DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0628
Facility Carried: ANTONIO PARKWAY
Location : 0.2 MI. N/O ORTEGA HWY
City :
Inspection Date : 06/26/2019

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: SAN JUAN CREEK

CONSTRUCTION INFORMATION

Year Built : 1997
Year Modified: 2013
Length (m) : 236.5
Skew (degrees): 22
No. of Joints : 2
No. of Hinges : 0

Structure Description: Continuous five-span CIP/PS concrete box girders (3+5 cells) with RC three-column bents and RC closed end seat abutments, all supported upon driven steel H-piles except for Bent 2 on CIDH concrete piles.

Span Configuration : (S) 124.75 ft, 3 @ 174.00 ft, 124.75 ft (N)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20
Inventory Rating: RF=1.00 =>32.4 metric tons Calculation Method: ASSIGNED (LFD)
Operating Rating: RF=1.67 =>54.1 metric tons Calculation Method: ASSIGNED (LFD)
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 1.00 ft br, 5.00 ft sw; 44.00 ft min; (4.000 ft - 14.00 ft) curbed med.; 44.00 ft; 5.00 ft sw; 1.00 ft br (E).

Total Width: 34.8 m Net Width: 26.8 m No. of Lanes: 6 Speed: 55 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 inches

Rail Code: 1110

DESCRIPTION UNDER STRUCTURE

Channel Description: Wide natural earth trapezoidal channel with heavy vegetation, brush, and trees within the creek (at span 3).

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

A complete routine inspection was performed by Y. Chen and J. Zhu. The bridge deck was inspected in accordance with SM&I procedures by walking along the bridge sidewalks of Antonio Parkway. Below the bridge, the CIP/PS concrete box girder and the deck overhang soffits, the concrete columns and abutment walls were inspected by walking along each span. The channel cross section was measured during the time of inspection. There was water up to 8-inch deep flowing within Span 2 at southern side.

INSPECTION COMMENTARY

The 25 month Routine inspection interval is for this year only due to reorganization.

SAFE LOAD CAPACITY

The load rating for this structure is being reviewed by SM&I Ratings Branch. An updated Load Rating Summary Sheet will be archived when this review is complete. The current rating was assigned on 03/09/2013 by ABME in accordance with SM&I procedures.

ELEMENT INSPECTION RATINGS AND COMMENTARY

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	8230	sq.m	6705	1225	300	0
	1120		**Efflorescence/Rust Staining**	2	25		0	25	0	0
	1130		**Cracking (RC and Other)**	2	1500		0	1200	300	0

(16-1120)
There are white efflorescence deposits on deck overhangs near Bents 2 and 4, surrounging thin transverse cracks.

(16-1130)
There are map pattern, longitudinal and transverse cracks on concrete deck surface, 0.03 to 0.06 inches wide with spacing 12 inches to 4 feet and varying lengths 2 to 25 feet long.

104			**Box Girder-PS Conc.**	2	472	m	467	5	0	0
	1120		**Efflorescence/Rust Staining**	2	5		0	5	0	0

(104-1120)
There are a few white efflorescence deposits surrounding thin longitudinal cracks along the spans, up to 2 feet wide x 8 feet long.

205			**Column-RC**	2	12	each	12	0	0	0

(205)
There were no significant defects noted.

215			**Abutment-RC**	2	81	m	76	5	0	0
	1130		**Cracking (RC and Other)**	2	5		0	5	0	0

(215)
There were no significant defects noted.
Monolithic wingwalls are included in the total quantity.

(215-1130)
There are vertical cracks on the abutmental walls, 10 at Abutment 6 and 6 at Abutment 1, up to 0.05 inches wide.

220			**Pile Cap/Footing-RC**	2	56	m	56	0	0	0

(220)
The footing caps are exposed at both abutments, 115 feet at north abutment (Abutment 6) and 67 feet at south abutment (Abutment 1). There were no significant defects noted.

225			**Pile-Steel**	2	1	ea.	1	0	0	0

(225)
The pile element is included to indicate the presence of piles on this structure. The piles were not exposed for visual inspection. No indication of pile distress was noted in any substructure element.

252			**Pile-CIDH**	2	1	ea.	1	0	0	0

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
(252)										
The pile element is included to indicate the presence of piles on this structure. The piles were not exposed for visual inspection. No indication of pile distress was noted in any substructure element.										
303			**Joint-Assembly w/ Seal**	2	40	m	40	0	0	0
(303)										
There were no significant defects noted.										
312			**Bearing-Enclosed**	2	2	each	2	0	0	0
(312)										
The enclosed bearings are located at the southern and northern abutments. There were no significant defects noted.										
321			**Approach Slab-RC**	2	520	sq.m	270	230	20	0
	1130		**Cracking (RC and Other)**	2	250		0	230	20	0
(321-1130)										
There are map pattern and several longitudinal cracks on the approach and departure slabs, especially on those located at northern side near Abutment 6, 0.03 to 0.08 inches wide with spacing 12 inches to 4 feet.										
331			**Railing-RC**	2	473	m	463	10	0	0
	1130		**Cracking (RC and Other)**	2	10		0	10	0	0
(331-1130)										
There are 4 to 6 vertical cracks on the concrete barriers 0.03 to 0.05 inches wide.										

WORK RECOMMENDATIONS

RecDate: 05/24/2017
Action : Deck-Methacrylate
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Treat the entire bridge concrete deck and all approach and departure slabs with methacrylate resin to seal all cracks.

