

DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE & INVESTIGATIONS
100 South Main Street, 3rd Floor
LOS ANGELES, CA 90012
PHONE (213) 897-2004
FAX (213) 897-2033



*Making Conservation
a California Way of Life.*

July 24, 2019

Mr. Marwan Youssef
Director Of Public Works/City Engineer
City of Westminster
8200 Westminster Blvd
Westminster, CA 92683

Dear Mr. Youssef:

In accordance with Title 23 of the Code of Federal Regulations (Federal Highway Act) and the National Bridge Inspection Standards (NBIS), Caltrans Structure Maintenance and Investigations performed an inspection of 6 bridges under your jurisdiction. The type of inspection is indicated on the bridge report transmittal sheet. The bridges have been rated to indicate their deficiencies, structural adequacy, safe load carrying capacity and overall general condition.

Enclosed are copies of the Bridge Inspection Reports for the structures noted on the attached transmittal sheet. These reports contain descriptions of physical changes to the structures since the last inspection, recommendations for work to be done, and additional information not recorded in the previous Bridge Reports.

Your attention is directed to the requirements of Title 23, Part 650 of the Code of Federal Regulations, where newly completed structures or any modification of existing structures shall be entered in the inventory within 90 days. Please notify this office of any newly constructed bridge or culvert within your jurisdiction, more than 20 feet measured along the center of the roadway and carrying public vehicular traffic or over a public roadway, in order that it may be entered in the inventory of bridge structures in compliance with Federal requirements.

Should you have any questions regarding the enclosed Bridge Inspection Reports, please contact Bing Wu @ (213) 897-0874.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ching Chao".

CHING CHAO
Office Chief
Structure Maintenance & Investigations - (Investigations-South)

Enclosures

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Bridge Report Transmittal Sheet**Batch 51287****City of Westminster**

| Bridge # | Bridge Name | Location | Inspection | | Outstanding | |
|----------|---|------------------------|------------|---------|-------------|------|
| | | | Date | Type | Work | Cost |
| 55C0093 | EAST GARDEN GROVE- WINTRSBURG CHANNEL | AT MCFADDEN AVENUE | 04/06/2019 | Routine | N | \$ |
| 55C0135 | WESTMINSTER CHANNEL | 0.1 MI S ROUTE 1-405 | 04/06/2019 | Routine | Y | \$ |
| 55C0424 | EAST GARDEN GROVE- WINTRSBURG CHANNEL | 0.25 MI N EDINGER AVE | 04/06/2019 | Routine | Y | \$ |
| 55C0426 | EAST GARDEN GROVE- WINTRSBURG CHANNEL | 0.10 MI N MCFADDEN AVE | 04/06/2019 | Routine | Y | \$ |
| 55C0427 | EAST GARDEN GROVE- WINTERSBURG CHANNEL | AT EDINGER AVE | 04/06/2019 | Routine | N | \$ |
| 55C0457 | WESTMINSTER CHANNEL | 100' N BOLSA AVE | 04/06/2019 | Routine | Y | \$ |

6 Bridge(s) in this Transmittal

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WEB SITES:

The National Bridge Inspection Standards (NBIS) Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, Element Level Inspection, Structure Maintenance and Investigations Manuals, Local Assistance Program Guidelines and other related information are posted on Division of Maintenance, Structure Maintenance and Investigations; Division of Local Assistance, Local Highway Bridge Program (HBP) and FHWA websites.

