Inspection Report
Of
Foothill Road over Adams Barranca
Bridge No. 402
Santa Paula, California

Inspected for:
County of Ventura
Transportation Department
800 S. Victoria Ave
Ventura, CA 93009

Inspected by:

ATKINS

Penfield & Smith

625 The City Drive South, Suite 200
Orange, CA 92868

Inspection Staff:
Gary Buelow
Ben Fischetti, PE

Inspection Date: November 11, 2010
Report Prepared by: Gary Buelow
Load Rating Calculations by: N/A
Report Reviewed by: Sam Xie, PE

TABLE OF CONTENTS

LOCATION MAP

ATKINS
625 the City Drive South, Suite 200
Orange, California 92868

Br No. 402 – Foothill Road Over Adams Barranca
Santa Paula, California

1.0 INTRODUCTION

Bridge No. 402, constructed in 1902 is an unreinforced mass concrete arch culvert 19'-11" span x 13' tall at center of arch to soft bottom. The deck is covered by AC pavement over approximately 10' of fill. The upstream and downstream side has reinforced concrete wing walls flared at approximately 45 degrees. There are grouted sand bags at the top of the wing walls as well as over the parapet walls. The roadway above is a two lane road with a tangent and curved section over the bridge. There is continuous metal beam guard railing at the approach and over the bridge with Type OM2-1V markers (with the bridge number) at the approach sides of the MBGR.

Adams Barranca is a high flow natural terrain creek with some cobble and vegetation in the invert and side slopes. There is evidence of erosion on the upstream and downstream side behind the wing walls and downstream slopes. The retaining wall footings are exposed. There is no estimated flow of the channel, but by observation the arched culvert is adequate for the flows.

2.0 EXECUTIVE SUMMARY

Based on the information gathered from the inspection and following NBIS standards, this structure is rated in overall **Fair Condition.**

The bridge is rated using the *National Bridge Inspection Standards* (*NBIS)* rating system. The NBIS rating system requires the each element is rated as good, fair, or poor, and that each major feature receive an overall condition rating from zero to nine. A condition rating of zero signifies a failed condition. A condition rating of nine signifies an excellent condition. The condition of the deck, superstructure, and substructure was assessed using this system. The approach roadway alignment condition is based on the adequacy of the approach roadway alignment. A condition rating of 3 or less indicates the horizontal or vertical curvature requires a substantial reduction in the vehicle operating speed. A condition rating of 6 indicates a very minor speed reduction is required and a condition rating of 8 indicates no speed reduction is required. Adams Barranca does not require scour critical inspection.
The sufficiency rating formula evaluates highway bridge data by calculating four separate factors to obtain a numeric value which is indicative of the bridge sufficiency to remain open. Ratings range from 100 (entirely sufficient) to 0 (entirely insufficient or deficient). Bridge No. 402 **Sufficiency Rating was calculated at 57.83. Due to the fill height the live load is assumed to be H10. This bridge carries occasional legal load and extra-legal traffic, and is on a route authorized by Ventura County for purple overloads. Future replacement of the upstream and downstream wing walls may be considered since the roadway was raised. The sacked concrete and parapet wall pipe may fail.**

3.0 INSPECTION FINDINGS

3.1 Approach Roadway

Item 72 Code: 8

Approach alignment curved to the right advancing east Foothill Road (Appendix A Photo 1). There are no concrete approach slabs. The AC pavement shows transverse and longitudinal cracks over the entire section of Foothill Road.

3.2 Traffic Safety Features

Item 36 Code: 1 1 1 0

The bridge railing is MBGR mounted on 6"x6" wood post at the approaches and over the bridge, which meets current standards both on and off the structure. The ends of the rails have rounded ends (Appendix A Photo 1).

3.3 Culvert

Item 62 Condition Rating: 7

Unreinforced mass concrete arch culvert 19'-11" span x 13' tall at center of arch to soft bottom of the channel (Appendix A Photo 2). The arch culvert has longitudinal construction joints near the third point of the arch (Appendix A Photos 3 & 4). There is a horizontal joint at the parapet wall and the intrados crown (Appendix A Photos 5 & 6). The deck is covered by AC pavement over approximately 10' of fill. The upstream and downstream side has reinforced concrete wing walls flared at approximately 45 degrees (Appendix A Photo 6). The roadway was raised in the 1970's. To retain the fill, the downstream parapet wall was raised with sacked concrete, the upstream parapet wall with pipe and rail crib wall. This type of earth retention should be replaced with new wing walls and reinforced parapet walls to protect the roadway embankment.

3.4 Channel

Item 61 Condition Rating: 8

Adams Barranca is a high flow natural terrain creek with some cobble and vegetation in the invert and side slopes (Appendix A Photo 2). There is evidence of erosion on the upstream and downstream side behind the wing walls and downstream slopes. The retaining wall footings are exposed (Appendix A Photo 6). There is no estimated flow of the channel, but by observation the arched culvert is adequate for the flows.

3.5 Signing & Markers

Item 70 Posting Code: 5

There are Type OM2-1V roadway markers at the approach and departure MBGR railings. There is no load rating sign (Appendix A Photo 1).

3.6 Utilities

There is an overhead power line running along the eastbound shoulder of Foothill road (Appendix A Photo 1). The is an 8" steel water line mounted on top of the downstream parapet wall (Appendix A Photo 5). Previous reports indicate a buried 8" steel waterline near the upstream rail.

4.0 LOAD RATING

The current load rating for this culvert is as follows:
Inventory: HS 10
Operating: HS 17
Permit: PPPPP (Purple)
Based on the depth of fill over four feet there is minimal live load influence, therefore **no further Load Rating** analysis is required.

5.0 SCOUR AND UNDERCLEARANCE

There is evidence of upstream and downstream scour, but the structure is not affected. Scour should be monitored after heavy storm events, especially erosion around the structure.

5.1 Scour Critical Bridge Identification Plan

Not required

5.2 Underwater Inspection Identification Plan

Not required

6.0 RECOMMENDATIONS

Replace upstream and downstream wing walls to accommodate fill.

Item	Estimated Cost	Priority Code
Remove and replace existing retaining walls	$61,000	2
Install parapet wall on each side of culvert	$35,000	2
Total:	$96,000	

Priority Codes

0 – Emergency, Prompt Action Required
1 – High Priority
2 – Medium Priority
3 – Low Priority

Note: Costs shown are rough estimate for budget purpose and do not include mobilization, demolition, maintenance and protection of traffic, engineering or administrative costs.

Bridge/Culvert Sufficiency Rating

Bridge Number	Bridge Type	Date Constructed	Date of Sufficiency Rating	Sufficiency Rating
402	RCB	1902	3/23/2011	57.83

Notes:

1

2

3

1. Structural Adequacy and Safety (S_1)

		Calculated $S_{1\ (Bridge)}$	Calculated $S_{1\ (Culvert)}$
S_1	Maximum 55%	**0.00**	**45.0**

Item Codes	Description	Rating (1-5 or N)	A
59	Superstructure	n	0
60	Substructure	n	0
62	Culverts	5	10
	Min Value of 59 & 60		0
		IR	B
66	Inventory Rating (MS Loading)	32.4	0.0

(Note: 5 being best, 1 being worst)

2. Serviceability and Functional Obsolescence (S_2)

		Calculated S_2
S_2	Maximum 30%	5

Item Codes	Description		Rating (1-5 or N)	A thru F
28	Lanes on structure		2	
29	Avg Daily Traffic (ADT)		1500	
32	Appr. Rdwy Width		7	
43	Structure Type, Main			
51	Bridge Rdwy. Width		7	
53	VC over deck			
58	Deck Conditions	A	5	1
67	Structural Evaluation	B	4	3
68	Deck Geometry	C	4	3
69	Underclearances	D	5	1
71	Water Adequacy	E	5	1
72	Appr. Rdwy Alignment	F	5	1
100	STRAHNET Highway Designation			

2a. Rating Reductions (Maximum 13%)

J	10	

2b. Width of Roadway Insufficiency (Maximum 15%)

If (Item 51+0.6 meters) < Item 32, then 5	G	0
Set to 0		
X (ADT/Lane)		750
Y (Item 51/Item 28)		3.5

One lane Bridge

When Item 28=01	H	
Rating for One lane Bridge		
if Y < 4.3 then H = 15		
if Y >= 4.3 < 5.5 then H = 15(5.5-Y/1.2)		
Y >= 5.5 then H = 0		

