



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0077
Facility Carried: CHAPMAN AVENUE
Location : 0.4 MI E/O ROUTE 39
City : STANTON
Inspection Date : 05/26/2018

Bridge Inspection Report

Inspection Type

Routine ☒ FC ☐ Underwater ☐ Special ☐ Other ☐

STRUCTURE NAME: ANAHEIM-BARBER CITY CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1959 Skew (degrees): 52
Year Modified: N/A No. of Joints : 0
Length (m) : 13.4 No. of Hinges : 0

Structure Description: Double 12.00 feet W x 10.00 feet H x 156.00 feet L (grade top)
beneath 1.00 feet of earth fill.

Span Configuration : (W) 2 @ 12.00 feet (E)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20
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 : P P P P P
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (N) 0.80 feet cu, 5.40 feet sw, 83.00 feet, 5.40 feet sw, 1.00 foot cu (S)

Total Width: 29.1 m Net Width: 25.3 m No. of Lanes: 5 Speed: 40 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 3.0 inches
Rail Code: NNNN

DESCRIPTION UNDER STRUCTURE

Channel Description: RC trapezoidal.

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.

The water depth in the channel is 3.0 inches deep and 3.0 feet wide at the inspection time for both barrels.

INSPECTION COMMENTARY

There is no need of a special equipment to inspect this structure.

DECK AND ROADWAY

This structure has an AC Deck Overlay at the time of inspection.

The AC departure roadway of westbound lanes is settled at 1.0 inch.

AC Deck Overlay has a longitudinal crack 20.0 feet long and 0.25 inches wide at westbound lane #2.

SUPERSTRUCTURE

As mentioned in the previous bridge inspection report, the soffit culvert has random cracks as follows:

In barrel #2, there are three longitudinal cracks with white efflorescence; and also, in barrel #1, there are four longitudinal cracks with white and brown efflorescence (see the attached photo no. 3).

SUBSTRUCTURE

The debris has been building up on the top of center pier wall nose at the northerly side.

As mentioned in the previous bridge inspection reports, the below is the spall locations as following:

The south headwall has:

01 unsound concrete area at (2.0 feet X 6.0 inches X 6.0 inches) underneath chain link fence post #3 (counting from west).

01 spall at (3.0 feet X 8.0 inches X 3.0 inches) underneath the Chain Link Fence Post #2 (counting from east); (see the attached photo no. 2)

02 small spalls at (4.0 inches X 4.0 inches X 1.0 inch) with rebar exposed and rusted at the bottom face of the headwall at barrel #2, easterly end.

01 unsound concrete area at (4.0 inches X 4.0 inches X 1.0 inch) at east end of barrel #2.

The north headwall has a spall at (10.0 inches X 4.0 inches X 3.0 inches) at east end.

The south and north end of soffit of both barrel, there are unsound concrete areas at (4.0 inches X 4.0 inches X 1.0 inch).

As mentioned in the previous bridge inspection reports, the culvert walls has random cracks as follows:

Culvert wall #1 (west wall) has four vertical cracks, up to 0.05 inches wide; and a horizontal crack 0.03 inches wide and 15.0 feet long at 30.0 feet from the north end at 7.0 feet above the invert.

Culvert wall #2 has eleven vertical cracks and two diagonal cracks, up to 0.05 inches wide.

Culvert wall #3 (east wall) has three vertical cracks, up to 0.04 inches wide; and a horizontal crack 0.03 inches wide and 30.0 feet long at the north end at 7.0 feet above the invert.

The south headwall has a vertical crack, 0.04 inches above culvert wall #2.

INSPECTION COMMENTARY

The north headwall has a vertical crack, 0.04 inches wide culvert wall #2.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet was archived on 10/30/2015 for this structure. The current rating has been assigned in accordance with SMI procedures for culverts. Based on the field conditions and load history, the culvert is adequate to carry legal loads.

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
241		Culvert-RC	2	96	m	83	11	2 0
	1080	Delamination/Spall/Patched Area	2	4		0	2	2 0
	1120	Efflorescence/Rust Staining	2	3		0	3	0 0
	1130	Cracking (RC and Other)	2	6		0	6	0 0

(241)

There were no significant defects noted.

(241-1080)

The south headwall has:

01 unsound concrete area at (2.0 feet X 6.0 inches X 6.0 inches) underneath chain link fence post #3 (counting from west).

01 spall at (3.0 feet X 8.0 inches X 3.0 inches) underneath the Chain Link Fence Post #2 (counting from east); (see the attached photo no. 2)

02 small spalls at (4.0 inches X 4.0 inches X 1.0 inch) with rebar exposed and rusted at the bottom face of the headwall at barrel #2, easterly end.

01 unsound concrete area at (4.0 inches X 4.0 inches X 1.0 inch) at east end of barrel #2.

The north headwall has a spall at (10.0 inches X 4.0 inches X 3.0 inches) at east end.

The south and north end of soffit of both barrel, there are unsound concrete areas at (4.0 inches X 4.0 inches X 1.0 inch).

(241-1120)

the soffit culvert has random cracks as follows:

In barrel #2, there are three longitudinal cracks with white efflorescence; and also, in barrel #1, there are four longitudinal cracks with white and brown efflorescence (see the attached photo no. 3).

(241-1130)

The culvert walls has cracks as follows:

Culvert wall #1 (west wall) has four vertical cracks, up to 0.05 inches wide; and a horizontal crack 0.03 inches wide and 15.0 feet long at 30.0 feet from the north end at 7.0 feet above the invert.

Culvert wall #2 has eleven vertical cracks and two diagonal cracks, up to 0.05 inches wide.

Culvert wall #3 (east wall) has three vertical cracks, up to 0.04 inches wide; and a horizontal crack 0.03 inches wide and 30.0 feet long at the north end at 7.0 feet above the invert.

The south headwall has a vertical crack, 0.04 inches above culvert wall #2.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each State	Condition	State
							St. 1	St. 2	St. 3 St. 4

The north headwall has a vertical crack, 0.04 inches wide culvert wall #2.

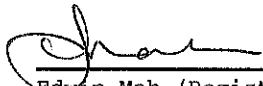
WORK RECOMMENDATIONS

RecDate: 07/14/2017	EstCost:	Patch the spall 3.0 feet X 8.0 inches X
Action : Sub-Patch spalls	StrTarget: 2 YEARS	3.0 inches at the south headwall
Work By: LOCAL AGENCY	DistTarget:	underneath chain link fence post #2
Status : PROPOSED	EA:	(counting from east).

Team Leader : Edwin Mah

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah

 10/1/2018

Edwin Mah (Registered Civil Engineer) (Date)

