

251 MISSOURI BRIDGES PROJECT

Modernizing Missouri's Rural Global Supply Chain Infrastructure

Appendix E:

MoDOT Bridge Inspection Report





**Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet**

December 29, 2017
7:33:14am

COUNTY : COOPER	BRIDGE : L0962 2	REVIEW STATUS : REVIEW	NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT		RUN DATE : 11/28/2017	SUBMITTAL YEAR : 2017

GENERAL STRUCTURE INFORMATION	ROUTE DESIGNATION INFORMATION
1 State MISSOURI	5A Record Type ROUTE CARRIED 'ON' STRUCT
2 District CD	5B Route Signing Prefix IS
3 County COOPER	5C Designated Level of Service MAINLINE
8 Federal ID No. 6689	5D Route Number 00070
27 Year Built 1960	5E Directional Suffix NOT APPLICABLE
106 Year Reconstructed 1993	7 Facility Carried IS 70 E
42A Type of Service On HIGHWAY	12 Base Hwy. Network YES
21 Structure Maintenance STATE HIGHWAY AGENCY	13A LRS Inventory Route No. 0000000019
22 Structure Owner STATE HIGHWAY AGENCY	13B Subroute No. 00
33 Br. Median Code CLOSED MED NON MNTABL BAR	20 Toll Status ON FREE ROAD
37 Historical Significance NOT ELIGIBLE FOR NR OF HP	26 Functional Classification 01-RU PRINCIPL ARTRIAL-IS
101 Parallel Struc Desg NONE EXISTS	28A Lanes on Structure 04
103 Temporary Structure NOT TEMPORARY	100 STRAHNET Designation ON A DEFENSE HWY
112 NBIS Bridge Length YES	104 National Highway System ON NHS
	105 Federal Lands Highway NOT APPLICABLE
	110 Designated Nat. Network YES

STRUCTURE LOCATION INFORMATION	STRUCTURE TRAFFIC INFORMATION
4 Place SALINE	29 AADT 36931
Code 65306	30 AADT Year 2016
9 Location S 18 T 48 N R 14 W	102 Direction of Traffic 2-WAY TRAFFIC
11 Milepoint 114.97 miles	109 AADT Truck Percent 24%
16 Latitude 38 D 57 M 31 S	114 Future AADT 66475
17 Longitude 92 D 32 M 49 S	115 Future AADT Year 2036

UNDERRECORD INFORMATION	STRUCTURE GEOMETRIC INFORMATION
6 Features Intersected MISSOURI RIVER, KATY TRA	10 Inventory Rte. Vert. Clear 18 Ft. 12 In.
42B Type of Service Under WATERWAY	19 By pass Detour Length 3.75 miles
28B Lanes Under Structure 00	32 Approach Roadway Width 65 Ft. 11 In.
54A Vert. Clearance Ref. N/A	34 Skew 0.00 Degrees
54B Vert. Clearance 0 Ft. 0 In.	35 Struct. Flared NO
55A Rt. Lat Clear Ref. N/A	47 Total Horiz. Clear 25 Ft. 11 In.
55B Rt. Lat Clearance 0 Ft. 0 In.	48 Maximum Span Length 550 Ft. 10 In.
56 Left Lat Clearance 0 Ft. 0 In.	49 Structure Length 3,018 Ft. 1 In.
38 Navigation Control PERMIT REQ	50A Left Curb/Sidewalk Width 0 Ft. 8 In.
39 Nav Vertical Clear 54 Ft. 9 In.	50B Right Curb/Sidewalk Width 0 Ft. 8 In.
40 Nav Horizontal Clear 500 Ft. 0 In.	51 Curb to Curb Br. Width 60 Ft. 4 In.
111 Nav. Pier Protection IN PLACE AND FUNCTIONING	52 Deck Width (Out-Out) 62 Ft. 12 In.
116 Nav. Cl. Vert. Clear	53 Vert. Clearance Over Deck 18 Ft. 12 In.

