

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 : 55C0135
Facility Carried: GOLDEN WEST ST
Location : 0.1 MI S ROUTE 1-405
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: WESTMINSTER CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1965	Skew (degrees): 45
Year Modified: N/A	No. of Joints : 0
Length (m) : 11.3	No. of Hinges : 0

Structure Description: Double (12.00 feet W x 9.25 feet H x 230.00 feet L) RC box culvert (non-grade top) beneath 8.00 feet of earth fill.
East end is covered.

Span Configuration : (S) 2 @ 12.00 feet (N).

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN	
Inventory Rating: RF=1.00 =>32.4 metric tons	Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=1.67 =>54.1 metric tons	Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : P P P P P	
Posting Load : Type 3: <u>Legal</u>	Type 3S2: <u>Legal</u> Type 3-3: <u>Legal</u>

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 12.0 feet of dirt gore, 6.00 feet sw, 49.50 feet, 6.00 feet cu. med, 51.50 feet, 8.00 feet sw (E)

Total Width: 40.7 m	Net Width: 30.9 m	No. of Lanes: 7	Speed: 40 mph
Min. Vertical Clearance: Unimpaired			Overlay Thickness: 2.0 inches

Rail Code: NNNN

DESCRIPTION UNDER STRUCTURE

Channel Description: RC rectangular downstream, RC box culvert upstream.

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 3.0 inches deep inside both 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.

INSPECTION COMMENTARY

the water is about 2.0 to 4.0 inches deep running through barrel #2; and this structure is located at the corner of Golden West / Bolsa (northwest corner has a chain link fence). Pedestrian access underneath the culver is about 0.5 mile west of br. 55C0457 (Edward Street). There is a construction widening project on 405 Freeway at this location while we are inspecting this culvert.

REVISIONS

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

DECK AND ACCESS

Asphalt is in good condition.

CULVERT

Culvert wall #1 (southerly side) has a spall at (12.0 inches L X 4.0 inches W X 3.0 inches D) on top of the wall at the west end; and there is an unsound concrete area at (6.0 inches W X 24.0 inches H) at wall #1 about 60.0 feet from the west end.

Culvert wall #3 has spalls at the following locations below:

One spall at (15.0 inches L X 15.0 inches W X 1.0 inch D) at the west end.

One spall at (1.5 feet L X 1.0 foot W) with exposed rusted rebars about 60.0 feet from the west end.

One spall at (48.0 inches L X 4.0 inches W X 2.0 inches D) about 90.0 feet from the west end.

The soffit of barrel #1 has a spall (2.5 feet L X 12.0 feet W X 2.0 inches D) with exposed and corroded rebars about 60.0 feet from the west end (see the attached photos no. 1 and 2).

The soffit of barrel #2 has a spall at (1.5 feet L X 8.0 feet W X 2.0 inches D) with exposed and corroded rebars about 60.0 feet from the west end (see the attached photos no. 3).

The following is the locations of culvert walls with cracks below:

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

Culvert wall #2 has three vertical cracks at (0.05 to 0.07 inches wide) at the easterly and westerly ends.

Culvert wall #3 has three vertical cracks at (0.05 to 0.06 inches wide).

Graffiti is on both walls.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet was updated and archived on 06/16/2015 for this structure. The current rating has been assigned in accordance with SMI procedures for culverts. 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	Element Description	Env	Total Qty	Units	Qty in each Condition State	St. 1	St. 2	St. 3	St. 4
241		Culvert-RC	2	140	m	126	7	7	0	
	1080	Delamination/Spall/Patched Area	2	10		0	5	5	0	
	1130	Cracking (RC and Other)	2	4		0	2	2	0	

(241)

Culvert soffit has spalls and cracks.

(241-1080)

Culvert wall #1 (southerly side) has a spall at (12.0 inches L X 4.0 inches W X 3.0 inches D) on top of the wall at the west end; and there is an unsound concrete area at (6.0 inches W X 24.0 inches H) at wall #1 about 60.0 feet from the west end.

