
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 : 55C0511M
Facility Carried: VILLA PARK RD
Location : 1.74 MI EAST OF SH 55
City :
Inspection Date : 24-JUL-01

Bridge Inspection Report

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

Name : SANTIAGO CREEK

CONSTRUCTION INFORMATION

Year Built : 1982
Year Widened : N/A
Length (m) : 6.7

Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Single 6.4 m diameter x 100.5 m L corrugated steel multiplate pipe culvert (non-grade top) beneath 12.2 m of earth fill.

Span Configuration : (W) 1 @ 6.4 m (E) clear, normal

LOAD CAPACITY AND RATINGS

Design Live Load : MS - 18 + MOD OR HS - 20 + MOD

Inventory Rating : 32.6 metric tons

Calculation Method : LOAD FACTOR

Operating Rating : 53.5 metric tons

Calculation Method : LOAD FACTOR

Permit Rating : PPPPP

Posting Load : Type 3 N/A english tons Type 3S2 N/A english tons Type 3-3 N/A english tons

DESCRIPTION ON STRUCTURE

Bridge width : (S) 12.2 m (N)

Total Width : .0 m

Net Width : 12.20 m

Rail Description : None

No. of Lanes : 2

Min. Vertical Clearance : Unimpaired

Rail Code : 1111

DESCRIPTION UNDER STRUCTURE

Channel Description : Earth basin reservoir downstream and natural gravel upstream.

REVISIONS

(Bridge Number):

Old: 55C-511

New: 55C-511 M

The culvert is immersed in water. Only a surface inspection is performed.

CONDITION OF STRUCTURE

The reservoir water level is at high level. Neither end of the culvert is visible. Only a surface inspection was performed.

The structure is in good condition.

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	240	Unpainted Steel Culvert	2	101 m.	101	0	0	0	0

WORK RECOMMENDATIONS - NONE

Bridge No.: 55C0511M Location: 1.74 MI EAST OF SH 55

Inspection Date: 24-JUL-01

Inspected By : M. Ogata

M. Ogata
Registered Civil Engineer



CC : TMRut
Orange County
EEvans

Bridge No.: 55C0511M

Location: 1.74 MI EAST OF SH 55

Inspection Date: 24-JUL-01

STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME - CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0511M
 (5) INVENTORY ROUTE (ON/UNDER) - ON 140 0L030N
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED - SANTIAGO CREEK
 (7) FACILITY CARRIED - VILLA PARK RD
 (9) LOCATION - 1.74 MI EAST OF SH 55
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK - NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 48 MIN 36 SEC
 (17) LONGITUDE 117 DEG 48 MIN 18 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN: MATERIAL - STEEL
 TYPE - CULVERT CODE 3 19
 (44) STRUCTURE TYPE APPR: MATERIAL -
 TYPE - CODE
 (45) NUMBER OF SPANS IN MAIN UNIT 1
 (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 1982
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON - HIGHWAY-PEDESTRIAN 5
 UNDER - WATERWAY 5
 (28) LANES: ON STRUCTURE 02 UNDER STRUCTURE
 (29) AVERAGE DAILY TRAFFIC 17000
 (30) YEAR OF ADT 1998 (109) TRUCK ADT 1%
 (19) BYPASS, DETOUR LENGTH 6 KM

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

(48) LENGTH OF MAXIMUM SPAN 6.4 M
 (49) STRUCTURE LENGTH 6.7 M
 (50) CURB OR SIDEWALK: LEFT 0 M RIGHT 0 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 12.2 M
 (52) DECK WIDTH OUT TO OUT 0 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 12.2 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 12.2 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 = 94.2 *****

STATUS =

HEALTH INDEX = 100

***** 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) 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 7

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

(31) DESIGN LOAD - MS - 18 + MOD OR HS - 20 + MOD 6
 (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 7
 (68) DECK GEOMETRY 5
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 9
 (72) APPROACH ROADWAY ALIGNMENT 8
 (36) TRAFFIC SAFETY FEATURES 1111
 (113) SCOUR CRITICAL BRIDGES U

