



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0080
Facility Carried: MADRONE AVE
Location : IN SAN ANSELMO
City : SAN ANSELMO
Inspection Date : 10/21/2014

Bridge Inspection Report

Inspection Type
Routine FC Underwater Special Other

STRUCTURE NAME: SAN ANSELMO CREEK

CONSTRUCTION INFORMATION

Year Built : 1930 Skew (degrees): 0
Year Widened: N/A No. of Joints : 0
Length (m) : 8.5 No. of Hinges : 0

Structure Description: Reinforced concrete T-girder (3) with floor beams on diaphragm abutments with monolithic wingwalls. The foundation is unknown.

Span Configuration : 1 @ 7.92 m

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.51 =>16.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=0.85 =>27.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : OOOOO
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.46 m br, 1.40 m sw, 5.49 m, 1.40 m sw, 0.46 m br

Total Width: 9.2 m Net Width: 5.5 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired AC Thickness: 1.0 Inches

Rail Code: ONNN

Rail Type	Location	Length (ft)	Rail Modifications
Concrete	Right/Left	55	
Baluster			

DESCRIPTION UNDER STRUCTURE

Channel Description: Sand, gravel, dense brush and light trees

NOTICE

The bridge inspection condition assessment used for this inspection is based on the American Association of State Highway and Transportation Officials (AASHTO) Bridge Element Inspection Manual 2013 as defined in Moving Ahead for Progress in the 21st Century (MAP-21) federal law. The new element inspection methodology may result in changes to related condition and appraisal ratings on the bridge without significant physical changes at the bridge.

The element condition information contained in this report represents the current condition of the bridge based on the most recent routine and special inspections. Some of the notes presented below may be from an inspection that occurred prior to the date noted in this report. Refer to the Scope and Access section of this inspection report for a description of which portions of the bridge were inspected on this date.

INSPECTION COMMENTARY

SCOPE AND ACCESS

The water depth on this date was approximately 2 inches at the deepest part of the channel next to Abutment 1. All portions of the substructure were observed on the date of this investigation.

SAFE LOAD CAPACITY

INSPECTION COMMENTARY

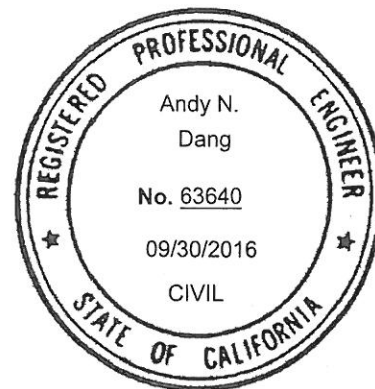
A Load Rating Summary Sheet dated 12/23/2011 is on file for this structure. While this inspection does not include a check of that analysis, it does verify that the structure conditions observed during this inspection are consistent with those assumed in that analysis. The current rating is assigned in accordance with SMI procedures.

<u>ELEMENT INSPECTION RATINGS AND COMMENTARY</u>									
Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each	Condition	State
							St. 1	St. 2	St. 3 St. 4
16			Top Flange-RC	2	78	sq.m	78	0	0 0
	510		Deck Wearing Surface-Asphalt	2	47	sq.m	47	0	0 0
(16)									
There were no significant defects noted.									
(16-510)									
There were no significant defects noted. The depth of AC overlay on the bridge deck was 1 inches at the time of this inspection.									
110			Girder/Beam-RC	2	26	m	24	2	0 0
	1080		Delamination/Spall/Patched Area	2	1		0	1	0 0
	1130		Cracking (RC and Other)	2	1		0	1	0 0
(110-1080)									
There is a spall approximately 4 inches by 3 inches with rebar exposed in the edge of the left overhang near Abutment 1. The similar spall about 6 inches by 3 inches is present on the right overhang near the midspan. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.									
(110-1130)									
Girder 1 has a longitudinal crack about 1/4 inch wide by 2 feet long at the bottom flange. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.									
155			Floor Beam-RC	2	18	m	17	1	0 0
	1130		Cracking (RC and Other)	2	1		0	1	0 0
(155-1130)									
There is a crack about 0.03 inch wide and 2 feet long in the floor beam between Girder 2 and Girder 3. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.									
215			Abutment-RC	2	26	m	24	2	0 0
	6000		Scour	2	2		0	2	0 0
(215-6000)									
The Abutment 1 footing is undermined about 7 feet long and 6 inches deep. This condition was first noted in the 7/28/1993 report. Thus, ELI 361 is rated at condition state 2. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.									
331			Railing-RC	2	17	m	17	0	0 0
(331)									
There were no significant defects noted.									

