

## BRIDGE INSPECTION REPORT

2801655  
Structure File NumberBRIDGE NUMBER **GEA 00422 0986 L**YEAR BUILT **1960**DIST **12** Bridge Type **322** TYPE SERVICE **1 5** **LA DUE RES. 0.71 MI E 44**

<b>DECK</b>	out/out 41.3 Deck Area 9,085 sqft		2 INTEGRAL CONCRETE (MONOLITHIC)	
1. FLOOR	1 REINF CONCRT (PRESTRSD, PRECAST)	1	2. WEARING SURFACE	Thk 2 Wear Date 1/1/1994 1
3. CURBS, SIDEWALKS AND WALKWAYS	Left N NONE / Right N NONE		4. MEDIAN	Lanes on 2
5. RAILING	C 32" DEFLECTOR-TYPE PARAPET (NJ)	1	6. DRAINAGE	0 OTHER-NATURAL(OFF THE BRIDGE ENDS) 1
7. EXPANSION JOINTS	3 COMPRESSION SEAL	3	8. SUMMARY	7
<b>SUPERSTRUCTURE</b>			4 ROLLED STEEL	
9. ALIGNMENT	Max Spans 60	1	10. BEAMS/GIRDERS/SLAB	2
11. DIAPHRAGMS or CROSSFRAMES		2	12. JOISTS/STRINGERS	
13. FLOOR BEAMS			14. FLOOR BEAM CONNECTIONS	
15. VERTICALS			16. DIAGONALS	
17. END POSTS			18. TOP CHORD	
19. LOWER CHORD			20. LOWER LATERAL BRACING	
21. TOP LATERAL BRACING			22. SWAY BRACING	
23. PORTALS			24. BEARING DEVICES	2 ROCKERS 2
25. ARCH			26. ARCH COLUMNS or HANGERS	
27. SPANDREL WALLS			28. PROTECTIVE COATING SYSTEM	Paint Date 1/1/1987 5 PAINT SYSTEM OZE 6
29. PINS/HANGERS/HINGES			30. FATIGUE PRONE CONNECTIONS	
31. LIVE LOAD RESPONSE		S	32. SUMMARY	6
<b>SUBSTRUCTURE</b>			6 STUB-CAPPED PILE (SINGLE ROW PILES)	
33. ABUTMENTS	6 STUB-CAPPED PILE (SINGLE ROW PILES)	1	34. ABUTMENT SEATS	Abutment: ON PILING 1
35. PIERS		1	36. PIER SEATS	5 CAPPED COLUMN Piers: ON PILING 1
37. BACKWALLS		1	38. WINGWALLS	1
39. FENDERS and DOLPHINS	Piers = 03 NN NN Spans = 4		40. SCOUR	2 1
41. SLOPE PROTECTION	3 RIP RAP (DUMPED ROCK)	1	42. SUMMARY	Dive Date 12/30/1899 7
<b>CULVERTS</b>				
43. GENERAL	N NONE/NOT APPLICABLE		44. ALIGNMENT	
45. SHAPE			46. SEAMS	
47. HEADWALLS or ENDWALLS	Culvert Length 0		48. SCOUR	Culvert Fill Depth 0
49.			50. SUMMARY	
<b>CHANNEL</b>				
51. ALIGNMENT		1	52. PROTECTION	2 STONE 1
53. WATERWAY ADEQUACY	6 (SEE CODING GUIDE)	1	54. SUMMARY	8
<b>APPROACHES</b>				
55. PAVEMENT	2 BITUMINOUS	1	56. APPROACH SLABS	1
57. GUARDRAIL	1 STEEL BEAM	1	58. RELIEF JOINTS	
59. EMBANKMENT		1	60. SUMMARY	Percent Legal = 150 7
<b>GENERAL</b>				
61. NAVIGATION LIGHTS			62. WARNING SIGNS	Maint Resp 1 OHIO TRAN DEPT
63. SIGN SUPPORTS	Signs on = N MVC on = 9999.9 Under C = 0		64. UTILITIES	
65. VERTICAL CLEARANCE	Under NC = 0	N	66. GENERAL APPRAISAL & OPERATIONAL STATUS	6 A
67. INSPECTED BY			68. REVIEWED BY	

SIGNED

PE Number

ACP  
INITIALS

SIGNED

60048 MJM  
PE Number INITIALS

DATE 11/13/2008

1 1 1 1 1 N N N  
SURVEY

DATE 3/10/2009

## DECK

FLOOR: A FEW TRANSVERSE CRACKS. FLOOR <1% DETERIORATED.

