



**DEPARTMENT OF TRANSPORTATION**  
Structure Maintenance & Investigations

Bridge Number : 55C0168  
Facility Carried: AMAPOLA AVENUE  
Location : 0.2 MI E/O ORANGE PK BLV  
City :  
Inspection Date : 08/07/2014  
Inspection Type  
Routine FC Underwater Special Other  
☒

## Bridge Inspection Report

**STRUCTURE NAME:** HANDY CREEK

### CONSTRUCTION INFORMATION

Year Built : 1937  
Year Widened: N/A  
Length (m) : 8.5

Skew (degrees): 0  
No. of Joints : 0  
No. of Hinges : 0

Structure Description: Simply supported two span timber stringers (19 each) and timber deck with a timber treated timber post (6 each) bent and a treated timber post (6 each) abutments, all supported upon treated timber sills. All timber treated Douglas Fir.

Span Configuration : (W) 2 @ 4.0 m (E) c/c

### SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN

Inventory Rating: RF=0.54 =>17.5 metric tons

Calculation Method: ALLOWABLE STRESS

Operating Rating: RF=0.77 =>24.9 metric tons

Calculation Method: ALLOWABLE STRESS

Permit Rating : 00000

Posting Load : Type 3: Legal

Type 3S2: Legal

Type 3-3: Legal

### DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 0.1 m br, 7.2 m, 0.1 m br (N)

Total Width: 7.3 m Net Width: 7.1 m No. of Lanes: 2 Speed: 25 mph

Min. Vertical Clearance: Unimpaired

Rail Code: 0000

Rail Type	Location	Length (ft)	Rail Modifications
MBBR	Right/Left	56	

### DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal upstream, RC rectangular with a check dam downstream.

### 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.

### INSPECTION COMMENTARY

#### SCOPE AND ACCESS

There was about 2' deep stagnate water in the creek. All elements were visually inspected.

#### DECK AND ROADWAY

There was a (OM 3R) narrow sign road at the southwest corner and a (OM 1-3) road sign at the northeast corner.

There rail post were connected by 2 bolts one on each side.

INSPECTION COMMENTARY

## SAFE LOAD CAPACITY

A load Rating Summary sheet was in BIRIS. The current load rating was based on calculations dated 5/25/2010.

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
31			Deck-Timber	2	60	sq.m	60	0	0	0	0
	510		Deck Wearing Surface-Asphalt	2	60	sq.m	60	0	0	0	0
		3220	Cracking-AC (WS)	2	10		0	0	10	0	0

(31-510-3220)

There was 2 tranverse and 1 longitudinal cracks in the AC ovelay 0.5" wide.

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State	St. 1	St. 2	St. 3	St. 4
111			Girder/Beam-Timber	2	162	m	162	0	0	0	0

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State	St. 1	St. 2	St. 3	St. 4
206			Column-Timber	3	18	each	0	18	0	0	0
	1180		Abrasion (Timber)	2	18		0	18	0	0	0

(206-1180)

There was shrinkage in the columns section due to the weather.

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State	St. 1	St. 2	St. 3	St. 4
216			Abutment-Timber	3	16	m	0	15	1	0	0
	1180		Abrasion (Timber)	2	16		0	15	1	0	0

(216-1180)

There was shrinkage in the columns section due to the weather.

At the east abutment north side there was a tree growing in between the timber planks.

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State	St. 1	St. 2	St. 3	St. 4
235			Pier Cap-Timber	2	21	m	0	21	0	0	0
	1180		Abrasion (Timber)	2	21		0	21	0	0	0

(235-1180)

There was shrinkage in the columns section due to the weather.


Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State	St. 1	St. 2	St. 3	St. 4
330			Railing-Metal	2	18	m	18	0	0	0	0

WORK RECOMMENDATIONS

RecDate: 05/18/2012	EstCost:	Replace the deteriorated timber plank at
Action : Sub-Patch spalls	StrTarget: 2 YEARS	200 mm from the bottom and remove the
Work By: LOCAL AGENCY	DistTarget:	tree at the north side of the abutment
Status : PROPOSED	EA:	between timber planks.