***** 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 19000
 (115) YEAR OF FUTURE ADT 2010

***** 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-511

TYPE OF INVESTIGATION/REPORT

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

Location 12 - Ora - FAU L030-CR
Dist.-Co.-Rte.-City

Date of Investigation July 19, 1995

Name SANTIAGO CREEK (Villa Park Road, 1.8 miles east of SR 55)

CONDITION RATINGS:

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

Channel & Channel Protection

9

CONDITION OF STRUCTURE:

Reservoir is at high level and either ends of the culvert cannot be seen.

Water level registers 286' on measuring stick.

Condition of structure is good.

WORK RECOMMENDED:

None.

By M. H. Behrooj ^{MHB}
G. P. Balinghasay

GPB:ms
cc: CDHarris
Orange County



NAME _____

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

BY:

SUPPLEMENTARY BRIDGE REPORT
DS-M19 (REV. 8/92)

Bridge Number 55C-511

Location 12 - Ora - FAU L030-CR
Dist.-Co.-Rte.-City

Date of Investigation April 15, 1993

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 SANTIAGO CREEK (Villa Park Road, 1.8 miles east of SR 55)

CONDITION RATINGS:

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

Channel & Channel Protection

9

CONDITION OF STRUCTURE:

Due to heavy seasonal rain and runoff, reservoir is at a high level
and both ends of this culvert is completely submerged this date.

Condition of the structure appears to be good.

Henry Ma

HM:cd

cc: INagai (2)
County of Orange



INFORMATION ONLY - NOT FOR UPDATE

BRIDGE NUMBER	FRAME	INSPECTION DATE
55C0511	01	041593
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]

H. MA

BY:

BRIDGE REPORT

14V52

Bridge No. 55C - 511

DS-M58 (REV. 1/91)

Location 12 - Ora - FAU L030-CR
Dist Co Rte City

REVISED ORIGINAL REPORT

Date of Investigation April 17, 1991

Name SANTIAGO CREEK (Villa Park Road, 1.8 miles east of SR 55)

Lat. 33° - 48.5'N Long. 117° - 48.1'W

Custodian County of Orange Owner County of Orange

STRUCTURAL DATA AND HISTORY

Year Built 1982 By County of Orange Contract No. Unknown

Designed by: County Plans Avail. @ County

Description: Single 21' diameter x 330' long bolted corrugated steel multiplate pipe culvert (non grade top culvert) on select base under 40'± of fill and AC surfacing.

Spans (W) 21' clear (E)

Length 22' NBIS Bridge Length Yes Skew None

Number Of Intermediate Joints: @Hinges None @Bents None

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) 40' pavement (N)

Total Width None Net Width 40' Lanes 2 Tracks None

Median None Rail Type None

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Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 40'

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 Santiago Creek (E08)

April 17, 1991

DESCRIPTION - HYDRAULICS

Channel Natural gravel channel upstream, earth basin downstream

Navigable: Yes ☐ No ☒ Clearances: Vert. Horiz.Pier/Abutment Protection (For Navigation) ☐

TRAFFIC INFORMATION

	DECK	YEAR	UNDER	YEAR
Average Daily Traffic & Year :	17,000	1989	N	
Average Daily Traffic (Future) :	19,000 Est	2010	N	
Average Daily Trucks (% OF ADT) :	1% Est		N	
Bypass Detour Length	4 miles		N	
Shell Route:	No		No	
Functional Classification :	14		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

CONDITION OF STRUCTURE:

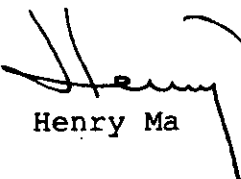
Condition of the structure is good.