Design_No = L0962 and Inventory_Appraisal_Submittal_Year = 2017



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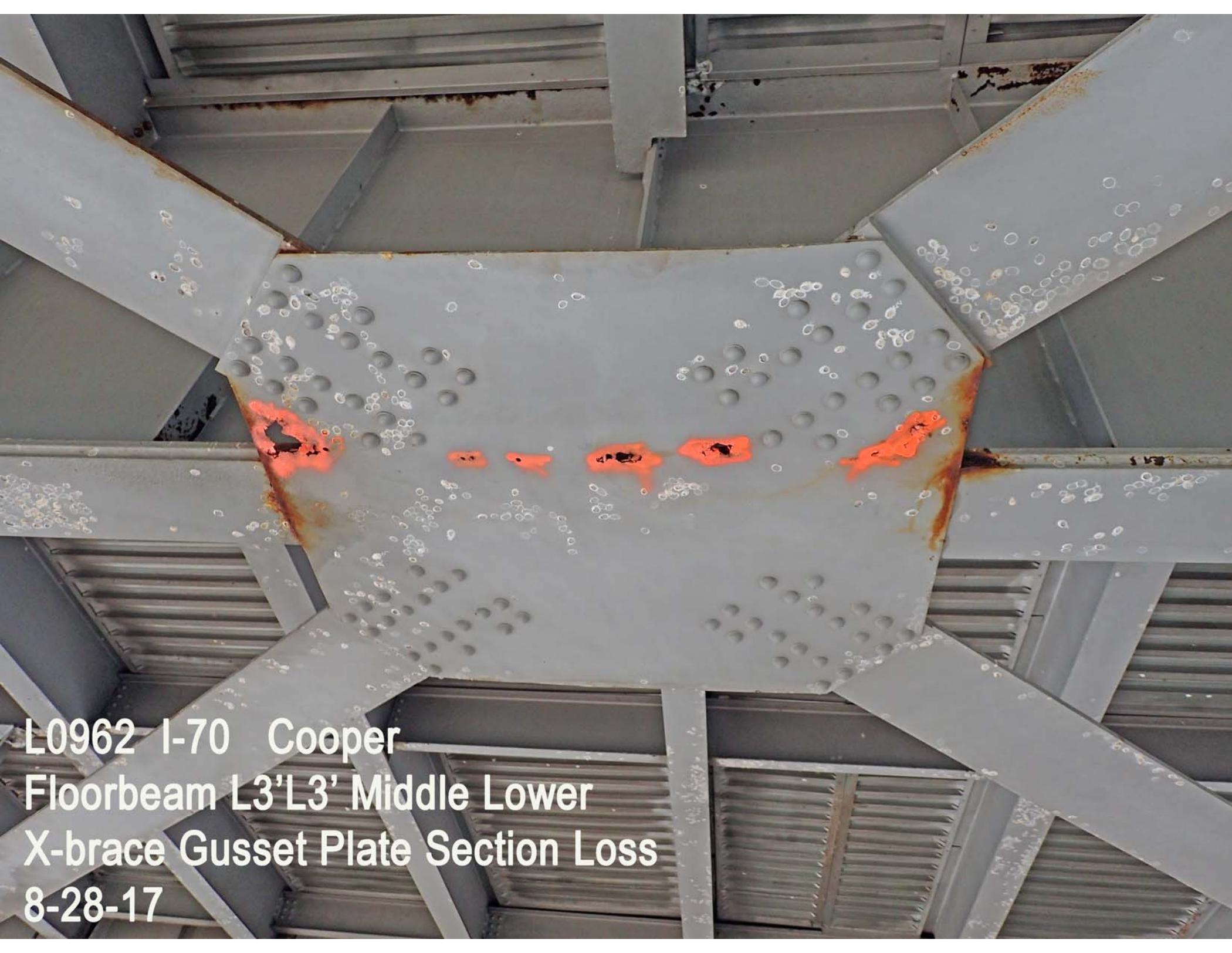
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LOAD RATING AND POSTING INFORMATION	MATERIAL/CONSTRUCTION INFORMATION																																																														
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L0962 Cooper Co.
08/28/2017
Looking West from Abutment 18



L0962 I-70 Cooper
Floorbeam L3'L3' Middle Lower
X-brace Gusset Plate Section Loss
8-28-17