Team Leader : Mikhael T. Zaarour  
Report Author : Mikhael T. Zaarour  
Inspected By : MT.Zaarour/M.Zolfaghari



 9/9/14  
Mikhael T. Zaarour (Registered Civil Engineer) (Date)

# **STRUCTURE INVENTORY AND APPRAISAL REPORT**

## \*\*\*\*\* IDENTIFICATION \*\*\*\*\*

(1) STATE NAME- CALIFORNIA 069  
 (8) STRUCTURE NUMBER 55C0168  
 (5) INVENTORY ROUTE(ON/UNDER)- ON 140000000  
 (2) HIGHWAY AGENCY DISTRICT 12  
 (3) COUNTY CODE 059 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- HANDY CREEK  
 (7) FACILITY CARRIED- AMAPOLA AVENUE  
 (9) LOCATION- 0.2 MI E/O ORANGE PK BLVD  
 (11) MILEPOINT/KILOMETERPOINT 0  
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0  
 (13) LRS INVENTORY ROUTE & SUBROUTE  
 (16) LATITUDE 33 DEG 48 MIN 09 SEC  
 (17) LONGITUDE 117 DEG 46 MIN 46 SEC  
 (98) BORDER BRIDGE STATE CODE % SHARE %  
 (99) BORDER BRIDGE STRUCTURE NUMBER

## \*\*\*\*\* STRUCTURE TYPE AND MATERIAL \*\*\*\*\*

(43) STRUCTURE TYPE MAIN:MATERIAL- WOOD OR TIMBER  
 TYPE- STRINGER/MULTI-BEAM OR GDR CODE 702  
 (44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA  
 TYPE- OTHER/NA CODE 000  
 (45) NUMBER OF SPANS IN MAIN UNIT 2  
 (46) NUMBER OF APPROACH SPANS 0  
 (107) DECK STRUCTURE TYPE- TIMBER CODE 8  
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:  
 A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6  
 B) TYPE OF MEMBRANE- NONE CODE 0  
 C) TYPE OF DECK PROTECTION- NONE CODE 0

## \*\*\*\*\* AGE AND SERVICE \*\*\*\*\*

(27) YEAR BUILT 1937  
 (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 4.0 M  
 (49) STRUCTURE LENGTH 8.5 M  
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.1 M  
 (52) DECK WIDTH OUT TO OUT 7.3 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 6.7 M  
 (33) BRIDGE MEDIAN- NO MEDIAN 0  
 (34) SKEW 0 DEG (35) STRUCTURE FLARED NO  
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 6.7 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 = 59.1  
 STATUS  
 HEALTH INDEX 91.9  
 PAINT CONDITION INDEX = N/A

## \*\*\*\*\* CLASSIFICATION \*\*\*\*\*

CODE  
 (112) NBIS BRIDGE LENGTH- YES Y  
 (104) HIGHWAY SYSTEM- NOT ON NHS 0  
 (26) FUNCTIONAL CLASS- COLLECTOR URBAN 17  
 (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 8  
 (59) SUPERSTRUCTURE 8  
 (60) SUBSTRUCTURE 6  
 (61) CHANNEL & CHANNEL PROTECTION 8  
 (62) CULVERTS N

## \*\*\*\*\* LOAD RATING AND POSTING \*\*\*\*\*

CODE  
 (31) DESIGN LOAD- UNKNOWN 0  
 (63) OPERATING RATING METHOD- ALLOWABLE STRESS 2  
 (64) OPERATING RATING- 24.9  
 (65) INVENTORY RATING METHOD- ALLOWABLE STRESS 2  
 (66) INVENTORY RATING- 17.5  
 (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 4  
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N  
 (71) WATER ADEQUACY 7  
 (72) APPROACH ROADWAY ALIGNMENT 6  
 (36) TRAFFIC SAFETY FEATURES 0000  
 (113) SCOUR CRITICAL BRIDGES 5

## \*\*\*\*\* PROPOSED IMPROVEMENTS \*\*\*\*\*

CODE  
 (75) TYPE OF WORK-  
 (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 2061  
 (115) YEAR OF FUTURE ADT 2031

## \*\*\*\*\* INSPECTIONS \*\*\*\*\*

(90) INSPECTION DATE 08/14 (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)