Two Lane Bridge

if Y <2.7 and X > 50 then 15	H	15
if Y <2.7 and X <= 50 then 7.5		
if Y >= 2.7 & x<= 50 then H=0		
if X > 50 but <= 125 and		
if Y < 3.0 then H=15		
if Y >= 3.0 < 4.0 then H=15(4-Y)		
if Y >= 4.0 < 4.0 then H=0		
if X > 125 but <= 375 and		
if Y < 3.4 then H=15		
if Y >= 3.4 < 4.3 then H=15(4.3-Y)		
if Y >= 4.3 then H=0		
if X > 375 but <= 1350 and		
if Y < 3.7 then H=15		15
if Y >= 3.7 < 4.9 then H=15((4.9-Y)/1.2)		
if Y >= 4.3 then H=0		
if X > 1350 and		
if Y < 4.6 then H=15		
if Y >= 4.6 < 4.9 then H=15((4.9-Y)/1.2)		
if Y >= 4.3 then H=0		

2c. Vertical Clearance Insufficiency I 0

This percentage is 0% for all structures

(Note: 5 being best, 1 being worst)

3. Essentiality for Public Use (S_3)

		Calculated S_3
S_3	Maximum 15%	**7.83**

Item Codes	Description	
19	Detour Length	6
29	Avg Daily Traffic (ADT)	1500
100	STRAHNET Highway Designation	0

3a. Determine:

$$K = \frac{S_1 + S_2}{85}$$

K = 0.06

3b. Calculate:

$$A = \frac{15(\#29(ADT)X\#19(Detour\ Length}{320{,}000 \times K}$$

A = 7.17

B = STRAHNET Highway Designation

B = 0

4. Special Reductions (S_4)

S_4	Maximum 13%		Calculated S_4
	(note: use when s1 + S2 + S3 >= 50)	57.83	0

Item Codes	Description	
19	Detour Length	10
36	Traffic Safety Features	1111
43	Structure Type	19

4a. Calculate:

A=	(Item 19)^4 X (7.9 x 10^{-9})	A	0.0001
4b.	Struct type is either a bridge (timber/conc) or cu	B	0
4c.	Traffic Safety Feature If 2 didgits of #36 = 0 , C = 1% If 3 didgits of #36 = 0 , C = 2% If 4 didgits of #36 = 0 , C = 3%	C	0

PHOTOS

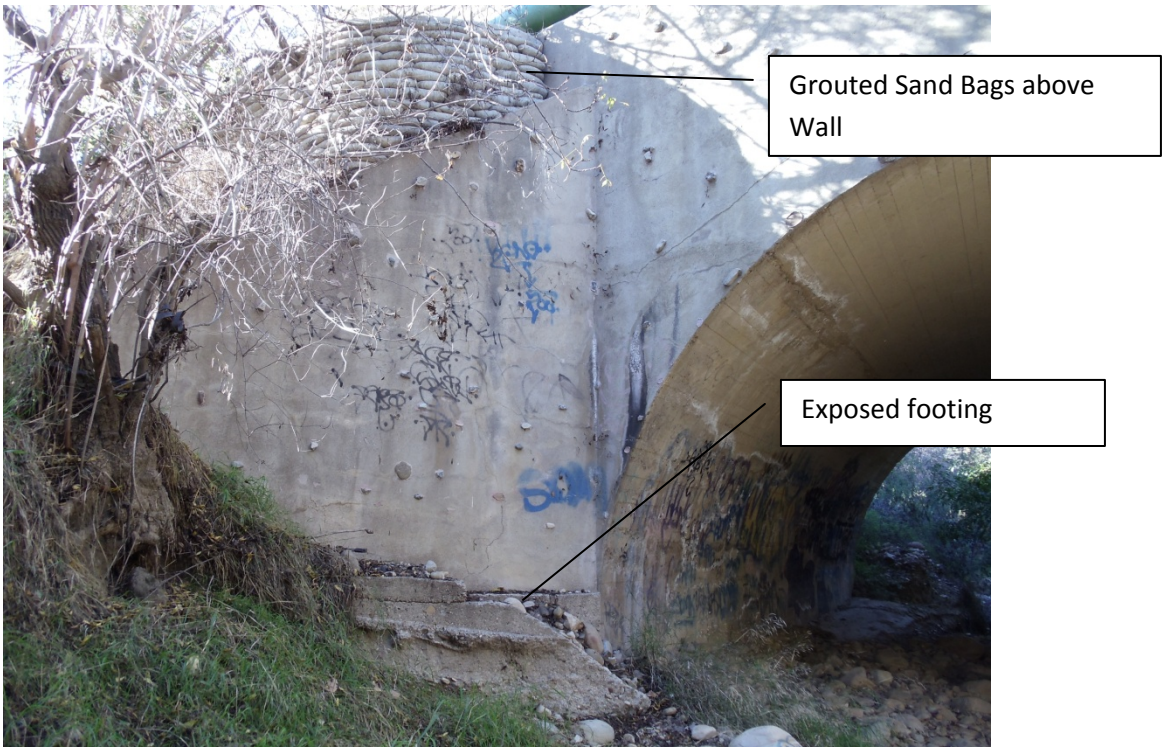
1	Roadway Looking East

2	Unreinforced Concrete Arch Culvert (Looking Downstream)

3	Longitudinal Construction Joint in Arch

4	Longitudinal Construction Joint at Upstream Headwall

5	Spalls on Wall of Culvert (Southwest Corner)



6	Down Stream Wing Wall

Field Inspection Forms

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

Structure ID: **8** | _ _ _ _ | _ _ _ _ | _ _ 4 0 2 — Inspection Date: **90** | 1 1 1 1 1 0

Foothill Road Over *Adams Barranca (Santa Paula)*

16 Latitude 3 4 Deg 2 0 Min 4 6 Sec

17 Longitude 1 1 9 Deg 6 Min 1 1 Sec

Structure Type:

43 Main 1 | 1 9 (43a 43b) Unreinforced Mass Concrete Arch Culvert — **45** # Spans 0 0 1

44 Approach 0 | 0 0 (44a 44b) None — **46** # Spans 0 0 0 0

Inspected by: Gary Buelow & Ben Feschetti

Weather Conditions: Clear/Warm — Temp: 7 0

7 Facility Carried By Struct. Foothill Road

9 Nearest Intersection Foothill Road/Peck Road is 0.6 Mile to East

Bridge Signing Verification:

Posted Speed Limit 55

Optional Reminder: *Check boxes if Maintenance Activities are needed* →

Type of Sign	Is Sign Required ?	SIGNING IN FIELD Near Advance	Bridge Site Near	Bridge Site Far	Far Advance	Comments
Bridge	Yes / ~~No~~					
Weight Limit	Tons					
Except Combination	Tons					
One Truck At A Time	Yes / ~~No~~					
Vert. Clearance - On	Yes / ~~No~~					
Vert. Clearance - Under	Yes / ~~No~~					
One Lane Bridge	Yes / ~~No~~					
Narrow Bridge	Yes / ~~No~~					
Hazard Cleaance	Yes / ~~No~~					
Other OM2-IV (with Bridge Number						Approach Sides
Other						

KEY: → **OK**: Signs properly installec **M**: Signs missing **D**: Signs Damaged or Incorrect

Signing Notes: Bridge Number Not on Westbound Approach Sign

Structure ID: 8 4 0 2 90 Inspection Date: 1 1 1 1 1 0

36 Traffic Safety Features

36a 1 Bridge Railing: MBGR with Timber Posts

36b 1 Transition: Continuous MBGR

36c 1 Approach Guardrail: MBGR with Timber Posts 4 Corners

36d 0 Approach Rail Ends:

32 Approach Roadway Width: 22 33 Bridge Median: 0 34 Skew Angle: 10 35 Structure Flared: 0

72 Approach Alignment: 8 Tangent at End of Curve

Approach Roadway

Pavement: AC Pavement has Transverse & Longitudinal Cracks (County has Re-paved Foothill to the West). Shoulders are AC Paved with AC Dike.