WEARING SURFACE: CRACKS. WS <1% DETERIORATED.

RAILING: ONE SF SPALL OF INSIDE FACE OF LEFT RAILING AT EMBEDDED WOOD 2 BY 4 IN SPAN #2.

EXJTS: WATER LEAKING DOWN START BACKWALL IN BAY #3. THE EPOXY RESIN USED TO FILL THE VOID LEFT BY THE REMOVAL OF PART OF THE START BACKWALL EXJT ARMOR HAS CRACKED; SEE ATTACHED PHOTOS #1 AND #2 DATED 9/18/03. 40 SQUARE INCHES OF THIS RESIN HAS POPPED OUT OF THE LEFT WHEEL TRACK OF LANE #2. GOUGES IN FINISH EXJT BACKWALL ARMOR.

## SUPERSTRUCTURE

BEAMS: RUSTED SECTION LOSS AT BOTH ABUTMENTS. RUSTING SECTION LOSS OF LOWER FLANGE OF BEAM #1 AT PIER #3; SEE ATTACHED PHOTOS #1 THRU #4 DATED 8/30/06.

CROSSFRAMES: ENDFRAME RUSTED SECTION LOSS. 1.5" CRACK IN WELD THAT JOINS START ABUTMENT ENDFRAME ANGLE TO LEFT BEAM IN BAY #1; SEE ATTACHED PHOTO #4 DATED 10/29/01. 3" CRACK IN WELD THAT JOINS START ABUTMENT ENDFRAME ANGLE TO BEAM #2 IN BAY #1; SEE ATTACHED PHOTO #3 DATED 10/29/01.

BEARINGS: RUSTED SECTION LOSS. START ABUTMENT ROCKERS #2, #3, AND #4 ARE LOOSE.

PAINT: PEELING PAINT, 5% RUST, PAINT IS 5-10% DETERIORATED.

LIVE LOAD RESPONSE: BEAMS #2, #3, AND #4 MOVE DOWN UNDER TRUCK LOADING AT START ABUTMENT.

## SUBSTRUCTURE

ABUTMENTS: CONCRETE PATCHES.

PIERS: TWO MINOR SPALLS. RUSTING SECTION LOSS OF STEEL AT WATERLINE.

BACKWALLS: CRACKS. RUST STAINS.

SCOUR: SEE ATTACHED DIVE REPORT DATED 10/28/04; NO SIGNIFICANT CHANGE. INSPECTED FROM A BOAT WITH MIKE SUTAK, 11/6/08.

## APPROACHES

APPROACH SLABS: BOTH APPROACHES ARE 1/4" HIGHER THAN DECK AT EXJTS. FULL WIDTH CRACK IN FINISH SLAB.

## GENERAL

DIVER INSPECTED PIERS ON 10/28/04; SEE ATTACHED DIVE REPORT DATED 10/28/04.

INSPECTION FROM A BOAT WITH DAVE EVERETT ON 10/03/07.