PAINT CONDITION:

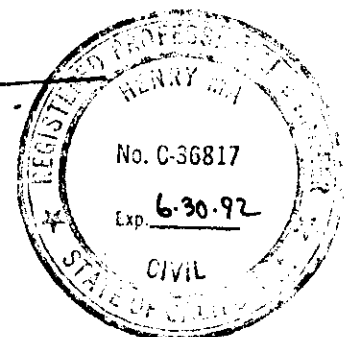
Code 3. Condition of galvanized coating is fair.

WORK DONE:

Embankment slope above both ends of the culvert was stabilized by soil cement.


 Henry Ma

HM:ms

cc: INagai (2)
County of Orange

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 8/88)

Bridge No. 55C-511

Location 12-Ora-FAU L030-CR

Dist. Co. Sta. PM. City

Date of Investigation 4-13-89

Name SANTIAGO CREEK (Villa Park Road, 1.74 miles east of SR 55)

CONDITION RATING:

Deck N Superstructure 8 Substr.&Pipes 8

Channel & Channel Protection 8 Culvert N

Widenable? Yes

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE

CATEGORY A OTHER

UNDERWATER OFFICE

CONDITION OF STRUCTURE:

Condition of the structure is good.

REVISION:

Location: 12-Ora-FAU L030-CR

Average daily traffic: 16,000 (1988)

WORK RECOMMENDED:

None.

RECOMMENDED POSTING:

None.

SUBSTRUCTURE CODING UPDATE:

Corrugated steel multi-plate pipe culvert on select base.

Henry Ma

HM/cd

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



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-05 M13 (REV. 1/74)

Bridge No. 55C-511

Location 7-Oran-FAU-L030-CR
Dist - Co - Rte - PM - City

Date of Investigation April 14, 1987

Name SANTIAGO CREEK (Villa Park Rd., 1.74 miles E. of SR 55)

CONDITION RATING:

Deck N Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 8 Retaining Walls N

APPRAISAL RATING:

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required By County Yes ☐ No ☒

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

WORK DONE:

Damaged concrete headwall at north end has been repaired.

REVISION:

Average Daily Traffic - 24,000 (1985)

CONDITION OF STRUCTURE:

Condition of structure is good.

RECOMMENDED POSTING:

None

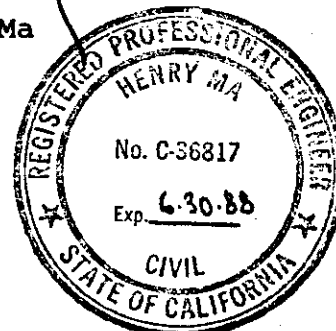
WORK RECOMMENDED:

None

HM:pht

cc: INagai (2)
Orange County (2)

Henry Ma



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-05 MID (REV. 1/74)

Bridge No. 55C-511
Location 7-Ora-FAU L030-CR
Stat - Co - Rm - Rd - City
Date of Investigation January 2, 1986

Name SANTIAGO CREEK (Villa Park Road, 1.74 miles east of SR 55)

CONDITION RATING:

APPRAISAL RATING:

Deck N Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 8 Retaining Walls 8

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required by County Yes ☒ No ☐

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

REVISION:

Total Width: None

CONDITION OF STRUCTURE:

The concrete collar headwall at the north end of the culvert has been impacted and is shattered.

Otherwise, the condition of structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

Remove all damaged loose concrete of the headwall collar and restore to original condition.

