
Bridge Inspection Records Information System

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State of California
Department of Transportation

**Division of Maintenance
Structures Maintenance & Investigations**



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0572
Facility Carried: IRVINE AVE
Location : 0.4 MI SW BRISTOL ST
City :
Inspection Date : 16-JUL-01

Bridge Inspection Report

Inspection Type
Routine ☒ Group A ☐ Underwater ☐ Special ☐ Other ☐

Name : SANTA ANA DELHI CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1988
Year Widened : N/A
Length (m) : 22.3
Skew (degrees): 38
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Triple 5.5 m W x 4.6 m H x 45.7 m L RC box culvert (grade top) beneath 1.5 m of earth fill.

Span Configuration : (W) 3 @ 5.5 m (E) clear, normal

LOAD CAPACITY AND RATINGS

Design Live Load : MS - 18 OR HS - 20
Inventory Rating : 32.6 metric tons
Operating Rating : 53.5 metric tons
Permit Rating : PPPPP
Posting Load : Type 3 N/A english tons
Calculation Method : LOAD FACTOR
Calculation Method : LOAD FACTOR
Type 3S2 N/A english tons Type 3-3 N/A english tons

DESCRIPTION ON STRUCTURE

Bridge width : (S) 0.3 m br, 2.4 m sw, 13.4 m, 3.4 m med, 13.5 m, 0.3 m br (N)
Total Width : 33.5 m
Net Width : 30.30 m
Rail Description : Concrete
Min. Vertical Clearance : Unimpaired
No. of Lanes : 4
Rail Code : 1000

DESCRIPTION UNDER STRUCTURE

Channel Description : RC rectangular.

CONDITION OF STRUCTURE

The structure is in good condition.

MISCELLANEOUS

Vehicular access into the channel is from the northeast quadrant.

ELEMENT LEVEL INSPECTION RATINGS

F#	Elem No.	Element Description	Env	Total Units Quantity	Qty in each Condition State				
					St. 1	St. 2	St. 3	St. 4	St. 5
01	241	Reinforced Concrete Culvert	2	46m.	46	0	0	0	0
01	331	Reinforced Conc Bridge Railing	2	100m.	100	0	0	0	0

WORK RECOMMENDATIONS - NONE

Bridge No.: 55C0572

Location: 0.4 MI SW BRISTOL ST

Inspection Date: 16-JUL-01

Inspected By : M. Ogata

M. Ogata
Registered Civil Engineer



CC : TMRut
Orange County

Bridge No.: 55C0572

Location: 0.4 MI SW BRISTOL ST

Inspection Date: 16-JUL-01

STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME - CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0572
 (5) INVENTORY ROUTE(ON/UNDER) - ON 140 0M209N
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED - SANTA ANA DELHI CHANNEL
 (7) FACILITY CARRIED - IRVINE AVE
 (9) LOCATION - 0.4 MI SW BRISTOL ST
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK - NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 39 MIN 36 SEC
 (17) LONGITUDE 117 DEG 52 MIN 55 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 1 19
 (44) STRUCTURE TYPE APPR: MATERIAL -
 TYPE - CODE
 (45) NUMBER OF SPANS IN MAIN UNIT 3
 (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 1988
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON - HIGHWAY-PEDESTRIAN 5
 UNDER - WATERWAY 5
 (28) LANES: ON STRUCTURE 04 UNDER STRUCTURE
 (29) AVERAGE DAILY TRAFFIC 28000
 (30) YEAR OF ADT 1999 (109) TRUCK ADT 1%
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 5.5 M
 (49) STRUCTURE LENGTH 22.3 M
 (50) CURB OR SIDEWALK: LEFT 2.4 M RIGHT 0 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 30.3 M
 (52) DECK WIDTH OUT TO OUT 33.5 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 30.3 M
 (33) BRIDGE MEDIAN - CLOSED (NO BARRIER) 2
 (34) SKEW 38 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 30.3 M
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
 (54) MIN VERT UNDERCLEAR REF - NOT H/RR 0 M
 (55) MIN LAT UNDERCLEAR RT REF - NOT H/RR 0 M
 (56) MIN LAT UNDERCLEAR LT 0 M

***** NAVIGATION DATA *****

(38) NAVIGATION CONTROL - NOT APPLICABLE CODE N
 (111) PIER PROTECTION - NOT REQUIRED CODE 1
 (39) NAVIGATION VERTICAL CLEARANCE 0 M
 (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR 0 M
 (40) NAVIGATION HORIZONTAL CLEARANCE 0

