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 : 55C0121
Facility Carried: BREA BLVD
Location : 0.4 MI N CENTRAL AVE
City :
Inspection Date : 05-JUN-01

Inspection Type

Routine	Group A	Underwater	Special	Other
X				

Bridge Inspection Report

Name : BREA CANYON CHANNEL

CONSTRUCTION INFORMATION

Year Built : Unknown
Year Widened : 1929
Length (m) : 9.1

Skew (degrees): 32
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Continuous 2-span CIP/RC deck slab with an RC pier and RC closed end backfilled strutted abutments. Foundation type is unknown.

Span Configuration : (S) 2 @ 4.1 m (N) c/c

LOAD CAPACITY AND RATINGS

Design Live Load : OTHER OR UNKNOWN
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 : (W) 3.4 m ea, 2 @ 5.6 m, 0.9 m ea (E)
Total Width : .0 m — Net Width : 11.30 m — No. of Lanes : 2
Rail Description : (E) MBGR (W) None — Rail Code : 0000
Min. Vertical Clearance : Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description : Natural earth trapezoidal with heavy bushes and trees in the channel bed.

CONDITION OF STRUCTURE

Because of water in the channel, only a surface inspection was performed.

There is a concrete spall (0.15 m x 0.6 m x 0.1 m) in the upstream nose of the pier. Probably impacted by debris. There are minor cracks in both ends of pier wall. (O)

Otherwise, the structure is in good condition.

MISCELLANEOUS

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	39	Concrete Slab - Unprotected w/ AC Overlay	2	100 sq.m.	100	0	0	0	0
01	210	Reinforced Conc Pier Wall	2	17 m.	16	1	0	0	0
01	215	Reinforced Conc Abutment	2	34 m.	34	0	0	0	0

WORK RECOMMENDATIONS

Remove the bushes and the trees in the channel bed within 30 meters of the bridge to allow the water to flow properly.

Item#	Rec. Date	Work By	Work Id.	Prog. Method	Cost
1					

Printed on : 08-JUN-2001 10:20:11 AM

Bridge No.: 55C0121 **Location: 0.4 MI N CENTRAL AVE** **Inspection Date: 05-JUN-01**

05-JUN-2001 County Agency 40121X01156X

Inspected By : M. Ogata

M. Ogata

Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
MAKOTO OGATA
No. C23989
Exp. 12-31-01
CIVIL
STATE OF CALIFORNIA

CC : TMRut
Orange County

Printed on : 08-JUN-2001 10:20:11 AM

Bridge No.: 55C0121 **Location: 0.4 MI N CENTRAL AVE** **Inspection Date: 05-JUN-01**

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1)	STATE NAME - CALIFORNIA	069
(8)	STRUCTURE NUMBER	55C0121
(5)	INVENTORY ROUTE(ON/UNDER) - ON	1 40 0M003N
(2)	HIGHWAY AGENCY DISTRICT	12
(3)	COUNTY CODE 059 (4) PLACE CODE	00000
(6)	FEATURE INTERSECTED - BREA CANYON CHANNEL	
(7)	FACILITY CARRIED - BREA BLVD	
(9)	LOCATION - 0.4 MI N CENTRAL AVE	
(11)	MILEPOINT/KILOMETERPOINT	0
(12)	BASE HIGHWAY NETWORK - NOT ON NET	0
(13)	LRS INVENTORY ROUTE & SUBROUTE	
(16)	LATITUDE	33 DEG 56 MIN 16 SEC
(17)	LONGITUDE	117 DEG 53 MIN 31 SEC
(98)	BORDER BRIDGE STATE CODE	% SHARE %
(99)	BORDER BRIDGE STRUCTURE NUMBER	

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

(43)	STRUCTURE TYPE MAIN: MATERIAL - CONCRETE TYPE - SLAB	CODE 1 01
(44)	STRUCTURE TYPE APPR: MATERIAL - TYPE -	CODE
(45)	NUMBER OF SPANS IN MAIN UNIT	2
(46)	NUMBER OF APPROACH SPANS	0
(107)	DECK STRUCTURE TYPE CIP CONCRETE	CODE 1
(108)	WEARING SURFACE / PROTECTIVE SYSTEM:	
	A) TYPE OF WEARING SURFACE - CONCRETE	CODE 1
	B) TYPE OF MEMBRANE - NONE	CODE 0
	C) TYPE OF DECK PROTECTION - NONE	CODE 0

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

(27)	YEAR BUILT	1929
(106)	YEAR RECONSTRUCTED	1
(42)	TYPE OF SERVICE: ON - HIGHWAY UNDER - WATERWAY	5
(28)	LANES: ON STRUCTURE 02 UNDER STRUCTURE	
(29)	AVERAGE DAILY TRAFFIC	15000
(30)	YEAR OF ADT 1999 (109) TRUCK ADT	2%
(19)	BYPASS, DETOUR LENGTH	2 KM

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

(48)	LENGTH OF MAXIMUM SPAN	4.3 M
(49)	STRUCTURE LENGTH	9.1 M
(50)	CURB OR SIDEWALK: LEFT 0 M RIGHT	0 M
(51)	BRIDGE ROADWAY WIDTH CURB TO CURB	11.3 M
(52)	DECK WIDTH OUT TO OUT	0 M
(32)	APPROACH ROADWAY WIDTH (W/SHOULDERS)	11 M
(33)	BRIDGE MEDIAN - CLOSED (NO BARRIER)	2
(34)	SKEW 32 DEG (35) STRUCTURE FLARED	NO
(10)	INVENTORY ROUTE MIN VERT CLEAR	99.99 M
(47)	INVENTORY ROUTE TOTAL HORIZ CLEAR	8.5 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 = 93.6

STATUS =

HEALTH INDEX = 99.01

********** 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	7
(59)	SUPERSTRUCTURE	7
(60)	SUBSTRUCTURE	7
(61)	CHANNEL & CHANNEL PROTECTION	8
(62)	CULVERTS	N

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

(31)	DESIGN LOAD - OTHER OR UNKNOWN	0
(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 - DESCRIPTION - OPEN, NO RESTRICTION	A

********** APPRAISAL ********** CODE

(67)	STRUCTURAL EVALUATION	7
(68)	DECK GEOMETRY	4
(69)	UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71)	WATER ADEQUACY	9
(72)	APPROACH ROADWAY ALIGNMENT	8
(36)	TRAFFIC SAFETY FEATURES	0000
(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	30000
(115)	YEAR OF FUTURE ADT	2019

********** INSPECTIONS **********

(90)	INSPECTION DATE 06/01	(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)

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58022 5-38 8M. Est. 4302.
STATE PRINTING OFFICE

55C-124

BRIDGE No. 55-134

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation April 14, 1939

Name BREA CANYON VII-Ora-19-A (Dist.-Co.-Rt.-Sec.)

Location 4.3 Miles north of junction with Route 2. Sta. 15+48

Refer to original report dated April 1938 and subsequent supplementary report.

WORK DONE:-

Work Order #07XX19, $1500, has been issued July 25, 1938 along with a supplement to Work Order #07J1 to:

(1) Replace the failed original portion with a new RC slab on a central RC wall pier and RC wing abutments.

(2) Strengthen the 1929 portion by extending the central RC wall. All work in accordance with Drawing # DL-840-2 & 3.

All work has been done properly in accordance with the two previous reports.

PRESENT CONDITION OF STRUCTURE:-

The structure is now in good condition and all members are acting properly.

RECOMMENDATIONS:-

No work is recommended at this time.

Next investigation, April 1940.

Fred M. Barnes

by John L. Beaton JLB-CFH

Investigated 5/13/41 By RAW

Next Investigation 5/43

Changes Noted None.

cc: District VII (2)
Maintenance Dept.
Mr. Wagner

SEE SUPPLEMENTARY REPORT OF JUN 3 1943 FOLLOWING

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 2/93)

Bridge Number 55C-121

Location 12 - Ora - FAS M003-CR
Dist.-Co.-Rte.-City

Date of Investigation September 10, 1997

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

Name **BREA CANYON CHANNEL (Brea Boulevard, 0.4 mile north of Central Avenue)**

CONDITION RATINGS:
Element Level Inspection (ELI) form attached.

Channel & Channel Protection: 8

SCOUR CRITICAL:

A scour rating of A-1 is appropriate.