WORK RECOMMENDATIONS - NONE

Team Leader : Andy N. Dang
Report Author : Andy N. Dang
Inspected By : AN.Dang/RH.Le

A. N. Dang 3/17/15
Andy N. Dang (Registered Civil Engineer) (Date)



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 27C0080
 (5) INVENTORY ROUTE(ON/UNDER)- ON 150000000
 (2) HIGHWAY AGENCY DISTRICT 04
 (3) COUNTY CODE 041 (4) PLACE CODE 64434
 (6) FEATURE INTERSECTED- SAN ANSELMO CREEK
 (7) FACILITY CARRIED- MADRONE AVE
 (9) LOCATION- IN SAN ANSELMO
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 37 DEG 58 MIN 41.28 SEC
 (17) LONGITUDE 122 DEG 33 MIN 57.82 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
 TYPE- TEE BEAM CODE 104
 (44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
 TYPE- OTHER/NA CODE 000
 (45) NUMBER OF SPANS IN MAIN UNIT 1
 (46) NUMBER OF APPROACH SPANS 0
 (107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:
 A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
 B) TYPE OF MEMBRANE- NONE CODE 0
 C) TYPE OF DECK PROTECTION- NONE CODE 0

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

(27) YEAR BUILT 1930
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
 UNDER- WATERWAY 5
 (28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
 (29) AVERAGE DAILY TRAFFIC 1500
 (30) YEAR OF ADT 2011 (109) TRUCK ADT 2 %
 (19) BYPASS, DETOUR LENGTH 71 KM

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

(48) LENGTH OF MAXIMUM SPAN 7.9 M
 (49) STRUCTURE LENGTH 8.5 M
 (50) CURB OR SIDEWALK: LEFT 1.4 M RIGHT 1.4 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 5.5 M
 (52) DECK WIDTH OUT TO OUT 9.2 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.0 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 0 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 5.5 M
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
 (54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
 (55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
 (56) MIN LAT UNDERCLEAR LT 0.0 M

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

(38) NAVIGATION CONTROL- NO CONTROL CODE 0
 (111) PIER PROTECTION- CODE
 (39) NAVIGATION VERTICAL CLEARANCE 0.0 M
 (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
 (40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

SUFFICIENCY RATING = 48.6
 STATUS FUNCTIONALLY OBSOLETE
 HEALTH INDEX 98.7
 PAINT CONDITION INDEX = N/A

***** CLASSIFICATION *****

(112) NBIS BRIDGE LENGTH- YES Y
 (104) HIGHWAY SYSTEM- NOT ON NHS 0
 (26) FUNCTIONAL CLASS- COLLECTOR URBAN 17
 (100) DEFENSE HIGHWAY- NOT STRAHNET 0
 (101) PARALLEL STRUCTURE- NONE EXISTS N
 (102) DIRECTION OF TRAFFIC- 2 WAY 2
 (103) TEMPORARY STRUCTURE-
 (105) FED.LANDS HWY- NOT APPLICABLE 0
 (110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
 (20) TOLL- ON FREE ROAD 3
 (21) MAINTAIN- CITY OR MUNICIPAL HIGHWAY AGENCY 04
 (22) OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY 04
 (37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

***** CONDITION *****

(58) DECK 8
 (59) SUPERSTRUCTURE 7
 (60) SUBSTRUCTURE 7
 (61) CHANNEL & CHANNEL PROTECTION 6
 (62) CULVERTS N

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

(31) DESIGN LOAD- UNKNOWN 0
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
 (64) OPERATING RATING- 27.5
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUL 0
 (66) INVENTORY RATING- 16.5
 (70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
 (41) STRUCTURE OPEN, POSTED OR CLOSED- A
 DESCRIPTION- OPEN, NO RESTRICTION

***** APPRAISAL *****

(67) STRUCTURAL EVALUATION 4
 (68) DECK GEOMETRY 2
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 6
 (72) APPROACH ROADWAY ALIGNMENT 6
 (36) TRAFFIC SAFETY FEATURES 0NNN
 (113) SCOUR CRITICAL BRIDGES 5

***** PROPOSED IMPROVEMENTS *****

(75) TYPE OF WORK- MISC STRUCTURAL WORK CODE 38
 (94) LENGTH OF STRUCTURE IMPROVEMENT 8.5 M
 (94) BRIDGE IMPROVEMENT COST \$79,000
 (95) ROADWAY IMPROVEMENT COST \$15,800
 (96) TOTAL PROJECT COST \$132,720
 (97) YEAR OF IMPROVEMENT COST ESTIMATE 2010
 (114) FUTURE ADT 1278
 (115) YEAR OF FUTURE ADT 2034

***** INSPECTIONS *****

(90) INSPECTION DATE 10/14 (91) FREQUENCY 24 MO
 (92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
 A) FRACTURE CRIT DETAIL- NO MO A)
 B) UNDERWATER INSP- NO MO B)
 C) OTHER SPECIAL INSP- NO MO C)