**L0962 I-70 Cooper
Floorbeam L12'L12' North Web Stiffener
Between Stringers 5 & 6 Advanced Section Loss
8-29-17**



**L0962 Cooper Co
08/28/2017
Pier 4 Delamination,
Looking East**



**L0962 I-70 Cooper
Floorbeam L0L0 at Stringer 9 Web Stiffener
and Stringer Support Advanced Section Loss
8-30-17**

**L0962 I-70 Cooper
Floorbeam L0L0 at Stringer 9 Web Stiffener
and Stringer Support Advanced Section Loss
8-30-17**





**L0962 I-70 Cooper
East Truss Lower Chord L11L12 Bottom Plate
Advanced Section Loss at L12
8-31-17**



**L0962 I-70 Cooper
Floorbeam L16'L16' East End
Bottom Flange Heavy Section Loss
10-2-17**

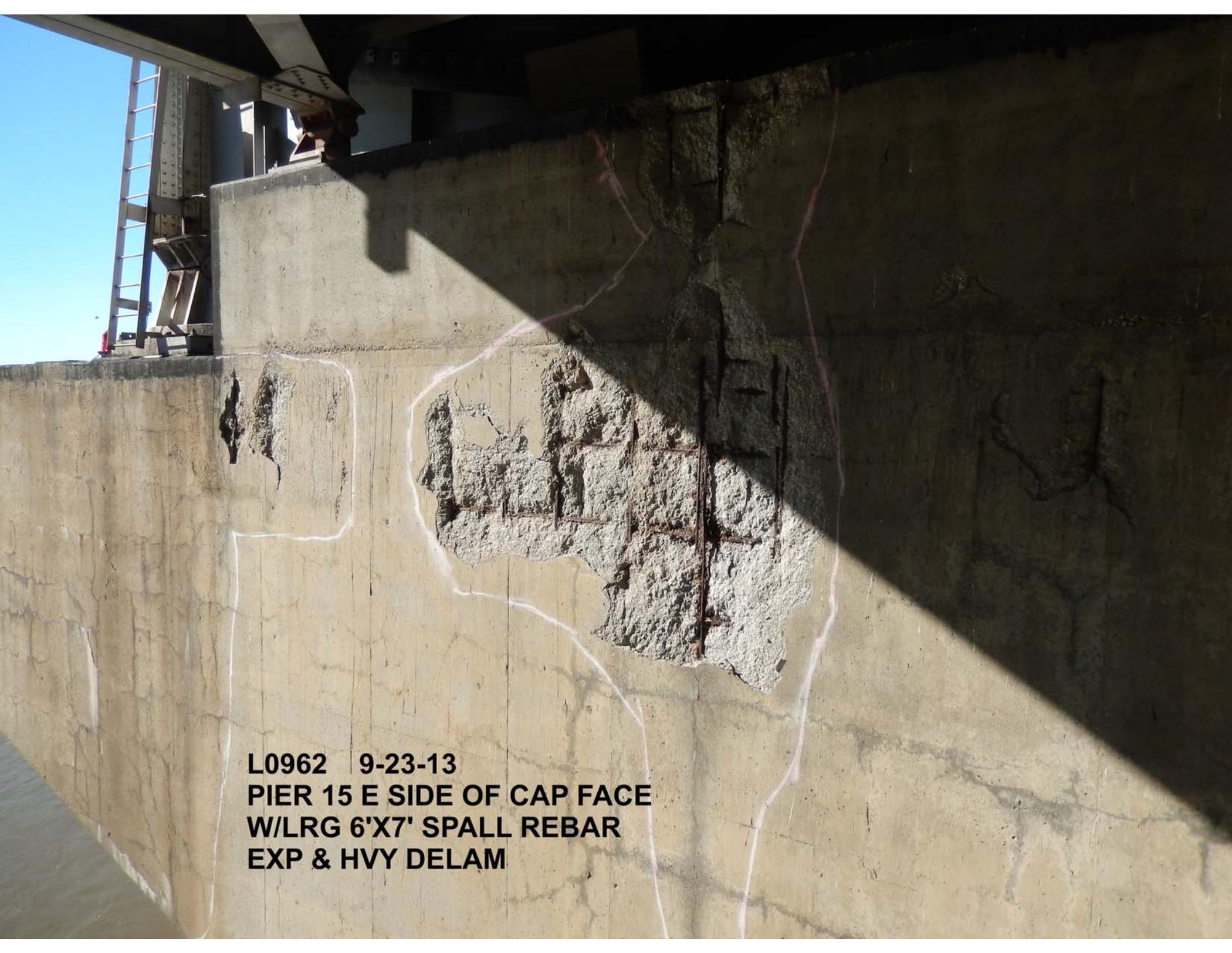




**L0962 I-70 Cooper
East Truss Lower Chord L11'L10' Bottom Plate
Advanced Section Loss at L10'
10-3-17**



L0962 9-23-13
PIER 15 ROCKERS
ON STEP CAP TIPPED
W ALMOST TO THE
MAX

A photograph of a concrete pier showing significant damage. A large, irregularly shaped section of concrete has been spalled away, exposing the internal rebar structure. The remaining concrete surface is marked with white chalk lines, likely for documentation or repair planning. The scene is outdoors, with a clear blue sky and a metal structure visible in the background.