The websites can be accessed at:

1. "Caltrans Structure Maintenance and Investigations" <http://www.dot.ca.gov/hq/structur/strmaint/>
2. "Caltrans Division of Local Assistance" <http://www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm>
3. "FHWA" <http://www.fhwa.dot.gov/BRIDGE/mtguide.pdf>

Inspection Type Definitions**Routine Inspection:**

Routine Inspections consist of both the initial Inventory Inspection (the first inspection of the bridge that places it in the bridge inventory or when there has been a change in the configuration of the structure) and subsequent regularly scheduled inspections. The initial inspection provides all the Structural Inventory & Appraisal (SI&A) data required by federal and state regulations, determines the baseline structural conditions, lists any existing problems, and establishes the load capacity of the structure. Subsequent inspections consist of observations, measurements needed to determine the physical and functional condition of the bridge, to identify any changes from the previously recorded conditions, and verification of its load capacity. These inspections are generally conducted from the deck, ground and/or water level, and from permanent work platforms and walkways, if present. Inspection of underwater portions of the substructure is limited to observations during low-flow periods and/or probing for signs of undermining. Special equipment should be utilized in circumstances where its use provides the only practical access to areas of the structure.

Fracture Critical, Special Feature & Underwater Inspections:

Fracture Critical, Special Feature, and Underwater Inspections are up close, hands-on inspections of one or more members above or below the water level to identify any deficiencies not readily detectable using Routine Inspection procedures. These inspections generally require special equipment such as under-bridge inspection equipment, manlifts, boats, traffic control, and railroad flagging. Personnel with special skills such as divers or structural steel inspectors trained in non-destructive testing techniques may be required.

Other Inspections:

Other Inspections are conducted on damaged structures, structures that have developed specific problems, or structures suspected of developing problems. The scope of these investigations should be sufficient to determine the need for emergency load restrictions or closure of the structure, monitor a changing condition, and to assess the level of effort necessary to effect a repair.



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0424
Facility Carried: BUSHARD STREET
Location : 0.25 MI N EDINGER AVE
City : WESTMINSTER
Inspection Date : 04/06/2019

Bridge Inspection Report

Inspection Type

| Routine | FC | Underwater | Special | Other |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

STRUCTURE NAME: EAST GARDEN GROVE-WINTERSBURG CHANNEL

CONSTRUCTION INFORMATION

| | |
|--------------------|--------------------|
| Year Built : 1961 | Skew (degrees): 29 |
| Year Modified: N/A | No. of Joints : 0 |
| Length (m) : 10.4 | No. of Hinges : 0 |

Structure Description: Double (14.00 feet W x 11.00 feet H x 93.00 feet L) RC box culvert (grade top) beneath 1.00 foot of earth fill.

Span Configuration : (S) 2 @ 14.00 feet (N).

SAFE LOAD CAPACITY AND RATINGS

| | |
|--|---|
| Design Live Load: UNKNOWN | |
| Inventory Rating: RF=0.75 =>24.3 metric tons | Calculation Method: FIELD EVAL/ENG JUDGMENT |
| Operating Rating: RF=1.25 =>40.5 metric tons | Calculation Method: FIELD EVAL/ENG JUDGMENT |
| Permit Rating : PPPPP | |
| Posting Load : Type 3: Legal | Type 3S2: Legal Type 3-3: Legal |

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 0.80 feet hw, 8.00 feet sw, 63.00 feet, 8.30 feet sw, 0.80 feet cu (E)
Total Width: 24.5 m Net Width: 19.2 m No. of Lanes: 4 Speed: 40 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 3.0 inches
Rail Code: NNNN

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal with rock slopes.

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 walking on and around the channel to inspect all visible elements of the structure. Culvert deck was inspected by walking on sidewalks. Soffit and all substructure were inspected by walking underneath the culvert boxes with rain boots due to water at 2.0 inches deep inside both of barrels at the time of inspection.

There is no need for a special equipment to inspect this structure except rain boots if it is in raining season.

REVISIONS

INSPECTION COMMENTARY

NBI item 36 (Traffic Safety Features) was revised from 0000 to NNNN.

DECK AND ROADWAY

Asphalt overlay is in good condition.

Both sides of chain link fence are rusted mainly on the top of concrete headwalls.

AC overlay exhibits two longitudinal cracks 0.25 inches wide at northbound lanes and transverse cracks above the end walls 0.5 inches wide.