CHANNEL X-SECTION

Side : Upstream
Measured From :Ground to box girder soffit

X-Section Date: 06/26/2019

Location	Horiz(m)	Vert(m)	Comments
Abutment 1	0.00	1.59	Face of abutment
	1.22	1.56	Top of earth abutment alope
	7.54	4.86	Toe of earth abutment alope
	18.49	5.10	Edge of earth road
	21.31	5.36	Top of 2nd earth slope
	32.12	10.15	Toe of 2nd earth slope
Bent 2	37.49	12.55	
	44.04	11.87	Southern edge of water
	47.09	12.17	Thalweg, up to 8 inches deep water
	60.35	11.50	Northern edge of water
	66.41	11.18	

CHANNEL X-SECTION

Side : Upstream X-Section Date: 06/26/2019

Measured From : Ground to box girder soffit

Location	Horiz(m)	Vert(m)	Comments
Bent 3	90.53	11.84	
	117.04	12.61	
Bent 4	143.56	13.39	
	168.09	13.64	
	178.50	13.98	Toe of 2nd earth slope
	192.88	9.80	Top of 2nd earth slope
Bent 5	196.60	9.92	
	206.16	10.34	Center of paved road
	212.27	10.82	Toe of earth slope
	233.17	1.60	Edge top of concrete footing, slope top
Abutment 6	234.09	1.55	Face of abutment
			Measured with a laser instrument

Team Leader : Young Chen

Report Author : Young Chen

Inspected By : Y.Chen/J.Zhu

Young Chen (Registered Civil Engineer) 9/16/2019 (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0628**
(5) INVENTORY ROUTE(ON/UNDER)- ON 14000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- SAN JUAN CREEK
(7) FACILITY CARRIED- ANTONIO PARKWAY
(9) LOCATION- 0.2 MI. N/O ORTEGA HWY
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000000000
(16) LATITUDE 33 DEG 31 MIN 20.86 SEC
(17) LONGITUDE 117 DEG 37 MIN 11.36 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE CONT
TYPE- BOX BEAM OR GIRDER - MULTI CODE 205
(44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 5
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- NONE CODE 0
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

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

(27) YEAR BUILT 1997
(106) YEAR RECONSTRUCTED 2013
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 06 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 12135
(30) YEAR OF ADT 2011 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 10 KM

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

(48) LENGTH OF MAXIMUM SPAN 53.0 M
(49) STRUCTURE LENGTH 236.5 M
(50) CURB OR SIDEWALK: LEFT 1.5 M RIGHT 1.5 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 26.8 M
(52) DECK WIDTH OUT TO OUT 34.8 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 26.8 M
(33) BRIDGE MEDIAN- CLOSED NON-MOUNTABLE 3
(34) SKEW 22 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 13.4 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- NOT APPLICABLE CODE N
(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

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SUFFICIENCY RATING = 94.3

PAINT CONDITION INDEX = N/A

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- ROUTE ON NHS 1
(26) FUNCTIONAL CLASS- OTHER PRIN ART URBAN 14
(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- COUNTY HIGHWAY AGENCY 02
(22) OWNER- COUNTY HIGHWAY AGENCY 02
(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- MS-18 OR HS-20 5
(63) OPERATING RATING METHOD- ASSIGNED (LFD) A
(64) OPERATING RATING- 54.1
(65) INVENTORY RATING METHOD- ASSIGNED (LFD) A
(66) INVENTORY RATING- 32.4
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

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

(67) STRUCTURAL EVALUATION 7
(68) DECK GEOMETRY 7
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 8
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 1110
(113) SCOUR CRITICAL BRIDGES 5

********** 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 21540
(115) YEAR OF FUTURE ADT 2036

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

(90) INSPECTION DATE 06/19 (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)

55C0628 SAN JUAN CREEK 0.2 MI. N/O ORTEGA HWY 06/26/2019 [AAAK]
100 - PHOTO> Routine-Roadway View

Photo No. 1
ROADWAY VIEW LOOKING NORTH

55C0628 SAN JUAN CREEK 0.2 MI. N/O ORTEGA HWY 06/26/2019 [AAAK]
100 - PHOTO> Routine-Roadway View

Photo No. 1
ROADWAY VIEW LOOKING SOUTH

Photo No. 1
SIDE VIEW LOOKING NORTHWEST

55C0628 SAN JUAN CREEK 0.2 MI. N/O ORTEGA HWY 06/26/2019 [AAAK]
101 - PHOTO> Routine-Elevation View

Photo No. 1
SIDE VIEW LOOKING SOUTHEAST

Photo No. 1
TYPICAL CONCRETE DECK SURFACE CONDITION, NOTE THE THIN CRACKS

Photo No. 1
JOINT CONDITION AT SOUTHERN ABUTMENT, NORTH BOUND SIDE

Photo No. 1
JOINT CONDITION AT NORTHERN ABUTMENT, NORTH BOUND SIDE

Photo No. 1
JOINT CONDITION AT NORTHERN ABUTMENT, SOUTH BOUND SIDE

Photo No. 1
JOINT CONDITION AT SOUTHERN ABUTMENT, SOUTH BOUND SIDE

Photo No. 1
MINOR CRACKS ON NORTH BOUND APPROACH SLABS

Photo No. 1
THIN CRACKS ON SOUTH BOUND APPROACH SLABS

Photo No. 1
UNDER VIEW LOOKING NORTH, TAKEN WITHIN SPAN 1

Photo No. 1
UNDER VIEW LOOKING NORTH, TAKEN WITHIN SPAN 1

Photo No. 1
UNDER VIEW ALONG SOUTHERN ABUTMENT (ABUTMENT 1), LOOKING WEST

Photo No. 1
UNDER VIEW TOWARD NORTHERN ABUTMENT (ABUTMENT 6), LOOKING NORTH

Photo No. 1
UNDER VIEW LOOKING SOUTH, TAKEN WITHIN SPAN 5