**L0962 9-23-13
PIER 15 E SIDE OF CAP FACE
W/LRG 6'X7' SPALL REBAR
EXP & HVY DELAM**

L0962 9-23-13
SP 14 L-11' LEFT BTTM RIVET
HEAD SHEARED OFF THRU
INSIDE GUSS

Rivet
head
sheared
off



L0962 9-23-13
SP 14 L-12' FLBM BTTM FLNG
W/MIN PK RUST & SL





L0962 9-24-13
PIER 4 W SIDE TOP EDGE OF CAP
W/LRG 4'X1' SPALL REBAR EXP



**L0962 9-24-13
PIER 2 W SIDE CAP FACE
W/LRG SPALLS REBAR EXP
HVY MAP CRKS W/EFF
& LRG AREAS OF DELAM
THRUOUT**



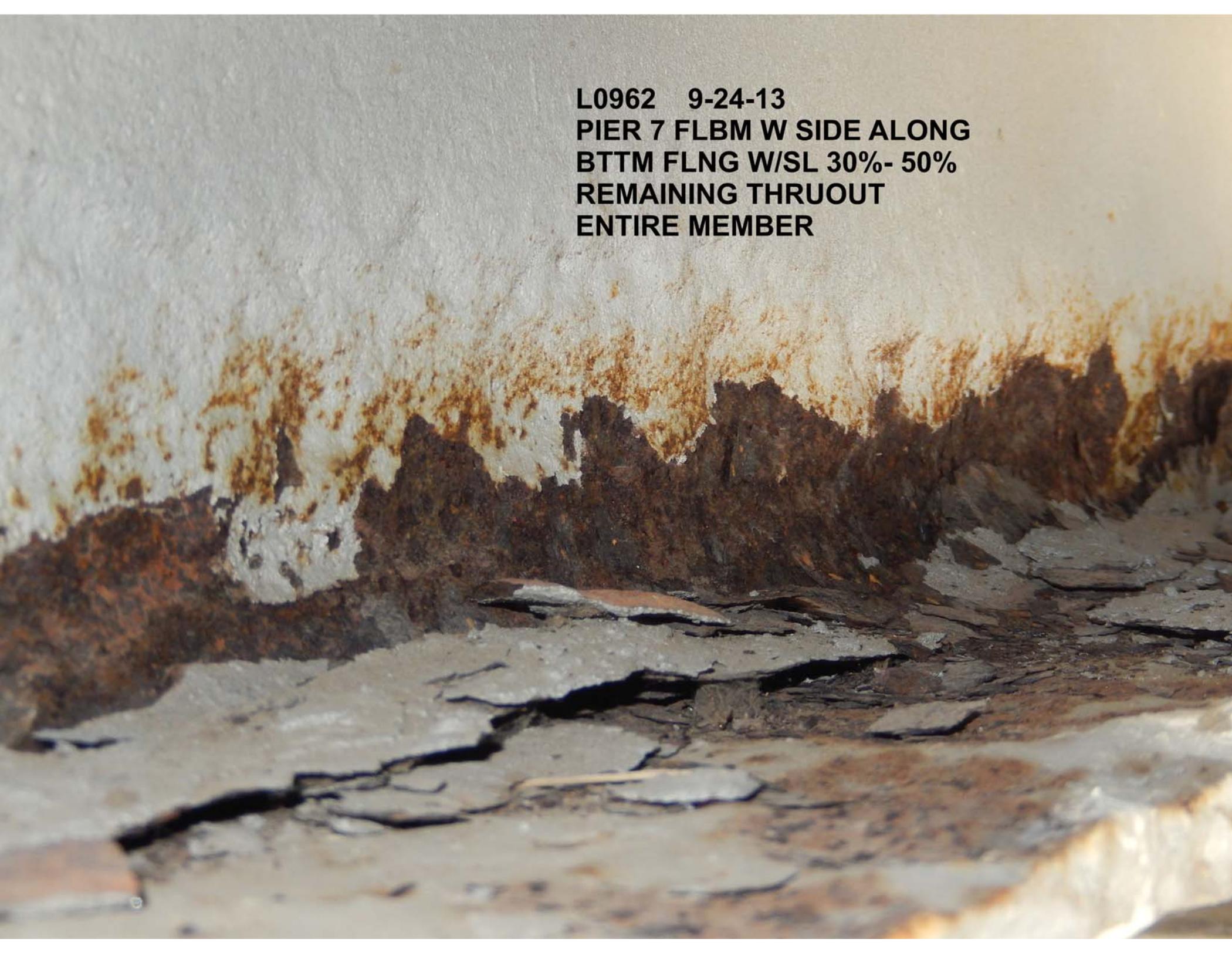
L0962 9-24-13
PIER 2 W SIDE CAP FACE
W/LRG SPALLS REBAR EXP
HVY MAP CRKS W/EFF &
LRG AREAS OF DELAM
THRUOUT

AUTOMATIC BOOM ROTATION STOPS 40

L0962 9-24-13
PIER 7 FLBM W SIDE ALONG
BTTM FLNG W/SL 30%- 50%
REMAINING THRUOUT
ENTIRE MEMBER



**L0962 9-24-13
PIER 7 FLBM W SIDE ALONG
BTTM FLNG W/SL 30%- 50%
REMAINING THRUOUT
ENTIRE MEMBER**



L0962 9-24-13
SP 14 FLBM 19' E SIDE
SL @ BTTM FLNG & WEB





L0962 9-24-13
SP 14 L-16' RIGHT SIDE TOP FLNG
OF FLBM W/MOD PK RUST

A close-up photograph of a metal saddle on a steel beam. The saddle is a curved metal piece that fits over the top of the beam. The area around the saddle is heavily corroded, with dark brown and black rust visible. The steel beam itself is light-colored and shows signs of wear and staining. The background is a concrete wall with some vertical lines and a dark, textured area. The lighting is bright, casting shadows on the metal surfaces.

