DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0631
Facility Carried: HARBOR BOULEVARD
Location : 0.2 MI N/O WARNER AVENUE
City :
Inspection Date : 10/24/2014

Bridge Inspection Report

Inspection Type
Routine FC Underwater Special Other
[X]

STRUCTURE NAME: SANTA ANA RIVER CHANNEL (HARBOR BLVD)

CONSTRUCTION INFORMATION

Year Built : 1994
Year Widened: N/A
Length (m) : 120.1
Skew (degrees): 45
No. of Joints : 2
No. of Hinges : 0

Structure Description: Continuous 5-span PC/PS I-girder (14 each) with RC pier walls and RC open end seat abutments, all supported upon driven Class 70 and Class 100 PS concrete piles.

Span Configuration : (S) 20.7 m, 3 @ 25.9 m, 20.7 m (N) c/c

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-18+MOD OR HS-20+MOD
Inventory Rating: RF=1.00 =>32.4 metric tons Calculation Method: ASSIGNED (LFD)
Operating Rating: RF=1.67 =>54.1 metric tons Calculation Method: ASSIGNED (LFD)
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 0.3 m br, 1.5 m sw, 13.4 m, 1.4 m cu med, 13.4 m, 1.5 m sw, 0.3 m br (E)
Total Width: 30.5 m Net Width: 26.8 m No. of Lanes: 6 Speed: 45 mph
Min. Vertical Clearance: Unimpaired

Rail Code: 1000

Rail Type	Location	Length (ft)	Rail Modifications
Type 26	Right/Left	788	

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
The river was dry at inspection time. All elements were visually inspected.

DECK AND ROADWAY
The deck drains are clogged and one cover is missing in the southbound 50 ft from north end.

INSPECTION COMMENTARY

REVISIONS
The bridge name was revised to include the road carried name.
Old name: SANTA ANA RIVER CHANNEL.
New name: SANTA ANA RIVER CHANNEL (HARBOR BLVD).

SAFE LOAD CAPACITY
A load Rating Summary sheet is included with this bridge inspection report. This load rating was assigned in accordance with current 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
12			Deck-RC	2	3807	sq.m	586	3221	0	0
	1120		Efflorescence/Rust Staining	2	75		0	75	0	0
	1130		Cracking (RC and Other)	2	3146		0	3146	0	0

(12-1120)
There are about 20 transverse cracks with white efflorescence in every span.

(12-1130)
The concrete deck (at NB and SB lanes) exhibits:
* several longitudinal and transverse cracks, minor to moderate in size 1.0 mm wide at north and south end;
* diagonal cracks, minor to moderate in size 1.0 mm wide at the south end; and
* mostly transverse cracks, minor to moderate in size and minor in density (1.0 mm wide and at 500 mm apart) throughout the deck.

109			Girder/Beam-PS Conc.	2	1680	m	1680	0	0	0

(109)
There were no significant defects noted.

210			Pier Wall-RC	2	176	m	176	0	0	0

(210)
There were no significant defects noted.

215			Abutment-RC	2	90	m	90	0	0	0

(215)
There were no significant defects noted.

226			Pile-PS Conc.	2	1	ea.	1	0	0	0

(226)
The pile element is included to indicate the presence of piles on this structure. The piles were not exposed for visual inspection. No indication of pile distress was noted in any substructure element.

256			Slope Protection	2	2	ea.	2	0	0	0

(256)
There were no significant defects noted.

302			Joint-Compression Seal	2	84	m	84	0	0	0

(302)
There were no significant defects noted.

312			Bearing-Enclosed	2	2	each	2	0	0	0

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
(312)										
There were no significant defects noted.										
321			**Approach Slab-RC**	2	444	sq.m	444	0	0	0
(321)										
There were no significant defects noted.										
331			**Railing-RC**	2	240	m	240	0	0	0
(331)										
There were no significant defects noted.										

WORK RECOMMENDATIONS

RecDate: 03/02/2007
Action : Drainage Issue
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Open all the deck drains those were clogged at the west side.

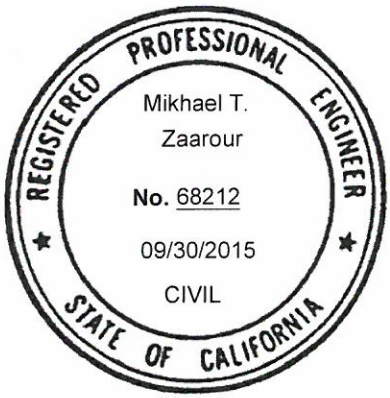
Team Leader : Mikhael T. Zaarour

Report Author : Mikhael T. Zaarour

Inspected By : MT.Zaarour/KD.Henderson

MTKHZ 11/13/14

Mikhael T. Zaarour (Registered Civil Engineer) (Date)



STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0631**
(5) INVENTORY ROUTE(ON/UNDER)- ON 141000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- SANTA ANA RIVER CHANNEL
(7) FACILITY CARRIED- HARBOR BOULEVARD
(9) LOCATION- 0.2 MI N/O WARNER AVENUE
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000000000
(16) LATITUDE 33 DEG 42 MIN 59.44 SEC
(17) LONGITUDE 117 DEG 55 MIN 13.74 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- PRSTR CONC CONT
TYPE- OTHER CODE 600
(44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 5
(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 1994
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 06 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 54000
(30) YEAR OF ADT 2012 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 25.9 M
(49) STRUCTURE LENGTH 120.1 M
(50) CURB OR SIDEWALK: LEFT 1.8 M RIGHT 1.8 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 26.8 M
(52) DECK WIDTH OUT TO OUT 30.5 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 26.8 M
(33) BRIDGE MEDIAN- CLOSED (NO BARRIER) 2
(34) SKEW 45 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 13.4 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 = 92.9
STATUS
HEALTH INDEX 85.0
PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- ROUTE ON NHS 1
(26) FUNCTIONAL CLASS- OTHER PRIN ART URBAN 14
(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 6
(59) SUPERSTRUCTURE 8
(60) SUBSTRUCTURE 8
(61) CHANNEL & CHANNEL PROTECTION 9
(62) CULVERTS N

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

(31) DESIGN LOAD- MS-18+MOD OR HS-20+MOD 6
(63) OPERATING RATING METHOD- ASSIGNED (LFD) A
(64) OPERATING RATING- 54.1
(65) INVENTORY RATING METHOD- ASSIGNED (LFD) A
(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 8
(68) DECK GEOMETRY 7
(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 70374
(115) YEAR OF FUTURE ADT 2031

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

(90) INSPECTION DATE 10/14 (91) FREQUENCY 48 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)