Culvert wall #3 has spalls as the following locations below:

One spall at (15.0 inches L X 15.0 inches W X 1.0 inch D) at the west end.

One spall at (1.5 feet L X 1.0 foot W) with exposed rusted rebars about 60.0 feet from the west end.

One spall at (48.0 inches L X 4.0 inches W X 2.0 inches D) about 90.0 feet from the west end.

The soffit of barrel #1 has a spall (2.5 feet L X 12.0 feet W X 2.0 inches D) with exposed and corroded rebars about 60.0 feet from the west end (see the attached photos no. 1 and 2).

The soffit of barrel #2 has a spall at (1.5 feet L X 8.0 feet W X 2.0 inches D) with exposed and corroded rebars about 60.0 feet from the west end (see the attached photos no. 3).

(241-1130)

The following is the locations of culvert walls with cracks below:

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

Culvert wall #2 has three vertical cracks at (0.05 to 0.07 inches wide) at the easterly and westerly ends.

Culvert wall #3 has three vertical cracks at (0.05 to 0.06 inches wide).

WORK RECOMMENDATIONS

RecDate: 04/25/2017

Action : Sub-Patch spalls

Work By: LOCAL AGENCY

Status : PROPOSED

EstCost:

StrTarget: 2 YEARS

DistTarget:

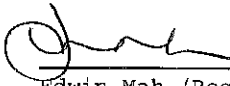
EA:

Patch all the spalls at the soffit of culvert and the walls.

Team Leader : Edwin Mah

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah

 7/17/2019
 Edwin Mah (Registered Civil Engineer) (Date)



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0135
 (5) INVENTORY ROUTE (ON/UNDER)- ON 150000000
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 84550
 (6) FEATURE INTERSECTED- WESTMINSTER CHANNEL
 (7) FACILITY CARRIED- GOLDEN WEST ST
 (9) LOCATION- 0.1 MI S ROUTE 1-405
 (11) MILEPOINT/KILOMETERPOINT 0
 (12) BASE HIGHWAY NETWORK- PART OF NET 1
 (13) LRS INVENTORY ROUTE & SUBROUTE 000000000000
 (16) LATITUDE 33 DEG 44 MIN 42.48 SEC
 (17) LONGITUDE 118 DEG 00 MIN 24.43 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- NOT APPLICABLE CODE N
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:
 A) TYPE OF WEARING SURFACE- NOT APPLICABLE CODE N
 B) TYPE OF MEMBRANE- NOT APPLICABLE CODE N
 C) TYPE OF DECK PROTECTION- NOT APPLICABLE CODE N

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

(27) YEAR BUILT 1965
 (106) YEAR RECONSTRUCTED 0000
 (42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
 UNDER- WATERWAY 5
 (28) LANES:ON STRUCTURE 07 UNDER STRUCTURE 00
 (29) AVERAGE DAILY TRAFFIC 39000
 (30) YEAR OF ADT 2019 (109) TRUCK ADT 1 %
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 5.2 M
 (49) STRUCTURE LENGTH 11.3 M
 (50) CURB OR SIDEWALK: LEFT 1.8 M RIGHT 2.4 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 30.9 M
 (52) DECK WIDTH OUT TO OUT 40.7 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 30.9 M
 (33) BRIDGE MEDIAN- CLOSED NON-MOUNTABLE 3
 (34) SKEW 45 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 15.7 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 = 96.3 *****

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- 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 9
 (62) CULVERTS 7

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

(31) DESIGN LOAD- UNKNOWN 0
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
 (64) OPERATING RATING- 54.1
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUL 0
 (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 9
 (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 50794
 (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)