L0962 9-24-13
SP 14 L-16' SADDLE
@ BRNG #9 W/HVY
PK RUST



**L0962 9-24-13
SP 14 L-16' - L-15' RIGHT
TOP OF LC RIVETED CONN
PLT BULGING DUE TO 1"
PK RUST TYP THRUOUT
ALL SPANS**



L0962 9-24-13
SP 14 L-14' RIGHT SIDE
BTTM OF INSIDE LC
RIVETED CONN PLT
BULGING DUE TO 1"
PK RUST TYP THRUOUT

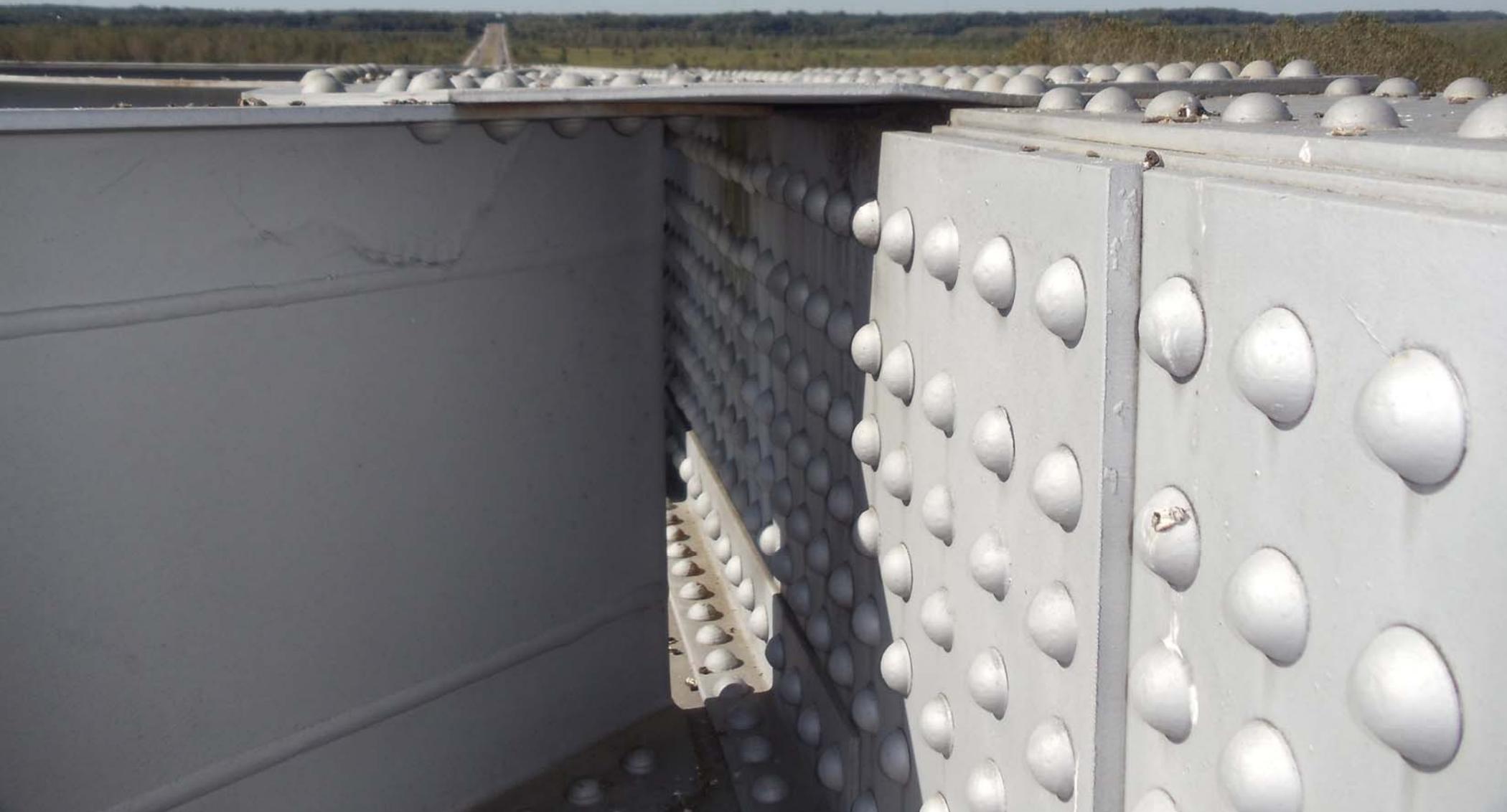


L0962 9-24-13
SP 14 L-12' SADDLE @
BRNG # 9 W/HVY PK
RUST

L0962 9-23-13 B
SP 13 L-19 LEFT W/ FERN'S GROWING
IN DIAG. CONNECTION PLATE



L0962 9-23-13 B
SP 13 U-10 LEFT TOP GUSS
W/ MINOR DISTORTION





L0962 9-23-13 B
SP 13 U-7 LEFT W/ 3" RIP IN TOP GUSS
NO CRK BEYOND DAMAGED AREA



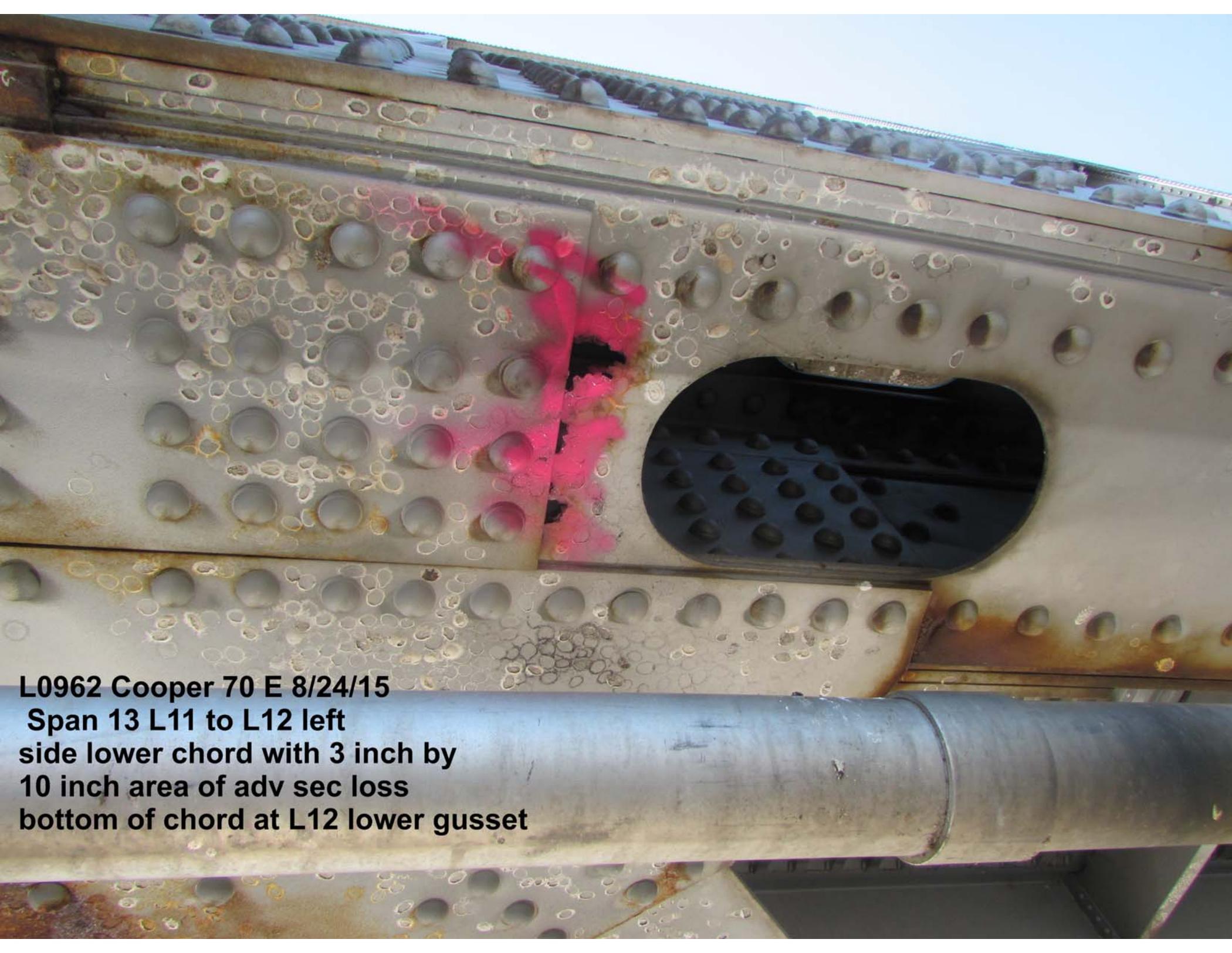
L0962 Cooper 70 E 8/24/15
Abut 18 outer edge of
cap delamed throughtout