Drainage: None

Approach Slab: None

Bump at Bridge? ☐ Yes ☒ No

Pav't. Relief Joint: None

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

8 — Structure ID: 4 0 2 — Inspection Date: 1 1 1 1 1 0

68 Deck Geometry

107 Deck Structure Type

Wearing Surface Thickness

108 Wearing Surface / Protective System (A B C)

47 Total Horiz Clr

48 Length of Max. Span

49 Structure Length

51 Bridge Roadway Width, Curb to Curb

52 Deck Width, Out to Out

29 ADT — 30 ADT YEAR

26 *Functional Classification* — 28

50a **Left** Curb or Sidewalk Width

50b **Right** Curb or Sidewalk Width

53 Minimum Vertical Clearance Over

54 Min Vert Clearance Under Bridge (54a 54b) — 54a Ref. Feature

56 Minimum Lateral Clear on **Left**

55 Minimum Lateral Clear on **Right**

69 Underclearance Appraisal — Controlling: Horizontal — Vertical

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

Structure ID

8 — — 4 0 2

Inspection Date

90 1 1 1 1 1 0

58 Deck [ ] Estimated Spalls or Delamination _____ % Est Chloride Content _____

Top

Underside Longitudinal Cracks in Upper 1/3 Pts Each Side (Full Length) Appear to be Construction Joints with Surface Spalls.

Exp. Joint

Deck Drainage

8 Structure ID _____ 90 Inspection Date _____

59 **Superstructure** _____

Girders / Beams _____

Floorbeams _____

Stringers _____

Diaphragms _____

Truss Members _____

Portals / Bracing _____

Bearings _____

Drainage System (Below Deck) _____

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

8 Structure ID _____ 90 Inspection Date _____

Paint Condition _____ ☐

_____

Interior Beam / Girder _____

_____

Fascias _____

_____

Splash Zone Truss / Girder _____

Truss _____

Bearings _____

Other _____

☐ *Estimate Remaining Life* BMS to Calculate Yes/No ☐☐ Comments _____

Recalculate IR/OR Yes ☐ Due to: Deterioration ☐ New Wearing Surface ☐ Other ☐

No ☐ Previous Rating Dated _____ is still valid

66 IR ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐

64 OR ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐ ☐☐☐

H HS ML-80 MLC Other Other HS Load Factor

65 *Rate Meth* ☐☐ *Typ Mem* ☐☐ *AASHTO* ☐☐ *Spec* ☐☐ *Manual* ☐☐

70 *Bridge Post* ☐ Controlling: H _____ HS _____ ML-80 _____ Engineering Judgement _____

67 Structural Condition Appraisal ☐ Based Upon ☐ Table 1 29-ADT _____ ADT Year _____

or ☐ 62-Culvert _____

91 *Next Insp Freq* ☐☐

Spec Insp Type ☐ *By Date* ☐☐☐☐

is bridge over water? ☐ Yes 62 =N

☐ No 62 =N 61 =N 71 =N 113 =N

8 Structure ID _____ 90 Inspection Date _____

60 **Substructure** _____

NAB - Near Abutment

Backwall _____

Bridge Seats _____

Cheekwalls _____

Stem _____

Wings _____

Footing _____

Piles _____

Scour / Undermine ☐ Yes ☐ No See Details on Form _____ Sheet _____

Settlement _____

Embankment-Slope-Wall _____

Wall Drainage _____

8 Structure ID 90 Inspection Date

60 **Substructure**

FAB - Far Abutment

Backwall

Bridge Seats

Cheekwalls

Stem

Wings

Footing

Piles

Scour / Undermine ☐ Yes ☐ No See Details on Form _____ Sheet _____

Settlement

Embankment-Slope-Wall

Wall Drainage

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

8 Structure ID _____ 90 Inspection Date _____

60 **Substructure** ☐

Pier / Bent Number _____

Bridge Seats _____ ☐

Cap _____ ☐

Curtain Walls _____

Columns / Stems _____ ☐

Footing _____ ☐

Piles _____ ☐

Scour / Undermine ☐ Yes ☐ No See Details on Form _____ Sheet _____ ☐

Settlement _____

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

Structure ID

8 — 4 0 2 — 90 Inspection Date 1 1 1 1 1 0

28 Lanes On & Under 0 0 0 2 | 29 ADT 1 5 0 0 | 30 ADT YEAR 2 0 1 0

68 Deck Geometry 4 | Table 2 A | 26 *Functional Classification* 0 7

108 Wearing Surface / Protective System 6 0 0 AC | Wearing Surface Thickness 3"

47 Total Horiz Clr 2 3 | 50 Curb or Sidewalk Width 0

48 Length of Max. Span 2 0 | 51 Struct. Roadway Width, Curb to Curb 2 3

49 Structure Length 4 0 | 52 Deck Width, Out to Out 4 0

53 Minimum Vertical Clearance Over 0 **0** **0** 0

54a 54b

62 Culverts 7

RC Arch Culvert 19'-11" Span X 10'-9" (Clear to Channel) X 40' Long

Top Slab Soffit of Arch has Two Construction Joints. Near the Upper 1/3 Portion of the Arch. There is some Cracking Along the Joint.

Barrel Clearance was Measured at 13' from Soft Invert to the Top of the Arch. See Top Slab for Other Notes

Floor / Paving Soft Bottom Culvert

Headwall The Parapet Wall has a Horizontal Crack 18" Above the Outlet Across the Entire Opening (Indicated in the 1970 Report). This is the Joint Between The Crown and Headwall.

Wings 20' Tapered Wingwalls have Map Cracking. There is Grouted Sand Bags Above the Wingwalls on the downstream side, and there pipe and crib wall on the upstream side. The retaininf wall footings on the downstream side are exposed.

Settlement None

Debris Cobble and Sediment in Barrel.

Culvert 2 Data

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

8 Structure ID 4 0 2 90 Inspection Date 1 1 1 1 1 0

Additional Culvert Notes:

There is an 8" Water Line Supported on Top of the Downstream Headwall.

There is Grouted Sandbags Supporting Fill Above the Outlet Headwall.

Recalculate IR/OR Yes [ ] Due to: Deterioration [ ] New Wearing Surfac [ ] Other [ ]

No [X] Previous Rating Dated 1 9 7 1 is still valid

66 IR 2 0

64 OR

H	HS	ML-80	MLC	Other	Other	HS Load Factor
				P P	P P P	

65 *Rate Meth* L F *Typ Mem* *AASHTO* *Spec* *Manual*

70 *Bridge Post* 5 Controlling: H HS ML-80 Engineering Judgement

67 Structural Condition Appraisal 6 Based Upon [ ] Table 1 29-ADT ADT Year

or [X] 62-Culvert *Age & Condition*

91 *Next Insp Freq* 2 4

Spec Insp Type *By Date*

is bridge over water? [ ] Yes 62 =N

[X] No 62 =N 61 =N 71 =N 113 =N

CHANNEL DATA

INITIAL BASELINE BRIDGE INSPECTION FIELD REPORT

Structure ID: 8 4 0 2 90

Inspection Date: 1 1 1 1 1 0

Foothill Road *Over* Adams Barranca

Scour Critical Rating: 113 8 based on: [X] Observed Scour [ ] Scour Calculation

No. of Units Insp.:

Streambed Material: Cobble & Soil

61 Channel / Channel Protection - Cond. Rating:

Channel: Upstream Cobble & Tree Vegetation

Banks: Cobble & Soil with Heavy Vegetation

Streambed Movements: None

Debris, Vegetation: Cobble, Trees

River (Stream) Control Devices: None

Embankment / Streambed Controls: None

Drift, Other: None

71 Waterway Adequacy 4 N/A

Risk of Overtopping [X] Remote [ ] Slight [ ] Occasional [ ] Frequent

Traffic Delay [ ] Insignificant [ ] Significant [ ] Severe 26 Functional Class.

High Water Mark: ELEV: _____ Date _____ [ ] New HW Mark [ ] HW since last Insp.