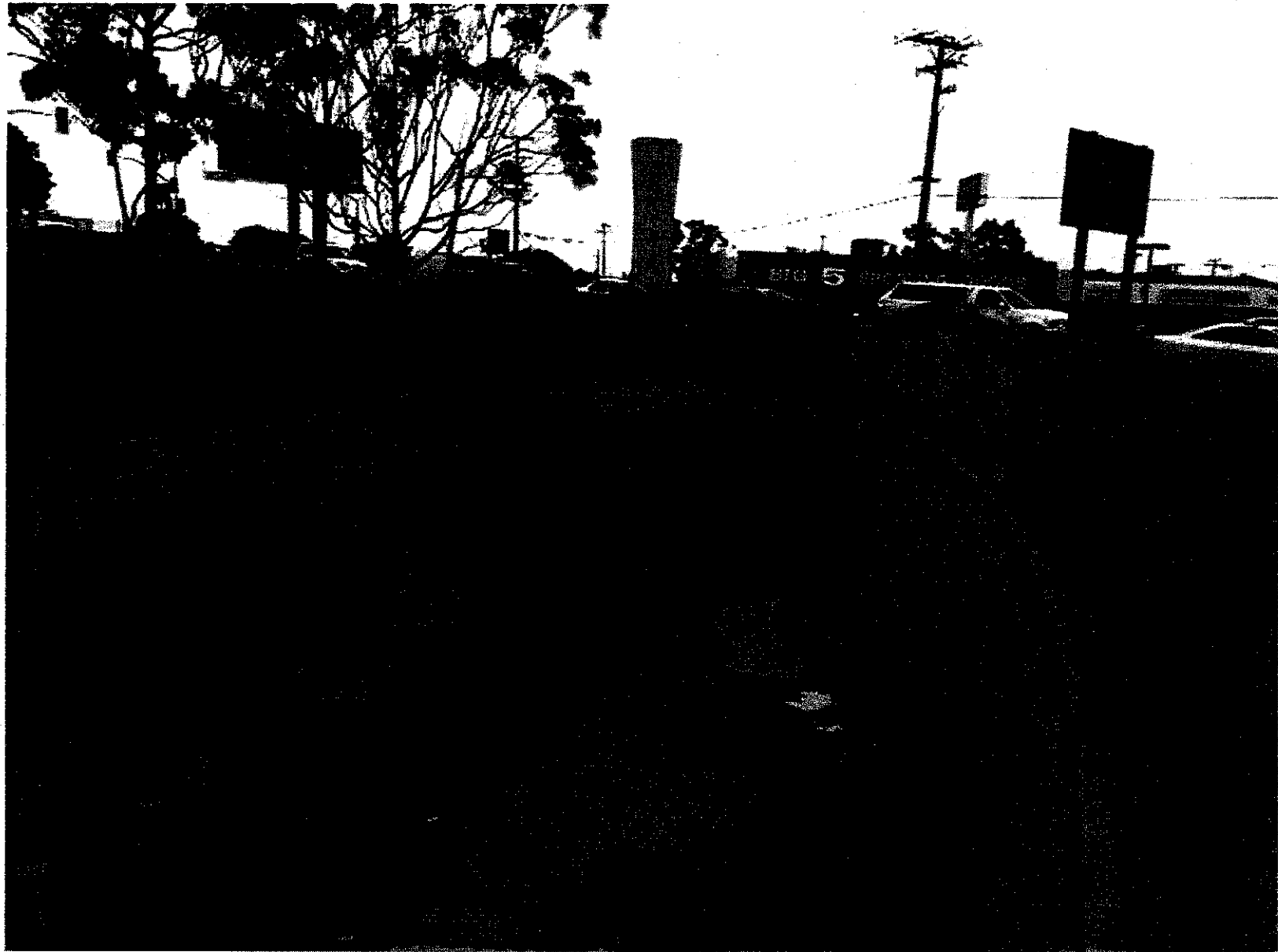


Photo No. 1
Side View looking East.



Photo No. 6
Elevation View looking West.