**L0962 Cooper 70 E 8/24/15
Pier 15 girder 2 rocker with
minor rust moderate leaning
to west typical throughout rockers**

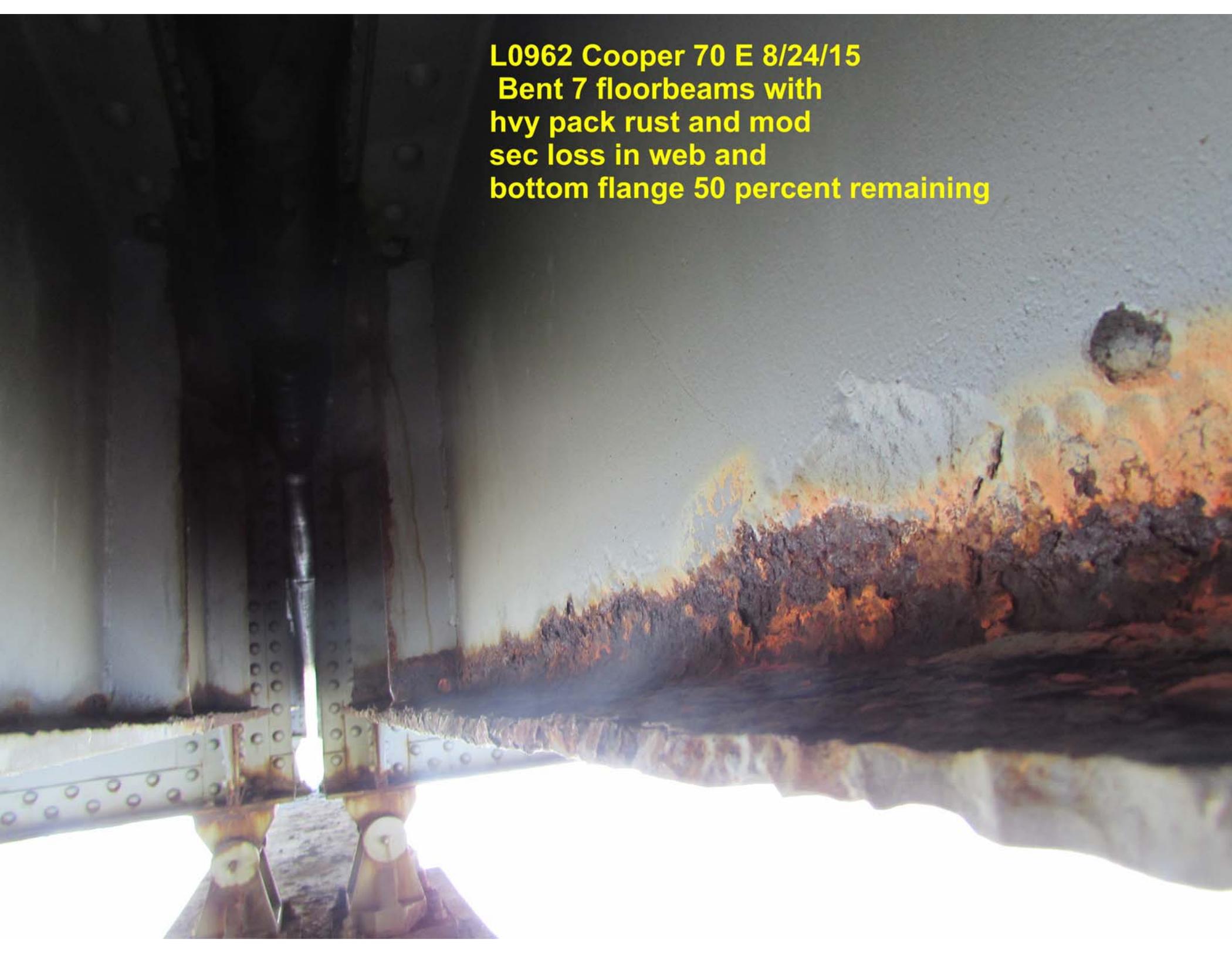
L0962 Cooper 70 E 8/24/15
Span 14 L4' floorbeam stringer 1
saddle bearing with hvy
pack rust lifting stringer 1 inch





