



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0399
Facility Carried: CALLE DELOS MOLINO
Location : 0.1 MI S/O AVENIDA PICO
City : SAN CLEMENTE
Inspection Date : 10/10/2013

Bridge Inspection Report

Inspection Type
Routine ☒ FC Underwater Special Other

STRUCTURE NAME: SEGUNDA DESHECHA CANADA

CONSTRUCTION INFORMATION

Year Built : 1971 Skew (degrees): 45
Year Widened: N/A No. of Joints : 0
Length (m) : 7 No. of Hinges : 0

Structure Description: Double 3.0 m W x 2.4 m H x 38.7 m L RC box culvert (non-grade top)
beneath 6.1 m of earth fill.

Span Configuration : (S) 2 @ 3.0 m (N) clear, normal

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20
Inventory Rating: RF=0.75 =>24.3 metric tons Calculation Method: ASSIGNED (LRFD)
Operating Rating: RF=1.25 =>40.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : P P P P P
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 2.4 m sw, 13.4 m, 2.4 m sw (E)

Total Width: 18.2 m Net Width: 13.4 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired
Rail Code: 0000 Rail Description: Chain link fence.

DESCRIPTION UNDER STRUCTURE

Channel Description: RC trapezoidal.

INSPECTION COMMENTARY

SCOPE AND ACCESS

The water depth was 4 inches running through both barrels, and was flowing through the RC invert at 2 ft/sec. A complete inspection of all visible bridge elements was performed. Pedestrian access is from a ramp at SW quadrant.

MISCELLANEOUS

Underside photos were taken during this inspection.

DECK AND ROADWAY

AC exhibits two longitudinal cracks 0.5" wide at southbound lane, one crack is full length at 4 ft from the west curb; and the other crack is 10 ft long at the north end approximately 12 ft from the west curb.

Westerly curb is busted in three locations with spalls on top +/- 5" X 4" X 1".

CULVERT

INSPECTION COMMENTARY

At the soffit of the top slab, both barrels exhibits three longitudinal cracks with water seeping and efflorescence under the traffic lanes.

The culvert walls exhibit:

- * Box wall #1 (south) exhibits 6 vertical cracks approximately 0.04" wide; and an unsound concrete 12" X 12" at west end.
- * Box wall #2 exhibits 8 vertical cracks approximately 0.04" wide; and horizontal crack at the top 0.04" wide and 10 ft long at west end of the northerly face.
- * Box wall #3 (north) exhibits:
 - * 6 vertical cracks approximately 0.04" wide; and few horizontal cracks in few locations;
 - * several vertical cracks with brown efflorescence due to rusted rebars; and
 - * few spalls with rebar exposed and corroded at east; and large spall 12" X 12" X 1" at 30 ft from the west with rebar exposed and corroded.

SAFE LOAD CAPACITY

The current rating has been assigned in accordance with SMI procedures for culverts. Based on the field conditions and load history, the culvert is adequate to carry legal loads.

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
241	Reinforced Concrete Culvert	2	39	m.	28	8	3	0	

WORK RECOMMENDATIONS

RecDate: 10/10/2013	EstCost:	Remove all unsound concrete in all walls
Action : Sub-Patch spalls	StrTarget: 2 YEARS	and repatch them.
Work By: LOCAL AGENCY	DistTarget:	Patch all spalls in the culvert walls.
Status : PROPOSED	EA:	

Team Leader : Ashraf Shenouda

Report Author : Ashraf Shenouda

Inspected By : A. Shenouda/KD. Henderson

Ashraf Shenouda (Registered Civil Engineer) 12/5/13 (Date)



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0399
 (5) INVENTORY ROUTE (ON/UNDER)- ON 150000000
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 65084
 (6) FEATURE INTERSECTED- SEGUNDA DESHECHA CANADA
 (7) FACILITY CARRIED- CALLE DELOS MOLINO
 (9) LOCATION- 0.1 MI S/O AVENIDA PICO
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 26 MIN 08.72 SEC
 (17) LONGITUDE 117 DEG 37 MIN 28.36 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
 TYPE- CULVERT CODE 119
 (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- NOT APPLICABLE CODE N
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:
 A) TYPE OF WEARING SURFACE- NOT APPLICABLE CODE N
 B) TYPE OF MEMBRANE- NOT APPLICABLE CODE N
 C) TYPE OF DECK PROTECTION- NOT APPLICABLE CODE N

***** AGE AND SERVICE *****

(27) YEAR BUILT 1971
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
 UNDER- WATERWAY 5
 (28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
 (29) AVERAGE DAILY TRAFFIC 8000
 (30) YEAR OF ADT 2010 (109) TRUCK ADT 2 %
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 4.2 M
 (49) STRUCTURE LENGTH 7.0 M
 (50) CURB OR SIDEWALK: LEFT 2.4 M RIGHT 2.4 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 13.4 M
 (52) DECK WIDTH OUT TO OUT 18.2 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 13.4 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 45 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 = 88.7
 STATUS
 HEALTH INDEX 88.0
 PAINT CONDITION INDEX = N/A

***** CLASSIFICATION ***** CODE

(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 ***** CODE

(58) DECK N
 (59) SUPERSTRUCTURE N
 (60) SUBSTRUCTURE N
 (61) CHANNEL & CHANNEL PROTECTION 9
 (62) CULVERTS 6

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

(31) DESIGN LOAD- MS-18 OR HS-20 5
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
 (64) OPERATING RATING- 40.5
 (65) INVENTORY RATING METHOD- ASSIGNED (LRFD) F
 (66) INVENTORY RATING- 24.3
 (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 0000
 (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 18547
 (115) YEAR OF FUTURE ADT 2029

***** INSPECTIONS *****

(90) INSPECTION DATE 10/13 (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)