MISCELLANEOUS DISCUSSION:

The inspection team consisted of Makoto Ogata and Faye Kirchhoff.

CONDITION OF STRUCTURE:

There is a concrete spall (0.15 m x 0.6 m x 0.1 m) in the upstream nose of the pier. Probably impacted by debris. There are minor cracks in both ends of pier wall. (O)

Otherwise, the condition of the structure is good.

WORK RECOMMENDED:

None.

M. Ogata

MO:cd
c: TMRut
Orange County

********** STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION **********

E L E M E N T L E V E L I N S P E C T I O N - (E L I)

BRIDGE NUMBER: 55C0121 (1–8)

FRAME: 01 (9)

INSPECTION DATE: ~~071495~~ 091097 (11–16)

INFORMATION ONLY - NOT FOR UPDATE

SCOUR CRITICAL..... NO
GROUP A INVESTIGATION..... NO
FRACTURE CRITICAL..... NO
ELIGIBLE FOR RAIL UPGRADE.. NO
UNDERWATER INVESTIGATION... NO

DISTRICT 12
COUNTY ORA
ROUTE
POSTMILE
NAME

DEL	ELE #	ELEMENT DESCRIPTION	ENV	TOTAL QUANTITY	UNITS	QUANT CONDITION STATE 1	QUANT CONDITION STATE 2	QUANT CONDITION STATE 3	QUANT CONDITION STATE 4	QUANT CONDITION STATE 5
	39	CONCRETE SLAB - UNPROTECTED W/ AC OVERLAY	2	1	EA	1				
	210	REINFORCED CONCRETE PIER WALL	2	17	M	~~X~~ 16	1			
	215	REINFORCED CONCRETE ABUTMENT	2	34	M	~~X~~ 34				

(18–19) (22–23) (28) (33) (38) (43) (48)

08/11/97 55C SHAWN ZANGANEH

BY: MO

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 2/93)

Bridge Number 55C-121

Location 12 - Ora - FAS M003-CR
Dist.-Co.-Rte.-City

Date of Investigation July 14, 1995

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

Name **BREA CANYON CHANNEL (Brea Boulevard, 0.4 mile north of Central Avenue)**

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

Channel & Channel Protection: 8

SCOUR CRITICAL:

A scour rating of A-1 is appropriate.

CONDITION OF STRUCTURE:

Surface inspection only. No access to bottom of river.

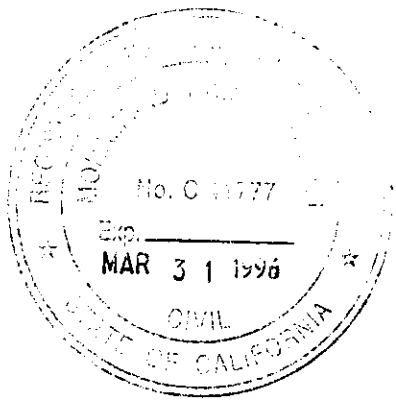
There are minor cracks in both ends of pier wall.

Condition of structure is good.

WORK RECOMMENDED:

None.

M. Hadi Behrooj MHB
By
G. P. Balinghasay



GPB:cd
cc: CDHarris
Orange County
WLindsey

********** STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION **********

ELEMENT LEVEL INSPECTION - (ELI)

BRIDGE NUMBER: 55C0121 (1–8)

FRAME: 01 (9)

INSPECTION DATE: 07 14 95 (11–16)

INFORMATION ONLY - NOT FOR UPDATE

SCOUR CRITICAL..... NO
GROUP A INVESTIGATION..... NO
FRACTURE CRITICAL:..... NO
ELIGIBLE FOR RAIL UPGRADE.. NO
UNDERWATER INVESTIGATION... NO

DISTRICT: 12
COUNTY: ORA
ROUTE:
POSTMILE:
NAME:

DEL	ELE #	ELEMENT DESCRIPTION	ENV	TOTAL QUANTITY	UNITS	QUANT CONDITION STATE 1	QUANT CONDITION STATE 2	QUANT CONDITION STATE 3	QUANT CONDITION STATE 4	QUANT CONDITION STATE 5
	39	CONCRETE SLAB - UNPROTECTED W/ AC OVERLAY	2	1	EA	1				
	210	REINFORCED CONCRETE PIER WALL	2	17	M	X				
	215	REINFORCED CONCRETE ABUTMENT	2	34	M	X				

(18–19) (22–23) (28) (33) (38) (43) (48)

12/13/96 BY SHAWN CANGANEH

BY:

(ATTACHMENT A)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

PONTIS DATA FORM - PIA

BRIDGE NUMBER	FRAME	INSPECTION DATE
55C0121	01	071495
1 – 8	9	11 – 16

INFORMATION ONLY - NOT FOR UPDATE	
SCOUR CRITICAL	NO
CATEGORY A	NO
FRACTURE CRITICAL	NO
ELIGIBLE FOR RAIL UPGRADE	NO
UNDERWATER INSPECTION	NO

DISTRICT	12
COUNTY	ORA
ROUTE	
POSTMILE	
NAME	

DEL	ELE #	ELEMENT DESCRIPTION	ENV	TOTAL QUANTITY	UNITS	QUANT CONDITION STATE 1	QUANT CONDITION STATE 2	QUANT CONDITION STATE 3	QUANT CONDITION STATE 4	QUANT CONDITION STATE 5
	49	CONCRETE PIER WALL	2	17	M	X				
	51	CONCRETE ABUTMENT	2	34	M	X				
18	19		22	23		28	33	38	43	48

BY: _______

07/18/95

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 8/92)

Bridge Number 55C-121

Location 12 - Ora - FAS M003-CR
Dist.-Co.-Rte.-City

Date of Investigation April 16, 1993

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

Name **BREA CANYON CHANNEL (Brea Boulevard, 0.4 mile north of Central Avenue)**

CONDITION RATINGS:

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

Channel & Channel Protection: 8

CONDITION OF STRUCTURE:

Condition of the structure is good.

Henry Ma

REGISTERED PROFESSIONAL ENGINEER
HENRY MA
No. C-36817
Exp. 6-30-96
CIVIL
STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION (ATTACHMENT A)

PONTIS DATA FORM - PIA

BRIDGE NUMBER	FRAME	INSPECTION DATE
55C0121	01	041693
1 8	9	11 16

INFORMATION ONLY - NOT FOR UPDATE

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

DISTRICT	12
COUNTY	ORA
ROUTE	***
POSTMILE	*******
NAME	

DEL	ELE #	ELEMENT DESCRIPTION	ENV	TOTAL QUANTITY	UNITS	QUANT CONDITION STATE 1	QUANT CONDITION STATE 2	QUANT CONDITION STATE 3	QUANT CONDITION STATE 4	QUANT CONDITION STATE 5
	60	CONCRETE PIER WALL; WET	2	1	EA	1				
	62	CONCRETE ABUTMENT; WET	2	2	EA	2				
18 19			22 23			28	33	38	43	48

H. MA

BY: _____

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRIDGE REPORT 14V32

DS-M58 (REV. 1/91)

Bridge No. 55C - 121

Location 12 - Ora - FAS M003-CR
Dist Co Rte City

REVISED ORIGINAL REPORT

Date of Investigation April 12, 1991

Name BREA CANYON CHANNEL (Brea Boulevard, 0.4 mile north of Central Avenue)

Lat. 33 °- 56.3'N **Long.** 117 °- 53.4'W

Custodian County of Orange **Owner** County of Orange

STRUCTURAL DATA AND HISTORY

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

Designed by: County **Plans Avail.** @None

Description: 2 span CIP RC slab supported by RC pier wall and closed end backfilled RC strutted abutments under 4'± of fill and AC surfacing. Foundation unknown..

Spans (S) 2 @ 13.6' (N)

Length 30' **NBIS Bridge Length** Yes **Skew** 32° Left

Number Of Intermediate Joints: **@Hinges** None **@Bents** None

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

Design Live Load Unknown **Design Method** Unknown

DESCRIPTION - ON STRUCTURE

Bridge Width (W) 11'ea, 37', 3'ea, MBGR, 5'± ea (E)

Total Width 56' **Net Width** 37' **Lanes** 2 **Tracks** None

Median None **Rail Type** (W) None (E) MBGR 0000

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

Deck Type 1 **Wearing Surface/Prot. Sys.** 100

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE

Roadway Section None

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

Lanes **Tracks**

Facilities Crossed Brea Canyon Channel (A 04)

Bridge No. 55C - 121

April 12, 1991

DESCRIPTION - HYDRAULICS

Channel Natural canyon channel with heavy vegetation growth

Navigable: Yes [ ] No [X] Clearances: Vert. Horiz.