beam #1

pier #3

AUG 30 2006

P1 rusting section loss of beam #1 at pier #3.psd



AUG 30 2006

P2 close-up of P1.jpg



AUG 30 2006

P3 close-up of P2.jpg



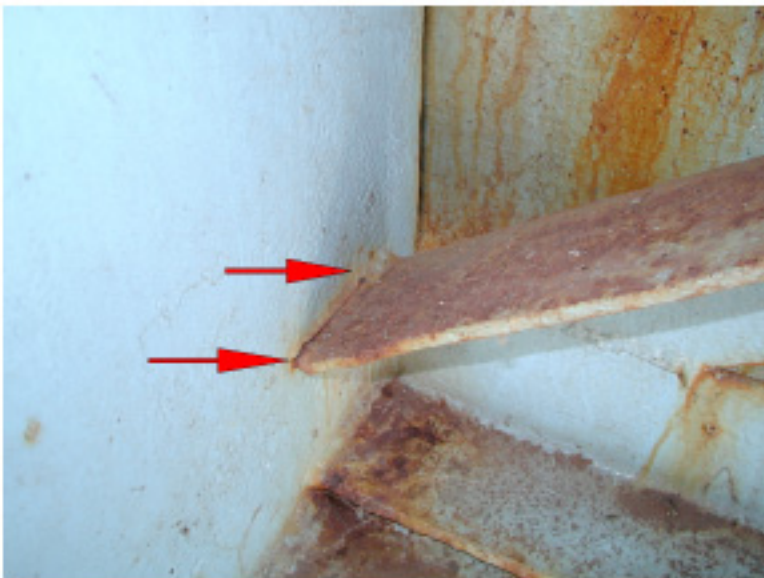
AUG 30 2006

P4 close-up of P3.jpg

by acp



**GEA-422-0986L**  
**SFN-2801655**  
**LADUE RESERVOIR**  
**BY KJB 10/29/01**



**PHOTO #3**  
**BOTH CRACK PICTURES ARE IN THE SAME BAY.**  
**ARROWS SHOW A 3" CRACK OF THE EAST**  
**ABUTMENT END FRAME ANGLE WELD TO THE**  
**2<sup>ND</sup> BEAM WEB, IN FROM THE SOUTH.**



**PHOTO #4**  
**ARROWS SHOW A 1-1/2" CRACK OF THE EAST**  
**ABUTMENT END FRAME ANGLE WELD TO THE**  
**INSIDE BEAM WEB OF THE SOUTH FASCIA.**

BRIDGE No. GEA-422-0986 L

OCTOBER 28, 2004

Structure # 2801655

La Due Reservoir  
WESTBOUND

carrying SR-44 : GEAUGA COUNTY

UNDERWATER INSPECTION REPORT  
on CONCRETE COLUMN PIERS

Prepared for:  
ODOT D-12

Prepared by:  
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BRIDGE No. GEA-422-0986 L

Structure # 2801655

La Due Reservoir  
WESTBOUND

OCTOBER 28, 2004

SR-44 , GEAUGA COUNTY

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Ohio Department of Transportation  
District 12

**Underwater Bridge / Culvert Inspection Survey Report**

Summary

BRIDGE GEA -422-0986 L

Date of this Inspection: 10 / 28 / 04

By: Specialty Diving (SDI)

Inspection Standard(s): NBIS, OSHA, ADC, SDI

Structure Type: Open Column Piers

Number of Columns per Pier . THREE , Concrete

Inspection Equipment Used (1): Surface supplied Diving Helmet , with Radio Communication  
(2):

Elements Cleaned: Localized area(s) where required

Water Flow Velocity: . 1 fps

Soil Type: Streambed comprised of "hard-packed" small and medium stone. 2' visibility.

Inspection Mode: Dive

Inspection Notation: One Steel-Jacketted Drilled Shaft, Located on North side of each Pier.

Inspection Team Members: 3- Supervisor, Diver, Stand-by Diver

Hazard Analysis/ Assessment: NH,... Boat traffic

Hazard Analysis/ Assessment:  
CS-Confined space  
SP-Septic conditions unknown  
BU-Bottom condition unknown  
PD-Potential underwater debris  
DE-Possible diver entanglement  
LA-Limited or no free access to surface  
SH-Suction hazard  
HF-High flows or currents (4 fps+)  
NH-No assessment hazards

Ohio Department of Transportation  
District 12

**Underwater Bridge / Culvert Inspection Survey Report**

BRIDGE No. GEA-422-0986 L

Structure # 2801655

La Due Reservoir  
WESTBOUND

*Date of this Inspection:* 10 / 28 / 04

*By:* Specialty Diving (SDI)

*Inspection Standard(s):* NBIS, OSHA, ADC, SDI

Pier 1 :  
Closest to West Abutment

13 feet water depth, no scour

three concrete , round COLUMNS that exhibit light scaling, GOOD  
CONDITION.

One "steel iacketed concrete drilled shaft"  
beyond north edge of pier :  
Exhibits typical light surface corrosion

PIER 2

15  
feet water depth, no scour

three concrete , round COLUMNS that exhibit light scaling, GOOD  
CONDITION.

