



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0153
Facility Carried: NOKOMIS AVE
Location : 300' N MADRONE AVE
City : SAN ANSELMO
Inspection Date : 10/21/2014

Bridge Inspection Report

Inspection Type
Routine FC Underwater Special Other

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STRUCTURE NAME: SAN ANSELMO CREEK

CONSTRUCTION INFORMATION

Year Built : 1930 Skew (degrees): 15
Year Widened: N/A No. of Joints : 0
Length (m) : 35.1 No. of Hinges : 0

Structure Description: Reinforced concrete curved haunch T-girder (3) with floor beams on 3 column bents with infilled walls and diaphragm abutments without monolithic wingwalls. All founded on an unknown foundation.

Span Configuration : 1 @ 5.49 m, 1 @ 11.58 m, 1 @ 11.89 m, 1 @ 5.49 m

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.47 =>15.2 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=0.78 =>25.3 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : XXXXX
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.3 m br, 1.5 m sw, 5.5 m, 1.5 m sw, 0.3 m br

Total Width: 9.1 m Net Width: 5.5 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired AC Thickness: 2.0 Inches

Rail Code: ONNN

Rail Type	Location	Length (ft)	Rail Modifications
Concrete	Right/Left	312	
Baluster			

DESCRIPTION UNDER STRUCTURE

Channel Description: Sandy with some large rocks

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 8 inches at the deepest part of the channel under Span 2. Pier 3 was in water and inspected by wading and probing.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet dated 9/21/2010 is on file for this structure. While this

INSPECTION COMMENTARY

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.

WATERWAY

The channel cross section was spot checked with the data of the cross section taken on 9/13/2011. There are no changes in the channel bed.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each Condition	State		
						St. 1	St. 2	St. 3	St. 4
16		Top Flange-RC	2	319	sq.m	319	0	0	0
	510	Deck Wearing Surface-Asphalt	2	193	sq.m	193	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 2 inches at the time of this inspection.

110		Girder/Beam-RC	2	105	m	102	3	0	0
	1080	Delamination/Spall/Patched Area	2	2		0	2	0	0
	1130	Cracking (RC and Other)	2	1		0	1	0	0

(110-1080)

There are rock pockets in the bottom of Girder 2 of Span 3. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.

There is a spall about 6 inches by 4 inches in the bottom of Girder 3 of Span 3. No rebar is exposed. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.

(110-1130)

There is a vertical crack in Girder 2, 6 inches from Pier 3. The crack is approximately 0.016 inch wide and about 6 feet long. This crack appears on both sides of the girder. At this time, this condition does not affect the load capacity and no corrective action is required. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.

155		Floor Beam-RC	2	27	m	27	0	0	0
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(155)

There were no significant defects noted.

205		Column-RC	2	9	each	8	1	0	0
	1080	Delamination/Spall/Patched Area	2	1		0	1	0	0

(205-1080)

There is a spall approximately 3 inches by 4 inches in Pier 3 column on the upstream side. No rebar is exposed. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.

210		Pier Wall-RC	2	27	m	24	3	0	0
	6000	Scour	2	3		0	3	0	0

(210-6000)

Local scour exists at Pier 3 with the top of footings exposed at both upstream and downstream. The scour hole is about 18 inches deep by 7 feet long on Span 2 side. This scour condition was first

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each Condition	State		
						St. 1	St. 2	St. 3	St. 4

noted in the November 1991 Supplemental Bridge Report. Based on a field comparison of the photo from the 9/2010 report, this condition has not changed.

215		Abutment-RC	2	19	m	19	0	0	0
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(215)

There were no significant defects noted.

220		Pile Cap/Footing-RC	2	2	m	2	0	0	0
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(220)

There were no significant defects noted. New footing was constructed at Pier 2 upstream for scour mitigation.

331		Railing-RC	2	70	m	70	0	0	0
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(331)

There were no significant defects noted.

WORK RECOMMENDATIONS

RecDate: 08/25/2006

EstCost:

Patch the concrete spalls on the pier.

Action : Sub-Patch spalls

StrTarget: 2 YEARS

Work By: LOCAL AGENCY

DistTarget:

Status : PROPOSED

EA:

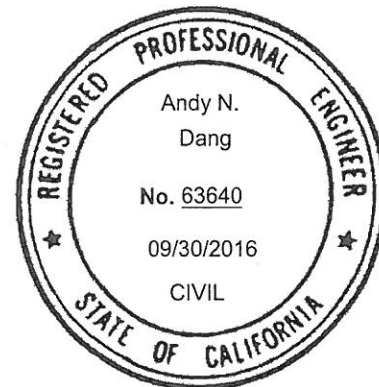
Team Leader : Andy N. Dang

Report Author : Andy N. Dang

Inspected By : AN.Dang/RH.Le

Andy 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 27C0153
 (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- NOKOMIS AVE
 (9) LOCATION- 300' N MADRONE AVE
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 37 DEG 58 MIN 43.16 SEC
 (17) LONGITUDE 122 DEG 34 MIN 00.67 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE CONT
 TYPE- TEE BEAM CODE 204
 (44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
 TYPE- OTHER/NA CODE 000
 (45) NUMBER OF SPANS IN MAIN UNIT 4
 (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 400
 (30) YEAR OF ADT 2011 (109) TRUCK ADT 2 %
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 11.9 M
 (49) STRUCTURE LENGTH 35.1 M
 (50) CURB OR SIDEWALK: LEFT 1.5 M RIGHT 1.5 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 5.5 M
 (52) DECK WIDTH OUT TO OUT 9.1 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.3 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 15 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 = 52.7
 STATUS FUNCTIONALLY OBSOLETE
 HEALTH INDEX 99.4
 PAINT CONDITION INDEX = N/A

***** 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) 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 ***** CODE

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

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

(31) DESIGN LOAD- UNKNOWN 0
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
 (64) OPERATING RATING- 25.3
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUI 0
 (66) INVENTORY RATING- 15.2
 (70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
 (41) STRUCTURE OPEN, POSTED OR CLOSED- A
 DESCRIPTION- OPEN, NO RESTRICTION

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

(67) STRUCTURAL EVALUATION 4
 (68) DECK GEOMETRY 3
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 4
 (72) APPROACH ROADWAY ALIGNMENT 5
 (36) TRAFFIC SAFETY FEATURES ONNN
 (113) SCOUR CRITICAL BRIDGES 3

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

(75) TYPE OF WORK- MISC STRUCTURAL WORK CODE 38
 (76) LENGTH OF STRUCTURE IMPROVEMENT 35.1 M
 (94) BRIDGE IMPROVEMENT COST \$315,000
 (95) ROADWAY IMPROVEMENT COST \$63,000
 (96) TOTAL PROJECT COST \$529,200
 (97) YEAR OF IMPROVEMENT COST ESTIMATE 2010
 (114) FUTURE ADT 319
 (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)