Photo No. 1

Deck view looking South



Photo No. 5
Underside View looking East. Barrel 2



Photo No. 4
Underside View looking East. Barrel 1

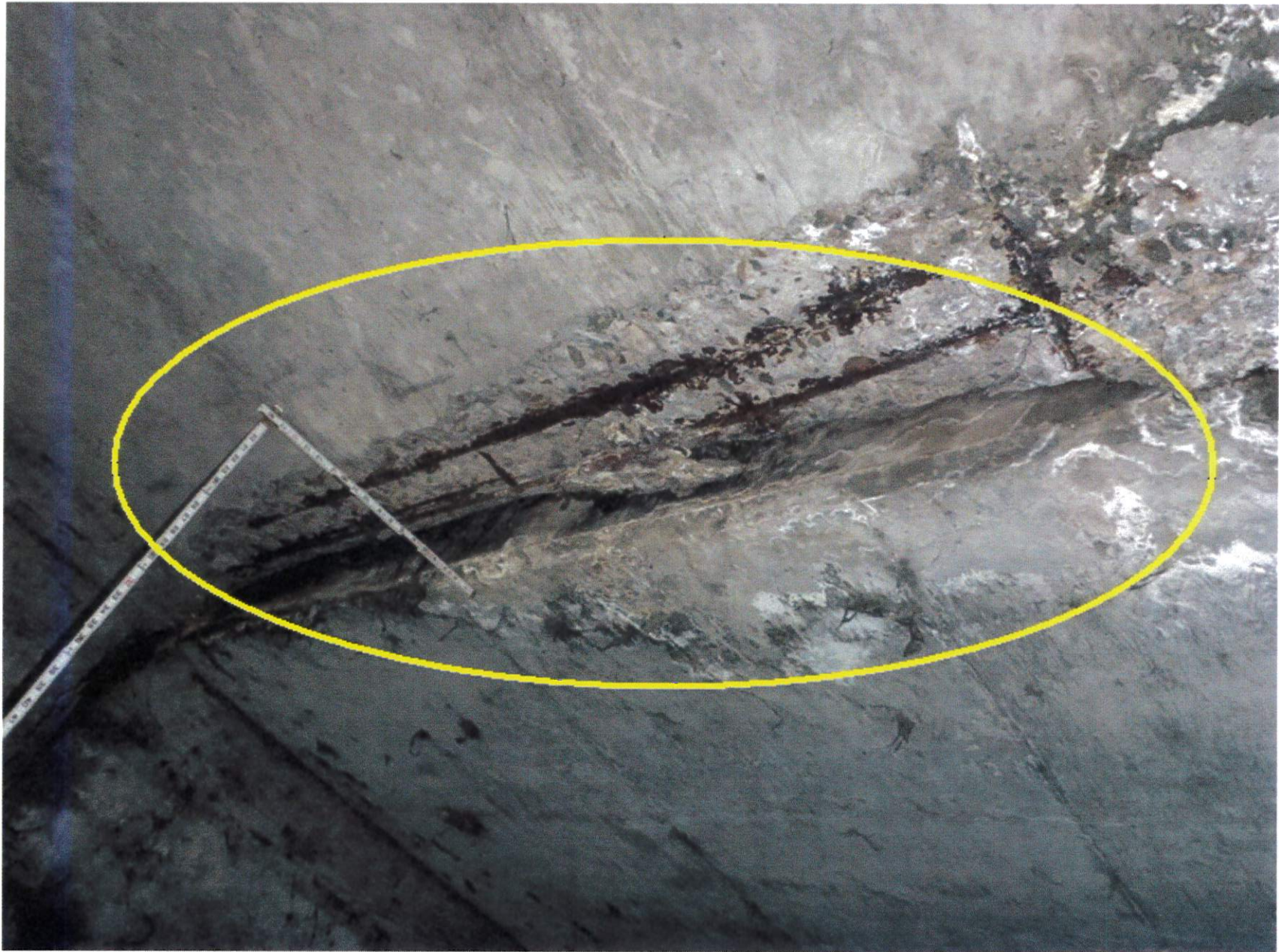


Photo No. 3
Spall 1.5 ft X 8 ft at soffit of barrel 1 at 60 feet from west end.