Weather Conditions: Clear

Waterway 2 Data

8 Structure ID

90 U.W. Inspection Date

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	**Observed** Depth	Counter Measures

Findings

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	Observed Depth	Counter Measures

Findings

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	Observed Depth	Counter Measures

Findings

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	Observed Depth	Counter Measures

Findings

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	Observed Depth	Counter Measures

Findings

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	Observed Depth	Counter Measures

Findings

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	Observed Depth	Counter Measures

Findings

Substructure Unit	Foundation Type	Water Depth	Observed Scour Rating	U.W. Insp Performed	Observed Depth	Counter Measures

Findings

DEPARTMENT OF TRANSPORTATION

STRUCTURAL QUANTITY SURVEY AND MARGINAL ESTIMATE (MAINTENANCE)

DPD-OSD-D19 (REV.1/78)

ATKINS
625 The City Drive South, Suite 200
Orange, CA 92868

CHARGE	|EX AUTH|			BR. NO.	402		
BRIDGE	FOOTHILL ROAD OVER ADAMS BARRANCA					TYPE	ARCHED RCB
DISTRICT	8 |COUNTY| Ven			ROUTE		KP	
LENGTH (FT)	19.92	WIDTH (FT)	72.50	DEPTH	13.00	LL	
LONG SPAN| 19.916 |SPANS| 1				SKEW	0.000		
DESIGN SECTION| Box Culvert							

Rec'd Est Group By		Date	
Quantity By	G. Buelow	Date	6/23/2011
Checked By	L. Khaleghi	Date	6/23/2011
Revised By		Date	

CODE	CONTRACT ITEMS	UNIT	SUPERSTRUCTURE			SUBSTRUCTURE			OTHER ELEMENTS			TOTAL	PRICE	AMOUNT
			QUANTITY	CHECK	USE	QUANTITY	CHECK	USE	QUANTITY	CHECK	USE	USE		
66063	TRAFFIC MANAGEMENT PLAN (TMP)	LS							1	1	1	1	$15,000.00	$15,000
150662	REMOVE METAL BEAM GURARD RAILING	LF							50	50	50	50	$20.00	$1,000
192001	STRUCTURE EXCAVATION (INCLUDING SHORING)	CY							125	125	125	125	$200.00	$25,000
193001	STRUCTURE BACKFILL	CY							70	70	70	70	$50.00	$3,500
510060	STRUCTURAL CONCRETE, RETAINING WALL	CY							15	15	15	15	$370.00	$5,550
510072	STRUCTURAL CONCRETE, BARRIER SLAB	CY							18	16	16	16	$400.00	$6,400
520101	BAR REINFORCING STEEL	LBS							10000	10000	10000	10000	$1.50	$15,000
XXXXXX	RESET METAL BEAM GUARD RAILING	LF							50	50	50	50	$20.00	$1,000

			SUB TOTAL	$72,450
		Revision	MOBILIZATION @ 10%	$7,245
Marginal Est. By			SUB TOTAL CONTRACT ITEMS	$79,695
Date			CONTINGENCIES @ 20%	$15,939
Cost Index	2010	2010	TOTAL $ 66.49 FT	$95,634
			FOR BUDGET PURPOSES - SAY	$96,000

Previous Inspection Reports

BRIDGE NO. 402

DATE OF PICTURE Aug.-Sept. 1970

NAME OF ROAD Foothill RD.

BRIDGE REPORT

Road ~~Project~~ Name: Foothill Road - BRIDGE NO. 402

~~Project~~ No. : 402 Taken By: MB Date: MAR. 1991

Remarks:

INLET SIDE

OUTLET SIDE

INTERIOR:

NOTE: WATER SEEPAGE AT THE COLD JOINTS. WATER IS FROM RECENT RAINS.

COUNTY OF VENTURA

SUPPLEMENTARY BRIDGE REPORT # S-12

County Bridge No. 402
Other No. 52C-162
Date of Investigation: 3/93

Road Name: Foothill Road
Br. Log Mile: 0.62
Advancing: West
Previous Report: S-11
Previous Recommended Work:

Facility Crossed: Adams Barranca
Log Mile 0.00 at: Peck Road
Area: Santa Paula (SSP)
Dated: 3/06/91
Done:
None:
Not Done: X

Condition:
1. Structure is in fair condition.
2. Some water seeping through construction joints.

Recommendations:
Same as last report.
Repaint bridge number.
Seal cold joints, etc.

M. Brown
M. Brown

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTARY BRIDGE REPORT
DS-M19 (REV. 8/88)

Bridge No. 52C-162 (Co. No. 402)

Location 7-Ven-CR
Dist. Co. Rte. PM. City

Date of Investigation 2-26-90

Name ADAMS BARRANCA (On Foothill Road, 0.62 mile west of Peck Road)

CONDITION RATING:

Deck _____ Superstructure _____ Substr.&Pipes _____

Channel & Channel Protection _____ Culvert _____ Widenable? _____

TYPE OF INVESTIGATION/REPORT

BIENNIAL	X	DAMAGE	
CATEGORY A		OTHER	
UNDERWATER		OFFICE	X

DISCUSSION:

The clear span length of this single span arch culvert was measured on the above date and found to be 20.3' along centerline roadway.

Since this is less than the length required by the Federal Government to meet the definition of a bridge, this structure will be dropped from the Federal Inventory and Appraisal List and will no longer be inspected by the State.

CONDITION OF STRUCTURE:

The structure is in good condition and no work is recommended.

REGISTERED PROFESSIONAL ENGINEER
EARL R. RASMUSSEN
No. 24994
Exp. 12-31-93
CIVIL
STATE OF CALIFORNIA

Earl R Rasmussen

ERR:cd
cc: Ventura County (2)

#S-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DS-M19 (REV. 2/75)

Bridge No. 52C-162 (Co. No.402)

Location 7-Ven-CR
Dist - Co - Rte - PM - City

Date of Investigation October 21, 1987

Name ADAMS BARRANCA (On Foothill Rd.,Ø.62 miles W. of Peck Road)

CONDITION RATING: **APPRAISAL RATING:**

Deck N **Superstructure** 7 **Substr. & Pipes** 4 **Overall** 3

Channel & Channel Protection 7 **Retaining Walls** N

Widenable? Yes ☐ No ☒ Conditional ☐

Action Required by County Yes ☐ No ☒

PRIORITY

U – Urgent S – Seasonal
Q – Quick D – Delayed
R – Routine O – Record Only

REVISION:

Average Daily Traffic 1180 (1986)

CONDITION OF STRUCTURE:

This inspection was from the surface only.

The structure is in fair condition.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None

ERR:pht
cc: INagai (2)
Ventura County (2)

REGISTERED PROFESSIONAL ENGINEER
EARL R. RASMUSSEN
No. 24994
Exp. 12-31-89
CIVIL
STATE OF CALIFORNIA

E R Rasmussen

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

Bridge No. 52C-162 (Co. No. 402)

Location 7-Ven-CR
Dist - Co - Rte - PM - City

Date of Investigation October 9, 1985

Name ADAMS BARRANCA (On Foothill Road, 0.62 miles west of Peck Road)

CONDITION RATING: **APPRAISAL RATING:**

Deck N Superstructure 7 Substr. & Pipes 7 Overall 3

Channel & Channel Protection 7 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

CONDITION OF STRUCTURE:

The channel is choked with dense brush and vegetation.

Otherwise, the structure is in fair condition.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

Clear the channel.

B

E. R. Rasmussen
C-24994

ERR:pdh
cc: INagai (2)
Ventura County (2)

copy 5-8

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

Bridge No. 52C-162 (Co. No. 402)

Location 7-Ven-CR
Dist - Co - Rte - PM - City

Date of Investigation June 15, 1983

Name ~~ADAMS~~ BARRANCA (On Foothill Rd., 0.62 mile west of Peck Rd.)

CONDITION RATING: **APPRAISAL RATING:**

Deck N Superstructure 7 Substr. & Pipes 7 Overall 3

Channel & Channel Protection 7 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

CONDITION OF STRUCTURE:

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

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None

W W Johnson

W. W. Johnson
C-19889

WWJ:pdh
cc: DRHiggins (2)
Ventura County (2)

4 S-8

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

Bridge No. 52C-162 (Co. No. 402)

Location 7-Ven-CR
Dist - Co - Rte - PM - City

Date of Investigation June 15, 1983

Name ADAMS BARRANCA (On Foothill Rd., 0.62 mile west of Peck Rd.)

CONDITION RATING: **APPRAISAL RATING:**

Deck N Superstructure 7 Substr. & Pipes 7 Overall 3

Channel & Channel Protection 7 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

CONDITION OF STRUCTURE:

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

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None

W W Johnson

W. W. Johnson
C-19889

WWJ:pdh
cc: DRHiggins (2)
Ventura County (2)

#5-6

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

Bridge No. 52C-162 (Co. No. 402)

Location 07-Ven-CR
Dist - Co - Rte - PM - City

Date of Investigation November 4, 1981

Name ADAMS BARRANCA (On Foothill Rd., 0.62 mile west of Peck Rd.)