L0962 Cooper 70 E 8/24/15
Span 13 L11 to L12 left
side lower chord with 3 inch by
10 inch area of adv sec loss
bottom of chord at L12 lower gusset

**L0962 Cooper 70 E 8/24/15
Bent 7 floorbeams with
hvy pack rust and mod
sec loss in web and
bottom flange 50 percent remaining**





**L0962 Cooper 70 E 8/24/15
Bent 7 span 6 west
side view of bent 7 with map cracking
throughout and large spalls
with rebar exposed**

**L0962 Cooper 70 9/9/15
Span 13 minor rusting
and paint peeling throughout
(NC) above curb line at L16M15R**



L0962 Cooper 70 9/10/15
Span 6 floorbeam at
bent 7 with moderate sec loss
in bottom web 60 percent remain



**L0962 Cooper 70 9/10/15
Span 13 stringer 9 at L8
with hvy pack rust
cantilever bearing**



L0962 Cooper 70 9/10/15
Span 13 L16 right side
inner gusset with mod sec loss along
lower chord 50 percent remaining





**L0962 Cooper 70 9/10/15
Span 14 L16' floorbeam
stringer 9 cantilever
bearing with hvy pack rust**

**L0962 Cooper 70 9/10/15
PR 15 span 15 rockers
tilted to the max leaning west**



**L0962 Cooper 70 9/10/15
Bent 16 girder 3 with
mod pack rust between
plates and bottom flange**





**L0962 Cooper 70 8/28/17 Bent 10
east side cap face lrg hvy map cracks
with saturation and eff with rust stains
entire face with delamination and minor
spalling rebar exposed with sec loss 60
percent remaining in exposed rebar**



L0962 Cooper 70 8/28/17 Bent 10
column 1 east side face entire face with
deep delaminations open cracks rust stains
eff and saturation



L0962 Cooper 70 8/28/17 Bent
13 west side cap face lrg hvy
delamination open map cracks
saturation with eff lrg spalls rebar
exposed 60 percent remaining

L0962 Cooper 70 8/28/17 Bent 13
west side column 2 lrg hvy delamination
open V crack with saturaiton lrg spalls
rebar exp 60 percent remaining in
exposed rebar





**L0962 Cooper 70 8/28/17 Pier 15
east side cap face with hvy delamination
with lrg spalls rebar exposed hvy map
cracking**



**L0962 Cooper 70 8/28/17 Bent 4
west side capface all delaminated and
spalled out with rebar exposed**



L0962 Cooper 70 8/28/17 Bent 4
east side cap face all delaminated with
hvy spalling rebar exposed and column
2 with areas of delamination



**L0962 Cooper 70 8/28/17
Bent 7 west side cap face all
delaminated with hvy spalling
and rebar exposed**



L0962 Cooper 70 8/28/17
Bent 7 east side capface all
delaminated with hvy spalling
with rebar exposed



L0962 Cooper 70 8/28/17 Bent 9 east
side cap face lrg spall rebar exposed with sec
loss to exposed rebar 40 percent remaining



L0962 Cooper 70 8/28/17 Bent 9
east side cap face with hvy delamination
and spalling rebar exposed 40 percent
remaining in rebar open cracks with rust
stains and saturaiton



**L0962 Cooper 70
8/28/17 Bent 7 west side
capface with hvy spalls rebar
exposed 40 percent
remaining in exposed rebar
hvy map cracks with eff and
rust stains entire cap
delamination and spalling**



**L0962 Cooper 70 8/28/17 Bent 4 span
3 floorbeam between girder 1 and 2 web and
bottom flange with hvy pakc rust and sec
loss 3 inch by 15 foot 30 percent remaining**



**L0962 Cooper 70 8/28/17
Bent 4 east side cap face lrg hvy
delamination throughout lrg spalls
rebar exposed 40 percent remaining
in exposed rebar hvy map cracks
with eff throughout**

MISSOURI STATE HIGHWAY DEPARTMENT
 BRIDGE OVER THE MISSOURI RIVER
 ABOUT 10 MILES EAST OF BOONVILLE
 PROJECT I-229 (14),(16) a,b,c (FAI-RT.1) - I-70-3 (15) a,b (RT. I-70)
 BOONE - COOPER COUNTIES
 1957

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SVERDRUP AND PARCEL, INC.
 ENGINEERS - ARCHITECTS
 ST. LOUIS, MISSOURI

APPROVED

SUBMITTED BY:
 MO. STATE HIGHWAY DEPARTMENT
J.A. Williams 8-15-1957
 BRIDGE ENGINEER DATE
 APPROVED:
 MO. STATE HIGHWAY DEPARTMENT
Rev. M. Wilson 8/15-1957
 CHIEF ENGINEER DATE