One "steel iacketed concrete drilled shaft"  
beyond north edge of pier :  
Exhibits typical light surface corrosion

PIER 3

15' water depth  
Light scaling,  
Good Condition

One "steel jacketed concrete drilled shaft"  
beyond north edge of pier :  
Exhibits typical light surface corrosion



BRIDGE No. GEA-422-0986 L

Structure # 2801655

La Due Reservoir  
WESTBOUND

OCTOBER 28, 2004

..... Inspection Results.....

All Concrete Columns are in Good Condition  
No spalls or Cracks noted.

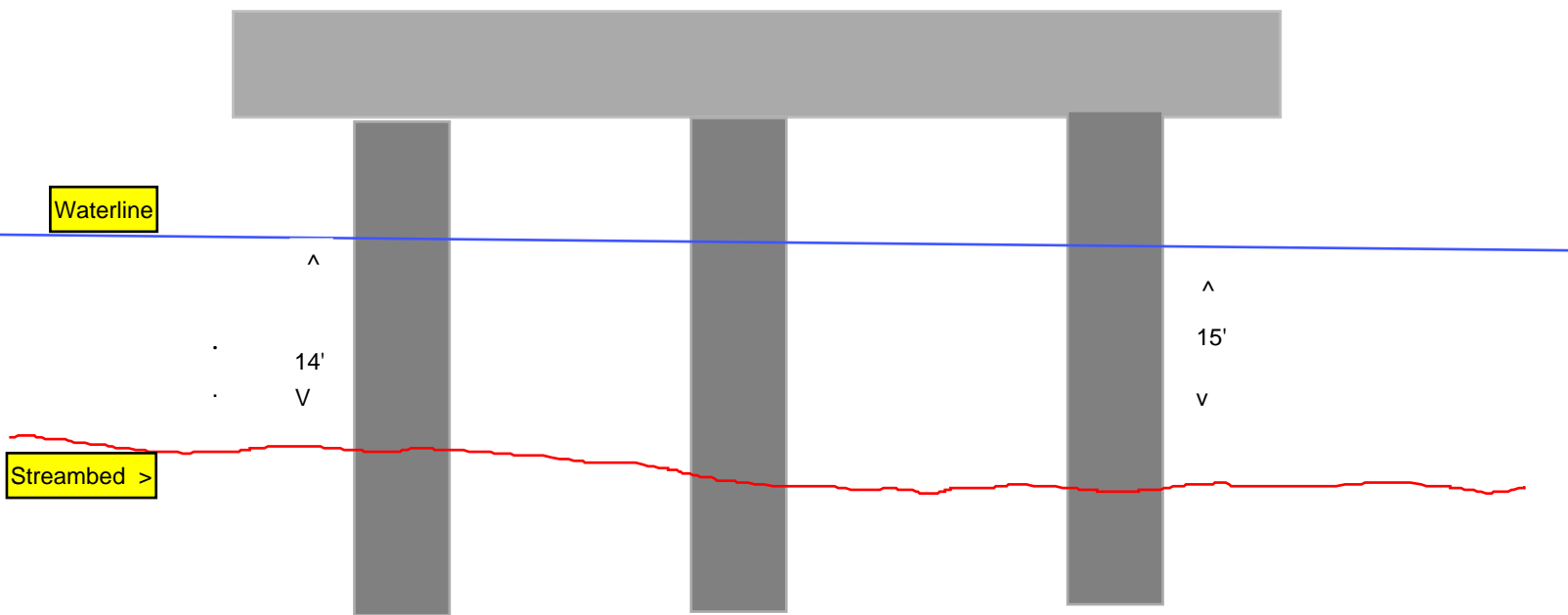
Water depth ranges from 13' to 15' at Piers.