CONDITION RATING: **APPRAISAL RATING:**

Deck N Superstructure 7 Substr. & Pipes 7 Overall 3

Channel & Channel Protection 7 Retaining Walls N

Widenable? Yes ☐ No ☒ Conditional ☐

Action Required by County Yes ☐ No ☒

SEISMIC RETROFIT:

Not applicable.

CONDITION OF STRUCTURE:

There are horizontal cracks in the structure along each wall of the arch. These cracks appear to be along an old construction joint and extend about 1' into the wall on the east side and extend all the way through the wall on the west side. These cracks are not serious but should be checked in the future in case they become larger.

Otherwise, the structure is in good condition.

RECOMMENDED POSTING:

None.

WORK RECOMMENDED:

None.

Original signed by

W. W. Johnson
C-19889

OVER

WWJ:cd
cc: DRHiggins (2)
Ventura County (2)

#5-5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
BRIDGE REPORT
DH-OS M58 (REV. 3/74)

Bridge No. 52C-162

Other No. Co. No. 402

P.U.C. No.

Location 07-Ven-CR
Dist - Co - Rte - PM - City

Date of Investigation June 6, 1978

Name ADAMS BARRANCA (on Foothill Rd, 0.62 mi. W. of Peck Rd.)

Lat N34° - 20.8' Long W119° - 06.0'

STRUCTURAL DATA AND HISTORY

Year Built 1902 By Ventura County Contract No. Unk.

Date of Revisions 1974: Replaced railings.

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

Description: Unreinforced concrete arch culvert under 11' of earth fill and surfacing.

Spans 1 @ 20' clear

Length 23' Skew 12° Lt Design LL Unk

Ratings: Inventory H 10 Assigned Operating H 17 Assigned Permit PPPPP Assigned

DESCRIPTION – ON STRUCTURE

Bridge Width (S) 3's, 2 @ 10.5', 4's (N)

Total Width 40' Lanes 2 Tracks None

Median Yellow stripe Rail Type MBGR (1110)

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 20'

Wearing Surface Asphalt Deck Seal None

Alignment Tangent, slight curve at west end

DESCRIPTION – UNDER STRUCTURE

Roadway Section None

Clearances: Vert. Horiz.; Lt. Rt.

Lanes Tracks Pumpplant: None ☐ See Br. No.

Facilities Crossed Adams Barranca

cc:

(1) CON'T.

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

Bridge No. 52C-162

Date 6/6/78

DESCRIPTION – HYDRAULICS

Channel Natural earth & gravel w/heavy vegetation, paved invert at the bridge.

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

MAINTENANCE

Custodian County Owner County

ORIGINAL CONDITION RATING		ORIGINAL APPRAISAL	
Deck	NA	Overall	7 3
Superstructure	7	Deck Geometry	7
Substructure & Pipes	7	Underclearances Vert.	NA
Channel & Channel Protection	7	Horiz.	NA
Retaining Walls	NA	Safe Load Capacity	5
Approach Rdwy. Alignment	7	Waterway Adequacy	8
Estimated Remaining Life	20	Approach Rdwy. Alignment	8

Widenable? Yes ☐ No ☒ Conditional ☐

Action Required by ~~District~~ County Yes ☐ No ☒

AVERAGE DAILY TRAFFIC: 1500 (1975)
BYPASS DETOUR LENGTH: 4 miles

HISTORY:
The elevation of the roadway surface has been raised. To retain the additional fill, the downstream parapet wall was raised w/sacked concrete, the upstream parapet wall w/pipe and Tuthill rail cribwall.

ENCROACHMENTS:
1. An 8" steel water line is buried in the earth fill on the structure, near the upstream rail.
2. An 18" steel water line is attached to the downstream parapet wall.

CONDITION OF STRUCTURE:
Channel clearance is 9.8' at the crown of the arch intrados. Other than minor cracking, the structure is in good condition.

WIDENABLE:
The structure is not recommended for widening because of its age.

LOAD CAPACITY:
Inventory and operating load ratings are based on an assumed design live load of H10, considering the age of the structure. The structure is in good condition, carries occassional legal and extra-legal traffic, and is

on a route authorized by Ventura County for purple overloads. The permit rating is based on these facts.

WORK RECOMMENDED: None.

Original signed by
G. A. Plaas
P.E.Reg. #18769

GAP:mb
cc: Dist. 07 Local Ass't
Ventura County (2)

COUNTY OF VENTURA

SUPPLEMENTARY BRIDGE REPORT (S-3)

County Bridge No. 402

Other No. — — —

Date of Investigation 1/29/76

Road Name Foothill Road Facility Crossed Adams Barranca

Br. Log Mile 0.62 Log Mile 0.00 at Peck Road

Advancing West Area Santa Paula

Previous Report S-2 Dated 10/23/74 Weather Clear, 70°+

CONDITIONS:

1. Same as stated in previous reports.

RECOMMENDATIONS:

None.

J. E. Davis, Jr.
Floyd E. Davis, Jr.
Bridge Technician

RST

FED/kb

S-4

Date of Investigation 4/20/77
Previous Recommended Work:
☒ None ☐ Done ☐ Not Done
Remarks: ☐ None ☐ Do Prev Rec Work
MINOR SLOPE EROSION
AT SOUTHEASTERLY
APPROACH
Estimated Cost: $
Inspected by: R.S.Y / F.D

STRUCTURE WORK RECORD

Road Name Foothill Rd. Bridge No. 402

Date Built _____ Contract No. _____ Plan NO. _____

Design by _____ Designer _____

Contractor County forces Inspection _____

Cost of Work $1943.76 Design Load _____

Date	Plans	Cost	Work Load	Contractor	Inspection
1-14-74 To 1-31-74			D. Calkins L. Locke A. Bradley W. Toppings N. Hale R. Zavala R. Culpepper F. Ruiz		R. Hunter
		$1114.12	173 MAN HRS		
					26 Sk. Cement 52.00
					330 Burlap Bags 72.60
					8½ Ton Conc. Mix 34.00
					8 ½ x 20 Rebar 12.80
					80 ft. ¾ Cable 16.00
					8 ¾ Cable Clamps 4.00
					2 ¾ Turn Buckles 5.00
					4 Ft. ¾ Bolt Stock 1.20
		$3342.4	30%		$197.60
		$ 20.80	Trucks 4791 16 Hrs		
		$ 20.80	- 4851 16 Hrs		
		$ 41.60	- 4793 32 Hrs		
		$ 22.10	- 4794 17 Hrs		
		$ 36.00	Welder 8308 24 Hrs		
		$ 24.00	Comp. 7012 16 Hrs		SACK CONCRETE DOWN
		$ 10.20	Pickup 1348 102 mi.		STREAM SIDE AND DUG
		$ 2.30	Pickup 1660 23 mi.		ACROSS ROAD PUT IN CABLE
		$ 20.00	A-1 Rental Digger 120.00		TIE BACK TO OTHER REVETMENT
		$197.60			
		$1943.76	Materials		

COUNTY OF VENTURA

SUPPLEMENTARY BRIDGE REPORT (S-2)

County Bridge No. 402

Other No. --------

Date of Investigation 10/23/74

Road Name Foothill Road Facility Crossed Adams Barranca

Br. Log Mile 0.62 Log Mile 0.00 at Peck Road

Advancing West Area Santa Paula

Previous report 8/3/72 (S-1)

Condition:

1. Roadway has been widened 4' on both sides, AC berms have been constructed and new single metal beam guard rails have been installed on both sides of the road on 8" x 8" timber posts. NOTE: There are a few longitudinal cracks in the widened portion on both sides of road 1/16" maximum.

2. AC overside drains have been constructed at northwest and northeast corners and a concrete sack with concrete crown inlet was constructed at southeast corner (12" CMP)

3. 1/2 48" CMP side drain with concrete sack wall was installed over northeast wingwall.

4. Concrete sack walls were constructed on top of downstream headwall and wingwalls, in order to widen roadway. Steel sheet piling with oil field pipe supports was installed over upstream headwall to widen roadway and retain slopes. (2) 3/4" rod tie backs were installed from sackwall on downstream end to sheet piling on upstream to help retain slopes.

5. The structure appears to be the same as stated in the original report with little or no progression in the cracking process.