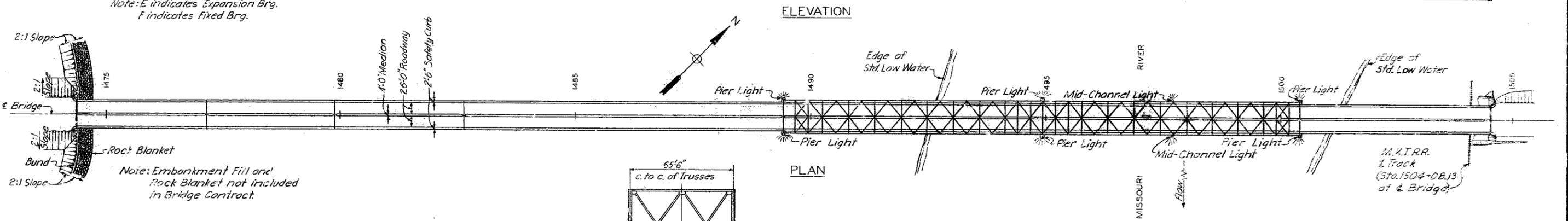
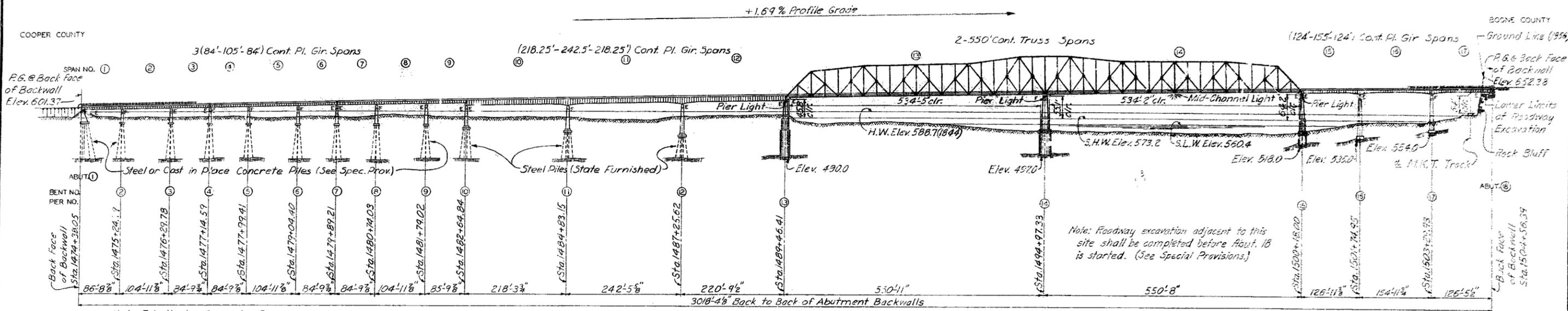
SUBMITTED BY:
James F. ...
 REGISTERED PROFESSIONAL ENGINEER
 MISSOURI NO. E-99

SHEET 1 OF 81
 L-962

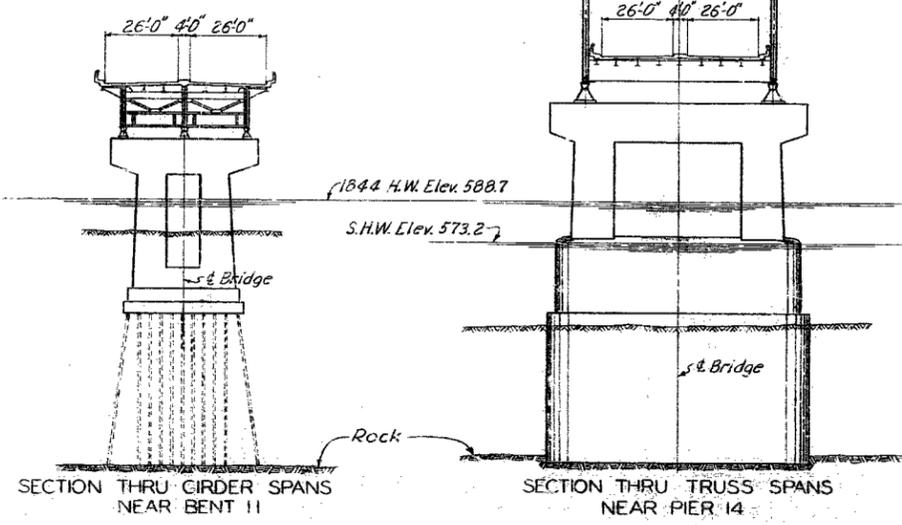
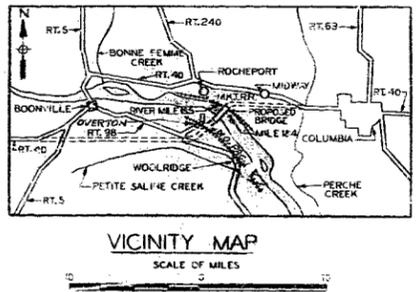
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MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	7	



BENCH MARKS: *50 - U.S. Corps of Engineers
 R-184.6. Brass cap in concrete post
 Flush with ground - 10' Rt. of Sta. 1487-86.
 Elev. 579.84
 *52 - U.S. Corps of Engineers
 L-184.51 on East bank of the Missouri
 River - 115' Rt. of Sta. 1555-65. Elev. 588.82.



BRIDGE OVER MISSOURI RIVER
 STATE ROAD FROM BOONVILLE TO COLUMBIA
 ABOUT 10 MILES EAST OF BOONVILLE
 PROJECT NO. I-229(16) sub (FAI RT. I) STA. 1474+38.05
 I-70-3(15) sub (RT. I-70)
BOONE - COOPER COUNTIES

SVERDRUP AND PARCEL, INC.
 ENGINEERS - ARCHITECTS
 ST. LOUIS, MO.

1427
 365/102
 DRAWN BY: N.J. Ballar d, Nov. 1956
 TRACED BY:
 CHECKED BY: E. Lemcoe, Dec. 1956

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

GENERAL PLAN AND ELEVATION

SHEET 2 OF 8

L-962

SEE FINAL PLANS BROWN-LINES