Pier/Abutment Protection (For Navigation) [ ]

TRAFFIC INFORMATION	DECK	YEAR	UNDER	YEAR
Average Daily Traffic & Year :	16,000	1989	N	
Average Daily Traffic (Future) :	18,000 Est	2010	N	
Average Daily Trucks (% OF ADT) :	1% Est		N	
Bypass Detour Length	1 mile		N	
Shell Route:	No		No	
Functional Classification :	09		N	

LOAD RATINGS: Inventory HS 20 Operating HS 33

Permit PPPPP Computation Method Assigned

CONDITION RATINGS:

Deck [N] Superstructure [7] Substructure [7]

Channel & Channel Protection [8] Culvert [N] Widenable Yes

APPRAISAL RATINGS:

Waterway Adequacy [9] Approach Roadway Alignment [8]

Date of Revisions

STRUCTURAL DATA AND HISTORY (Con't.)

Date of Revision: 1929, widened
1938, repaired and reconstructed

CONDITION OF STRUCTURE:

There is minor concrete cracking at both ends of the pier wall.

Condition of the structure is good.

Henry Ma

REGISTERED ENGINEER HENRY MA No. C-36817 Exp. 6-30-92 CIVIL STATE OF CALIFORNIA

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 1/89)

Bridge No. 55C-121

Location 12 - Ora - FAS M003 - CR
(Dist. Co. Rte. City)

Date of Investigation 4-17-89

Name BREA CANYON (Brea Boulevard, 1.1 miles west of Route 57)

CONDITION RATING:

Deck N Superstructure 7 Substr.&Pipes 7

Channel & Channel Protection 5 Culvert N Widenable? No

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE _____
CATEGORY A _____ OTHER _____
UNDERWATER _____ OFFICE _____

CONDITION OF STRUCTURE:

There is a previous broken piece of concrete at the west end (downstream) of the pier.

Condition of the structure is fair.

REVISION:

Location: 12-Ora-FAS M003-CR
ADT: 16,000 (1988)

WORK RECOMMENDED:

None.

RECOMMENDED POSTING:

None.

SUBSTRUCTURE CODING UPDATE:

2 RC open end abutments, foundation unknown.

1 RC pier wall, foundation unknown.

Henry Ma

REGISTERED PROFESSIONAL ENGINEER
HENRY MA
No. C-36817
Exp. 6-30-92
CIVIL
STATE OF CALIFORNIA

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-OS M19 (REV. 1/74)

Bridge No. 55C-121

Location 7-Ora-FAS MØØ3-CR
Dist - Co - Rte - PM - City

Date of Investigation April 23, 1987

Name BREA CANYON (Brea Blvd.,1.1 mile west of Rte. 57))

CONDITION RATING:			APPRAISAL RATING:
Deck N	Superstructure 7	Substr. & Pipes 7	Overall 7
Channel & Channel Protection 5	Retaining Walls N		

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:

Condition Rating: Deck - N

CONDITION OF STRUCTURE:

Overall condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None

Henry Ma

REGISTERED PROFESSIONAL ENGINEER
HENRY MA
No. C-36317
Exp. 6.30.88
CIVIL
STATE OF CALIFORNIA

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-05 M19 (REV. 1/74)

Bridge No. 55C-121

Location 7-Ora-FAS M003-CR
Dist - Co - Rte - PM - Brdg (On Deck)

Date of Investigation November 14, ~~1986~~ 1985

Name BREA CANYON (Brea Blvd., 1.1 mile west of Rte. 57)

CONDITION RATING: **APPRAISAL RATING:**

Deck 7 Superstructure 7 Substr. & Pipes 7 Overall 7

Channel & Channel Protection 5 Retaining Walls N

Widenable? Yes [X] No [ ] Conditional [ ]

Action Required by County Yes [X] No [ ]

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

WORK NOT DONE:

Previously recommended work to clean debris and drift from the creek has not been done.

CONDITION OF STRUCTURE:

The overall condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

Clean debris and drift out of the creek. C

Henry Ma
C-36817

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

14033_

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-05 M19 (REV. 1/74)

Bridge No. 55C-121

Location 7-Ora-FAS M003-CR (On Deck)
Dist - Co - Rte - PM - City

Date of Investigation July 13, 1983

Name BREA CANYON (Brea Blvd., 1.1 mile west of Rte. 57)

CONDITION RATING: **APPRAISAL RATING:**

Deck 7 Superstructure 7 Substr. & Pipes 7 Overall 7

Channel & Channel Protection 5 Retaining Walls N

Widenable? Yes [X] No [ ] Conditional [ ]

Action Required by ~~District~~ County: Yes [X] No [ ]

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

CONDITION OF STRUCTURE:

There is much debris wrapped around the center pier nose. Several fallen trees are upstream in the creek.

Otherwise, the condition of the structure is good.

RECOMMENDED POSTING:

None

RECOMMENDATION:

Clean the debris and drift out of the creek.

E. L. Neff

E. L. Neff
C-28703

ELN:pdh
cc: DRHiggins (2)
Orange County (2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-OS M19 (REV. 1/74)

Bridge No. 55C-121

Location 07-Ora-PAS R003-CR (on deck)
Dist - Co - Rte - PM - City

Date of Investigation July 16, 1981

Name BREA CANYON (Brea Boulevard, 1.1 mi. west of Route 57)

CONDITION RATING: APPRAISAL RATING:

Deck 7 Superstructure 7 Substr. & Pipes 7 Overall 7

Channel & Channel Protection 5 Retaining Walls N

Widenable? Yes [X] No [ ] Conditional [ ]

Action Required by [redacted] Yes [ ] No [ ]

WORK DONE:

The previously recommended work appears to have been done.

CONDITION OF STRUCTURE:

The overall condition of the structure is good.

RECOMMENDED POSTING:

None.

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

ELN:ed
cc: EHiggins (2)
Orange County (2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DS-M58 (REV. 1/75)

Bridge No. 55C-121

Other No.

P.U.C. No.

REVISED

Location 07-Ora-FAS-M003
Dist - Co - Rte - PM - City

Date of Investigation May 2, 1980

Name BREA CANYON (Brea Blvd.-1.1 mi. W of Route 57)

Lat. N33°-56.3' Long. W117°-53.4'

STRUCTURAL DATA AND HISTORY

Year Built unknown By Orange County Contract No. Unknown

Date of Revisions 1929-Widened, 1938 Repaired and Reconstructed

Designed by: B.D. ☐ Orange County Plans Avail. @ 1929) State 1938)

Description: Two RC slab spans on RC pier and RC wing abutments (5'± AC and dirt cover)

Spans 2 at 13.6' c/c

Length 30.2' Skew 32° Lt Design LL original-unknown

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

DESCRIPTION – ON STRUCTURE

Bridge Width (W) 18'dirt; 28'; 12'dirt(E)

Total Width None Lanes 2 Tracks None

Median None Rail Type None (0000)

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 28'

Wearing Surface AC (3"±) Deck Seal None

Alignment Tangent between curves

DESCRIPTION – UNDER STRUCTURE

Roadway Section None

Clearances: Vert. Horiz.; Lt. Rt.

Lanes Tracks Pumpplant: None ☒ See Br. No.

Facilities Crossed Brea Canyon

cc:

(1) CON'T.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DS-M58A (REV 1/75)

Bridge No. 55C-121

Date May 2, 1980

DESCRIPTION – HYDRAULICS

Channel Fairly well defined with sand and rock bottom

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

MAINTENANCE

Custodian Orange County Owner Orange County

ORIGINAL CONDITION RATING		ORIGINAL APPRAISAL	
Deck	7	Overall	7
Superstructure	7	Deck Geometry	8
Substructure & Pipes	7	Underclearances Vert.	N
Channel & Channel Protection	5	Horiz.	N
Retaining Walls	N	Safe Load Capacity	9
Approach Rdwy. Alignment	9	Waterway Adequacy	5
Estimated Remaining Life	40	Approach Rdwy. Alignment	7

Widenable? Yes ☒ No ☐ Conditional ☐ Action Required by County: Yes ☒ No ☐

AVERAGE DAILY TRAFFIC - Road closed due to flood damage.