RECOMMENDATIONS:

None at this time

W. J. O'Connell
Bridge Technician

Richard S. Young
Registered Engineer

COUNTY OF VENTURA

SUPPLEMENTARY BRIDGE REPORT (S-1)

County Bridge No. 402

Other No. ——

Date of Investigation 8-3-72

Road Name Foothill Road Facility Crossed Adams Barranca

Br. Log Mile 0.62 Log Mile 0.00 at Peck Road

Advancing West Area Santa Paula

Previous report 11-17-70 (original)

Condition

Same as stated on original report except following:

1. Road has been overlayed.
2. Concrete has been poured around bases of loose guardrail posts on upstream end to make railing solid.
3. Guardrail on downstream end is loose.

Recommendations

Same as stated on original report.

Bill O'Connell
Inspector

OK JRD

COUNTY OF VENTURA

BRIDGE REPORT

This Report Supersedes all Previous Reports for this Bridge Number

County Bridge No. 402

Other No. ———

Date of Investigation 11/17/70

Road Name Foothill Road Facility Crossed Adams Canyon

Br. Log Mile 0.62 Log Mile 0.00 at Peck Road

Advancing West Area Santa Paula

General Description:

Structure Mass concrete arch culvert with wing abutments

Waterway Sufficient, velocity medium. Well defined channel with 8'± sand and gravel bottom and earth banks with medium to heavy brush

Approaches: No. Lanes 2 Width & Type 20' PMS with 2' dirt shoulders

Reflectors 3 eye amber on paddles each end

Vertical Alignment West to East Slight sag grade

Horizontal Alignment Tangent at end of curve

ADT - Present _____ 19____ Future _____ 19____

CULVERT DATA County Bridge No. 402

Number of Barrels One Span 19' - 11" Height 10'-9"

Length 39' - 11" Depth of Cover 10' Skew ~~20'-4"~~ 37° Clear to Channel JRD

Roadway Width 23' Between Timber railing

Sidewalks or Traffic Curbs None

Overhead Clearance Unimpaired

Railings Single 6" x 6" timber rail on 8" x 8" TIMBER Posts JRD

Deck Roadway section on 10' of fill

Walls Mass concrete

Pier Walls None

Bottom Sand and gravel. If there is a paved bottom it is 6" or more below sand and gravel channel bottom existing this date.

Cutoff Walls Buried if any

Wingwalls, etc. Concrete 19" retaining

Condition of Structure See Attachment A

Recommendation See Attachment A

HISTORY

County Bridge No. 402

Date Built 1902 By County Contract No. ____

Designed by County Surveyor Designer County Surveyor

Plans D - 10- 1 Bridge R.E. ____

Contractor M. E. Isham

REMARKS

There is a 6" or 8" water line buried in the fill over the culvert on the upstream side.

Permit Capacity Purple

~~XXXXX~~ Load Capacity Legal

Posting None BY ____ DATE POSTED ____

Signed John R. Dickson Title Reg. Engr. RCE No. 18481

Date Nov. 17 19 70 .

Date of Next Review 8/71

CHANNEL CROSS SECTION RECORD

Road Name FOOTHILL ROAD Bridge No. 402

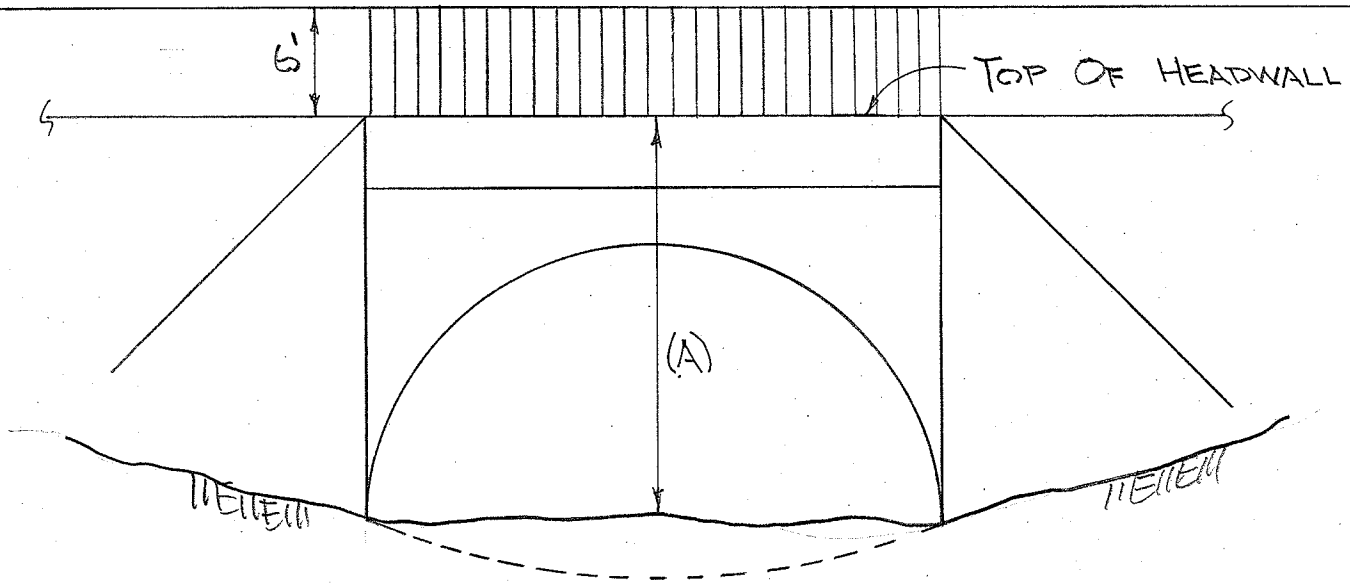
Feature Crossed ADAMS CANYON

Channel Measurements from TOP OF HEADWALL to CHANNEL BOTTOM

EAST ←→ WEST

Date NOV 17 19 70

Initial J.R DICKERSON



UPSTREAM ELEVATION

NOT TO SCALE

	11/17/70 J.R.D.	8/3/72 W.O'C	10/23/74 W.O'C	1/29/76 F.D.	4/20/77 R.S.Y./F.R			
(A)	17'	17'	17.4'	17.4'	16'			

(Diagram to be varied and drawn as appropriate for each structure).

CHANNEL CROSS SECTION RECORD

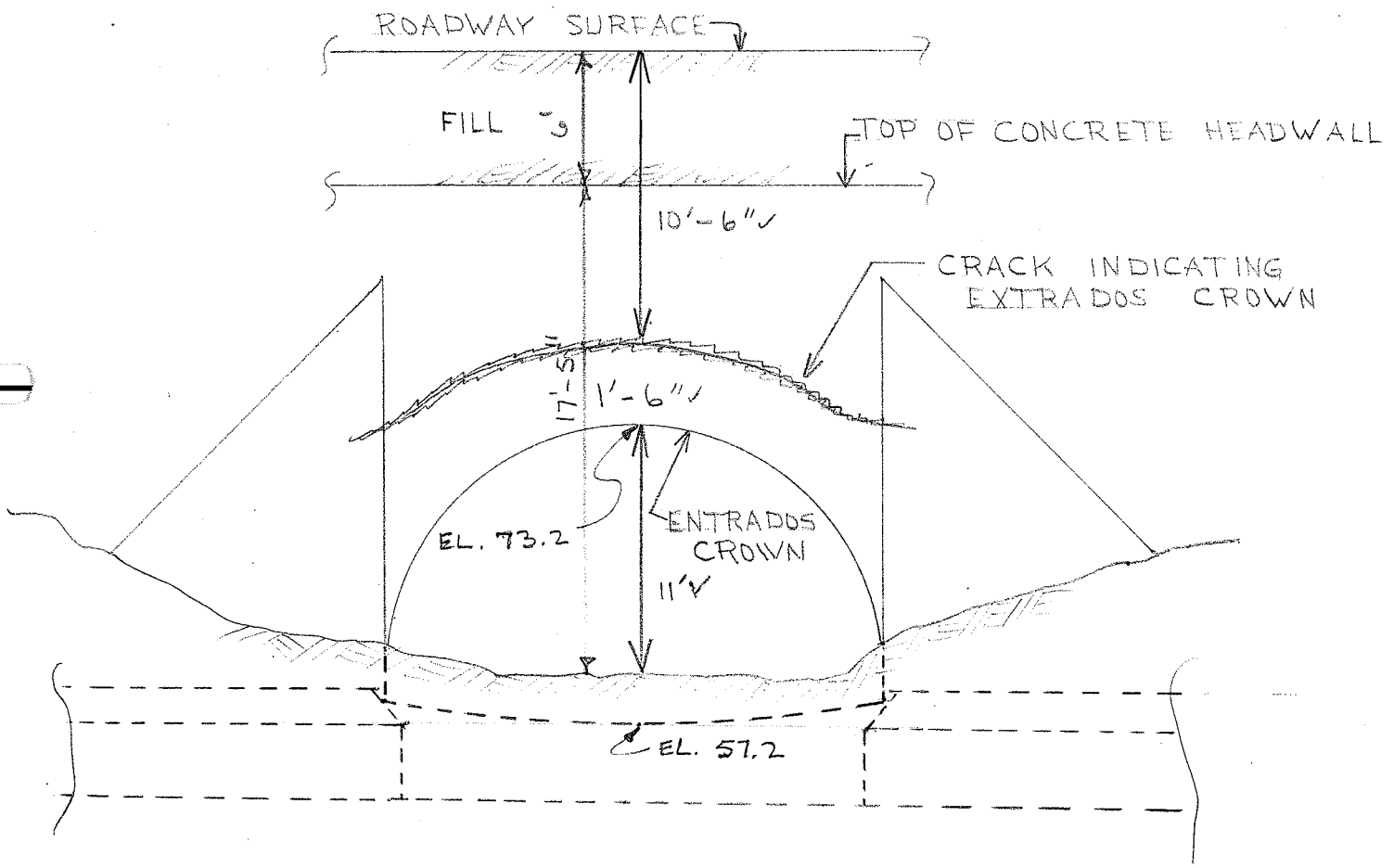
Road Name Foothill Road · Bridge No. 402

