



**DEPARTMENT OF TRANSPORTATION**  
Structure Maintenance & Investigations

Bridge Number : 55C0606  
Facility Carried: OSO PARKWAY  
Location : 0.6 MI E/O FELIPE ROAD  
City :  
Inspection Date : 02/10/2013  
Inspection Type  
Routine FC Underwater Special Other  
☒

## Bridge Inspection Report

**STRUCTURE NAME:** ARROYO TRABUCO

### CONSTRUCTION INFORMATION

Year Built : 1991  
Year Widened: N/A  
Length (m) : 202.7  
Skew (degrees): 99  
No. of Joints : 3  
No. of Hinges : 1

Structure Description: Continuous 5 span CIP/PS concrete box girder (11 cells) with RC 2-column bents and RC open end seat abutments, all supported upon concrete piles (Abutment 1 has steel piles).

Span Configuration : (W) 45.7 m, 3 @ 36.6 m, 45.7 m (E) c/c

### LOAD CAPACITY AND RATINGS

Design Live Load: MS-18+MOD OR HS-20+MOD  
Inventory Rating: RF=1.00 =>32.4 metric tons  
Operating Rating: RF=1.67 =>54.1 metric tons  
Permit Rating : P P P P P  
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal  
Calculation Method: FIELD EVAL/ENG JUDGMENT  
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### DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 0.3 m br, 1.5 m sw, 13.4 m, 1.2 m cu med, 13.4 m, 1.5 m sw, 0.3 m br (N)

Total Width: 31.7 m Net Width: 26.8 m No. of Lanes: 6 Speed: 55 mph  
Min. Vertical Clearance: Unimpaired

Rail Code: 0110

Rail Type	Location	Length (ft)	Rail Modifications
Type 26	Right/Left	1410	

### DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth open wash with a cobbled streambed.

### INSPECTION COMMENTARY

#### REVISIONS

Element 104 (P/S Concrete Closed Box Girder): The quantities were modified as follows:  
from [St. 1 = 198, St. 2 = 5] to [St. 1 = 196, St. 2 = 7].

Element 302 (Compression Joint Seal): a quantity of 20 m was moved to St. 2.

The concrete deck cracks were sealed with methacrylate, so smart flag 358 (deck cracking) was modified from St. 3 to St. 1.

#### CONDITION OF STRUCTURE

##### RAILS

There are 20 mm vertical offset in the concrete railings at the east abutment.

##### JOINTS

The compression joint seal above the west abutment was failed and worn out in many

**INSPECTION COMMENTARY**

locations.

**DECK**

The deck cracks were sealed with methacrylate.

**SUPERSTRUCTURE**

There are 5 cracks 1 mm width and +/- 1.0 m long in the soffit of the box girder at the south side in span #5; and one crack at span 3 and 4.

There is water dripping from the soffit vent hole in south side of span # 1.

**SAFE LOAD CAPACITY**

A Load Rating Summary Sheet is included with this bridge inspection report. The current rating has been assigned in accordance with SMI procedures.

**CHANNEL/WATERWAY INVESTIGATION**

There is 500 mm deep water in span 4, all substructure elements were inspected.

**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	6380	sq.m.	0	6380	0	0	0
104	P/S Conc Closed Web/Box Girder	2	203	m.	196	7	0	0	
205	Reinforced Conc Column or Pile Extension	2	8	ea.	8	0	0	0	0
215	Reinforced Conc Abutment	2	80	m.	80	0	0	0	0
225	Unpainted Steel Submerged Pile	2	1	ea.	1	0	0	0	0
227	Reinforced Conc Submerged Pile	2	1	ea.	1	0	0	0	0
300	Strip Seal Expansion Joint	2	80	m.	80	0	0	0	0
302	Compression Joint Seal	2	40	m.	20	20	0		
312	Enclosed/Concealed Bearing	2	1	ea.	1	0	0	0	0
321	Reinforced Conc Approach Slab w/ or w/o AC Ovly	2	12	ea.	12	0	0	0	0
331	Reinforced Conc Bridge Railing	2	430	m.	430	0	0	0	0
358	Deck Cracking	2	1	ea.	1	0	0	0	

**WORK RECOMMENDATIONS**

RecDate: 02/22/2011

Action : Drainage Issue

Work By: LOCAL AGENCY

Status : PROPOSED

EstCost:

StrTarget: 2 YEARS

DistTarget:

EA:

The city should investigate the dripping water through the bridge cell.

Team Leader : Ashraf Shenouda  
Report Author : Ashraf Shenouda  
Inspected By : A. Shenouda/KD. Henderson

  
Ashraf Shenouda (Registered Civil Engineer) (Date)



**STRUCTURE INVENTORY AND APPRAISAL REPORT**

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

(1) STATE NAME- CALIFORNIA 069  
 (8) STRUCTURE NUMBER 55C0606  
 (5) INVENTORY ROUTE (ON/UNDER)- ON 140000000  
 (2) HIGHWAY AGENCY DISTRICT 12  
 (3) COUNTY CODE 059 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- ARROYO TRABUCO  
 (7) FACILITY CARRIED- OSO PARKWAY  
 (9) LOCATION- 0.6 MI E/O FELIPE ROAD  
 (11) MILEPOINT/KILOMETERPOINT 0  
 (12) BASE HIGHWAY NETWORK- PART OF NET 1  
 (13) LRS INVENTORY ROUTE & SUBROUTE 000000000000  
 (16) LATITUDE 33 DEG 35 MIN 06 SEC  
 (17) LONGITUDE 117 DEG 38 MIN 09 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 1991  
 (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 27000  
 (30) YEAR OF ADT 2003 (109) TRUCK ADT 1 %  
 (19) BYPASS, DETOUR LENGTH 11 KM

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

(48) LENGTH OF MAXIMUM SPAN 45.7 M  
 (49) STRUCTURE LENGTH 202.7 M  
 (50) CURB OR SIDEWALK: LEFT 1.5 M RIGHT 1.5 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 26.8 M  
 (52) DECK WIDTH OUT TO OUT 31.7 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 26.8 M  
 (33) BRIDGE MEDIAN- CLOSED NON-MOUNTABLE 3  
 (34) SKEW 99 DEG (35) STRUCTURE FLARED NO  
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 13.4 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 = 85.1  
 STATUS  
 HEALTH INDEX 87.3  
 PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y  
 (104) HIGHWAY SYSTEM- ROUTE ON NHS 1  
 (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 7  
 (60) SUBSTRUCTURE 7  
 (61) CHANNEL & CHANNEL PROTECTION 9  
 (62) CULVERTS N

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

(31) DESIGN LOAD- MS-18+MOD OR HS-20+MOD 6  
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0  
 (64) OPERATING RATING- 54.1  
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUL 0  
 (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 7  
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N  
 (71) WATER ADEQUACY 9  
 (72) APPROACH ROADWAY ALIGNMENT 8  
 (36) TRAFFIC SAFETY FEATURES 0110  
 (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 56200  
 (115) YEAR OF FUTURE ADT 2035

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

(90) INSPECTION DATE 02/13 (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)