BYPASS DETOUR LENGTH - 5 mile

ENCROACHMENTS - Two-10" ø pipes 10' and 15' east of the structure.

CONDITION OF STRUCTURE - There is erosion at the northwest, northeast, and southeast wingwalls. There is a discontinuity in the face of the south abutment.

LOAD CAPACITY - The ratings shown were assigned based on the know factors, the fact that there is 5' ± of earth over the structure and the condition of the structure.

RECOMMENDATIONS - Repair the erosion at the northwest, northeast and southeast wingwalls.

Original signed by

FRANK J. WALLISER

FJW:ll
cc: DRHiggins
Orange County (2)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING WIDTH-FT	STRU TYPE	YR ORIG CONST	
07	CO RD	55 C	0121	.	014.8	CSC RIGID	29	NOV. 21, 1979

	RATING FACTOR	PT	SPAN	ULT MOM CAP TOP IN COM	ULT MOM CAP BOT IN COM	POS HS20 MOMENT	NEG HS20 MOMENT	POS PURP MOMENT	NEG PURP MOMENT	DEAD LOAD MOMENT	SECONDARY MOMENT
INV	6.61	10	2	0.0	85.7	0.9	-3.0	1.3	-5.0	-33.0	0.0
OPER	10.98	10	2	0.0	85.7	0.9	-3.0	1.3	-5.0	-33.0	0.0
PURP	6.59	10	2	0.0	85.7	0.9	-3.0	1.3	-5.0	-33.0	0.0

THE NUMBER OF AXLES ON THE TRUCK THAT CAUSES THE PURPLE RATING FACTOR IS 13.
FC = 1.00 FY = 30.

IF THE REPORTED ULTIMATE MOMENT CAPACITY IS 0, IT WAS DETERMINED NOT TO BE CRITICAL

2 BREA CANYON WIDENING - W/5' FILL
3 DESIGNED AS 2 SPAN RIGID FRAME SLAB
4 LL DISTRIBUTED AS UNIFORMED LOAD (250 LBS/SQ FT)

PPPPP

HIGH FILL
ASSIGNED RATING HM 11/26/79

INV = HS 20.0
OP = HS 33.0
R/F = PPPPP (3)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING	WIDTH-FT	STRU TYPE	YR ORIG CONST	
07	CO RD	55 C	0121	.	014.8		CSC RIGID	29	NOV. 21, 1979

INFLUENCE LINE FOR CRITICAL INVENTORY RATING POINT SPAN 2 10TH POINT 10

MEM NO	LEFT	.1	.2	.3	.4	.5	.6	.7	.8	.9	RIGHT
1	0.0	0.038	0.081	0.126	0.166	0.195	0.209	0.202	0.169	0.103	0.0
2	0.0	-0.152	-0.342	-0.543	-0.728	-0.871	-0.944	-0.920	-0.773	-0.475	0.0

THE CRITICAL OPERATING RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

THE CRITICAL PURPLE RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

2 BREA CANYON WIDENING - W/5' FILL
3 DESIGNED AS 2 SPAN RIGID FRAME SLAB
4 LL DISTRIBUTED AS UNIFORMED LOAD (250 LBS/SQ FT)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING WIDTH-FT	STRU TYPE	YR ORIG CONST	
07	CO RD	55 C	0121	.	014.8	CS	20	NOV. 20, 1979

	RATING FACTOR	PT	SPAN	ULT MOM CAP TOP IN COM	ULT MOM CAP BOT IN COM	POS HS20 MOMENT	NEG HS20 MOMENT	POS PURP MOMENT	NEG PURP MOMENT	DEAD LOAD MOMENT	SECONDARY MOMENT
INV	25.85	5	1	745.0	0.0	12.0	0.0	17.9	0.0	59.5	0.0
OPER	42.94	5	1	745.0	0.0	12.0	0.0	17.9	0.0	59.5	0.0
PURP	28.63	5	1	745.0	0.0	12.0	0.0	17.9	0.0	59.5	0.0

THE NUMBER OF AXLES ON THE TRUCK THAT CAUSES THE PURPLE RATING FACTOR IS 13.
FC = 1.00 FY = 33.

IF THE REPORTED ULTIMATE MOMENT CAPACITY IS 0, IT WAS DETERMINED NOT TO BE CRITICAL

2 BREA CANYON - ORIG PORTION W/5' FILL
3 DESIGNED AS SINGLE SPAN RIGID FRAME SLAB - ADDED
4 SUPPORT AT CENTER - ASSUMED SLAB HAVE CRACKED AND
5 ACTING AS 2 SIMPLE SPAN - LL AS UNIFORMED LOAD

PPPPP

HIGH FILL

ASSIGNED RATING HM 11/26/79

INV = HS 20.0

OP = HS 33.0

R/F = PPPPP

(3)

DIST	ROUTE	COUNTY	STRU. NO	POSTMILE	RATING WIDTH-FT	STRU TYPE	YR ORIG CONST	
07	CO RD	55 C	0121	.	014.8	CS	20	NOV. 20, 1979

INFLUENCE LINE FOR CRITICAL INVENTORY RATING POINT SPAN 1 10TH POINT 5

MEM NO	LEFT	.1	.2	.3	.4	.5	.6	.7	.8	.9	RIGHT
1	0.0	0.575	1.150	1.725	2.300	2.875	2.300	1.725	1.150	0.575	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

THE CRITICAL OPERATING RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

THE CRITICAL PURPLE RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

2 BREA CANYON - ORIG PORTION W/5' FILL
3 DESIGNED AS SINGLE SPAN RIGID FRAME SLAB - ADDED
4 SUPPORT AT CENTER - ASSUMED SLAB HAVE CRACKED AND
5 ACTING AS 2 SIMPLE SPAN - LL AS UNIFORMED LOAD

PPPPP

Bridge No. OLD 55-134
NEW 55C-121

Sheet 1

SUPPLEMENTARY BRIDGE REPORT

OFFICE REPORT
Oct. 1, 1973

Name BREA CANYON
OLD 07-Ora-57
NEW 07-Ora-CoRd
Dist.-Co.-Rte.

Location OLD 4.35 Miles N. of Jct. Rte. 72
NEW .43 M. N. of Central Ave on Brea Blvd
Post Mile

As a result of action taken by the California Highway Commission on August 22, 1973, Resolution R 2015, this structure was relinquished to the County of Orange.

RECOMMENDATIONS:

Remove from the bridge list, drop from the records, and assign Bridge No. 55C-121.

J. M. Borik

R F Prodoehl

By R. F. Prodoehl

JMB:RFP:bc
cc: Dist. 07

EST. 2014. 61653-500 8-72 4M QUIN OSP

BRIDGE NO. 55C-121 ~~55-134~~

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation Oct. 6, 1970

Name BREA CANYON 07-Ora-57
Dist.-Co.-Rte.

Location 4.35 Miles North of Jct. Rte. 72 Post Mile 26.75

CONDITION OF STRUCTURE:

The structure is in good condition throughout.

RECOMMENDATIONS:

None.

Next Investigation: October 1971

P. E. Nelson

PEN:mb
cc:Dist. 07

Investigated 10/20/71 By BB
Changes Noted NR
EQ Rev; Good Stab

Investigated 9/27/72 By WRB
Changes Noted No Chg

Investigated 4/25/73 By JMB
Changes Noted No rev.

EST. 4766. 32499-500 5-69 20M OSP

FORM BD-25

BRIDGE NO. ~~55-134~~ 55-151

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation August 27, 1965

Name BREA CANYON VII-Ora-57 (Dist.-Co. Rt.)

Location 4.35 Miles North of Jct. with Rte. 72 Post Mile 26.75

WORK DONE:

The north bound traffic lane over the bridge has been covered with approximately ½" of PMS.

CONDITION OF STRUCTURE:

The channel on the east side of the bridge is heavily overgrown with bushes and saplings.

Water has ponded under the east half of structure in the south bay.

Otherwise, the structure is in good condition.