CULVERT

There is a scaling area measurement at (2.0 feet L X 2.0 feet W) on the soffit approximately 20.0 feet from the west end.

Barrel #2, there is a spall at (12.0 inches L X 5.0 inches W X 2.0 inches D) on the soffit approximately 15.0 feet from the west end next to wall #2 (see the attached photo no. 8).

The following is the locations of culvert soffit with cracks below (see the attached photos no. 3 to 5):

Barrel #2 has three longitudinal full length cracks with brown efflorescence; and one crack with efflorescence about 17.0 feet from the west.

Barrel #1 has four longitudinal cracks at 6.0 feet long with brown efflorescence about 17.0 feet from the east; and also, four longitudinal cracks at 8.0 feet long with brown efflorescence about 14.0 feet from the west.

Below is the following locations of culvert walls with cracks:

Culvert wall #1 has ten vertical cracks, up to 0.05 inches wide.

Culvert wall #2 has eleven vertical cracks, up to 0.05 inches wide.

Culvert wall #3 has (see the attached photos no. 6 & 7) eight vertical cracks, up to 0.05 inches wide. In addition, there are two cracks. One horizontal crack is at 0.03 inches wide, 40.0 feet long about 6.0 feet above the invert; and the other is a diagonal to vertical crack at the west end at 0.08 inches wide.

SAFE LOAD CAPACITY

The current rating has been assigned in accordance with SMI procedures for culverts. An updated Load Rating Summary Sheet is archived on 10/04/2018. Based on the field conditions and load history, the culvert is adequate to carry legal loads.

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 |
| 241 | | Culvert-RC | 2 | 56 | m | 40 | 11 | 5 | 0 |
| | 1080 | Delamination/Spall/Patched Area | 2 | 1 | | 0 | 0 | 1 | 0 |
| | 1120 | Efflorescence/Rust Staining | 2 | 5 | | 0 | 2 | 3 | 0 |
| | 1130 | Cracking (RC and Other) | 2 | 10 | | 0 | 9 | 1 | 0 |

(241)

ELEMENT INSPECTION RATINGS AND COMMENTARY

| Elem No. | Defect /Prot | Element Description | Env Qty | Total Qty | Units | Qty in each Condition State | | | |
|---|--------------|---------------------|---------|-----------|-------|-----------------------------|-------|-------|-------|
| | | | | | | St. 1 | St. 2 | St. 3 | St. 4 |
| It has soffit and cracks with efflorescence. | | | | | | | | | |
| (241-1080) | | | | | | | | | |
| Barrel #2, there is a spall at (12.0 inches L X 5.0 inches W X 2.0 inches D) on the soffit approximately 15.0 feet from the west end next to wall #2 (see the attached photo no. 8). | | | | | | | | | |
| (241-1120) | | | | | | | | | |
| The following is the locations of culvert soffit with cracks below (see the attached photos no. 3 to 5): | | | | | | | | | |
| Barrel #2 has three longitudinal full length cracks with brown efflorescence; and one crack with efflorescence about 17.0 feet from the west. | | | | | | | | | |
| Barrel #1 has four longitudinal cracks at 6.0 feet long with brown efflorescence about 17.0 feet from the east; and also, four longitudinal cracks at 8.0 feet long with brown efflorescence about 14.0 feet from the west. | | | | | | | | | |
| (241-1130) | | | | | | | | | |
| Below is the following locations of culvert walls with cracks: | | | | | | | | | |
| Culvert wall #1 has ten vertical cracks, up to 0.05 inches wide. | | | | | | | | | |
| Culvert wall #2 has eleven vertical cracks, up to 0.05 inches wide. | | | | | | | | | |
| Culvert wall #3 has (see the attached photos no. 6 & 7) eight vertical cracks, up to 0.05 inches wide. In addition, there are two cracks. One horizontal crack is at 0.03 inches wide, 40.0 feet long about 6.0 feet above the invert; and the other is a diagonal to vertical crack at the west end at 0.08 inches wide. | | | | | | | | | |

