DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0344
Facility Carried: ADAMS AVENUE
Location : 0.5 MI E/O BROOKHURST ST
City :
Inspection Date : 05/16/2012
Inspection Type
Routine FC Underwater Special Other
X

Bridge Inspection Report

STRUCTURE NAME: SANTA ANA RIVER CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1977
Year Widened: N/A
Length (m) : 164.6
Skew (degrees): 14
No. of Joints : 2
No. of Hinges : 0

Structure Description: Continuous 5-span CIP/PS concrete box girder (10 cells) with RC pier walls and RC open end seat abutments, all supported upon concrete piles.

Span Configuration : (W) 27.4 m, 3 @ 36.0 m, 27.4 m (E) c/c

LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20
Inventory Rating: 32.4 metric tonnes Calculation Method: LOAD FACTOR
Operating Rating: 71 metric tonnes 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: (S) 0.1 m br, 1.2 m sw, 12.3 m, 1.2 m cu med, 3 @ 12.3 m s, 1.2 m sw, 0.1 m br (N)

Total Width: 28.7 m Net Width: 24.4 m No. of Lanes: 6
Rail Description: Type 11 (Misc). Rail Code : 1000
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: RC vertical walls with sandy earth bottoms.

INSPECTION COMMENTARY

CONDITION OF STRUCTURE

There is 25 mm settlement in the AC departure of eastbound.

There are some transverse cracks in the deck over the supports 1 mm wide and 300 mm spacing.

There is a spall 1 m x 300 mm x 200 mm at the median curb west end.

There was 600 mm of water in the channel; all elements were inspected.

The channel X-section was taken and recorded for the data under spans 1 to 4 but span 5 is over a rectangular concrete channel the data was not recorded.

ELEMENT INSPECTION RATINGS

Elem No.	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
12	Concrete Deck - Bare	2	3970	sq.m.	3970	0	0	0	0
104	P/S Conc Closed Web/Box Girder	2	329	m.	329	0	0	0	0
210	Reinforced Conc Pier Wall	2	118	m.	118	0	0	0	0
215	Reinforced Conc Abutment	2	60	m.	60	0	0	0	0
303	Assembly Joint Seal - Modular Type	2	58	m.	58	0	0	0	0
312	Enclosed/Concealed Bearing	2	2	ea.	2	0	0	0	0
335	Other Bridge Railing	2	330	m.	330	0	0	0	0
358	Deck Cracking	2	1	ea.	0	1	0	0	0

WORK RECOMMENDATIONS

RecDate: 05/16/2012
Action : Railing-Repair
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Repair the spall 1 m x 300 mm x 200 mm at the median curb west end.

RecDate: 06/11/2007
Action : Appr. Slab-Overlay
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Level the AC at eastbound departure that settled about 25mm.

CHANNEL X-SECTION

Side : Upstream
Measured From : top of conc. rail (H=.45m)

X-Section Date: 05/16/2012

Location	Horiz(m)	Vert(m)	Comments
Abut 1	0.00	2.76	face of abut wall
	3.50	3.32	top of retaining wall
	3.55	5.83	bottom of retaining wall at service road
	8.36	5.81	bottom of retaining wall at service road
	8.61	1.64	top of retaining wall
	8.66	9.10	face of retaining wall river in water
	14.84	9.60	thalweg
	20.50	8.94	edge of water
Pier wall 2	0.00	8.34	west face of pier 2
	0.00	8.25	east face of pier 2
	16.30	8.49	
Pier wall 3	0.00	8.48	west face of pier 3
	0.00	8.43	east face of pier 3
	11.25	8.54	
	11.85	8.59	
Pier wall 4	0.00	8.96	west face of pier 4
	0.00	8.70	east face of pier 4
	9.25	8.90	edge of water
	16.00	9.40	thalweg
	23.20	8.62	edge of water
Retaining wall	0.00	8.22	face of the west levee access wall

Inspected By : MT.Zaarour/A.Shenouda

Mikhael T. Zaarour (Registered Civil Engineer)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0344**
(5) INVENTORY ROUTE(ON/UNDER)- ON 1400M0210
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- SANTA ANA RIVER CHANNEL
(7) FACILITY CARRIED- ADAMS AVENUE
(9) LOCATION- 0.5 MI E/O BROOKHURST ST
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000M02100
(16) LATITUDE 33 DEG 40 MIN 20.8 SEC
(17) LONGITUDE 117 DEG 56 MIN 42.8 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- BOX BEAM OR GIRDER - MULTI CODE 605
(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 1977
(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 39000
(30) YEAR OF ADT 2010 (109) TRUCK ADT 2 %
(19) BYPASS, DETOUR LENGTH 3 KM

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

(48) LENGTH OF MAXIMUM SPAN 36.0 M
(49) STRUCTURE LENGTH 164.6 M
(50) CURB OR SIDEWALK: LEFT 1.2 M RIGHT 1.2 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 24.4 M
(52) DECK WIDTH OUT TO OUT 28.7 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 24.4 M
(33) BRIDGE MEDIAN- CLOSED (NO BARRIER) 2
(34) SKEW 14 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 12.2 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 = 91.5
STATUS
HEALTH INDEX 100.0
PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(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 7
(61) CHANNEL & CHANNEL PROTECTION 9
(62) CULVERTS N

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

(31) DESIGN LOAD- MS-18 OR HS-20 5
(63) OPERATING RATING METHOD- LOAD FACTOR 1
(64) OPERATING RATING- 71
(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 7
(68) DECK GEOMETRY 5
(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 88615
(115) YEAR OF FUTURE ADT 2029

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

(90) INSPECTION DATE 05/12 (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)