CONDITION OF PAINT:

The screw jacks at the center supplementary bent are completely covered with rust.

RECOMMENDATIONS:

(1) Remove the bushes and saplings at the east entrance as necessary to keep them from obstructing the flow of water.

(2) Grade channel to prevent water from ponding under the structure.

(3) Wire brush screw jacks to remove all rust, then apply two coats of red lead paint and one coat of aluminum.

Estimated Cost: $250.00

Next Investigation: October, 1966

DONE 11-3-66
W.O. 532(611)
COST #59.04
Items #1 & 3

D. B. Jennings
by: Tom Brown
Tom Brown

TB:mb
cc: Dist. VII
Hdq. Maint.

Investigated 10/4/66 By FJS

Changes Noted Prev rec. work partly done. Rec: Do Item 2 prev. rec.

Investigated 9-7-67 By PAB

Changes Noted Rec: Do item 2 of report dated 8-27-65.

Investigated 10-24-68 By ARR

Changes Noted [illegible] power pole @ [illegible]. N.R.

Investigated 10-16-69 By WWJ

Changes Noted PT&T Lines along east side of roadway. N.C.

FORM BD-25
EST. 2887. 16071 4-55 10M SPO

55C-157

BRIDGE NO. ~~55-134~~

Sheet 1

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation August 8, 1960

Name BREA CANYON VII-Ora-~~19~~ 57 ~~A~~
Dist.–Co.–Rt.–Sec.

Location ~~4.4~~ 4.35 Miles Northeast of Jct. with Rte. 72 Sta. 15+48±

Refer to the original report dated April 22, 1938, and to subsequent supplementary reports. PM 26.75 A

CONDITION OF STRUCTURE:

The structure appears to be in good condition throughout.

In connection with the resurfacing of the roadway through this section, a lift of 3" of P.M.S. material has been placed on the roadway over the bridge.

RECOMMENDATIONS:

None

Next Investigation: August 1961

Wm. M. Crawford

WMC:cm
cc:Dist. VII
Hdq. Maint.

Investigated 8/21/61 By ARR
Changes Noted None

Investigated 8/17/62 By ARR
Changes Noted none

Investigated 8/8/63 By BWC
Changes Noted none

Investigated 10/7/64 By MCH
Changes Noted none

SEE SUPPLEMENTARY REPORT OF

FORM BD-25

BRIDGE NO. 55C-121 ~~55-194~~

Sheet 1

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation December 22, 1955

Name BREA CANYON VII-Ora-19-A

Location 4.4 Miles Northeast of Junction with Route 2. Sta. (Dist.-Co.-Rt.-Sec.) 15+48±

Refer to original report dated April 1938 and to subsequent supplementary reports.

WORK DONE:

The work recommended in the previous report has not been done, but in view of the condition of the channel as described below, the previous recommendations should be rescinded.

CONDITION OF STRUCTURE:

Except as noted in this report, the structure appears to be in good condition throughout and about the same as when last inspected.

The channel is heavily overgrown with high tules and light saplings both on and off of the right of way, so that the clearing of the right of way only would serve no useful purpose.

In connection with the resurfacing of the roadway through this section, a lift of from 1 1/2" to 2 1/2"± of asphaltic material has been placed on the deck.

RECOMMENDATIONS:

None.

Next Inspection: December 1956.

W E Bastues

W. E. Bastues

WEB:mh
cc: Dist VII
Maint. Dept.

Investigated 12-18-56 by ARR

Next Investigation 12-57

Changes Noted None

Investigated 8-21-59 By WHH

Changes Noted Large amount of trees & brush noted up & downstream from Structure. No Recommendation.

SEE SUPPLEMENTARY REPORT OF _____

EST. 8503. 80725 6-58 10M SPO

FORM BD-25.

55C 121

BRIDGE NO. ~~55-121~~

Sheet 1

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation December 6, 1954

Name BREA CANYON VII-Ora-19-A

Location 4.4 Miles Northeast of Jct. with Rte. 2 Sta. 15+48± (Dist.-Co.-Rt.-Sec.)

Refer to original report dated April 1938, and to subsequent supplementary reports.

CONDITION OF STRUCTURE:

Upstream from the structure the channel is heavily covered with tule and saplings.

The structure is apparently in good condition and about the same as when last inspected.

RECOMMENDATIONS:

1. Remove the tule and saplings which are growing upstream from the structure and within the right of way.

   Estimated Cost: $75.00

   Next Inspection: December 1955.

W. E. Bastues

WEB:mh
cc: Dist VII
Maint. Dept.

SEE SUPPLEMENTARY REPORT OF_____

FORM BD-25, REV. 1951
16306 10-49 5M SPO

55C-124

BRIDGE No. 55-124

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation January 17, 1951

Name BREA CANYON VII-Ora-19-A
Dist.-Co.-Rt.-Sec.

Location 4.4 miles north of Junction with Rte.2. Sta. 15+48

Refer to original report dated April, 1938, and to subsequent supplementary reports.

CONDITION OF STRUCTURE:

There is a considerable accumulation of weed growth within the right of way at the upstream face of the structure.

The structure is otherwise in good condition.

RECOMMENDATIONS:

Remove as much of the above described weed growth at the upstream face and within the right of way as may be practicable.

Next investigation: January, 1952.

H. K. MAUZY

HKM:jc

cc: Dist. VII
Maint. Dept.

Investigated 1-17-52 By MWG

Next Investigation 1-53

Changes Noted Work Previously Recommended Properly Done

Investigated 12-17-52 By JPA

Next Investigation 12-53

Changes Noted NONE

over

SEE SUPPLEMENTARY REPORT OF

Investigated 12/14/53 by TMF

Next Investigation 12-54

Changes Noted None

FORM BD-25. REV. 1941

BRIDGE No. ......

Sheet 1

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation August 17, 1948

Name BREA CANYON VII-Ora-19-A
Dist.-Co.-Rt.-Sec.

Location 4.4 Miles NE of Jct. with Rte. 2 Sta. 15+48±

Refer to original report dated April 1938, and to subsequent supplementary reports.

CONDITION OF CHANNEL:

The channel is well defined.

WIDENING:

Widening is feasible on either side.

DETOUR:

A detour is feasible on the east side at an estimated cost of $3,500.

SALVABLE MATERIALS:

None.

CONDITION OF STRUCTURE:

The structure is in good condition.

RECOMMENDATIONS:

None.

Next Investigation: August 1949.

ORIGINAL SIGNED BY
M. W. GEWERTZ

M. W. GEWERTZ

MWG:lh

cc: Dist. VII
Maint. Dept.

Investigated 11-3-49 By WOL

Next Investigation 11-50

Changes Noted None

SEE SUPPLEMENTARY REPORT OF ____________

FORM BD-25. EST. 2167
30634 1-44 5M SPO

55C-121

BRIDGE No. ~~55-154~~

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation June 29, 1944

Name BREA CANYON VII-Ora-19-A
Dist.-Co.-Rt.-Sec.

Location 4.4 Miles N.E. of Junction with Route 2. Sta. 15+48+

Refer to original report dated April, 1938, and to subsequent supplementary reports.

WORK DONE:

The work recommended in the previous report has been properly done.

CONDITION OF STRUCTURE:

Except as noted above, the condition of the structure is about the same as when last inspected.

RECOMMENDATIONS:

None.

Next Investigation: June, 1945.

R. A. WAGNER

RAW:t
cc: District VII (2)
Maintenance Dept.

Investigated 4/23/45 **By** RES
Next Investigation 4-46
Changes Noted None

Investigated 5-16-46 **By** RAW
Next Investigation 4-47
Changes Noted None

Investigated 6-19-47 **By** AJS
Next Investigation 6-48
Changes Noted None

SEE SUPPLEMENTARY REPORT OF 8-12-48

FORM BD-25. EST. 9528

Bridge No. ~~55-134~~ 55C-121

Sheet 1

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation June 3, 1943

Name BREA CANYON VII-Ora-19-A

Dist.-Co.-Rt.-Sec.

Location 4.4 miles N.E. of Jct. with Rte. 2. Sta. 15+48 ±

Refer to original report dated April 1938 and to subsequent supplementary reports.

CONDITION OF STRUCTURE:-

Some of the steel screw jacks of the supplementary bent are loose.

The structure is in good condition and is otherwise about the same as when last inspected.