Feature Crossed Adams Canyon

Channel Measurements from Entrados Crown to Channel Bottom

Date Nov. 17 19 70

Initial



8-3-72 OC

10/23/74 W.OC TD

✓ SAME 1/29/76 TD

(Diagram to be varied and drawn as appropriate for each structure).

STRUCTURE UTILITY RECORD

Road Name Foothill Road Bridge No. 402

Owner	Locations	Permit Number	I. D. & Type	
	None observed attached to structure on this date 11/17/70			
	BURIED IN FILL ON UPSTREAM SIDE		8" WATER	8-3-72 DIC
	ACROSS DOWNSTREAM SIDE OF STRUCTURE ON TOP OF PARAPET WALL	PERMIT WAS PULLED	SAME 18" WATER SAME	10/23/74 W.O.C. TD 4/29/76 TD 4/20/77 RS.Y/FD TD

ATTACHMENT "A"

CONDITION OF STRUCTURE REPORT

Road Name Foothill Road County Bridge No. 402

Date of Investigation 11/17/70

CONDITION:

1. There is a 1/16" to 1/8" crack at the entrados crown (approx. 18" above the entrados crown" extending into the wingwalls and diminishing to 0" in the wingwalls at both ends of the culvert.

2. Wingwalls are craze cracked $\leq$ 1/32" and have some minor chips out of edges.

3. Interior of arch shows some exfoliation, has some rock pockets throughout and is cracked and spalled at the construction joints in the arch. These construction joints run the length of the barrel parallel to the centerline of the arch and 5' $\pm$ each side of the centerline of the arch. They are spalled as much as 6" across and 3" deep.

4. There is a 5" deep x 9" across chip out of the east edge of the upstream end of the arch approximately 3' above the point of intersection of the entrados crown with the vertical plane of the wingwall.

5. Structure is otherwise in fair to good condition.

6. There is rot in the timber crib walls retaining the roadway fill, (50% to 90% rot upstream side and 10% $\pm$ on the downstream side)

7. Timber guardrail posts can be moved 1" to 2" at the top with medium exertion approximately 30# to 50# force by one man. The main problem appears to be that the posts aren't deep enough in the ground. However, there may also be some rot in the bottom of the posts.

8. Longitudinal and transverse cracks in road surfacing indicating settlement of fill which is probably caused by lack of slope stability.

RECOMMENDATIONS:

1. Repair timber crib wall each side of the roadway by replacing the rotten timber planking. The posts appeared OK at this inspection. However, when the planks are replaced the posts should be rechecked and rotten ones, if any, replaced.

2. After repairing crib walls, the existing guardrail should be removed and the fill between the cribwalls and roadway compacted.

ATTACHMENT "A"
Bridge No. 402

If the existing guardrail posts are not rotted and are long enough to develop enough lateral resistance to meet traffic safety standards they can be redriven and the rail remounted with the damaged portions of the rail replaced. If the posts are not long enough to develop the required lateral resistance, they should be replaced with new ones sufficiently long to develop this resistance. Posts should be CDF or redwood.

ESTIMATE OF COST:

1.	Repairing crib walls and compacting fill Two crew days and materials	$500
2.	Repairing and/or replacing railing 1-1/2 crew days and materials	375
	TOTAL	$875

J. R. Dickerson
Reg. Engr. No. 18481

A BRIDGE NO 402 .62 W OF PECK Rd.

FOOTHILL ROAD NO 062720 STREAM ADAMS CANYON

BUILT 1902 PLANS D-10-1

COST BRIDGE $3450.00 APPROACHES $

	PLANS BY	CONSTRUCTION BY	SUPERVISION BY
CONTRACT	C S	M.E. Isham	C S
FORCE ACCOUNT			
*OTHERS			

*

DESCRIPTION
CONC ARCH 16'X 20'X 40'

CLEAR ROADWAY 23 FT. 0 IN.

LENGTH 20 FT. 1 SPANS

DEPTH OF COVER --- FT.