WORK RECOMMENDATIONS

RecDate: 04/06/2019

EstCost:

Remove all unsound concrete soffit

Action : Deck-Patch spalls

StrTarget: 2 YEARS

spalls, clean all loose materials around

Work By: LOCAL AGENCY

DistTarget:

these spalls before patching with cement

Status : PROPOSED

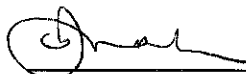
EA:

mortar concrete.

Team Leader : Edwin Mah

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah



Edwin Mah (Registered Civil Engineer)

7/17/2019

(Date)



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0424
 (5) INVENTORY ROUTE (ON/UNDER) - ON 150000000
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 84550
 (6) FEATURE INTERSECTED- E GRDN GRVE WNTERBG CHAN
 (7) FACILITY CARRIED- BUSHARD STREET
 (9) LOCATION- 0.25 MI N EDINGER AVE
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 33 DEG 44 MIN 02.49 SEC
 (17) LONGITUDE 117 DEG 57 MIN 47.83 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
 TYPE- CULVERT CODE 119
 (44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
 TYPE- OTHER/NA CODE 000
 (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- BITUMINOUS CODE 6
 B) TYPE OF MEMBRANE- NONE CODE 0
 C) TYPE OF DECK PROTECTION- NONE CODE 0

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

(27) YEAR BUILT 1961
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
 UNDER- WATERWAY 5
 (28) LANES:ON STRUCTURE 04 UNDER STRUCTURE 00
 (29) AVERAGE DAILY TRAFFIC 17500
 (30) YEAR OF ADT 2019 (109) TRUCK ADT 1 %
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 4.3 M
 (49) STRUCTURE LENGTH 10.4 M
 (50) CURB OR SIDEWALK: LEFT 2.4 M RIGHT 2.5 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 19.2 M
 (52) DECK WIDTH OUT TO OUT 24.5 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 19.2 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 29 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 19.2 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

***** SUFFICIENCY RATING = 90.7 *****

PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
 (104) HIGHWAY SYSTEM- NOT ON NHS 0
 (26) FUNCTIONAL CLASS- MINOR ARTERIAL URBAN 16
 (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 N
 (59) SUPERSTRUCTURE N
 (60) SUBSTRUCTURE N
 (61) CHANNEL & CHANNEL PROTECTION 8
 (62) CULVERTS 6

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

(31) DESIGN LOAD- UNKNOWN 0
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
 (64) OPERATING RATING- 40.5
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUD 0
 (66) INVENTORY RATING- 24.3
 (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 6
 (68) DECK GEOMETRY 6
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 8
 (72) APPROACH ROADWAY ALIGNMENT 8
 (36) TRAFFIC SAFETY FEATURES NNNN
 (113) SCOUR CRITICAL BRIDGES 8

***** 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 11601
 (115) YEAR OF FUTURE ADT 2037

***** INSPECTIONS *****

(90) INSPECTION DATE 04/19 (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)