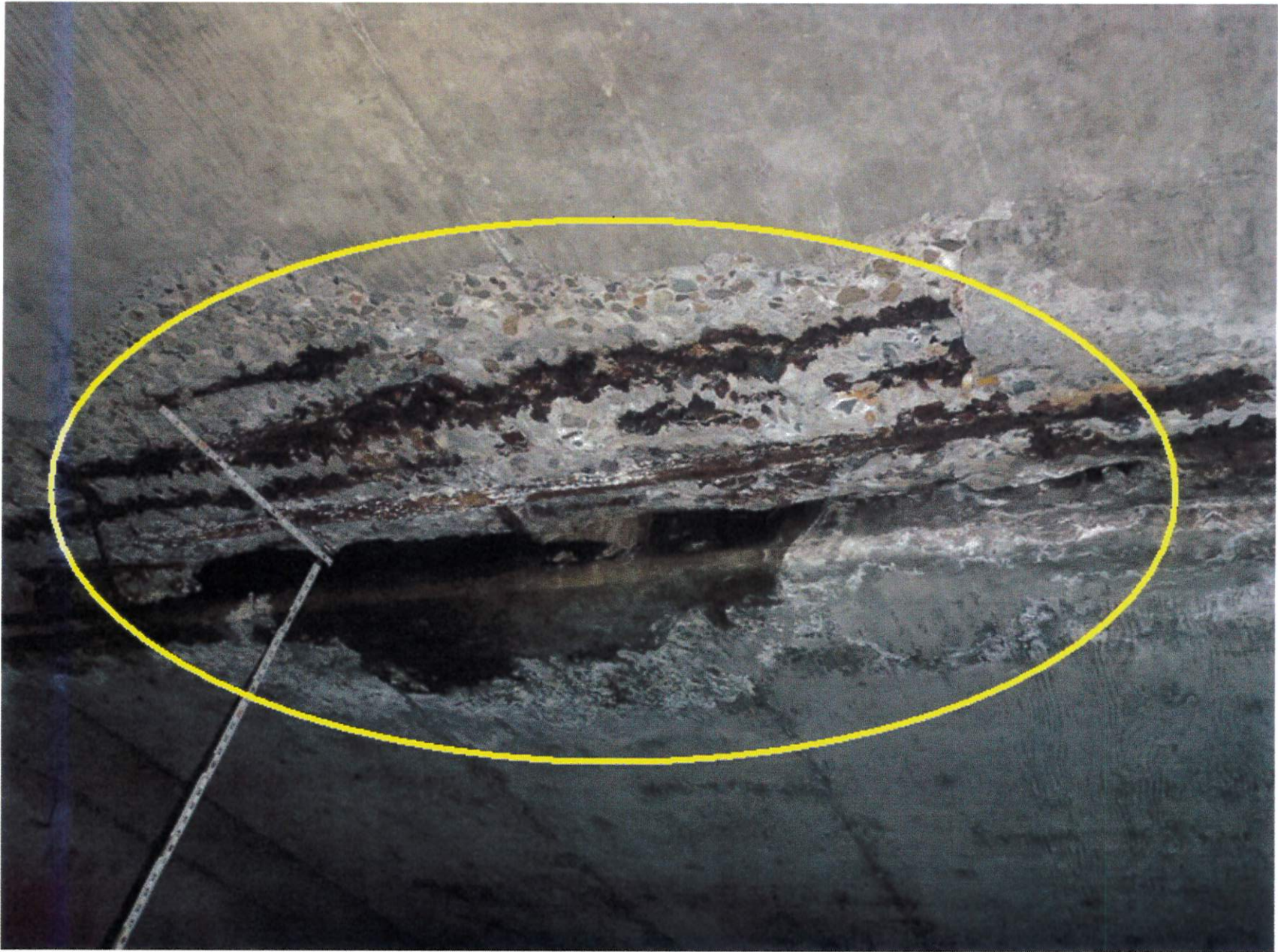


Photo No. 2
Spall 2.5 ft X 12 ft at soffit of barrel 1 at 60 feet from west end.