***** SUFFICIENCY RATING = 95.4 *****

STATUS =

HEALTH INDEX = 100

***** 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) FEDERAL LANDS HIGHWAY - NOT APPLICABLE 0
 (110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
 (20) TOLL - ON FREE ROAD 3
 (21) MAINTAIN - COUNTY HIGHWAY AGENCY 2
 (22) OWNER - COUNTY HIGHWAY AGENCY 2
 (37) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE 5

***** CONDITION *****

(58) DECK N
 (59) SUPERSTRUCTURE N
 (60) SUBSTRUCTURE N
 (61) CHANNEL & CHANNEL PROTECTION 9
 (62) CULVERTS 8

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

(31) DESIGN LOAD - MS - 18 OR HS - 20 5
 (63) OPERATING RATING METHOD - LOAD FACTOR 1
 (64) OPERATING RATING - 53.5
 (65) INVENTORY RATING METHOD - LOAD FACTOR 1
 (56) INVENTORY RATING - 32.6
 (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 8
 (68) DECK GEOMETRY 9
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 9
 (72) APPROACH ROADWAY ALIGNMENT 7
 (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 56000
 (115) YEAR OF FUTURE ADT 2019

***** INSPECTIONS *****

(90) INSPECTION DATE 07/01 (91) FREQUENCY 24 MO
 (92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
 A) FRACTURE CRIT DETAIL - NO -1 MO A)
 B) UNDERWATER INSP - NO -1 MO B)
 C) OTHER SPECIAL INSP - NO -1 MO C)

Bridge Number 55C-572

Location 12 - Ora - FAU M209-CR
Dist.-Co.-Rte.-City

Date of Investigation August 6, 1996

TYPE OF INVESTIGATION/REPORT

BIENNIAL	<u>X</u>	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name SANTA ANA DELHI CHANNEL (Irvine Avenue, 0.4 mile southwest of Bristol Street)

CONDITION RATINGS:

Element Level Inspection (ELI) form attached.

Channel & Channel Protection

9

CONDITION OF STRUCTURE:

Condition of structure is good.

WORK RECOMMENDED:

None.

ENCROACHMENT:

One 50 mm GS conduit attached to exterior of north bridge rail.

M. Hadi Behrooj *MHB*

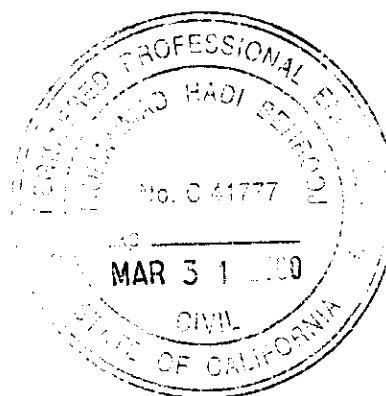
By

G. P. Balinghasay
G. P. Balinghasay

GPB:cd

cc: TMRut

Orange County



Bridge No. 55C-572

Name SANTA ANA DELHI CHANNEL (Irvine Avenue, 0.4 mile southwest of Bristol Street) Location 12-Ora-FAU M209-CR
Dist.-Co.-Rte.-City

SUMMARY OF ENCROACHMENTS

Permit No. and Permittee	Date	Description & Location on Bridge
	Prior to 8-6-96	1 - 50 mm GS conduit attached to exterior of north bridge rail.

HBD M 30

Bridge Number 55C-572

Location 12 - Ora - FAU M209-CR
Dist.-Co.-Rte.-City

Date of Investigation June 29, 1994

TYPE OF INVESTIGATION/REPORT

BIENNIAL	<u>X</u>	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name SANTA ANA DELHI CHANNEL (Irvine Avenue, 0.4 mile southwest of Bristol Street)

CONDITION RATINGS:

Condition ratings of all bridge elements are shown on the PONTIS DATA FORM (Attachment A).

Channel & Channel Protection

9

SCOUR CRITICAL:

The scour rating of A-1 is appropriate.

CONDITION OF STRUCTURE:

The structure is in good condition.

WORK RECOMMENDED:

None.

