



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0172
Facility Carried: MODJESKA CANYON RD
Location : 0.1 MI N/O MODJESKA GR R
City :
Inspection Date : 05/12/2011

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: SANTIAGO CREEK

CONSTRUCTION INFORMATION

Year Built : 1935	Skew (degrees): .68
Year Widened: N/A	No. of Joints : 0
Length (m) : 19.5	No. of Hinges : 0

Structure Description: CIP/RC deck on riveted steel floor beams (5) on simply supported riveted steel through girders (2) on RC pedestals on RC closed end backfilled cantilever abutments on spread footings.

Span Configuration : (S) 1 @ 18.3 m (N) c/c

LOAD CAPACITY AND RATINGS

Design Live Load: M-13.5 OR H-15	
Inventory Rating: 17.2 metric tonnes	Calculation Method: ALLOWABLE STRESS
Operating Rating: 25.4 metric tonnes	Calculation Method: ALLOWABLE STRESS
Permit Rating : GGGGG	
Posting Load : Type 3: <u>Legal</u>	Type 3S2: <u>Legal</u> Type 3-3: <u>Legal</u>

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) Steel plate girder, 0.7 m cu, 2 @ 3.0 m, 0.7 m cu, steel plate girder (E)

Total Width: 7.3 m	Net Width: 6.1 m	No. of Lanes: 2
Rail Description: Steel plate girder		Rail Code : 0000
Min. Vertical Clearance: Unimpaired		

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal.

CONDITION TEXT

CONDITION OF STRUCTURE

There is 0.5 m deep and 1.5 m wide water in the creek; all elements were visually inspection.

The concrete deck surface is exhibit 80% light scaling due to the weather and age.

There are 2 spalls (1000 mm x 300 mm x 200 mm each) at Abutment 1 (south) under the bearing seat of the steel girders.

There are 2 hairline cracks through out the soffit.

There is a 1 mm wide vertical crack at each abutment walls.

STEEL INVESTIGATION

Up to 19 mm (3/4 in) thick pack rust was found between the bottom flange of the floor beam and the bottom flange of the girder at the following locations:

- Floor Beam 5 to Girder 1 connection
- Floor Beam 2 to Girder 2 connection
- Floor Beam 3 to Girder 2 connection
- Floor Beam 4 to Girder 2 connection

CONDITION TEXT

These areas will be monitored for any increase in pack rust during the next scheduled inspection.

MISCELLANEOUS

Caltrans currently does not have a set of AS-Built plans for this structure. The county should provide As-Built Plans.

It is steel through girders so item 36a is "0" but the element is included under girder. A phone conversation was made to the County of Orange Senior Engineer to update him of the bearing seat 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	110	sq.m.	110	0	0	0	0
107	Painted Steel Open Girder/Beam	2	40	m.	0	0	40	0	0
152	Painted Steel Floor Beam	2	56	m.	0	0	56	0	0
215	Reinforced Conc Abutment	2	30	m.	30	0	0	0	0
311	Moveable Bearing (roller, sliding, etc.)	2	2	ea.	2	0	0	0	0
313	Fixed Bearing	2	2	ea.	2	0	0	0	0
357	Pack Rust	2	1	ea.	0	1	0	0	0

WORK RECOMMENDATIONS

RecDate: 01/17/2002

Action : Sub-Patch spalls

Work By: LOCAL AGENCY

Status : PROPOSED

EstCost:

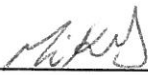
StrTarget: 2 YEARS

DistTarget:

EA:

Repair the 2 initiated spalls (1000mm x 300mm x 200mm each) at abutment #1 (south) under the bearing seat if the steel girders.

Inspected By : MT.Zaarour/M.Zolfaghari


Mikhael T. Zaarour (Registered Civil Engineer)



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0172
 (5) INVENTORY ROUTE (ON/UNDER)- ON 140000000
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED- SANTIAGO CREEK
 (7) FACILITY CARRIED- MODJESKA CANYON RD
 (9) LOCATION- 0.1 MI N/O MODJESKA GR RD
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 42 MIN 31.35 SEC
 (17) LONGITUDE 117 DEG 38 MIN 10.62 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN: MATERIAL- STEEL
 TYPE- GIRDER & FLOORBEAM SYSTEM CODE 303
 (44) STRUCTURE TYPE APPR: MATERIAL- OTHER/NA
 TYPE- OTHER/NA CODE 000
 (45) NUMBER OF SPANS IN MAIN UNIT 1
 (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 1935
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON- HIGHWAY 1
 UNDER- WATERWAY 5
 (28) LANES: ON STRUCTURE 02 UNDER STRUCTURE 00
 (29) AVERAGE DAILY TRAFFIC 1000
 (30) YEAR OF ADT 2009 (109) TRUCK ADT 1 %
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 19.5 M
 (49) STRUCTURE LENGTH 19.5 M
 (50) CURB OR SIDEWALK: LEFT 0.7 M RIGHT 0.7 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 6.1 M
 (52) DECK WIDTH OUT TO OUT 7.3 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 6.1 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 68 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 6.1 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 *****

SUFFICIENCY RATING = 34.3
 STATUS STRUCTURALLY DEFICIENT
 HEALTH INDEX 71.6
 PAINT CONDITION INDEX = 50.0

***** CLASSIFICATION *****

CODE
 (112) NBIS BRIDGE LENGTH- YES Y
 (104) HIGHWAY SYSTEM- NOT ON NHS 0
 (26) FUNCTIONAL CLASS- LOCAL RURAL 09
 (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 7
 (59) SUPERSTRUCTURE 4
 (60) SUBSTRUCTURE 7
 (61) CHANNEL & CHANNEL PROTECTION 8
 (62) CULVERTS N

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

CODE
 (31) DESIGN LOAD- M-13.5 OR H-15 2
 (63) OPERATING RATING METHOD- ALLOWABLE STRESS 2
 (64) OPERATING RATING- 25.4
 (65) INVENTORY RATING METHOD- ALLOWABLE STRESS 2
 (66) INVENTORY RATING- 17.2
 (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 4
 (68) DECK GEOMETRY 3
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 8
 (72) APPROACH ROADWAY ALIGNMENT 6
 (36) TRAFFIC SAFETY FEATURES 0000
 (113) SCOUR CRITICAL BRIDGES 8

***** PROPOSED IMPROVEMENTS *****

(75) TYPE OF WORK- REPLACE FOR DEFICIENCY CODE 31
 (76) LENGTH OF STRUCTURE IMPROVEMENT 19.5 M
 (94) BRIDGE IMPROVEMENT COST \$328,900
 (95) ROADWAY IMPROVEMENT COST \$65,780
 (96) TOTAL PROJECT COST \$552,552
 (97) YEAR OF IMPROVEMENT COST ESTIMATE 2010
 (114) FUTURE ADT 1031
 (115) YEAR OF FUTURE ADT 2029

***** INSPECTIONS *****

(90) INSPECTION DATE 05/11 (91) FREQUENCY 24 MO
 (92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
 A) FRACTURE CRIT DETAIL- YES 24 MO A) 07/10
 B) UNDERWATER INSP- NO MO B)
 C) OTHER SPECIAL INSP- NO MO C)