRUCTURE LENGTH 11.9 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 14.6 M
(52) DECK WIDTH OUT TO OUT 36.8 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 14.6 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 14.6 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 = 70.9
STATUS
HEALTH INDEX 93.9
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 N
(59) SUPERSTRUCTURE N
(60) SUBSTRUCTURE N
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS 7

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

(31) DESIGN LOAD- UNKNOWN 0
(63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
(64) OPERATING RATING- 40.5
(65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUD 0
(66) INVENTORY RATING- 24.3
(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 6
(68) DECK GEOMETRY 2
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 8
(72) APPROACH ROADWAY ALIGNMENT 7
(36) TRAFFIC SAFETY FEATURES NNNN
(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 3544
(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

400' S/O BREA CANYON BLVD | 11/01/2017 [AAAI] | 55C0119

135 - PHOTO-Routine-Underside View

Photo No. 2

Underside View looking North. barrel 1

135 - PHOTO-Routine-Underside View

Photo No. 3

Underside View looking North. barrel 2

BREA CANYON CHANNEL

400' S/O BREA CANYON BLVD | 11/01/2017 [AAAI] | 55C0119

135 - PHOTO-Routine-Underside View

Photo No. 4

Underside View looking North. barrel 3

113 - PHOTO-Sub-Damage/Deterioration

Photo No. 5

Longitudinal cracks with white and brown ellorescence in all barrels.

BREA CANYON CHANNEL

400' S/O BREA CANYON BLVD | 11/01/2017 [AAAI] | 55C0119

113 - PHOTO-Sub-Damage/Deterioration

Photo No. 6

Culvert wall 1 has a spall 1 ft X 1 ft X 2 inches at 10 feet from the south end.