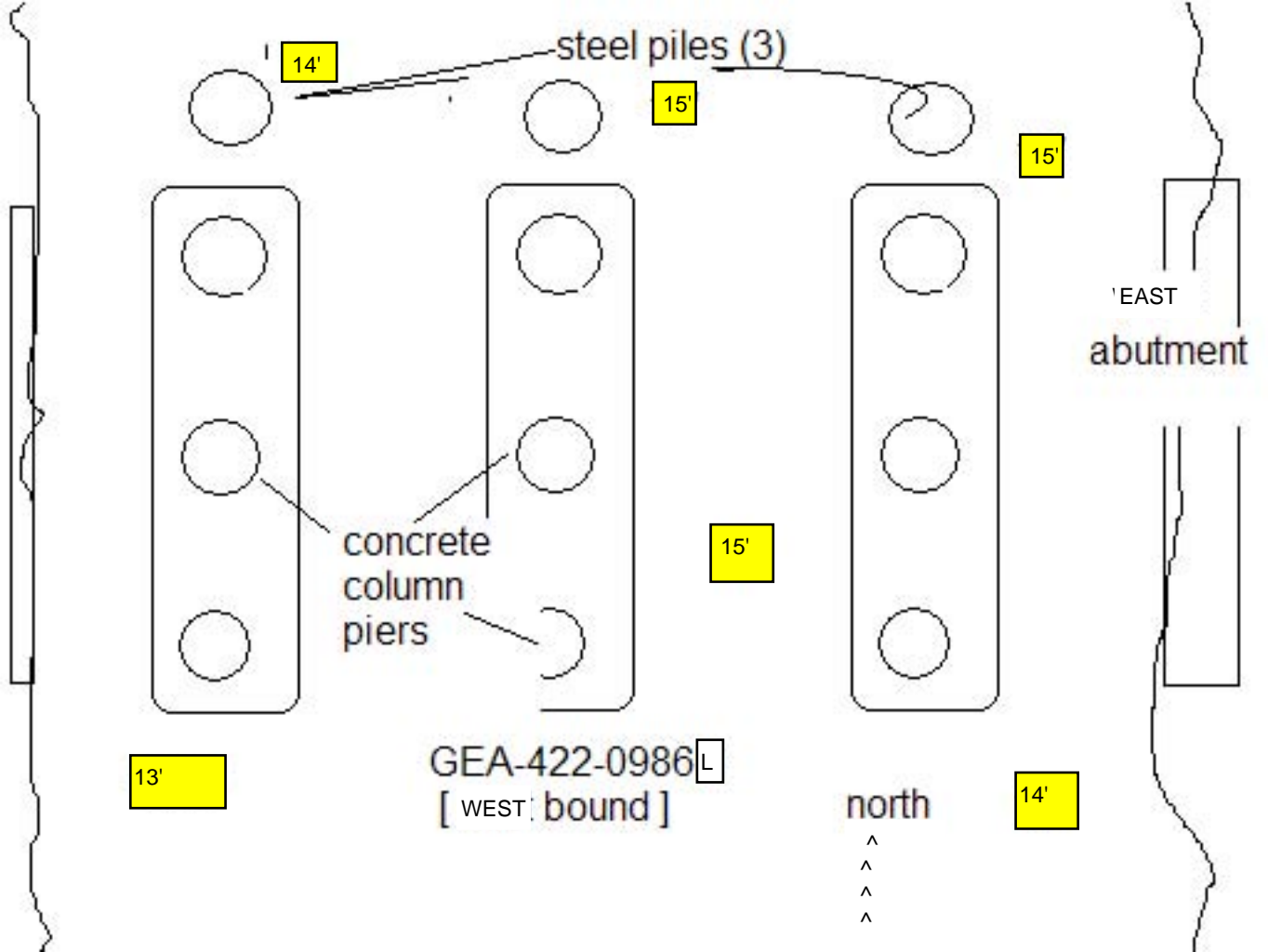
Streambed is combination "Hard-packed" Sand and small to medium Stone.

There is "Rip-Rap" protection along both embankments.

At the time of Inspection , the distance from Waterline to "top of Pier Cap" was: 5' 10" .

East Elevation of Pier 2







East Elevation of :  
< "Eastbound" on Left  
and  
"Westbound" on right >  
  
< 0986R shows  
abutment ,Pier3,2,1  
then west abutment.

Southeast Elevation of

0986L ; showing  
Piers #3 , #2 , & #1  
in background



Southeast elevation of  
PIER # 3 , Column #3.

Rip-Rap embankment  
protection in foreground