HM:pdh
cc: INagai (2)
Orange County (2)


Henry Ma
C-36817

C

No. 1 - ~~CODE~~

No. 2 - EDK

No. 3 - BR. BOOK

BRIDGE NO. 55C-511

LOCATION 7-ORA-FAU LD30 - CR (on deck)

NAME SANTIAGO CREEK (Villa Park Road)

ASSIGNED
RATING

	FACTOR	VEHICLE
INVENTORY	_____	<u>HS 20</u>
OPERATING	_____	<u>HS 33</u>
PERMIT		
5 AXLE	_____	<u>P</u>
7 AXLE	_____	<u>P</u>
9 AXLE	_____	<u>P</u>
11 AXLE	_____	<u>P</u>
13 AXLE	_____	<u>P</u>

NOTES: AC = 40'± FILL

21' DIAM. STEEL MULTI-PLATE PIPE

BUILT: 1982

BY: ORANGE COUNTY

Division Bridges E. L. Neff

RATED BY: E. L. Neff

DATE : 8-2-83

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DS-M58 (REV. 1/81)

Bridge No. 55C-511

Other No.

P.U.C. No.

Location 7-Ora-FAU L030-CR (On deck)
Dist - Co - Rte - PM - City

Date of Investigation July 12, 1983

SEE REVISED
ORIGINAL REPORT

Name SANTIAGO CREEK (Villa Park Road, 1.74 miles east of SH 55)

Lat. 33°-48.5' Long. 117°-48.1'

STRUCTURAL DATA AND HISTORY

Year Built 1982 By Orange County Contract No. Unknown

Date of Revisions

Designed by: B.D. ☐ Orange County Plans Avail. @ Orange County

Description: 21' diameter corrugated steel multi-plate pipe (gage #1)
under 40' of fill.

Spans 1 @ 21' (clear, normal)

Length 22.0' Skew None Design LL HS 20-44

Ratings: Inventory HS 20 Assigned Operating HS 33 Assigned Permit PPPPP/Assigned

DESCRIPTION - ON STRUCTURE (Shell Rte.: Yes ☐ No ☐)

Bridge Width 7.5'V-drain, 8.0'ea.sh., 2@20.0', 8.0'ea.sh., 7.5'V-drain

Total Width 330.0' Lanes 2 Tracks None

Median Single dash yellow line Rail Type Chain link fence (0000)

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 40'

Wearing Surface None Deck Prot. Sys. None

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE (Shell Rte.: Yes ☐ No ☐)

Roadway Section None

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

Lanes N Tracks N Pumpplant: None ☒ See Br. No.

Facilities Crossed Santiago Creek (EO 8)

cc:

DESCRIPTION - HYDRAULICS

Channel Large earth cut trapezoidal shape

Navigable: Yes ☐ No ☒ Clearances: Vert. _____ Horiz. _____

MAINTENANCE

Custodian Orange County Owner Orange County

**ORIGINAL
CONDITION RATING**

Deck	<u>N</u>
Superstructure	<u>8</u>
Substructure & Pipes	<u>8</u>
Channel & Channel Protection	<u>8</u>
Retaining Walls	<u>8</u>
Approach Rdwy. Alignment	<u>8</u>
Estimated Remaining Life	<u>50</u>

**ORIGINAL
APPRAISAL**

Overall	<u>8</u>
Deck Geometry	<u>8</u>
Underclearances	Vert. <u>N</u>
	Horiz. <u>N</u>
Safe Load Capacity	<u>9</u>
Waterway Adequacy	<u>8</u>
Approach Rdwy. Alignment	<u>8</u>

Widenable? Yes ☒ No ☐ Conditional ☐

Average Daily Traffic & Year 12,000 1983

Bypass Detour Length 4 miles

Action Required: Yes ☐ No ☒

Posting Required: None ☐ Load ☐

Speed ☐

DISCUSSION: This structure replaces bridge number 55C-131 that was previously washed out during a storm.

CONDITION OF STRUCTURE: The overall condition of the structure is good.

LOAD CAPACITY: The ratings shown were assigned based on the known factors (i.e. volume and type of traffic, year built, design live load, etc.) and the condition of the structure.

RECOMMENDED POSTING: None.

RECOMMENDATIONS: None.

E. L. Neff
E. L. Neff
C 28703

ELN:cd

cc: DRHiggins (2)
Orange County (2)

(2)