RECOMMENDATIONS:-

Tighten the steel screw jacks at the center supplementary bent as required to make them uniformly snug.

Finance: General Maintenance

Done 4-24-44 @ #28 57-H-1.

Next Investigation: June 1944

R. A. Wagner

CC: District VII (2)
Maintenance Dept.

SEE SUPPLEMENTARY REPORT OF JUN 29 1944

58022 5-38 6M. Est. 4302.
STATE PRINTING OFFICE

BRIDGE No. 55C-12V ~~55-134~~

SUPPLEMENTARY BRIDGE REPORT

Date of Investigation Oct. 17, 1938.

Name BREA CANYON VII-Ora-19-A
Dist.-Co.-Rt.-Sec.

Location 4.3 miles N.E. of junction with route 2.

Refer to original report dated April 22, 1938.

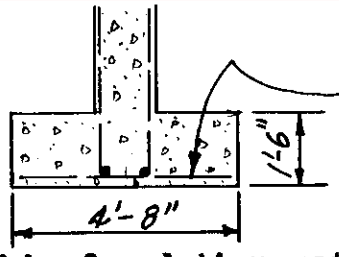
REMARKS:-

When excavating for the footings it was found that the material upon which it is proposed to support the bridge consists of fairly fine sand mixed with some rotary mud. The latter material apparently was deposited in the channel from nearby oil well workings. The material is inundated under normal conditions and it is necessary to pump water from the excavations in order to carry on the work.

When the material is inundated and is agitated due to excavation operations it is of the nature of quicksand but it is considered that it will safely support the structure when confined and if a small amount of stabilization work is done and if the spread of the footings is increased. The structure being widened rests on similar material and has spread footings which are at less depth than those which it is proposed to place in the widened portion.

CHANGES:-

1. Due to the nature of the foundation material the following changes in the pier and abutment footings will be made:



1/2" ø @ 4.25" ctrs. or
5/8" ø @ 6.5" ctrs. or
3/4" ø @ 9.5" ctrs.

2. In this foundation material it is considered advisable to decrease the toe pressure on the wingwall footings hence the toes of the wingwall footings will be extended 1 ft. and adequately reinforced.

3. Instead of widening the structure to 37' to right of centerline the structure proper will be constructed up to the R/W line 30' to right of centerline. In order to catch the toe of the fill the height of the side wall will be increased from 16.5" to 3'-0" and it will be adequately reinforced.

CC: District VII (2)
Maintenance Dept.
Mr. Wagner

APR 14 1939

SEE SUPPLEMENTARY REPORT OF _____ FOLLOWING.

60613A 8-38 10M. EST. 4603
STATE PRINTING OFFICE

550-121

BRIDGE NO. ~~55-154~~

SHEET 2

DATE 10/17/38

FINANCING:-

It is believed that the additional cost of the footings will be offset all or in part by the decreased cost due to decreasing the width of the proposed structure and that the work can be completed within the present allotments.

If the final cost of the work exceeds the allotment it will probably be best to finance the difference from the unexpended balance of Bridge Betterments- Secondaries south-89-90 biennium.

Final Report filed in Maintenance Dept

FRED BARNES

By R. A. Wagner

APR 14 1939

SEE SUPPLEMENTARY REPORT OF _____ FOLLOWING.

Budget

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

① FMB
② MHG

RAW

DAY LABOR WORK ORDER NO. 07XX19

July 25, 1938

MR. S. V. Cortelyou
DISTRICT ENGINEER
Los Angeles, California.

VII-Ora-19-A 55C-131

YOU ARE HEREBY AUTHORIZED TO HAVE THE WORK DESCRIBED BELOW DONE BY DAY LABOR AND THE FOLLOWING SUM IS HEREBY ALLOTTED TO BE EXPENDED FOR THE PURPOSE HEREIN SPECIFIED:

LOCATION AND DESCRIPTION OF WORK

Road VII-Ora-19-A
At Brea Canyon Bridge No.55-134

Extend and repair bridge..
(per detail within)

Requested for day labor because of the small amount of work involved.

All work to be done in accordance with the Standard Specifications dated January, 1935.

32133
1500
30633

RECEIVED
AUG 1 - 1938
BRIDGE DEP'T

APPROVAL RECOMMENDED 7/28 1938
H. WATERMAN
Construction Engineer

THIS AUTHORIZATION	$ 1,500.00
PREVIOUS AUTHORIZATIONS	$ None
TOTAL AUTHORIZATIONS TO DATE	$ 1,500.00

PAYABLE FROM STATE HIGHWAY FUND

C. H. PURCELL
State Highway Engineer
ORIGINAL SIGNED BY G. T. McCOY
By Assistant State Highway Engineer STATE HIGHWAY ENGINEER

BALANCE AVAILABLE . . . . $
AMOUNT OF THIS WORK ORDER $ 1,500.00
BALANCE . . . . $

ALLOTMENT APPROVED:
EARL LEE KELLY
Director of Public Works
By Original Signed ... DIRECTOR OF PUBLIC WORKS
ADMINISTRATIVE ASSISTANT

DATE JUL 30 1938

FORM 102. EST. 3806. 51771 11-37 3M
STATE PRINTING OFFICE

FGS

BRIDGE NO. ~~55-154~~ 55C-121 Sheet 1

BRIDGE REPORT

Date of Investigation April 22, 1938

General Description

Name BREA CANYON VII-Ora-~~10-A~~ 57
Dist.-Co.-Rt.-Sec.

Location ~~4.42~~ 4.35 miles N.E. of Jct. with Rte. 2. 72 Sta. 15+48+ PM 26.75 A

Description RC slab span with RC wing abutments and under 5'± earth fill.

Approximate skew 32°15' Lt.

Spans ~~1 @ 27.2'~~ 2-13.6' c/c. clr. (23' normal clr.).

Total length 30.2'

Roadway width 40' between shoulder berms. Sidewalks None.

Alignment Good. On short tang. btw. two curves. Final for some time.

Width Good.

Standard of design Orange County Standards.

Waterway Sufficient. Sandy channel. Velocity fairly high. Clear height practically uniform at 8.4'dwnstr. and 6.8' upstr.

Vertical clearance ---- under ---- (See diagram)

History

Widened 1929

Date built Old. By Orange County. Contract No. ----

Designed by Orange County.

Plans Tracing of widened portion built in 1929 from sheet 16 of 21 sheets, in Bridge Department Files. Drawing Number M840-2.

Remarks

NO ENCROACHMENTS

cc: District VII. (2).
Maintenance Dept.
Mr. Wagner.

OCT 17, 1938
APR 14 1939

SEE SUPPLEMENTARY REPORT OF _____ FOLLOWING.

93032 1-39 2M. EST. 3706
STATE PRINTING OFFICE

PRESENT CONDITION OF STRUCTURE(Flood damage of Mar. 1938):-

The flood of Mar. 1938 caused undermining of the footing of the original (east) portion of the structure at the upstream end causing the upstream side of the original portion to settle about 2'±. This settlement caused the original east portion to pull out of the dowels and away from the 1929 widened portion for distances of about 2" at the south end and about 12" at the north end.

The north abutment of the original portion is badly shattered and part of the lower portion was displaced about 8" towards the channel during settlement.

The south abutment of the original portion has two vertical cracks as wide as 4" at the top.

There are several cracks on the bottom of the original slab due to settlement. These are both approximately parallel to and across the main reinforcing steel.

There are a few hair cracks in the bottom of the slab of the 1929 widened portion. This portion of the bridge is otherwise intact.

STRESS ANALYSIS:-

A complete stress analysis has not been made but the structure is unsafe for the loads caused by the roadway fill and traffic.

SUMMARY:-

The structure will be safe for full legal loads upon completion of the recommended repairs and strengthening.

The remaining economic service life, structurally, is about 40 years for the 1929 widened portion.

RECOMMENDATIONS:-

The following work should be done as soon as possible as the work is considered to be urgently needed:

(1). Replace the failed original portion with a new RC slab structure on a central RC wall pier and RC wing abutments.

(2). Strengthened the 1929 portion by extending the central RC wall. All work is to done in accordance with the attached print marked Drawing No. DL-840-2~~3~~

Estimated cost, about---$4,500.
Finance: Replacements.

