



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0398
Facility Carried: AVENIDA PICO
Location : 200' N/O EL CAMINO REAL
City : SAN CLEMENTE
Inspection Date : 10/10/2013

Bridge Inspection Report

Inspection Type

Routine FC Underwater Special Other

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STRUCTURE NAME: SEGUNDA DESHECHA CANADA

CONSTRUCTION INFORMATION

Year Built : 1971 Skew (degrees): 6
Year Widened: N/A No. of Joints : 0
Length (m) : 7 No. of Hinges : 0

Structure Description: Double 3.0 m W x 3.0 m H x 42.7 m L RC box culvert (non-grade top)
beneath 3.6 m of earth fill.

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

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: M-13.5 OR H-15
Inventory Rating: RF=0.75 =>24.3 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=1.25 =>40.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 3.0 m, 0.2 m cu, 15.2 m, 0.6 m cu med, 9.6 m, 0.2 m cu, 2.4 m sw (E)

Total Width: 31.2 m Net Width: 24.8 m No. of Lanes: 6 Speed: 35 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 an access gate on El-Camino Real at 0.07 mile west of Avenida Pico. Going down the channel is by using a side steps fixed steel ladder on the side of the north channel wall. A hummer was used to test the delamination on the culvert walls.

MISCELLANEOUS

Underside and roadside view photos were taken during this inspection.

DECK AND ROADWAY

No significant defects were visually seen during this inspection.

REVISIONS

Element 241 (Reinforced Concrete Culvert): The quantities were modified as follows: from

INSPECTION COMMENTARY

[St. 1 = 43] to [St. 1 = 20, St. 2 = 3, St. 3 = 20].

CULVERT

The soffit of the top slab at barrel #1 exhibits an unsound concrete 3 ft X 3 ft next to the drainage outlet opening approximately 2 ft from the east end.

The soffit of the top slab at barrel #2 exhibits white efflorescence at the east construction joint (50 ft from east end).

The culvert walls at the north construction joint (50 ft from north), the gap between the two walls is varied from 0.2" on top to 1" at the bottom within 10 ft height of the wall.

The culvert walls exhibit:

* Box wall #1 (south) exhibits:

- A large unsound concrete 15 ft width X 3 ft high at the west end.
- A spall 3 ft X 8" X 4" at the west construction joint (50 ft from west end).
- Unsound concrete 51 ft width X 2 ft high at the middle one third section of the culvert.
- Unsound concrete 7 ft high X 2 ft width at the east end.

* Box wall #2 exhibits:

- A unsound concrete 2 ft X 1 ft at the west end.
- A unsound concrete 2 ft X 2 ft at the west construction joint (50 ft from west end).
- A unsound concrete 1 ft X 1 ft at the east construction joint (50 ft from east end).
- A spall 2 ft X 2 ft X 3" at the bottom of the west construction joint (50 ft from west end).

* Box wall #3 (north wall) exhibits:

- A unsound concrete 8 ft high X 4 ft width at the east end.
- A unsound concrete 1 ft high X 8 ft width at the east construction joint (50 ft from east end).
- five vertical cracks 0.04" wide.
- A spall 3 ft high X 1 ft width X 3" deep with rebar exposed and corroded at the east construction joint (50 ft from east end).

SAFE LOAD CAPACITY

Field verification was made in 11/27/2013 with Kenneth Vo the load rating specialist in our office, to verify the load rating of this culvert. Ken agreed that the spalls and delamination areas need to be repaired. Even though the delamination exists on a large area, the spall and delamination only affect the surface of these this structure. There is no major distress to the structure. He recommended that ABME should continue to use the Assigned Rating Procedures for ratings of these culverts and continue to monitor and follow up on the repair recommendation.

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	43	m.	20	3	20	0	

WORK RECOMMENDATIONS

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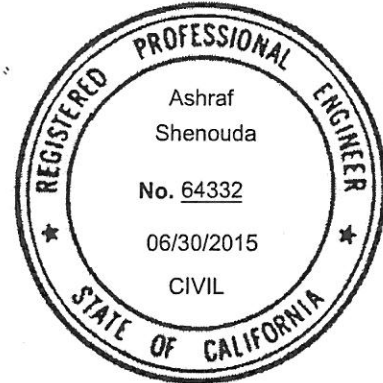
RecDate: 10/10/2013	EstCost:	Remove all unsound concrete at all
Action : Sub-Patch spalls	StrTarget: 2 YEARS	culvert walls and patch again.
Work By: LOCAL AGENCY	DistTarget:	Patch all spalls in the culvert walls.
Status : PROPOSED	EA:	

Team Leader : Ashraf Shenouda

Report Author : Ashraf Shenouda

Inspected By : A.Shenouda/KD.Henderson

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



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0398
 (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- AVENIDA PICO
 (9) LOCATION- 200' N/O EL CAMINO REAL
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- PART OF NET 1
 (13) LRS INVENTORY ROUTE & SUBROUTE 000000M25300
 (16) LATITUDE 33 DEG 26 MIN 00.02 SEC
 (17) LONGITUDE 117 DEG 37 MIN 52.5 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 1
 UNDER- WATERWAY 5
 (28) LANES:ON STRUCTURE 06 UNDER STRUCTURE 00
 (29) AVERAGE DAILY TRAFFIC 12000
 (30) YEAR OF ADT 2010 (109) TRUCK ADT 1 %
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 3.0 M
 (49) STRUCTURE LENGTH 7.0 M
 (50) CURB OR SIDEWALK: LEFT 0.2 M RIGHT 2.6 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 24.8 M
 (52) DECK WIDTH OUT TO OUT 31.2 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 24.8 M
 (33) BRIDGE MEDIAN- CLOSED NON-MOUNTABLE 3
 (34) SKEW 6 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 15.2 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 *****

SUFFICIENCY RATING = 76.0
 STATUS
 HEALTH INDEX 66.7
 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- 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 5

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

(31) DESIGN LOAD- M-13.5 OR H-15 2
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
 (64) OPERATING RATING- 40.5
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUI 0
 (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 5
 (68) DECK GEOMETRY 5
 (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 96858
 (115) YEAR OF FUTURE ADT 2029

***** INSPECTIONS *****

(90) INSPECTION DATE 10/13 (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)