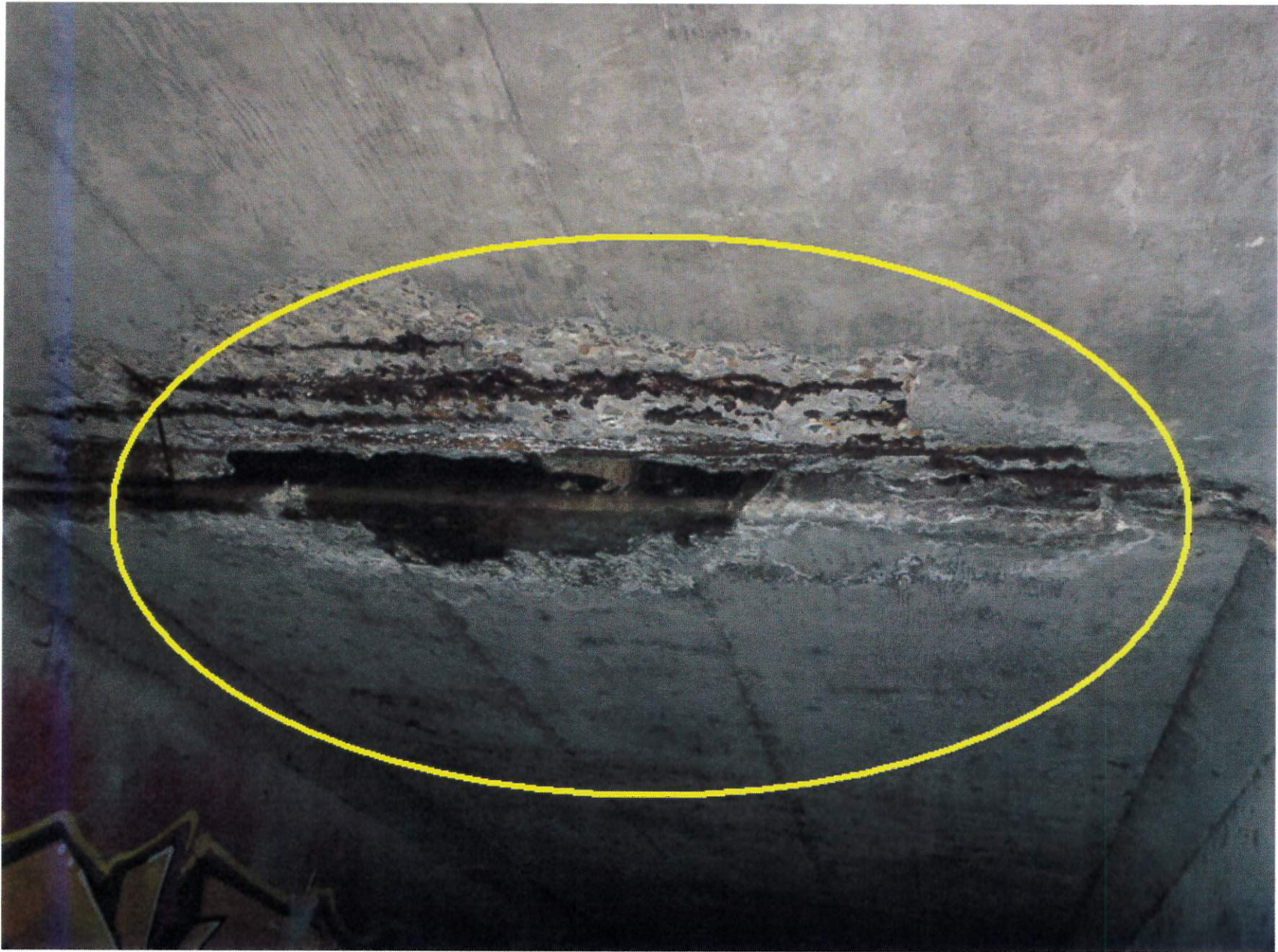


Photo No. 1
Spall 2.5 ft X 12 ft at soffit of barrel 1 at 60 feet from west end.