Next Inspection: Aug. 1938

Fred Barnes
By: RAW/MEF
APR 14 1939
Oct 17, 1938

SEE SUPPLEMENTARY REPORT OF ~~APR 14 1939~~ FOLLOWING.

55C-131

Bridge No. ~~55-134~~
Brea Cañon
VII-Ora-19-A

Revised

SUMMARY OF QUANTITIES FOR REPAIRS

Class "A" Concrete	112	C.Y.
Reinforcing Steel	10580	Lbs.
Structural Steel Bars	720	Lbs.
Bolts, Nuts and Washers	110	Lbs.

Submitted with Report of APR 12 1938.

W.P.
5-25-38

Bridge No. 55-134
Brea Cañon
~~VII~~ - Ora - 19-A

Summary Of Quantities For Repairs

Class "A" Concrete	100 C.Y.
Reinforcing Steel	9670 Lbs.
Structural Steel Bars	720 Lbs.
Bolts, Nuts, and Washers	110 Lbs.

2500
530
700
3730
4230

Submitted with Report of APR 12 1938

See revised sheet 5/25/38

W.P. 5-5-38

Computed by W.P. Date 5-5-1938
Checked by _____ Date _____ 19__

Bridge No. 55-134
Brea Canon
VII-Ora-19-A

Quantities for Repairs

Concrete

Cross Section Area of New Portion

Slab = 1.21 X 25.5	=	31 Ft.²
Abut. Walls = 1.25 X 14 X 2	=	35
Center Wall = 1.00 X 14	=	14
Footings = 1.00 X 3.00 X 3	=	9
Total	=	89 Ft.²

Average Length of New Portion

$$\left[25 - \frac{8.58 + 11.33}{2}\right] \csc 57°45' = 17.7 \text{ Ft.}$$

Cross Section Area of Wing Wall

Wall = .83 X 10 (Average)	=	8.3 Ft.²
Footing = 1.00 X 3.00	=	3.0
Total	=	11.3 Ft.²

Volumes

Main Portion = 89 X 17.7	=	1575 Ft.³
Wings = 11.3 X 12 X 2	=	272
New Cent. Wall = 14 X 1 X 41.6	=	583
✓ ✓ Ftg = 3 X 1 X 41.6	=	125
Struts = 1.5 X 1.0 X 11 X 4	=	66
New "Curbs" = 1.38 X 1 X 63	=	87
Total	=	2708 Ft.³
	=	100 C.Y.

Submitted with Report of APR 12 1938

see Revised Sheet Dated 5/25/38

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

QUANTITY CALCULATIONS

Calc. by W.P. Date 5/5/38 Bridge: Brea Canon – 55-134 Sheet (2) of (3)

Chkd. by ..... Date ..... Item: REINFORCING STEEL Contract No. .....

ITEM	MARK	SIZE	NO.	LENGTH	TOTAL LENGTH—EACH SIZE "	½" □	⅞" ϕ	"
New Portion								
Slab		⅞" ϕ	45	30'			1350	
		½" □	13	17'		221		
Abutments		⅞" ϕ	33	15 5/12'			512	
		½" □	26	20 5/12		534		
		✓	32	17		544		
Center Wall		✓	18	15 5/12		279		
		✓	20	18		360		
Footings		✓	30	3		90		
Curbs		✓	4	31		124		
		✓	63	7		441		
Wing Walls		✓	52	15		780		
		✓	48	10		480		
Footing		✓	16	3		48		
New Center Wall								
Wall		✓	82	15		1230		
			55	1		55		
		✓	20	41		820		
Footing		✓	28	3		84		
Struts		⅞" ϕ	8	23			184	
		½" □	44	5		220		
TOTAL LENGTHS						6310	2046	
WT. PER FOOT						.86	2.07	
TOTAL WT. PER SIZE						5430	4240	
TOTAL WT. FOR SHEET							9670#	

Submitted with Report of APR 12 1938

See revised sheet Dated 5/25/38

NOTE.—Original to Bridge Department. Carbon copy retained by Resident Engineer.

80749 11-30 5M DUP. EST. 4489 50 SETS TO PAD
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Computed by W.P. Date 5/5/1938
Checked by _____ Date _____ 19__

Bridge No. 55-134
Brea Canon
VII - Ora - 19 - A

③ of ③

Quantities for Repairs

Structural Steel Bars

40 Bars 6 x $\frac{7}{8}$ x 1'-0" = 714 #

say 720 #

Bolts, Nuts, and Washers

40 - $1\frac{1}{4}$" Φ x 2" Bolts, H.H. & N. = 90 #

80 - $1\frac{1}{4}$" Φ Cut Washers = 20 #

110 #

Submitted with Report of APR 12 1938

Computed by O.P. Date 5-25-38
Checked by _____ Date _____ 19__

Bridge No. 55-134
Brea Canon
VII-Ora-19-A

Revised Quantities for repairs

Concrete

North Wingwall

$\frac{(13 \times 1.24) + (16.5 \times 1.35)}{2} \times 12$ = 231 Ft³

6 X 6 X 1.5 = 54

$\frac{6+3}{2} \times 6 \times 1.5$ = 41

South Wingwall

$\frac{(8.5 \times 1.10) + (16.5 \times 1.35)}{2} \times 12$ = 190

5 X 6 X 1.5 = 45

$\frac{(5+3)}{2} \times 6 \times 1.5$ = 36

Balance Same as 5/5/38 figures = 2436

3033

= 112 C.Y.

Submitted with Report of APR 12 1938

Calc. by WP Date 5/23/ Bridge: 53-132 Sheet 2 of 2

Chkd. by ________ Date ________ Item: REINFORCING STEEL Contract No. ________

ITEM	MARK	SIZE	NO.	LENGTH	1/2"□	3/4"φ	7/8"φ	"
North Wingwall		7/8 φ	1	9			9	
		✓	3	17			51	
		3/4 φ	5	17		85		
		1/2 □	5	17	85			
		7/8 φ	12	19			228	
		1/2 "□	7	19	133			
		✓	3	12	36			
		7/8 "φ	12	6			72	
South Wingwall		✓	1	8			8	
		✓	3	12			36	
		3/4 φ	5	16		80		
		1/2 □	5	17	85			
		7/8 φ	12	16			192	
		1/2 "□	7	16	112			
		✓	3	12	36			
		7/8 φ	12	5			60	
Balance of Structure = Same as 5/5/38 =					5002		2046	
TOTAL LENGTHS					5489	165	2702	
WT. PER FOOT					.86	1.52	2.07	
TOTAL WT. PER SIZE					4730	250	5600	
TOTAL WT. FOR SHEET						10580		

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

Revised Estimates

Submitted with Report of APR 12 1938

NOTE.—Original to Bridge Department. Carbon copy retained by Resident Engineer.

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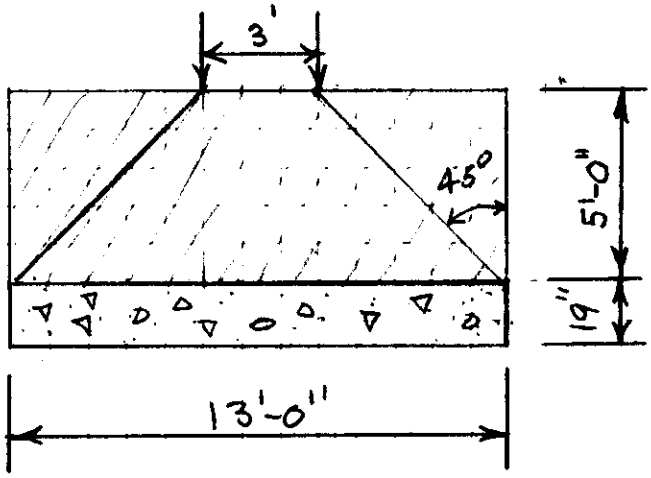
Bridge No. 55-134
Brea Cañon
VII - Ora - 19 - A

REPAIRS and STRENGTHENING

Portion Built in 1929

Slab Reaction on 14' Span



Dead Load

Fill	= 120 X 5 X 13	= 7800 #/Ft.
Slab	= 1.58 X 13 X 150	= 3080
Total		= 10880 #/Ft.