ABUTMENTS CONCRETE

PIERS(type & no. NONE

GIRDERS NO -- KIND NONE

DECK EARTH FILL

SIDEWALKS NO. -- WIDTH -- KIND NONE

PAVING Road Mix

GUARD RAIL TIMBER

CHANNEL PAVED

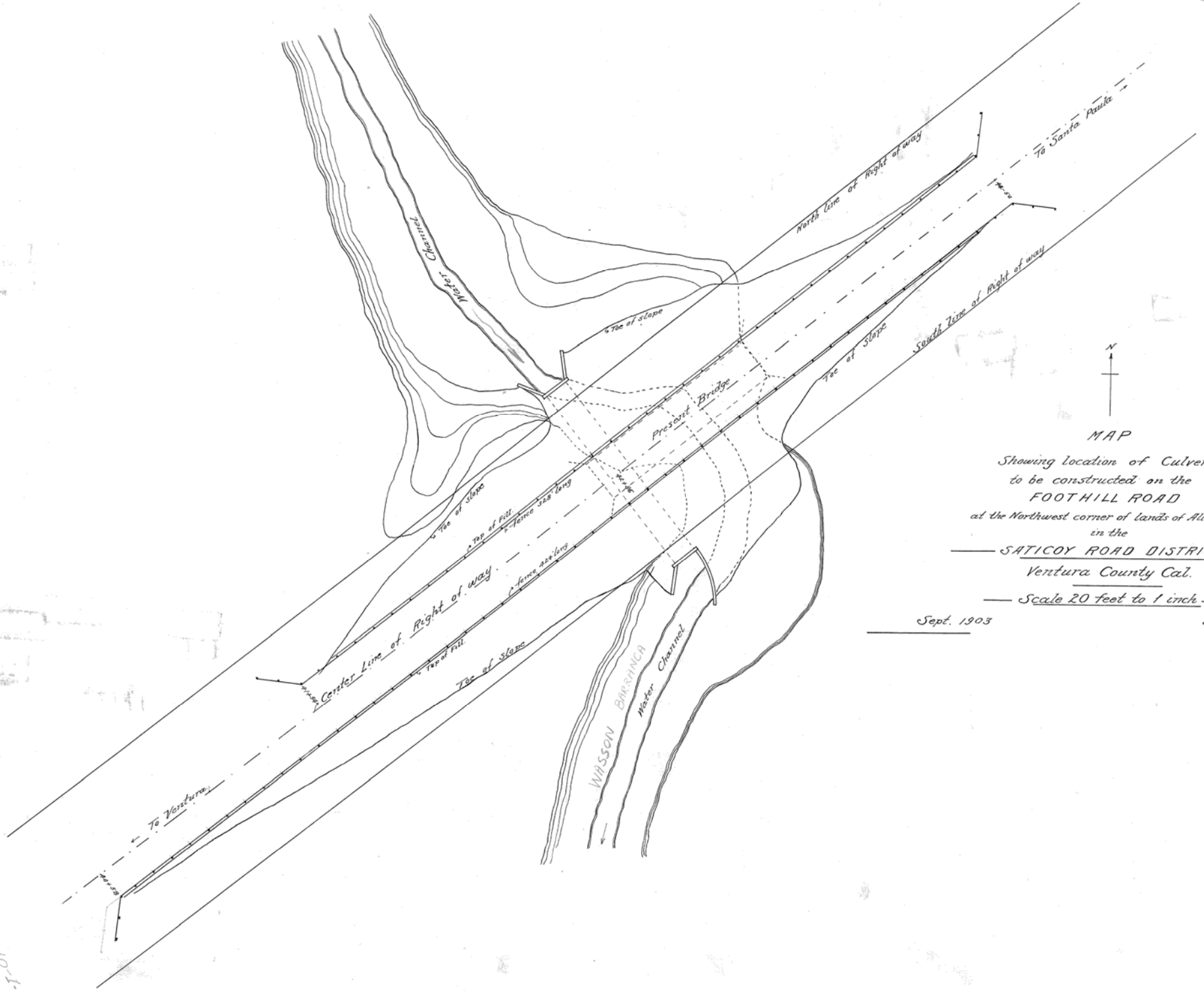
CUT OFF WALL 3' up STREAM & DOWN

PROTECTION

REMARKS

LOAD LIMIT LEGAL

Inventory date 1968 Ventura County Bridges



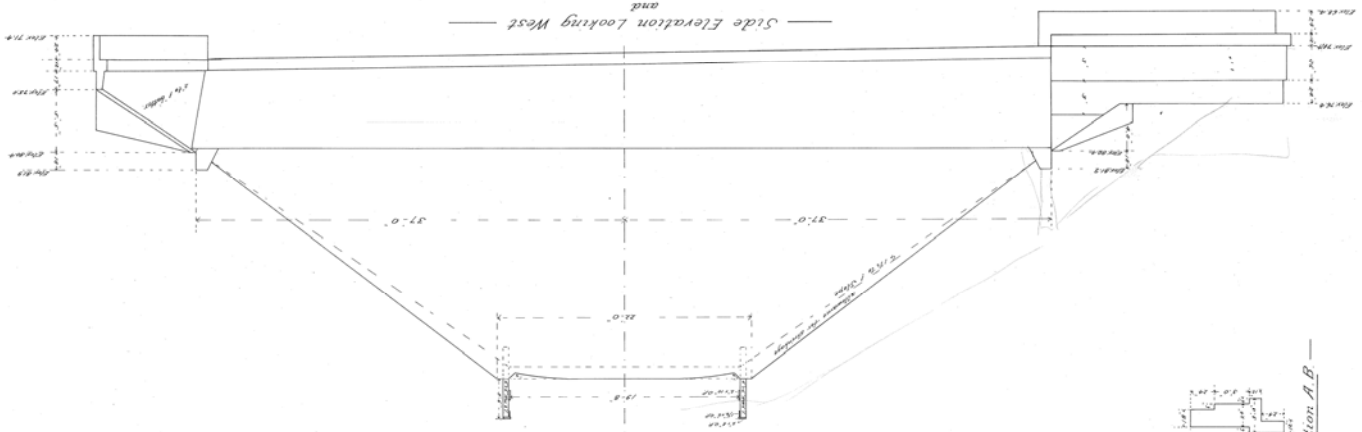
MAP

Showing location of Culvert
to be constructed on the
FOOTHILL ROAD
at the Northwest corner of lands of Allen T. Steele.
in the
SATICOY ROAD DISTRICT
Ventura County Cal.
Scale 20 feet to 1 inch

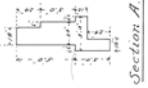
Sept. 1903

J.B. Waud
County Surveyor.

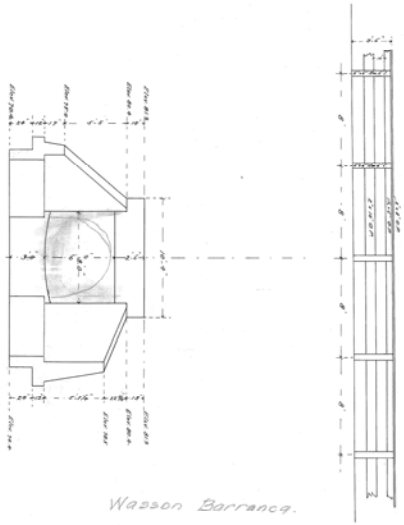
D-10-1e



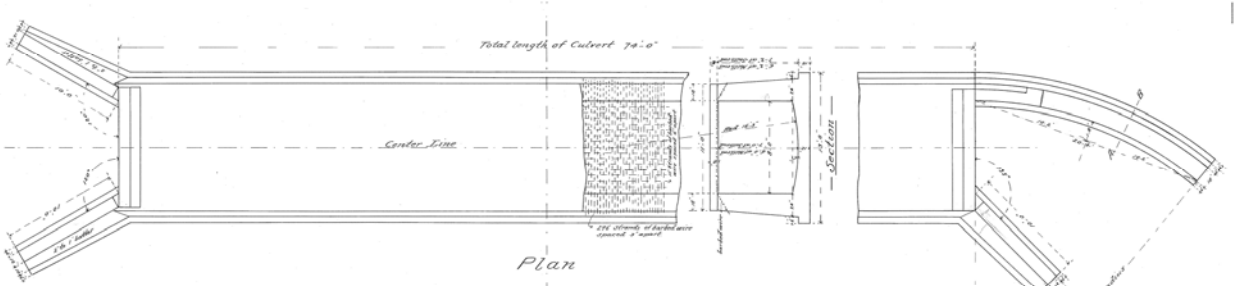
Side Elevation looking West
and
Section through Fill



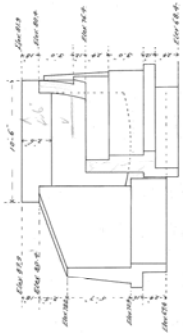
Section A B



North End Elevation



Total length of Culvert 74'-0"
Center Line
Section
Plan



South End Elevation

Wasson Barranca.

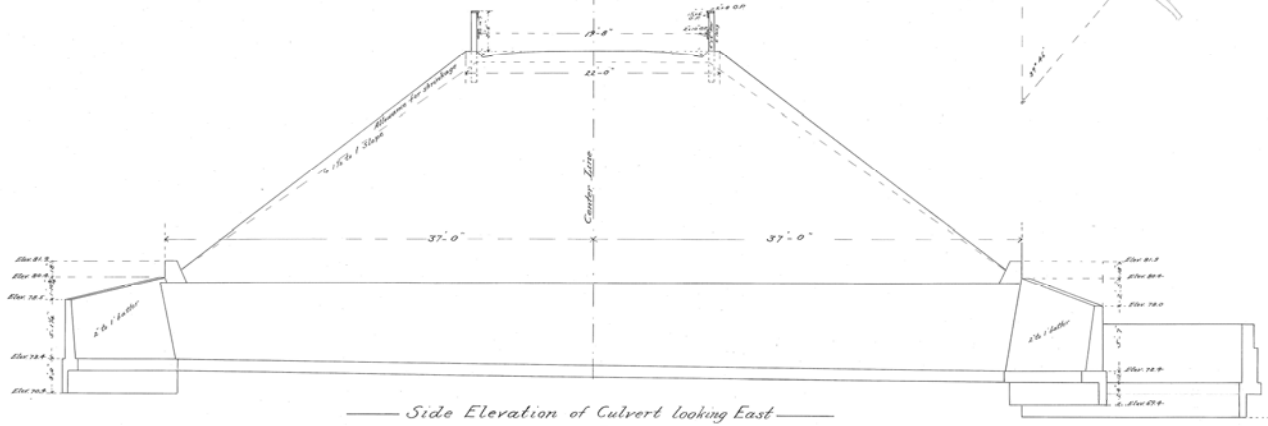
PLAN & DETAILS
of
CONCRETE CULVERT AND FILL
to be constructed on the
FOOTHILL ROAD
at the Northwest Corner of Lands of Allen T. Steele.
in the
SATICOY ROAD DISTRICT
Ventura County, Cal.

Scale ¼ inch to 1 Foot

Sept. 1903.

J.B. Waud
County Surveyor

FOR ADDITIONS SEE N-17-48-C



Side Elevation of Culvert looking East
and
Section through Fill.