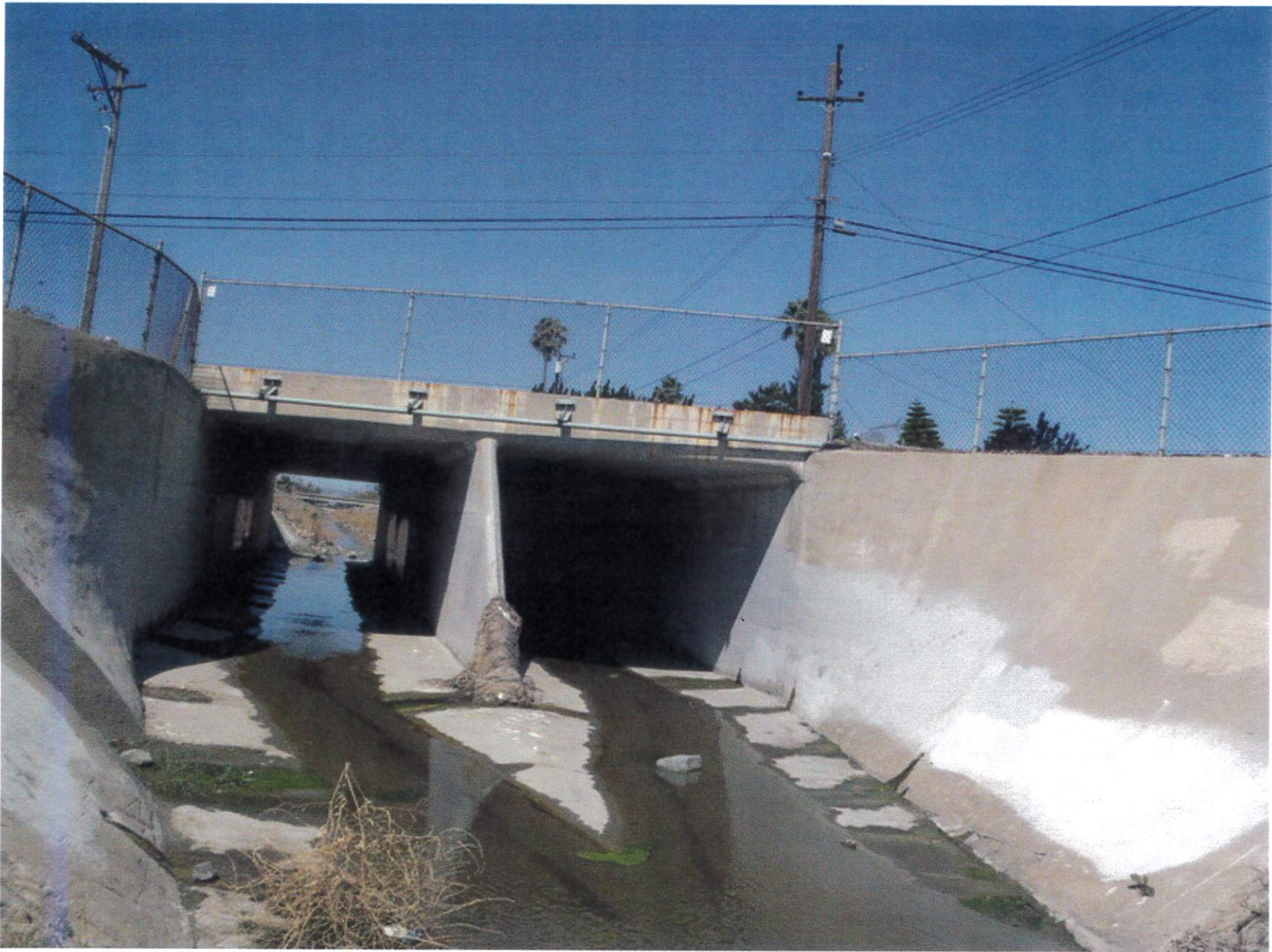


Photo No. 1
Side View looking West.



Photo No. 1
Deck View looking North.



Photo No. 1
Underside (barrel 2) View looking East.



Photo No. 1
Underside (barrel 1) View looking East.



Photo No. 8
Spall at the invert of barrel 2 at 15 feet from west end.



Photo No. 7

Vertical crack 0.08 inches wide at the west end.



Photo No. 6

Vertical crack 0.08 inches wide at the west end.



Photo No. 5
Cracks with brown efflorescence at the soffit of the culvert.



Photo No. 4
Cracks with brown efflorescence at the soffit of the culvert.



Photo No. 3
Cracks with brown efflorescence at the soffit of the culvert.