Reaction on 13' length of Center Wall

Dead Load	= 10880 X 14	= 152000 #
Live Load	= 2½ X 12700	= 32,000
Total		= 184,000 #

Load per foot of Center Wall

$$\text{Ld./Ft.} = \frac{184000}{13} = 14{,}200 \text{ \#/Ft}$$

Computed by W.P. Date 5-2-38
Checked by _____ Date _____

Bridge No. 55-134
Brea Cañon
VII-Ora-19-A

REPAIRS and STRENGTHENING ②of③

Portion Built in 1929

Design of Center Wall

With 12" Wall, Conc. Stress

$= \frac{14200}{144} = 99 \ \#/in^2$

12" Wall with Light steel Amply Safe

New Portion

Total Load per square foot $= \frac{14200}{14} = 1020 \ \#$

Design for 1 Ft. Wide strip of Slab

Span - Center to center $= 14'$

Moment $= \frac{1020 \times (14)^2}{8} = 25000 \ Ft.\#$

$f_c = 1000 \ \#/in^2$; $f_s = 18000$; $n = 10$

$k = \frac{1000}{\frac{18000}{10} + 1000} = .357$

$j = 1 - \frac{.357}{3} = .881$

Assume $d = 13"$

$f_c = \left(\frac{25000 \times 12}{13 \times .881 \times 13 \times .357 \times 12}\right) \times 2 = 940 \ \#/in^2$

$A_s = \frac{25000 \times 12}{13 \times .881 \times 18000} = 1.46 \ in^2$

Submitted with Report of APR 12 1938

Use $14\frac{1}{2}"$ Slab, 13" To steel, $\frac{7}{8}"\square$ Bars @ $4\frac{1}{2}"$

Computed by W.P. Date 5-4-1938
Checked by _____ Date _____ 19__

Bridge No. 55-134
Brea Canon
VII -Ora- 19-A

REPAIRS and STRENGTHENING

New Portion

Center Wall Same as for 1924 Portion

Abutment

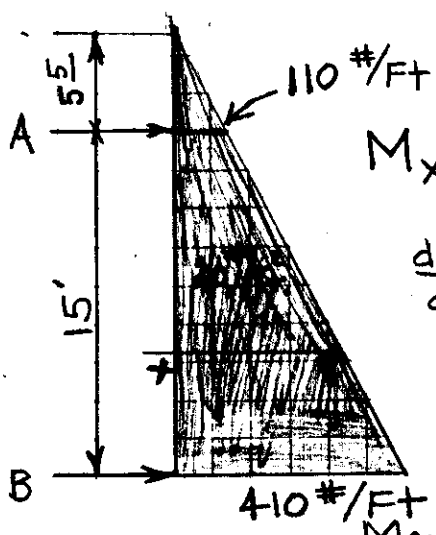
Subjected to same loads as 1929 portion - hence use same design.

Wing Walls

Use Same as 1929 Portion.
See Revised sheet dated 5/24/38

Abutments - 1' Wide Strip

$$R_A = (110 \times 7.5) + \frac{300 \times 7.5 \times 5}{15} = 1575\ \#$$



$$M_x = 1575x - 55x^2 - 3.33x^3$$

$$\frac{dM}{dx} = 1575 - 110x - 10x^2 = 0$$

$$x^2 + 11x - 157.5 = 0$$

$x = 8.2$ for Max Moment

$$\text{Max Mom} = (1575)(8.2) - (55)(8.2)^2 - (3.33)(8.2)^3$$

$$= 7400\ \text{Ft}\#$$

$$As = \frac{7400 \times 12}{13\frac{1}{2} \times .88 \times 18000} = .416\ \text{in}^2$$

$\frac{7}{8}$" ϕ Bars @ 12" OK = .60 in²

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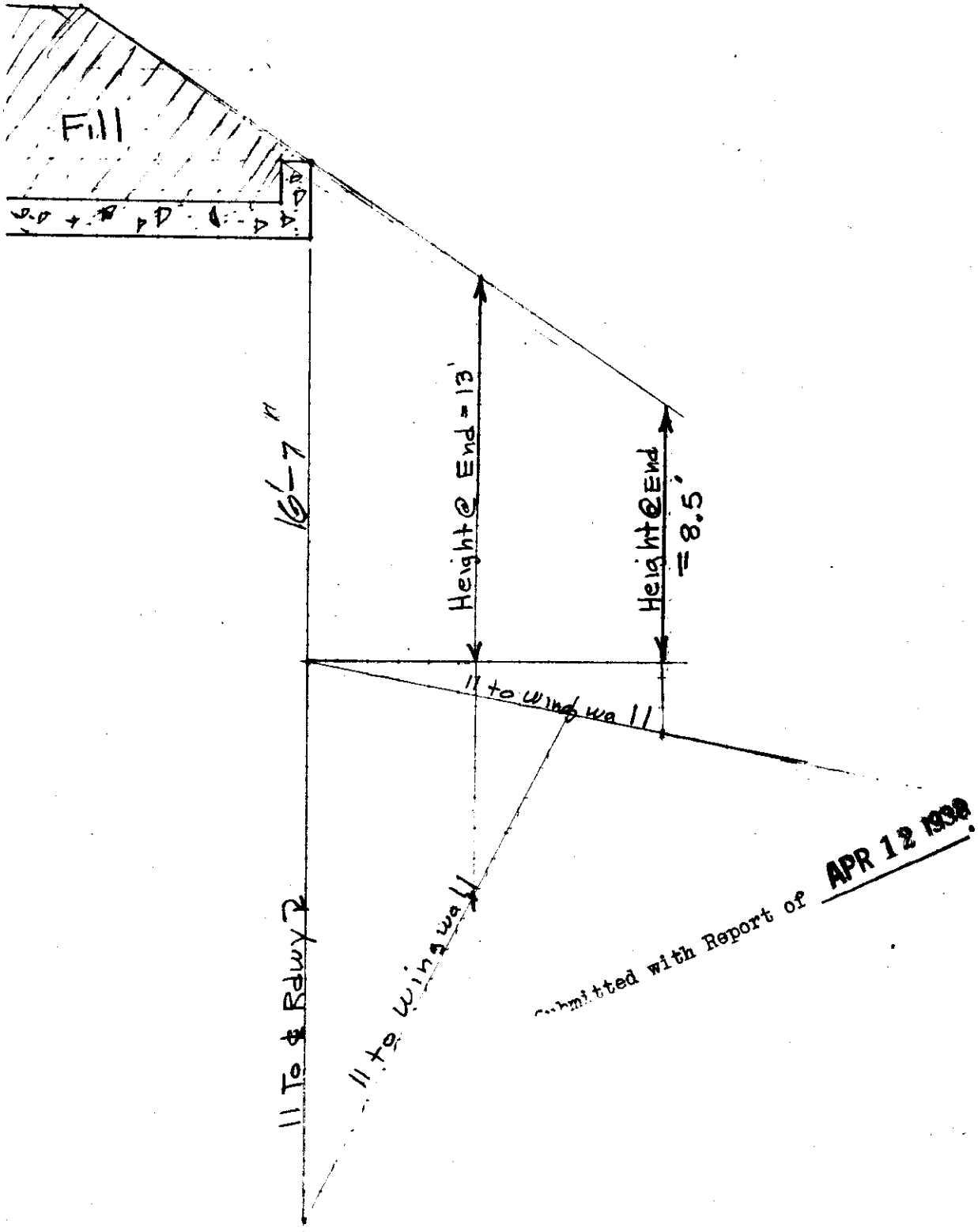
Bridge No. 55-134
Brea Cañon
VII - Ora - 19 - A

REVISED WINGWALL DESIGN



...bmitted with Report of APR 12 1938

Bridge No. 58C-121
Sheet

Name BREA CANYON Location VII-Ora-19-A
Dist.-Co.-Rt.-Sec.

Summary of Construction, Maintenance and Alteration Work

CONT. OR W. O. No.	DATE	DESCRIPTION	W. O. AMOUNT	FINAL COST
---	---	Estimated cost including widening @ $4.00 Repair flood damage and strengthen.	---	6,600
07XX19 87-J-1	7-25-38 "	Repairs (See following) 2 Old portion rebuilt after 1938 flood & new portion strengthened.	$1500	
57-7H1-B	1951	work as recommended in Bridge report dated 1-17-51		$8.94
532(611)	12-1-66	Per Dept. dated 8-27-65	—	$59.04