



**DEPARTMENT OF TRANSPORTATION**  
Structure Maintenance & Investigations

Bridge Number : 55C0690  
Facility Carried: ORANGE PARK BLVD  
Location : 0.25 SOUTH SANTIAGO RD  
City :  
Inspection Date : 07/10/2019

**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:** HANDY CREEK

**CONSTRUCTION INFORMATION**

Year Built : 2012	Skew (degrees): 27
Year Modified: N/A	No. of Joints : 0
Length (m) : 12	No. of Hinges :

Structure Description: Single span RC slab bridge on two RC abutments , all on piles.

Span Configuration : (S) 40.0 feet (N).

**SAFE LOAD CAPACITY AND RATINGS**

Design Live Load: HL 93	
Inventory Rating: RF= 1.00	Calculation Method: ASSIGNED (LRFD)
Operating Rating: RF= 1.30	Calculation Method: ASSIGNED (LRFD)
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: (W) 1.6 feet br , 10.0 feet sw, 1.6 feet br, 43.3 feet, 1.6 feet br (S).

Total Width: 17.8 m      Net Width: 13.2 m      No. of Lanes: 2      Speed: 40 mph

Min. Vertical Clearance: Unimpaired      Overlay Thickness: 0.0 inches

Rail Code: 1000

**DESCRIPTION UNDER STRUCTURE**

Channel Description: Natural earth trapezoidal. Riprap slope at north side and Retaining wall at south side.

**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**

A complete routine inspection was performed by walking on and around the bridge to inspect all visible elements of the bridge structure. Bridge deck was inspected by walking on shoulder. Soffit and all substructure were inspected by walking underneath the bridge with rain boots due to 6.0 inches deep of water at the time of inspection.

There is no need for a special equipment to inspect this structure except rain boots if it is in raining season.

**DECK AND ROADWAY**

AC Roadway is at both of approach and departure lanes.

**INSPECTION COMMENTARY**

The soffit at the northerly side has minor longitudinal cracks at 10.0 feet long with white efflorescence at 30.0 feet from the easterly end near the center line of the bridge.

The concrete deck has random longitudinal cracks at 0.04 inches wide at the center of the bridge at the northerly end, and few cracks at (0.02 inches wide) scattering throughout the bridge deck.

**SUBSTRUCTURE**

The entire length of easterly abutment wall (footing) is completely submerged in the 6.0 inches deep of water. There is no sign of scour by probing the entire area. The westerly abutment wall (footing) is protected with rip rap (rocks and boulders).

**SAFE LOAD CAPACITY**

A Load Rating Summary Sheet dated 09/30/2013 is on file for this structure. The current rating has been assigned in accordance with SM&I procedures.


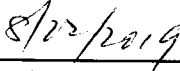
**ELEMENT INSPECTION RATINGS AND COMMENTARY**

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition	State		
							St. 1	St. 2	St. 3	St. 4
38			Slab-RC	2	213	sq.m	201	12	0	0
	1120		Efflorescence/Rust Staining	2	1		1	0	0	0
	1130		Cracking (RC and Other)	2	12		0	12	0	0
(38)										
Minor deck cracks, soffit cracks with efflorescence.										
(38-1120)										
The soffit at the north side has minor longitudinal cracks at 10.0 feet long with white efflorescence at 30.0 feet from the easterly end near the center line of the bridge.										
(38-1130)										
The concrete deck has random longitudinal cracks at 0.04 inches wide at the center of the bridge at the northerly end, and few cracks at (0.02 inches wide) scattering throughout the bridge deck.										
215			Abutment-RC	2	20	m	20	0	0	0
(215)										
There were no significant defects noted.										
227			Pile-RC	2	1	ea.	1	0	0	0
(227)										
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	1	ea.	1	0	0	0
(256)										
There were no significant defects noted.										
330			Railing-Metal	2	36	m	36	0	0	0
(330)										
There were no significant defects noted.										

WORK RECOMMENDATIONS - NONE

Team Leader : Nelson N. Vo  
Report Author : Nelson N. Vo  
Inspected By : NN.Vo/E.Mah



   
Edwin Mah (Registered Civil Engineer) (Date)

**STRUCTURE INVENTORY AND APPRAISAL REPORT**

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

(1) STATE NAME- CALIFORNIA 069  
 (8) STRUCTURE NUMBER 55C0690  
 (5) INVENTORY ROUTE (ON/UNDER) - ON 15000000  
 (2) HIGHWAY AGENCY DISTRICT 12  
 (3) COUNTY CODE 059 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- HANDY CREEK  
 (7) FACILITY CARRIED- ORANGE PARK BLVD  
 (9) LOCATION- 0.25 SOUTH SANTIAGO RD  
 (11) MILEPOINT/KILOMETERPOINT 0  
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0  
 (13) LRS INVENTORY ROUTE & SUBROUTE  
 (16) LATITUDE 33 DEG 48 MIN 37.06 SEC  
 (17) LONGITUDE 117 DEG 46 MIN 56.08 SEC  
 (98) BORDER BRIDGE STATE CODE % SHARE %  
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE  
 TYPE- SLAB CODE 101  
 (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 2012  
 (106) YEAR RECONSTRUCTED  
 (42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5  
 UNDER- WATERWAY 5  
 (28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00  
 (29) AVERAGE DAILY TRAFFIC 1100  
 (30) YEAR OF ADT 2019 (109) TRUCK ADT 2 %  
 (19) BYPASS, DETOUR LENGTH 2 KM

## \*\*\*\*\* GEOMETRIC DATA \*\*\*\*\*

(48) LENGTH OF MAXIMUM SPAN 11.7 M  
 (49) STRUCTURE LENGTH 12.0 M  
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 13.2 M  
 (52) DECK WIDTH OUT TO OUT 17.8 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 13.2 M  
 (33) BRIDGE MEDIAN- NO MEDIAN 0  
 (34) SKEW 27 DEG (35) STRUCTURE FLARED NO  
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 13.2 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

## \*\*\*\*\*

SUFFICIENCY RATING = 97.9  
 PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y  
 (104) HIGHWAY SYSTEM- NOT ON NHS 0  
 (26) FUNCTIONAL CLASS- MINOR ARTERIAL URBAN 16  
 (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- CITY OR MUNICIPAL HIGHWAY AGENCY 04  
 (22) OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY 04  
 (37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

## \*\*\*\*\* CONDITION \*\*\*\*\*

(58) DECK 7  
 (59) SUPERSTRUCTURE 7  
 (60) SUBSTRUCTURE 7  
 (61) CHANNEL & CHANNEL PROTECTION 8  
 (62) CULVERTS N

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

(31) DESIGN LOAD- HL 93 A  
 (63) OPERATING RATING METHOD- ASSIGNED (LRFD) F  
 (64) OPERATING RATING- RF= 1.30  
 (65) INVENTORY RATING METHOD- ASSIGNED (LRFD) F  
 (66) INVENTORY RATING- RF= 1.00  
 (70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5  
 (41) STRUCTURE OPEN, POSTED OR CLOSED- A  
 DESCRIPTION- OPEN, NO RESTRICTION

## \*\*\*\*\* APPRAISAL \*\*\*\*\*

(67) STRUCTURAL EVALUATION 7  
 (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 2033  
 (115) YEAR OF FUTURE ADT 2037

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

(90) INSPECTION DATE 07/19 (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)