
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 : 55C0574
Facility Carried: BENT TWIG LANE
Location : 0.1 MI NW BROWNING AVE
City :
Inspection Date : 24-JUL-01
Inspection Type
Routine ☒ Group A ☐ Underwater ☐ Special ☐ Other ☐

Bridge Inspection Report

Name : REDHILL CHANNEL

CONSTRUCTION INFORMATION

Year Built : Unknown
Year Widened : 1989
Length (m) : 8.8
Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Triple 2.7 m W x 1.5 m H x 14.3 m L RC box culvert (grade top) beneath 0.3 m of earth fill.

Span Configuration : (W) 3 @ 2.7 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 Type 3S2 N/A english tons Type 3-3 N/A english tons
Calculation Method : LOAD FACTOR
Calculation Method : LOAD FACTOR

DESCRIPTION ON STRUCTURE

Bridge width : (S) 0.2 m cu, 1.3 m sw, 10.8 m, 1.3 m sw, 0.2 m br (N)
Total Width : 14.3 m Net Width : 10.80 m
Rail Description : None
Min. Vertical Clearance : Unimpaired
No. of Lanes : 2
Rail Code : 0000

DESCRIPTION UNDER STRUCTURE

Channel Description : RC rectangular.

CONDITION OF STRUCTURE

The structure is in good condition.

MISCELLANEOUS

Vehicular access into the channel is via the Irvine-El Modena Channel at the northeast quadrant of RedHill Avenue or at the northeast quadrant of Park Center Drive.

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	14 m.	14	0	0	0	0

WORK RECOMMENDATIONS - NONE

Bridge No.: 55C0574

Location: 0.1 MI NW BROWNING AVE

Inspection Date: 24-JUL-01

Inspected By : M. Ogata

M. Ogata
Registered Civil Engineer



CC : TMRut
Orange County

Bridge No.: 55C0574

Location: 0.1 MI NW BROWNING AVE

Inspection Date: 24-JUL-01

STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME - CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0574
 (5) INVENTORY ROUTE (ON/UNDER) - ON 1 40 00000N
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED - REDHILL CHANNEL
 (7) FACILITY CARRIED - BENT TWIG LANE
 (9) LOCATION - 0.1 MI NW BROWNING AVE
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK - NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 44 MIN 20 SEC
 (17) LONGITUDE 117 DEG 48 MIN 07 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
 (106) YEAR RECONSTRUCTED 1989
 (42) TYPE OF SERVICE: ON - HIGHWAY-PEDESTRIAN 5
 UNDER - WATERWAY 5
 (28) LANES: ON STRUCTURE 02 UNDER STRUCTURE
 (29) AVERAGE DAILY TRAFFIC 500
 (30) YEAR OF ADT 1998 (109) TRUCK ADT 1%
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 2.7 M
 (49) STRUCTURE LENGTH 8.8 M
 (50) CURB OR SIDEWALK: LEFT 1.3 M RIGHT 1.3 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 10.8 M
 (52) DECK WIDTH OUT TO OUT 14.3 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 10.8 M
 (33) BRIDGE MEDIAN - CLOSED (NO BARRIER) 2
 (34) SKEW 0 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 10.8 M
 (53) MIN VERT CLEAR OVER BRIDGE DEWY 99.99 M
 (54) MIN VERT UNDERCLEAR REF - NOT H/RR 0 M
 (55) MIN LAT UNDERCLEAR ST 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 = 97.0 *****

STATUS =

HEALTH INDEX = 100

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

(112) NBIS BRIDGE LENGTH - YES Y
 (104) HIGHWAY SYSTEM - NOT ON NHS 0
 (26) FUNCTIONAL CLASS - LOCAL URBAN 19
 (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 ***** CODE

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

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

(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
 (66) 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 ***** CODE

(67) STRUCTURAL EVALUATION 8
 (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 500
 (115) YEAR OF FUTURE ADT 2015

***** 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-574

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

Date of Investigation August 1, 1996

TYPE OF INVESTIGATION/REPORT	
BIENNIAL <u>X</u>	DAMAGE <u> </u>
CATEGORY A <u> </u>	OTHER <u> </u>
UNDERWATER <u> </u>	OFFICE <u> </u>

Name REDHILL CHANNEL (Bent Twig Lane, 0.1 mile northwest of Browning Avenue)

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 37 mm GSP attached to south headwall.