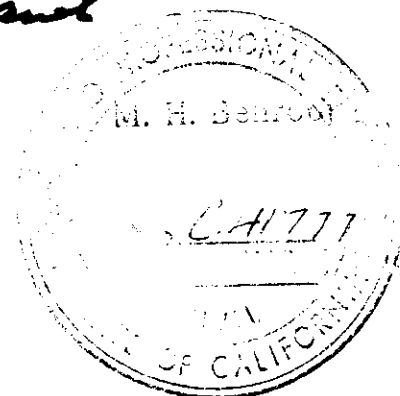
M. H. Behrooj ^{11/17/93}

By

S. A. Zanganeh
S. A. Zanganeh

SAZ:cd

cc: CDHarris
Orange County
WLindsey



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SUPPLEMENTARY BRIDGE REPORT
DS-M19 (REV. 12/91)

Bridge Number 55C-572

Location 12 - Ora- FAU M209-CR
Dist.-Co.-Rte.-City

Date of Investigation June 10, 1992

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE
CATEGORY A OTHER
UNDERWATER OFFICE

Name SANTA ANA DELHI CHANNEL (Irvine Avenue, 0.4 mile southwest of Bristol Street)

CONDITION RATINGS:

Deck	Superstructure	Substructure	Channel & Channel Protection	Culvert
<u>N</u>	<u>N</u>	<u>N</u>	<u>9</u>	<u>8</u>

CONDITION OF STRUCTURE:

Condition of the structure is good.

ENCROACHMENTS:

2" galvanized steel conduit attached to exterior of north bridge rail.


Henry Ma

HM:cd
cc: INagai (2)
County of Orange



BRIDGE REPORT

DS-M58 (REV. 4/90)

14W22

Bridge No. 55C - 572

Location 12 - Ora - FAU M209-CR
Dist Co Rte City

Date of Investigation May 24, 1990

Name SANTA ANA DELHI CHANNEL (Irvine Avenue, 0.4 mile southwest of Bristol Street)

Lat. 33° - 39.6'N Long. 117° - 52.8'W

Custodian County of Orange Owner County of Orange

STRUCTURAL DATA AND HISTORY

Year Built 1988 By Orange County Contract No. Unknown

Designed by: B.S.I. Consultants, Inc. Plans Avail. @ County

Description: Triple 18' x 15' x 150' long RC box culvert on spread footing (grade top culvert) under 5'± of fill and AC surfacing.

Spans 3 @ 18' clear, normal

Length 73.4' NBIS Bridge Length Yes Skew 38° Right

Number Of Intermediate Joints: @Hinges N @Bents N

Maximum Column/Pier Height: (Less than 20') X (20'-29') (30' & Over)

Design Live Load HS20-44 Design Method Unknown

DESCRIPTION - ON STRUCTURE

Bridge Width (S) 1'br; 8'sw; 44'; 11'm; 44.5'; 1'br (N)

Total Width 110' Net Width 99.5' Lanes 4 Tracks None

Median Double double painted stripe Concrete with tubular handrail 1000

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 58'

Deck Type N Wearing Surface/Prot. Sys. NNN

Alignment R = 2000'±

DESCRIPTION - UNDER STRUCTURE

Roadway Section None

Clearances: Road: Vert. Horiz. Lt. ; Rt.

Lanes Tracks

Facilities Crossed Santa Ana Delhi Channel (F01)

May 24, 1990

DESCRIPTION - HYDRAULICS

Channel RC rectangular

Navigable: Yes ☐ No ☒ Clearances: Vert.

Horiz.

Pier/Abutment Protection (For Navigation) ☐

TRAFFIC INFORMATION

	DECK	YEAR	UNDER	YEAR
Average Daily Traffic & Year :	34,000	1989	N	
Average Daily Traffic (Future) :	35,000 Est	2010	N	
Average Daily Trucks (% OF ADT) :	1% Est		N	
Bypass Detour Length	1 mile		N	
Shell Route:	No		N	
Functional Classification :	16		N	
LOAD RATINGS:	Inventory HS 20	Operating HS 33		
	Permit PPPPP	Computation Method Assigned		

CONDITION RATINGS:

Deck	N	Superstructure	N	Substructure	N
Channel & Channel Protection	9	Culvert	8	Widenable	Yes

APPRAISAL RATINGS:

Waterway Adequacy	9	Approach Roadway Alignment	7
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Date of Revisions

DISCUSSION:

This structure replaced a previous concrete bridge, 55C-392 which was removed, at the same location.

CONDITION OF STRUCTURE:

The structure is new and is in good condition.

Henry Ma

HM:ms

cc: INagai (2)

County of Orange

