



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0017
Facility Carried: LINCOLN AVENUE
Location : 0.7 MI E/O ROUTE 57 FWY.
City :
Inspection Date : 07/15/2011

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STRUCTURE NAME: SANTA ANA RIVER CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1970	Skew (degrees): 8
Year Widened: N/A	No. of Joints : 1
Length (m) : 130.1	No. of Hinges : 1

Structure Description: Continuous six span CIP/RC T-beam (8 each) with RC piers and RC open end diaphragm abutments, all supported upon steel piles.

Span Configuration : (W) 17.4 m, 4 @ 23.8 m, 17.4 m (E) c/c

LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20		
Inventory Rating: 55.3 metric tonnes	Calculation Method: LOAD FACTOR	
Operating Rating: 99.8 metric tonnes	Calculation Method: LOAD FACTOR	
Permit Rating : PPPPP		
Posting Load : Type 3: <u>Legal</u>	Type 3S2: <u>Legal</u>	Type 3-3: <u>Legal</u>

DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 0.1 m br, 9.6 m, 1.2 m cu med, 9.6 m, 0.1 m br (N)		
Total Width: 20.4 m	Net Width: 19.1 m	No. of Lanes: 4
Rail Description: MBGR. with CLF on top.		Rail Code : 1000
Min. Vertical Clearance: Unimpaired		

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal with rock slope protection, grouted through the site.

INSPECTION COMMENTARY

CONDITION OF STRUCTURE

There is 1 m of water in spans #2 down to 0.5 m in span #5, all elements were visually inspected.

There is a spall 150 mm x 50 mm x 15 mm with exposed steel bar in the deck at middle of the bridge on W/B lane #2.

There unsealed deck cracks 2 mm wide and 150 mm spacing and some of them developed small spall with steel bar exposed.

There are transverse crack in the soffit with whit efflorescence.

There are shear cracks in the girder 0.5 mm wide near the supports.

REVISIONS

Deck element 12 was moved to state condition 2 and 60 m of girder element 110 also was moved to state condition 2.

Deck cracking flag element 358 was moved from state condition 2 to 4 and element 359 was added in state condition 2 to reflect the existing condition.

ELEMENT INSPECTION RATINGS

Elem No.	Element Description	Env	Total		Qty in each Condition State				
			Qty	Units	St. 1	St. 2	St. 3	St. 4	St. 5
12	Concrete Deck - Bare	2	2490	sq.m.	0	2490	0	0	0
110	Reinforced Conc Open Girder/Beam	2	1040	m.	980	60	0	0	
210	Reinforced Conc Pier Wall	2	105	m.	105	0	0	0	0
215	Reinforced Conc Abutment	2	42	m.	42	0	0	0	0
256	Slope Protection	2	2	ea.	2	0	0	0	0
302	Compression Joint Seal	2	21	m.	21	0	0	0	0
312	Enclosed/Concealed Bearing	2	1	ea.	1	0	0	0	0
337	Metal Railing (W6X25 Posts)	2	280	m.	280	0	0	0	0
358	Deck Cracking	2	1	ea.	0	0	0	1	
359	Soffit of Concrete Deck or Slab	2	1	ea.	0	1	0	0	0

WORK RECOMMENDATIONS

RecDate: 05/30/2007

EstCost:

Seal the deck cracks with methacrylate.

Action : Deck-Methacrylate

StrTarget: 2 YEARS

Work By: LOCAL AGENCY

DistTarget:

Status : PROPOSED

EA:

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 55C0017
 (5) INVENTORY ROUTE (ON/UNDER)- ON 1400L0310
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED- SANTA ANA RIVER CHANNEL
 (7) FACILITY CARRIED- LINCOLN AVENUE
 (9) LOCATION- 0.7 MI E/O ROUTE 57 FWY.
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- PART OF NET 1
 (13) LRS INVENTORY ROUTE & SUBROUTE 000000L03100
 (16) LATITUDE 33 DEG 50 MIN 07.64 SEC
 (17) LONGITUDE 117 DEG 51 MIN 47.36 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
 TYPE- TEE BEAM CODE 104
 (44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
 TYPE- OTHER/NA CODE 000
 (45) NUMBER OF SPANS IN MAIN UNIT 6
 (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 1970
 (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 28000
 (30) YEAR OF ADT 2009 (109) TRUCK ADT 4 %
 (19) BYPASS, DETOUR LENGTH 5 KM

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

(48) LENGTH OF MAXIMUM SPAN 23.8 M
 (49) STRUCTURE LENGTH 130.1 M
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 19.1 M
 (52) DECK WIDTH OUT TO OUT 20.4 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 21.6 M
 (33) BRIDGE MEDIAN- CLOSED (NO BARRIER) 2
 (34) SKEW 8 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 9.6 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

***** SUFFICIENCY RATING = 80.6
 STATUS STRUCTURALLY DEFICIENT
 HEALTH INDEX 93.6
 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 3
 (59) SUPERSTRUCTURE 6
 (60) SUBSTRUCTURE 7
 (61) CHANNEL & CHANNEL PROTECTION 8
 (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- 99.8
 (65) INVENTORY RATING METHOD- LOAD FACTOR 1
 (66) INVENTORY RATING- 55.3
 (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 6
 (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 78311
 (115) YEAR OF FUTURE ADT 2029

***** INSPECTIONS *****

(90) INSPECTION DATE 07/11 (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)