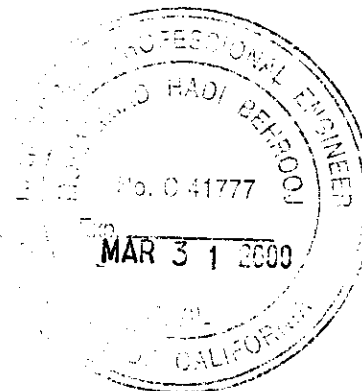
M. Hadi Behrooj

By

G. P. Balinghasay

GPB:cd

cc: TMRut
Orange County



Bridge No. 55C-574

Name REDHILL CHANNEL (Bent Twig Lane,
0.1 mile northwest of Browning
Avenue)

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

SUMMARY OF ENCROACHMENTS

Permit No. and Permittee	Date	Description & Location on Bridge
	Prior to 8-1-96	1 - 37 mm GSP attached to south headwall.

HBD M 30

Bridge Number 55C-574

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

Date of Investigation July 8, 1994

TYPE OF INVESTIGATION/REPORT

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

Name REDHILL CHANNEL (Bent Twig Lane, 0.1 mile northwest of Browning Avenue)

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.

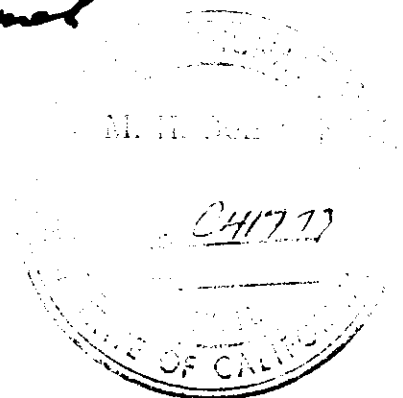
M. H. Behrooj *HMB*

By

S. A. Zanganeh
S. A. Zanganeh

SAZ:cd

cc: CDHarris
Orange County
WLindsey



M. H. Behrooj

CH1717

BRIDGE NUMBER FRAME INSPECTION DATE

5 5 C 0 5 7 4 0 1 0 7 0 8 9 4

1 8 9 11 16

SCOUR CRITICAL	NO
CATEGORY A	NO
FRACTURE CRITICAL	NO
ELIGIBLE FOR RAIL UPGRADE	NO
UNDERWATER INSPECTION	NO

DISTRICT 12

COUNTY ORA

ROUTE

POSTMILE

NAME

[illegible]

BY: Saz

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

Bridge Number 55C-574

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

Date of Investigation June 15, 1992

TYPE OF INVESTIGATION/REPORT			
BIENNIAL	<u>X</u>	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name REDHILL CHANNEL (Bent Twig Lane, 0.1 mile northwest of Browning Avenue)

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.

ENCROACHMENT:

2 1/2" welded steel pipe attached to south exterior.


Henry Ma

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



BRIDGE REPORT

DS-M58 (REV. 4/90)

14W12

Bridge No. 55C - 574

Location 12 - Ora - CR
Dist Co Rte City

Date of Investigation May 29, 1990

Name REDHILL CHANNEL (Bent Twig Lane, 0.1 mile northwest of Browning Avenue)

Lat. 33° - 44.3'N Long. 117° - 48.0'W

Custodian County of Orange Owner County of Orange

STRUCTURAL DATA AND HISTORY

Year Built Unknown By Orange County Contract No. Unknown
See Page 2

Designed by: Plans Avail. @ County

Description: Triple 9' x 5' x 47' long RC box culvert (grade top culvert) on spread footing.

Spans 3 @ 9' clear

Length 28.6' NBIS Bridge Length Yes Skew None

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) 0.8'cu; 4.3'sw; 35.5'; 4.3'sw; 0.8'cu (N)

Total Width 47' Net Width 35.5' Lanes 2 Tracks None

Median None Rail Type Chain link fence 0000

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 36'

Deck Type N Wearing Surface/Prot. Sys. NNN

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE

Roadway Section None

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

Lanes Tracks

Facilities Crossed Redhill Channel (F13)

May 29, 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 :	500 Est	1990	N	
Average Daily Traffic (Future) :	500 Est	2010	N	
Average Daily Trucks (% OF ADT) :	1% Est		N	
Bypass Detour Length	1 mile		N	
Shell Route:	No		N	
Functional Classification :	19		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	8
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Date of Revisions

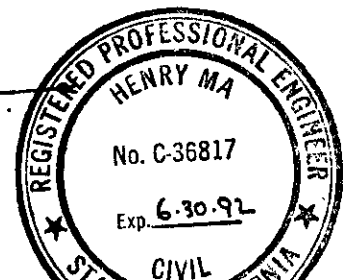
STRUCTURAL DATA AND HISTORY (Con't.)

Date of Revision: 1989, added one 9' x 5' RC box culvert to west side of existing double 9' x 5' RC box culvert.

CONDITION OF STRUCTURE:

Condition of the structure is good.

Henry Ma



HM:ms

cc: INagai (2)